



शरीरमाद्यं खलुधर्मसाधनम्

# 67th Annual Report 2022-2023



**All India Institute of Medical Sciences  
New Delhi - 110029**

**67th  
AIIMS  
ANNUAL REPORT  
2022–2023**



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**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**

**NEW DELHI - 110029**

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# **All India Institute of Medical Sciences**

The All India Institute of Medical Sciences (AIIMS) was established in 1956 as an institution of national importance by an Act of Parliament to develop patterns of teaching in undergraduate and postgraduate medical education in all its branches so as to demonstrate a high standard of medical education to all medical colleges and other allied institutions in India; to bring together in one place educational facilities of the highest order for the training of personnel in all important branches of health activity and to attain self-sufficiency in postgraduate medical education.

The Institute has comprehensive facilities for teaching, research and patient care. AIIMS conducts teaching programmes in medical and para-medical courses both at the undergraduate and postgraduate levels and awards its own degrees. Teaching and research is conducted in nearly 100 disciplines. AIIMS is a leader in the field of medical research with over Rs 190 crores in extramural grants received by its researchers in a year. AIIMS also runs a College of Nursing.

Various departments and centres manage practically all types of disease conditions with support from para-clinical departments. AIIMS also runs a 50-bedded hospital and the Comprehensive Rural Health Centre at Ballabgarh in Haryana and provides health cover to nearly 6 lakh people through the Centre for Community Medicine.





**Dr. Mansukh Mandaviya**  
Hon'ble Union Minister  
Health and Family Welfare & Chemicals and Fertilisers  
Government of India



**Prof. S.P. Singh Baghel**  
Hon'ble Minister of State  
Ministry of Health and Family Welfare  
Government of India



**Dr. Bharati Pravin Pawar**  
Hon'ble Minister of State  
Ministry of Health and Family Welfare  
Government of India



## AIIMS AT A GLANCE

**2022-2023**

**Year of establishment 1956**

Teaching Departments and Centres	42 + 7	Medical graduates	3609
Faculty members (Sanctioned 1207)	859	Postgraduates	12683
Non-faculty staff (Sanctioned 12, 875)	10701	Nursing/paramedical graduates	3844
Undergraduate students	1159	Publications in journals/abstracts	3584
Postgraduate students	2071	Chapters in books/books	498

### Hospital Services

Hospital/Centre	Outpatients (Including Casualty)	Admission	Surgery (Operations/ Procedures)	Beds		
				General	Private	Total
Main Hospital	19,01,746	1,15,745	1,26,555	1472	195	1667
Dr RP Centre	5,13,975	48,715	46,553	288	22	310
Dr BRAIRCH	1,79,741	44,402	10,431	167	15	182
Cardiothoracic Centre	1,46,104	9,176	2,824	226	33	464
Neurosciences Centre	1,43,138	9,495	3,269	174	31	
NDDTC*	3,14,395	1,165	–	50	–	50
CCM†	5,64,981	12,508	2,321	50	–	50
JPNATC	60,430	7,515	8,001	243	22	265
CDER	2,63,903	1,066	24,272	20	–	20
NCI, Jhajjar	66,598	30,983	23,475	317	–	317
Outreach outpatients, Badsa, Jhajjar	100,790	–	1,125	–	–	–
<b>Total</b>	<b>42,55,801</b>	<b>2,80,770</b>	<b>2,48,826</b>	<b>3007</b>	<b>318</b>	<b>3325</b>

\* inclusive of Trilokpuri, Sunder Nagri & Kotla Mubarakpur

† inclusive of PHC Dayal Pur, Chhainsa

\*\* Including 30 Triage beds

### Hospital performance indices

Parameters	Main Hospital		Cardiothoracic and Neurosciences Centre		Jai Prakash Narain Apex Trauma Centre	
	2022-23	2021-22	2022-23	2021-22	2022-23	2021-22
Average length of stay (days)	9.9	9.8	11.5	12.0	8.91	8
Average bed occupancy rate (%)	<b>83.1</b>	<b>69.8</b>	<b>79.5</b>	<b>68.6</b>	<b>78.04</b>	<b>84</b>
Net death rate (%)	1.6	2.0	4.1	4.1	5.31	5
Combined crude infection rate (%)	7.1%	8.3%	–	–	–	–

CCM: Centre for Community Medicine

CDER: Centre for Dental Education and Research

Dr BRAIRCH: Dr BR Ambedkar Institute Rotary Cancer Hospital

Dr RP Centre: Dr Rajendra Prasad Centre for Ophthalmic Sciences

JPNATC: Jai Prakash Narain Apex Trauma Centre

NCI: National Cancer Institute

NDDTC: National Drug Dependence Treatment Centre





# Content

## Annual Report 2022–2023

1.	Director’s Review .....	1
2.	The Institute and Its Committees .....	6
3.	Academic Section.....	11
4.	Examination Section .....	43
5.	General Administration .....	48
6.	Hospital .....	51
6.1	Medical Records Department .....	52
6.2	Dietetics .....	64
6.3	Hospital Billing Section.....	64
6.4	Nursing Services.....	65
6.5	Blood Centre, Main Hospital.....	72
6.6	Medical Social Welfare Unit .....	74
6.7	Department of Endocrinology and Metabolism .....	77
6.8	Department of Orthopaedics.....	77
7.	College of Nursing .....	80
8.	Research Section .....	88

## Departments

9.1.	Anaesthesiology, Pain Medicine and Critical Care.....	111
9.2.	Anatomy .....	126
9.3.	Biochemistry .....	135
9.4.	Biomedical Engineering .....	149
9.5.	Biophysics .....	155
9.6.	Biostatistics .....	163
9.7.	Biotechnology .....	167
9.8.	Centre for Community Medicine .....	176
9.9.	Dermatology and Venereology .....	195
9.10.	Emergency Medicine.....	200
9.11.	Endocrinology and Metabolism .....	208
9.12.	Forensic Medicine and Toxicology .....	218
9.13.	Gastroenterology and Human Nutrition .....	223
9.14.	Gastrointestinal Surgery and Liver Transplantation .....	231
9.15.	Geriatric Medicine.....	236
9.16.	Haematology .....	240
9.17.	Hospital Administration .....	248
9.18.	Laboratory Medicine .....	255
9.19.	Medicine.....	268
9.20.	Microbiology.....	277
9.21.	Nephrology .....	295
9.22.	Nuclear Magnetic Resonance.....	301
9.23.	Nuclear Medicine .....	306

9.24.	Obstetrics and Gynaecology.....	313
9.25.	Orthopaedics.....	332
9.26.	Otorhinolaryngology .....	340
9.27.	Paediatrics .....	350
9.28.	Paediatric Surgery .....	384
9.29.	Pathology.....	389
9.30.	Pharmacology.....	404
9.31.	Physical Medicine and Rehabilitation.....	410
9.32.	Physiology.....	416
9.33.	Plastic, Reconstructive and Burns Surgery .....	430
9.34.	Psychiatry .....	434
9.35.	Pulmonary Critical Care and Sleep Medicine .....	449
9.36.	Radiodiagnosis .....	454
9.37.	Reproductive Biology .....	461
9.38.	Rheumatolog .....	469
9.39.	Surgical Disciplines.....	474
9.40.	Transfusion Medicine.....	485
9.41.	Transplant Immunology and Immunogenetics.....	491
9.42.	Urology.....	499

### Centres

10.1.	Cardiothoracic Centre .....	509
10.2.	Centre for Dental Education and Research .....	539
10.3.	Dr BR Ambedkar Institute Rotary Cancer Hospital.....	555
10.4.	Dr Rajendra Prasad Centre for Ophthalmic Sciences .....	610
10.5.	Jai Prakash Narayan Apex Trauma Centre .....	637
10.6.	National Drug Dependence Treatment Centre .....	669
10.7.	Neurosciences Centre .....	678

### Central Facilities

11.1.	BB Dikshit Library .....	707
11.2.	Cafeteria .....	711
11.3.	Central Animal Facility .....	712
11.4.	Central Workshop .....	714
11.5.	Centre for Integrative Medicine & Research (CIMR) .....	717
11.6.	Computer Facility.....	725
11.7.	Electron Microscope Facility .....	733
11.8.	Hostel Section .....	736
11.9.	Ethics Committee .....	738
11.10.	KL Wig Centre for Medical Education, Technology and Innovation (CMETi).....	739
11.11.	Media Cell & Protocol Division.....	743
12.	Publications .....	767

### Finance Division

13.	Finance Division .....	949
13.1.	Budget .....	951
13.2.	Audit Report.....	1045

# 1. Director's Review

I feel privileged to present the Sixty-seventh Annual Report and audited statement of accounts for the year 2022–2023.

All India Institute of Medical Sciences (AIIMS), New Delhi (AIIMS-Delhi) was established in 1956 by an Act of the Indian Parliament to serve as the nucleus for nurturing excellence in medical education and all aspects of health care. The global community recognizes AIIMS-Delhi as India's best medical institution for quality medical education, innovative biomedical research, and state-of-the-art healthcare. Our growth story is the outcome of years of collective pursuit of excellence by thousands of faculty members, scientists and technicians, scholars, nursing personnel, engineers, and health and sanitation workers. I am privileged to lead and serve this exceptional institution and wish to highlight some of its extraordinary achievements in this report.

## Services

The AIIMS-Delhi hospital maintains very high-quality standards while providing cost-effective services to a large number of patients. The AIIMS-Delhi main hospital and its centres—Cardiothoracic and Neurosciences Centre (CN Centre), Jai Prakash Narain Apex Trauma Centre (JPNATC), Dr BR Ambedkar Institute Rotary Cancer Hospital (BRAIRCH) and National Cancer Institute, Jhajjar, Dr Rajendra Prasad Centre for Ophthalmic Sciences (RPCOS), Centre for Dental Education and Research (CDER), and National Drug Dependence Treatment Centre (NDDTC)—have a total bed strength of 3325. During the year 2022–2023, AIIMS-Delhi attended to about 42.55 lakh outpatients and 2.8 lakh inpatients and performed over 2.48 lakh surgical procedures at optimal patient care service parameters with bed occupancy of about 83%, hospital stay of 9.9 days; and a low net death rate of about 1.6%. AIIMS-Delhi continues to advance the delivery of healthcare within and outside India, particularly in South and Southeast Asia.

## Good Governance

AIIMS New Delhi has implemented numerous good governance initiatives for the effective and ethical management and administration of healthcare facilities to ensure the delivery of high-quality healthcare services. This involves a set of principles and practices that promote transparency, accountability, efficiency, patient-centeredness, and overall excellence in healthcare management. The following initiatives not only embody our commitment to excellence but also reflect our dedication to serving the healthcare needs of our nation with utmost integrity and compassion:

*Transparency:* AIIMS New Delhi has embraced transparency as a cornerstone of its operations. In line with this principle, we have undertaken several measures:

*Open Communication Channels:* Regular town hall meetings and feedback mechanisms.

*Information Dissemination:* Proactively sharing information about our services, procedures, and policies through publicly accessible dashboards.

*Financial Transparency:* Many reforms have been made at AIIMS to streamline procurement of goods and services through the Stores and for execution of construction and maintenance works through the engineering division.

*Accountability:* For ensuring accountability, AIIMS has made it mandatory to use e-Office for all official communication.

*Welfare: Patient-Centric Approach:* Our patient-centric model ensures that medical care is delivered with empathy and respect, focusing not just on treatment but also on emotional support, patient education, and post-treatment follow-ups. Various waiting halls with public facilities have been created for the patients and their attendants. Swachhta team has been constituted for regular rounds of the entire campus.

*Employee Welfare Programs:* The AIIMS campus has been declared 'Drug-free' and support is being provided to the employees/ doctors/ students seeking the same.

*Governance Structure: Clear Roles and Responsibilities:* Roles of clinicians, hospital administrators, medical staff, and other personnel are well-defined to avoid ambiguity and ensure smooth operations. The In-charges of key areas are being rotated periodically through an unbiased and transparent system. Various committees have been constituted at AIIMS with clear mandate and timelines to ensure that all services are functioning optimally.

The good governance initiatives at AIIMS New Delhi are underpinned by our unwavering commitment to transparency, accountability, and welfare. These initiatives align with our mission to provide world-class healthcare services while maintaining the highest standards of integrity and ethical conduct. By adhering to these principles, hospitals can build trust within their communities and provide healthcare services that meet the highest standards of quality and integrity.

### ***Service development***

This year's motto for AIIMS-Delhi was patient centric service development. We kept patients' needs at the centre of all healthcare initiatives ranging from converting existing ward beds into intensive care/ high-dependency unit beds to increase the proportion of latter from 10% to 30% of hospital beds to offer medical care to the sickest patients referred from across the country; to using radiology machines 24X7 to reduce waiting times and ensure all urgent radiological investigations are done on the day of the patient visit; to commissioning the 'Ashray' shelter with the Central Reserve Police Force to provide relief from the biting winter cold for patients and their families; and loaning utensils and improving facilities for drinking water and refreshments in waiting areas for indoor patients and their attendants.

The Institute has expanded patient support (control room) services to all its public entry points to improve ease of access. Patient care managers and security staff man these services and all communications at these outposts are recorded for monitoring and quality assurance. We have also implemented a new plan to streamline traffic movement inside the campus to reduce pollution, provide comfort to wheelchair bound patients, and safety for all. About 50 additional electric shuttles have been deployed for movement of patients and staff. All electric shuttles have been fitted with GPS systems and have pre-determined times for arrival and departure.

Discussions are underway to evolve a formal system for referral of patients between AIIMS and other public hospitals in Delhi (e.g., Indira Gandhi Hospital in Dwarka and New Delhi Municipal Council's Charak Palika Hospital) to optimally utilise the vacant beds in these hospitals. A centralised dashboard where the availability of beds in government hospitals can be tracked on a real-time basis would be developed to aid this. Gradually, these hospitals and healthcare centres will be developed as super-specialty 'partner institutions' to cater to the population in different localities of Delhi.

AIIMS-Delhi is in the process of establishing the country's first national centre of excellence for gender affirmative care with support from National AIDS Control Organization (NACO), the Ministry of Social Justice and Empowerment, and the World Professional Association for Transgender Health.

The Institute has also made extensive efforts to weed out agents from private hospitals, pharmacies, and labs who visit the hospital to exploit patients. Identification and reporting protocols have been instituted to support hospital and security staff for doing so.

### ***Environment friendly***

AIIMS-Delhi has gone paperless and is in the process of implementing an e-Hospital programme. The programme consists of several modules, such as the OT module, clinical module, and telemedicine module. The e-Hospital programme will improve efficiency of outpatient registrations, laboratory testing, implementation of government schemes, inpatient records, follow-up of patients, generation of clinical statistics, etc. The Institute has also set up a digital archive for procurements. Besides making the procurement process transparent, the archive will serve as a benchmark for procurements for other medical/ government institutions.

The National Green Tribunal has formed a panel to suggest steps to control pollution near AIIMS to protect the health of patients and staff members. It is investigating various modalities like the creation of a green belt around AIIMS, noise and dust control measures, and garbage and biomedical waste disposal. AIIMS-Delhi campus became a 'tobacco-free zone.' The use of tobacco is a prominent risk factor for mortality and morbidity, including for cancer, cardiovascular and lung diseases.

The institute has started a 'millet canteen' in line with the Government of India's call to celebrate 2023 as the "International Year of the Millet" as a people's movement. Millets are rich nutritionally and help conserve ground water.

### ***Future ready***

AIIMS-Delhi has been named a centre of excellence for Artificial Intelligence (AI) in healthcare. AI tools can support financial monitoring, disease management, surveillance, clinical decision systems, and quality assurance.

The Department of Oncology with support from the Indian Council of Medical Research (ICMR) has developed a mobile app to make palliative care more accessible and comfortable for cancer patients. Similarly, researchers at AIIMS-Delhi and Indian Institute of Technology (IIT)-Roorkee have developed an app called 'SwasthGarbh', for providing antenatal

care and medical support to pregnant women. Both apps can provide real-time medical assistance in case of an emergency and thus reduce the need for admissions. In addition, these Apps can track recommended actions and send customised notifications to help patients manage their scheduled appointments, tests, and treatments. The Organ Retrieval Banking Organization (ORBO) has started a notification system to make organ donation process more efficient. This has led to an increase in organ donations, e.g., corneal donations have more than doubled in the last calendar year.

### **Research and Innovation**

The faculty and researchers of this Institute have a mandate for conducting research to address the health challenges of the nation as well as advancing global knowledge. With the objective of creating a more vibrant research milieu, the Research Section of AIIMS-Delhi has initiated several calls for funding research proposals, held workshops, and has created a supportive research infrastructure. Infrastructure and capacity building are operationalized through the Centralized Core Research Facilities (CCRF), Clinical Research Unit (CRU) and Center for Medical Innovation & Entrepreneurship (CMIE)/BioNEST.

Younger faculty members are being encouraged to participate in research through various competitive intramural grants. The Institute has launched a series of partial travel grants and fellowships for postgraduate students and residents to enable them to present their research to an international audience. The Section has also initiated a Research Mentorship Scheme for undergraduate students. Researchers are also supported in developing meritorious proposals for extramural funding from organizations like the ICMR, the Department of Biotechnology (DBT) and other national/ international agencies. The competitive grants are funded through Corporate Social Responsibility (CSR) programmes of various companies.

The Research Section managed 773 extramural funded research projects from leading national and international agencies as well as 357 intramural research grants amounting to over Rs. 190 crores in the year 2022-2023. The funding agencies included ICMR, DBT, Department of Science and Technology (DST), Indian National Science Academy (INSA), Council for Scientific and Industrial Research (CSIR), Defence Research and Development Organization (DRDO), Ministry of Health and Family Welfare (MoH&FW), WHO, UNICEF, Wellcome Trust, etc. The research community at AIIMS-Delhi contributed significantly to scholarship through its leadership in innovations and publications. During the year the faculty and scientists of the Institute published over 5000 research papers in national and international journals and over 800 monographs, books, and chapters in books.

### ***Collaborative research***

The Research Section has laid down lines for future long-term collaborations, by announcing funding calls for collaborative projects within the institution, with other institutions in India such as IIT and Translational Health Science and Technology Institute (THSTI), and with international institutions and universities. Joint research seed funds have been established between AIIMS-Delhi and University College, London (UCL) and IITs with the objective of enhancing interdisciplinary and collaborative research.

### ***Integrative research***

On 11th December 2022, while addressing the valedictory session of the 9th World Ayurveda Congress & Arogya Expo 2022 at Panjim (Goa), the Honourable Prime Minister of India Sh. Narendra Modi Ji emphasized the importance of integrative medicine research for the global acceptance of traditional Indian medical practices. He highlighted the work conducted at the Centre for Integrative Medicine & Research (CIMR), AIIMS-Delhi. Again, in the 96th episode of the Radio Program 'Mann Ki Baat' aired on 25th December 2022, the Hon'ble Prime Minister commended CIMR, AIIMS for its efforts in generating scientific evidence for traditional Indian medical practices, especially Yoga and Ayurveda, and thus contributing towards their global acceptance. He specifically mentioned the research trials on benefits of yogic practices in clinical conditions such as migraine and vasovagal syncope.

### ***Artificial Intelligence***

Artificial Intelligence (AI) is a rapidly emerging technology in healthcare with extensive applications in diagnostics, prevention, education, clinical decision making, prognostication, and drug discovery. The MoHFW, Government of India has designated AIIMS-Delhi as a Centre of Excellence (CoE) on AI in Healthcare. The AI team at the Institute has initiated four projects in the departments of Radiodiagnosis and Interventional Radiology, Ophthalmology, and Dermatology and Venereology for creating tools for integration with the e-Sanjivani platform of the MoHFW. The Department of Pulmonary, Critical Care and Sleep Medicine has developed a device called the electronic nose (e-Nose) to identify the signature of lung cancer created by exhaled volatile organic compounds. The device might help in early detection of lung cancer.

### ***Clinical innovation***

The Hon'ble Prime Minister took notice of a rare surgery done at AIIMS-Delhi. The minimally invasive heart surgery on the 'grape-sized' heart of a 28-week foetus was done in 90 seconds to reduce the severity of a congenital defect and

improve the child's cardiac status for future surgeries/interventions. Applauding the team's effort, the PM shared the Hon'ble Health Minister, Dr Mansukh Mandaviya's Twitter (now X) post, "Proud of India's doctors for their dexterity and innovation."

AIIMS-Delhi is successfully conducting lung transplant surgeries for end-stage lung diseases. The surgery involves removing one or both diseased lungs from a patient and their replacement by healthy ones from cadaveric donors.

AIIMS-Delhi has also become the first medical institute in South Asia to conduct 'ambulatory' spinal fusion surgeries using targeted anaesthesia in which the patients remain fully conscious throughout the procedure and are discharged from the hospital on the same day. Such procedures can reduce the pressure on hospital beds, cost of care and waiting lists, and improve patients' experience and quality of life.

### **Education**

The continued emphasis on a unique organizational culture, intense academic training and exposure to world class research has helped AIIMS-Delhi in becoming a premier teaching institution. With its 7 centres comprising of various teaching departments and facilities and 42 stand-alone Departments, and a manpower of over 11,000 including over 800 faculty members, AIIMS-Delhi produces a large number of medical graduates, specialists (MD/MS), super-specialists (DM/MCh), PhD scholars and allied health and basic sciences experts, including nurses and paramedical professionals. During the year, we enrolled 975 scholars in various graduate/postgraduate courses. The Institute also provided postgraduate training to 424 short-term trainees. AIIMS-Delhi continued to play a mentorship role for the other AIIMS.

AIIMS-Delhi has introduced several new courses in the face of the fast-expanding landscape of medicine. Super-specialty seats have almost doubled over the last decade. These include courses like Oncology Anaesthesia, Infectious Diseases, Palliative Medicine, Reproductive Medicine, Fetal Medicine, Minimal Access Surgery, and Renal Transplant Surgery.

The Institute continued to acquaint clinician and science leaders working in healthcare fields to the real-world settings of medicine and to new trends in science and health care delivery. We offered Continuing Professional Development education to thousands of physicians and healthcare professionals to help improve their skills, knowledge, and performance. We organized/hosted over 149 workshops, symposia, conferences and training programmes in collaboration with various national and international agencies. The KL Wig Centre for Medical Education and Technology (CMET) organized multiple in-house training programmes for various categories of staff members.

Scientific advancements are also being leveraged to expand teaching outcomes. The institute has developed an e-learning platform and has designed programmes that can be used by other medical institutes. AIIMS-Delhi has drafted an extensive training module on extrapulmonary tuberculosis to support the MoH&FW's 'End-TB by 2025 strategy,' which was launched by the Hon'ble Prime Minister of India on March 24, 2023. AIIMS-Delhi also conducted training sessions for over nine thousand medical and nursing students from all over India under the PRAKASHMAY (Pandemic Related Awareness Knowledge and Action Supported Health Management Amongst Youth) project of the Centre for Development of Advanced Computing (C-DAC).

AIIMS-Delhi is collaborating with India Medtronic Pvt Ltd to develop a robotic training facility, the first of its kind in the Asia-Pacific region. Robotic-associated minimally invasive surgeries will enhance patient outcomes by utilizing procedural and evidence-based medical education activities.

These are just some of the reasons why even after nearly seven decades, the Institute remains the nation's leader in medical education. It retained its top position in the medical category in the National Institutional Ranking Framework (NIRF) Rankings of 2023. It is ranked 123 in QS World University Ranking by Subject in 2023, the only one in the top 200 from India.

### **Public health**

The Centre for Community Medicine is spearheading anemia control in the country through the National Centre of Excellence and Advanced Research on Anemia Control (NCEAR-A); ensuring evidence based decision making for HIV programme of the NACO, by serving as the National Institute for HIV Surveillance; and framing comprehensive health sector priorities for Non-Communicable Diseases by serving as the WHO Collaborating Center (WHO-CC) for Research and Capacity Building on Community-based Non-Communicable Diseases Prevention and Control. In addition, through its presence in technical resource groups of Government of India, the Centre is actively contributing for strategy framework of National Viral Hepatitis Control Programme, National Tuberculosis Control Program, and Health Sector Strategy frameworks. CCM also houses the Technical Support Unit for SRS-based Verbal Autopsy System of the Office of Registrar General of India and WHO supported SEAR NCD service delivery network.

In addition to its designated status as the WHO-CC for Research in Human Reproduction, the Department of Obstetrics and Gynaecology was recognized as the WHO-CC for Cervical Cancer Prevention and Research.

In the Department of Paediatrics, the Division of Neonatology was redesignated as the WHO-CC for Training and Research for the eighth consecutive time. The Division of Genetics continues as WHO-CC for Training in Clinical and Laboratory Genetics for developing countries. Three Divisions namely Paediatric Nephrology, Paediatric Pulmonology, and Childhood Neurodevelopmental Disorders continue to contribute as Centres of Advanced Research (CARE) of the ICMR.

AIIMS-Delhi also houses the WHO-CC for Training and Research in Tuberculosis (Department of Medicine), Substance Abuse (NDDTC), Prevention of Blindness (RPCOS), and Oral Health Promotion (CDER); and supports other CARE projects of ICMR, viz., Virtual Autopsy (Department of Forensic Medicine), Pancreatic Disease and Intestinal diseases (Department of Gastroenterology and Human Nutrition), Neuromodulation (Department of Psychiatry), Disability and Assistive Technology (Department of Biomedical Engineering), and Nephrology (Department of Nephrology), and Pulmonology (Department of Pulmonary, Critical Care and Sleep Medicine).

The Mycology Section of the Department of Microbiology has been designated as 'Advanced Mycology Diagnostic and Research Centre in Northern Region of India' (AMDRC) under ICMR. The Department of Hematology continues as a regional training centre for the International Society of Hemostasis and Thrombosis. The CDER continues as the National Centre of Excellence for implementation of National Oral Health Program.

### **Institution building**

#### ***A Proud Heritage***

AIIMS fondly remembers Queen Elizabeth II, United Kingdom's longest serving monarch, who passed away last year, for having formally inaugurated the institute on January 27, 1961, in a ceremony attended by India's President Dr. Rajendra Prasad on her first state visit to India. A plaque commemorating the event can be seen in the JLN Auditorium and precious photos from the visit are available with the CMET.

AIIMS-Delhi is setting up a museum to showcase its legacy. The archives will provide an explanation for historical actions and the rationale for current decisions. The archives would help a new generation of scholars and staff in adapting to the institute's culture and align themselves with the institute's objectives.

### **In conclusion**

AIIMS-Delhi has made a genuine effort to meet its mandate of assisting the government in its endeavour to provide superior healthcare to the Indian people through quality education, cost-effective service provision, and innovative biomedical research. It has been a rare privilege to serve this great institution and to work with so many dynamic people. I extend my humble gratitude to every person at AIIMS-Delhi whose commitment has made it a unique institution!

**M. Srinivas**  
**Director**



## 2. The Institute and Its Committees

- 1. Dr Mansukh Mandaviya**  
Minister of Health & Family Welfare  
Nirman Bhawan, New Delhi 110011

President  
w.e.f. 09.03.2022 to till date
- 2. Dr Anil Jain, MP (Rajya Sabha)**  
D-244, Anupam Garden,  
Saiyad Ul Ajaib, New Delhi 110068

Member  
w.e.f. 6.12.2021 to till date
- 3. Shri Ramesh Bidhuri, MP (Lok Sabha)**  
H.No.179, Sunpath House,  
Village Tughlakabad, New Delhi 110044

Member  
w.e.f. 6.12.2021 to till date
- 4. Shri Manoj Kumar Tiwari, MP (Lok Sabha)**  
24, Mother Teresa Crescent Marg  
New Delhi

Member  
w.e.f. 6.12.2021 to till date
- 5. Dr K Vijay Raghvan**  
Former Principal Scientific Advisor

Member  
(w.e.f. 6.12.2021 to till date)
- 6. Shri K Sanjay Murthy**  
Department of  
Secretary to the Government of India  
Ministry of Human Resource Development  
Shastri Bhawan, New Delhi 110001

Member  
(w.e.f. 6.12.2021 to till date)
- 7. Dr Pranjal Modi**  
Vice Chancellor  
Gujarat University of Transplantation Sciences,  
Opp. Trauma Centre, Civil Hospital Campus  
Asarwa, Ahmedabad 380016, Gujarat

Member  
w.e.f. 09.3.2022 to till date
- 8. Shri Rajesh Bhushan**  
Secretary (H&FW)  
Government of India  
Ministry of Health and Family Welfare,  
Nirman Bhawan,  
New Delhi 110011

Member  
w.e.f. 6.12.2021 to till date
- 9. Professor Yogesh Singh**  
Vice Chancellor  
University of Delhi, Delhi 110007

Member (Ex-Officio)  
(w.e.f. 6.12.2021 to till date)
- 10. Dr Atul Goel**  
Director General of Health Services  
Government of India  
Nirman Bhawan, New Delhi 110011

Member (Ex-Officio)  
w.e.f. 18.04.2022 to till date  
Vice Dr Sunil Kumar  
w.e.f. 6.12.2021 to 17.4.2022
- 11. Professor Vijay Kumar Shukla**  
Rector and Voice Chancellor  
Banaras Hindu University,  
Varanasi 221005, UP

Member  
w.e.f. 09.3.2022 to till date

- 12. Dr (Smt) Vijay Laxmi Saxena**  
Former General Secretary,  
Indian Sciences Congress Association,  
(ISCA), Kolkata, West Bengal
- Dr (Smt) Vijay Laxmi Saxena**  
Coordinator Bioinformatics  
Infrastructure Facility Centre of DBT, (Government of India),  
Head of Department of Zoology, Dayanand  
Girls PG College, Kanpur, 7/182,  
Swarup Nagar, Kanpur 208002, UP
- 13. Dr Kameshwar Prasad,**  
Director  
Rajendra Institute of Medical Sciences,  
Bariatu, Ranchi 834009, Jharkhand
- 14. Dr Prem Nair**  
Medical Director,  
Amrita Institute of Medical Sciences,  
Elamakkara PO, Kochi 682041, Kerala  
Nashik 422 004
- 15. Dr S Venkatesh**  
Principal Advisor  
R.No.501, New Epidemiology Block,  
National Centre for Disease Control,  
22, Sham Nath Marg, Delhi 110054
- 16. Shri Jaideep Kumar Mishra**  
Addl. Secretary and Financial Adviser  
Government of India  
Ministry of Health and Family Welfare,  
Nirman Bhawan, New Delhi 110011
- 17. Professor M Srinivas**  
Director, AIIMS
- Member  
w.e.f. 6.12.2021 to till date
- Member  
w.e.f. 09.03.2022 to till date
- Member  
w.e.f. 09.03.2022 to till date
- Member  
w.e.f. 06.12.2021 to till date
- Member  
(w.e.f. 4.10.2022 to till date)  
Vice Shri Ashish Srivastava  
w.e.f. 06.12.2021 to 3.10.2022
- Member Secretary  
(w.e.f. 23.09.2022 to till date)  
Vice Professor Randeep Guleria  
24 March 2017 to 23 September 2022

**GOVERNING BODY (w.e.f. 1.04.2022 to 31.3.2023)**

- 1. Shri Mansukh Mandaviya**  
President  
(w.e.f. 28.04.2022 to till date)
- 2. Dr Anil Jain, MP (Rajya Sabha)**  
Member  
w.e.f. 28.4.2021 to till date
- 3. Shri Rajesh Bhushan**  
Member (w.e.f. 10.6.2021 to till date)
- 4. Shri K Sanjay Murthy**  
Member (w.e.f. 28.4.2022 till date)
- 5. Shri Jaideep Kumar Mishra**  
Member (04.10.2022 to till date)  
Vice Shri Ashish Srivastava  
w.e.f. 28.4.2022 to 3.10.2022
- 6. Dr Atul Goel**  
Member  
(w.e.f. 28.4.2022 to till date)
- 7. Dr Kameshwar Prasad**  
Member  
w.e.f. 28.4.2022 to till date

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|-----|--|---|
| 8.  | <b>Dr Pranjal Modi</b>                         | Member<br>w.e.f. 28.04.2022 to till date  |
| 9.  | <b>Professor Yogesh Singh</b>                  | Member<br>w.e.f. 28.4.2022 to till date   |
| 10. | <b>Professor Vijay Kumar Shukla</b>            | Member<br>w.e.f. 28.4.2022 to till date   |
| 11. | <b>Professor M Srinivas</b><br>Director, AIIMS | Member Secretary<br>w.e.f. 23.9.2022 to till date<br>Vice Professor Randeep Guleria<br>24 March 2017 to 23 September 2022 |

**STANDING FINANCE COMMITTEE (w.e.f. 1.04.2022 to 31.3.2023)**

- |    |  |  |
|----|--|--|
| 1. | <b>Shri Rajesh Bhushan</b>                     | Chairman (w.e.f. 25.02.2022 till date)   |
| 2. | <b>Shri Ramesh Bidhuri, MP (LS)</b>            | Member (w.e.f. 25.2.2022 to till date)   |
| 3. | <b>Dr Atul Goel</b>                            | Member (w.e.f. 25.2.2022 to till date)   |
| 4. | <b>Shri K Sanjay Murthy</b>                    | Member (w.e.f. 25.2.2022 to till date)   |
| 5. | <b>Dr K Vijay Raghvan</b>                      | Member (w.e.f. 25.2.2022 to till date)   |
| 6. | <b>Shri Jaideep Kumar Mishra</b>               | Member (w.e.f. 4.10.2022 to till date)<br>Vice Shri Ashish Srivastava<br>w.e.f. 28.4.2022 to 3.10.2022               |
| 7. | <b>Dr Pranjal Modi</b>                         | Member (w.e.f. 04.4.2022 to till date)   |
| 8. | <b>Professor M Srinivas</b><br>Director, AIIMS | Member Secretary<br>(w.e.f. 23.9.22 to till date)<br>Vice Professor Randeep Guleria<br>w.e.f. 24.3.2017 to 23.9.2022 |

**STANDING ACADEMIC COMMITTEE (w.e.f. 1.04.2022 to 31.3.2023)**

- |    |  |  |
|----|--|--|
| 1. | <b>Dr Pranjal Modi</b>                         | Chairman (w.e.f. 28.4.2022 till date)  |
| 2. | <b>Dr Atul Goel</b>                            | Member (w.e.f. 28.4.2022 to till date)   |
| 3. | <b>Professor Yogesh Singh</b>                  | Member (w.e.f. 28.4.2022 to till date)   |
| 4. | <b>Shri Jaideep Kumar Mishra</b>               | Member (w.e.f. 4.10.2022 to till date)<br>Vice Shri Ashish Srivastava<br>(w.e.f. 28.4.2022 to 3.10.2022)             |
| 5. | <b>Professor Vijay Kumar Shukla</b>            | Member (w.e.f. 28.4.2022)  |
| 6. | <b>Dr Prem Nair</b>                            | Member (w.e.f. 28.4.2022)  |
| 7. | <b>Dr (Smt) Vijay Laxmi Saxena</b>             | Member (w.e.f. 1.4.2021 to<br>31.7.2021 and 28.4.2022 to till date)  |
| 8. | <b>Professor M Srinivas</b><br>Director, AIIMS | Member Secretary<br>(w.e.f. 23.9.22 to till date)<br>Vice Professor Randeep Guleria<br>w.e.f. 24.3.2017 to 23.9.2022 |

**STANDING ESTATE COMMITTEE (w.e.f. 1.04.2022 to 31.3.2023)**

1. **Shri Ramesh Bidhuri, MP (Lok Sabha)** Chairman (w.e.f. 28.4.2022 to till date)
2. **Shri Manoj Kumar Tiwari MP (Lok Sabha)** Member (w.e.f. 28.4.2022 to till date)
3. **Dr (Smt) Vijay Laxmi Saxena,** Member (w.e.f. 28.4.2022)
4. **Dr Atul Goel** Member w.e.f. 28.4.2022 to till date
5. **Professor Yogesh Singh** Member (w.e.f. 28.4.2022 to till date)
6. **Shri Jaideep Kumar Mishra** Member (w.e.f. 4.10.2022 to till date)  
Vice Shri Ashish Srivastava  
(w.e.f. 28.4.2022 to 3.10.2022)
7. **Professor Vijay Kumar Shukla** Member (w.e.f. 28.4.2022)
8. **Professor M Srinivas** Member Secretary  
Director, AIIMS (w.e.f. 23.9.22 to till date)  
Vice Professor Randeep Guleria  
w.e.f. 24.3.2017 to 23.9.2022

**STANDING HOSPITAL AFFAIRS COMMITTEE (w.e.f. 1.04.2022 to 31.3.2023)**

1. **Shri Manoj Kumar Tiwari, MP (Lok Sabha)** Chairman  
(w.e.f. 28.4.2022 to till date)
2. **Dr Anil Jain, MP (Rajya Sabha)** Member (w.e.f. 28.4.2021 to till date)
3. **Dr K Vijay Raghvan** Member (w.e.f. 28.4.2022 to till date)
4. **Dr Atul Goel** Member (w.e.f. 28.4.2022 to till date)
5. **Dr S Venkatesh** Member (w.e.f. 28.4.2022 to till date)  
Principal Advisor, DGHS
6. **Dr Kameshwar Prasad** Member (w.e.f. 28.4.2022 to till date)
7. **Professor Yogesh Singh** Member (w.e.f. 28.4.2022 to till date )
8. **Professor M Srinivas** Member Secretary  
Director, AIIMS (w.e.f. 23.9.22 to till date)  
Vice Professor Randeep Guleria  
w.e.f. 24.3.2017 to 23.9.2022

**STANDING SELECTION COMMITTEE (w.e.f. 1.04.2022 to 31.3.2023)**

1. **Dr Kameshwar Prasad** Chairman (w.e.f. 28.4.2022 to till date)
2. **Dr Atul Goel** Member (w.e.f. 28.4.2022)
3. **Professor Vijay Kumar Shukla** Member (w.e.f. 28.4.2022 to till date)
4. **Dr S Venkatesh** Member (w.e.f. 28.4.2021 to till date)  
Principal Advisor, DGHS
5. **Professor Yogesh Singh** Member (w.e.f. 28.4.2022)

6. **Dr K Vijay Raghvan** Member w.e.f. 28.4.2022 to till date
7. **Dr Prem Nair** Member (w.e.f. 28.4.2022 to till date)
8. **Professor M Srinivas** Member Secretary  
Director, AIIMS (w.e.f. 23.9.22 to till date)  
Vice Professor Randeep Guleria  
w.e.f. 24.3.2017 to 23.9.2022

### 3. Academic Section

**Dean**

Neena Khanna (1 December 2021 to 30 June 2022)

Subrata Sinha (1 July 2022 to 31 January 2023)

Minu Bajpai (1 February 2023 to till date)

**Associate Dean**

Rajeev Kumar

**Registrar**

Sanjeev Lalwani

The Academic Section develops policy and plans and executes academic activities at AIIMS, New Delhi. These activities encompass the undergraduate, postgraduate and doctoral programmes for medical, nursing and paramedical courses. These activities are conducted by the undergraduate, postgraduate and paramedical cells.

**Admissions in various courses over the past 3 years**

Sl. No.	Name of course	2022-23	2021-22	2020-21
1.	MSc/MBiotech/MSc Nursing (August)*	106	101	76
2.	MD/MS/MDS/M.Ch/DM (Direct 6 yrs)	427	467	446
3.	DM/MCh	189	188	201
4.	PhD	57	59	90
5.	Fellowship	37	36	39
6.	MBBS*	132	132	132
7.	BSc Nursing (Post-Basic)*	31	43	45
8.	BSc (Hons) Nursing*	94	96	98
9.	Para-medical courses*	34	45	52
	<b>Total</b>	<b>975</b>	<b>1167</b>	<b>1179</b>

\*Admissions are done once in a year

**UNDERGRADUATE EDUCATION**

The section handles post-admission formalities for new students, develops and revises curricula and administers teaching programmes including internal assessment of undergraduate students admitted to various courses. The courses include MBBS, BSc (Hons) Medical Technology in Radiography, Ophthalmic Techniques, Operation Theatre Technology, BSc Dental Hygiene, BSc Dental Operating Room Assistant (DORA), BSc Nursing (Post-Basic) and BSc (Hons) Nursing courses.

**Bachelor of Medicine and Bachelor of Surgery (MBBS)**

The pattern of education in MBBS course was reviewed and re-structured in July 2004. The MBBS course is of 5½ years duration and comprises 3 phases and internship. The details are as follows:

Phase	Duration (years)	Training
First	One	Pre-clinical
Second	One-and-a-half	Para-clinical
Third	Two	Clinical
Internship	One	Compulsory rotation in various departments

At present, 132 students are admitted every year to the MBBS course (51 General Category, 34 Other Backward Classes, 12 EWS Category, 19 Scheduled Caste, 9 Scheduled Tribe and 7 Foreign National). For persons with disabilities (PWD), 5% reservation was provided on a horizontal basis. No reservation shall be applicable for Foreign National students. From 2021, these admissions are made based on merit through the National Eligibility Entrance Test (NEET) conducted by the National Testing Agency.

As on 31 March 2023, 620 MBBS students including 102 interns were on rolls. Nine meritorious MBBS students were awarded scholarships for securing first, second and third positions in the first, second and final phase of professional examinations.

#### **Paramedical and Nursing Education**

In 2022-2023, 84 students (39 General Category, 9 EWS Category, 5 Scheduled Caste, 5 Scheduled Tribe and 26 Other Backward Classes) were admitted in BSc (Hons) Nursing course. For BSc Nursing (Post-Basic) course, 31 students (15 General Category, 4 Scheduled Caste, 3 Scheduled Tribe, 8 Other Backward Classes, 1 EWS) were admitted. Students admitted to various BSc courses were as follows:

<b>BSc</b>	<b>General</b>	<b>SC</b>	<b>ST</b>	<b>OBC</b>	<b>EWS</b>	<b>Foreign</b>	<b>TOTAL</b>
Ophthalmic Techniques	8	1	–	6	–	1	16
Medical Technology in Radiography	4	2	1	3	1	–	11
Operation Theatre Technology	4	–	1	2	–	–	7
Dental Hygiene	–	–	–	–	–	–	Nil
Dental Operating Room Assistant	–	–	–	–	–	–	Nil

The number of students on rolls in these courses as on 31 March 2023 were as follows:

<b>Course</b>	<b>Number of students</b>
<b><i>Nursing</i></b>	
BSc Nursing (Post-basic)	69
BSc (Hons) Nursing	329
<b><i>Paramedical</i></b>	
BSc (Hons) Ophthalmic Techniques	70
BSc (Hons) Medical Technology in Radiography	34
BSc Operation Theatre Technology	18
BSc Dental Hygiene	10
BSc Dental Operating Room Assistant	09

#### **POSTGRADUATE EDUCATION**

The Academic Section looks after all activities pertaining to admission and training of postgraduate students including junior and senior residents. It handles all activities related to Fellowship, PhD, DM, MCh, MD, MS, MDS, MHA, MCh/DM (Direct 6 years Course), M Biotechnology (M Biotech) and MSc courses in different disciplines.

Admissions to all postgraduate courses for Indian nationals as well as sponsored candidates are made through an All-India Entrance Examination held twice a year for all postgraduate courses except MSc, MSc Nursing and M. Biotechnology courses, for which the examination is held once a year. Foreign nationals are admitted under the sponsored category through the same entrance examination. In 2022-23, 975 students were admitted in various courses. The number of postgraduate and doctoral students on roll as on 31 March 2023.

### Admissions in various courses

Sl. No.	Name of course	July 2022	January 2023	Total
1.	MSc/MBiotech/MSc Nursing (August)*	106	–	106
2.	MD/MS/MDS/M.Ch/DM (Direct 6 yrs)	107	188	295
3.	DM/MCh	88	101	189
4.	PhD	30	27	57
5.	Fellowship	20	17	37
6.	MBBS*	132	–	132
7.	BSc Nursing (Post-Basic)*	31	–	31
8.	BSc (Hons.) Nursing*	94	–	94
9.	Para-medical courses*	34	–	34
10.	<b>Total</b>	<b>642</b>	<b>333</b>	<b>975</b>

\*Admissions are done once in a year

### Postgraduate students on rolls

Sl. No.	Name of course	Number of students on roll
1.	PhD	343
2.	DM	364
3.	MCh	172
4.	Fellowship programme	45
5.	MD	801
6.	MS	108
7.	MDS	56
8.	MSc/MBiotech/MSc Nursing	182
	<b>Total</b>	<b>2071</b>

### Subject-wise distribution of PhD students on rolls

Sl. No.	Subject	Open	Sponsored
1.	Anatomy	13	–
2.	Biochemistry	55	–
3.	Biophysics	37	–
4.	Biotechnology	22	–
5.	Cardiac Biochemistry (CNC)	3	
6.	Cardiology	1	–
7.	Centre for Community Medicine	6	2
8.	CIMR	1	–
9.	College of Nursing	1	
10.	Community Ophthalmology (Dr RP Centre)	2	
11.	Dermatology & Venereology	3	–
12.	Endocrinology and Metabolism	1	–
13.	Forensic Medicine	3	–
14.	Gastroenterology and Human Nutrition Unit	8	–
15.	Laboratory Medicine	4	–
16.	Laboratory Medicine (TC)	1	1
17.	Laboratory Oncology	13	–
18.	Medical Oncology (Dr BRA IRCH)	11	–
19.	Medical Physics (Dr BRA IRCH)	2	1



20.	Microbiology	5	–
21.	Medicine	–	1
22.	Neuro-pathology (NSC)	7	–
23.	Neurology	8	–
24.	Neuro-Anaesthesiology & Critical Care	0	1
25.	Neuro-psychology	1	–
26.	Neurosurgery	1	–
27.	Nuclear Magnetic Resonance	10	1
28.	Nuclear Medicine	1	–
29.	Oral Medicine & Radiology (CDER)	1	–
30.	Obst & Gynaecology	2	–
31.	Ophthalmology (RPC)	6	–
32.	Ocular Biochemistry (Dr RP Centre)	2	–
33.	Ocular Pathology (Dr RP Centre)	3	–
34.	Ocular Pharmacology (Dr RP Centre)	3	–
35.	Paediatric Surgery	1	1
36.	Paediatrics	6	1
37.	Pathology	12	–
38.	Pharmacology	13	–
39.	Physiology	26	–
40.	Preventive Oncology (IRCH)	1	–
41.	Psychiatry (Clinical Psychology)	1	–
42.	Psychiatry (Clinical Psychiatry)	1	–
43.	Psychiatry (NDDTC)	1	–
44.	Psychiatry	4	–
45.	Pulmonary Medicine and Sleep Disorders	4	–
46.	Radio-diagnosis	–	1
47.	Radiotherapy	–	–
48.	Reproductive Biology	16	–
49.	Stem Cell	3	–
50.	Surgery	–	–
51.	Surgery (JPNATC)	1	–
52.	TII	3	3
53.	<b>Total</b>	<b>330</b>	<b>13</b>

**Subject-wise distribution of DM students on rolls**

Sl. No.	DM	Open	Sponsored
1.	Addiction Psychiatry (NDDTC)	12	0
2.	Cardiac Surgical Intensive Care	4	–
3.	Cardiac Anaesthesiology	14	1
4.	Cardiology	22	2
5.	Clinical Haematology	11	3
6.	Clinical Pharmacology	3	0
7.	Anaesthesiology & Critical Care	24	1
8.	Endocrinology	8	2
9.	Gastroenterology	22	2
10.	Haemato-Pathology	7	2
11.	Medicine & Microbiology	5	0

12.	Medical Genetics	8	1
13.	Medical Oncology	25	0
14.	Neonatology	9	3
15.	Nephrology	8	0
16.	Neuro-Anaesthesiology and Critical Care	19	2
17.	Neurology	34	1
18.	Neuroimaging and Interventional Neuroradiology	6	2
19.	Onco-Anaesthesia, Dr BRAIRCH	22	–
20.	Paediatric Cardiology	6	2
21.	Paediatric Endocrinology	2	–
22.	Paediatric Nephrology	3	–
23.	Paediatric Neurology	9	1
24.	Paediatric Pulmonology and Intensive Care	3	3
25.	Paediatric Oncology	10	1
26.	Pulmonary, Critical Care and Sleep Medicine	13	–
27.	Reproductive Medicine	6	2
28.	Therapeutic Medicine	7	–
29.	Cardiovascular Radiology & Endovascular Interventions	10	1
	<b>Total</b>	<b>332</b>	<b>32</b>

**Subject-wise distribution of DM (6 years course) on rolls**

Sl. No.	DM	Open	Sponsored
1.	Infectious Diseases	16	–
	<b>Total</b>	<b>16</b>	<b>–</b>

**Subject-wise distribution of MCh students on rolls**

Sl. No.	Subject	Open	Sponsored
1.	Breast, Endocrine and General Surgery	11	1
2.	Cardiothoracic and Vascular Surgery	24	1
3.	Gastrointestinal Surgery	11	2
4.	Gynaecologic Oncology	7	3
5.	Head-Neck Surgery and Oncology	9	1
6.	Minimal Access Surgery and General Surgery	17	2
7.	Neurosurgery	17	2
8.	Paediatric Surgery	6	–
9.	Plastic and Reconstructive Surgery	15	–
10.	Surgical Oncology	15	2
11.	Trauma Surgery and Critical Care	14	1
12.	Urology	8	3
	<b>Total</b>	<b>154</b>	<b>18</b>

**Subject-wise distribution of MCh (6 years course) on rolls**

Sl. No.	MCh	Open	Sponsored
1.	Neurosurgery	10	–
2.	Paediatric Surgery	5	–
	<b>Total</b>	<b>15</b>	<b>–</b>

**Subject-wise distribution of Fellowship Students on rolls**

1.	Bariatric and Metabolic Surgery	2	–
2.	Clinical Research Methodology and Evidence Based Medicine	1	–
3.	Paediatric Cardiac Anaesthesia	1	–
4.	Anaesthesiology - Pain Medicine	6	–
5.	Epilepsy Surgery and Functional Neurosurgery	2	–
6.	Spine Surgery (NS)	4	–
7.	Skull Base and Cerebrovascular Surgery (NS)	1	–
8.	Paediatric Surgery (NS)	2	–
9.	Advanced Gastrointestinal Endoscopy	2	–
10.	Uro-Oncology	2	–
11.	Minimal Invasive Urology (Laparoscopic and Robotics)	2	–
12.	Genitourinary Reconstructive Surgery (Adult)	–	–
13.	Diagnostic and Interventional Radiology	2	–
14.	Thoracic Radiology	2	–
15.	Paediatric Radiology	2	–
16.	Minimally Invasive Gynaecological Surgery	–	–
17.	Uro-Gynaecology	1	–
18.	Gastroenterology-Pancreatology	1	–
19.	Gastroenterology-Inflammatory Bowel Diseases	2	–
20.	Gastroenterology-Hepatology	1	–
21.	Cleft and Craniofacial Orthodontics	–	–
22.	Neuro-Critical Care	4	–
23.	Aortic Surgery	–	–
24.	Maternal Foetal Medicine (MFM)	1	–
25.	Arthroscopy	–	–
26.	Joint Replacement	1	–
27.	Musculoskeletal Oncology	–	–
28.	Pelvic - Acetabular Trauma	1	–
29.	Neurology-Stroke	2	–
30.	Blood and Marrow Transplantation	–	–
31.	Paediatric Anaesthesia	–	–
	<b>Total</b>	<b>45</b>	<b>0</b>

**Subject-wise distribution of MD/MS/MDS students on roll**

Sl. No.	MD	Open	Sponsored
1.	Anaesthesiology	96	3
2.	Anatomy	20	–
3.	Biochemistry	14	–
4.	Biophysics	18	–
5.	Community Medicine	28	–
6.	Conservative Dentistry and Endodontics	11	–
7.	Dermatology and Venereology	21	3
8.	Emergency Medicine	33	2
9.	Forensic Medicine	9	–
10.	Geriatric Medicine	19	2
11.	Hospital Administration	10	–

12.	Infectious Disease - DM (direct 6 year course)	15	–
13.	Laboratory Medicine	10	–
14.	Medicine	68	3
15.	Microbiology	18	–
16.	Neuro Surgery - MCh (Direct 6 years course)	11	–
17.	Nuclear Medicine	21	3
18.	Obstetrics and Gynaecology	50	3
19.	Ophthalmology	99	3
20.	Oral and Maxillofacial Surgery	12	1
21.	Orthodontics	12	0
22.	Orthopaedics	23	3
23.	Otorhinolaryngology (ENT)	24	2
24.	Paed. Surgery - MCh (Direct 6 years course)	7	–
25.	Paediatrics	43	3
26.	Palliative Medicine	19	1
27.	Pathology	34	3
28.	Pedontics and Preventive Dentistry	12	–
29.	Pharmacology	15	–
30.	Physical Medicine and Rehabilitation	11	3
31.	Physiology	17	–
32.	Prosthodontics	8	–
33.	Psychiatry	38	3
34.	Radiodiagnosis	36	3
35.	Radiotherapy	16	3
36.	Surgery	54	2
37.	Transfusion Medicine	7	–
	<b>Total</b>	<b>959</b>	<b>49</b>

#### Subject-wise distribution of MSc students on rolls

Sl. No.	MSc	Open	Sponsored
1.	Anatomy	12	–
2.	Biochemistry	12	–
3.	Biophysics	10	–
4.	Pharmacology	5	–
5.	Physiology	12	–
6.	Biotechnology	33	–
7.	Nuclear Medicine Technology	25	–
8.	Reproductive Biology	12	–
9.	Cardio Vascular Imaging and Endovascular Technology	7	–
	<b>Total</b>	<b>128</b>	<b>00</b>

#### Subject-wise distribution of MSc (Nursing) students on rolls

Sl. No.	MSc (Nursing)	Open	In-service candidate/F.N
1.	Cardiological/CTVS Nursing	5	2
2.	Neurosciences Nursing	7	2
3.	Paediatric Nursing	6	2
4.	Psychiatric Nursing	5	2

5.	Oncological Nursing	4	2
6.	Nephrological Nursing	6	2
7.	Critical Care Nursing	7	2
	<b>Total</b>	<b>40</b>	<b>14</b>

### TRAINING PROGRAMMES

There is a provision for short-term, long-term and elective training for students and employees of various organizations in India as well as abroad. During 2022-23, 166 persons underwent training from 14 February to 31 March 2022. Various training programmes were suspended from 1 April 2021 to 13 February 2022 due to the COVID pandemic and therefore the number of candidates is lower than in the previous years.

Sl. No.	Training	Number of trainees
1.	Short Term training: Indian nationals	393
2.	Short Term training: Foreign nationals	16
3.	Long Term training: Indian nationals	03
4.	Elective Training: Foreign nationals (UG students)	12
5.	WHO Fellows: Indian nationals	–
6.	WHO Fellows: Foreign nationals	–
7.	Permission for organizing Conferences/Workshops	149

### COMMITTEE MEETINGS

During the year 2022-23, Academic Section organized meetings of the Academic Committee, Staff Council, Dean's Committee, Faculty and Research Presentations as per details given below:

Sl. No.	Committee	Number of Meetings
1.	Academic Committee	02
2.	Staff Council	00
3.	Dean's Committee	01
4.	Faculty (General Discussions)	07
5.	Oration	10
6.	Research Presentations	01

### Centre of Excellence (CoE) on Artificial Intelligence in Healthcare

Artificial Intelligence (AI) is a rapidly emerging technology in healthcare with extensive applications in diagnostics, prevention, education, clinical decision making, prognostication, drug discovery among others. The Ministry of Health and Family Welfare (MoHFW), Government of India initiated a program to develop AI tools in healthcare and designated AIIMS New Delhi as a Centre of Excellence (CoE) on AI in Healthcare and Dr Rajeev Kumar, Professor of Urology was designated the Nodal Officer for this project.

The AI team at AIIMS New Delhi has initiated four projects in the departments of Radiodiagnosis and Interventional Radiology, Ophthalmology, and Dermatology and Venereology as the first steps in creating tools for integration with e-Sanjivani platform of the MoHFW.

#### Department of Radiodiagnosis and Interventional Radiology:

- Classification of Chest X-rays using Deep Learning

Prof Ashu Seith Bhalla, Prof Madhusudhan KS, Dr Krithika Rangarajan

#### Dr Rajendra Prasad Centre for Ophthalmic Sciences:

- Developing and validating an Artificial Intelligence Based Model for Diabetic Retinopathy
- Developing and validating a model/AI-based tool for estimating the burden of corneal Blindness, cataract, pterygium and dry eye and predicting the need for intervention with the help of AI

Prof Radhika Tandon, Prof Pradeep Venkatesh, Prof Tanuj Dada, Prof PraveenVashisht, Dr Rohan Chawla, Dr Vivek Gupta, Dr Noopur Gupta

**Department of Dermatology and Venereology:**

- Development of a machine learning-based clinical decision support application for the diagnosis of 14 common dermatological diseases

Prof Somesh Gupta

**SET (Skills E-learning & Telemedicine) Facility**

**SET Management Committee**

Professor M Srinivas	Director, AIIMS - Chairman
Professor Minu Bajpai	Dean (Acad) - Co-Chairman
Professor Arvind Bagga	
Professor Peush Sahni	
Professor A Shariff	
Professor Ashish Suri	
Professor Arti Vij	
Professor Rajeev Kumar,	Assoc Dean (Acad)
Professor Sanjeev Lalwani,	Registrar - Member Secy
Professor Ambuj Roy,	Facility Co-ordinator In-Charge



**Administrative Unit**

Professor A Bagga, Chairman, Skills (Dry & Wet Lab) Facility  
Professor Ambuj Roy, Facility Co-ordinator Charge  
Professor K Luthra, Chairman, Prof-In-Charge - E-Learning content development  
Professor Rashmi Ramachandran, Prof-In-Charge- Skill & Simulation-based teaching  
Professor Vijay Mathur, Chairman, Prof-In-Charge - Telemedicine Facility  
Mr Adarsh Kumar Sharma, Chief Technical Officer  
Mr Kushal Kumar, Administrative Officer  
Mr RP Singh, Store Officer

**Objectives**

- Establish skills facility - Drylab, wetlab, simulation-based learning
- Establish an e-platform for online learning
- Telemedicine facility for tele-education & tele-consultation to collaborate between Institutes all over India

**Workshops conducted by SET Facility**

1. Workshop on “Skill and Simulation-Based Teaching – Focus on intensive respiratory therapy”



2. “Planning and Conducting Medical Education-Based Research”



**Advanced Airway Training Laboratory using Difficult Airway Manikin (DAM)**

**Projects as Thesis (DAM)** Total residents trained -78

**Projects as Thesis** Total residents trained - 7

**Airway Skill Training**  
Total number conducted - 1 Total residents trained - 5

**Airway Skill Training for UG students from various colleges of India (INSIGHT Workshop)**  
Total number conducted - 1 Total candidates trained - 60

**Covid Training Module**  
Total number conducted - 5 Total residents trained - 19

**Fibreoptic Guided Intubation**

Total number conducted - 10

Total residents trained - 34





**Ultrasonograph (USG) Simulation Laboratory**

**USG Simulation Training**

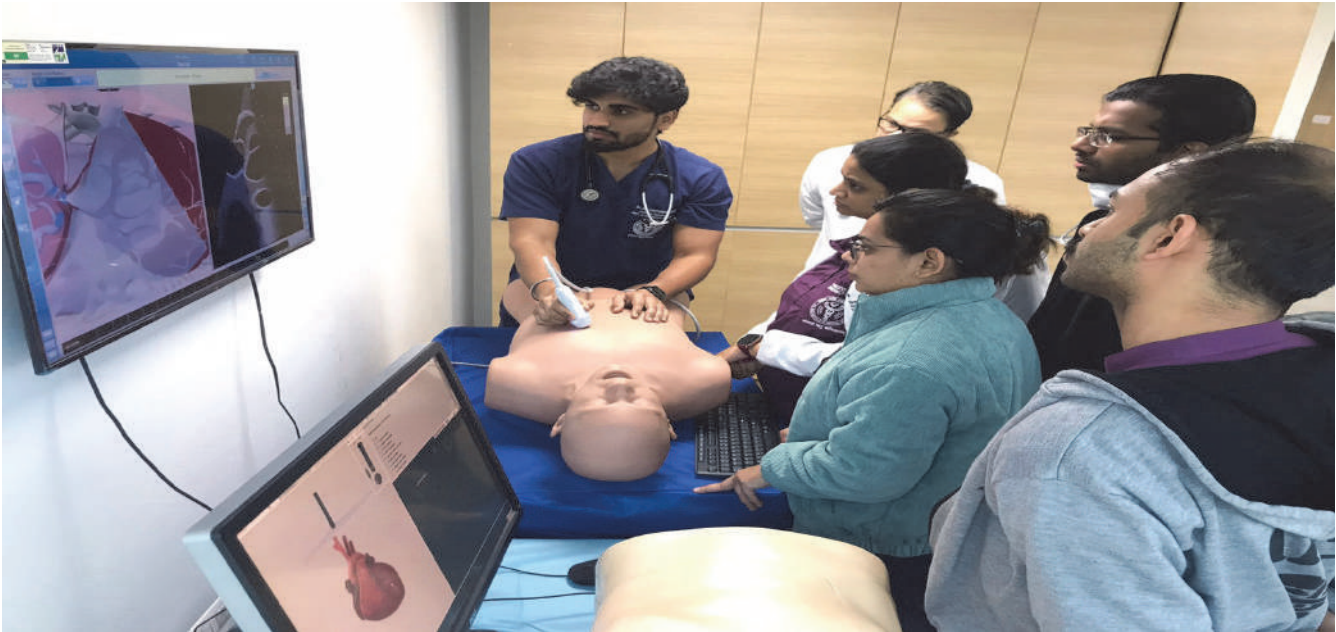
Total number conducted - 1

Total residents trained - 25

**Point of Care Ultrasound (POCUS) Workshop**

Total number conducted - 5

Total candidates trained -161



***Skill Lab***

**1. Undergraduate students**

- a. The Skill-based learning for undergraduate students which is integrated into the curriculum
- b. Program starts in the 4th semester using blended online and hands-on teaching methodology
  - Number of skill training sessions - 51
  - Number of students attending the various sessions - 1214

**2. Nursing students**

- Skill training program for college of nursing students - 37
- Number of students attended - 1339

**3. Nursing Staff**

- a. Hospital Infection Control Committee (HICC) Induction Program
  - Total number conducted - 7
  - Total candidates trained - 261
- b. Training For Nurses in Pediatrics Pulmonology
  - Total number conducted - 2
  - Total candidates trained - 209
- c. Cardiac Resuscitation Training Program (CRTP) Course
  - Total number conducted - 24
  - Total candidates trained - 563

**4. Postgraduate students**

- a. Advance Airway workshop
  - Total number conducted - 1
  - Total residents trained - 18
- b. Emergency medicine skill training program for residents
  - Total number conducted - 6
  - Total residents trained - 184
- c. American Heart Association (AHA) Accredited BLS & ACLS Courses
  - Total number conducted - 4
  - Total candidates trained - 100
- d. Cardiac Resuscitation Training Program for Centre for Dental Education and Research (CDER)
  - Total number conducted - 6
  - Total candidates trained - 147
- e. CODE Blue Training for Institute Rotary Cancer Hospital (IRCH)
  - Total number conducted - 7
  - Total candidates trained - 111
- f. Neonatal Resuscitation Program (NRP)
  - Total number conducted - 5
  - Total candidates trained - 131
- g. Central Line Workshop
  - Total number conducted - 1
  - Total candidates trained - 15
- h. Airway Thesis
  - Total number conducted - 1
  - Total candidates trained - 12

- i. Prototype Testing
  - Total number conducted - 6
  - Total candidates trained - 15
- j. Video Recording
  - Total number conducted - 05
  - Total residents trained - 13

#### **5. MCh/MD/DM/Super specialty training courses**

- a. MD Exam conducted
  - Total number conducted - 2
  - Total delegates trained - 15
- b. Transplant Procurement Management Training (TPM)
  - Total number conducted - 1
  - Total delegates trained - 50
- c. Training of Trainers (ToT) Skill and Simulation-Based Teaching
  - Total number conducted - 2
  - Total delegates trained - 77

#### **6. Others**

##### **CPR Training program for Lay Rescuers (Security Guards)**

- Total number conducted - 8
- Total candidates trained - 170

##### **INSIGHT Workshop (BLS Training)**

- Total number conducted - 3
- Total students trained - 210

##### **PULSE Program (BLS Training)**

- Total number conducted - 2
- Total students trained - 100

##### **BLS/COLS Training (On Institute Day)**

- Total number conducted - 1
- Total candidates trained - 66

##### **Patient's IV Cannulation Training**

- Total number conducted - 3
- Total candidates trained - 98



## **Wet Lab**

### **1. Nursing students**

- Skill training program for college of nursing students - 3
- Number of students attended - 47

### **2. Undergraduate students**

- Number of skill training sessions - 12
- Number of students attending the various sessions - 380

### **3. Nursing and other Paramedical Staff**

## **Hospital Infection Control Committee (HICC) Induction Program**

- Number of Skill Training session - 5
- Number of Nursing staff attended - 194

## **Compression only Life Support (COLS) training Program**

- Number of skill training session - 1
- Number of Participants - 33

### **4. Postgraduate students**

#### **a. Basic Laparoscopic Training**

- Total number conducted - 1
- Total residents trained - 12

#### **b. Hands-on course “Basic Surgical Skill Course”**

- Total number conducted - 1
- Total residents trained - 8

#### **c. Bilio-enteric Anastomosis workshop**

- Total number conducted - 7
- Total residents trained - 50

#### **d. Workshop on Vascular, Tendon and Nerve repair**

- Total number conducted - 3
- Total residents trained - 65

#### **e. Hands-on Training on VATS Lobectomy on 3D Lung Module**

- Total number conducted - 2
- Total resident strained - 45

#### **f. Hands-on workshop on Bowel anastomosis, Electro surgery & Laparoscopic suturing**

- Total number conducted - 1
- Total residents trained - 33

#### **g. Skill training on Intestinal and vascular anastomosis**

- Total number conducted - 1
- Total residents trained - 8

#### **h. Thesis**

- Total number conducted - 10
- Total residents trained - 20

#### **i. Workshop on regional anesthesia**

- Total number conducted - 2
- Total residents trained - 29

#### **j. Laparoscopic Endo-trainer**

- Continuous training program
- Total residents attended - 299

- k. Hands-on workshop on USG-guided breast biopsy on wet tissue - 5 September 2022 and 24 February 2023**
- Total number conducted - 2
  - Total residents attended - 50
- 5. MCh/MD/DM/Super specialty training courses**
- a. ToT course for Nursing Faculty ‘Breast feeding infant & young child feeding counsellor’**
- Total number conducted - 1
  - Total delegates trained - 12
- b. Workshop on Content Development - Dept of Anesthesia**
- Total number conducted - 2
  - Total delegates trained - 48
- c. Workshop on Micro neurosurgery**
- Total number conducted - 1
  - Total delegates trained - 70
- d. Hands-on on training on-Full thickness dissection device-Gastro enterology**
- Total number conducted - 1
  - Total delegates trained - 8
- e. Training on - Point Endoscopic Myotomy & Endoscopic Mucosal Dissection (POEM & EMD)**
- Total number conducted - 1
  - Total delegates trained - 6
- f. Hands-on course on Tissue Grafting**
- Total number conducted - 1
  - Total delegates trained - 9
- g. Cadaveric Workshop - (Dept of Surgery - 2, Gynecology - 1)**
- Total number conducted - 3
  - Total delegates trained - 76
- h. Workshop on Transplant Management Training Program - Neurosurgery**
- Total number conducted - 1
  - Total delegates trained - 30
- i. Workshop on Ultrasound guided cystogastrectomy**
- Total number conducted - 1
  - Total delegates trained - 15
- j. Workshop on “Complex advanced surgical skill” Dept of Gynae-Oncology**
- Total number conducted - 1
  - Total delegates trained - 7
- k. Workshop on Flurosence in situ Hybridisation - FISH - CDER**
- Total number conducted - 1
  - Total delegates trained - 35
- l. Workshop on “Planning and conducting medical education Based Research**
- Total number conducted - 1
  - Total delegates trained - 60

Skill Training at WET LAB



**SET Facility Delegates Visit**

**Visitors from Lady Hardinge Medical College:**



**Hon'ble Minister of Health & Family Welfare and Delegates Visit:**





**Denmark Ministerial Delegate visit:**



**Visit by Hon'ble Crown Princess of Denmark**



**Visit of Faculty from Norway**





### E-learning

The faculty involved with SET facility have created learning modules for skill learning. Each module which is hosted online consists of standard operating procedures for the skill, audio-video file and multiple-choice questions to learn about the skill.

### Distribution of skill modules for undergraduate skill learning

<b>4th and 5th Semester</b>	Gloving and Gowning
Hand washing	Fracture stabilisation
IM injection	<b>8th Semester</b>
PV exam	Adult NG tube insertion
Papsmear	Diagnostic LP
IV Cannulation	Ascitic tap
Pulse oximeter use	Cervical collar application
<b>6th Semester</b>	Tru-cut Biopsy
Bag and mask	Normal vaginal delivery
Chest compression- Adult	Episiotomy repair
Chest compression-Paeds	Neonatal OG feeding
Neonatal intubation	Neonatal LP
Basic suturing	<b>Internship</b>
Cu-T insertion	ICD Insertion
Endometrial Aspiration	Urinary Catheterisation
<b>7th Semester</b>	Needle Thoracentesis
LMA insertion	CVC insertion
Arterial blood sampling	PICC line insertion
Endotracheal intubation	BLS and ACLS
Glucometer Use	

### COVID-related training modules

- Endotracheal intubation in COVID patients
- CPR in COVID patients
- How to prevent fogging of goggles in PPE
- Clinical management guidelines for Mild/moderate COVID

SET Facility, AIIMS, Delhi has been designated as the National Resource Centre for the Ministry of Health & Family Welfare (MOHFW) initiative NMCN (National Medical College Network).

This entails leading coordination with 50 medical colleges across India to improve tele-education. One of the key initiatives is populating the Learning Management Information System Portal SAKSHAM with medical education content for UG and PG students.

## Courses Uploaded on LMIS portal

Courses: 118

Lessons: 167

## Workshops

- 9-10 November 2022 - Skills and Simulation-Based Teaching Workshop
- 6 December 2022 - National Workshop of National Medical College Network
- 8-10 May 2022 - Training workshop on “Strengthening Capacity of National Medical College

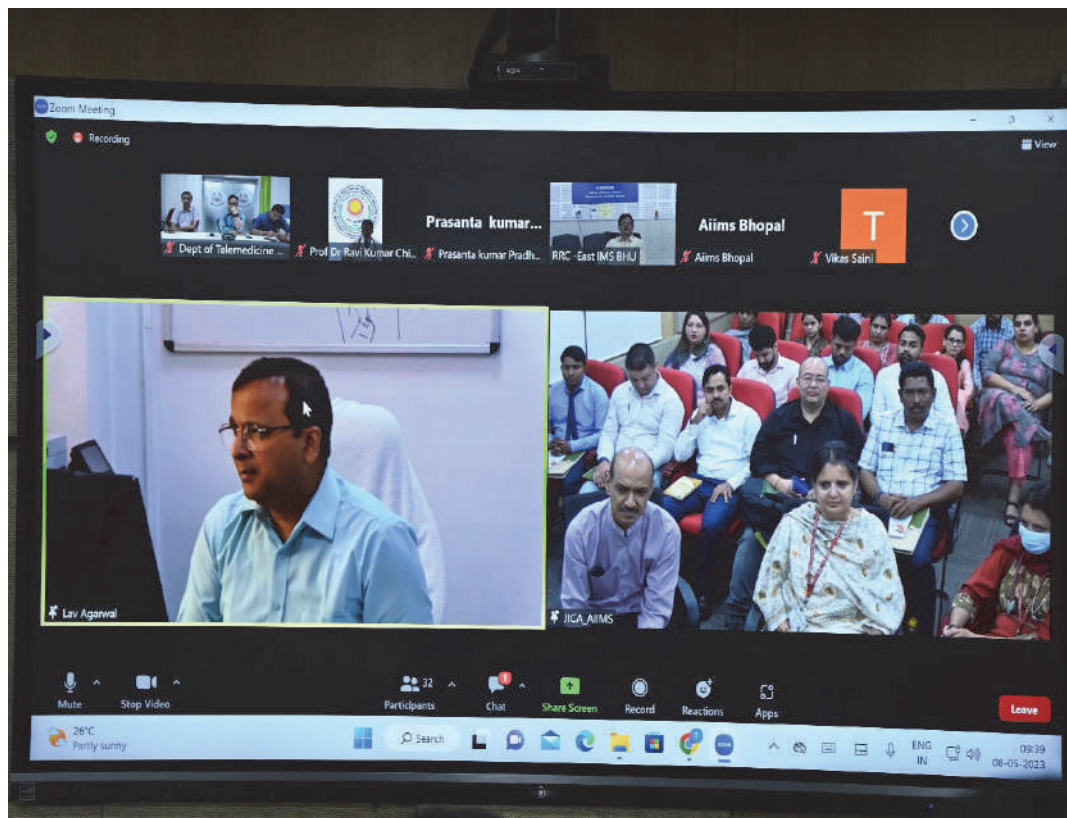
Network to Design, Develop and Deliver Online Education to Medical Students”

## Physical Meetings

- 5 November 2022 - Sub-committee members for NMCN e-learning
- 17 November 2022 - Sub-committee members & Nodal Officers, AIIMS for NMCN e-learning
- 28 November 2022 - Nodal Officers, AIIMS, New Delhi for Content development for e-learning
- 22-24 March 2023 - Technical Training of AIIMS, New Delhi, NMCN team

## Online Meeting

- 3 November 2022 - Nodal Officers RRCs & NRC (NMCN Project)
- 17 November 2022 - Nodal Officers of Medical colleges under AIIMS, New Delhi (NRC)
- 24 November 2022 - Nodal Officers all the 50 colleges under NMCN
- 1 December 2022 - Nodal Officers RRCs & NRC (NMCN Project)
- 15 December 2022 - Nodal Officers RRCs & NRC (NMCN Project)
- 25 January 2023 - Nodal Officers RRCs & NRC (NMCN Project)
- 22 February 2023 - Empower School of Health and AIIMS, New Delhi, NMCN team for Strengthening NMCN e-learning content developers
- 2 March 2023 - Nodal Officers of RRCs & NRC (NMCN Project)
- 16 March 2023 - LMIS progress review meeting of NIHFWS, Net Profit and AIIMS, New Delhi, NMCN team
- 18 March 2023 - Under the chairmanship of Secretary (Health) MoHFW, VC meeting to review status of projects under the Center of Excellence on Artificial Intelligence in Healthcare and review of NMCN scheme

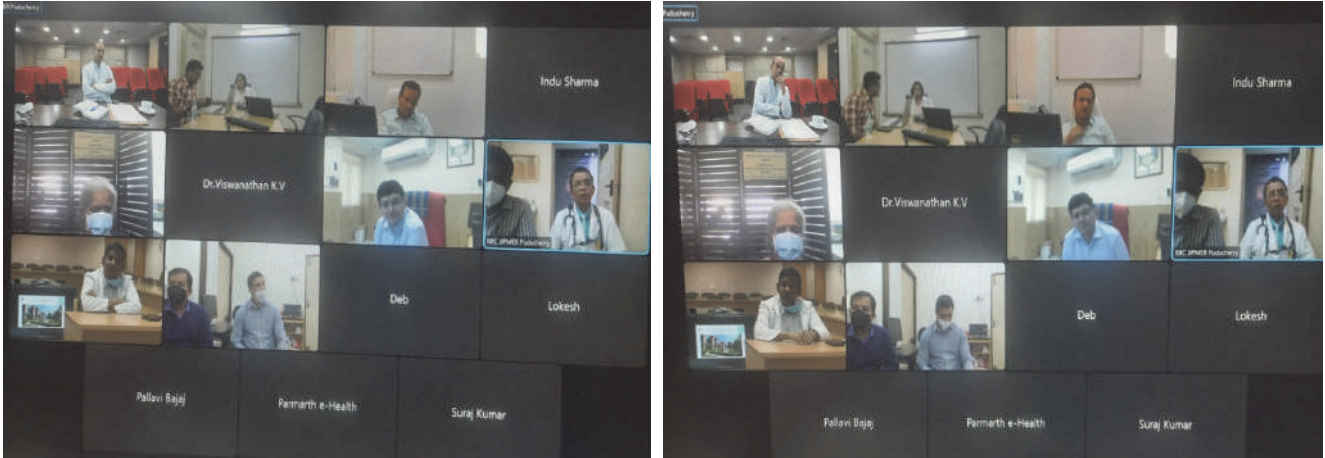


## Telemedicine Services

Activities details period from 1 April 2022 to 31 March 2023

Sl. No.	Activities	Total of Nos.
1.	<b>Case Presentation</b>	2
2.	<b>Clinical Combined Round (CCR)</b> - Live Streaming in AIIMS Telemedicine_1 YouTube Channel	26
3.	<b>Clinical Grand Round (CGR)</b> - Live Streaming in AIIMS Telemedicine_1 YouTube Channel	19
4.	<b>Clinical Pathological Conference</b> - Live Streaming in AIIMS Telemedicine_1 YouTube Channel	8
5.	<b>Conference</b>	2
6.	<b>Exam</b> - DM Assessment, MCh Minimal General Surgery, DM Pediatric Cardiology, MCh, DM, Neuro-Surgery & DM Assessment	13
7.	<b>Guest Lecture</b>	12
8.	<b>Interview</b> - Scientist, BSc Nursing & AIIMS-Kalyani	23
9.	<b>Live Streaming</b> - AIIMS Telemedicine YouTube Channel	38
10.	<b>Meeting Online</b>	48
11.	<b>Meeting Offline</b>	5
12.	<b>Online Exam</b> - MCh, Fellowship, PhD & DNB	5
13.	<b>Online Lecture</b>	11
14.	<b>Oration</b>	9
15.	<b>Public Lecture</b>	4
16.	<b>Recording</b>	12
17.	<b>Seminar</b>	2
18.	<b>Standing Selection Committee</b>	33
19.	<b>Symposium</b>	2
20.	<b>Talk-Scientific</b>	1
21.	<b>Teaching -Online</b>	1
22.	<b>Tele-CME</b>	81
23.	<b>Tele-Conference</b>	2
24.	<b>Tele-Consultation (Online)</b>	5
25.	<b>Tele-Evidence</b>	4
26.	<b>Training</b>	3
27.	<b>Webinar - Online</b>	42
28.	<b>Workshop - (Online)</b>	23

**Meeting with Ministry for National Medical College Network (NMCN) Project**



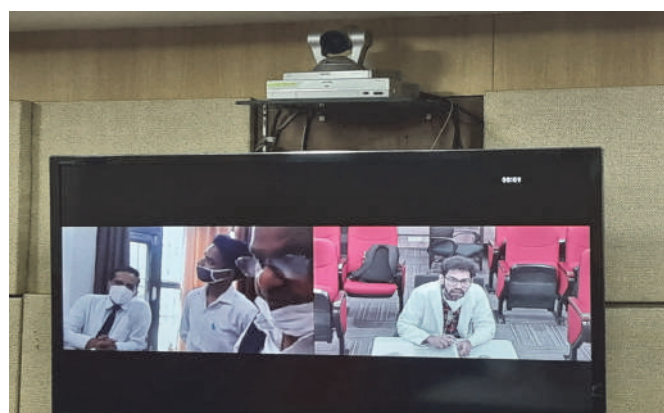
**Online Exam (PhD)**



**Tele-CMEs**



## Tele-Evidence & Tele-Consultation



### Clinical Combined Round (CCR) period from 1 April 2022 to 31 March 2023

Sl	Date	Activities	Department	Title	Viewers	YouTube Channel Name
1.	1 April 2022	CCR	Hematology & ENT	Being blind to blindness	44	AIIMS Telemedicine_1
2.	4 April 2022	CCR	Pediatrics & Obst & Gynae	Management of Cushing Disease - A Multidisciplinary Approach	212	AIIMS Telemedicine_1
3.	5 April 2022	CCR	Psychiatry	Cases of Opioid Use in Women: Looking into the Complexities	352	AIIMS Telemedicine_1
4.	12 April 2022	CCR	Cardiology & CTVS	Humour in the Heart	134	AIIMS Telemedicine_1
5.	19 April 2022	CCR	Pediatric & Pediatric Surgery		163	AIIMS Telemedicine_1
6.	26 April 2022	CCR	Pulmonary Medicine & Sleep Disorders	Where there is a Bronchoscope, there's a way	701	AIIMS Telemedicine_1
7.	2 August 2022	CCR	Neuro-Radiology	A Case of Traumatic Vertebro-Vertebral Fistula	231	AIIMS Telemedicine_1
8.	16 August 2022	CCR	Endocrinology & Surgery	Not All Hoofbeats Belong to Horses		AIIMS Telemedicine_1
9.	30 August 2022	CCR	Gastroenterology, Radiodiagnosis, Nuclear Medicine & Pathology	The Invisible Hand	352	AIIMS Telemedicine_1
10.	6 September 2022	CCR	Emergency Medicine	A Bitter Lesson	586	AIIMS Telemedicine_1
11.	13 September 2022	CCR	Medicine & Surgery	A Rose in the Nose & Nowhere, Nowhere, Everywhere	321	AIIMS Telemedicine_1
12.	20 September 2022	CCR	Pediatrics (Unit-III) & Obst & Gynae	David vs Goliath : Tackling Infantile Brain Tumors & From Darkness to Light : A Success Story"	13,450	AIIMS Telemedicine_1
13.	27 September 2022	CCR	Hematology & ENT	Two Rarity & A Bravery & Restoring the Smiling Face : Surgical Re-Animation for Facial Paralysis	258	AIIMS Telemedicine_1

14.	4 October 2022	CCR	Nephrology & Urology, Gynaecology & Radiodiagnosis	Acute Kidney Injury A Diagnostic Dilemma & Fertility - A Pied Piper to a strange diagnosis	470	AIIMS Telemedicine_1
15.	11 October 2022	CCR	Medical Oncology & Surgical Oncology	The Toxic Cost of Cancer: What Aims to Save us, can destroy us & HITAC - A Ray of Hope for Advanced Ovarian Cancer	208	AIIMS Telemedicine_1
16.	25 October 2022	CCR	Medicine & Surgery	From Lung to Kidney - an Uncommon Link! & Don't Bite More Than you Can Chew	253	AIIMS Telemedicine_1
17.	1 November 2022	CCR	Neurology & Neuro-Surgery	The Conundrum of Devils & Deep Sea! & Radiofrequency Thermogulative Hemispherotomy - A Bloodless Technique to Disconnect the Hemisphere	395	AIIMS Telemedicine_1
18.	15 November 2022	CCR	Geriatric Medicine & Orthopedics (JPNATC)	Follow the lead & A (Not So) Humorous Situation	328	AIIMS Telemedicine_1
19.	22 November 2022	CCR	Radiotherapy & Ophthalmology	SBRT in NSGCT & ECLIPSE in the Eye	77	AIIMS Telemedicine_1
20.	7 February 2023	CCR	Cardiology & CTVS	Changing the Course of Fetal Heart Development: Are we playing God? & Neonatal Left Ventricle Diverticulum: A Multidisciplinary Approach	503	AIIMS Telemedicine_1
21.	14 February 2023	CCR	Pediatrics & Pediatric Surgery	Uncovering the Source of Multisystem Inflammation	210	AIIMS Telemedicine_1
22.	28 February 2023	CCR	Cardiology & CTVS	Changing the Course of Fetal Heart Development: Are we playing God? & Neonatal Left Ventricle Diverticulum: A Multidisciplinary Approach	49	AIIMS Telemedicine_1
23.	7 March 2023	CCR	Endocrinology & Surgery	A Deceptive Endocrine Tumor & Pediatric Renal Transplant: Pushing the Boundaries	173	AIIMS Telemedicine_1
24.	14 March 2023	CCR	Pediatrics & Obst & Gyane	Decoding Complex Phenotypes Power of Next Generation Sequencing & Circumventing the Insurmountable Block: A heartening tale of two pregnancies!	240	AIIMS Telemedicine_1
25.	21 March 2023	CCR	Gastroenterology & GI Surgery	Missing in Action	151	AIIMS Telemedicine_1
26.	28 March 2023	CCR	Emergency Medicine & Division of Trauma Surgery	CPR in Trauma-Never Give Up	228	AIIMS Telemedicine_1

**Clinical Grand Round (CGR) period from 1 April 2022 to 31 March 2023**

Sl	Date	Activities	Department	Title	Viewers	YouTube Channel Name
1.	5 April 2022	CGR	Neurology		228	AIIMS Telemedicine_1
2.	12 April 2022	CGR	Dermatology	Not Just Skin Deep: Impact of Vitiligo on Patient's Life	193	AIIMS Telemedicine_1

3.	19 April 2022	CGR	Orthopedics	Not Just Skin Deep: Impact of Vitiligo on Patient's Life	91	AIIMS Telemedicine_1
4.	2 April 2022	CGR	Medical Oncology	The TENETS of 1000 PNETS: Fifteen Years of Reviewing Ewing Sarcoma at AIIMS	352	AIIMS Telemedicine_1
5.	16 August 2022	CGR	Obst & Gynae	Walking the Tight Rope: An Experience of Anticoagulant Therapy in Pregnancy	463	AIIMS Telemedicine_1
6.	23 August 2022	CGR	Surgical Oncology	Computerized Comprehensive Clinical Database Development in Oncology Essential tool of Academic Medicine Two decades Experience	347	AIIMS Telemedicine_1
7.	6 September 2022	CGR	Gastroenterology	The "Gut SY Tales of Covid-19"	550	AIIMS Telemedicine_1
8.	13 September 2022	CGR	Neuro-Surgery	The Journey from Potential to Actual Organ Donation-OPT(Organ procurement team Experience) at JPNATC	293	AIIMS Telemedicine_1
9.	20 September 2022	CGR	Pediatrics (Unit-I)	Pediatric Budd-Chiari Syndrome Management & Challenges	444	AIIMS Telemedicine_1
10.	4 October 2022	CGR	Surgery	The Little Bone Breakers!	238	AIIMS Telemedicine_1
11.	11 October 2022	CGR	Microbiology	Respiratory Tract Infection & Global Burden	200	AIIMS Telemedicine_1
12.	1 November 2022	CGR	Pulmonary Medicine	Sarcoidosis : an enigma yet unresolved	622	AIIMS Telemedicine_1
13.	15 November 2022	CGR	Emergency Medicine		1380	AIIMS Telemedicine_1
14.	22 November 2022	CGR	ENT	Voice Disorder	226	AIIMS Telemedicine_1
15.	7 February 2023	CGR	Obst & Gyane	Changing Trends in Diagnosis and Management of Female Genital Tuberculosis in Infertility Patients-Experience of a Decade	496	AIIMS Telemedicine_1
16.	14 February 2023	CGR	Anaesthesia	Percutaneous Ballon Compression for Trigeminal Neuralgia - an under Utilized Management Modality	214	AIIMS Telemedicine_1
17.	7 March 2023	CGR	Physiology	Transcranial Magnetic Stimulation and Nanotechnology-based Novel Theranostics in Spinal cord Injury	191	AIIMS Telemedicine_1
18.	14 March 2023	CGR	Cardiology	MISSION DELHI-Delhi Emergency Life Heart Attack Initiative	153	AIIMS Telemedicine_1
19.	21 March 2023	CGR	Pediatrics	Community-Based Estimates of Childhood Epilepsy	164	AIIMS Telemedicine_1

**Clinical Pathological Conference (CPC) period from 1 April 2022 to 31 March 2023**

Sl	Date	Activities	Department	Title	Viewers	YouTube Channel Name
1.	1 April 2022	CPC	Surgical Oncology			AIIMS Telemedicine_1



2.	26 April 2022	CPC	Pathology		407	AIIMS Telemedicine_1
3.	30 August 2022	CPC	Pathology		324	AIIMS Telemedicine_1
4.	27 September 2022	CPC	Pathology		387	AIIMS Telemedicine_1
5.	25 October 2022	CPC	Pathology		194	AIIMS Telemedicine_1
6.	31 January 2023	CPC	Ophthalmology & Pathology		99	AIIMS Telemedicine_1
7.	28 February 2023	CPC	Pediatric Surgery		131	AIIMS Telemedicine_1
8.	28 March 2023	CPC	Urology & Pathology		104	AIIMS Telemedicine_1

**AIIMS Telemedicine YouTube Channel activities details from 1 April 2022 to 31 March 2023**

Sl	Date	Activities	Department	Title	Viewers	YouTube Channel Name
1.	1 April 2022	Oration	Neuro-Surgery	Prof AK Banerji	2168	AIIMS Telemedicine
2.	2 April 2022	Guest Lecture	Neuro-Surgery	24th AIIMS Annual Micro Neuro-Surgery Workshop	809	AIIMS Telemedicine
3.	13 April 2022	Public Awareness Program	Neurology	World Parkinson's Disease	2882	AIIMS Telemedicine
4.	28 April 2022	Oration	Urology	Dr Sarinder Man Singh	590	AIIMS Telemedicine
5.	1 May 2022	Workshop	Rheumatology	Rheumatology Update 2022	7822	AIIMS Telemedicine
6.	12 May 2022	Webinar	College of Nursing	International Nurses Day	1132	AIIMS Telemedicine
7.	18 May 2022	Public Lecture	Media & Protocol Division	Dengue	1365	AIIMS Telemedicine
8.	30 May 2022	Public Lecture	Neurology	Public lecture on Multiple Sclerosis Day: Advances in Management	5713	AIIMS Telemedicine
9.	21 June 2022	Yoga Day	CIMR	Yoga Day Celebration	1285	AIIMS Telemedicine
10.	21 June 2022	Yoga Day	CIMR	Yoga Research at AIIMS, New Delhi	1432	AIIMS Telemedicine
11.	27 July 2022	Parent Awareness Program	Pediatric	Parent Awareness Program: World Brain Day 2022	2824	AIIMS Telemedicine
12.	10 August 2022	CoE Webinar	Pulmonary Medicine, Sleep Disorders & Critical Care	Monkey Pox Management: Topic - "Global Burden of Disease & Epidemiology"	2539	AIIMS Telemedicine
13.	11 August 2022	CoE Webinar	Microbiology	Investigations and Diagnosis	2532	AIIMS Telemedicine
14.	12 August 2022	CoE Webinar	Medicine	Clinical Presentation & Management	1666	AIIMS Telemedicine

15.	12 August 2022	Oration	ENT	Dr SK Kacker	428	AIIMS Telemedicine
16.	15 August 2022	Independence Day Celebration	Academic Section	Independence Day Celebration	2943	AIIMS Telemedicine
17.	17 August 2022	CoE Webinar	Microbiology	Monkey Pox Management: Topic - "Prevention and Infection Control"	3432	AIIMS Telemedicine
18.	25 September 2022	67th Foundation Day Celebrations & Diamond Jubilee Oration	Academic Section	67th Foundation Day Celebrations & Diamond Jubilee Oration	24	AIIMS Telemedicine
19.	25 September 2022	67th Foundation Day Celebrations & Diamond Jubilee Oration	Academic Section	67th Foundation Day Celebrations & Diamond Jubilee Oration	9347	AIIMS Telemedicine
20.	1 October 2022	National Voluntary Blood Donation Day	Transfusion Medicine	National Voluntary Blood Donation Day	1695	AIIMS Telemedicine
21.	10 October 2022	Public Lecture	Psychiatry	Public Lecture on "Make Mental Health & Well-being for all a Global Priority"	1421	AIIMS Telemedicine
22.	17 October 2022	AIIMS Silver Jubilee Celebration	Academic Section	AIIMS Silver Jubilee Oration - "Adaptive Physiological Tissue Reprogramming" by Dr Chandan K Sen	899	AIIMS Telemedicine
23.	29 October 2022	Public Lecture	Neurology	Public Lecture on STROKE (Paralysis/Lakwa/Pakshaghat)	1549	AIIMS Telemedicine
24.	22 November 2022	Workshop	CRU	Sensitization Workshop on "Cochrane Reviews"	897	AIIMS Telemedicine
25.	5 December 2022	Guest Lecture	ENT	Emerging Insights on the Genetic Map of Head-Neck Cancer	493	AIIMS Telemedicine
26.	29 December 2022	Guest Lecture	Pediatric Surgery	Translational Research in Vesicoureteral Reflux: My Journey Over the Past Forty Years	646	AIIMS Telemedicine
27.	24 January 2023	Guest Lecture	Academic Section	"How India will become the first country in the world to dissociate healthcare from affluence in just five years"	3424	AIIMS Telemedicine
28.	15 February 2023	Spiritual Talk	Academic Section	Programme on Developing Inner Powers & Stress Free Management	455	AIIMS Telemedicine

29.	16 February 2023	Oration	Neuro-Surgery	Sarveshwari Memorial Oration	211	AIIMS Telemedicine
30.	17 February 2023	Oration	Neuro-Surgery	Dr PN Tandon	478	AIIMS Telemedicine
31.	20 February 2023	Oration	Reproductive Biology	Dr KR Laumas	84	AIIMS Telemedicine
32.	3 March 2023	Celebration	Spina Bifida Foundation, AIIMS, New Delhi & WHO Country Office	World Birth Defects Day - "The Time to Act is now Preventing Neural Tube Defects in India"	701	AIIMS Telemedicine
33.	6 March 2023	Oration	Pediatrics	Dr OP Ghai Memorial Oration	1259	AIIMS Telemedicine
34.	9 March 2023	Oration	Physiology	Kamala BK Anand	458	AIIMS Telemedicine
35.	17 March 2023	Public Lecture	Media & Protocol Division	Theme - "Millets for Health & Nutrition Security in India"	726	AIIMS Telemedicine
36.	20 March 2023	Public Lecture & Panel Discussion	Neuro-Surgery	On Head Injury (Traumatic Brain Injury, Sar Avam Dimag Ki Chot)	503	AIIMS Telemedicine
37.	23 March 2023	Public Lecture	Microbiology	On the Occasion of World Tuberculosis Day 2023	2495	AIIMS Telemedicine
38.	29 March 2023	Guest Lecture	Physiology	Guest Lecture by Felicitation of Padma Bhushan Daaji Dr Kamlesh D. Patel	30,665	AIIMS Telemedicine

## Research Projects

### Ongoing

1. "Preparing a Centre of Excellence for the Education of Health Professionals"-Project with grants received from Novo-Nordisk Foundation, Denmark
2. Effectiveness and Perceived Usefulness of a Consolidated Skill-based Learning Program amongst Medical Interns: A Mixed Methods Study
3. Comparison of king vision Video laryngoscope channeled and non-channeled blades with direct Laryngoscope for intubation in mannequin by medical students: a randomized mannequin study.
4. Resuscitation Practices in In-patient Areas at All India Institute of Medical Sciences - a checklist based prospective, observational data collection study
5. "Impact of simulation-based teaching on knowledge of performer, actual conduct of aerosol generating procedures and self-confidence while handling patients with COVID-19
6. Remote trainer guided deliberate practice vs self-directed video-based training for retention of CPR skills: A randomized, comparative, assessor blinded simulation study
7. Comparison Of insertion characteristics of I-gel and BASKA mask during an ongoing CPR in a mannequin by medical students: a randomized mannequin study
8. Comparison of online content-based training with hands on mannequin-based skill training on basic life support knowledge and skills among medical students
9. Effect of video-based training reinforcement on retention of basic life support knowledge and skills following a formal simulation-based training among medical students
10. Upper limb muscle activity using surface electromyography (SEMG) during laryngoscopy and intubation and perceived workload on manikin in simulated difficult airway. (DM thesis)
11. Comparison of different video laryngoscopes for Nasotracheal intubation in manikin with difficult airway by experienced anesthesiologists: A randomized, self-controlled, crossover trial (DM thesis)

### Completed

1. Randomized trial to study the impact of Simulation based learning over Conventional training on knowledge and self-efficacy of nursing students in Pediatric Medicine and Surgery wards.

2. Comparing the effect of traditional versus simulation teaching methods on neonatal resuscitation in terms of knowledge, skills and self-confidence of nurses: A randomized controlled trial
3. Role of low fidelity simulation in acquisition of midwifery skills among nursing students: A mixed method approach
4. Comparison of Kings vision Videolaryngoscope channelled and non-channelled blades with direct laryngoscope for intubation in mannequin by medical students: a randomized crossover mannequin study

**Faculty contributing to various academic activities at the SET Facility by Director, AIIMS**

SI	Faculty Name	Departments
1.	Dr Seenu V	Department of Surgical Disciplines
2.	Dr Rashmi Ramachandran	Anesthesiology, Pain Medicine and Critical Care
3.	Dr Devalina Goswami	Anesthesiology, Pain Medicine and Critical Care
4.	Dr Dalim Kumar Baidya	Anesthesiology, Pain Medicine and Critical Care
5.	Dr Nishant Kumar	Anesthesiology, Pain Medicine and Critical Care
6.	Dr Abhishek N	Anesthesiology, Pain Medicine and Critical Care
7.	Dr Anju Gupta	Anesthesiology, Pain Medicine and Critical Care
8.	Dr Parin Lalwani	Anesthesiology, Pain Medicine and Critical Care
9.	Dr Shreya B Shah	Anesthesiology, Pain Medicine and Critical Care
10.	Dr Nishkarsh Gupta	Department of Onco-Anesthesiology
11.	Dr Rakesh Garg	Department of Onco-Anesthesiology
12.	Dr Vinod Kumar	Department of Onco-Anesthesiology
13.	Dr Gyanendra Pal Singh	Department of Neuro-Anesthesiology
14.	Dr Prabudh Goel	Department of Pediatrics Surgery
15.	Dr Anu Sachdeva	Department of Pediatrics
16.	Dr Rajni Sharma	Department of Pediatrics
17.	Dr Jhuma Sankar	Department of Pediatrics
18.	Dr Narendra Bagri	Department of Pediatrics
19.	Dr K Aparna Sharma	Department of Obstetrics & Gynecology
20.	Dr Juhi Bharti	Department of Obstetrics & Gynecology
21.	Dr JyotiMeena	Department of Obstetrics & Gynecology
22.	Dr Vidushi Sinha	Department of Obstetrics & Gynecology
23.	Dr Archana	Department of Obstetrics & Gynecology
24.	Dr Anubhuti Rana	Department of Obstetrics & Gynecology
25.	Dr Deepali	Department of Obstetrics & Gynecology
26.	Dr Kusum	Department of Obstetrics & Gynecology
27.	Dr Rinchen	Department of Obstetrics & Gynecology
28.	Dr Ravneet Kaur	Centre for Community Medicine
29.	Dr Harshal Salve	Centre for Community Medicine
30.	Dr Hemanga K Bhattacharjee	Department of Surgical Disciplines
31.	Dr Suhani	Department of Surgical Disciplines
32.	Dr Mohit Joshi	Department of Surgical Disciplines
33.	Dr Arvind Kumar	Department of Medicine
34.	Dr Ranveer Singh Jadon	Department of Medicine
35.	Dr Upendra Raj	Department of Medicine
36.	Dr Akshay Kumar	Department of Emergency Medicine
38.	Dr Rishi Nayyar	Department of Urology
39.	Dr Brusabhanu Nayak	Departments of Urology
40.	Dr RK Yadav	Department of Nephrology
41.	Dr Rajni Sharma	Department of Pediatrics

42.	Dr Animesh Ray	Department of Medicine
43.	Dr Pankaj Jorwal	Department of Medicine
44.	Dr Satyavir Yadav	Department of Cardiology
45.	Dr Karan Madan	Department of Pulmonary medicine
46.	Dr Saurabh Mittal	Department of Pulmonary medicine
47.	Dr Tony Jacob	Department of Anatomy
48.	Dr Kamlesh Kumari Sharma	College of Nursing
49.	Dr Smita Das	College of Nursing
50.	Ms Levis Murray	College of Nursing
51.	Dr Shashi Mawar	College of Nursing

## 4. Examination Section

### Deans

KK Deepak  
(w.e.f. 01.03.2020 to 31.01.2023)

VL Kumar  
(w.e.f. 01.02.2023)

### Associate Dean (Examination)

Naval K Vikram (w.e.f. 01-03-2021)

### Assistant Controller (Examination)

MK Singh (w.e.f. 04.11.2019)

### Finance and Chief Accounts Officer

Sh Padam Singh (w.e.f. 02.07.2019)

The Examination Section is entrusted with the conduct of all examinations of the Institute, maintaining the sanctity, integrity and confidentiality of the whole process.

The examination section mainly deals with the Institute's Professional Examinations, where activities such as the appointment of paper setters, Examiners, Moderators, and senior supervisors, preparation and publication of the schedule of examinations, the conduct of examinations, to get the performance of the candidates at the examinations properly assessed and timely declaration of results leading to awarding degrees, diplomas and certificates.

In addition, Entrance and Recruitment examinations of national importance, such as the Institute of National Importance Combined Entrance Test (INICET), Institute of National Importance Super-Specialty Entrance Test (INISS) & Nursing Officer Recruitment Common Eligibility Test (NORCET), are also conducted by the Examination Section of AIIMS New Delhi.

During the period 2022-2023, the Examination Section conducted the following Professional, Entrance and Recruitment Examinations:

### A. POSTGRADUATE AND UNDERGRADUATE PROFESSIONAL EXAMINATIONS

Details of various undergraduate and postgraduate professional examinations conducted by the Examination Section, AIIMS New Delhi, from 1 April 2022 to 31 March 2023

#### Data of Undergraduate Professional Examinations held between 1 April 2022 and 31 March 2023

Sl. No.	Month & Year	Examination	Total Candidates	Passed	Fail	Absent
1	May-June 2022	Final MBBS Supplementary	06	04	01	01
2	-do-	Second MBBS Supplementary	30	09	09	12
3.	-do-	BSc (PB) Nursing Phase-I	39	37	01	01
4.	-do-	BSc (PB) Nursing Phase-II	42	42	-	-
5.	-do-	BSc Hons Nursing Phase-I	01	-	01	-
6.	-do-	BSc Hons Nursing Phase-II	78	77	01	-
7.	-do-	BSc Hons Nursing Phase-III	69	65	04	-
8.	-do-	BSc Hons Nursing Phase-IV	68	67	-	01
9.	July 2022	Bachelor of Medical Radiology and Imaging Technology Phase-II	12	11	00	01
10.	-do-	Bachelor of Medical Radiology and Imaging Technology Phase-III	10	10	00	00

11.	-do-	Bachelor of Optometry Phase-I Supplementary	05	02	01	02
12.	-do-	Bachelor of Optometry Phase-II	16	11	04	01
13.	-do-	Bachelor of Optometry Phase-III	21	15	04	02
14.	-do-	BSc in Dental Hygiene Phase-I Supplementary	01	01	00	00
15.	-do-	BSc in Dental Hygiene Phase-II	03	03	00	00
16.	-do-	BSc in Dental Hygiene Phase-III	03	03	00	00
17.	-do-	BSc in Dental Operating Room Assistance Phase-II	07	07	00	00
18.	-do-	BSc in Dental Operating Room Assistance Phase-III	07	07	00	00
19.	-do-	BSc in Operation Theatre Technology Phase-I	05	05	00	00
20.	-do-	BSc in Operation Theatre Technology Phase-II	02	02	00	00
21.	-do-	BSc in Operation Theatre Technology Phase-III	04	04	00	00
22.	<b>December 2022</b>	BSc in Dental Hygiene Phase-II	01	01	00	00
23.	-do-	Final MBBS	104	92	10	02
24.	-do-	Bachelor of Optometry Phase-I Supplementary	03	01	01	01
25.	-do-	Bachelor of Optometry Phase-II Supplementary	05	04	01	00
26.	-do-	Bachelor of Optometry Phase-III Supplementary	06	00	05	01
27.	-do-	BSc (PB) Nursing Phase-I Supple	02	02	-	-
28.	-do-	BSc Hons Nursing Phase-I	90	80	08	02
29.	-do-	BSc Hons Nursing Phase-II	10	10	-	-
30.	-do-	BSc Hons Nursing Phase-III	08	06	02	-
31.	-do-	BSc Hons Nursing Phase-IV	05	05	-	-
32.	<b>January 2023</b>	Final MBBS Compartmental	04	03	01	00
33.	-do-	First MBBS	144	130	12	02
34.	<b>February 2023</b>	Second MBBS	149	118	17	14
35.	-do-	Bachelor of Optometry Phase-III Supplementary	05	05	00	00
36.	-do-	BSc in Operation Theatre Technology Phase-II	05	05	00	00
37.	<b>March 2023</b>	BSc in Dental Hygiene Phase-I	01	01	00	00
38.	-do-	BSc in Dental Operating Room Assistance Phase-I	02	02	00	00
39.	-do-	First MBBS Supplementary	17	06	09	02
40.	-do-	BSc in Operation Theatre Technology Phase-I	04	03	01	00
41.	-do-	Bachelor of Medical Radiology and Imaging Technology Phase-I	11	04	07	00
42.	-do-	Bachelor of Optometry Phase-I	22	16	02	04
43.	-do-	BSc Hons Nursing Phase-I	08	07	01	-
		<b>Total</b>	<b>1035</b>	<b>883</b>	<b>103</b>	<b>49</b>

**Details of Undergraduate Professional Examinations:**

**Number of Exams conducted: 43**

**Number of candidates appeared: 1035**

**Data of Postgraduate Professional Examinations held between 1 April 2022 and 31 March 2023**

Sl. No.	Month & Year	Examination	Total Candidates	Absent	Passed	Fail
1.	May 2022	MD	116	02	108	06
2.	-Do-	MS	20	-	20	-
3.	-Do-	MDS	07	-	07	-
4.	-Do-	Fellowship Programme	13	01	12	-
5.	-Do-	M Biotechnology	-	-	-	-
6.	December 2022	MD	106	02	99	05
7.	-Do-	MS	19	-	19	-
8.	-Do-	MDS	11	-	11	-
9.	-Do-	Fellowship Programme	21	-	19	02
10.	-Do-	M Biotechnology	09	01	08	-
11.	May 2022	DM	68	-	67	01
12.	-Do-	MCh	21	-	21	-
13.	-Do-	MSc Nursing-I	22	-	22	-
14.	-Do-	MSc Nursing-II	20	-	20	-
15.	December 2022	DM	66	-	66	-
16.	-Do-	MCh	36	-	36	-
17.	-Do-	MSc Courses	40	01	37	02
		<b>Total</b>	<b>595</b>	<b>07</b>	<b>572</b>	<b>16</b>

**Details of Postgraduate Professional Examinations:-**

**Number of Exams conducted: 17**

**Number of candidates appeared: 595**

**B. Entrance Examinations for Undergraduate and Postgraduate Courses**

Sl. No.	Courses	Date of Examination	No. of Candidates Applied	No. of Candidates Appeared
1.	MD/MS/MDS (AIIMS) July Session 2022	8 May 2022	66241	65340
2.	DM/MCh/Fellowship Programme/MD/(Hosp Admn) (July Session 2022)	23 April 2022	6129	5132
3.	Fellowship Programme July 2022 session	2 May 2022	128	80
4.	Online BSc (Hons) Nursing 2022	18 June 2022	20467	16364
5.	Online BSc Nursing (Post-Basic) 2022	2 July 2022	697	528
6.	Online BSc (Hons) Paramedical Courses 2022	25 June 2022	6422	4024
7.	Online MSc Courses 2022	2 July 2022	829	598
8.	Online MSc Nursing 2022	2 July 2022	3779	2734
9.	Online M Biotechnology Entrance Examination 2022	2 July 2022	554	362
10.	Senior Residents Recruitment Examination, July, 2022 Session	11 June 2022	2292	1433
11.	PhD July Session 2022	27 August 2022	374	294
12.	Senior Residents Recruitment Examination January, 2023	20 November 2022	1195	885
13.	MD/MS/MDS (AIIMS) January 2023 Session	13 November 2022	55805	50606
14.	INI-SS January, 2023 Session	6 November 2022	5476	4895
15.	Fellowship Programme January, 2023 session	1 November 2022	117	81
		<b>Grand Total</b>	<b>170505</b>	<b>153356</b>



**Details of Entrance Examination for Academic Courses:****Number of Entrance Exams conducted: 15****Number of Applicants: 170505****Number of candidates appeared: 153356****C. Recruitment Examinations during 1 April 2022 to 31 March 2023**

Sl. No.	Name of Examination	No. of candidates applied	No. of candidates appeared
1.	Programmer	351	102
2.	Assistant dietician	192	101
3.	Assistant Warden	60	1
4.	Jr Physiotherapist	1638	964
5.	Technician Radiology	1182	806
6.	Dental Technician Gd-II	58	31
7.	Statistical Assistant	73	39
8.	Technician Radiotherapy Gd-II	62	25
9.	Ophthalmic Technician Gd-I	167	104
10.	Jr Photographer	58	22
11.	Storekeeper (Drugs)	1153	694
12.	Stenographer	992	403
13.	Jr Administrative Assistant	3695	1461
14.	SAA Departmental	47	43
15.	JAA Departmental	66	43
16.	Jr Engineer AC & R	20	3
17.	Jr Engineer Civil	724	291
18.	Jr Engineer Electrical	249	80
19.	Medical Social Service Officer GD-II	633	301
20.	Operation Theatre Assistant	1778	1142
21.	Perfusionist	35	17
22.	Pharmacist GD-II	5058	2708
23.	Sanitary Inspector GD-II	151	37
24.	Security Cum Fire Guard GD-II	3145	1290
25.	Store Keeper General	434	131
26.	JAA Typing Compassionate ground	32	16
27.	NORCET 2022	106688	95721
		<b>128741</b>	<b>106576</b>

**Details of Recruitment Examinations:****Number of Examination conducted: 27****Number of Applicants: 128741****Number of candidates appeared: 106576****Overall Details of Examinations:**

1. Details of Undergraduate Professional Examination:
  - a. Number of Entrance Exams conducted: 43
  - b. Number of candidates appeared: 1035
2. Details of Postgraduate Professional Examination:
  - a. Number of Entrance Exams conducted: 17
  - b. Number of candidates appeared: 595

3. Details of Entrance Examination for Academic Courses:
  - a. Number of Entrance Exams conducted: 15
  - b. Number of Applicants: 170505
  - c. Number of candidates appeared: 153356
4. Details of Recruitment Examination:
  - a. Number of Examination conducted: 27
  - b. Number of Applicants: 128741
  - c. Number of candidates appeared: 106576

**Entrance Examinations conducted**

1. INICET for admission to PG courses [(MD/MS/MDS/Mch(6yrs)/DM (6yrs)] was conducted on 8 May 2022 for July 2022 session at 214 Centre and INI-CET for PG courses of INIs was conducted on 13 November 2022 for January 2023 session at 172 centers respectively. The results were declared on 14 May 2022 and 19 November 2022, respectively
2. INI-SS selection for admission to various Post-Doctoral (super-specialty) courses viz. DM/MCh/MD (Hospital Administration) for January 2023 conducted on 6 November 2022 and July 2023 session conducted on 29 April 2023
3. The Institute has also conducted CBTs for the Post of Senior Residents/ Senior Demonstrators for July 2022 session on 11 June 2022 and for January 2023 session on 20 November 2022 respectively
4. Selections of candidates for registration to PhD programme for July, 2022 conducted on 27 August 2022
5. BSc (Hons) Nursing course-2022 Entrance Examination was held for AIIMS, New Delhi and other AIIMS on 18 June 2022 in CBT online mode
6. The Entrance Examination for admission to MSc Course/M Biotechnology/MSc Nursing courses August 2022 session held in Delhi/NCR on 2 July 2022 in CBT online mode
7. BSc Nursing (Post-Basic) Entrance Examination was held in Delhi and Outstation in CBT online mode on 2 July 2022 followed by the personal assessment of candidates on 21 July 2022
8. The Entrance Examination for the fellowship programme for January 2023 session was conducted on 1 November 2022

**Participation in other events:**

1. The Examination Section conducted online seat allocation for admission to INI-CET, INI-SS, BSc (Hons) Nursing, BSc Paramedical, MSc (Nursing) courses, MSc Courses, NORCET, Junior Residents (Non-Acad) with the Faculty & Staff of Academic Section/Recruitment Section participation. The examination Section also actively participates in personnel assessment for BSc (Nursing) Post-Certificate course
2. Examination Section also provides technical expertise to various Universities and Institutions in India and abroad for conduct of their various Examinations

## 5. General Administration

### Deputy Director

Vishal Chauhan (up to 5 June 2022)  
Rabindra Agarwal (w.e.f. 6.6.2022 to till date)

### Deputy Secretary

R Gopinath

The General Administration, including Personnel and Establishment Security, Estate, Engineering Services Department, Stores, Coordination, Parliamentary matters, grievances etc. of the Institute are controlled and supervised by the Deputy Director (Admn.). There are various branches looking after the above-mentioned areas. Each branch is headed by a Senior Officer with supportive officers and staff members. A brief description of the Officers/Staff looking after various branches is given below:

### Chief Administrative Officer

Deo Nath Sah

### Superintending Engineer

#### AIIMS Campus

Vinod Kumar Sharma (officiating)  
Jitendra Kumar Saxena (w.e.f.10.05.2022 to till date)

#### AIIMS, Jhajjar Campus

Hridesh Kumar (up to 18 February 2023)

### Executive Engineers

Vidya Bhushan (up to 30 June 2022)	Harpal Singh (up to 30 April 2022)
Vinod Kr Sharma (up to 30 April 2022)	Ashok Kumar (up to 8 February 2023)
DK Wadhwa (up to 31 January 2023)	D Vijay Raghwan (up to 14 October 2022)
D Vijay Raghwan (w.e.f 15.10.2022 to till date)	Sunil Kumar (2 March 2023 to till date)
Pradeep Kumar (w.e.f. 06.09.2022 to till date)	
SK Rao w.e.f. 6 September 2022 to 28 February 2022	

### Chief Security Officer

Satyendra Kumar (up to 15 January 2023)

### Deputy Chief Security Officers

Satish Kumar Sharma  
(29 April 2022 to till date)

RS Rawat (w.e.f 21.12.1997 to till date)

### Senior Administrative Officer

Lalit Oraon (up to 30 September 2022)	BS Gill
Anita Tete	Bhoop Singh (w.e.f. 18.02.2023 to till date)
Vipin Prakash (up to 31 May 2022)	

### Administrative Officers

Nikhil Bhatnagar (up to 30 June 2022)	R Santhosh Kumar (up to 12 March 2022)
Bhoop Singh (up to 17 February 2023)	RK Sharma
Uttam Chand	Latha Paulose (up to 30 April 2022)
Joginder Kumar	Kamal Chandra Bhatt (w.e.f. 21.10.2022 till date)
Saroj Lal (w.e.f. 21.10.2022 to till date)	Rajesh Kumar (w.e.f. 21.10.2022 till date)
Anil Kumar (w.e.f. 21.02.2023 till date)	Sohanbir (w.e.f. 18.03.2023 till date)
Rajender Singh (w.e.f. 09.02.2022 to till date)	Vipin Prakash (up to 18 January 2022)

### Assistant Administrative Officers

Vidya Sagar (up to 31 August 2022)	Kamal Chandra Bhatt (up to 20 October 2022)
Saroj Kumari Lal (up to 20 October 2022)	Rajesh Kumar (up to 20 October 2022)
Sudesh Soni (up to 30 September 2022)	Shakuntala Rawat (up to 31 May 2022)
Santosh Manocha (Khosla) (up to 31 August 2022)	Sohanbir (up to 17 March 2023)
Devi Prasad	Gyan Chand
Ashok Kumar	Anil Kumar (up to 20 February 2023)
Shiv Shankar Singh (nee Dayal)	Raj Kumar Bhola
Seema Bhutani (Ghai)	Prakash Chandra Sharma (up to 31 July 2022)
Rajshree Ohri (up to 31 August 2022)	Mahender Pal Singh
Puran Chand Bhatt	Harvinder Kaur Jolly
Purnima Ghosh	Jyoti Arora (nee Bhutani)
Ravinder Singh	Veena Pathak
Sunil Kumar	Rajiv Mahendru (w.e.f. 15.12.2022 to till date)
Ved Prakash (w.e.f. 17.12.2022 to till date)	Jagbeer Singh (w.e.f. 15.12.2022 to till date)
Shyam Lal Buswala (w.e.f. 15.12.2022 to till date)	Vinod Kumar Sharma (w.e.f. 15.12.2022 to till date)
Attar Singh (w.e.f. 16.12.2022 to till date)	Vasu Dev (w.e.f. 17.12.2022 to till date)
Nandan Singh Routela (w.e.f. 15.12.2022 to till date)	Kamal Singh Rana ( w.e.f. 15.12.2022 to till date)
Jyoti Kapoor (w.e.f. 15.12.2022 to till date)	Anil Kumar (w.e.f. 15.12.2022 to till date)
Har Gopal Singh (w.e.f. 15.12.2022 to till date)	Madhvi (w.e.f.15.12.2022 to till date)
Mangal Singh (w.e.f. 15.12.2022 to till date)	Manoj Kumar Sharma (w.e.f. 15.12.2022 to till date)
Sunil Dutt Kaushik (w.e.f. 15.12.2022 to till date)	Krishan Kant Sharma (w.e.f. 15.12.2022 to till date)
Narottam Anand (w.e.f. 15.12.2022 to till date)	Anil Kumar (w.e.f. 15.12.2022 to till date)
Chandra Bisht (w.e.f. 15.12.2022 to till date)	Kavita (w.e.f. 15.12.2022 to till date)
Rajendra Kumar w.e.f. 15.12.2022 (w.e.f. 15.12.2022 to till date)	Savita Kumari (w.e.f. 16.12.2022 to till date)
Ram Surat (w.e.f. 15.12.2022 to till date)	Anil R Singh( w.e.f. 15.12.2022 to till date)
CG Sathyan (w.e.f. 15.12.2022 to till date)	Renu Singh (w.e.f. 15.12.2022 to till date)
Jitender Bahal (w.e.f. 15.12.2022 to till date)	Suksham (Ingle) (w.e.f. 15.12.2022 to till date)
Rekha Rani (w.e.f. 15.12.2022 to till date)	Raj Kumar-I (w.e.f. 15.12.2022 to till date)
Mahesh Kumar (w.e.f. 15.12.2022 to till date)	Sunita (w.e.f. 15.12.2022 to till date)
Jitendra Kumar Mehto (w.e.f. 15.12.2022 to till date)	Kamla Meena (w.e.f. 15.12.2022 to till date)
Deepak Prasad (w.e.f. 16.12.2022 to till date)	Raviwar Tigga (w.e.f. 15.12.2022 to till date)

### Senior Stores Officer

Rakesh kumar	Narender Kumar (up to 31 December 2022)
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### Store Officers

Manohar Arya	Archana Sharma
Kamal Singh (w.e.f. 18.01.2023 till date)	Yatender Suman Narnaulia Hemant Kumar Arora (w.e.f. 17.01.2023 till date)

Responsibilities of Establishment Section and General Administration include recruitment, service matters, conduct meetings of the statutory committees, management of estate and property, purchase of equipment, materials and consumables, security arrangements, employees' welfare, etc.

The total sanctioned staff strength of the Institute is **12875**. Positions filled 1 April 2022 till 31 March 2023 **10701** and include staff of all Centres/Main Hospital/D.O. The number of group-wise sanctioned strength and staff in-position is mentioned below:

Sl. No.	Category/Group	Sanctioned Strength	In-position
1.	Group "A" (non-faculty)	729	522
2.	Group "B"	7984	6885
3.	Group "C" & erstwhile Group "D"	4162	3294
	<b>Total</b>	<b>12875</b>	<b>10701</b>

**Composition of SC/ST/OBC/Women Cell at AIIMS, New Delhi:**

	<b>Supervising Officer</b>	Dr R Gopinath (IFoS), Deputy Secretary
1.	<b>Liaison Officer's</b>	Dr Rajpal, Professor of Ophthalmology, Dr RP Centre & Liaison Officer for SC/ST & PwD Dr Dayanand Sharma, Professor & Head of Radiotherapy, Dr BRAIRCH & Liaison Officer for OBC
2.	<b>Administrative Support Staff</b>	Ms Anita Tete, Sr Administrative Officer (up to 16 June 2022) Ms Saroj Lal, Administrative Officer (w.e.f. 20.06.2022 to till date) Ms Purnima Ghosh, Assistant Administrative Officer (up to 19 June 2022) Mr Deshraj, Jr Administrative Assistant Ms Pooja Kumari, Data Entry Operator (Outsource)

Further, the following numbers of complaints/reports of ICCSHWW were received during the year 2022-23 (1 April 2022 to 31 March 2023) in this office as under:

**Total number of complaints/reports of ICCSHWW: 43**

**Total number of cases disposed off: 30**

**Total number of cases under consideration: 13**

## 6. Hospital

### Medical Superintendent

DK Sharma (Up to 16 December 2023)

Sanjeev Lalwani (16 December 2023 to Till Date)

### Department of Hospital Administration

#### Professor and Head

Sidhartha Satpathy

#### Professors

Sanjay Kumar Arya  
Amit Lathwal

Nirupam Madaan  
Mahesh R

#### Additional Professors

Anoop Daga  
Parmeshwer Kumar

Angel Rajan Singh  
Vijaydeep Siddharth

#### Associate Professors

Abdul Hakim

Jitender Sodhi

#### Assistant Professors

Vikas H  
Arun Verma  
Khalid Mehmood

Kanika Jain  
Namrata Makkar  
Nishant Sharma

### Bed Complement

Bed Category	Hospital			Centre for Dental Education and Research	Cardiothoracic and Neurosciences Centre
	Main	B&PS Block	Surgical		
General	836	56	158	15	317
ICU	93	30	10	-	74
Observation	69	08	00	05	09
Private Ward	165	10	10	-	64
<b>Total</b>	<b>1163</b>	<b>104</b>	<b>178</b>	<b>20</b>	<b>464</b>
<b>Grand Total</b>	<b>1445</b>				

### Hospital Performance Indices

Parameters	Main Hospital		CNC		CDER		Inference
	2022-23	2021-22	2022-23	2021-22	2022-23	2021-22	
Average length of stay (days)	9.9	9.8	11.5	12.0	4.8	4.9	Indicates effective utilization of beds of regular admissions
Average bed occupancy rate (%)	83.1	69.8	79.5	68.6	69.7	46.9	Indicates fair occupancy
Net death rate (%)	1.6	2.0	2.7	4.1	0.0	0.0	Indicates low mortality rate despite the fact that quite a large number of critically ill patients are admitted to the Hospital
Combined crude infection rate (%)	7.1%	8.3%	-	-	-	-	

## 6.1 Medical Records Department

### Officer In-charge

Vikas H

### Medical Record Officer & Sub Registrar (Births & Deaths)

Sandeep M Singh

Naveen Kumar

Devanand Sharma (at present)

### COVID-19 (Pandemic)

The role of **Medical Record Section** is to accumulate the Covid-19 data from various Covid Centres of AIIMS i.e. NCI Jhajjar, JNPA Trauma Center and from the wards of Main Hospital to compile and send to the several agencies and departments of Govt. of India for example, IDSP, DGHS, DC south, Death Audit Committee, Health care workers, line listing and uploading the information on Covid-19, Data management portal etc. on the daily basis even on Sundays and Gazetted holidays.

### Education

A brief lecture of 17 Medical Record Technology (2nd Year) students visited Medical Record Section, Main Hospital and a brief lecture was delivered on Medical Record Management at AIIMS by Medical Record Officer on 6 July 2022.

### Trainings

Mrs Neelam Baria, Medical Record Technician has been nominated for (one year) Medical Record Officer Training Programme w.e.f. 01/01/2023 to 31/12/2023 conducted at Safdarjung Hospital, New Delhi organized by CBHI, Ministry of Health & Family Welfare, Govt of India.

### Court Attendance

A total number of **415** summons/notices were received in the Medical Record Section (Main Hospital) from various Courts of Delhi and outside Delhi. The concerned doctors/consultants (as per case) and staffs from the Medical Record Department have been deputed to attend the court on behalf of AIIMS Hospital to depose/settle the case.

### Aid in Medical Education and Research

Approximately 4400 Medical Case Records (Case Sheets) have been retrieved and issued to the Residents authorized by the concerned Consultants for research, education and other official purposes.

### Computerization and Digitization of Medical Records

Digitization of Inpatient medical records of Main Hospital was started from the year 2014 for easy retrieval of records. More than 1626150 images (current year 2022-23) case records of the patients have been scanned for future reference.

### In-patient Services

1. The yearly statistical health bulletin at a glance of Main Hospital, CDER and CN Centre of AIIMS is given at Appendix-I.
2. The AIIMS hospital has maintained its tradition of services and quality of patient care in spite of increasing number of patients who visited the hospital from all over India as well as from abroad. A total number of 135482 patients were admitted during the financial year in various clinical units of Main Hospital, CN Centre and CDER. The details of patient load as per Department-wise, State-wise and Gender-wise, Admissions, Discharges and Average Length of Stay are given in Appendix-II, III & V respectively. The details of deaths as per department-wise and its indices are given at Appendix- IV.
3. A total number of 156920 Surgical Procedures (Major and Minor) were performed during the year in various Surgical Disciplines of Main Hospital, CN Centre and Centre for Dental & Education Research (CDER) is given at Appendix-VI.
4. Medical Record of indoor patients are systematically classified and categorized for easy retrievals for the purposes of Education, Research/Thesis, Presentation, Insurance, Court Cases etc. These records are stored in the Compactors according to CR Numbers. All the In-patient records of Main Hospital, CN Centre and Centre for Dental & Education Research (CDER) are maintained separately by Medical Record Section of the Main Hospital.

### Central Admission Office and Hospital Enquiry

1. The Central Admission Office & Enquiry (CAO&E) of AIIMS functions round the clock for 365 days without break.
2. All admissions to the inpatient areas of Main Hospital, CN Centre and CDER are made through this office. It functions like the heart of the Institute and performs important functions like patient registration for initiation of Admission Slip (Face-Sheet) and issuing of attendant passes etc.
3. The Admission Office also gives information to several ministries as well as to the higher authorities of AIIMS about the hospitalization of VIPs/VVIPs.
4. In addition, the office also functions as a general enquiry providing prompt and accurate information regarding the patients and the Institute. The staffs working there are on shift duties and are manned by Jr Reception Officer, Jr Medical Record Officer and Medical Record Technicians etc.

### Out Patient Department and Specialty Clinics

A total number of 1039523 patients attended various General Out-Patients Department (OPD), Specialty Clinics and Emergency Department of the Main Hospital, AIIMS. The details of the out-patients load profile are given at Appendix-VII.

### Other Activities

Sl. No.	Name of activity	Total Numbers
1.	Amendments made in the In-patients Records during the year	802
2.	Amendments made in the Birth Records during the year	476
3.	Amendments made in the Death Records during the year	468
4.	Admission & other charges exempted for Indigent patients and patients admitted under JSSK Scheme in Main Hospital & CDER	20260
5.	Admission & other charges exempted for Indigent patients and patients admitted under JSSK Scheme in CN Centre & CDER	914 (CNC)

The statistical data for the year 2022-2023 (Annual Report) has been prepared/compiled by Mr Rajbir Singh, Medical Record Technician under the supervision of Medical Record Officer.

**Table I. Yearly Statistical Health Bulletin - at a glance (Appendix-I)**

Sl. No.	Item	Main Hospital		CT and NS Centre		CDER	
		2021-22	2020-21	2021-22	2020-21	2021-22	2020-21
1.	Total Patient Admitted	<b>115745</b>	<b>83801</b>	18671	12747	1066	696
	a. Adults and Children	115745	81801	-	-	-	-
	—Regular	38951	26994	12.25	8702	865	590
	—Short	76794	54807	6646	4045	201	106
	b. Newborn infants	2801	2000	-	-	-	-
	Regular	2801	2000	-	-	-	-
	Short	00	00	-	-	-	-
2.	Patients discharged (including LAMA, absconded, discharge on request and deaths)	<b>114322</b>	<b>79833</b>	18550	12300	1076	685
	a. Adults and Children	111487	77870	-	-	-	-
	—Regular	36235	25113	11995	8461	880	581
	—Short	75252	52757	6555	3839	196	104
	b. Newborn infants	2835	1963	-	-	-	-
	—Regular	2835	1963	-	-	-	-
	—Short	00	00	-	-	-	-



3.	Total days of care	<b>462080</b>	<b>319323</b>	144246	105053	4402	2935
	a. Adults and Children	440809	305479	-	-	-	-
	—Regular	365557	251822	137691	101214	4206	2831
	—Short	75252	52757	6555	3239	196	104
	b. Newborn infants	21271	14744	-	-	-	-
	—Regular	21271	14744	-	-	-	-
	—Short	00	00	-	-	-	-
4.	Average length of stay of regular patients	<b>9.9</b>	<b>9.8</b>	11.5	12.0	4.8	4.9
	a. Adults and Children	10.1	10.0	-	-	-	-
	b. Newborn infants	7.5	7.5	-	-	-	-
5.	Total patient care days (as per daily census)	<b>414758</b>	<b>288958</b>	131958	113951	3816	2518
	a. Adults and Children	411584	286626	-	-	-	-
	b. Newborn infants	3174	2332	-	-	-	-
6.	Daily average number of patients (as per daily census)	<b>1136</b>	<b>792</b>	362	312	10	07
	a. Adults and Children	1128	785	-	-	-	-
	b. Newborn infants	09	07	-	-	-	-
7.	Average bed occupancy	<b>83.1</b>	<b>69.8</b>	79.5	68.6		46.0
	a. Adults and Children	82.5	69.2	-	-	-	-
	b. Newborn infants	0.6	0.6	-	-	-	-
8.	Births in Hospital	<b>2801</b>	<b>2000</b>	-	-	-	-
	a. Male	1468	1016	-	-	-	-
	b. Female	1330	983	-	-	-	-
	c. Intersex	03	01	-	-	-	-
9.	Total inpatient deaths (including newborns)	<b>2616</b>	<b>2301</b>	665	629	00	00
	a. Deaths under 48 hours	785	685	167	126	00	00
	b. Deaths over 48 hours	1831	1616	498	503	00	00
	c. Gross death rate (%)	2.3	2.9	3.6	5.1	0.0	0.0
	d. Net death rate (%)	1.6	2.0	2.7	4.1	0.0	0.0
10.	Total attendance in casualty	<b>112227</b>	<b>107853</b>	-	-	-	-
	Deaths	2206	2162	-	-	-	-
	Brought dead	1370	1209	-	-	-	-
11.	OPD attendance including special clinics (Main Hospital)	<b>1789519</b>	<b>1039523</b>	-	-	-	-
	New cases	654423	465831	-	-	-	-
	Old cases	1135096	573692	-	-	-	-

**Table II. Department-wise admissions (Main Hospital and CN Centre and CDER) (Appendix-II)**

Department	Admission		Discharges (including LAMA, absconded, OR, deaths)		Total days of care		Average length of stay of regular admissions
	Regular	Short	Regular	Short	Regular	Short	
Anesthesiology (Pain Clinic)	00	435	00	436	00	436	0.0
Dermatology and Venereology	590	1609	603	1578	7598	1578	12.6
Endocrinology and Metabolism	458	20	459	32	7511	32	16.4
Gastroenterology and Human Nutrition	1703	5835	1623	5570	22606	5570	13.9

Gastrointestinal Surgery and Liver Transplantation	893	323	891	287	14266	287	16.0
Geriatric medicine	845	695	907	630	10842	630	12.0
Haematology	926	13924	934	13995	18135	13995	19.4
Medicine I	945	539	947	472	11726	472	12.4
Medicine II	886	526	924	420	10118	420	11.0
Medicine III	959	583	956	602	10604	602	11.1
Nephrology	643	10420	494	10315	8549	10315	17.3
Newborn	2801	00	2835	00	21271	00	7.5
Neonatal ICU (NICU)	180	00	183	03	2101	03	11.5
Nuclear Medicine	371	75	353	65	797	65	2.3
Obstetrics and Gynaecology I	2471	1798	2435	1847	18763	1847	7.7
Obstetrics and Gynaecology II	2547	1795	2594	1836	16874	1836	6.5
Obstetrics and Gynaecology III	1821	1590	1917	1487	13602	1487	7.1
Oncology (Main)	212	00	244	00	1878	00	7.7
Orthopaedics I	1426	2556	1688	1870	10700	1870	6.3
Orthopaedics II	1826	3061	1599	2723	10294	2723	6.4
Otorhinolaryngology I	439	732	473	687	3728	687	7.9
Otorhinolaryngology II	507	790	498	800	4468	800	9.0
Otorhinolaryngology III	466	737	536	681	4269	681	8.0
Paediatrics I	898	3132	870	3174	8305	3174	9.5
Paediatrics II	698	1871	692	1917	8280	1917	12.0
Paediatrics III	1335	9603	994	9942	9948	9942	10.0
Paediatric Surgery	1501	1309	1517	1372	14928	1372	9.8
Physical Medicine and Rehabilitation	23	01	17	01	932	01	54.8
Psychiatry	369	00	399	01	10984	01	27.5
Pulmonary Medicine and Sleep Disorders	619	4326	623	4415	6468	4415	10.4
Plastic and Reconstructive Surgery	2502	730	2564	768	30780	768	12.0
Radiotherapy	05	00	08	00	147	00	18.4
Rheumatology	08	1625	23	1665	158	1665	6.9
Surgical Disciplines I	1297	488	1286	483	15829	483	12.3
Surgical Disciplines II	1093	420	1219	243	10573	243	8.7
Surgical Disciplines III	1043	439	1049	333	10441	333	10.0
Surgical Disciplines IV	2050	575	2116	508	16993	508	8.0
Urology	1595	4232	1600	4094	11362	4094	7.1
<b>Total (Main)</b>	<b>38951</b>	<b>76794</b>	<b>39070</b>	<b>75252</b>	<b>386828</b>	<b>75252</b>	<b>9.9</b>
Cardiology	4066	2766	4061	2760	32613	2760	8.0
Cardiothoracic and Vascular Surgery	2322	22	2322	22	36338	22	15.6
Neurology I	1015	722	980	715	10882	715	11.1
Neurology II	948	528	1012	487	10123	487	10.0
Neurology III	850	1049	874	1096	8609	1096	9.9
Neurosurgery I	1143	795	1111	774	18951	774	17.1
Neurosurgery II	1405	551	1369	501	18567	501	13.6
Neuroradiology	276	213	266	200	1608	200	6.0
<b>Total (CNC)</b>	<b>12025</b>	<b>6646</b>	<b>11995</b>	<b>6555</b>	<b>137691</b>	<b>6555</b>	<b>11.5</b>
<b>CDER</b>	<b>865</b>	<b>201</b>	<b>880</b>	<b>196</b>	<b>4206</b>	<b>196</b>	<b>3.9</b>

**Fig 1: Department-wise Admission (Main Hosp, CNC & CDER)-2021-2022**

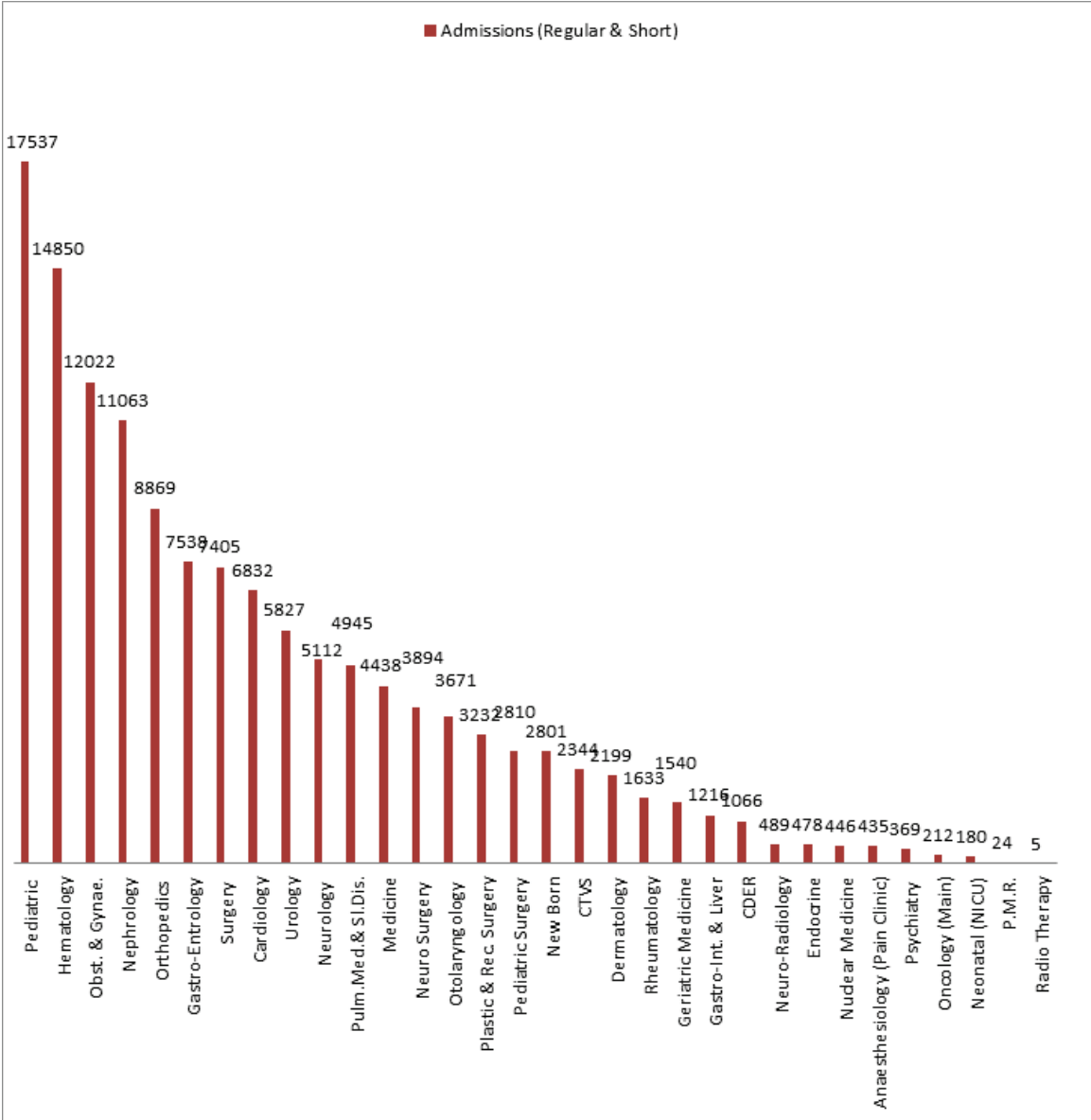
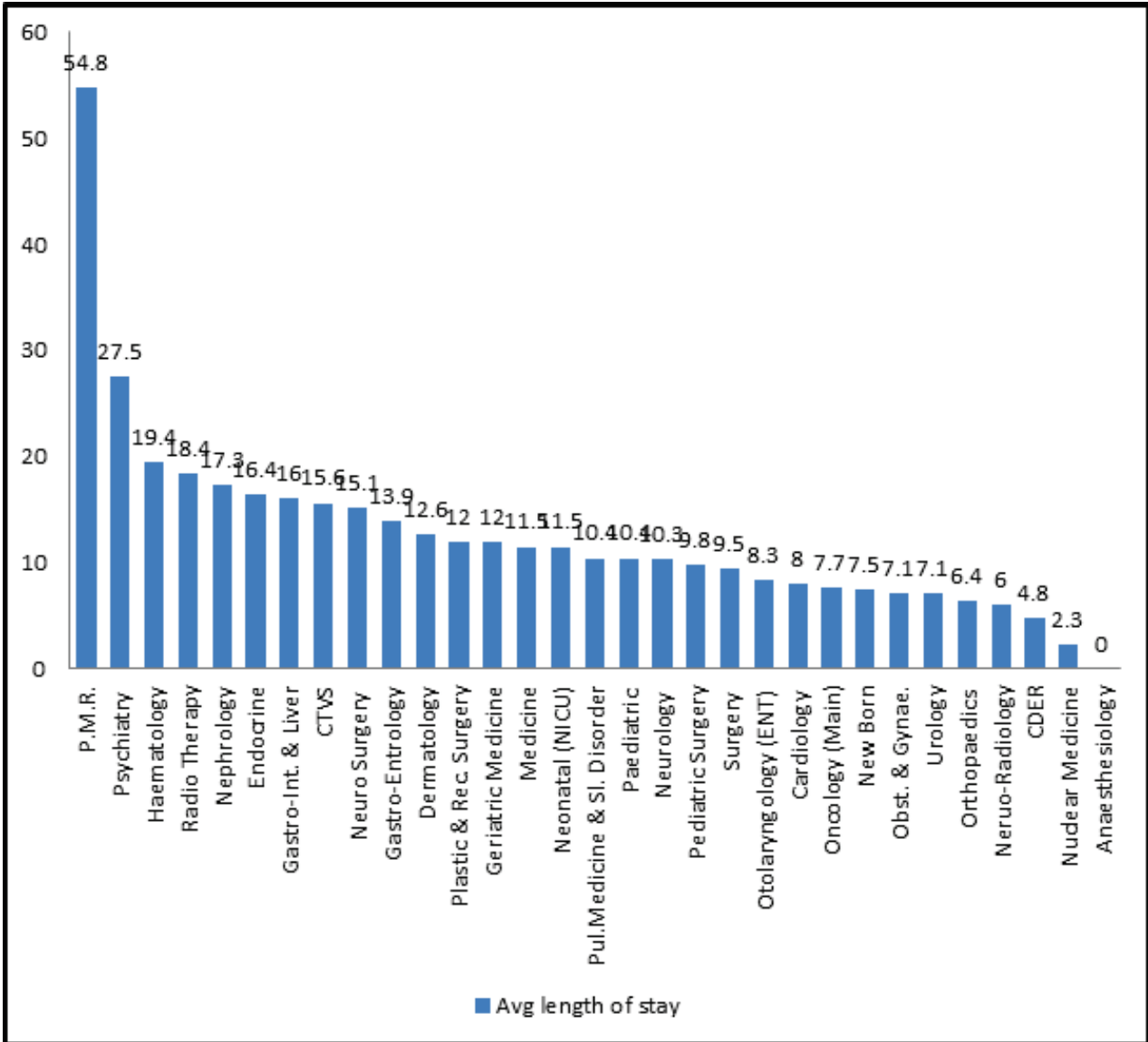
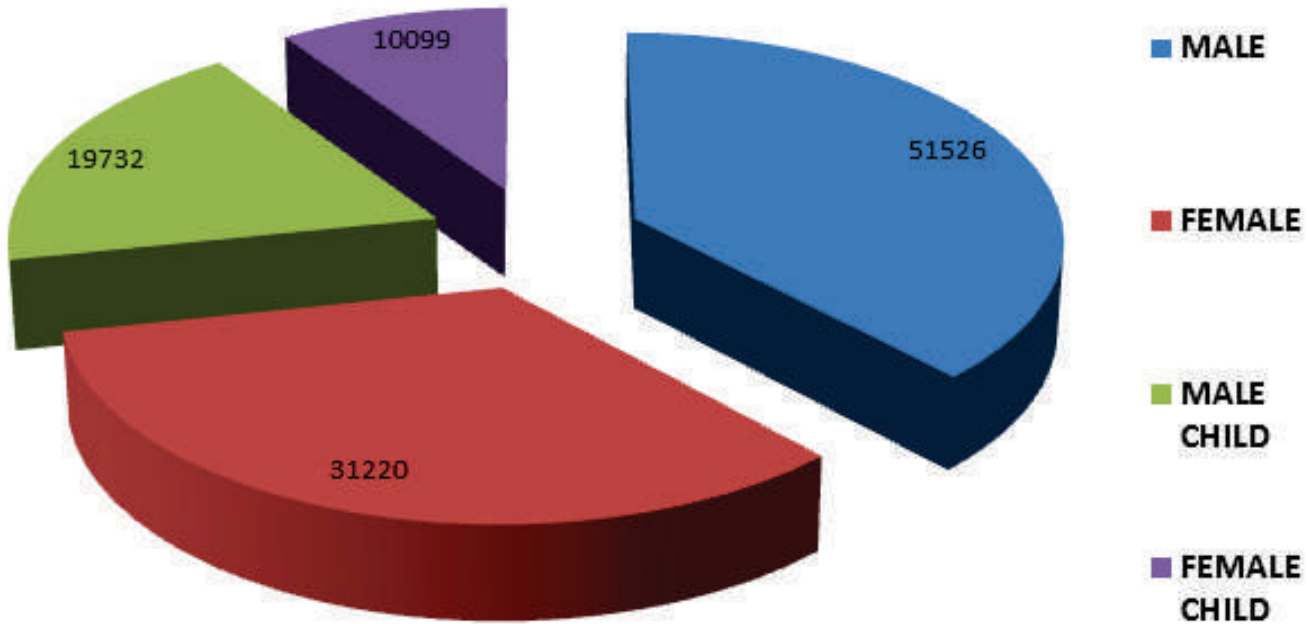


Fig. 2. Department-wise average length of stay (Main Hosp, CNC & CDER Regular)-2021-2022



**Fig. 3. Gender-wise inpatients in Main Hospital, CN Centre and CDER-2021-2022**



**Table III. Department-wise deaths in Main Hospital CDER and CN Centre**

Department	Discharges	Total Deaths	Deaths under 48 hrs	Deaths Over 48 hrs	Gross Deaths Rate in %	Net Deaths Rate in %
Anesthesiology (Pain Clinic)	436	00	00	00	0.0	0.0
Dermatology and Venereology	2181	06	01	05	0.3	0.2
Endocrinology and Metabolism	491	05	01	04	1.0	0.8
Gastroenterology and Human Nutrition	7193	368	146	222	5.1	3.2
Gastrointestinal Surgery and Liver Transplantation	1178	76	12	64	6.5	5.5
Geriatric medicine (NCA)	1537	198	42	156	12.9	10.4
Haematology	14929	251	90	161	1.7	1.1
Medicine I	1419	249	86	163	17.5	12.2
Medicine II	1344	183	64	119	13.6	9.3
Medicine III	1558	226	74	152	14.5	10.2
Nephrology	10809	61	11	50	0.6	0.5
Newborn	2835	43	15	28	1.5	1.0
Neonatal ICU (NICU)	186	11	02	09	5.9	4.9
Nuclear Medicine	418	00	00	00	0.0	0.0
Obstetrics and Gynaecology I	4282	03	01	02	0.07	0.05
Obstetrics and Gynaecology II	4430	04	01	03	0.09	0.07

Obstetrics and Gynaecology III	3404	03	00	03	0.09	0.09
Oncology (Main)	244	88	41	47	36.1	23.2
Orthopaedics I	3558	04	02	02	0.1	0.06
Orthopaedics II	4322	07	01	06	0.2	0.1
Otorhinolaryngology I	1160	02	00	02	0.2	0.2
Otorhinolaryngology II	1298	04	00	04	0.3	0.3
Otorhinolaryngology III	1217	04	01	03	0.3	0.2
Paediatrics I	4044	60	21	39	1.5	1.0
Paediatrics II	2609	97	27	70	3.7	2.7
Paediatrics III	10936	78	17	61	0.7	0.6
Paediatric Surgery	2889	52	07	45	2.0	1.6
Physical Medicine and Rehabilitation	18	00	00	00	0.0	0.0
Psychiatry	400	00	00	00	0.0	0.0
Pulmonary Medicine and Sleep Disorders	5038	109	27	82	2.2	1.6
Plastic and Reconstructive Surgery	3332	284	65	219	8.5	6.7
Radiotherapy	08	00	00	00	0.0	0.0
Rheumatology	1688	00	00	00	0.0	0.0
Surgical Disciplines I	1769	35	09	26	2.0	1.5
Surgical Disciplines II	1462	28	04	24	1.9	1.6
Surgical Disciplines III	1382	22	04	18	1.6	1.3
Surgical Disciplines IV	2624	45	12	33	1.7	1.3
Urology	5694	10	01	09	0.2	0.2
<b>Total (Main hospital)</b>	<b>114322</b>	<b>2616</b>	<b>785</b>	<b>1831</b>	<b>2.3</b>	<b>1.6</b>
Cardiology	6821	226	97	129	3.3	1.9
Cardiothoracic and Vascular Surgery	2344	222	21	201	9.5	8.7
Neurology I	1695	38	08	30	2.2	1.8
Neurology II	1499	34	10	24	2.3	1.6
Neurology III	1970	39	11	28	2.0	1.4
Neurosurgery I	1885	47	10	37	2.5	2.0
Neurosurgery II	1870	56	10	46	3.0	2.5
Neuroradiology	466	03	00	03	0.6	0.6
<b>Total (CNC)</b>	<b>18550</b>	<b>665</b>	<b>167</b>	<b>498</b>	<b>3.6</b>	<b>2.7</b>
<b>CDER</b>	<b>1076</b>	<b>00</b>	<b>00</b>	<b>00</b>	<b>0.0</b>	<b>0.0</b>

Fig. 4. Geographical distribution of inpatients (Main Hospital, CN Centre and CDER)-2021-2022

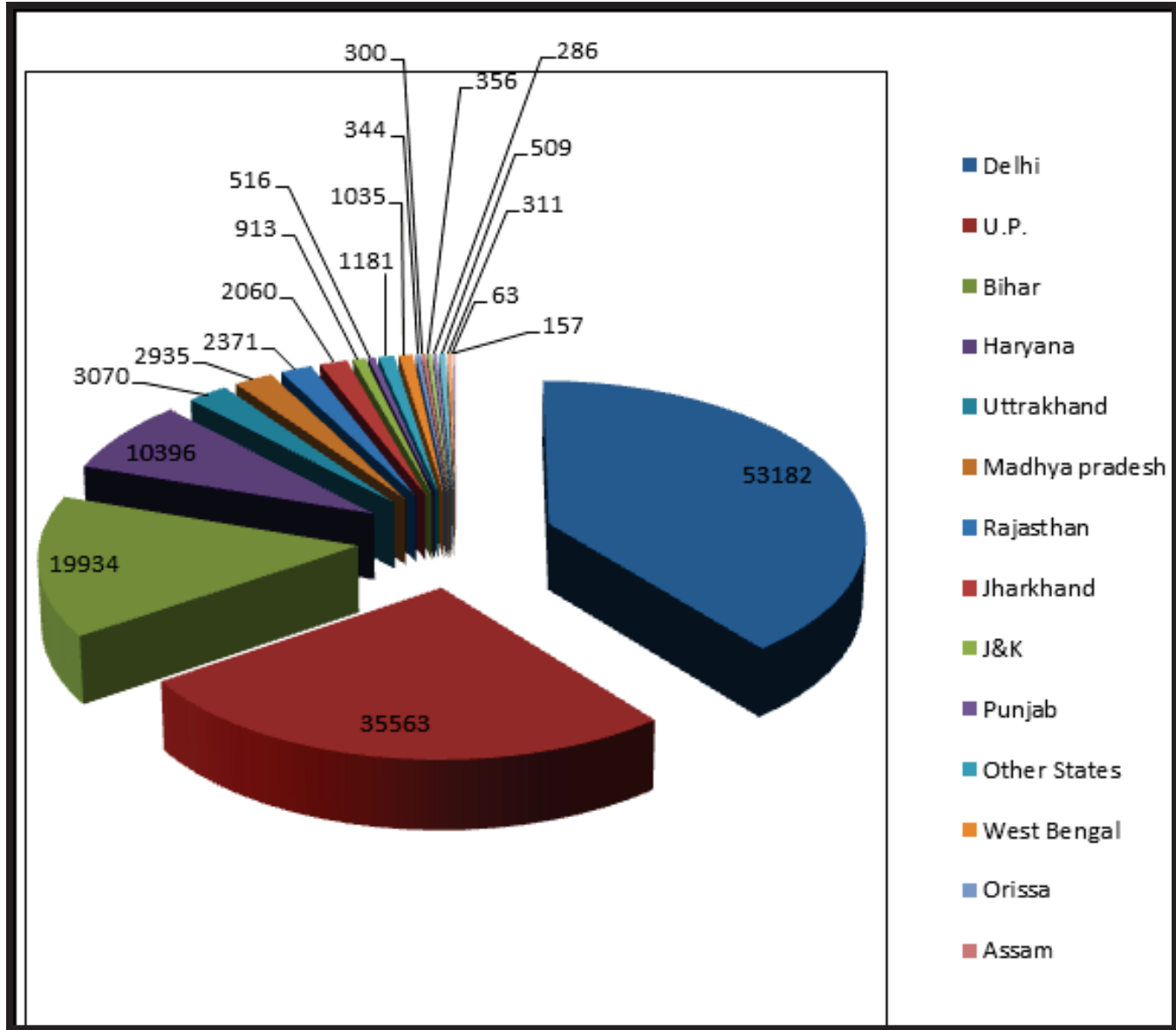


Table IV. Surgical procedures done in the Main Hospital, CDER and CN Centre

Department	Major	Minor		Total
		Inpatient cases	Outpatient cases	
Surgical Disciplines I	1049	149	3883	5081
Surgical Disciplines II	907	168	2681	3756
Surgical Disciplines III	878	254	3350	4482
Surgical Disciplines IV	1637	442	4202	6281
Gastrointestinal Surgery and Liver Transplantation	664	00	00	664
Urology	1411	563	15936	17910
Obstetrics	1422	00	00	1422
In vitro fertilization	00	1417	00	1417
Gynaecology I	624	771	00	1395
Gynaecology II	639	892	00	1531
Gynaecology III	575	976	00	1551

Foetal Medicine	00	959	00	959
Otorhinolaryngology I	912	137	9232	10281
Otorhinolaryngology II	999	128	10377	11504
Otorhinolaryngology III	907	166	10113	11186
Orthopaedics I	2022	893	00	2915
Orthopaedics II	2359	1512	00	3871
Paediatric Surgery	1324	27	00	1351
Casualty	00	219	00	219
Plastic and Reconstructive Surgery	11	438	00	449
Pulmonary Medicine and Sleep Disorders	2150	925	19100	22175
Anaesthesiology (Pain Clinic)	00	01	00	01
Haematology	00	00	3489	3489
Physical Medicine and Rehabilitation	00	00	12665	12665
Dermatology and Venereology	20490	11037	95028	126555
<b>Total (Main hospital)</b>	<b>13137</b>	<b>6683</b>	<b>46535</b>	<b>66355</b>

CTVS	2824	00	00	2824
Neurosurgery I	1448	119	00	1567
Neurosurgery II	1623	79	00	1702
<b>Total (CNC)</b>	<b>5895</b>	<b>198</b>	<b>00</b>	<b>6093</b>

<b>Dental Surgery/CDER</b>	725	102	23445	24272
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**Table V. Attendance in outpatients and specialty clinics**

Medical Disciplines		New Cases	Old Cases	Total
Medicine	General OPD	52548	100984	153532
	a) Obesity and metabolic disorders	645	1049	1694
	b) Infectious disease clinic	1290	3062	4352
Rheumatology	General OPD	6291	25805	32096
	a) Rheumatology clinic	41	2877	2918
Geriatric Medicine		7902	26432	34334
Pulmonary Medicine & Sleep Disorders	General OPD	9974	22808	32782
	a) Sleep disorder	162	281	443
	b) Lung cancer	385	859	1244
	c) ILD - PAH	342	1101	1443
	d) Combined pulmonary surgery	261	488	749
Nuclear Medicine		2583	8188	10771
Endocrinology and Metabolism		13994	42544	56538
Nephrology	General OPD	6152	28967	35119
	a) Transplant clinic	134	8180	8314
	b) RTCC	349	2073	2422
Haematology		8596	11874	20470
Gastroenterology		30031	57722	87753



Paediatrics	General OPD	35337	79501	486974
	a) Well baby	816	499	1315
	b) Follow up TB	183	1062	1245
	c) Renal clinic	216	994	1210
	d) Paediatric neurology	621	2429	3050
	e) Paediatric chest clinic	409	2148	2557
	f) High risk neonatal	342	1326	1668
	g) Genetic and birth defects clinic	5275	1965	7240
	h) Oncology clinic	300	1336	1636
	i) Child development clinic	518	1039	1557
	j) Endocrinology clinic	132	672	804
	k) Neurocysticercosis clinic	76	426	502
	l) PCSC	242	1298	1540
	m) Rheumatology clinic	155	1259	1414
	n) Myopathy clinic	541	1194	1735
	Dermatology and Venereology	General OPD	39067	56578
a) STD (Dermatology surgery)		1326	2498	3824
b) Allergy clinic		289	463	752
c) Leprosy		323	1675	1998
d) Psoriasis		269	438	707
e) Dermo-Surgery		691	870	1561
f) Vitiligo		271	541	812
g) Photo Therapy		71	297	368
h) Photo Dermatology		20	78	98
i) Paediatric Dermatology		131	237	209
Psychiatry	General OPD	17742	57051	34188
	a) Child guidance	530	309	643
	b) Case Progress Clinic	29	1816	595
	c) Consultation Liasion Addiction	246	429	39

Disciplines		New cases	Old cases	Total
<b>Surgery</b>		47390	48472	95862
<b>Plastic Surgery</b>		6156	21318	27474
<b>Urology</b>		14852	25456	40308
<b>GI Surgery</b>		3511	8354	11865
<b>Paediatric Surgery (Specialty Clinics)</b>	<b>General OPD</b>	7680	20053	27733
	a) Hydrocephalus	01	13	14
	b) Paed Urology	129	1174	1303
	c) PSTC	20	494	514
<b>Anesthesiology</b>	a) Pain Clinic	796	2418	3214
	b) Pre-Anesthesia Clinic	15233	3202	18435

<b>Orthopedics</b> (Specialty Clinics)	<b>General OPD</b>	51737	112189	163926
	a) Physio Therapy	35374	15487	50861
	b) Occupational Therapy	734	6138	6872
	c) Hydro Therapy	384	3975	4359
	e) Tuberculosis	13	159	172
	f) Scoliosis	320	496	816
	g) Hand Clinic	417	405	822
	h) C.T.E.V.	236	2289	2525
	i) Sports Clinics	21	30	51
	j) Fragility Fracture Clinic & Liaison Services	07	21	28
	h) Bone & Soft Tissue Sarcoma Clinic	01	03	04
<b>Otorhino-laryngology (ENT)</b> (Specialty Clinics)	<b>General OPD</b>	40190	58221	98411
	a) Audiology	123	37	160
	b) Speech	2874	3641	6515
	c) Hearing	169	253	422
	d) Voice	260	75	335
	e) Vertigo	159	188	347
	f) Rhinology	158	61	219
	H.N.& R.	215	146	361
<b>Obstetrics &amp; Gynaecology</b> (Specialty Clinics)	<b>General OPD</b>	34440	80675	115115
	a) IVF	343	842	1185
	b) Family Welfare	1086	3803	4889
	c) Antenatal	201	2198	2399
	d) Endo-Gynecology	16	36	52
	e) High Risk Pregnancy	740	11113	11853
<b>Radio-Therapy</b>		55	413	468
<b>Physical Medicine &amp; Rehabilitation</b> (Specialty Clinics)	<b>General OPD</b>	12011	20736	32747
	a) Prosthetics & Orthotics	3859	9160	13019
	b) Disability Evaluation Clinic	00	36	36
	c) OPD (PT Section)	00	17256	17256
	d) OPD (OT Section)	00	8199	8199
	e) OPD (MSSO)	310	287	597
<b>OTHERS</b>	1. Emergency/Casualty	76283	35944	112227
	2. EHS	116755	77837	194592
	3. Nutrition	6606	00	6606
<b>Grand Total</b>		<b>730706</b>	<b>1171740</b>	<b>1901746</b>

## 6.2 Dietetics

With reference to office Memo No. 4-XXII/2022-2023/Hosp (MR), dated 19 April 2022, for the data pertaining to patient care services by dietary services for the year 1 April 2022 to 31 March 2023 is enclosed herewith.

Food service for approximately 2220 hospital dieted patients was provided by centralized kitchen on a daily basis. Main hospital patients were 1200 and those for Centres were 976. The approximate yearly data of different kinds of diets sent to the indoor patients of main hospital and centers, comprising around 3 major meals and two minor meals in a day are given in Table 1.

**Table 1. Total number of indoor patients served hospital diets per annum (Main Hospital & Centers)**

Type of Diets	Number of patients/annum
Normal Diet	502147
Private ward Diet	77996
Semisolid Diets	61445
Therapeutic Diets	120486
Kitchen Based Enteral feeds	43618
Commercial formulas	4244
Guest House	1181
<b>Total</b>	<b>811,117</b>

Nutrition counseling OPD is also run in the Main Hospital. The approximate number of indoor and OPD patients counseled are given in Table 2.

**Table 2. Total number of patients given outdoor and indoor nutrition counseling (2022-2023)**

Gender	OPD patients nutrition counseling	Indoor patients nutrition Counseling	Total
Male	3380	4865	8245
Female	3109	3109	4588
<b>Total</b>	<b>6489</b>	<b>9344</b>	<b>8245</b>

## 6.3 Hospital Billing Section

The donations received and the payments made to patients during the financial year 2022-2023 are:

Donations received from donors: Rs 1336882.00

(Donations + Poor Fund boxes)

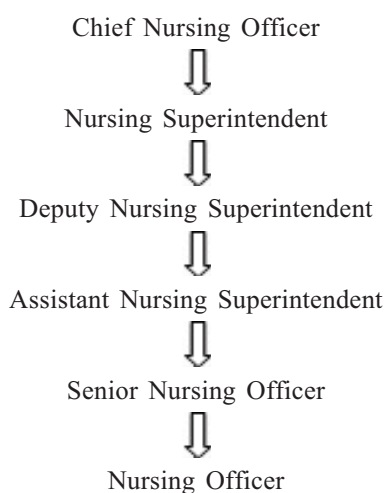
Payment made to **(405)** patients: Rs 1769344.00

(The amount disbursed to these poor patients is from donations received from donors during the year as well as from the previous balance lying in the 'AIIMS POOR FUND ACCOUNT').

## 6.4 Nursing Services

### Nursing Services

#### Organization of Nursing Services



Nursing service is an integral part of AIIMS, which aims at high quality nursing care to the patients and community. The professional nurses work in an environment that encourages professionalism and expertise in providing comprehensive patient care with the members of allied disciplines in the hospital.

#### Staff Strength

The main stratum of workforce in AIIMS is constituted by the well-trained professional nurses from different departments. Staffing in nursing service is based on SIU (Staff Inspection Unit) norms in AIIMS.

Staff Strength in Hospital & Centers	
Chief Nursing Officer	02
Nursing Superintendent	06
DNS	38
ANS	205
Senior Nursing Officer	991
Nursing Officer	4084
<b>Total</b>	<b>5326</b>

#### Continuing Nursing Education (April 2022 - March 2023)

Nursing staff education is carried out throughout the year by in-service and continuing education programs to update the clinical knowledge of practicing nurses thereby aiming at improving the standard of nursing care at AIIMS.

#### Nursing in-service education program

A well-structured in-service education program has been initiated since January 2011. Initially, it started with twice a week classes of one hour each, which was later on increased to thrice in a week. Two classes in a week are conducted for the bedside nurses (Nursing Officer and Senior Nursing Officer), whereas one class in a week is for senior nurses (Sister In-charges and above).

Facilitator: Ms Kamlesh Chandelia

Mentor: Ms ME Shoba Sampath

Educators: Ms Rebecca J Herald

Ms Srinithya Raghavan

Ms J Subbulakshmi

Ms C Vasundhara Balaswamy (SB)

Ms Maggie Renjith (BPS Block)

Ms Amrita Kumari (MC Block)

Ms Anita (NCA Block)

w.e.f. Oct 2022

### **In-Service Education Weekly Classes**

NIE sessions were conducted thrice a week so that maximum Nurses would benefit from these sessions. Various sessions included:

- Patient safety
- Health Care bundles
- Breast cancer
- Pain management
- Sedatives in critical care management
- Management of pneumonia
- Prevention of HAI
- Management of poisoning
- Antibiotics
- Insulin therapy
- Vasoactive drugs
- Management of patient on ventilator
- Oxygen therapy
- Intravenous fluid therapy
- Cardiac emergencies
- Acute kidney injury
- Hypertension
- Care of critically ill
- Management of monkey pox
- Palliative care
- Management of shock
- Introduction and Management of Burns
- Wound care
- Breast Cancer-Awareness
- Code Blue
- Communication in Nursing
- Stress Management
- Diabetes Mellitus & Pregnancy
- Introduction to Geriatric Nursing
- Management of Epilepsy
- Demonstration of Crash Cart
- Operation Theatre Techniques
- Sutures and Ligatures

**A total of 194 NIE sessions taken for 3619 Nurses in the year 2022-2023**

#### **I. E-learning Facility:**

**E-Learning facility** has been initiated by Nursing in Service Education, Office of CNO, with the sole purpose of upgrading knowledge and for renewal of DNC certification by providing needed credit hours. It has been merged into SARAL portal.

#### **II. Induction program**

A well-structured induction program was carried out for newly joined nurses from May to July 2022 and Jan to Feb 2023 for a total of 451 nurses.

The following topics were discussed;

- Introduction to AIIMS
- Conduct Rules
- Patient safety
- Leave rules

- Ward management
- Nursing culture at AIIMS
- Basic nursing skills
- Equipment management

### III. Fire safety

Sessions on fire safety were taken by the Fire Service Dept of AIIMS for the newly recruited nurses in 04 batches covering 160 nurses.

### IV. Conferences and workshops Conducted By NIE:

1. A one-day workshop on **Basics of Pediatric Nursing** was conducted for nurses working in pediatric clinical areas

Date/Month/Year	Total Participants
25 April 2022	30
2 May 2022	30
18 July 2022	44
1 August 2022	41
29 August 2022	43
<b>Total</b>	<b>188</b>

2. A one-day workshop on **Critical Care Nursing Update** was conducted for Nurses working in Burns and Plastic Surgery Block

Date/Month/Year	Total Participants
23 November 2022	42
1 December 2022	24
5 December 2022	22
19 January 2022	29
<b>Total</b>	<b>117</b>

### V. Conferences and workshops Coordinated By NIE (Outside AIIMS)

During 2022-2023, nurses from different departments in main hospital attended several National and International conferences/workshops

Sl. No.	Conferences/Workshops	Date	Venue	No. of Participants
1.	Yoga workshop	16 June 2022	CIMR	31
2.	Nursing training on stroke	20 February 2022 27 June 2022 4 July 2022 15 July 2022	CNC	91
3.	Pediatric oncology nursing workshop	18 November 2022	AIIMS	32
4.	TOT in collaboration with JHU, for Infection Control	17-22 October 2022	NIHFW	04
5.	National master class on stoma & wound care	8-9 October 2022	Sir Ganga Ram Hospital	02
6.	Breast Cancer awareness programme	1 and 18 October 2022	Surgery block Seminar Room, 4th floor	46
7.	9th Annual conference of IANN	18-20 November 2022	AIIMS, Bathinda	04

8.	TOT course for Breast feeding and young child feeding counselors	14-19 November 2022	AIIMS	02
9.	Observation of World sight day	18 October 2022	RPC, AIIMS	39
10.	Programme for implementation of NABH standards	27-29 October 2022	BPS, AIIMS	06
11.	Training course on building nursing and midwifery leadership in the context of SDG	14-18 November 2022	NIHFW	02
12.	Training course on strengthening midwifery practices for safe motherhood	21-25 November 2022	NIHFW	03
13.	Asian trauma congress 2022	17-20 November 2022		10
14.	BLS & ACLS provider course	14-16 November 2022	AIIMS	01
15.	TOT nursing workshop on Hemophilia care	16-19 November 2022	Bengaluru	01
16.	4th international and 20th National Nursing conference at Amristar	1-3 December 2022	Amristar, Punjab	05
17.	Rethinking of Chronic wound Care “PAN AIIMS Collaboration”	10 December 2022	Surgery block Seminar Room, 4th Floor	35
18.	Advanced care of respiratory illnesses in children, Training module for nurses in pediatric pulmonology	26-27 November 2022	AIIMS	31
19.	Workshop for nurses on breast feeding	30 November 2022 8 December 2022 13 December 2022 20 December 2022	AIIMS	60
20.	Pain management workshop	15-21 December 2022	Ahilya Bai CON N. Delhi	02
21.	NABI midterm CME – Burns nursing care	19 January 2023	AIIMS	15
22.	3rd PGIMER National Critical Care Nursing Conference	27-28 January 2023	PGI Chandigarh	20
23.	In service Training for Nursing Officers on Deceased Organ and Tissue Donation	21 February 2023	CMETi	25
24.	Neuro Trauma Nursing Symposium	20 March 2023	Conference Hall, AIIMS	17
25.	Sensitization Workshop on Transgender Person and Transgender Sensitive Health Care	2 March 2023	BPS, AIIMS	40
26.	Scientific Program on World Kidney Day	9 March 2023	NAMS, Delhi	30
27.	Hospital Infection Prevention, Control and Management- Short Course	20-27 March 2023	AIIMS	05
28.	NABH POI Workshop		Seminar Room IIF, BPS Block	21
29.	NABH training workshop		Seminar Room IIF, BPS Block	17
30.	An adverse event reporting mechanism		Seminar Room IIF, BPS Block	14
31.	Awareness programme on lymphoedema		Seminar Room IIF, BPS Block	18
32.	Breast Cancer awareness programme	Surgery block Seminar Room, 4th floor	01/10/2022	22

## VII. Conferences and workshops Coordinated By NIE along with College of Nursing, AIIMS, New Delhi

Sl. No.	Conferences/Workshops	Date	Venue	No. of Participants
33.	Hazardous spill management	5 April 2022	SET	15
34.	Security threat - violent situations	8 April 2022		15
35.	Bridging the gap - between theory and practice	28 October 2022		30
36.	Transforming nurses for digital health care	29 November 2022		29
37.	Occupational hazards; nurses safety	23 November 2022		28
38.	Artificial Intelligence in Nursing-An Overview	10 February 2023		27
39.	Ensuring Health Care Safety Through Quality Assurance	20 February 2023		30
41.	Transforming Nursing Practices using Simulation	28 February 2023		29
42.	Communication and Soft Skills Development	2 March 2023		35
43.	Nursing Audit and Digital Technology	14 March 2023		35

## VIII. Workshop on CRTP Course, AIIMS

A total of 180 Nurses were sent for training on Cardiac Resuscitation at SET facility twice a month from April 2022 to March 2023.

### A total of 1409 nursing personnel attended a total of 75 Workshop/Conferences in the year 2022-2023

Competent nurses from different departments participated and performed as facilitators for skill stations and hands-on training sessions in various workshops, CME and National conferences conducted last year.

## IX. Contribution as Facilitators:

NIE team facilitated various educational activities inside and outside AIIMS such as

- In-service training programme for nursing personnel at KSCH, New Delhi.
- Interactive session with patients and caregivers regarding facilities and resources available in BPS.
- Advanced emergency burn management training for Nurses (MOHFW) and dressers. It is a three-day training programme under national programme for prevention and management of Burn and Trauma Injuries. Participants from various hospitals across India are getting trained in this course.
- 9th Annual conference of Indian Association of Neonatal Nurses.

## X. Coordination & organization of Educational Visits for various Nursing Educational Institutions

Nursing educators in AIIMS conducted orientation programme for a group of 76 of II year PC BSc, IV-year BSc and II year MSc nursing students from various colleges of Pune and Mumbai.

## XI. Vigilance Report

The report of all the above nursing in-service Education activities was sent to the Vigilance cell on a monthly basis from the Office of the Chief Nursing Officer.

## XII. Deputation of Nursing Personnel for Higher Studies

Nursing services at AIIMS focus on improving the nursing care by facilitating abundant opportunities for higher studies. After 5 years of regular services, nurses are eligible for pursuing higher studies with full pay.

Sl. No.	Year	PC BSc	MSc
1	2021-2023	4	8
2	2022-2024	NIL	8

## XIII. Issuing Credit hours Certification

A total of 24 nurses were issued certificates of credit hours for registration in Nursing Council.



#### **XIV. Public Awareness Program**

Participated in “Public Lecture on Management of Dengue” conducted in JLN Auditorium by presenting steps in controlling mosquito breeding in clinical areas of AIIMS, New Delhi.

#### **XV. Milestone of the year 2022-2023**

Nursing Procedure Manual was released on International Nurses Day on 12 May 2022.

#### **XVI. Activities planned for the upcoming year**

- Periodical workshop on Soft Skills for clinical nurses.
- Half-day workshops with hands-on for the Intensive care unit and Emergency Nurses, Transplant Nursing and Burns Care.
- SOPs for various nursing procedures.

#### **Infection Control Nurses Activities in the Main Hospital 2022-2023**

##### **Chairman Infection Control Committee**

Sanjeev Lalwani, Medical Superintendent, AIIMS

##### **Infection Control Core Committee:**

##### **Members:**

- |                            |  |
|----------------------------|--|
| 1. Dr Bimal Kumar Das      | Professor, Department of Microbiology                  |
| 2. Dr Rakesh Lodha         | Professor, Department of Pediatrics                    |
| 3. Dr Rashmi Ramachandran  | Professor, Department of Anaesthesia                   |
| 4. Dr Vijaydeep Siddharth  | Additional Professor, Hospital Administration          |
| 5. Dr Piyush Ranjan        | Professor, Department of Medicine                      |
| 6. Dr Karan Madan          | Additional Professor, Department of Pulmonary Medicine |
| 7. Dr Gagandeep Singh      | Additional Professor, Department of Microbiology       |
| 8. Dr Hitender Gautam      | Additional Professor, Department of Microbiology       |
| 9. Dr Nishant Verma        | Additional Professor, Department of Microbiology       |
| 10. Dr Sarita Mahapatra    | Additional Professor, Department of Microbiology       |
| 11. Dr Jhuma Sankar        | Additional Professor, Department of Paediatrics        |
| 12. Dr Pankaj Jorwal       | Additional Professor, Department of Medicine           |
| 13. Dr Arvind Kumar        | Additional Professor, Department of Medicine           |
| 14. Ms Nirmal Kain         | NS, Infection Control                                  |
| 15. Ms Evangelin Vasanth   | Senior Nsg Officer, I/C Infection Control              |
| 16. Ms Betty Maria Binu    | Senior Nsg Officer, Infection Control                  |
| 17. Ms Kiran Singh         | Senior Nsg Officer, Infection Control                  |
| 18. Ms Poonam Anand        | Senior Nsg Officer, Infection Control                  |
| 19. Ms Sangeeta R. kamble  | Senior Nsg Officer, Infection Control                  |
| 20. Mr Dhawal Dwivedi      | Nsg Officer, Infection Control                         |
| 21. Mr Kunj Bihari Gauttam | Nsg Officer, Infection Control                         |
| 22. Ms Minu Varghese       | Nsg Officer, Infection Control                         |
| 23. Ms Awasthi AK          | Nsg Officer, Infection Control                         |
| 24. Ms Muthuselvi S        | Nsg Officer, Infection Control                         |
| 25. Ms Tsering Lamo        | Nsg Officer, Infection Control                         |
| 26. Ms Spandana Kapudasi   | Nsg Officer, Infection Control                         |
| 27. Ms Neha Verma          | Nsg Officer, Infection Control                         |
| 28. Ms Niveda P            | Nsg Officer, Infection Control                         |
| 29. Ms Kanupriya           | Nsg Officer, Infection Control                         |
| 30. Ms Sweta Verma         | Nsg Officer, Infection Control                         |

HICCOM core committee meets periodically to discuss day-to-day activities and interventions. HICCOM administrative rounds conducted periodically with infection control core committee, identified problems were discussed and rectified.

### **Activities of HICCOM**

- HICCOM (Hospital Infection Control Committee) conducted training program for all healthcare workers, cadre-wise regarding infection prevention and control practices and COVID appropriate behavior. Total **1785** healthcare workers attended 124 sessions
- The ICNs took online sessions on infection control practices for nursing personnel organized by college of nursing, AIIMS
- HICCOM develops written documents (manual) outlining the various infection control policies and procedure followed at AIIMS and periodically updating it.
- SOPs on Bio-Medical Waste Management, Needle stick injury, Spill management protocols and Disinfectant solution in the form of charts were distributed and displayed in all clinical areas of AIIMS
- The ICNs took sessions on hand hygiene, respiratory etiquettes and importance of personal hygiene for kitchen staff of Main kitchen.
- The ICNs took sessions on hand hygiene, respiratory etiquettes, cleaning/disinfections techniques and Bio-Medical management for multi-tasking staff of New RAK OPD, Mother and Child Block, Surgical Block and Main Hospital.
- The ICNs are collecting CLABSI and SSI data on daily basis and generating device associated infection rate.
- ICNs are actively involved in weekly monitoring of Microwaves at Biotic Facility by exposing biological indicators.
- ICNs took sessions of various healthcare workers on solid base management. (dry and wet waste).
- ICNs are actively involved in administrative rounds of clinical areas conducted by HICCOM core committee.
- ICNs were actively involved as resource person for training of trainers at NIHF New Delhi.
- ICNs were actively involved in Training of trainer on Hospital Infection prevention and control practices for nursing officers of NCA Jhajjar and CRHSP AIIMS, Ballabgarh.
- A learning material for hands-on training session on standard precautions, Sterilization and disinfection techniques, Care of indwelling devices, safe injection practices, spill management and Biomedical waste management was prepared.
- ICNs were actively involved in conducting and organizing Hands-on training sessions on Hospital Infection prevention and control practices for newly joined nursing officers of all the blocks at SET facility AIIMS.
- ICNs contributed as an expert in development of LRP (learning resource package) for health care workers in Infection prevention and control including BMW for pandemic preparedness.
- ICNs took active participation in “Swachhata Pakhwada” activities and organized various activities for all the healthcare workers. Below mentioned activities were organized:
  - a. Poster-making competition on solid waste management/Biomedical waste management
  - b. Essay writing competition on role of Kaya Kalp activities
  - c. Debate competition on preparedness on banning of single use plastic
  - d. Skit competition on Biomedical waste management
  - e. Fancy dress competition on preparedness on banning of single use plastic
  - f. Reels making competition on preparedness on banning of single use plastic
- Sensitization on hand hygiene, PPE, spill management and needle stick injury protocols personal hygiene, loading of BMW trolley according to the BMW rules were emphasized to Biotic workers, sanitary attendants and hospital attendants.
- ICNs under the guidance of HICCOM AIIMS is reemphasizing and ensuring COVID appropriate behavior among healthcare workers.
- ICNs are attending HICCOM meeting whenever required by HICCOM core group members and involved in sensitizing the dynamic guidelines on Environmental cleaning to increase the frequency of disinfection of all surfaces (Low touch and high touch areas), disinfection of items, correct dilution of disinfectant solutions.

### **Activities of Infection Control Nurses**

1. Collection of data on total HCAs in ICUs/ HDUs, Surgical areas on BSI, RTI (VAP), SSI, UTI, CSF/other infections etc. Data analysis is carried out monthly for all Surgical units and all ICUs and the Performa of data analysis is distributed to all concerned professors in charge of surgical units and ICUs. Annual crude infection rate is calculated and submitted for annual reporting.

2. Individual area rounds conducted by Infection Control Nurses on daily basis by using checklists and whenever need arises, onsite training programmes were conducted in the clinical areas and problems were rectified after discussing with the HICCOM core committee members.
3. Surveillance activities: collection of samples (environmental culture, sterility and In-use samples) from different areas of hospital for Surveillance purpose on monthly basis. Reports are collected and distributed to all respective areas to reinforce proper protocols as per the hospital policy.
4. Maintaining incident report book to record outbreaks, to monitor and to manage.
5. Maintaining the Daily report book for reporting.
6. Fortnightly reporting of persistent issues in all clinical areas are reported to HICCOM

**Annual Health Care Associated Infection (HCAI) Rate  
w.e.f. April 2022 - March 2023**

AREA	Total Major Surgeries/Admissions	HCAI	%
Surgical Units	10715	396	3.69
ICU'S	4027	664	16.4

$$\text{Combined HCAI rate:} = \frac{396 + 664}{14742} \times 100 = 7.1\%$$

**Surveillance Samples collected during April 2022- March 2023 (Main Hospital, AIIMS)**

Total Environmental and Sterility Samples	Total in-use Solutions Samples	Total Sterile Samples		Total Unsterile Samples	
		Environmental and Sterility Samples	In-use Solutions Samples	Environmental and Sterility Samples	In-use Solutions Samples
3651	1650	2407	1457	1244	193

Monthly surveillance and data for surgical units and ICUs were calculated and submitted to MRD section. Annual combined data analysis of surgical units and ICUs calculated and distributed to Dr Bimal Kumar Das, Professor in charge of Microbiology Hospital Infection Control, Professor Sanjeev Lalwani, Medical Superintendent AIIMS, Mrs Kamlesh Chandelia, Chief Nursing Officer, Dr Vijaydeep Siddarth, officer-in-charge infection Control from hospital administration and to Medical Record Section.

## 6.5 Blood Centre, Main Hospital

**Department of Transfusion Medicine, AIIMS, New Delhi**

**Patient Care:**

- (a) Facilities available in the department (including special clinics and/or special laboratory facilities):
  - Autologous blood donation
  - Voluntary blood donation camp facility.
  - Apheresis procedures (Plateletpheresis, Granulocytapheresis, Therapeutic plasma exchange, PBSC collection)
  - Automated blood grouping and serology.
  - Automated infectious markers testing
  - ID-NAT testing
  - 100% blood component preparation.
  - Antibody screening and identification
  - Antibody titers (ABO and alloantibodies).
  - Rh (D, C, c, E, e) and K phenotypes inventory of red cells
  - Leucodepleted blood/components.
  - Irradiation facility.

**b) Blood collection**

1.	Total blood units collected • Voluntary Donors • Replacement donors • Apheresis components	54093 12562 41531 2617
2.	Voluntary donation camps organized	100
3.	Therapeutic plasma exchanges	344
4.	Peripheral blood stem cell collection	44
5.	Granulocyte collection	14

**c) Blood component preparation**

1.	Packed red blood cells	52673
2.	Whole blood derived platelet conc	46027
3.	Fresh Frozen plasma	28823
4.	Fresh Plasma	22569
5.	Cryoprecipitate	506
6.	Component Quality control	432

**d) Routine and emergency Laboratory activities including issue of blood components**

1.	Blood Grouping (Patient + Donor)	120391
2.	Antibody screening	112608
3.	Extended phenotype of red cells (Donor)	4946
4.	Total patient requests received	65104
5.	Cross match (routine + emergency)	57779
6.	Total Blood (PRBC + LD-PRBC) issued	47716
7.	PRBC issued to other blood centres/hospitals	1934
8.	Weak R (D) testing of donor	3178
9.	Surplus plasma issued to fractionators	31351

**e) Immunohematology Laboratory**

1.	Indirect Coombs test	2268
2.	Direct Coombs test	3999
3.	Antibody titer (ABO+ Alloantibody)	1050
4.	Phenotype for minor blood group	2255
5.	Resolution of crossmatch incompatibility	1057
6.	Resolution of Blood group discrepancy	79
7.	Antibody identification	1661
8.	Work-up of Transfusion Reaction	51
9.	Quality control of reagents	19
10.	EQAS	04

**f) Infectious disease screening laboratory**

i. Screening for transfusion transmissible in infectious diseases = 270465

Infectious diseases markers	Numbers of tests
HIV 1 & 2	54093
HBV	54093
HCV	54093
Syphilis	54093
Malaria	54093

ii. NAT screening of collected units = 82814

## 6.6 Medical Social Welfare Unit

**Chief Medical Social Service Officer**  
BR Shekhar

**Supervising Medical Social Service Officer**  
Pankaj Kumar

### HIGHLIGHTS

The Medical Social Welfare Unit (H) is working under the supervision of Medical Superintendent since 1960 to provide social, psychological and financial support for patients and to alleviate distress while receiving treatment. The MSW Unit (H) has 14 Medical Social Service Officers (MSSOs) taking care of OPDs and Wards of 20 important departments in the main hospital including 24 × 7 Emergency Social Welfare Services.





- **Citizen Charter:** Information about Medical Social Welfare Services were uploaded on AIIMS Website under Citizen charter
- **Collaborative Meet:** A Collaborative meeting of different NGOs was conducted under CME of NABI in Burn & Plastic Surgery
- **Wish granting initiative:** Started wish granting of pediatric patients through the organization Make-A-Wish and it has fulfilled the wishes of 40+ children suffering from critical illness
- **Celebration with children:** Diwali & Christmas celebration with gift distribution was organized in Pediatric Surgery Wards.
- **World Social Work Day:** A special celebration gift distribution with Pediatric patients of Hematology
- **Play area in BPS block:** A special Play-area has been developed for Pediatric patients of Burn & Plastic Surgery

#### EDUCATION

1. Orientation sessions on “Medical Social Work in Hospital Setting” for MSW students/Healthcare workers: 4
2. Concurrent Field-Work of MSW Students: 7
3. Short-Term Trainees: 14
4. Session on ‘Role of MSSO in Hospital Setting’ for MHA students of AIIMS

#### Lecture delivered

**BR Shekhar: 1                      Vivek Kumar Singh: 4**

#### BR Shekhar

Sl. No.	Title of talk	Name of the CME/Conference	Date	City
1	Medical Social Services in a Hospital	98th Training course on Hospital Administration for Senior Hospital Administrators	23 September 2022	New Delhi

**Name: Vivek Kumar Singh, MSSO**

Sl. No.	Title of talk	Name of the CME/Conference	Date	City
1	Simplifying patient's communication	16th Annual Conference of Indian Society of Clinical Research	23 February 2023	New Delhi
2	Empathy in Healthcare	Patient Support Workshop for Patient Navigators	17 March 2023	New Delhi
3	How to handle Workplace Violence (WPV) in Hospital setting	HA/SA Training Program	29 March 2023	New Delhi
4	How to handle Workplace Violence (WPV) in Hospital setting	HA/SA Training Program	31 March 2023	New Delhi

**Publications**

Item	2020-21	2021-22	2022-23
Journal articles	3	1	Nil

**Patient care/supportive activities:**

1. Cashless treatment of entitled AB-PMJAY scheme beneficiaries
2. Exemption of hospital charges
3. Free medicines/surgical items by the hospital for indoor patients
4. Financial assistance through Umbrella Scheme of Rashtriya Arogya Nidhi (RAN), Prime Minister's National Relief Fund (PMNRF), Chief Minister's Fund, Delhi Arogya Nidhi (DAN), Vice-President's Fund and other such funds for medical treatment
5. Rehabilitation of Unknown/Without attendant/Destitute/Orphan patients
6. Resource mobilisation through government & non-government agencies
7. Counseling & Guidance to patients and their attendants as per the need & requirements
8. Railway concession to outstation patients as per government rules
9. Health education & awareness through Seminars, Lectures, one-to-one counselling, Group-work and IEC material etc
10. Counseling & coordination for authorization of organ donors; and awareness/motivation to prospective organ donors
11. Capacity building and sensitization of Social Work students and Healthcare professionals
12. Short-term and long-term Research activities to improve evidence-based practice

Item	2020-21	2021-22	2022-23
AB-PMJAY beneficiaries	1536	3435	6807
Financial assistance through RAN Umbrella scheme	177	80	309
Financial assistance through AIIMS Poor Fund	310	338	405
Financial assistance through NGO/Trust/Foundations (Approx data)	45	80	88
Free medicines/surgical items for admitted patients (Approx data)	1200	3200	5400
Online Exemptions of hospital charges	Rs 25,99,188	Rs 65,03,016	Rs 64,13,213
Rehabilitation of Unknown/Without attendants/indigent patients (Approx data)	350	400	400

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

Mr BR Shekhar, Chief MSSO has been appointed as a Member in Interim Commission for Allied & Healthcare Professionals to represent Community care, Behavioral Health Science and other professionals (Gazette Notification S.O.2655 (E) of the Ministry of Health and Family Welfare Dated 10 June 2022).

## 6.7 Department of Endocrinology and Metabolism

67th Annual Report (1 April 2022 to 31 March 2023) OPD/Clinic data

### OPD/Clinic attendance from 1 April 2022 to 31 March 2023

Endo New Patient	Endo Old Patient	PAE Clinic	DOY Clinic	GDM Clinic	Total
13654	44021	785	1866	564	60890

### Month-wise break-up for OPD attendance from 1 April 2022 to 31 March 2023

Month	New Patient	Old Patient	PAE Clinic	DOY Clinic	GDM Clinic	Total
April, 2022	1102	3173	48	157	31	4511
May, 2022	1140	3410	70	144	30	4794
June, 2022	1244	3709	49	136	25	5163
July, 2022	1238	3619	55	184	62	5158
August, 2022	1174	4080	71	154	42	5521
September, 2022	1276	4092	75	129	44	5616
October, 2022	1015	3421	56	181	42	4715
November, 2022	1140	4061	87	144	64	5496
December, 2022	991	3129	124	173	91	4508
January, 2023	1031	3609	61	167	34	4902
February, 2023	1097	3659	28	152	35	4971
March, 2023	1206	4059	61	145	64	5535
<b>Total</b>	13654	44021	785	1866	564	60890

## 6.8 Department of Orthopaedics

### Overview

The Department of orthopaedics in AIIMS has doctors with specializations in the field of joint replacement, sports medicine, hand surgery, musculoskeletal oncology, paediatric orthopaedics, spine surgery and treatment of complex trauma. The recent innovations in orthopaedics surgery such as minimally invasive joint replacement, surface replacement arthroplasty, revision hip and knee replacements, minimally invasive spine surgery, vascularised grafting for non-unions, limb reimplantation, arthroscopic PCL and shoulder surgery are all being practiced here.

The department does provide the following hospital services:

### Patient Care

The department is known to perform several complex orthopaedic surgeries and the operation theatres are one of the best equipped, comparable to any advanced centre in the world. With the introduction of robotic facility, EOS facility, advanced intraoperative imaging facilities and many other advanced technologies, the department has achieved a high



standard of patient care. Link for an overview of the department <https://www.aiims.edu/en/introductoryvideoortho.html>.

There are **Special clinics** like scoliosis, sports injury clinic where patients get referred to after attending OPD Consultation.

There is a **Bone Bank Facility** also where both live donor bone and cadaveric bone are preserved and used as and when required.

Along with this, there is a modern **Physiotherapy unit** as well for comprehensive care of patients.

### Operation Theatres

There is a total 7 modular Operation Theatres (first floor MS Office) dedicated to the Orthopaedics department with latest technology installed to provide quality care to the patients and make them feel calm and comfortable inside the OT complex. The OT complex has a meeting room with live transmission of surgeries for teaching and demonstration along with a live feed to auditorium, conference hall and consultant's room.

### Patient Care Services in Orthopaedics

	Number of Patients		
	2020-21	2021-22	2022-23
OPD	15,423	58,883	2,26,561
IPD Admissions (AB1Ward+ private ward)	1905	5312	8869
Orthopaedic Operation Theatre Major cases	997	2758	4381
Orthopaedic Operation Theatre minor cases	1384	1717	2401
Physiotherapy	14019	31292	59,839
Gait Lab	173	321	405

### OPD services Roaster

Day	Morning	Afternoon
<b>Monday</b>	<b>Unit-II (OPD &amp; Follow Up Clinic)</b> Dr HL Nag/Dr Shah Alam Khan/Dr Vijay Kumar/Dr Mohd Tahir Ansari/Dr Venkatesan S Kumar/Dr Vivek Shankar/Dr Love Kapoor	<b>Bone &amp; Soft Tissue Sarcoma Clinic</b> Dr Shah Alam Khan Dr Venkatesan S Kumar
<b>Tuesday</b>	<b>Unit-I (OPD &amp; Follow Up Clinic)</b> Dr Rajesh Malhotra/Dr Ravi Mittal/Dr Bhavuk Garg/ Dr Vijay Kumar Digge/Dr Vikrant Manhas/Dr Arun M Swamy/Dr Sahil Batra/Dr Shrijith MB <b>TB Clinic</b> Dr Bhavuk Garg	
<b>Wednesday</b>	<b>Unit-II</b> Dr HL Nag/Dr Vijay Kumar/Dr Mohd Tahir Ansari/Dr Venkatesan S Kumar/Dr Vivek Shankar	<b>Hand Clinic</b> Dr Mohd Tahir Ansari/Dr Vijay Kumar D <b>SPORTS CLINIC</b> Dr HL Nag/Dr Vijay Kumar
<b>Thursday</b>	<b>Unit-I</b> Dr Ravi Mittal/Dr Bhavuk Garg/Dr Vijay Kumar Digge/ Dr Vikrant Manhas/Dr Arun M Swamy/Dr Sahil Batra/Dr Shrijith MB <b>Spine Clinic</b> Dr Bhavuk Garg	<b>Scoliosis Clinic</b> Dr Bhavuk Garg/Dr Vivek Shankar <b>Fragility Fracture Clinic</b> Dr Rajesh Malhotra/Dr Vijay Kumar D/Dr Vikrant Manhas <b>Disability Clinic</b> Unit-II

<b>Friday</b>	<b>Unit-II</b> Dr Shah Alam Khan/Dr Vijay Kumar/Dr Mohd Tahir Ansari/Dr Venkatesan S Kumar/Dr Vivek Shankar/Dr Love Kapoor	<b>CTEV Clinic</b> Dr Shah Alam Khan/Dr Venkatesan S Kumar/Dr Love Kapoor <b>Disability Clinic</b> Unit-II
<b>Saturday</b>	<b>Unit-I</b> Dr Rajesh Malhotra/Dr Ravi Mittal/Dr Bhavuk Garg/Dr Vijay Kumar Digge/Dr Vikrant Manhas/Dr Arun M Swamy/Dr Sahil Batra/Dr Shrijith MB	

#### **Physiotherapy**

- The physiotherapy unit is functional from Monday to Saturday. All the patients referred from the OPD are assessed on the same day and called directly for follow-up visits without any registration requirement
- There are two rooms for providing the physiotherapeutic management including diagnostic, prognostic and therapeutic functions for timely screening and interventions. There are occupational therapy services as well as hydrotherapy services for the patients
- Hydrotherapy is an important wing of physiotherapy taking special care of systemic condition like Rheumatoid Arthritis, Ankylosing spondylitis and other arthritic conditions with obesity. Modalities available are steam bath, whirlpool bath and treadmill

## 7. College of Nursing

### Professor cum Principal

Dr Latha Venkatesan

### Associate Professors

Dr Shashi Mawar  
Ms Sibi Riju  
Dr Pragya Pathak  
Dr Rimple Sharma  
Dr Manju Amit Kumar Rajora  
Dr Y Surbala Devi  
Ms Milan Tirwa

Dr L Gopichandran  
Ms Aditi P Sinha  
Dr Ujjwal Dahiya  
Ms Cecilia MS  
Ms Levis Murry  
Ms Smita Das  
Mr Ajesh Kumar TK

### Tutors

Ms Gayatri Batra  
Dr Philomina Thomas  
Dr Seema Sachdeva  
Ms Neelima Raaj  
Mr Hansaram  
Ms Mamta Choudhary  
Ms Suman Dabas

Ms Babita Sahoo  
Ms Meena Ara  
Ms Anubha Devagourou  
Ms Nemkholam  
Ms Monika Sabharwal  
Ms Manita Dalal  
Ms Savita

### Students Admitted:

Course	Sanctioned strength	No. of Students admitted	Current strength
BSc (Hons) Nursing	96 + 5 = 101	96	84
BSc (P.B.) Nursing	50 + 1 = 51	31	30
MSc Nursing	29 + 7 + 1 = 37	35	33
a. Oncological Nursing			4
b. Critical Care Nursing			5
c. Pediatric Nursing			5
d. Neurosciences Nursing			5
e. Nephrological Nursing			5
f. Cardiological/CTVS Nursing			5
g. Psychiatric Nursing			4

### Current students' strength:

Course		I year	II year	III year	IV year
BSc (Hons) Nursing	Regular	84	89	77	69
	Irregular	-	-	10	
BSc (P.B.) Nursing	Regular	30	39		
	Irregular	-	-		
MSc Nursing	Regular	33	21		
	Irregular	-	-		
Total		147	149	87	

**Students Graduated:**

Course	No. of Students
BSc (Hons) Nursing	76
BSc (PB) Nursing	42
MSc Nursing	20
Total	138

**Highlights**

- Curriculum: BSc (Hons) nursing curriculum was revised and workshops were held to orient the faculty members of All AIIMS and JIPMER College of Nursing. Contributed to develop International Confederation of Midwives curriculum on Midwifery.
- Accreditation: Contributed to design and develop National accreditation framework for nursing colleges, by NABET, Quality Council of India.
- National level trainers and Breast-feeding counsellors were created in “Breast feeding & Infant and Young Child Feeding Counsellors” by conducting the course along with BPNI.
- Funded by MoHFW, strengthening nursing services program was organized in Hospital Infection Prevention, Control and Management - Short Course for Nurses.
- Short-term course in Health Informatics and Evidence-Based Practices for nurses and faculty was conducted which was funded by MoHFW and TNAI, Delhi.
- Organized series of 10 In-service education workshop for nursing officers at AIIMS, New Delhi.
- Various World Health Days were observed like National Safe Motherhood Day, International Nurses Day, World Environment Day, International Yoga Day, World Suicide Prevention Day, World Heart Day, World Asthma Day, World Stroke Day, World Mental Health Day, World Kidney Day.
- Student Development programs: Along with Delhi Police, Self Defense camp was held for BSc (Hons.) nursing students. SDP on Health care communication was organized. Career development program for outgoing batch of students was conducted. Students participated in National level competition for nursing students in India on Evidence-based Nursing Game. Sports day was also organized for the students.
- Faculty Development Program: FDP on Systematic Reviews and Meta-Analysis and Orientation to Nursing Databases like CINAHL Ultimate was organized for all faculty.

**Supporting other courses:**

College of Nursing faculty delivered lectures and conducted practical classes of DORA students, CDER, AIIMS, New Delhi

**Activities of College over past 3 Years**

Sl. No.	Activities of College	2022-23	2021-22	2020-21
1.	Lectures delivered at CMEs, National and International conferences	69	82	111
2.	CMEs/Workshops/Symposia/National and International Conferences	04	02	10
3.	Oral papers/posters presented	03	10	10
4.	Funded ongoing projects	01	04	07
5.	Funded completed projects	01	04	06
6.	Non-funded ongoing projects	00	05	04
7.	Non-funded completed projects	00	04	-
8.	Ongoing departmental projects	17	19	25
9.	Completed departmental projects	30	16	23
10.	Ongoing collaborative projects	00	06	06
11.	Completed collaborative projects	00	03	04
12.	Publications	19	36	42
13.	Chapters in books	1	04	04
14.	Books and Monographs	00	01	02

**CMEs/Workshops/Symposia/National and International Conferences****Total No. of CME event organized by the department: 04**

Sl. No.	Name of the Event	Date	City
1.	Hazardous spill management	05/04/2022	New Delhi
2.	Security threat	08/04/2022	New Delhi
3.	Orientation to CINHAL ULTIMATE	10/10/2022	New Delhi
4.	Systematic Review	30/11/2022	New Delhi

**Lectures delivered at CMEs, National and International conferences****Lectures delivered: 67**

Dr Latha Venkatesan	18
Dr L Gopichandran	01
Ms Sibi Riju	04
Ms Aditi P Sinha	03
Dr Pragya Pathak	03
Dr Ujjwal Dahiya	04
Dr Manju Amit Kumar Rajora	02
Ms Levis Murry	07
Ms Y Surbala Devi	07
Ms Milan Tirwa	03
Mr Ajesh Kumar TK	02
Ms Meena Ara	01
Dr Seema Sachdeva	07
Ms Monika Sabharwal	03
Ms Mamta Choudhary	02

**Oral/poster presentations: 03****RESEARCH****Funded projects****Ongoing**

1. A Pilot testing of a nutritional intervention package (NIP) on children with cystic fibrosis, and development of an App on Cystic Fibrosis Self- Management (CFSM), Dr Rimple Sharma, AIIMS Early career intramural grant, 2 years, 2021-2023, Rs 4.5 lakhs

**Completed**

1. Interdisciplinary research network to build locally rooted evidence-based knowledge to address the mental health impact of COVID-19 in venerable and at risk group in India with a wider focus on South Asia (2020-2022), Dr L. Gopichandran, AIIMS UCL, 2 years, 2020-2022, Rs 5 lakhs

**Departmental projects****Ongoing**

1. A comparative study to evaluate the efficacy of 2% Muprocain vs 0.5% Neomycin intranasal ointment on prevention of surgical site infections (SSIs) among patients undergoing cardiac surgery in AIIMS, New Delhi
2. A descriptive study to assess predictors of low milk volume among mothers of preterm admitted in a tertiary care facility
3. A prospective study to assess Knowledge, Attitude and Compliance to Standardized Surgical Safety Checklist among Operating Room Nursing Officers working in AIIMS, New Delhi
4. A randomized control trial to assess the effectiveness of nurse led tobacco cessation interventions among patients attending OPD at AIIMS, New Delhi

5. A study to assess factors affecting Mental Health Literacy and Mental Health Help Seeking Attitude of Nursing Students at College of Nursing, AIIMS, New Delhi with a view to develop an Information Booklet
6. A study to assess the effect of Thirst bundle intervention on thirst intensity and dry mouth among heart failure patients visiting at heart failure Clinic, AIIMS, New Delhi
7. A study to assess the effectiveness of nurse led group brief intervention on social functioning, criminality and health among ODS patients attending NDDTC, AIIMS, New Delhi: A Randomized Controlled Trial
8. A study to assess the effectiveness of structured teaching programme on knowledge regarding gender-based violence among adolescents in selected schools of Delhi
9. A study to assess the impact of nurse-led education bundle for infection control with follow up teleconsultation on incidence of febrile neutropenia and caregivers' knowledge among parents of children with acute leukemia at AIIMS, New Delhi
10. A study to assess the sleep cycle of unconscious traumatic brain injury patients monitored by smart watch at Neurosurgery ICU, AIIMS, New Delhi
11. A study to assess the effectiveness of mobile app-based psychoeducation package on activities of daily living, medicine adherence and the severity of disease among patient with Depression, attending outpatient Psychiatry Department
12. An open labelled RCT to assess the effectiveness of video assisted distraction (VAD) versus guided parental reassurance on pain during needle procedural pain among children in paediatric casualty in AIIMS New Delhi
13. Comparison of open endotracheal over closed endotracheal suction in occurrence of VAP in ICU areas in AIIMS, New Delhi
14. Does in situ simulation improve the compliance of key performance indicators of trauma resuscitation?
15. Health care quality of life among breast cancer patients visiting breast cancer clinic in AIIMS, Delhi
16. The City of Hope Quality of life Stoma questionnaire: Hindi translation and validation
17. To assess the effectiveness of simulation with regard to improvement of knowledge, skill and its retention among nursing students in initial assessment and management of multiple injured patients as per ATLS Guidelines

#### ***Completed***

1. A cross-sectional study to assess the level of anxiety, depression and stress of patients with cardiac disorders during COVID 19 pandemic
2. A cross-sectional study to assess the impact of COVID-19 on psychological well-being and family dynamics among parents of children with developmental disorders at AIIMS, New Delhi.
3. A descriptive cross-sectional study to assess the knowledge, practice and attitude regarding polycystic ovarian syndrome among nursing students AIIMS New Delhi
4. A descriptive study to assess the post Covid vaccination effect amongst 12-18 year age group children in selected schools in Delhi.
5. A descriptive study to evaluate the knowledge and attitude regarding utilization and conservation of oxygen among nursing officers working in Pediatric units at AIIMS, New Delhi with a view to develop an educational booklet
6. A prospective observational study to assess the incidence and pre-disposing factors of phlebitis associated with peripheral intravenous cannula in children admitted in Pediatrics wards at AIIMS New Delhi
7. A quasi experimental study to assess the effectiveness of structured brief group counselling among caregivers of heart failure patients on selected outcomes in cardiology unit at AIIMS, New Delhi.
8. A randomized control trial to assess the effect of Simulation based teaching on knowledge, skill and confidence of undergraduate nursing student in performing Defibrillation
9. A randomized controlled trial to assess the effect of blended exercise program on rigidity score among Parkinson's Disease patients attending Neuro OPD at AIIMS, New Delhi
10. A randomized controlled trial to assess the effectiveness of nurse led navigation clinic on patient satisfaction, treatment adherence and anxiety among adult oncology patients attending out patient unit in Dr B. R. A. IRCH, AIIMS New Delhi
11. A study to assess effectiveness of video assisted teaching program on kegel's exercise to reduce the severity of urinary incontinence symptoms and on quality of life among women visiting Urology and Gynaecology OPD at AIIMS, New Delhi
12. A study to assess the effect of audio visual distraction on fistula cannulation pain and biophysiological parameters among patients undergoing hemodialysis at AIIMS New Delhi

13. A study to assess the effect of simulation-based ventilator alarm management training on nurse's knowledge and practices in a tertiary care hospital.
14. A study to assess the effectiveness of a mobile application-based educational intervention on knowledge, attitude, practices regarding oral hygiene among parents of children with congenital heart disease at AIIMS, New Delhi.
15. A study to assess the effectiveness of an information booklet on knowledge and practice of PICC line home care in patients discharged with a PICC line at BRAIRCH, AIIMS, New Delhi
16. A study to assess the effectiveness of education on knowledge stress anxiety and psychosocial concerns of parents having children with hypospadias and attending Pediatric Surgery OPD, AIIMS New Delhi
17. A study to assess the effectiveness of video assisted teaching on knowledge regarding risk factors, prevention, and management of Varicose veins among security guards of AIIMS New Delhi
18. A study to assess the impact of simulation-based teaching on breaking bad news with regard to attitude, confidence and skill among nurses in paediatric intensive care unit, AIIMS, New Delhi
19. A study to assess the knowledge, attitude and practice to CAUTI Bundle among nurses working in adult ICU at AIIMS, New Delhi
20. A study to assess the prevalence of risk factors of stroke and impact of VAK model based Act FAST educational program on recognition and stroke knowledge among security guards working at AIIMS New Delhi
21. An observational study to assess the compliance of the WHO Surgical Safety checklist in the pediatric surgery at AIIMS, New Delhi and barriers in its implementation.
22. Assessing the prevalence of risk factors for non-communicable diseases including common cancers among nurses in Delhi NCR using digital community-based assessment checklist: A pilot study.
23. Awareness and practice among two wheeler riders in Delhi
24. Clinical audit of selected nephrology nursing procedures performed in nephrology unit of AIIMS with a view to develop nephrology nursing procedure protocol following COVID-19 guidelines.
25. Knowledge and confidence level of nursing officers related to forensic nursing
26. Mucormycosis in immune compromised patients – Indian case series
27. Myths and facts related to COVID 19 among general public

#### Research projects over past 3 years

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	09	08	02
Total funding	2,822,302	12,141,059	950,000

#### PUBLICATIONS

**Journals: 16**

**Chapters in Book: 01**

#### Publications over Past 3 years

Item	2020-2021	2021-2022	2022-2023
<b>Total</b>	48	42	17
Journal articles	42	36	16
Abstracts	00	00	00
Chapters in books	04	04	01
Books	02	02	00

#### PATIENT CARE

##### a) Community services/camps, etc.

Various health days were observed in the community by the students through role play and health educations:

1. Suicide Prevention Day organized by College of Nursing on 10th September 2022.
2. World Mental Health Week celebration by College of Nursing in October 2022.

##### b) Posting of students in various wards etc.

The students are posted in various medical and surgical ward's ICUs, Pediatric wards, MCH centers, Psychiatric wards and are supervised by all the faculty members of the college.

**AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Dr Latha Venkatesan** was elected as President of Clinical Nursing Research Committee (North Zone); nominated as member of Entry level accreditation committee member of NABH and Grievance committee of NABET, QCI; invited to contribute as Editor of American Journal of Nursing and Research.

**Ms Aditi P. Sinha** completed Fellowship in Emergency and Trauma nursing in April 22 from Acen India Academy for clinical emergency nursing in India.

**Ms Milan Tirwa** completed fellowship in Emergency Nursing (EMIndia); trained to be an ACLS provider.



Short Term course in Integration of Nursing Informatics in Evidence Based practices funded by MoHFW  
National level Trainers in Breast Feeding and Infant and Young Child feeding (BFIYCF)







# COLLEGE OF NURSING AIIMS DELHI

Organizes

Workshop on

## Systematic Reviews & Meta-Analysis

Date: 30th November 2022

Time: 10:00am to 3:30pm

Venue: Studio I SET Facility, AIIMS

### Programme Schedule

Time	Session	Resource person
10:00 am to 10:30am	Introduction to Systematic Reviews	Dr. M. Jeeva Sankar Additional Professor Department of Pediatrics, AIIMS New Delhi
10:30 am to 11:00am	Formulating Research Questions on Systematic Review	Mr. Jaison Joseph Faculty, College of Nursing Post Graduate Institute of Medical Sciences, Rohtak
11:00am to 11:15am	Tea Break	
11:15am to 12:00pm	Search Strategy: Searching Principles & Bias Assessment in Systematic Review	Dr. Latha T Associate Professor, College of Nursing AIIMS Kalyani
12:00pm to 01:00pm	Data Extraction: Best Evidence Synthesis in Systematic Reviews and Meta Analysis	Dr. M Kalaivani Scientist-I Department of Biostatistics ,AIIMS New Delhi
01:00pm to 2:00pm	Lunch Break	
2:00pm to 2:45pm	Writing the Systematic Review Report and Reporting Guidelines	Dr. Manju Dhandapani Associate Professor, NINE, PGIMER, Chandigarh
2:45pm to 3:30pm	Critical Appraisal of Systematic Reviews & Publication Scope Of Systematic Reviews	Mr. Abin Varghese Asst Professor, College of Nursing, AIIMS Nagpur

#### Organizing Chairperson

**Dr. Latha Venkatesan**  
Professor cum Principal  
College of Nursing, AIIMS New Delhi

#### Organizing Secretary

**Mr. Ajesh Kumar T K**  
Associate Professor  
College of Nursing, AIIMS New Delhi



Google Meet joining info:  
<https://meet.google.com/bos-hbpbk-aac>

Registration Link:  
<https://forms.gie/3TuJNNX24y37P3Pf7>



9729389569



ajesh.ktk@gmail.com

Self Defence Camp Organised for students by Delhi Police and Students Nurses Association



International Nurses Day- President of Delhi Nursing Council addressed students and Faculty



Sports Day Program of Nursing students

## 8. Research Section

### Dean (Research)

Subrata Sinha  
(01.04.2022 to 26.08.2022)

Rama Chaudhry  
(27.08.2022 to 31.01.2023)

Kaushal K Verma  
(01.02.2023 continuing)

### Associate Dean (Research)

Vineet Ahuja

### HIGHLIGHTS

The faculty and researchers of this Institute have a mandate for conducting research to address the health challenges of the nation as well as advancing global knowledge. The mandate of the Research Section is to facilitate and strengthen research in the Institute. The Research Section has initiated several research funding proposal calls, held workshops and created infrastructure to stimulate research milieu amongst the faculty, scientists and students at the Institute. With the objective of creating a more vibrant research environment and to lay down lines for future long-term collaborations, the funding call proposals now have shifted their vision on catalyzing the synergic 'cross-research activity' by having collaborative projects with other institutions like IIT and THSTI. For the first time at AIIMS, international collaborative funding opportunity was initiated. With the objective of enhancing interdisciplinary and collaborative research interest between University College, London (UCL) and AIIMS, New Delhi, a joint research seed fund has been established and it funded joint project proposals from faculty members from both institutions. Undergraduate Research Mentorship Scheme for students from third semester onwards at AIIMS was also initiated. Impetus to infrastructure and capacity building exercise was through operationalizational facilities of Centralized Core Research Facilities (CCRF), Clinical Research Unit (CRU) and Center for Medical Innovation & Entrepreneurship (CMIE)/BioNEST.

### EXTRAMURAL PROJECTS

Funding Agency	Number of Projects	Grant
ICMR	354	79,13,62,103
DHR	37	8,02,10,473
DST	39	11,32,87,060
SERB	51	5,63,40,731
DBT/ Welcome Trust	50	26,82,41,326
Private National/ Industries	116	8,00,37,953
International	75	29,06,12,883
Ministry etc.	51	22,62,95,545
	<b>773</b>	<b>190,63,88,074</b>

### INTRAMURAL PROJECTS

Online submission system for intramural grants has been created.

#### Early Career Intramural research grants - for Assistant Professor and Associate Professors at AIIMS

1. Single Principal investigator with co-investigators
2. Funding: Rs 5 lakhs/year - extendable to two years
3. Monitored by Internal Project Review Committee

**Intramural Inter-disciplinary collaborative research projects - for all levels of faculty at AIIMS**

1. Two Principal investigators from two different departments/disciplines with complementary expertise
2. Funding - Rs 5 lakhs/year per PI for two years (Total Rs 20 lakhs)
3. Monitored by External Project Review Committee

**Undergraduate Research Mentorship Scheme for students from third semester onwards at AIIMS**

1. Group of two or three MBBS students under the guidance of a faculty member (designated as Mentor)
2. Funding - Rs 2 lakhs per project for one year
3. Monitored by Internal Project Review Committee

**Inter-Institutional collaborative research projects with:**

1. IIT-Delhi
2. IIT-Kharagpur
3. THSTI, Faridabad
  - Two Principal investigators from two different institutes with complementary expertise
  - Funding (intramural from both institutions) - Rs 5 lakhs/year per PI for two years (Total Rs 20 lakhs)
  - Monitored by External Project Review Committee

**COVID-Related Intramural Projects**

The Research Section launches intramural schemes for promoting research for COVID. Two call for intramural grant for Long COVID as well as a specific call for projects related to mucormycosis. This ensured that faculty members had access to fast-tracked seed money for conducting research related to COVID. Overall intramural sanction was given to 81 COVID projects, 11 Long COVID projects and 26 COVID mucormycosis projects. A project review meeting detailing the progress of these projects was also initiated where the investigators had to present the progress and this would become a norm for all intramural schemes now.

**AIIMS-UCL**

International research collaboration with University College London continued and six projects were awarded this year also. Four projects were awarded last year.

- Two Principal investigators from the two institutes with complementary expertise
- Funding will be jointly provided by UCL and AIIMS, New Delhi. Each successful proposal will receive upto £5,000 per year for UCL faculty and up to Rs 5 lakhs per year for AIIMS, New Delhi faculty for one year.
- Monitored by External Project Review Committee

**Intramural Funding for the following schemes from 1 April 2022 to 31 March 2023**

Sl. No.	Scheme	New projects + Ongoing projects	Amount awarded in Rs
1.	Early Career Intramural Research Project	175	5,20,82,470
2.	AIIMS-Collaborative	40	3,42,86,458
3.	AIIMS – IITD Collaborative Projects	38	1,49,20,000
4.	AIIMS-THSTI Collaborative Projects	7	
5.	AIIMS-UCL, London	15	39,86,840
6.	Undergraduate Mentorship Scheme	38	5,15,7691
7.	AIIMS COVID	44	39,86,840
	<b>Total</b>	<b>357</b>	<b>11,44,20,299</b>

**AIIMS ENDOWMENT FUND**

The purpose of AIIMS Endowment Fund is to accept donations from various sources such as AIIMS alumni, philanthropists and organizations for supporting academic activities such as education, research, training, student and faculty exchange program, infrastructure development etc. It is maintained by an Executive Council, Scientific Advisory Committee and Fund Promotion Committee. The following activities are running under AIIMS Endowment Fund:

## INFOSYS CHAIR IN ONCOLOGY

**Preamble:** Infosys Foundation has donated money to AIIMS to establish 2 chairs, one each in Cancer (Oncology), and Obstetrics and Gynecology (ObGy) of 5 crores each. The objectives of the Infosys endowment are as follows:

1. Establish Chairs
2. Promote and support Faculty, Scientists and Students in pursuing research
3. To support exchange of students and faculty with various national and international universities
4. To provide travel fellowship to young doctors, scientists and faculty
5. Any other suitable academic purpose approved by the Board

**Purpose of an endowed chair:** The purpose of an endowed chair is to honour a distinguished faculty for his/her achievements and offer an opportunity to work at AIIMS. Such chairs are likely to benefit AIIMS faculty, students, and scientists as the distinguished visiting doctor/scientist is likely to bring with him/her unique expertise and experience in the concerned field i.e. Oncology and ObGy.

**Eligibility:** For the Infosys chairs in Cancer (Oncology) and ObGy, the following eligibility criteria would apply:

1. A doctor/scientist working in a reputed government national university/hospital or an international university/hospital in the concerned field with at least 10 years of professional experience after obtaining a postgraduate professional degree i.e. MD/PhD.
2. The person must have demonstrated excellence in the concerned field by way of the following: research publications in high impact journals (at least one paper in a journal with an impact factor of 10 or more), h-index of >15, and at least 25 original articles in peer-reviewed journals. Demonstrable commitment in the field e.g. having established a specialty/sub-specialty/centre will be given due consideration.

**Procedure of nomination:** Any faculty of the institute can nominate a suitable candidate for the endowed chair. The nomination form duly signed by the proposer should be sent to the office of AIIMS Endowment Fund along with the following:

1. Consent of the nominee
2. Consent of the host department in the institute
3. A 250-word write-up on the merits of the nominee by the proposer
4. A 250-word proposal about specific contributions expected of the nominee during the period of his/her stay at the institute
5. CV of the nominee with publications, achievements, awards and honors.

**Procedure of Selection:** The nominations will be evaluated by the scientific advisory committee of the AIIMS Endowment Fund through a fair and transparent evaluation process. The final selection will be done by the Executive Council. Duration of Chairs: 1 to 3 months but may be extendable to a maximum of 6 months on a case-to-case basis if approved by the Executive Council.

**Privileges associated with Chairs:** The person appointed to the endowed chair will be treated as a visiting professor and entitled to write Infosys Chair of Oncology/ObGy as the case may be. He/she will be provided with economy class airfare, visa fee, per diem and accommodation. In addition, he/she will be given office space by the host department (even if on a shared basis) with internet connection, library access, and emergency health care.

**Patient Care:** A medical doctor awarded the chair will be entitled to be involved in patient care primarily for training/teaching a particular technique/procedure/treatment approach but not for routine patient care. International doctors with foreign degrees must be registered with the Medical Council of India before being permitted to be involved directly in any kind of patient care. The responsibility to get MCI registration will lie with the nominating person and/or the head of the host department. In case of a patient being treated by a foreign medical doctor, the patient's informed written consent must be obtained beforehand.

**Expectations from the Awardee:** The awardee of the Chair is expected to contribute to the development of the specialty concerned. His/her involvement in research/patient care should help in capacity building and inspire younger faculty. The conduct of the awardee should be befitting to the prestige of endowed chair and he/she should act as a brand ambassador for the institute.

**Number of Awardees:** It is likely that many experts will be selected for these prestigious chairs every year for a period ranging from 1 to 3 months. The limiting factor will be the total expenditure on such visits, which should not exceed Rs 20 lakhs/year for all such visits combined.

**List of selected awardees for Infosys Chair in Cancer (Oncology) for the year 2023**

Sl. No	Name of Candidate	Name of Sponsored AIIMS Faculty
1.	<b>Dr Asima Mukhopadhyay</b> Consultant Gynecological Oncology and Lead in Cytoreductive Surgery, James Cook University Hospital, UK	Dr Neerja Bhatla, Professor & Head, Department of Obst. & Gynae
2.	<b>Dr Kyung Tae</b> Secretary-General, Asia-Pacific Society of Thyroid Surgery (APTS), Director, Hanyang University Hospital Cancer Center, Professor, Department of Otolaryngology - Head and Neck Surgery, College of Medicine, Hanyang University, Seoul, Korea	Dr Alok Thakar Prof & Head Department of Otolaryngology & Head Neck Surgery

**INTERNATIONAL FELLOWSHIPS FOR AIIMS FACULTY**

The objective of the fellowships is to provide opportunities to gain advanced training in emerging areas of medical sciences and utilize them for work at AIIMS, New Delhi. These are not meant for attending conferences, society meetings or CMEs. Faculty who demonstrate a commitment to a specific area of work that requires advanced knowledge, provide a specific work plan with a host who is reputed in that area, and show that the knowledge gained will be put to use at AIIMS, New Delhi, will be preferred.

**Areas for fellowships**

Emerging areas in Clinical Medicine, Basic Sciences and Public Health with translational component

**Duration of fellowships**

Two to four weeks. Any duration beyond 4 weeks will not be supported financially by the travel grant and will be subject to specific approval on case-to-case basis

**The list of awardees for AIIMS International Fellowship**

Sl. No.	Name	Area of Research Interest	Foreign Mentor & Institute	Duration of fellowship
1.	<b>Dr Nitesh Tewari</b> Additional Professor, Deptt. of Pediatric and Preventive Dentistry, CDER	Dental Traumatology, Regenerative Dentistry, Molecular Biology	<b>Dr Ujjal Kumar Bhawal</b> , Nihon University School of Dentistry at Matsudo	3 weeks
2.	<b>Dr L Gopichandran</b> Associate Professor Department of College of Nursing	Nurse Informatics, Palliative care and Nurse led model care.	<b>Jackie L. Michale</b> UTA College of Nursing and Health Innovation	4 week
3.	<b>Dr Deepak Gunjan</b> Associate Professor Department of Gastroenterology and Human Nutrition	Advance therapeutic endoscopy and pancreatic disease	<b>Dr Ken Ohata</b> Chief and Director Endoscopy, Deptt of Gastroenterology, NTT Medical Centre, Higashi-Gotanda, Shinagawaku-Tokyo-Japan	4 weeks
4.	<b>Dr Kanwaljeet Garg</b> Additional Professor Department of Neurosurgery	Neuromodulation (including Movement disorders), Spine	<b>Prof Ali Rezaei</b> , Director Assoc. Dean & Vice President of Neuroscience Rockefeller Neuroscience Institute	4 weeks

**TRAVEL FELLOWSHIP FOR STUDENTS**

1. Augmentation of number of travel fellowships for students, residents, PhD scholars, and research staff to participate in International/National conferences, workshop quiz.

2. Meeting is held every two months for selection of candidates for award of travel grant.

Months	International	National for UGs	Amount Sanctioned (Rs)
April to May	9		3,57,900
June to July	12		7,00,000
August to September	11	12	8,20,000
October to November	12	2	8,40,000
December to January	9	3	6,80,000
February to March	10	11	9,00,000
<b>TOTAL</b>	<b>63</b>	<b>28</b>	<b>4297900</b>

### AIIMS ONCOLOGY AWARDS

The AIIMS faculties/scientists are awarded for recognition of the research output and high-quality publications in the field of Oncology at AIIMS. The Oncology Awards are distributed for the years 2020 and 2021 on the occasion of Second AIIMS Research Day held on 18 October 2022.

#### Oncology Awards Basic Science Category for the Year 2020

Sl. No.	Name	Title of paper	Journal Name	Award/ Prize
1.	Dr Ritu Gupta Professor Department of Laboratory Oncology Unit, Dr BRA- IRCH	RNA-Seq profiling of deregulated miRs in CLL and their impact on clinical outcome	Journal of Blood Cancer	First Prize
2.	Dr Deepika Mishra Additional Professor, Division of Oral Pathology and Microbiology	Novel Use of Fluorescein Dye in Detection of Oral Dysplasia and Oral Cancer	Journal of Photo Diagnosis and Photodynamic Therapy	Second Prize
3.	Dr Neiwete Lomi Associate Professor Dr RP Centre	Prognostic impact of HERC2 protein and pink- eyed dilution protein in uveal melanoma	Journal of Human Cell	Second Prize

#### Oncology Awards Clinical Science Category for the Year 2020

1.	Dr CS Bal, MD, DNB, DSc Professor & Head, Department of Nuclear Medicine	Efficacy and safety of 225Ac-PSMA-617 targeted alpha therapy in metastatic castration-resistant Prostate Cancer patients	Journal of Theranostics	First Prize
2.	Dr Brusabhanu Nayak Additional Professor Department of Urology	Role of circulating tumor cells in patients with metastatic clear-cell renal cell carcinoma	Journal of Urologic Oncology: Seminars and Original Investigations	Second Prize
3.	Dr Deepali Jain MD, DNB, FIAC Additional Professor Department of Pathology	Spectrum of uncommon and compound epidermal growth factor receptor mutations in non-small- cell lung carcinomas with treatment response and outcome analysis: A study from India	Journal of Lung Cancer	Second Prize

### Oncology Awards Basic Science Category for the Year 2021

Sl. No.	Name & Department	Title	Journal Name	Award/ Prize
1.	Dr Jayanth Kumar Palanichamy Additional Professor Department of Biochemistry	Diagnostic utility of IGF2BP1 and its potential targets in ETV6-RUNX1 positive B-cell Acute Lymphoblastic Leukemia	Frontiers in Oncology	First Prize
2.	Dr Sameer Bakhshi Professor Department of Medical Oncology	PGC1A driven enhanced mitochondrial DNA copy number predicts outcome in pediatric acute myeloid leukemia	Journal of Mitochondrion	Second Prize
3.	Dr Alpana Sharma Professor Dept of Biochemistry	Inhibition of miR144/199 promotes myeloma pathogenesis via upregulation of versican and FAK/STAT3 signaling	Journal of Molecular and Cellular Biochemistry	Third Prize

### Oncology Awards Clinical Sciences Category for the Year 2021

Sl. No.	Name & Department	Title	Journal Name	Award/ Prize
1.	Dr Supriya Mallick Assistant Professor Department of Radiation Oncology NCI, Jhajjar	A phase III randomized trial of trans-abdominal ultrasound in improving application quality and dosimetry of intra-cavitary brachytherapy in locally advanced cervical cancer	Journal of Gynecologic Oncology	First Prize
2.	Dr Rakesh Kumar, MD, PhD Professor & Head Diagnostic Nuclear Medicine Division Department of Nuclear Medicine	Role of dual-point 18F-FDG-PET/CT in the diagnosis of pancreatic adenocarcinoma, in patients with and without concomitant chronic pancreatitis: Comparison with CECT and EUS	Journal of Pancreatology	Second Prize
3.	Dr Deepali Jain Additional Professor Department of Pathology	EGFR mutation testing on plasma and urine samples: A pilot study evaluating the value of liquid biopsy in lung cancer diagnosis and management	Journal of Current Problems in Cancer	Third Prize
4.	Dr Sanjeev Kumar Gupta, Additional Professor, Laboratory Oncology, Dr BRA IRCH, AIIMS	Proposal and clinical application of molecular genetic risk scoring system, "MRplus", for BCR-ABL1 negative pediatric B-cell acute lymphoblastic leukemia-report from a single centre	Journal of Leukemia Research	Third Prize

### ENDOWED CHAIR: Shobha Seth Wenger, Distinguished Chair in Gynaecologic Oncology under "Mira Seth Corpus Fund"

Mira Seth Corpus Fund has donated money to AIIMS to establish chair in Gynaecologic Oncology.

*Purpose of the endowed chair:* This prestigious Chair will be awarded to a Senior Faculty/Scientist from AIIMS, New Delhi who has an outstanding track record in the field of Gynecologic Oncology.

Dr Neerja Bhatla, Prof & Head, Department of Obstetrics & Gynecology has been awarded 'Shobha Seth Wenger' Distinguished Chair in Gynecologic Oncology under "Mira Seth Corpus Fund" for a period of 2 years with the financial support of Rs 7.5 lakhs per year.

### AIIMS EXCELLENCE AWARDS (2020)

The Research Section has implemented a programme to recognize quality research outputs of its faculty/scientists by awarding "AIIMS Excellence Awards". There are two categories of prizes: Basic/Fundamental Science and clinical/Applied Science. Original publications published in peer-reviewed index journals are eligible for the said awards. A list of the AIIMS Excellence Awards for the years 2020 and 2021 is as under:



**Research Excellence Clinical Sciences Category Awards for the Year 2020**

Sl. No.	Name	Title of paper	Journal Name	Award/Prize
1.	<b>Dr Somesh Gupta</b> Professor Department of Dermatology and Venereology	A machine learning-based, decision support, mobile phone application for diagnosis of common dermatological diseases	The European Academy of Dermatology & Venereology	First Prize
2.	<b>Dr Sameer Bakhshi</b> Professor Department of Medical Oncology	Olanzapine for Prevention of Vomiting in Children and Adolescents Receiving Highly Emetogenic Chemotherapy: Investigator-Initiated, Randomized, Open-Label Trial	Journal of Clinical Oncology	Second Prize
3.	<b>Dr Deepak Kumar Gupta</b> Professor Department of Neurosurgery	Development and Validation of Finite Element Analysis Model (FEM) of Craniovertebral Junction	Journal of SPINE	Second Prize
4.	<b>Dr Radhika Tandon</b> Professor Department of Ophthalmology	Association of cataract and sun exposure in geographically diverse populations of India: The CASE study. First Report of the ICMR-EYE SEE Study Group	PLOS ONE	Third Prize
5.	<b>Dr Sheffali Gulati</b> Child Neurology Division Department of Pediatrics	Efficacy of Ketogenic Diet, Modified Atkins Diet, and Low Glycemic Index Therapy Diet Among Children with Drug-Resistant Epilepsy: A Randomized Clinical Trial	JAMA Pediatrics	Third Prize
6.	<b>Dr Rohit Bhatia</b> Professor Department of Neurology	Effect of yoga as add-on therapy in migraine (CONTAIN): A randomized clinical trial	The American Academy of Neurology	Third Prize
7.	<b>Dr Nand Kumar</b> Professor Department of	A randomized, double blind, sham-controlled trial of repetitive transcranial magnetic stimulation (rTMS) in the treatment of negative symptoms in schizophrenia	Journal of Brain Stimulation	Third Prize
8.	<b>Dr Roopa Rajan</b> Associate Professor Department of Neurology	Assessment of Botulinum Neurotoxin Injection for Dystonic Hand Tremor A Randomized Clinical Trial	JAMA Neurology	Third Prize
9.	<b>Dr Urvashi B Singh</b> Professor Department of Microbiology	Mycobacterium tuberculosis polyclonal infections through treatment and recurrence	PLOS ONE	Certificate
10.	<b>Dr Bhavuk Garg</b> Additional Professor Department of Orthopaedics	Modified posterior vertebral column resection for severe spinal deformity: a retrospective, comparative study	Journal of Spine	Certificate

11.	<b>Dr Sanjay Sharma</b> Professor Department of Radiodiagnosis	Normalized Dual-Energy Iodine Ratio Best Differentiates Renal Cell Carcinoma Subtypes Among Quantitative Imaging Biomarkers from Perfusion CT and Dual Energy CT	American Journal of Roentgenology	Certificate
12.	<b>Dr Biswaroop Chakrabarty</b> Additional Professor Department of Pediatrics	Development of a novel outcome prediction score (PEDSS) for pediatric convulsive status epilepticus: A longitudinal observational study	International League Against Epilepsy	Certificate
13.	<b>Dr Rakesh Kumar,</b> MD, PhD Professor & Head Diagnostic Nuclear Medicine Division	PET/CT-Guided Tissue Sampling in Patients with a Failed or Inconclusive CT-Guided Procedure	Journal of Clinical Nuclear Medicine	Certificate

#### Research Excellence Basic Science Category Awards for the Year 2020

1.	<b>Dr Kalpana Luthra</b> Professor Department of Biochemistry	Broadly neutralizing plasma antibodies effective against autologous circulating viruses in infants with multivariant infection	Nature Communications	First Prize
2.	Prof Alpana Sharma Professor Department of Biochemistry	Targeting of stromal versican by miR-144/199 inhibits multiple myeloma by downregulating FAK/STAT3 signaling	RNA Biology	Second Prize
3.	<b>Dr Jyotirmoy Banaerjee</b> Associate Professor Department of Biophysics	GABAA Receptor-Mediated Epileptogenicity in Focal Cortical Dysplasia (FCD) Depends on Age at Epilepsy Onset	Frontiers in Cellular Neuroscience	Second Prize
4.	<b>Dr Baibaswata Nayak</b> Additional Professor Department of Gastroenterology	Prognostic and Therapeutic Potentials of Oncomi Rs Modulating mTOR Pathways in Virus-Associated Hepatocellular Carcinoma.	Frontiers in Oncology	Third Prize
5.	<b>Dr Sujata Mohanty</b> Professor Deptt. of Stem Cell Facility	Tissue-specific mesenchymal stem cell-dependent osteogenesis in highly porous chitosan-based bone analogs	Stem Cells Translational Medicine	Third Prize
6.	<b>Dr Vijay L Kumar</b> Professor Department of Pharmacology	Metformin and silymarin afford protection in cyclosporine A induced hepatorenal toxicity in rat by modulating redox status and inflammation	Biochemical and Molecular Toxicology	Certificate
7.	<b>Dr Sachin Kumar,</b> Scientist-II Department of Medical Oncology	Identification of differentially expressed circulating serum microRNA for the diagnosis and prognosis of Indian non-small cell lung cancer patients	Current Problems in Cancer	Certificate
8.	<b>Prof Seema Kashyap</b> Ocular Pathology Dr RP Centre for Ophthalmic Sciences	Clinical relevance of the comparative expression of immune checkpoint markers with the clinicopathological findings in patients with primary and chemo reduced retinoblastoma	Cancer Immunology, Immunotherapy	Certificate

9.	<b>Dr Lata Singh</b> Scientist-II Department of Pediatrics	Prognostic significance of PD1/PDL1 expression in uveal melanoma: correlation with tumorinfiltrating lymphocytes and clinicopathological parameters	Cancer Immunology, Immunotherapy	Certificate
10.	<b>Dr Uma Sharma</b> Additional Professor Department of NMR	Abnormalities in metabolic pathways in celiac disease investigated by the metabolic profiling of small intestinal mucosa, blood plasma and urine by NMR spectroscopy	NMR in Biomedicine	Certificate

#### Research Excellence Clinical Sciences Category Awards for the Year 2021

Sl. No.	Name & Department	Title of paper	Journal Name	Award/Prize
1.	<b>Dr Manish Soneja</b> Additional Professor Department of Medicine	Effectiveness of an inactivated virus-based SARS-CoV-2 vaccine, BBV152, in India: a test-negative, case-control study	The Lancet Infectious Diseases	First Prize
2.	<b>Dr Jhuma Sankar</b> Additional Professor Department of Pediatrics	Delayed Administration of Antibiotics Beyond the First Hour of Recognition Is Associated with Increased Mortality Rates in Children with Sepsis/Severe Sepsis and Septic Shock	The Journal of Pediatrics	Second Prize
3.	<b>Dr Vishal Gupta</b> Assistant Professor Department of Dermatology and Venereology	Evaluation of platelet-rich plasma on hair regrowth and lesion T-cell cytokine expression in alopecia areata: A randomized observer-blinded, placebo-controlled, split-head pilot study	Journal of the American Academy of Dermatology	Second Prize
4.	<b>Dr Anita Chopra</b> Additional Professor Department of Lab Oncology	Prognostic Relevance of Expression of EMP1, CASP1, and NLRP3 Genes in Pediatric B-Lineage Acute Lymphoblastic Leukemia.	Frontiers in Oncology	Third Prize
5.	<b>Dr Anoop Saraya</b> Professor & Head Department of Gastroenterology and Human Nutrition	Effect of Vitamin D Supplementation on Vitamin D Level and Bone Mineral Density in Patients with Cirrhosis: A Randomized Clinical Trial	The American Journal of Gastroenterology	Third Prize
6.	<b>Dr Asuri Krishna</b> Additional Professor Department of Surgery, AIIMS	A prospective randomized comparison of sexual function and semen analysis following laparoscopic totally extraperitoneal (TEP) and transabdominal pre-peritoneal (TAPP) inguinal hernia repair	Surgical Endoscopy	Third Prize
7.	<b>Dr CS Bal</b> Professor & Head Department of Nuclear Medicine	Novel Fibroblast Activation Protein Inhibitor-Based Targeted Theragnostic for Radioiodine-Refractory Differentiated Thyroid Cancer Patients: A Pilot Study	THYROID	Third Prize
8.	<b>Dr Roshan Bhad</b> Associate Professor (Psychiatry), (NDDTC)	Mobile methadone dispensing in Delhi, India: implementation research	Bulletin of the World Health Organization	Certificate

9.	<b>Dr Vaishali Suri</b> Professor, Neuropathology	Gene expression-based profiling of pleomorphic xanthoastrocytoma highlights two prognostic subgroups	American Journal of Translational Research	Certificate
10.	<b>Dr Madhusudhan KS</b> Additional Professor, Department of Radiodiagnosis,	Noninvasive Staging of Liver Fibrosis Using 5-Minute Delayed Dual-Energy CT: Comparison with US Elastography and Correlation with Histologic Findings	Journal of Radiology	Certificate
11.	<b>Dr Chandan J Das</b> Additional Professor Department of Radiodiagnosis and Interventional Radiology	Role of diffusion tensor imaging in the evaluation of ulnar nerve involvement in leprosy	British Journal of Radiology	Certificate
12.	<b>Dr (Prof) Neelam Pushker,</b> Oculoplasty & Oncology Services (Unit V) Dr R P Centre, AIIMS, New Delhi	Mucous membrane grafting (fibrin glue vs. suture) for lid margin pathologies in Stevens–Johnson syndrome: randomized comparative study	Eye (London)	Certificate

#### Research Excellence Basic Science Category Awards for the Year 2021

Sl. No.	Name & Department	Title of paper	Journal Name	Award/Prize
1.	<b>Dr Ritu Gupta</b> Professor Deptt of Lab Oncology	Branching clonal evolution patterns predominate mutational landscape in multiple myeloma	American Journal of Cancer Research	First Prize
2.	<b>Dr Rupesh K Srivastava</b> Associate Professor Department of Biotechnology	Regulatory B Cells (Bregs) Inhibit Osteoclastogenesis and Play a Potential Role in Ameliorating Ovariectomy-Induced Bone Loss	Frontiers in Immunology	Second Prize
3.	<b>Dr T.C. Nag</b> Professor Department of Anatomy	Aging of the human choriocapillaris: Evidence that early pericyte damage can trigger endothelial changes	Experimental Eye Research	Third Prize
4.	<b>Dr Jyotirmoy Banerjee</b> Assoc Prof, Deptt of Biophysics & <b>Dr P Sarat Chandra</b> Professor Deptt of Neurosurgery	Altered hippocampal kynurenine pathway metabolism contributes to hyperexcitability in human mesial temporal lobe epilepsy–hippocampal sclerosis	British Journal of Pharmacology	Third Prize
5.	<b>Dr Sujata Mohanty</b> Professor Department of Stem Cell Facility	Comparative Evaluation of Anti-Fibrotic Effect of Tissue Specific Mesenchymal Stem Cells Derived Extracellular Vesicles for the Amelioration of CC14 Induced Chronic Liver Injury	Stem Cell Reviews and Reports	Third Prize
6.	<b>Dr Chandra Prakash Prasad</b> Associate Professor Deptt of Medical Oncology (Med)	Quercetin Impairs HuR-Driven Progression and Migration of Triple Negative Breast Cancer (TNBC) Cells	Journal of Nutrition and Cancer	Certificate
7.	<b>Dr Ethayathulla AS</b> Additional Professor Department of Biophysics	Curcumin rescue p53Y220C in BxPC-3 pancreatic adenocarcinomas cell line: Evidence-based on computational, biophysical, and <i>in vivo</i> studies	Biochimica et Biophysica Acta - General Subjects	Certificate

8.	<b>Dr Siddhartha Kundu</b> Assistant Professor Department of Biochemistry	Mathematical modeling and stochastic simulations suggest that low-affinity peptides can bisect MHC1-mediated export of high-affinity peptides into “early”- and “late”-phases	Heliyon	Certificate
9.	<b>Dr Seema Sood</b> Professor Department of Microbiology	Molecular characterization of decreased susceptibility to ceftriaxone and genotyping of Neisseria gonorrhoeae isolates in New Delhi, India	Diagnostic Microbiology and Infectious Disease	Certificate

### Showcasing ‘Research in Yoga at AIIMS’

The Institute celebrated 8th International Yoga Day on 21 June 2022. In this regard, the Research Section and CIMR conducted an exhibition showcasing ‘Research in Yoga at AIIMS’ and invited students, scientists and faculty to present their research work/research studies in yoga.

The faculty, scientists and students were encouraged to participate and make this a grand success. On the 21st afternoon, there was a poster session and platform presentations of research work in yoga conducted at the Institute. UG students, PhD Students, Junior and Senior Residents (Academic and Non-academic) Scientists & Faculty have submitted abstracts which were judged for selection as oral/poster presentations. There was an award for best oral and best poster presentations as mentioned below:

### Oral Presentation

Sl. No.	Name & Department of Awardee
1.	Dr Surabhi Gautam, Fellow, Anatomy
2.	Dr S Edmin Christa, Physiology
3.	Rekha Dwivedi, Neurology
4.	Mohd Sharique, CIMR
5.	Dr Dushyant Kumar, Scientist 2, NMR
6.	Dr Rohit Bhatia, Neurology

### Poster awardees

Sl. No.	Name & Department of Awardee	Prize category
1.	Vaishnavi Verma	First Prize
2.	Sriloy Mohanty, CIMR	Second Prize
3.	Nida Mir	Second Prize
4.	Anupama Gupta	Third Prize
5.	Vidhu Dhawan	Third Prize
6.	Dr Vandana Jain, Pediatrics	Third Prize

### SECOND AIIMS ANNUAL RESEARCH DAY

**Second Annual AIIMS Research Day** was celebrated on 18 October 2022. The 2nd Research Day included the following activities:

- Dr Chandan K Sen, J Stanley Battersby Chair and Professor of Surgery, Director of the Indiana Center for Regenerative Medicine and Engineering, delivered the AIIMS Silver Jubilee Oration titled “Adaptive Physiological Tissue Reprogramming”. The participation by Faculty and students was phenomenal highlighting the centre stage which research occupies for members of this institution.
- One Distinguished Guest lecture entitled “*Reflections of Science in the age of Corona Virus*” was delivered by Prof P Balaram, Former Director, Indian Institute of Science, Bengaluru.
- Two Keynote addresses were delivered on “*Artificial Intelligence in Healthcare*” by Dr Amit Mehndiratta, Joint Faculty, Biomedical Engineering at IITD & AIIMS, Delhi; and “One Health” by Dr Rajesh Bhatia, Regional Technical Advisor to Food & Agricultural Organization.

- AIIMS values the commitment and contributions of all its students, residents, scientists, and faculty over the years, who have contributed to make this institute a leader in the country in terms of research output indices.
- The research efforts of AIIMS Faculty were recognized by giving following awards:
  - Research Excellence Awards (Year - 2020 & 2021)
  - Oncology Awards (Year - 2020 & 2021)
  - ‘Shobha Seth Wenger’ Distinguished Chair in Gynaecologic Oncology
  - In addition, there were Best paper presentations (12 platforms and 357 posters) in various categories of students such as PhD, MBBS, MSc, MD/MS/MDS.
  - A ‘peoples’ choice - ‘Critics’ award was also given for the most liked poster.
  - A total of 357 posters showcasing the research carried out by AIIMS students were displayed and evaluated. A total of 80 awards in all were given in these student categories. A ‘Peoples’ choice - ‘Critics’ Award for Posters was also given.
  - Also, 15 devices developed by the AIIMS Faculty were displayed in the Exhibition and 3 were awarded.
  - There was a vibrant Panel Discussion, which was moderated by Prof Rakesh Aggarwal, Director, JIPMER, Puducherry. The panel consisted of senior medical research policy makers - Dr Rajesh Gokhale, Secretary, Department of Biotechnology; Dr Chitra Sarkar, Former Dean (Research), AIIMS, Delhi; Dr Balram Bhargava, Chief, CTC, AIIMS, Delhi, and Former Director General, ICMR, Dr Shirshendu Mukherjee, Director, BIRAC; Dr Shinjini Bhatnagar, Professor of Eminence, Translational Health Science and Technology Institute, Faridabad. The panelists discussed the Future of Biomedical Innovation and Entrepreneurship in India.
- The Institute has been widely acknowledged and recognized for its research quality, ethics and applicability. The faculty, scientists and students of AIIMS have been largely instrumental in maintaining this culture of cutting-edge research. The Institute has outstanding scientific talent with diverse research interests.

In this regard, the 2nd edition of the “Directory of Research Interests of Faculty and Scientists” at AIIMS was released during the 2nd Annual Research Day. This edition showcases the major research contributions and projects of the Faculty and Scientists of the Institute. This is an important compendium through which the various research groups can learn about the research interests and capabilities of the other departments and connect to each other on common as well as complimentary research domains.



Prizes were awarded to the best oral papers and posters in various categories (MBBS, BSc, MSc, PhD, JR, SR).

Category	Number of Abstracts
MBBS	11
BSc	04
MSc	36
PhD	100
Junior Residents (MD/MS)	58
Senior Residents (DM/MCh/Fellows/Non-Acad)	112
Project Staff	69
<b>Total</b>	<b>390</b>



### CLINICAL RESEARCH UNIT

Clinical Research Unit (CRU), AIIMS, New Delhi aims to provide high quality technical expertise and assistance in planning, designing, implementation and analysis of investigator-initiated clinical research, in compliance with the global best practices.

#### The CRU working committee:

1. Prof Kaushal K Verma, Dean (Research)
2. Prof Rama Chaudhary, Ex-Dean (Research)
3. Prof Subrata Sinha, Ex-Dean (Research)
4. Prof Vineet Ahuja, Associate Dean (Research)
5. Prof Vijay Prakash Mathur, Faculty Coordinator - CRU, Professor & Head, Paediatric and Preventive Dentistry
6. Dr Pooja Gupta, Workshop Coordinator - CRU, Additional Professor, Department of Pharmacology

7. Dr M Kalaivani, Scientist Coordinator - CRU, Assistant Professor, Department of Biostatistics
8. Prof Sameer Bakhshi, Professor, Department of Medical Oncology
9. Prof Rakesh Lodha, Professor, Department of Paediatrics
10. Prof Sumit Malhotra, Professor, Centre for Community Medicine
11. Dr M Jeeva Sankar, Additional Professor, Department of Paediatrics
12. Dr Saurabh Kedia, Associate Professor, Department of Gastroenterology
13. Dr Pradeep Kumar, Scientist-II (Epidemiology), Clinical Research Unit
14. Dr Deepak Dhamnetiya, Scientist-II (Epidemiology), Clinical Research Unit
15. Dr Ashish Datt Upadhyay, Scientist-II (Biostatistics), Clinical Research Unit
16. Dr Kamalesh Kumar Patel, Scientist-II (Health Economics), Clinical Research Unit
17. Dr Sanjukta Sarkar, Scientist-II (Health Economics), Clinical Research Unit

**CMEs/Workshops/Symposia/National and International Conferences organized**

1. One Sensitization workshop on Cochrane Reviews was organised by the CRU team on 22 November 2022 at SET Facility, AIIMS, New Delhi. A total of 79 participants attended the workshop in which 57 participants were present in physical and 22 were joined through virtual mode (YouTube link). The distribution of 57 participants were; 26 PhD scholars, 6 postgraduate students, 8 undergraduate & nursing students and 17 on spot registration. Pre- and post assessment questionnaire analysis reveals a highly significant ( $p < 0.001$ ) change in the average score from  $65.6 \pm 2.9$  (pre) to  $84.1 \pm 2.2$  (post) questionnaires.



2. A session on Early Career grants by the Royal Society of Tropical Medicine and Hygiene (RSTMH) took place on 3 April 2023 at the Dr Ramalingaswami Board Room in AIIMS, New Delhi. A total of 53 participants, including faculty and scientists, attended the session. All the attended participants assured that they would instruct their PhD fellows/MD/DM students to apply for the Early Career Grant.





3. An online session on Early Career grants by the Royal Society of Tropical Medicine and Hygiene (RSTMH) took place on 12 April 2023 at SET Facility in AIIMS, New Delhi. A total of 63 participants, including PhD/MD/DM students, attended the session.



### **Oral presentations and posters: 2**

#### **Oral Presentations**

1. Safety of recanalization therapy in acute ischemic stroke patients on anticoagulant therapy: An updated systematic review and meta-analysis” at 14th World Stroke Congress held from 26 to 29 October 2022 in Singapore
2. Potential key genes for predicting risk of stroke occurrence: A computational approach” in 29th Annual conference of Indian Academy of Neurology held from 3 to 6 November 2022 in New Delhi

#### **Departmental projects**

##### **Ongoing project**

1. The effect of antibody titration and the need for booster doses of COVID-19 vaccines in response to SARS CoV-2 infection and immunity status among the healthcare workers at AIIMS, Delhi.

#### **Publications: 14**

##### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

1. **G Arjundas and K Jagannathan** Award for Best Paper in Stroke at 29th Annual Conference of Indian Academy of Neurology held from 3-6 November 2022 in New Delhi
2. **Young Investigator** Award by World Stroke Organization in 14th World Stroke Congress held from 26-29 October 2022 in Singapore

##### **CRU departmental core activity**

1. The CRU mentored five research proposals from various departments of the institute for the recent call for investigator-initiated research proposals for small extramural grants funded by the Indian Council of Medical Research (ICMR), New Delhi
2. Additionally, two extramural research projects underwent statistical analysis as part of the CRU’s services
3. The CRU team provided mentorship to the Institute faculty to develop two PROSPERO protocols for writing systematic reviews and meta-analyses
4. Provided hands-on class on RevMan for the Fellowship programme in Research Methodology and Evidence Based Medicine being done under CMETi
5. Two research proposals for Early Career grants by the Royal Society of Tropical Medicine and Hygiene (RSTMH) were mentored by the CRU
6. The internal academic activities, including journal club, critical appraisal, and seminars, were routinely conducted to enhance the capacity of its scientists

## CENTRALIZED CORE RESEARCH FACILITY

### Faculty and Scientists

	Sub-Facility	Faculty Coordinator	Scientist-II
1.	Bio-Analytics	T Velpandian, Professor, Ocular Pharmacology & Pharmacy Division, Dr RP Centre for Ophthalmic Sciences	Hanuman Prasad Sharma
2.	Bioinformatics	Punit Kaur, Professor, Department of Biophysics	Amit Katiyar
3.	BSL-2/3	Subrata Sinha, Prof & Head, Department of Biochemistry	Sunita Kanswal
4.	Flow Cytometry	DK Mitra, Professor & Head, Department of TII.	Rahul Sharma
5.	General Facility	Kalpana Luthra, Professor, Department of Biochemistry	Vikas Sharma Shubbir Ahmed
6.	Genomics Core Facility	Madhulika Kabra, Professor and In charge, Genetics Division, Department of Pediatrics	Lata Rani
7.	Microscopy	Parthaprasad Chattopadhyay, Professor, Biochemistry	Saumitra Dey Choudhury
8.	Proteomics	Punit Kaur, Professor, Department of Biophysics	Sabyasachi Bandyopadhyay
9.	Project Management	Dean (Research) Associate Dean (Research)	Kamal Gulati

### HIGHLIGHTS

Genomics Core facility significantly contributed as a sentinel laboratory of INSACOG in genomic surveillance of SARS-CoV-2 to study the epidemiological trends in the country that helped in strengthening public health interventions. Further, the facility also assisted the Department of Gynecology, in establishing invasive and non-invasive prenatal genetic testing using trophoblast biopsy and spent culture media respectively in IVF patients. Data analysis related to sequencing and clinical research is facilitated by the Bioinformatics facility that assists researchers at AIIMS in developing genomics and NGS projects as well as providing guidance to PhD students. Confocal microscope in the Microscopy sub-facility was upgraded to a semi-super resolution module with the installation of Airyscan2. FACS facility served a number of researchers at the institute in the area of sample acquisition, cell sorting, experimental designing and data analysis. The versatile range of research projects involving different kinds of immunophenotypic analysis as well as cell sorting were successfully completed. Proteomics sub-facility facilitated study designing, sample processing, and Bioinformatics analysis of LCMS Proteomics experiments. General facility provided advanced molecular facilities and helped researchers in experiments and provided hands-on training. Dr Kamal Gulati from Project management unit received the prestigious Oxford Research, Science and Innovation Leadership Fellowship, and DBT-Wellcome Trust India Alliance International Travel Award in the field of Research Management. CCRF organized an international workshop on 'Building lean, green and data driven hospitals: Working towards UN Sustainable Development Goals – A joint initiative of AIIMS New Delhi and Monash University, Australia' at AIIMS, New Delhi. CCRF faculty and scientists actively participated in the organization of the 2nd Annual Research Day.

### EDUCATION

#### CMEs/Workshops/Symposia/National and International Conferences organized

1. Building lean, green and data driven hospitals: Working towards UN Sustainable Development Goals – A joint initiative of AIIMS New Delhi and Monash University, Australia, 30 January 2023, AIIMS, New Delhi

#### Lectures delivered:

**Hanuman Prasad Sharma: 1**

**Kamal Gulati: 10**

**Sunita Kanswal: 2**

**Sabyasachi Bandyopadhyay: 3**

#### Lectures delivered over past 3 years

2020-2021	2021-2022	2022-2023
3	2	15

**Oral papers/posters presented: 6****Oral/poster presentations over past 3 years**

2020-2021	2021-2022	2022-2023
--	--	5

**RESEARCH****Funded Projects****Ongoing**

1. Enabling medical leadership in India and England: A comparative study 'EMLIE', Kamal Gulati, AIIMS-UCL Intramural scheme, Research Section, One year, 2023-2024, Rs 5 lakhs

**Departmental projects****Ongoing**

1. A study to evaluate the research ecosystem at AIIMS, New Delhi (MD (Hospital Administration thesis)

**Collaborative projects****Ongoing**

1. Correlation of antidepressant therapy with orexinergic pathway integrating targeted metabolomics in patients with major depressive disorder: a longitudinal study, Pharmacology
2. Microbiome-metabolome axis in non-small cell lung cancer, Pathology
3. Establishing the cause in sudden unexplained deaths in Young, Pathology
4. An integrated genomic sequencing approach to define genetic landscape of non-small cell lung carcinoma in Indian Population, Pathology
5. Defining the whole exome sequencing based genetic determinants in Indian patients with congenital heart diseases, Cardiac Biochemistry
6. Indian SARS-CoV-2 Genomics Consortium Project, Multi-Institutional
7. A multi-omics study and development of a prognostic computational model for COVID-19 to correlate clinical outcomes and disease sequelae with the differential immunological response, mutational and vaccination status in India, Biophysics

**Completed**

1. Evaluating the potential of new chromone derivatives against human Great wall kinase for cancer therapy using comparative cell based and proteomics investigations, Molecular Diagnostics Laboratory and COVID-19 kit laboratory, National Institute of Biologicals, Noida
2. Molecular-subtyping of small cell lung carcinoma (SCLC) to unravel the biological heterogeneity in clinical settings: An observational study, Pathology
3. Strengthening Health Systems Governance for Epidemics Response, All India Institute of Medical Sciences, New Delhi (2020-2022), Hospital Administration

**Research projects over past 3 years**

Research projects (PI)	2020-2021	2021-2022	2022-2023
Total funded projects	--	--	1
Total funding	--	--	Rs 5,00,000/-

**PUBLICATIONS****Journal: 21****Abstracts: 02****Publications over past 3 years**

Item	2020-2021	2021-2022	2022-2023
<b>TOTAL</b>	<b>2</b>	<b>16</b>	<b>23</b>
Journal articles	1	12	21
Abstracts	1	4	2

## SERVICES PROVIDED

1. **Bioanalytics** facility utilizes the ultra-modern instruments for the isolation, purification and mass spectrometric characterization of analytes from biological sources (human, animals, plants, and micro-organisms). The facility is further expected to extend the horizon by involving multi-omics in a qualitative as well as quantitative manner for lipidomics, metabolomics and glycomics.

Services provided	Number of users			Total hours
	2022-23 (current)	2021-22	2020-2021	
Consultation regarding planning and execution of bioanalytical work	15	10	11	N/A
Execution of bioanalytical work	4 (600 hrs)	4 (200 hrs)	4 (250 hrs)	

1. **Bioinformatics facility** is a high-performance computing facility consisting of high-end servers and storage systems. This facility works closely with other core facilities (such as genomics, proteomics, etc.) by providing continuous and seamless data storage, access, and analysis of the large amount of data generated by these facilities. To date, the facility has provided services to over 18 departments of AIIMS on more than 40 large-scale projects in genomics, Next-generation sequencing, and clinical research. The facility also supports PhD students in achieving their scientific goals and assists faculty in developing projects in genomics and NGS.
2. **BSL-3 Laboratory** was established with the objective to stimulate research on highly infectious pathogens. The facility was used for the diagnostic testing of COVID-19 by RT-PCR, TrueNat, and GeneXpert platforms from April 2020 to June 2021.
3. **Flow-Cytometry core facility** provides state-of-the-art instrumentation and resources for fluorescent analysis of cells at the single cell level, including high-speed fluorescence-activated cell sorting. The facility houses two most advanced flow cytometers i). BD FACS Aria Fusion Sorter 18 color 5 LASER and ii). BD FACS Symphony A5, 35 Color, 5 LASER. The facility is operational to the researchers for providing services in flow cytometry in the areas of experimental design, instrument knowledge and training, data analysis and cell sorting etc.

Services provided	Number of hours		
	2022-2023	2021-2022	2020-2021
BD FACS Aria Sorter	32	13	04
BD FACS Symphony	150	14	05
<b>TOTAL</b>	<b>182</b>	<b>27</b>	<b>09</b>
Services provided	Number of users		
	2022-2023	2021-2022	2020-2021
BD FACS Aria Sorter	03	4	2
BD FACS Symphony	13	5	1
<b>TOTAL</b>	<b>16</b>	<b>9</b>	<b>3</b>

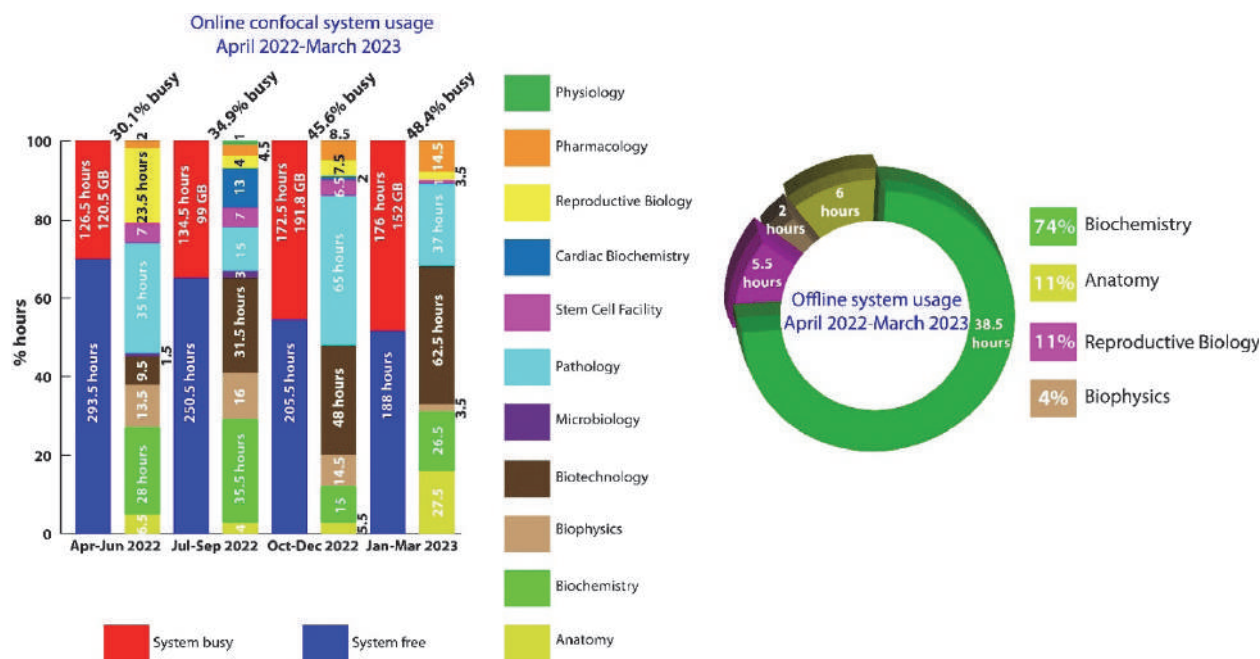
4. **General facility:** Instruments like Gel documentation system, PCRs, multimode microplate reader, Gel documentation system, and electroporator are mostly in use in our facility. As per need, the facility also aims to provide space for sample processing facility to users. Further, General Facility is also used routinely for sample processing by other sub-facilities of CCRF. The General facility also aims to provide research guidance, experimental planning and support to research activities done by faculties, Scientists, Students and researchers in AIIMS. This facility also aimed to provide actively Hands-on training/ guidance to the users for various experiments. Apart from these activities, General Facility team has been involved in last FY in other activities including (i) Research Day activities (ii) Organization of Research Section associated conferences (iii) Development of published and electronic AIIMS Research directory.
5. **Genomics Core facility** is an advanced, state-of-the-art facility equipped with robust instrumentation infrastructure to facilitate the researchers of AIIMS for generation of clinically relevant high throughput data in a resource efficient manner. The facility is involved in continuous monitoring of emerging variants of SARS-CoV-2 as one of the regional genome sequencing laboratories of Indian SARS-CoV-2 Genomics Consortium (INSACOG) since 10 June 2021. The facility is equipped with the appropriate infrastructure as well as trained manpower to sequence at least 400 samples

in a month. As a part of INSACOG surveillance study, a total of 872 samples have been sequenced, analyzed and successfully submitted to INSACOG Hub, Integrated Disease Surveillance Programme (IHIP-IDSP) portal and have been published on GISAID portal (n=872 sequences). The facility trained two medical officers from SNM Hospital, Leh for establishing genome sequencing laboratory and carrying out SARS-CoV-2 sequencing at their centre in Leh. The SNM hospital is now a part of INSACOG and is routinely carrying out sequencing activities. The facility is also involved in standardization of prenatal genetic testing using trophoctoderm biopsy and implementation of non-invasive prenatal genetic testing using spent culture media in IVF patients in collaboration with Department of Gynecology, AIIMS, New Delhi.

Services provided	Number of samples done		
	2022-2023 (current)	2021-2022	2020-2021
Library Preparation	Exome Sequencing (n = 32), Chromosome screening (n = 36)]	Exome Sequencing (n = 32), Target sequencing (n = 56), Chromosome screening (n = 41)]	Target sequencing (n = 56), Chromosome screening (n = 41)
SARS-CoV-2 sequencing	872	412	70
Next Generation Sequencing	Nil	40	160
Sanger Sequencing	Nil	364	364
nCounter Sprint Profiler	Nil	-	48
Fragment Analyzer	75	11	196
Qubit	500	645	348
Protocol and experiment design for submission of grant proposal/ for achieving the objectives proposed	05 users	06 users	10 users

6. **Microscopy sub-facility** is extensively being used by researchers from departments of biochemistry, microbiology, biotechnology, anatomy, pathology, pharmacology and stem cell facility towards addressing their research questions related to biomarker discovery, clinicopathology, drug assay, and molecular diagnosis. This state-of-the-art confocal system is equipped with a temperature and gas-controlled incubation chamber for live imaging applications. It was recently upgraded to a semi-super-resolution system by adding the Airy scan module. Ms. Devyani Sharma, PhD student from the Department of Anatomy (student of Prof TC Nag) won the first prize in image competition (Other Microscopic Techniques Micrograph Category) at Electron Microscope Society of India (EMSI)-2023 organized by the University of Delhi between 8-10 February 2023.

Services provided	Number of users		
	2022-2023	2021-2022	2020-2021
Confocal Imaging	21	14	--
Offline Image Analyses	4	6	--
TOTAL	25	20	--
	Number of hours		
	2022-2023	2021-2022	2020-2021
Confocal Imaging	610	288	--
Offline Image Analyses	52	126	--
TOTAL	662	414	--



7. **Proteomics sub-facility** support for gel-based (2D-GE and DIGE) and LCMS/MS based proteomics experiments from all sorts of biological samples like cells, tissues, biofluids and microorganisms; Qualitative and quantitative comprehensive proteomics experiments (label free and label based) and data analysis for protein biomarker discovery; provided facility and support to 59 researchers from 21 different departments at AIIMS. Various types of support were provided which include but were not limited to (1) Proteomics study designing, (2) Sample processing, (3) Vacuum concentration of biological samples (4) LCMS/MS Data analysis (5) Bioinformatics analysis (6) Submitting project proposal, (7) Submitting article for publications and (8) Submitting LCMS/MS raw files to public repository.

Services provided	Number of users		
	2022-2023	2021-2022	2020-2021
LCMS/MS Proteomics Experiment	Nil	2	13
Proteomics data analysis	4	3	2
Publication and proposal submission	6	3	Nil
Experiment designing and support to conduct proteomics research	2	2	22

8. **Project Management Unit:** Project Management Unit provides management support to overall functioning of the CCRF. During 2022-23, PMU coordinated for: Process mapping of functioning of all sub-facilities in CCRF with Ernst & Young Team for AIIMS IT Masterplan, renovation of CCRF, procurement of machinery & equipment and consumables, shifting and re-installation of machinery from affected area in CCRF to the restored rooms, testing of M&E in consultation with faculty, scientists and the service engineers, condemnation of materials, contributed in compilation of Directory of Research interests of faculty and scientists of AIIMS, CCRF website content from all sub-facilities of CCRF and Computer facility, prepared budget estimates, service charges for various CCRF services in coordination with faculty, scientists, and accounts division of Research Section.

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Amit Katiyar** was invited to assessed practical exams and viva-voques at Guru Gobind Singh Indraprastha University (GGSIPU), New Delhi.

**Sunita Kanswal** received the Award of Merit in the Workshop on Biosafety and Biosecurity in Microbiological and Biomedical Research, Diagnosis and Clinical Care' organized by the Federation of Asian Biotech Associations (FABA), Bangladesh. 22-24 October, 29-31 October and 6 November 2021 (online). She is Member of the editorial board and the coordinator for the committee of the Directory of Research - 2022, AIIMS, New Delhi.

**Kamal Gulati:** Oxford Research, Science and Innovation Leadership Fellowship at the University of Oxford; Wellcome Trust-DBT India Alliance - India Research Management Initiative (IRMI) International Travel Award 2022-2023 in the field of Research Management; Invited as resource person at the Roundtable Meeting of Expert Group on Medical Leadership and International Women's Day conference at the UCL Global Business School for Health, UK; Continuing as a Reviewer of The Lancet Regional Health - Southeast Asia, BMJ Leader, Frontiers in Sociology, International Journal of Healthcare Management, Asia Pacific Journal of Health Management Section Work, Employment and Organizations.

### Photographs

Event organized: International Workshop on Building lean, green and data driven hospitals: Working towards UN Sustainable Development Goals held on 30 January 2023 at AIIMS, New Delhi



### CENTRE FOR MEDICAL INNOVATION AND ENTREPRENEURSHIP

Centre for Medical Innovation and Entrepreneurship (CMIE) is flagship bio-incubator at All India Institute of Medical Sciences, New Delhi supported by BIRAC, GoI and AIIMS, New Delhi. Launched in June 2021, CMIE operates from two sites:

1. Room No. 901, 9th Floor, National Centre for Ageing, AIIMS which houses landing office and laboratory; and
2. 4th and 5th floor of Research Block, NCI, Jhajjar Campus of AIIMS, Delhi which houses the office, meeting rooms and laboratories including central laboratory facility for the incubatees. The facility of NCI - AIIMS, Jhajjar will be used extensively by all the incubatees of CMIE – AIIMS.

CMIE seeks to capitalize on indigenous academic innovations in the healthcare sector. It is positioned to enable translational and collaborative research efforts carried out by Faculty/Scientists/Students/Residents/Researchers of AIIMS, New Delhi. Further, CMIE - AIIMS also enables Indian startups working in healthcare area to leverage the mentorship and guidance of AIIMS clinical and non-clinical faculty, and also by giving them paid access to advanced laboratory equipment and resources at AIIMS.

Since its inception, CMIE – AIIMS has incubated 6 startups who are mentored by faculties from various departments of AIIMS including Department of Microbiology/Laboratory Medicine/Stem Cell/RPC and others.

1. TechCell Innovation Pvt. Ltd - Developing a freeze-dried formulation of exosomes and human amniotic membrane for biomedical applications (under mentorship of Prof Sujata Mohanty & Prof AK Dinda)
2. Pareto Care - Developing a wearable hemodynamic monitoring device (Under mentorship of Dr Dinu Santha Chandran & Prof KK Deepak)
3. Onward Assist - Developing a digital microscope with remote access capabilities (under mentorship of Dr Sudheer Arava & Dr Adarsh Barwad)
4. Alfaleus - Developing an electronic wearable device for low vision disorders (Under mentorship of Prof Radhika Tandon)
5. Vidcare Innovations - Developing a PoC device for TSH testing (Under mentorship of Dr Sudip Kumar Datta)
6. Airth - Developing an air-purifier with microbicidal property for hospital setting (Under mentorship of Dr Gagandeep Singh & Prof Nirupam Madaan)

Two organizations, namely Social Alpha and IPE Global have signed an agreement with CMIE - AIIMS for association on knowledge sharing. CMIE - AIIMS has successfully organized workshops (hybrid mode) series on following:

- a. Basic Concept of Intellectual Property Rights (IPR) - 24 August 2022
- b. Workshop on Roadmap for Patent Creation - 20 January 2023

Apart from the above, CMIE - AIIMS has collaborated with:

- a. CDER to organize “Scope of Innovation & Product Development in Endodontics & Restorative Dentistry” on 5 July 2022 with an aim to focus on the scope of innovation and application-oriented product development in Endodontics and Restorative Dentistry.
- b. Dept. of Plastic, Reconstructive & Burn Surgery, AIIMS to organize “Innovation in Burn Care” on 19 January 2023 with a vision to provide a platform for one-on-one interaction of the innovators with the experts.
- c. CDER to organize “Workshop on Role of Artificial Intelligence in Research & Patient Management” to ignite the young minds in the upcoming area of artificial intelligence and machine learning in healthcare sector.

With a mandate to support and connect the innovators with experts, CMIE - AIIMS plans to organize a series of bootcamps. The first bootcamp in such series was organized in April 2023 in collaboration with Department of Plastic, Reconstructive and Burn Surgery, AIIMS. Over a period of 3 days, the event “Bootcamp on Wound care” attracted participation of 15 aspiring entrepreneurs and start-ups who were provided with the deep insights on the problems in the area of wound-care, available solution avenues.

A notable achievement of CMIE - AIIMS is the support offered to the faculty members of AIIMS, Delhi to write and submit their innovations to BIRAC under the Biotechnology Ignition Grant (BIG) wherein, 2 faculties (out of 3 applications) have been granted the award from the BIG - 21 call and 4 faculties (out of 8 applications) have been short-listed under the BIG - 22 calls. CMIE - AIIMS has also supported faculty members with the other schemes like PACE, SIBRI supported by BIRAC.

**Few glimpses of the event along with the brochure information:**



**CMIE Healthcare Innovation Bootcamp on Wound care**



**Consultative Meeting on Volunteer Licensing**



**Interactive Session on “Understanding BIG Grant”**



**Workshop on “Roadmap on Patent Creation”**



**On the Occasion of NATIONAL SCIENCE DAY**  
 Division of Oral Pathology, Microbiology & Pathologic Odontology, AIIMS, India  
 In collaboration with Centre for Biomedical Engineering, IIT - Delhi  
 Centre for Medical Innovation of Entrepreneurship, AIIMS - Delhi  
**organises**  
**WORKSHOP ON ROLE OF ARTIFICIAL INTELLIGENCE IN RESEARCH & PATIENT MANAGEMENT**  
 28<sup>th</sup> February 2023, JLN Auditorium, AIIMS  
 08:30AM - 5:00PM  
**Registration Link**  
  
 Please fill the google form to complete your registration by scanning the barcode or visit <https://forms.gle/LY0K49N128L3>  
**Registration Details**  
 Faculty: Rs. 1000  
 Student: Rs. 500  
 Start-ups/Company Representatives: Rs. 2000  
**HIGHLIGHTS**  
 Fundamentals in Artificial Intelligence  
 Application in Healthcare (Diagnosis, Prognosis, Therapy)  
 Patent Protection on Scope of Research of Artificial Intelligence in Healthcare  
 Interactive with Experts from Institutions in India  
**Contact Details**  
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 Dr. Anshu Gupta  
 Assistant Professor, I 2015  
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**Department of Plastic, Reconstructive & Burns Surgery, AIIMS**  
 & **Centre for Medical Innovation and Entrepreneurship, AIIMS**  
**INNOVATIONS IN BURN CARE**  
**A HYBRID EVENT**  
 19<sup>th</sup> January 2023, 10:00AM  
**Thematic Areas**  
 wound management, Burns, Critical care, rehabilitation  
**Inviting Start-ups, Innovators, Researchers working in the area of wound management.**  
**TAKE AWAY**  
 One-on-One interaction with the experts  
 Answers to your burning questions  
 Expert Advice on technologies developed  
 Support on regulatory aspects  
 Product validation  
**LAST DATE FOR REGISTRATION - 17.01.2023; 5PM**  
**Online Meeting Link shared post registration**  
 Contact:  
 Dr. Madhusudan Bhat - 9950071329

**BOOT CAMP**  
**CMIE HEALTHCARE INNOVATION BOOTCAMP SERIES**  
**BOOTCAMP ON WOUND CARE**  
 7 - 9 April 2023  
 Burns and Plastic Surgery Block, AIIMS  
**"QUEST FOR NEW SOLUTIONS IN WOUND CARE"**  
 Jointly Organized by  
 CMIE, AIIMS & Departments of Plastic, Reconstructive and Burns Surgery, AIIMS

**SCOPE OF INNOVATION & PRODUCT DEVELOPMENT IN ENDODONTICS & RESTORATIVE DENTISTRY**  
 07 & 08  
 10:30 AM - 05:00 PM  
**Registration Fee: None**

**Centre for Medical Innovation & Entrepreneurship**  
**WORKSHOP ON Roadmap for Patent Creation**  
 20<sup>th</sup> January 2023 | 03:30 PM onwards  
**Agenda**  
 1. Introduction of IP & Inventions  
 2. Patent Drafting  
 3. Patent Examination/Grant/Refusal  
 4. Patent Litigation  
 5. Patent Disputes (Plaintiff vs. Defendant)  
 6. Patent Disputes (Infringement vs. Non-Infringement)  
 7. Patent Disputes (Validity vs. Invalidity)  
 8. Patent Disputes (Enforcement vs. Non-Enforcement)  
**Speakers**  
 Dr. Madhusudan Bhat  
 Dr. Anshu Gupta  
**SEATS**  
 Limited Seats Available  
 Register Now

## 9.1 Anaesthesiology, Pain Medicine and Critical Care

### Professor and Head

Lokesh Kashyap

### Professors

Ganga Prasad	Virender Kumar Mohan	Vimi Rewari
Vanalal Darlong	Jyotsna Punj	Ravindra Kumar Pandey
Anjolie Chhabra		Rashmi Ramachandran

### Additional Professors

Puneet Khanna	Bikash Ranjan Ray	Rahul Kumar Anand
Debesh Bhoi		Shailendra Kumar

### Associate Professors

Akhil Kant Singh	Rakesh Kumar
Nishant Patel	

### Assistant Professors

Ajisha Aravindan	Anju Gupta	Shreya Bharat Shah
Mritunjay Kumar	Kelika Prakash	Sulagna Bhattacharjee
Parin Lalwani	Abhishek Nagarajappa	Christopher Dass
Priyankar Kumar Datta		Sana Yasmin Hussain
Neha Pangasa	Dhruv Jain	Amit Kumar
Choro Athiphro Kayina	Aditi Suri	Heena Garg
Nitin Choudhary	Anshul Singh	Subodh Kumar
Sudhansu Sekhar Nayak		Sachin Kumar
Sneha Singh	Ram Singh	Swati Mehta
Rupavath Ramkumar		Amit Kumar Malviya
Vanitha Rajagopalan		Sushmita Bairagi

## HIGHLIGHTS

The year was marked by significant expansion of services provided by the department to different blocks and specialties. The Surgical block operation theatres (OTs) were made active in February 2022. Starting with two OTs, the department soon extended its services; presently, the department is providing anaesthesia services for six OTs including a round-the-clock emergency OT. Additionally, an eight-bedded Surgical ICU was started with plans to extend to 14 beds in the future. We also started and extended the Acute Pain services provided by the department to the Surgery block in addition to those existing in the OTs and wards of Main AIIMS.

Simultaneously, anaesthesia services were started for two OTs in the Burn and Plastic Surgery block along with two ICUs with a total of 30 beds. Furthermore, anaesthesia services were extended to the newly inaugurated Mother and Child block in November 2022. The department is currently providing anaesthesia services for two Paediatric Surgery OTs and four Obstetrics and Gynaecology OTs, including a dedicated Maternity OT.

In order to fulfil the requirements necessitated by this major expansion of services, as well as to address the need for imminent further capacity building in keeping with AIIMS Master Plan, there was recruitment of over 30 new faculty members that has further transformed the Department. This year also witnessed a notable increase in education and training activities for the Anaesthesia Resident doctors. There was upscaling of the Simulation-based teaching program and regular in-house training programs run by the department faculty in their areas of expertise. Further, formal Log book was printed and issued to all Residents. In addition, Anaesthesia consent form was also printed and made available in all wards for taking patient consent for anaesthesia.

A number of Conferences and Workshops were organised by the department in the fields of Critical Care, Chronic Pain and Ultrasound-guided Regional anaesthesia. Satellite anaesthesia workshops and lectures were held during 3rd International Conference on Bariatric and Metabolic surgery (2022) and 2nd AIIMS International Spine Deformity Course (2023). The department also provided anaesthesia services for ENT and Orthopaedics live workshops.

## EDUCATION

Academic Course/Degree	Number of students
MD Anaesthesiology	99
DM Critical Care Medicine	27
Fellowship in Pain Medicine	8
BSc Operation Theatre Technology	13

### Educational programs and classes taken

In addition to our regular teaching schedule, the past year saw notable expansion in two spheres in the ongoing 4 academic programs of the Department. Firstly, the Department started conducting exclusive in-house hands-on training programs run by the faculty of the Department in their specific area of expertise. These were run after duty hours or on holidays and open to all Resident doctors and Fellows of the department. The themes of these programmes ranged from ultrasound-based procedures in ICU, mechanical ventilation of ICU patients, Fiberoptic guided intubation, USG Regional anaesthesia to Updates on Pain Medicine and Anaesthetic management of Liver transplantation patients. These in-house training programmes were conducted with the aim of enhancing training and acquisition of specialised skills by the postgraduates, DM candidates and Fellows working in the department.

Secondly, in keeping with the guidelines of the National Medical Council regarding integration of Simulation-based teaching programs into medical teaching curricula, the ongoing Simulation-based teaching program for MD students was overhauled and significantly expanded. Ten new Faculty members were trained in simulation-based teaching and two separate simulation-based teaching schedules were initiated for newly-joined and more experienced trainees.

### MD Anaesthesiology Classes

- Seminars: 33
- Case presentations: 32
- Journal Club: 26
- Tutorials: 18
- Simulation classes: 36

### DM Critical Care Medicine Classes

- Seminars: 32
- Case presentations: 31
- Journal Club: 30

### Fellowship in Pain Medicine Classes

- Seminars: 18
- Journal Club: 17

### BSc OT Technology Classes (Anaesthesia classes)

- 1st year: 80
- 2nd year: 46
- 3rd year: 76

### Exclusive in-house Training programmes and Guest Lectures held for Resident doctors of Department

1. Workshop on Ultrasound-guided Regional Anaesthesia for Residents on 23-24 April 2022. Organised by Prof Anjolie and Dr Debesh Bhoi.
2. Workshop on Mechanical Ventilation for Anaesthesia Residents on 22 August 2022. Organised by Dr Rahul Kumar Anand.
3. Workshop on Fiberoptic bronchoscopy for Residents on 30-31 July 2023. Organised by Dr Debesh Bhoi and Dr Bikash Ranjan Ray.
4. Masterclass in Percutaneous Tracheostomy in Critical Care on 12 December 2022, SET Facility. Organised by Dr Bikash Ranjan Ray.
5. Primer on Anaesthesia for Liver Transplantation on 4 December 2022. Organised by Dr Akhil Kant Singh.
6. Point of Care Ultrasound (POCUS) Workshop. Organised by Dr Bikash Ranjan Ray

7. Guest Lecture on World Pain Day by Prof Narinder Rawal, Pain Medicine Specialist, Orebro University, Sweden, 11 October 2022. Organised by Dr Debesh Bhoi.
8. Guest Lecture by Dr Anuj Bhatia, Pain Medicine Specialist, University of Toronto, 7 November 2022. Organised by Prof Lokesh Kashyap.

**CMEs/Workshops/Symposia/National and International Conferences organised by the Department:**

1. 1st AIIMS International Spine Deformity (Course) Anaesthesiology Breakout Session held on 15 April 2022 at the AIIMS New Delhi
2. AIIMS Critical Care Ultrasound (ACCUS) on 27-28 August 2022; AIIMS, New Delhi
3. AIIMS Pain Practice and Regional Anaesthesia (APPRA 2022) on 3-4 December 2022, New Delhi
4. AIIMS Postgraduate Assembly (APGA) on 5-8 January 2023 AIIMS, New Delhi
5. Comprehensive Symposium on Ultrasound for Anaesthetists (CUSA) on 24-26 February 2023, AIIMS, New Delhi
6. Bariatric Anaesthesia Breakout Session in 3rd International Conference on Bariatric and Metabolic Surgery on 28 September 2022, AIIMS, New Delhi
7. Monthly meeting of Delhi branch of Indian Society of Anaesthesiologists (ISA) on 22 August 2022, AIIMS, New Delhi
8. Monthly meeting of Delhi branch of Indian Society of Anaesthesiologists (ISA), 15 November 2022, AIIMS, New Delhi

**Lectures delivered: 196**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
81	107	196

**List of oral papers/posters presented: 35**

**Oral presentations over past 3 years**

2020-2021	2021-2022	2022-2023
13	21	35

**RESEARCH**

**Funded projects**

**Ongoing**

1. Remote trainer guided deliberate practice vs self-directed video-based training for retention of CPR skills: A randomized, comparative, assessor blinded simulation study, Dr Abhishek N, AIIMS-Intramural, 2 years, 2020-2022, Rs 4.8 lakhs
2. Comparison of PEMF and medical management in chronic back pain, Dr Jyotsna Punj, Extramural- ICMR, 3 years, 2022-2025, Rs 15 lakhs
3. A comparative study of melatonin, gabapentin and alprazolam in reducing preoperative anxiety, Dr Kelika Prakash, AIIMS-Intramural, 2 years, 2021-2023, Rs 3.5 lakhs
4. Comparison of paralysis of laryngeal adductor vs adductor pollicis at time of intubation with NIM EMG endotracheal tube, Dr Jyotsna Punj, AIIMS-Intramural, 3 years, 2015-2018, Rs 5 lakhs
5. Comparison of Anxiety scores with or without parental presence and its correlation with stress biomarkers during induction of anaesthesia in children undergoing ophthalmic procedures - A randomized controlled trial, Dr Nishant Patel, AIIMS- Intramural, 1 year, 2021-2022, Rs 4.9 lakhs
6. Impact of various anaesthetic techniques on circulating nucleosomes, cell free DNA and extracellular histone in major orthopaedic trauma surgeries and development of SIRS, Dr Parin Lalwani, AIIMS-Intramural, 2 years, 2021-2023, Rs 10 lakhs
7. Effect of Nicotine Replacement Therapy on peri-operative opioid requirement in abstinent tobacco smokers undergoing spinal fusion, a double blind randomized controlled trial, Dr Puneet Khanna, ICMR, 3 years, 2021-2024, Rs 50 lakhs

8. The effects of normoxic vs hyperoxic conditions on the incidence of Post-Operative Cognitive Dysfunction (POCD) and identification of miRNA in POCD in elderly patients undergoing non cardiac surgery: A prospective observational case control study, Dr Puneet Khanna, Intramural- AIIMS, 2 years, 2022-2024, Rs 10 lakhs
9. Association between DNA Telomere Length in Peripheral Blood Leukocytes and Post-Operative Cognitive dysfunction (POCD) and Post-Operative Delirium (POD) in Elderly patients undergoing Major Orthopaedic surgery under General Anesthesia: A Prospective Observational Study, Dr Puneet Khanna, DST, CSRI, 3 years, 2023-2026, Rs 80 lakhs
10. Effect of 5% human albumin-based perioperative fluid therapy in perforation peritonitis patients undergoing emergency laparotomy: a randomized controlled trial, Dr Sulagna Bhattacharjee, DST-SERB, 2 years, 2022-2024, Rs 29 lakhs
11. Efficacy of LMA Gastro™ versus Endotracheal Tube for interventional gastrointestinal endoscopy procedures under general anesthesia: a prospective randomized trial, Dr Anju Gupta, AIIMS-Intramural, 1 year, 2021-2022, Rs 3 lakhs
12. Impact of an enhanced recovery after surgery (ERAS) protocol on length of stay, perioperative outcomes and complications in paediatric laparoscopic surgeries, Dr Shreya B Shah, AIIMS-Intramural, 1 year, 2022-2023, Rs 5 lakhs
13. Comparison of dexmedetomidine as an adjuvant with ropivacaine alone for continuous wound infiltration in patients undergoing Proximal Spleno-Renal shunt(PSR)surgery: a randomized controlled trial, Dr Rakesh Kumar, AIIMS-Intramural, 1 year, 2021-2022, Rs 2.7 lakhs
14. Randomized controlled trial to assess the utility of over the ear active noise cancelling headphones during night time and personalized music during day time in decreasing the incidence of ICU delirium in critically ill patients, Dr Rahul K Anand, AIIMS-Intramural, 2 years, 2022-2024, Rs 1.9 lakhs
15. Effect of general anaesthesia with mechanical ventilation on biomarkers of lung inflammation/injury in COVID-19 survivors – A cohort study, Dr Shreya B Shah, AIIMS-Intramural, 1 year (extension of 6 months), 2021-2023, Rs 10 lakhs

#### ***Completed***

1. To determine gut colonization of Clostridiodes difficile, Vancomycin resistant Enterococci and Carbapenem Resistant Enterobacteriaceae in recovered COVID cases, Dr Ajisha Aravindan, AIIMS-Intramural, 1 year 3 months, January 2022, 31 March 2023, Rs 10 lakhs
2. UV radiation to decontamination of mobile phones of Health care workers at a tertiary care hospital, Dr Jyotsna Punj, ICMR, 3 years, 2012-2015, Rs 15 lakhs
3. Determination of duration of vecuronium and isoflurane in type 2 diabetic patients with diabetes with and without cardiac autonomic neuropathy, Dr Jyotsna Punj, ICMR, 3 years, 2012-2015, Rs 15 lakhs
4. Comparison of ultrasound guided dorsal radial artery cannulation and conventional radial artery cannulation at the volar aspect of wrist: A pilot randomized controlled trial, Dr Souvik Maitra, AIIMS-Intramural, 2 years, 2018-2020, Rs 4 lakhs
5. Association between baseline insulin resistance and hospital mortality in moderate to severe non-diabetic COVID-19 patients: An Observational Study, Dr Souvik Maitra, AIIMS-Intramural, 1 year, 2020-2021, Rs 4.6 lakhs
6. Comparison of King Vision Video laryngoscopes channelled blade and non-channelled Tuoren VL for COVID simulated intubation by medical personnel: a randomized crossover mannequin study, Dr Anju Gupta, AIIMS-Intramural, 1 year, 2020-2021, Rs 2 lakhs

#### **Departmental projects**

##### ***Ongoing***

1. Comparison of USG guided Short Axis-Dynamic Needle Tip Positioning (SA-DNTP) technique vs Long Axis In Plane (LAIP) technique for Radial Artery Cannulation in Adults performed by Novice Anaesthesia Residents after Structured Simulated training
2. Evaluation of physiological respiratory parameters with the use of N-95 respirators after similar set of Exercise in health care professionals: A cross over Study
3. Comparison of structured didactic training Vs. hands-on training on ORSIM simulator for improving Fiberoptic intubation Proficiency in novice anaesthesia residents in difficult airway scenarios: A randomised controlled trial

4. Can nasopharyngeal suction prior to supraglottic airway (SGA) removal reduce the incidence of post-SGA removal adverse airway events in children? – a randomised controlled trial.
5. Correlation of preoperative internal jugular vein anatomic measurements with post spinal hypotension episodes in pregnant patients undergoing elective caesarean section
6. Comparison of ultrasound guided dynamic needle tip positioning versus longitudinal axis in-plane technique for radial artery cannulation in elderly: A prospective, randomized controlled study
7. Polymyxin vs. Ceftazidime-avibactam with aztreonam for primary treatment of Carbapenem Resistant Enterobacteriaceae (CRE) and Carbapenem Resistant Pseudomonas aeruginosa (CRPA) [CARE trial]
8. Remote trainer guided deliberate practice vs self-directed video-based training for retention of CPR skills: A randomized, comparative, assessor blinded simulation study
9. Effect of erector spinae block with bupivacaine and ketamine vs bupivacaine alone on acute postoperative pain and opioid consumption in patients undergoing modified radical mastectomy
10. Effect of Erector Spinae block with bupivacaine and ketamine versus bupivacaine alone
11. on chronic postoperative pain in patients undergoing modified radical mastectomy: a pilot study
12. Palpation method versus ultrasound guided posterior tibial artery (pta) cannulation in adult patients: a randomized controlled trial
13. Comparison of wide awake local anaesthesia without tourniquet (WALANT) versus wide awake local anaesthesia and forearm tourniquet (WALA with FAT) and ultrasound guided individual peripheral nerve block (IPNB) for wrist and hand surgeries: a prospective randomised controlled trial.
14. Comparison of the analgesic efficacy of continuous segmental epidural block with dilute local anaesthetic solution and fentanyl to epidural morphine boluses in dilute local anaesthetic in paediatric patients undergoing upper abdominal surgery: a randomized controlled trial.
15. Effect of instillation of intranasal dexmedetomidine on the duration of caudal analgesia in paediatric infra-umbilical surgeries
16. To study the efficacy of 6% hydroxyethyl starch (HES) with 0.25% ropivacaine for ilioinguinal/iliohypogastric block alone with wound infiltration in prolonging duration of postoperative analgesia in paediatric unilateral inguinal hernia
17. Myocardial performance index for prediction of an outcome in septic shock patients: A prospective observational pilot study
18. Randomized controlled trial to compare dexamethasone and clonidine in ultrasound stellate ganglion nerve block parameters of NRS and vascular dynamics
19. A comparative study to evaluate the effect of two different doses of tranexamic acid in reducing intraoperative blood loss in patients undergoing pancreaticobiliary surgeries
20. Comparative efficacy of intradiscal injection of Platelet Rich Plasma versus Methylene blue in treatment of chronic discogenic pain.
21. Comparison of Percutaneous Radiofrequency Thermocoagulation and Percutaneous Microballoon Compression of Gasserian ganglion in Treatment of trigeminal neuralgia- A randomized controlled study.
22. Ultrasound-Guided Versus Fluoroscopic Guided Lumbar Sympathetic Ganglion Block: A Prospective Single-Blind Randomized Study.
23. Analgesic efficacy of Ultrasound-guided triple-level Erector Spinae plane block with triple-level Costotransverse foramen block in patients undergoing percutaneous nephrolithotomy surgery - A prospective randomized comparative study.
24. Analgesic efficacy of ultrasound guided Costotransverse foramen block versus Thoracic paravertebral block in patients undergoing breast surgery under general anaesthesia: A Prospective Double Blind Randomised Controlled Non-Inferiority Trial
25. Comparison of hemodynamic effects of orotracheal intubation using McIntosh blade CMAC versus D blade CMAC Video-laryngoscope in hypertensive patients with normal airway – Single blinded, RCT.
26. Comparison of two anaesthetic techniques in children undergoing vitreo-retinal surgery: inhalational vs TCI (Target controlled infusion) – A Randomised pilot clinical trial,
27. Comparison between pressure support ventilation and spontaneous ventilation during extubation and emergence in reducing post-operative atelectasis in patients undergoing major abdominal surgeries”: A Randomised controlled trial.

28. Compare The Opioid Sparing Effects of Dexamethasone, Paracetamol, and Ketorolac (Dex-PaK) vs Paracetamol and Ketorolac (PaK) combination In Total Laparoscopic Hysterectomy: A Prospective Randomized Double-blind Controlled Trial.
29. Postoperative Outcomes and Mortality Following Emergency Surgery In Covid Suspect Patients: A Retrospective Analysis From Tertiary Care Centre Of India
30. Characterization and clinical course of Emergency trauma surgical patients during first wave of COVID-19 pandemic at a tertiary care center in INDIA
31. A computed tomography imaging and anatomic study to investigate mechanism of action of Sacral Erector spinae Blockade
32. Comparison of ultrasound guided fluid resuscitation protocol with standard formula-based fluid resuscitation protocol in burn patients – a randomized controlled trial
33. Effect of dexamethasone on post operative cognitive decline in elderly population: a randomized controlled triple blind trial
34. Ultrasonographic Assessment of Tonsillar Volume in Children undergoing tonsillectomy; a predictor of post-operative morbidity
35. Preoperative Ultrasound assessment of quadriceps depth for Identifying Frailty and post-operative delirium: An Observational Study
36. Association Between Post-Operative Delirium and Cognitive Dysfunction with Serum Uric Acid And C-Reactive Protein Levels in Elderly Patients Undergoing Major Surgery Under General Anesthesia: A Prospective Observational Study
37. Sleep-disordered breathing and emergence delirium in children: a comparison between Pittsburgh Sleep Quality Index (PSQI) and Sleep trouble breathing and unrefreshed (STBUR) questionnaire
38. Effect of pre-procedure anxiety and estrogen levels on Post-operative Nausea and vomiting (PONV) in patients undergoing diagnostic laparoscopy and hysteroscopy for infertility: A Prospective Observational Study
39. Frailty as a predictor of clinical severity in geriatric COVID-19 patients: A prospective observational study
40. Association Between Perioperative Hypertension, Length of Hospital Stay and Perioperative Cardiovascular Complications: A Prospective Observational Study From Tertiary Care Centre
41. Comparison of outcome in Coronavirus disease 2019 (COVID-pneumonia patients with or without erythropoietin (EPO) – a prospective randomized controlled study
42. Association between preoperative frailty and post-operative delirium and cognitive dysfunction in elderly patients undergoing major surgery under general anesthesia – A prospective observational study
43. Comparative assessment of functional near infrared spectroscopy in children for detecting emergence delirium with sevoflurane vs total intravenous anaesthesia: Randomised control trial
44. Isotonic bicarbonate vs Balanced salt solution as resuscitation fluids in patients with severe metabolic acidosis: A RCT
45. Development and validation of AI-model to predict refractory septic shock
46. To compare the effects of standard vs transpulmonary pressure guided intraoperative peep on postoperative pao<sub>2</sub>/fio<sub>2</sub> ratio in patients undergoing laparoscopic lower abdominal surgeries
47. Comparison of diuresis with furosemide versus furosemide with albumin during the resuscitation phase of sepsis in hypoallergenic patients or randomised control trial.
48. Effectiveness of mechanical ventilation simulator in assessment and management of patient ventilator interactions in trainees
49. Comparison of fixed versus titrated PEEP in patient undergoing laparoscopic surgery in lateral position
50. The 90% Effective Dose (ED 90) of 0.75% Intrathecal Ropivacaine for Day Care Surgery in Patients Undergoing Lower Abdominal, Inguinal and Urological Surgery - Estimation with the Biased Coin Up-and-Down Sequential Method
51. The effect of standard versus restricted fluid therapy in pediatric patients undergoing major elective abdominal, thoracic and genitourinary surgery: a non-blinded randomized controlled trial
52. Effect of regional anaesthesia on inflammatory biomarkers levels in patients undergoing surgery for giant cell tumour of bone and its correlation with perioperative bleeding and outcome
53. Low dose methylprednisolone in early mild moderate ARDS in Burn Patients; A Single centre open label randomised control trial

54. The effect of Post spinal hypotension on Cerebral Oxygenation using NIRS and neonatal outcomes in full term parturients undergoing LSCS To Study the efficacy of lignocaine in distension medium in improving pain score during office hysteroscopy: a randomised controlled trial
55. Comparison of awake nasotracheal intubation using flexible fibre-optic bronchoscope versus D blade CMAC Videolaryngoscope in patients having anticipated difficult airway under topical local anaesthesia and dexmedetomidine infusion
56. Comparison of continuous periscapular nerve group block versus continuous fascia iliaca block in patients undergoing hip fracture surgery
57. Incidence of postoperative delirium and cognitive delirium and cognitive dysfunction in frail as compared to non-frail elderly patients under general anaesthesia
58. Comparison between pressure support ventilation and spontaneous ventilation during emergence and extubation in reducing incidence of post-operative atelectasis in patients undergoing major abdominal surgeries
59. Sleep Quality Assessment in trauma Patients Requiring Intensive care - A Prospective observational study
60. Correlation of Ultrasound Examination with Flexible Bronchoscopy for Airway Assessment in Burns Patients with Inhalational Injury
61. Effect of Nitrous oxide during oocyte retrieval on in-vitro fertilization outcomes: A retrospective study
62. Comparison of sevoflurane and isoflurane during oocyte retrieval on in-vitro fertilization outcomes: A retrospective study.
63. Ketofol Vs Ketodex Vs Ketofen Sedation for Dressing in Burns in Adult Patients: A Randomized Controlled Trial.
64. A Randomized controlled study of preoperative oral carbohydrate loading Versus Non-Caloric drink in patients undergoing total knee replacement surgery.
65. Effect of Calcium gluconate in preservation of uterine atony during Lower Segment Caesarean section delivery: A Randomized Controlled Trial
66. Velocity- time integral and stroke volume measured in the ascending aorta
67. for prediction of volume responsiveness in mechanically ventilated adults with septic shock.
68. To assess the analgesic efficacy of ultrasound guided Erector spinae, block Vs Transverse abdominis plane block in children undergoing unilateral abdominal surgeries: A comparative randomized study.
69. To assess time to first rescue analgesic requirement following preoperative Genicular Nerve Block in arthroscopic knee surgeries
70. Assessment of acute gastrointestinal injury (AGI) by point of care ultrasound to predict feeding intolerance in adult critically ill patients: A prospective observational study
71. Comparison of Glide scope and C-Mac Video laryngoscope for intubation in paediatric patients: A prospective, comparative & randomized study
72. To evaluate the safety and efficacy of different doses of Clonidine in Pectoral nerve blocks (PECS I&II) for pain relief in different Oncological Breast Surgeries: A prospective, comparative, randomized controlled trial
73. Comparative efficacy and safety of I-gel supraglottic airway and self-pressurizing Air-Q intubating laryngeal airway during general anesthesia in infants: A prospective randomized trial.
74. Velocity- time integral and stroke volume measured in the ascending aorta for prediction of volume responsiveness in spontaneously breathing patients
75. Reclassification of acute respiratory distress syndrome by addition of ventilatory ratio, PEEP and static respiratory system compliance: Analysis of NHLBI database
76. Development & Validation of a Machine Learning Model for Predicting Postoperative
77. Pulmonary Complications: Secondary analysis of three randomized trials
78. Comparison of Analgesic Efficacy of Pudendal Nerve Block With Caudal Block Using Bupivacaine And Clonidine In Children Undergoing Hypospadias Repair: A Prospective Randomized Study
79. PENG vs interscalene for shoulder manipulation procedure: an RCT
80. Analgesic efficacy of sacral erector spinae plane block in Lumbosacral spine surgeries as compared to conventional Management: a randomized controlled trial.
81. Evaluation of the performance of sonographic airway assessment parameters to predict difficult airways in children.



82. To study the efficacy of 6% hydroxyethyl starch with 0.25% ropivacaine for ilioinguinal/iliohypogastric block along with wound infiltration in prolonging the duration of post-operative analgesia in pediatric unilateral inguinal hernia repair - a randomized control trial
83. To compare the opioid-sparing effects of the combination of dexamethasone, paracetamol and ketorolac (dexpak) vs paracetamol, ketorolac (pak) in patients undergoing total laparoscopic hysterectomy: a prospective double-blind randomized controlled trial
84. Analgesic Efficacy of Retrolaminar Plane Block in Patients Undergoing Breast Surgeries: a single-centre, prospective, observational study
85. Comparison of Caudal epidural block with Multiple injection Costotransverse block for renal surgeries in paediatric patients: A prospective randomised, blinded clinical trial
86. Comparison of ultrasound guided double-injection vs triple injection technique of inter-truncal approach of supraclavicular nerve block: A randomised non-inferiority trial
87. Does an ANSiscope™ predict post-thoracic epidural hypotension? - An observational study
88. Allaying paediatric preoperative anxiety, Where Are We Now? – A nationwide survey
89. A comparative study to evaluate the analgesic efficacy and safety of caudal versus intranasal Dexmedetomidine as an adjuvant to caudal Ropivacaine in paediatric patients undergoing infraumbilical surgeries: A randomised controlled double blind non-inferiority trial
90. Non-hepatic hyperammonemia in critically ill patients– incidence, risk factors and effect on outcome
91. Effect of intravenous dexamethasone on the analgesic efficacy of unilateral ultrasound guided quadratus lumborum block in laparoscopic renal surgeries: a double blind randomized controlled trial
92. Urinary biochemistry as a marker of renal microcirculatory stress in sepsis: Prospective observational study
93. Efficacy of novel bundle of care to reduce ICU acquired weakness - a randomised controlled trial
94. Prophylactic Melatonin for Delirium in Intensive Care Unit - An open label Randomized Control Study
95. Effect of a dexamethasone on postoperative subsyndromal delirium in older adults: A randomised, double-blind, placebo-controlled trial
96. Comparison of TUORenKingtaek® and C-MAC® D-Blade video laryngoscopes in adults with uncomplicated airway: A Non-Inferiority Trial

### ***Completed***

1. Comparison of standard introducer tool guided vs suction catheter guided techniques of Proseal laryngeal mask airway (PLMA) insertion in patients undergoing elective laparoscopic gynaecological surgery: a randomized controlled trial
2. Efficacy and feasibility of Enhanced Recovery After Surgery (ERAS) protocol on functional recovery in women undergoing elective caesarean delivery: A randomized clinical trial
3. Pregnancies complicated by complete heart block: Experience from a tertiary care hospital
4. Use of Continuous Positive Airway Pressure during inhalational induction does not result in quicker induction but increases sevoflurane consumption.
5. Evaluation of the analgesic efficacy of varying volumes of 0.5% ropivacaine for subTenon's block in children undergoing strabismus surgery under general anaesthesia - a pilot study.
6. Effect of paravertebral anaesthesia on quality of life scores and circulating tumour cells in breast cancer patients.
7. Comparison of the efficacy of intrathecal morphine, ultrasound-guided erector spinae plane block with PCA fentanyl in the control of postoperative pain after modified radical mastectomy: a randomized controlled trial.
8. Comparison of analgesic efficacy of general anaesthesia and peribulbar block to conventional general anaesthesia in children with retinoblastoma undergoing enucleation surgery - a randomised double blind parallel controlled trial.
9. Efficacy of hetastarch with ropivacaine in prolongation of duration of ilioinguinal and iliohypogastric nerve blocks in paediatric inguinal hernia repair: a pilot study.
10. To assess the technical feasibility of ultrasound guided outplane lumbar sympathectomy block and its confirmation by fluoroscopy in patients with peripheral arterial disease: a prospective observational study
11. Analgesic efficacy and safety profile of Glossopharyngeal nerve block using Extraoral Anatomical landmark technique VS Ultrasound Guided technique in patients with Eagles Syndrome.

12. The use of Ultrasound as a reliable tool for endotracheal intubation when performed by novice Anaesthesia Residents- A Prospective Observational study
13. Molecular detection of legionella pneumophila by real time PCR and characterization of isolates by sequence-based typing-PhD thesis
14. Comparison of analgesic efficacy of ropivacaine and levobupivacaine in labor analgesia by dural puncture epidural technique- a prospective double-blinded randomized trial
15. To compare the sedative effect of subarachnoid block with and without iv midazolam using BIS monitoring in patients undergoing lower limb surgeries-A randomized controlled trial
16. Ultrasound Guided Versus Fluoroscopic Guided Lumbar Sympathetic Ganglion Block: A Prospective Single-Blind Randomized Study
17. Comparison between the Medial and Lateral approaches of Ultrasound-guided Costoclavicular Brachial plexus block for upper limb surgeries - A Pilot Interventional randomised control trial
18. Comparison of awake nasotracheal intubation using flexible Fibre-optic bronchoscope versus D blade CMAC Video-laryngoscope in patients having anticipated difficult airway under topical local anaesthesia and dexmedetomidine infusion.
19. Issues of carrying out usual work in COVID ICU after donning Level 3 Personal Protective Equipment- From User's Perceptive: A cross-sectional study from tertiary care hospital
20. Anaesthetic Challenges of Coronavirus Disease (Covid-19) Associated Mucormycosis (CAM): A Case Series
21. Impact of preoperative anxiety on propofol induced hypotension in children undergoing elective surgery under general anesthesia: a prospective observational study
22. Effect of wrist angulation on ease of radial artery cannulation in pediatric population: ultrasound-guided anatomical assessment
23. Dura to spinal cord distance at different vertebral levels in children and its implications on epidural and spinal anesthesia and analgesia in Indian Population: A retrospective CT Scan -based study
24. Predictors for postoperative ICU stay in scoliosis- a retrospective study
25. Perioperative outcome of patients undergoing major pelvic surgeries in a tertiary health center in India: A retrospective analysis
26. The association between pulmonary function tests and difficult airway in morbidly obese patients
27. Association of malnutrition with inhalational anaesthetic requirement and awakening during day care procedures in children
28. Correlation of oxygenation Index and oxygen saturation index in patients undergoing emergency laparotomy under general anesthesia: A prospective observational study
29. The Study of Feasibility of Ultrasound-Guided Catheterization of Right Brachiocephalic Vein in Adult Patients
30. Intubation in COVID -19. A prospective observational study from a tertiary care ICU
31. Comparison between lactate clearance and neutrophil lymphocyte count ratio as a predictor of mortality in patients with sepsis
32. Role of parasternal Intercostal muscle ultrasound during weaning from mechanical ventilation and prediction of extubation success in ICU - A prospective observational study
33. Incidence of Post Operative Cognitive Decline in elderly patients undergoing open surgery under general anaesthesia using Isoflurane or Desflurane: A Prospective Observational Study
34. A randomised control trial comparing the effects of lignocaine and dexmedetomidine on the incidence of postoperative cognitive decline in elderly: a pilot study
35. To determine the association between altered cerebral blood flow in the frontal cortex during Sevoflurane anaesthesia and incidence of postoperative emergence delirium in children: an fNIRS based Observational study
36. The Doppler Renal Resistive Index and Semiquantitative Power Doppler ultrasound for early detection of acute kidney injury after perforation peritonitis surgery
37. Preoperative intravascular volume status measured by inferior vena cava collapsibility index in patients with pheochromocytoma/paraganglioma undergoing surgical tumour removal - a prospective cohort study
38. Evaluation of electrical cardiometry to assess fluid responsiveness by tracking PLR-induced change in cardiac output in patients with acute circulatory failure: a comparison study with transthoracic echocardiography
39. Safety and efficacy of low dose intrathecal anaesthesia for outpatient tubal ligation

40. Evaluation of effect of ketofol and ketodex on duration of seizure activity, hemodynamic profile, recovery times and cortical activity in patients undergoing electroconvulsive therapy for depression.
41. Comparison of the effect of ketofol and ketodex as procedural sedation and analgesia for oocyte retrieval during in vitro fertilization procedures- a randomized controlled trial
42. Correlation between duration of preoperative fasting and emergence delirium in pediatric patient undergoing ophthalmic examination under anesthesia as day care procedure-observational study
43. Knee chest position and Subarachnoid block onset times in obstetric parturients.
44. Fascia Iliacablock above or below the Inguinal ligament? Evaluation of Efficacy in Total Hip Arthroplasty. A Randomized Prospective study
45. Comparison of Dexmedetomidine with a Combination of Ketamine and Midazolam For Sedation During Awake Fiber Optic Nasal Intubation, A Randomized Double Blind Comparative Trial
46. Postural Impact on Gastric Ultrasound Assessment in Pregnancy: An Observational Study
47. The Effect of Ultrasound Guided Quadratus Lumborum Block on Postoperative Analgesia and Neuroendocrine Stress Response in Paediatric Patients Undergoing Elective Open Pyeloplasty - a randomized control trial
48. Comparison of serum level of nucleosome and tissue inhibitor of metalloproteinases 1 to predict mortality in sepsis and septic shock.
49. Association between duration of prone position and clinical outcome in mechanically ventilated patients with COVID ARDS: A retrospective observational study
50. To evaluate the efficacy of different doses of iv dexamethasone on the duration of subarachnoid block in patients undergoing infraumbilical surgery: a randomized control double blinded study.
51. Air Q ILA as a conduit for orotracheal intubation in children: A comparison between supine and lateral position.
52. Effect of different patient positions on post-induction hypotension caused by Propofol – A randomized comparative trial.
53. Comparison of analgesic efficacy of classical thoraco-lumbar interfascial plane block (TLIP) Vs lateral thoraco-lumbar interfascial plane block in patients undergoing lumbar disc surgeries: A comparative, randomized controlled trial
54. Association between perioperative acid-base abnormalities and kidney dysfunction in patients with peritonitis: A prospective cohort study
55. Post-Operative Pulmonary Complications with High versus Standard FiO<sub>2</sub> in Adult Patients Undergoing Major Abdominal Surgery: A Non-Inferiority Trial
56. Effect of Incremental PEEP Titration on Postoperative Pulmonary Complications in Patients Undergoing Emergency Laparotomy: A Randomized Controlled Trial
57. Comparative Evaluation of Analgesic Efficacy of The Ultrasound Guided Erector Spinae Plane (ESP) Block Versus Transversus Abdominis Plane (TAP) Block in Children Undergoing Unilateral Abdominal Surgeries: A Prospective Randomised Controlled Trial
58. Comparison of weight versus weight for age for size selection of LMA in malnourished peds patient- a randomized crossover trial
59. Effect of instillation of intranasal dexmedetomidine on the duration of caudal analgesia in pediatric Infra-umbilical surgeries
60. Sonographic assessment of suprahyoid airway parameters in patients planned for elective Proseal placement - a pilot, observational study.
61. Attitude and understanding regarding anaesthesiology as a career option amongst medical undergraduates in India: A cross-sectional study
62. Long term effects of trans muscular quadratus lumborum block versus transversus abdominus plane block in laparoscopic hernia repair by TAPP approach- single centre retrospective analysis
63. Perioperative analgesic effect and long-term quality of life in patients undergone modified radical mastectomy receiving continuous or intermittent bolus technique erector spinae plane block: A Single center retrospective analysis.
64. Comparative Evaluation of Continuous Versus Intermittent Bolus Techniques in Ultrasound Guided Erector Spinae Block in Modified Radical Mastectomy Surgery – A Prospective Randomized Controlled Trial
65. Combined Trans -muscular Quadratus Lumborum Block and Sacral Erector Spinae Block Versus Intrathecal morphine for perioperative analgesia in patients undergoing Open gynaecological oncological surgery: An Open label Prospective Randomized Non-inferiority trial.

66. Augmented Renal Clearance In An Adult Intensive Care Setting – Prevalence, Risk Factors And Impact On Clinical Outcomes
67. Impact of admission serum levels of calcium, magnesium and phosphorus levels on clinical outcomes in critically ill patients: A retrospective analysis

### **Inter Departmental Collaborations**

#### ***Ongoing***

Comparison between patient controlled analgesia with fentanyl and multimodal parenteral analgesia in reducing pain due to second trimester medical termination of pregnancy – A randomized controlled trial, Dept. of Obstetrics & Gynaecology.

A Randomized controlled trial on efficacy of single dose of intraoperative dexamethasone in reducing postoperative pain in caesarean section, Dept. of Obstetrics & Gynaecology

Extent of Pelvic Lymphadenectomy during Radical Cystectomy – A Multi-Institutional Open Label Randomized Trial between Standard and Extended Pelvic Lymphadenectomy, Multicentric.

A Computed Tomography imaging & anatomic study to investigate mechanism of action of Sacral Erector spinae Blockade, Department of Anatomy & Department of Radiology.

Role of biomarkers in patients undergoing major musculoskeletal tumour surgery and its correlation with different anesthetic techniques and peri-operative outcomes, Department of Orthopaedics.

Use of pulsated electro-magnetic fields (PEMF) as an adjunct for treatment of chronic back pain: a prospective randomized study, Department of Orthopaedics.

Short segment versus long segment myotomy during per oral endoscopic myotomy for Achalasia Cardia: A Randomized Controlled Trial, Department of Gastroenterology & Human Nutrition.

#### ***Completed***

A prospective pilot study to evaluate the effect of Supraglottoplasty on Tracheomalacia in paediatric patients with Congenital Laryngotracheomalacia, Department of Otolaryngology and Head Neck surgery.

Perioperative low dose vs standard dose steroid regimen in patients of ulcerative colitis: A randomised controlled trial, Department of Liver transplantation and Gastrointestinal surgery

Thyroid hormone abnormalities associated with severity of acute COVID-19, Department of Laboratory Medicine.

A combination of inflammatory and hematological markers is strongly associated with risk of death in both mild and severe initial disease in unvaccinated individuals with COVID-19 infection, Department of Laboratory Medicine.

Effect of integrated Yoga on ART outcomes and Psychological stress in patients undergoing In-Vitro-Fertilization (IVF) cycles: A Prospective Randomized Controlled Trial, Dept. of Obstetrics & Gynaecology.

UV radiation for decontamination of mobile phones of Health care workers at a tertiary care hospital, Dept. of Microbiology.

Determination of duration of vecuronium and isoflurane in type 2 diabetic patients with diabetes with and without cardiac autonomic neuropathy, Department of Physiology.

Comparison of analgesic efficacy of ropivacaine and levobupivacaine in labour analgesia by dural puncture epidural technique- a prospective double-blinded randomized trial, Department of Obstetrics & Gynaecology

Molecular detection of legionella pneumophila by real time PCR and characterization of isolates by sequence based typing, Department of Microbiology.

Analgesic efficacy and safety profile of Glossopharyngeal nerve block using Extraoral Anatomical landmark technique VS Ultrasound Guided technique in patients with Eagles Syndrome, Department of Radiology.

### Research projects over past 3 years

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	7	19	15
Total funding (Lakhs)	Rs 27.14	Rs 216.4	Rs 274.8

### PUBLICATIONS

**Journal: 141                      Abstract: 16                      Chapters in Book: 30**

**Books and Monographs: 3**

**Publications over past 3 years**

Item	2020-2021	2021-2022	2022-2023
<b>Total</b>	<b>145</b>	<b>140</b>	<b>190</b>
Journal articles	145	121	141
Abstracts	0	1	16
Chapters in books	0	18	30
Books	0	0	3

### PATIENT CARE

Specialties	No. of cases performed	
<b>Operating Theatres</b>		
GI Surgery OT	571	
Urology	1360	
ENT	1357	
Gynaecology AB8 Main OT	729	
MCH Block Gynaecology OT (October 2022 onwards)	341	
Gynaecology total cases	1070	
Paediatric surgery AB8 Main OT	1306	
Paediatric surgery MCH Block OT (November 2022 onwards)	42	
Paediatric surgery total cases	1348	
COVID-19 OT	3	
Orthopaedics OT	6746	
Maternity OT Third Floor	3062	
Maternity OT MCH Block (January 2023 onwards)	341	
Maternity OT Total Case	3403	
IVF OT	452	
Peripheral Services (CT, MRI, MECT, DSA)	3850	
Surgery Block OT	3546	
Burn and Plastic block OT	1967	
Burn and Plastic Main OT	66	
Burn and Plastic total cases	2033	
AB8 Emergency	Cases	3741
	Peripheral Calls	1660
Anaesthesia Services at Centres		
Dental Surgery (CDER)	704	
Ophthalmic Surgery (Dr RP Centre)	8113	
Intensive Care Units		
AB 8 ICU	New Admissions	683
Surgery Block ICU (September 2022 onwards)	New Admissions	230
Burn & Plastic Surgery ICU	New Admission	905

Pain Medicine		
Pain Clinic	Old patients	2314
	New patients	953
Pain OT		377
PAC Clinic		19509

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Lokesh Kashyap was awarded for “Eminent Medical and Health Education Teacher” for immense contribution to medical and health education on the occasion of the Teacher’s Day Celebrations by Delhi Medical Association.

**Professor Ganga Prasad** is Administrative incharge of clinical services in anaesthesia and critical care at JPN trauma centre, AIIMS, New Delhi; Faculty coordinator of central workshop, AIIMS, New Delhi; Examiner for MD at Post Graduate Institute, Chandigarh in November 2022; Examiner for paediatric fellowship at AIIMS, Jodhpur, Rajasthan; External Member for specification committee of anaesthesia equipments for Post Graduate Institute of Medical Education and Research in New Delhi & Dr Ram Manohar Lohia Hospital, New Delhi; Teaching Subject expert for selection of Assistant professor interview of north MCD Medical college, New Delhi in February 2023. Chaired session 13th Annual conference of the Neurocritical Care Society of India (3rd NCSI) and 8th AIIMS Neuroanaesthesia and Neurocritical Care Update 2022 held from 6-9 October 2022 at Hotel Pride Plaza Aerocity, New Delhi. Chaired session of lung pleura & diaphragm ultrasound in CME cum Workshop on Critical Care Ultrasound (ACCUS 2022) on 27-28 August 2022 at AIIMS, New Delhi.

**Professor Vimi Rewari** was Technical Advisory Committee (TAC) Member for guiding Policy Brief & Recommendations on Oxygen Ecosystem organised by USAID RISE PATH (Reaching Impact, Saturation, and Epidemic Control (RISE) is a global project funded by the US Agency for International Development (USAID) helped by Program for Appropriate Technology in Health(PATH)); appointed by the National Board of Examinations in Medical Sciences, as an assessor to undertake the physical assessment of the facilities and infrastructure of a hospital for accreditation in FNB Transplant Anaesthesia.

**Professor Jyotsna Punj** conducted Workshops at International and National for a: Resource faculty at workshop on chronic pain management and peripheral nerve blocks held on 21-22 August in Imphal Organized by: Manipur Association of Anesthetists; Resource faculty at South Asian Regional Pain Society (SARPS) held at Dhaka held on 3-4 December; Organized by: Dhaka Anesthesia Association; Chairperson at ACCUS 2022; Organized by Department of Anesthesia, AIIMS; Resource faculty of ultrasound guided nerve blocks workshop held at Cairo from 2-5 November 2022; Organized by AFSRA; Resource faculty at ultrasound guided nerve block workshop held at Ranchi from 7-9 October 2022; Organized by Ranchi Association of Anesthesia; Resource faculty at ultrasound guided nerve block workshop held at Colombo 22-25 September 2022; Organized by Sri Lanka Association of Pain Anesthesia. She was Specialist Expert for faculty selection at SGPGI, Lucknow, November 2022, UCMS, November 2022; Member of AIIMS for SDG forum; Examiner of DM Critical Care, Pain Fellowship examination at AIIMS; Associate editor of IJPUT (International Journal of Perioperative Ultrasound & Applied Technologies); Evaluation of thesis from Jammu University, JNMC, Aligarh and GMC, Jammu; Invited specialist for Anesthesia faculty selection of Jammu & Kashmir Commission.

**Professor Ravinder Kumar Pandey** was Examiner for AIIMS Jodhpur for evaluation of MD thesis (Anesthesiology); Examiner for South Campus Delhi University (MAMC), VMMC and Safdarjung hospitals, for evaluation of MD thesis (Anesthesiology) and MD Anesthesia Exams. He was nominated as an Examiner for PGIMS, Chandigarh for DM (Liver transplantation) and evaluation of MD (Anesthesia) thesis; Examiner for SGPGIMS, Lucknow for PDAF (Liver transplantation) exam and MD (Anesthesiology) exam & evaluation of MD (Anesthesia) thesis; Resource faculty in workshop of Ultrasound Guided Regional Anesthesia Training Program and Moderating the session of IDRA course, organized by the Institute of Anesthesiology, Pain & Perioperative Medicine (IAPPM), SGRH, New Delhi; Examiner for DM (Liver transplantation) and evaluation of MD (Anesthesia) thesis, PGIMS, Chandigarh; Examiner for SGPGIMS, Lucknow for PDAF (Liver and Renal Transplantation) and MD (Anesthesiology) exam & evaluation of MD (Anesthesia) thesis; Expert for MD anesthesia thesis evaluation – JP Koirala Institute, Dharan, Nepal, AIIMS Jodhpur, AIIMS Patna, PGIMER Chandigarh, MAMC and South Campus Delhi University, VMMC and Safdarjung hospitals, Baba Farid University, Faridkot, Punjab.

**Professor Anjolie Chhabra** completed her PhD thesis on “The effect of paravertebral anaesthesia on quality of life scores and circulating scores and circulating tumour cells in breast cancer patients”. She was External examiner for

MD Anaesthesiology examination conducted at Maulana Azad Medical College, for Delhi University from 4-7 May 2022; External examiner for MD Anaesthesiology examination conducted for Government Medical College and Hospital Chandigarh from 11-13 May 2022. She chaired sessions in Webinars: Perioperative transfusion practices in paediatric patients IAPA Delhi on 12 April 2022; Upper limb blocks APPSA 2022, SGRH on 20 May 2022. She judged the free paper session at MIDCON ISA Delhi on 13 June 2022; Evaluated thesis from GMCH Chandigarh, and from UCMS and GTB Hospital. Also she was Associate Editor of Trends in Anesthesia and Critical Care.

**Professor Rashmi Ramachandran** was Judge for oral poster presentations, 61st Annual Conference of Indian Society of Anaesthesiologists, Delhi Branch (ISACON Delhi 2022) on 8 October 2022.

**Dr Puneet Khanna** won Award of appreciation in recognition of exemplary efforts in teaching and training in the field of Anesthesiology ; Indian Society of Anesthesiologists (ISA), Delhi Branch on 9th October, 2022 at the Leela Ambience Convention, Delhi; Grant By DST to present the paper in Combined Scientific Congress (CSC 2022), New Zealand (21-24 October 2022); Grant By INSA to present the paper in Combined Scientific Congress (CSC 2022), New Zealand (21-24 October 2022); Grant By SERB to present the paper in SWAN Trauma, Critical Care & Emergency Surgery Conference (SWAN 2023), Australia (2-4 March 2023); Grant By INSA to present the paper in SWAN Trauma, Critical Care & Emergency Surgery Conference (SWAN 2023), Australia (2-4 March 2023); Grant by Korean Anesthesia Society for thesis presentation by candidate in KORESANESTHESIA 2023 OF 1000 USD. He has Membership of programme advisory committees, scientific advisory committees, research advisory committees, government advisory bodies, etc.: Technical Specified Committee in HLL (HITES). Evaluation of a thesis: Delhi University – 4, PGIMER, Chandigarh- 2, GMC Chandigarh-2.

**Dr Rahul Kumar Anand** received ISCCM Delhi State Chairman Award, 2023

**Dr Debesh Bhoi.** He was recipient of Member spotlight for the month of June 2022, by ASRA (American Society Regional Anaesthesia & Pain Medicine). He was awarded Star Achievers of ISA Delhi, ISA News Letter, Volume 62, Issue 9, June 2022 and was recipient Travel Grant by Asia Australasian Congress of Anaesthesiologists at Coex, Seoul, South Korea (10-12 November 2022).

**Dr Akhil Kant Singh** was awarded the membership of the National Academy of Medical Sciences.

**Dr Souvik Maitra** attended advanced training program on medical device development and testing in Osaka, Japan.

**Dr Mritunjay Kumar** won ACCORDION clinical excellence award at 9th Annual Conference on Critical Care Advances in the Millennium - ACCORDION 2022 on 24 July 2022 held at New Delhi. He was Examiner for Diploma in Anaesthesia at SMS Medical College, Jaipur in 2018; Thesis Examiner for MD students at SMS Medical College, Jaipur; Jhalawar Medical College, Jhalawar and Indraprastha University, New Delhi in 2019; Examiner for Lifesaving Anaesthesia Skills (LSAS), 11th batch at Government Medical College, Sector 32, Chandigarh on 24 May 2019; NMCH, Patna (16-18 August 2021; NHM, Tamil Nadu - 7-9 September 2021; RIMS, Ranchi - 24-25 September 2021 and 21-22 March 2022; Examiner for BSc- Anaesthesia and Operation Theatre Technique, Punjab University-2020, 2021, 2022; Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS) - Faculty & Instructor at Phoenix Institute of CPR & Defibrillation, New Delhi.

**Dr Anju Gupta** was elected Indian representative for European Society of Regional Anaesthesia. and cleared European Diploma of Regional Anesthesia.

**Dr Kelika Prakash** completed AHA certified BLS and ACLS Instructor course in 2022.

**Dr Parin Lalwani** cleared EDAIC Part-1 examination-2022; cleared IDRA Part 1 Examination-2022; Faculty in USG RA at ISACON DELHI 7 October 2022; Faculty in Airway workshop TACON, Hyderabad 12-13 November 2022; Workshop Faculty on double lumen tubes-Airway equipment at APGA at AIIMS New Delhi 7-8 January 2023; Faculty at AMF Patna 4-5 February 2023.

**Dr Sulagna Bhattacharjee** received Presidential citation award, CRITICARE 2023; ACCORDION Excellence Award, 2022 and Appreciation award, EUROASIA 2022.

**Dr Ram Singh** completed part 1 of Indian Diploma in Regional Anaesthesia (IDRA-1) awarded by Indian College of Anaesthesiologists in June-July 2022 and chaired a session of oral paper presentations as a Judge in Yuvacon 2022 organised by Indian Society of Anaesthesiologists (ISA) Delhi on 6-7 August 2022.

**Dr Dhruv Jain** was awarded 'Fellowship of Indian Academy of Pain Medicine' by IAPM, ISSP on 3 February 2023.

**Dr Sana Yasmin Hussain** judged Poster presentation at HIMSR Anaesthesia and Pain Update, 17 September 2022, New Delhi; and attended Workshop on 'Training the trainers' at SET facility, 9-10 December 2022, AIIMS, New Delhi.

**Dr Amit Kumar** was Oral paper presentation- Judge in ISA Delhi Yuvacon 2022.



## 9.2 Anatomy

### Professor and Head

A Shariff

### Professors

SB Ray

Renu Dhingra

TC Nag (Electron Microscopy)

Saroj Kaler Jhahria

Rima Dada

Arundhati Sharma (Genetics)

Ritu Sehgal

### Additional Professors

Tony George Jacob

Seema Singh

Neerja Rani

SC Yadav (Electron Microscopy)

### Assistant Professor

Prabhakar Singh (Electron Microscopy)

### Assistant Professors (Contractbasis)

JP Jessy

Sweta Maurya

Javed A Quadri

Vidhu Dhawan

Parul Kaushal

Harisha Kusuma

Monica Baxla

### Scientist

Prabhakar Tiwari

## HIGHLIGHTS

### Education

The Anatomy Department spearheaded the Institute's efforts to uphold the highest standards of medical training and assessment in the wake of the restrictions imposed by the COVID-19 pandemic. The digital infrastructure was created in-house, which included the digitally enabled Dissection Hall and the Digital Histology laboratory, crucial to conduct the academic activities online. The digital histology lab has been upgraded to accommodate 150 students simultaneously, with every student assigned to an individual console.

The Online Teaching/Learning programs developed during the pandemic, entailing a mammoth effort to disseminate didactic lectures and effective practical sessions and formative assessment exercises in the form of quizzes and assignments for the MBBS, MSc and BSc paramedical course batches have proved to be helpful even in the present situations.

The Gross Anatomy practical demonstrations and dissections can be disseminated online as live demonstrations through supervised and indigenously created videos on bones, viscera and prosected specimens. The entire content is digitally photo/video graphed and labelled for identifying interrelationships of Anatomical structures and for constructing practical revision in the form of PDF documents and assessment exercises.

The Microanatomy, Neuroanatomy and Embryology slides, specimens and models were also likewise photo/videographed for practical demonstration, revision and assessment sessions. In this manner the Anatomy department has successfully created sufficient in-house digital content for the entire first-year Anatomy curriculum in the form of teaching/learning modules that incorporate theory and practical education and assessment. The Department is in a position to conduct online, the weekly teaching meetings, Journal Club discussions, MD/MSc. exams, PhD selection viva voce and final defense sessions seamlessly and effectively.

The Department also conducted a summer training program in electron microscopy from 16 May to 15 June 2022 which was attended by participants from different parts of India.

## CMEs/Workshops/Symposia/National and International Conferences

### Events organized/facilitated by the Department of Anatomy, AIIMS, New Delhi

1. Workshop on Electron Tomography of Biological Specimens, 9-13 May 2022
2. Demonstration of Surgical suturing techniques, 14-15 April 2022
3. Demonstration of anatomical specimens, 28 July 2022
4. Cadaveric workshop for interventional radiology procedures, 19 August 2022
5. DST-STUTI training program on Biological Electron microscopy, 29 August to 4 September 2022
6. The 38th National Training Program in Electron Microscopy, 21 November to 2 December 2022
7. Cadaveric live surgery demonstration, 15 December 2022
8. Demonstration of anatomical specimens to Class XI and XII students, 21 December 2022
9. Cadaveric workshop (Ultrasound for Anesthesiologists), 24-26 February 2023

### Lectures delivered at CMEs, National and International Conferences

#### Lectures delivered:

**Rima Dada: 42**                      **Arundhati Sharma: 1**                      **TC Nag: 6**                      **Tony George Jacob: 17**  
**Neerja Rani: 3**                      **Subhash Chandra Yadav: 4**                      **Prabhakar Singh: 1**                      **Vidhu Dhawan: 1**

#### Total number of lectures delivered over past 3 years

	2020-2021	2021-2022	2022-2023
Total no. of lectures delivered	46	76	73

#### List of oral papers/posters presented: 50

#### Total number of oral/poster presentations over past 3 years

Presentation	2020-2021	2021-2022	2022-2023
Oral/posters	30	35	50

## RESEARCH

### Funded Projects

#### Ongoing

1. Fluorosis mitigation in community of Bihar through intervention and counseling, A Shariff, DST, 3 years, 2020-23, Rs 152.76 lakhs
2. Contribution of glial gap junctions towards morphine tolerance in rats, SB Ray, DST, 3 years, 2019-23, 35.5 lakhs
3. Effect of yoga on visual function, biomarkers of cellular aging and mitochondrial copy number in Leber hereditary optic neuropathy (LHON) patients, Rima Dada, ICMR, 3 years, 2021-24, 30.0 lakhs
4. "Effect of yoga on spermatozoa transcripts and miRNA expression in idiopathic infertility and early pregnancy loss", Rima Dada, SATYAM, 3 years, 2020-23, 55.0 lakhs
5. To study the effect of Yoga on DNA methylation alterations of imprinted genes and key genes of developmental importance in idiopathic recurrent pregnancy loss following spontaneous or assisted conception, Rima Dada, ICMR, 3 years, 2022-25, 60.0 lakhs
6. Identification of genetic variants and their functional evaluation in the pathogenesis of inherited Cardiomyopathies, Arundhati Sharma, ICMR, 3 years, 2019-22, 72.28 lakhs
7. Identification of the underlying differential expression and disease-specific signature profile in patients with epidermal necrolysis, Arundhati Sharma, ICMR, 3 years, 2019-22, 40.05 lakhs
8. Utility of Artificial Intelligence in differentiating, thyroid malignant lesions, Arundhati Sharma, DBT, 3 years, 2020-23, 74.16 lakhs
9. Assessment of biomarkers in aqueous humor (AH) of Retinoblastoma patients, Arundhati Sharma, ICMR, 3 years, 2019-22, Research Associate fellowship
10. Role of Hydrogen Sulphide as a pharmacological modulator in adverse pregnancy outcomes like preeclampsia, Renu Dhingra, DST, 3 years, 2018-22, 45.0 lakhs
11. Status of hydrogen sulphide producing enzymes, matrix metalloproteinases and miR-22 in preeclampsia and their role in modulating trophoblast invasion, Renu Dhingra, CSIR, 3 years, 2019-23, 15.0 lakhs

12. SMARCE1 mediated mechanisms of transcriptional modulation in trophoblast cell invasion during placentation and their status in preeclampsia, Renu Dhingra, ICMR, 3 years, 2023-26, 40.0 lakhs
13. Mitochondrial dynamics and status of autophagy in rat retinal photoreceptor cells after experimental iron overload in rats, TC Nag, ICMR, 3 years, 2019-22, 30.0 lakhs
14. An experimental study to understand the mechanisms of choroidal capillary death in aging eye with emphasis on involvement of macrophages and other immunocompetent cells, TC Nag, ICMR, 3 years, 2021-24, 31.0 lakhs
15. Investigation of Changes in Peripheral and Central Nervous System in An Experimental Model of Chronic Pancreatitis in Mice, Tony George Jacob, ICMR, 3 years, 2019-23, 32.23 lakhs
16. Identify the role of Inhibitors of apoptotic proteins in respiratory neuroendocrine tumors, Neerja Rani, AIIMS, 2 years, 2020-22, 5.0 lakhs
17. Cryo-Electron Microscope Imaging facility for biological specimens (Cells and Tissue), Subhash C Yadav, DBT, 4 years, 2021-26, 2000.0 lakhs
18. External delivery of Cisplatin using Human Papilloma Virus (HPV 16) based nanocarriers for treatment of cervical cancer, Subhash C Yadav, DHR, 3 years, 2021-24, 30.0 lakhs
19. Establishment of Laser Confocal Microscope Facility for biomedical live cell Imaging and for nano-particulate drug delivery, Subash Chandra Yadav, DST-FIST, 5 years, 2018-23, 165.0 lakhs
20. To study the role of cholinergic transmission on the amyloid beta induced neurodegeneration, Prabhakar Singh, ICMR, 3 years, 2023-26, 30.0 lakhs

### ***Completed***

1. Cryo electron tomography (ET) and correlation microscopy for understanding cellular infectivity and internalization of COVID-19 from human samples, Subhash C Yadav, IUSSTF, 2 years, 2020-22, 50.0 lakhs
2. Designing of rapid and cost-effective Nano-LAMP based detections of BK virus from serum of post-renal transplant patients, Subhash CYadav, ICMR, 3 years, 2019-22, 35.84 lakhs
3. Development of quick and specific detection system of EWS-FLI-1 fusion protein, Subhash C Yadav, DBT, 4 years, 2019-22, 96.0 lakhs
4. Mitochondrial dynamics and status of autophagy in rat retinal photoreceptor cells after experimental iron overload in rats, TC Nag, ICMR, 3 years, 2019-22, 30.0 lakhs
5. Morphological study of the developing human cochlear nucleus and spiral ganglion, Tony George Jacob, ICMR, 3 years, 2019-22, 45.40 lakhs
6. Study of structural reorganization of cholinergic neurites in a rat model of focal cerebral ischemia, Prabhakar Singh, AIIMS, 2 years, 2020-22, 10.0 lakhs
7. Ultrastructural localization of glucose regulated protein (GRP78) in Sino-nasal mucosa and its relationship to Mucor mycosis in COVID-19 patients, Prabhakar Singh, AIIMS, 1 year, 2021-22, 5.0 lakhs

### **Departmental Projects**

#### ***Ongoing***

1. A study of the role of macrophages and other immunocompetent cells in the age-related changes of choroidal capillaries in rats
2. Age-related morphological and neurochemical changes in glutamatergic neurons of the human inferior colliculus
3. An experimental study to understand the mechanisms of choroidal capillary death in aging eye with emphasis on involvement of macrophages and other immunocompetent cells
4. An in vitro study of CSE & HTRA1 in trophoblastic cell invasion
5. An investigation into the status of expression of sensors of unfolded protein response in rat retina due to iron accumulation
6. Analysis of Fourier transform infrared spectroscopy in pancreatic neuroendocrine tumor patients
7. Behavioral and neuroanatomical evaluation of neuropathic pain in rodents
8. Correlation of neuropathic pain with microglial activation in the nervous system
9. Effect of garlic (*Allium sativum* L) extract on mice models of chronic pancreatitis
10. Effect of hydrogen sulphide on protein arginine methyl transferase-1 (PRMT-1) signalling on trophoblastic cells and its association with preeclampsia
11. Effect of Resveratrol on Arsenic Trioxide-induced Hepatotoxicity in Mice

12. Effect of Transforming growth factor beta in a rat model of osteoarthritis
13. Effect of Yoga on adipose-specific increased lipid peroxides induced mitophagy and associated OGG1 repair protein
14. Evaluation of expression of Cystathionine Gamma Lyase (CSE) and High Temperature requirement (HtrA1) in preeclampsia and their association
15. Expression and quantification of Neurotrophic factors (BDNF and NT-3) and their receptors across the ageing human cochleae and peripheral blood
16. Expression pattern of ghrelin in the retina and its link with light insult in rats
17. Expression profile of novel proteins in blood of pancreatic neuroendocrine tumor patients
18. Genetic and Epigenetic profiling in patients of Anterior Pituitary Adenoma
19. Genetic and epigenetic profiling in patients with opioid dependence
20. Genetic screening of patients with Men 2 syndrome
21. Genetics studies to identify mutations in patients with cardiomyopathies
22. Identification and evaluation of novel proteins, inhibitors of apoptotic proteins and exosomes in cases of pancreatic neuroendocrine tumors
23. Identification of HPV-16 induced cervical cancer cells from cytology samples
24. Impact of yoga and meditation on Epigenome in Rheumatoid Arthritis
25. Impact of Yoga Based Intervention on Quality of Life of Glaucoma Patients
26. Impact of Yoga on obesity
27. Impact of Yoga on Paternal factors in Early pregnancy losses
28. Meditation based stress reduction: Is it therapeutic for Primary Open Angle Glaucoma (POAG)
29. Mitochondrial dynamics and status of autophagy in retinal photoreceptor cells in a rat model of experimental iron overload
30. Molecular studies in Fibromyalgia
31. Mutation analysis in Anti Mullerian Hormone gene in poor responders
32. Mutation analysis in OPAI gene and mt genome in optic atrophy
33. Pattern of mTORC1 expression in rat retina in experimental iron overload
34. Role of Hydrogen Sulphide as a pharmacological modulator in adverse pregnancy outcomes like preeclampsia
35. Role of microglia in pain at the spinal level in a rat model of arthritis
36. Study of Association of Methylenetetrahydrofolate Reductase (MTHFR) Polymorphisms in Infertile Men
37. Study of exosomes in saliva of pancreatic neuroendocrine tumor patients
38. Study of Hydrogen sulphide, HMGB1 and RAGE in serum and placenta in preeclampsia
39. Study of metabolites of kynurenine pathway in rat model of neuropathic pain
40. Study on the association of Polymorphism, Methylation and Expression status of Monoamine Pathway genes with Alcohol Dependence
41. Study to identify changes in the transcriptome of Stevens-Johnson syndrome (SJS)
42. To study the morphological changes in endothelin-1 induced capsular infract Model in rat

### ***Completed***

1. An association study of cystathionine beta synthase gene polymorphism in preeclampsia study title
2. Behavioral assessment of nociception and motor functions in the rat model of partial sciatic nerve transection (PSNT) injury
3. Effect of Curcumin supplementation on cognitive function and Estrogen receptor profile in hypothalamus and hippocampus of Arsenic trioxide-exposed adult female mice
4. Effect of hydrogen sulphide on migration of human trophoblast cells and its status in preeclampsia
5. Effect of rapamycin on markers of cell death and autophagy in the caerulein-induced model of mild acute pancreatitis in mice
6. Effect of Resveratrol on Arsenic Trioxide-induced Nephrotoxicity in Mice
7. Effect of somatostatin and neuropeptide Y on development of morphine tolerance in rats
8. Effect of Yoga Based Intervention on Intra Ocular Pressure, Quality of Life, Inflammatory Markers and Gene Expression Profile in Glaucoma Patients: A Randomized Controlled Trial

9. Evaluations of role of curcumin supplementation on Arsenic trioxide induced neurotoxicity in basal ganglia of mice
10. Expression of miR-22, Specificity protein-1 and cystathionine beta synthase in pre-eclampsia and their role in trophoblast invasion
11. Immunohistochemical study of microglial activation and AMPA receptors in hippocampus of rat model of experimental neuropathic pain
12. Impact of Yoga and Meditation on Epigenetic Profile in Rheumatoid Arthritis
13. Mutations in OPA1 gene and mt DNA in optic neuropathy
14. Role of micro-RNA-30 in cystathionine gamma lyase mediated trophoblast cell invasion and status in preeclampsia
15. Role of MMP 9 Promoter Polymorphisms in Preeclampsia
16. Role of Soluble Vascular Endothelial Growth Factor Receptor-1 (sVEGFR-1/sFLT-1) in Endoplasmic Reticulum Stress in Preeclampsia-an in vitro study
17. Study of the association of matrix metalloproteinase-9 gene polymorphism in preeclampsia
18. Unraveling the genetic intersections between male infertility and cancer: Role of yoga intervention

### **Collaborative Projects**

#### ***Ongoing***

1. Genotype and Phenotype correlation in POAG, Dr RP Centre for Ophthalmic Sciences
2. Genetic studies in fibromyalgia, Physiology
3. Impact of advanced paternal age and poor; lifestyle on sperm epigenome: Possible etiology in autism spectrum disorder, Pediatrics
4. Impact of yoga and meditation on Epigenome in Rheumatoid Arthritis, Medicine
5. Impact of YBLI on childhood depression, Psychiatry
6. Impact of short-term yoga-based intervention in obesity, Physiology
7. Yoga and impact on QOL in Glaucoma, R P Centre for Ophthalmic Sciences
8. Yoga Based Intervention” on Inflammatory Markers and Gene Expression Profile in Blood, Aqueous and Trabecular Meshwork of Primary Open Angle Glaucoma Patients: A Randomized Controlled Trial, R P Centre for Ophthalmic Sciences
9. Impact of preoperative steroids on trabeculectomy outcomes: a Randomized Controlled Trial, R P Centre for Ophthalmic Sciences
10. Electroencephalographic changes in early and advanced Glaucoma, RP Centre for Ophthalmic Sciences
11. Cytogenetic and Molecular Analysis in Infertility, Anatomy Dept, AIIMS, Raipur
12. Role of ashwagandha in management of Infertility, Centre for Ayurveda, Guru Gobind Singh University
13. Genome wide Analysis to explore stress, inflammation and cellular aging following short- and long-term yoga-based intervention in obesity and DM, Physiology
14. Genetic and Cellular Changes After 6- Months of Yoga-Based Lifestyle Interventions inParticipants with Obesity and Major Depressive Disorders: A Randomized Controlled, Physiology
15. A Cross sectional study for assessment of Matrijabhava (Maternal factor) and Rasajabhava (Nutritional factor) for causation of childhood Leukemia in purview of epigenetics”, Chaudhary Brahm Prakash Ayurved Charak Sansthan Delhi
16. Vulnerability assessment of Matrijabhava for the causation of Metabolic disorders in childhood: A cross sectional study, Chaudhary Brahm Prakash Ayurved Charak Sansthan, Delhi
17. An observational study of anatomical concept of shadgarbhkarbhav (six procreative factors) in Prevalence of Arbuda, Chaudhary Brahm Prakash Ayurved Charak Sansthan, Delhi
18. Vulnerability assessment of Rasaja Bhava (Nutritional component) for the Causation of Asymmetric IUGR - A cross-sectional study, Chaudhary Brahm Prakash Ayurved Charak Sansthan
19. Assessment of genetic prevalence of NASH related liver cirrhosis with association of Matraja Bhava (Maternal Factor) - A cross-sectional study. Chaudhary Brahm Prakash Ayurved Charak Sansthan
20. Study of Oxidative Stress on Sperm Shelterin expression and Chromatin function in Infertile males, Reproductive Biology

21. Study of Oxidative Stress on Sperm TERRA expression and Chromatin function in Infertile males, Reproductive Biology
22. Effect of Semen Cryopreservation on Sperm Telomere Biology and Fertilization Potential/damage Response, Reproductive Biology
23. Age dependent dynamics of sperm telomere and inter-relation with DNA damage response, Reproductive Biology
24. Evaluation of Yoga Based Interventions and Transcranial Magnetic Stimulations on Cognition, Neuromodulation and Stress in Obesity: A Randomized Controlled Trial, Physiology
25. Genetics of MEN2 syndrome, Endocrinology
26. MEN1 gene mutation in patients of primary hyperparathyroidism, pancreatic tumors and pituitary tumors and its clinical implications, Endocrinology
27. Genetics of Juvenile glaucoma, RP Centre for Ophthalmic Sciences
28. Genetics of alcohol and drug dependence, Psychiatry
29. Genetics studies of cardiomyopathies, Cardiology
30. Genetics of Steven Johnson Syndrome, RP Centre for Ophthalmic Sciences
31. Genetic studies on aqueous fluid in retinoblastoma, RP Centre for Ophthalmic Sciences
32. Mutational Analysis of ASMD, RP Centre for Ophthalmic Sciences
33. Material characterization of brain tissue and development of tissue-device interaction based neurosurgical simulation tools, Neurosurgery
34. AIIMS+ CSE- IIT-D Center of Excellence Collaborative Neuro-Engineering platform for excellence in innovation and translational research, Neurosurgery
35. Development of training model for delineation of vascular supply relevant to reconstructive surgical procedures of face and hand. A novel method of cadaver processing, Plastic reconstructive and burns surgery
36. Extending the horizon of endoscopic neurosurgery: A cadaveric study as a starting step to introduce posterior fossa endoscopic approaches to the armamentarium of minimally invasive neurosurgery of our institute. Neurosurgery
37. Microsurgical comparison of operative exposure of IAC through middle fossa and retro sigmoid hearing preservation skull base approaches - a laboratory investigation, Neurosurgery
38. Checking the feasibility of aotoplasty balloon catheter for endovascular occlusion of aorta', Surgical disciplines
39. Role of miRNA in modulating trophoblast cell invasion, Reproductive Biology
40. Role of miRNA in regulation of angiogenic factors in trophoblast cells, Reproductive Biology
41. Epigenetic changes during epithelial to mesenchymal transition in trophoblast cells under physiological and pathological conditions, Reproductive Biology
42. Fluorosis mitigation in community of Bihar through intervention and counseling, Anatomy
43. A study of the efficacy of intraperitoneal injection of methyl prednisolone on the severity of organ dysfunction in adult male Wistar rats with acute pancreatitis induced by surgical ligation of the biliopancreatic duct. GI Surgery
44. Centre for Advanced Research and Excellence in Pancreatic Diseases, Gastroenterology
45. Prevalence and genetic mutations profile of Primary Ciliary Dyskinesia in Indian Children, Pediatrics

### ***Completed***

1. Levels of Oxidative stress biomarkers in Follicular fluid of women with PCOs undergoing IVF and its relation to outcome, Obstetrics and Gynaecology
2. Oxidative stress evaluation in amniotic fluid of couples with normal and couples pregnant with fetus with congenital malformation, Obstetrics and Gynaecology
3. Mutation analysis of seven genes (NR5A1, DAX1, DHH, DMRT1, SOX9, SRY, WT1) in patients with Gonadal dysgenesis and 46, XY karyotype, Endocrinology
4. Effect of transcranial, magnetic stimulation on pain modulation status in fibromyalgia patients, Physiology
5. Identification and Characterization of novel genetic variants associated with cardiovascular diseases in diverse ethnic populations of India, Cardiology
6. Neurosurgery Skills Training Facility with 3D Endoscopic and 3D Microscopic Facility and Central Repository Server for Archival, Streaming and Teleconferencing. -FISTDST FIST Program DST FIST Level 2, Neurosurgery

7. Support to Indian Institutes to Conduct Training Programme in the area of Operational Research Neurosurgery Skills Training, Neurosurgery
8. Pharmacological and molecular approaches to investigate the effect of Adhatodavasica in experimental models of bleomycin induced pulmonary fibrosis, Pharmacology

#### Research over past 3 years

Research Projects	2020-2021	2021-2022	2022-2023
Total funded projects	35	34	20
Total funding (Lakhs)	1141.4	3283.54	2942.22

#### PUBLICATIONS

**Journals: 32**

**Abstract: 08**

**Chapters in Book: 02**

#### Publications over past 3 years

Item	2020-2021	2021-2022	2022-2023
<b>Total</b>	<b>55</b>	<b>55</b>	<b>42</b>
Journal Articles	43	45	32
Abstracts	6	3	08
Chapter in books	6	7	2

#### PATIENT CARE

##### GENETIC DIAGNOSTIC AND COUNSELLING SERVICES

Karyotyping-	306
Yqmicrodeletion analysis-	12
Sperm DFI-	32
Seminal ROS-	88
Yoga-	212

##### Molecular screening

Corneal dystrophies	25
DNA for Genetic analysis of various disorders	389
Miscellaneous	54
Cytogenetic Analysis	8

##### EMBALMING OF DEAD BODIES

EMBALMING OF DEAD BODIES	169
For transportation	139
For teaching/research	30

Patientcare related activities	2020-2021	2021-2022	2022-2023
Genetic Tests	353	757	525
Diagnostic tests for heavy metals/toxic elements/ micronutrients in blood/urine	2127	779	3200
Embalming of dead bodies	26	38	169

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Rima Dada** was Task Force Member of Ayushman Bharat Scheme (Wellness). Chaired for Yoga and Genetics Taksha Centre for Integrative Medicine and Yoga (CIMY), USA. Delivered Bob Edwards Oration and 3 plenary lectures and one key note address at various International and National meetings/Conferences and was Guest of Honour to deliver foundation day lecture at Anatomy Dept, AIIMS, Bibi Nagar and at Sri Ramachandra Institute of Higher Education and

Research. Member of Institute ethics committee of SVYASA Bangalore and DC member of School of Biotechnology, Amrita Institute Kottayam. Nominated as expert in a 6-member high-powered committee constituted by MoHFW and AYUSH for drafting guidelines to promote Yoga research. Expert for evaluation/formulation & review of questions by NBE and for NEET examination and on board of governors and expert for medical assessment and Rating Board (MABR), NMC. Member of the Committee for Yoga Science Communication, constituted by Inter-University Centre for Yogic Sciences, Bengaluru of UGC, Ministry of Education, GOI. Expert for evaluation of projects under ICMR-CARE scheme and projects in task force mode in NCD and RBMH section (ICMR). Reviewer for various ad-hoc projects by ICMR/DBT/DST/Welcome Trust. Expert for Advisory Committee/The Ayush Interdisciplinary R&D Task Force on High Impact Research in Yoga, Ministry of Ayush, GOI. Guest faculty of PGI-CCRYN and VAYU-The only university of Yoga in the USA. External faculty for IFS course in Clinical embryology and diploma in ART. Ph.D. Viva voce exam as an External Examiner for Genetics. Delivered talks on Total health and my work on yoga in various lifestyle diseases appeared in leading newspapers like TOI, HT and the Hindu and also on TV and Vigyan Prasar. Conducted interviews under APS and under Public Service Commission. Participated as Expert for an onsite Technical Evaluation Committee for Centre for Advanced Research and Excellence in Kidney Diseases at SGPGI and PARAM NIMHANS. Participated in online Training on Managing Leadership & High Performing Teams by NPC. Delivered talks at High-end workshop Karyashala on NGS and RTPCR at BHU. Reviewer for over 45 journals. She was invited by UGC to deliver lectures on wellness for their employees. Member secretary and CPIO of VishramSadhan and member core committee for institute day and election commissioner for UG elections. Member of committee for reviewing intramural grants and member of Store purchase committee, Internal complaints committee for sexual harassment, member of committee for archiving data, Member secretary and part of Advisory committee for Poster exhibition on IDY by research section and Professor Incharge of Media cell. Teaching incharge for PG teaching. Dr Dada's lab is offering yoga and genetic diagnostic facility Board of advisors for a start-up venture by Dasceq in telehealth, Texas, USA. Part of documentary on Narmada by National Geographic channel. Member of Bureau of Indian Standards, BIS for Anatomy and Forensic Sciences. Reviewer for Embryology by Langman and Grants Dissector and Associate Editor of DiFiore Atlas of Histology with Functional Correlations, Wolters Kluwer, 2022

**Professor Arundhati Sharma** acted as a reviewer for projects, manuscripts for publications and PhD and MD theses. She is the nodal person for the Departmental Annual report and website information

**Professor Renu Dhingra** is currently a Member of the International Society of Plastination and Executive member of DASMOS. She has assisted the interviews by standing selection committee as subject expert for the various faculty posts at various AIIMS. She also reviewed research articles submitted to several journals. She facilitated soft embalming and dye injections for cadaver preparation for national and international cadaveric workshops and intra as well as extramural research projects.

**Professor TC Nag** examined several PhD theses, research project grant applications and reviewed manuscripts for publications in various journals. He was a member of abstract review committee and judge in second AIIMS Annual Research Day presentation, on 18 October 2022. He received AIIMS Research Excellence Award under the basic science category and Life Time Achievement Award (2022, life sciences/medical sciences category) of the Electron Microscopy Society of India. He delivered one plenary lecture at the 41st annual meeting of the Electron Microscopy Society of India, held in Delhi University, Delhi in December 2022.

**Professor Ritu Sehgal** currently holds the designation of the Central Public Information Officer (CPIO) for the Anatomy Department to look after the work under the RTI Act, 2005; Faculty-in-charge for the Central Lab. no. 1006; designated Departmental Faculty for B.Sc. MLT course; Member of the e-Learning Resource Material (eLRM) Expert Group for developing e-Learning resources and Competency Based Medical Education for MBBS students and Member of the Medical Writers Group at AIIMS, New Delhi that signed a contract in October 2021 for a proposed 'Textbook of Human Anatomy'. She contributed as Nodal officer of Anatomy Dept. and Member of the Exhibition Sub-committee for the 67th Institute Day held in September 2022; Member of the Advisory Committee & Election Commission Special Invitee for the AIIMS Students' Union Elections; Member of Anti-ragging squad and Departmental Counsellor for Student Mentorship Program, co-ordinating counselling and aiding MBBS students requiring help. She was External Examiner for the 1st Professional Anatomy Exam (Annual & Supplementary) at various Medical Colleges.

**Dr SK Jhajharia** acted as the external examiner for the 1st Professional MBBS examinations at several medical colleges.

**Dr Tony Jacob** has been nominated as a member of the Institutional Animal Ethics Committee. He has contributed to the National Medical Council Network as a member of Committee for Telemedicine and e-Learning and to Bureau of Indian Standards as a member of the Committee- MHD 23 that looks after equipment for Anatomy and Forensic Sciences. He continues to be on the Editorial Board and review committees of numerous National and International biomedical journals. He also continues to be a resource person for Communication Skills and Writing a Manuscript.



**Dr Neerja** was elected as a member of the National Academy of Medical Sciences (NAMS). Adjunct faculty at Jiwaji University, Gwalior for teaching M.Sc. neuroscience course. She has evaluated PhD thesis and served as an external examiner and paper setter for regular and supplementary first professional MBBS examination in Anatomy in different medical colleges.

**Dr Subash Chandra Yadav examined PhD** theses. He organized the National Workshop on “Electron Tomography of Biological Specimens” from 9th to 13th May 2022 at Electron Microscope Facility, AIIMS, New Delhi. He has reviewed many journal papers. He served as the general secretary of the Scientific Training programs of SAIF, AIIMS, New Delhi.

**Dr Prabhakar Singh** has served as a guest editor of a peer-reviewed journal. He was the organizing secretary of the National Scientific Training Program, Summer Training Program and DST STUTI Training Program on Biological Electron Microscopy organized by Sophisticated Analytical Instrumentation Facility, AIIMS, New Delhi.

**Dr Vidhu Dhawan received** the founder President Dr TC Anand Kumar Young Scientist Award at International Conference on Reproductive Health with Emphasis on “Innovations in Reproductive Sciences and Technologies: Hope, Risk and Responsibilities” and 33rd Annual Meeting of the Indian Society for the Study of Reproduction and Fertility from 24 to 26 February 2023 at Cuttack, India. Poster presentation award (3rd place) at the 8th International Day of Yoga on 21 June 2022 at AIIMS, New Delhi, India. Dr Satyanarayana Memorial Young Achiever’s Award at the 3rd Annual Conference of North Chapter of Anatomists Society, India on 17 September 2021.

### 9.3. Biochemistry

#### Professor and Head

Subrata Sinha  
(Till 31 January 2023)

Shyam S Chauhan  
(From 1 February 2023)

#### Professors

PP Chattopadhyay  
Kunzang Chosdol

Kalpana Luthra

Alpana Sharma  
Sudip Sen

#### Additional Professors

Archana Singh-I  
Subhradip Karmakar

Archana Singh-II  
Ashok Sharma

Jayanth Kumar P  
Pragyan Acharya

#### Associate Professors

Riyaz Ahmad Mir

Rakhee Yadav

Pramod Kumar Gautam

#### Assistant Professors

Siddhartha Kundu

Karthikeyan Pethusamy

#### HIGHLIGHTS

- 49 research projects are ongoing in the department funded by various national and international agencies such as DBT, DST, ICMR, DHR, DRDO, Wellcome Trust, Ministry of AYUSH and Intramural AIIMS, amounting to Rs 73.5 crores and 14 research projects were completed this year.
- 67 departmental projects and 69 collaborative projects are ongoing with different faculty of the various departments.
- 77 research publications and 19 abstracts and published in indexed National and International Journals of repute.
- 46 Invited talks were delivered by the faculty and 71 research papers were presented by faculty/research students (oral/poster) at various national and international scientific forums.
- Departmental faculty have received total of 5 AIIMS Excellence research awards for the years 2020 and 2021, 3 research awards in Basic Sciences (1st, 2nd and 3rd) and two research awards in Oncology Basic Sciences (1st and 3rd) received in October 2022.
- Faculty and students received total of 15 awards and prizes for oral presentations along with travel grant at various national and international conferences.
- 14 MSc, 16 MD, 9 SR and 44 registered PhD students are working in the department.
- The practical for MBBS and coursework for MD & MSc students teaching curriculum was further expanded to add more advanced classes in various topics encompassing the current advances in research.
- A formal course work and its assessment for PhD students is completed for the 3 batches and continuing for the next in the department with various modules.
- Department is providing clinical services to the patients and performed different tests. The porphyria tests were performed on 87 samples received from different departments.

#### EDUCATION

##### Undergraduate

The department introduced some modifications in the UG teaching curriculum, aimed at enhancing both the skill development and keeping the knowledge at par with the current developments in biochemistry. Case discussions related to didactic lectures and demonstration practical on POCT devices for glucose monitoring and pregnancy testing were introduced to improve the theory-practical connect. Kit-based practicals were introduced for some of the routine biochemical analytes (uric acid and HDL cholesterol) for students to appreciate the differences between traditional and auto-analyzer based methods in use. Techniques related to current applications in molecular biology such as restriction digestion and restriction site mapping were also added to the curriculum.

## Postgraduate

These include 14 MSc and 16 MD students. The department also has 44 PhD students. There are two N-PDF working as post-doctoral students.

The postgraduate teaching curriculum was further expanded to add more advanced classes in the Molecular Biology and Cancer Biology modules. The 'Clinical Case Discussion' has been modified to discuss complex case reports from various journals for the MD, MSc students and Senior Residents.

A formal course work for PhD students is initiated in the department with various modules. It covered Advanced Laboratory Instrumentation, Cell biology and Culture techniques, Human and Animal ethics, Biostatistics, Research methodology etc. Students were assessed and graded after completion of course work.

The department is also giving formal training to pediatric genetics DM students in molecular biology.

## CMEs/Workshops/Symposia/National and International Conference

1. Dr Subrata Sinha, Convener, Sun Pharma Science Foundation: Annual Conference 18 March 2023 CRISPR and the clinic - so near and yet so far. NAMS auditorium, New Delhi (Co-Convener Dr Kunzang Chosdol)
2. Chairman and introductory session speaker - CRISPR: Introduction; Therapeutic interventions and clinical trials involving gene therapy and CRISPR
3. Organized on 25-28 March 2023 1st AIIMS Jodhpur-IIT Jodhpur Joint Conclave on Stem cells and Cellular Therapy, and Tissue Engineering Session Chair and Co-Convener
4. The symposium on International Day of Immunology organized on 29 April 2022 at AIIMS, New Delhi (Chief Organizer Prof Alpana Sharma)

## Lectures delivered

Subrata Sinha: 1

Alpana Sharma: 7

Archana Singh: 4

Pragyan Acharya: 2

Pramod K Gautam: 5

Shyam S Chauhan: 4

Kunzang Chosdol: 2

Subhradip Karmakar: 1

Riyaz Ahmad Mir: 2

Siddhartha Kundu: 1

Kalpana Luthra: 6

Sudip Sen: 1

Ashok Sharma: 10

Rakhee Yadav: 1

## Total Number of Invited Talks by the faculty of Biochemistry over past 3 years

Year	Total Number of Invited Talks by the faculty of Biochemistry
2020-21	20
2021-22	21
2022-23	46
Total	75

## Oral papers/posters presented: 68

### Oral papers/posters presented over past 3 years

Presentation	2020-2021	2021-2022	2022-2023
	22	13	68

## RESEARCH

### Funded projects

#### Ongoing

1. JC Bose Fellowship: Rational strategies for tackling hypoxia induced adverse phenotype and therapeutic resistance in neoplasia using a glial tumour model, Dr Subrata Sinha, DST, 5 years, 2017-22 Extended till 2026, 98 lakhs
2. Program Support: CRISPR-mediated technologies for the development of new therapeutics and diagnostics, Project Coordinator: Dr Subrata Sinha Co-PI Dr Shyam S Chauhan, Dr P Chattopadhyay, Dr Kalpana Luthara, Dr Kunzang Chosdol, DBT, 3 years, 2020-23, 2.89 crores

3. Cysteine Cathepsins in Acute Lymphoblastic Leukemia: Implication(s) in Prognosis and Therapeutics, Dr Shyam S. Chauhan, ICMR, India, 3 years, 2020-23, 21.9 lakhs
4. Delineating the co-evolution of HIV-1 broadly neutralizing antibodies and circulating viruses in mono-zygotic twins pediatric elite-neutralizers, Dr Kalpana Luthra, DST, 3 years, 2021-24, 47.4 lakhs
5. Generation and characterization of HIV-1 subtype-C based trimeric immunogens from infected children, Dr Kalpana Luthra, DBT, 3 years, 2019 -22, 1.60 crores
6. CARE in Pancreatic Diseases (As Co-PI), Dr Parmod Garg Dr Kalpana Luthra, ICMR, 5 years, 2019 -2024, 5.00 Cr
7. Unveiling the therapeutic potential of an Unani herbal formulation in hematological malignancy, Dr Alpana Sharma, AYUSH, 5 years, 2017-22, 62.12 lakhs
8. Prevalence of Human Papilloma Virus (HPV) in Indian patients of Penile cancer, Dr Alpana Sharma, DHR, 3 years, 2018-21, 25.0 lakhs
9. Deciphering the role of functional determinants of Dendritic cells and their immune cross talk with NK cells: Possible therapeutic target(s) in Pemphigus vulgaris, Dr Alpana Sharma, ICMR, 3 years, 2018-21, 42.31 lakhs
10. Identifying the role of Treg cells and MDSCs in endothelial dysfunction, Dr Alpana Sharma, ICMR, 3 years, 2019-22, 45.31 lakhs
11. Delineating the anti-cancer potential and the mechanism of action of Unani medicinal formulation Itrifal-e-aftimoon in Chronic Myelogenous Leukemia, Dr Alpana Sharma, CCRUM, AYUSH, 3 years, 2019-22, 68.66 lakhs
12. NLRP3 Inflammasome gene polymorphisms and their expression in Periodontitis- a genetic study in North Indian population, Dr Alpana Sharma, AIIMS collaborative project, 2 years, 2021-23, 17.5 lakhs
13. The role of FAT1 regulated miRNAs in glioblastoma (GBM) aggressiveness: Identification of potential miRNA(s) as clinical marker(s) in GBM patients, Dr Kunzang Chosdol, SERB-DST, 3 years, 2019-22, 42.33 lakhs
14. Role of FAT signalling in Oligodendroglioma: Identification of novel molecular targets and their clinical implications, Dr Kunzang Chosdol, ICMR, 3 years, 2021-24, 38.67 lakhs
15. Study of the FAT1-PDCD4 signaling axis in Periampullary cancer, Dr Kunzang Chosdol, ICMR, 3 years, 2021-24, 49.80 lakhs
16. Transcriptome analysis to define novel Pathways in Adenoid cystic Carcinomas and to correlate with clinical outcome, Dr Kunzang Chosdol, AIIMS (Collaborative Intramural), 2 years, 2021-23, 20 lakhs
17. Effect of hypoxia on different neural cell types in vitro – a model to design therapeutic strategies against cerebral palsy in preterm infants, Dr Sudip Sen, DBT, 3 years, 2018-21, 69 lakhs
18. Deciphering the osteogenic effect of Symphytum officinale using human bone marrow derived mesenchymal stem cells and rodent model, Dr Sudip Sen, CCRH (Min. of AYUSH), 2 years, 2019-21, 45 lakhs
19. Evaluation of a liposome-based cholesterol efflux assay against a macrophage-based efflux assay for measurement of reverse cholesterol transport capacity of HDL, Dr Archana Singh, ICMR, 2 years, 2021-23, 28 lakhs
20. Understanding Inter Compartmental Crosstalk between Insulin-sensitive and insulin-resistant obese and non-obese phenotypes using Adipose Tissue, Dr Archana Singh, Department of Biotechnology, India, 3 years, 2021-24, 19 lakhs
21. Metabolic reprogramming in B-ALL: identification of gene networks correlating with prognosis and chemoresistance in vivo and a novel ex- vivo primary culture model. Dr Archana Singh, AIIMS Collaborative intramural, 2 years, 2021-23, 20 lakhs
22. Study of humoral immune response and its genetic correlates in infection free “resisters” among household contacts of adult pulmonary tuberculosis, Archana Singh, SERB, 3 years, 2022-25, 39 lakhs
23. Study of effect of Hyperglycemia on phenotypic and functional alteration in differentiated macrophages from THP1 cell line and monocytes from pulmonary tuberculosis patients, Dr Archana Singh, ICMR, 3 years, 2019-22, 30 lakhs
24. Study of immune correlates in TST and IGRA negative household contacts compared to TST and IGRA positive household contacts of adult pulmonary tuberculosis patients, Archana Singh, Intramural Research Grant, 2 years, 2021-23, 10 lakh
25. To study expression of FcRIIIa receptor and correlate with polymorphic variants in resister phenotype of tuberculosis compared with latent tuberculosis, Archana Singh-Mentor, UG Mentorship Grant, 1 year, 2022-23, 2 lakhs
26. Deciphering the synergism between IGF2BPs and m6A machinery in B-cell Acute Lymphoblastic Leukemia, Dr Jayanth Kumar Palanichamy, SERB Core Research Grant (CRG), 3 years, 2022-25, 63 lakhs

27. Adaptive Immune Responses to Covaxin and Covishield: A comparative study, Dr Jayanth Kumar Palanichamy, AIIMS Intramural Research Grant, 2 years, 2021-23, 10 lakhs
28. To investigate the role of inflammation in the pathogenesis of Myelodysplastic syndrome (MDS) and to identify the different MDS subtype-specific novel transcripts associated with its progression into Acute Myeloid Leukaemia (AML) “, Dr Subhradip Karmakar, SERB, 3 years, 2023-26, 65 lakhs
29. To investigate the Role of Peroxisome Proliferator-Activated Receptor Gamma in Human Placental Development and Preeclampsia, Dr Subhradip Kamakar, DBT, 3 years, 2022-25, 56 lakhs
30. Strategy to up-regulate CXCR4 in mobilized stem cell grafts collected from patients and to study their homing property in mice, Dr Subhradip Karmakar, DBT, 1.5 years, 2022-24, 30 lakhs
31. Artificial intelligence in Oncology: Harnessing big data and advanced computing to provide personalized diagnosis and treatment for Cancer patients, Dr Ashok Sharma, MEITY, 2 years, 2020-22, 2.92 Crores
32. Interplay between Cancer Testis/Germline POTE antigen and NOTCH Signaling and its association with Global DNA Methylation in Ovarian Cancer, Dr Ashok Sharma, ICMR- MOHFW, 3 years, 2019-22, 42.5 lakhs.
33. Immuno-epigenetics study of the humoral immune response in COVID-19 patients from India. (Multi-institutional Project with NII), Dr Ashok Sharma & Dr Nimesh Gupta, SERB-IRHPA, DST, GOI, 3 years, 2020-23, 80 lakhs
34. Nuclear Architecture as an Epigenetic Regulator in Pericentromeric localized Cancer-Testis/Germline Antigen POTE Expression in Ovarian Cancer, Dr Ashok Sharma, AIIMS, 2 years, 2021-23, 10 lakhs
35. A pilot study evaluating role of Homoeopathic medicine in Cancer patients as adjuvant treatment to chemotherapy/ radiotherapy, and correlating with Molecular Markers, Dr Ashok Sharma, DBT, GOI, 2 years, 2022-24, 1.0 crore
36. DBT NCI-AIIMS Translational Cancer Research Centre for Five years (Phase-1), DBT, GOI, Dr Ashok Sharma, DBT, GOI, 5 years, 2022-27, 40 crores (Phase1)
37. Repurposing of Classical Ayurvedic Formulations for Their Anti-Viral Effects on SARS Cov-2 Protease: A Pre-clinical In Vitro Screening Approach, Dr Pragyan Acharya, AYUSH, 1.5, 2021-23, 37 lakhs
38. Understanding the role of neutrophil heterogeneity and its therapeutic potential in the inflammatory liver disease Acute-on-Chronic Liver Failure (ACLF), Dr Pragyan Acharya, SERB, 3 years, 2022-25, 45 lakhs
39. Tumor Dynamics and Immune cell interactions in anaplastic thyroid carcinoma, Dr Riyaz Ahmad Mir, ICMR, 3 years, 2021-24, 30 lakhs
40. Editing of Atoh1 in cadaver derived supporting cells for the regeneration of auditory cells. Dr Riyaz Ahmad Mir, ICMR, 3 years, 2021-24, 70 lakhs
41. Interactome Analysis of COVID-19 spike protein C terminus: identification of potential druggable target for virus entry, Dr Riyaz Ahmad Mir, AIIMS, 2 years, 2020-22, 8 lakhs
42. Genomic landscape of pediatric acute myeloid leukemia, Dr Riyaz Ahmad Mir, AIIMS Intramural Collaborative research project, 2 years, 2021-23, 10 lakhs
43. Role of PIH1D1: A component of R2TP complex in Thyroid cancer, Dr Riyaz Ahmad Mir, IMRG, 2 years, 2023-25, 10 lakhs
44. Extracellular Matrix Remodelling in Obesity Induced Adipose Tissue Dysfunctions and Insulin Resistance, Dr Rakhee Yadav, ICMR, 3 years, 2019-22, 46 lakhs
45. Study of Visceral Adipose Tissue (VAT) derived factors as modulators of co-morbidities in obesity, Dr Rakhee Yadav, AIIMS Intramural, 2 years, 2023-25, 10 lakhs
46. Role of M1 macrophage on DNA methylation and PI3K-AKT Signaling Pathway analysis in tumor-associated mesenchymal stem cells in Breast cancer, Dr Pramod Kumar Gautam, IRG, AIIMS, New Delhi, 3 years, 2022-24, 10 lakhs
47. Evaluation of tumor-derived exosomes in blood during pre and post treatment of pancreatic cancer patients, Dr Pramod Kumar Gautam, Inter-disciplinary IRG, AIIMS, New Delhi, 2 years, 2021-23, 20 lakhs
48. Insights into the molecular mechanisms of clinically relevant non-haem iron(II)- and 2-oxoglutarate-dependent dioxygenases and an assessment of their relevance to disease biology, Dr Siddhartha Kundu, AIIMS-IMRG, 2 years, 2020-22, 5 lakhs
49. Numerical approximation of reaction-specific disassociation constants from the convex cone of a generic metabolic network, Siddhartha Kundu, SERB-MATRICES, 3 years, 2022-25, 6 lakhs

**Funded research Projects over past 3 years**

Year	Total Number of funded research Projects in the department of Biochemistry	Total funds
2020-2021	49	29.39 crores
2021-2022	52	65.66 crores
2022-2023	49	73.5 crores

**Completed**

1. Deciphering neural plasticity of fetal neural stem cells on exposure to hypoxia, Dr Sudip Sen, AIIMS Intramural project, 2 years, 2019-21, 10 lakhs
2. Cellular and Immunomodulatory Functions of Dipeptidyl peptidase III in Esophageal Cancer Dr Shyam S. Chauhan, ICMR, India, 3 years, 2019-22, 35 lakhs
3. A study of immune pathways in the pathogenesis of chronic pancreatitis, Dr Kalpana Luthra, AIIMS, 2 years, 2019-21, 10 lakhs
4. Deciphering the links between adipocyte size, cholesterol efflux and insulin resistance in visceral and subcutaneous adipocytes from an obese population group, Archana Singh, Intramural, 2 years, 2019-21, 10 lakhs
5. Role of hyperglycemia on macrophage effector function in pathophysiology of pulmonary tuberculosis, Archana-II Singh, SERB DST, 3 years, 2018-21, 49 lakhs
6. Study of Mycobacterium indicus pranii and Human beta defensin-2 as adjunct and chemo-immunotherapy against Mycobacterium tuberculosis in vitro, Archana Singh, IMRG, 2 years, 2019-21, 10 lakhs
7. Role for RNA methyltransferase machinery in B-cell Acute Lymphoblastic Leukemia, Jayanth Kumar Palanichamy and Amit Awasthi, AIIMS-THSTI Collaborative Intramural, 2.5 years, 2019-22, 20 lakhs
8. Role of CO Signaling on trophoblast invasion in humans, Subhradip Karmakar, ICMR, 3 years, 2018-21, 52 lakhs
9. The Role of Peroxisome Proliferator-Activated Receptor alpha in Human Placental Development and Preeclampsia, Subhradip Karmakar, ICMR, 3 year, 2019-22, 62 lakhs
10. Identification of Hereditary Breast and Ovarian Cancer (HBOC) syndrome families with breast cancer and their BRCA1 & BRCA2” gene mutation profiling in NER population, Subhradip Karmakar, NCDIR, 3 years, 2020-23, 60 lakhs
11. Role of PAQosome/R2TP complex in the functional assembly of wild type and mutant p53, Dr Riyaz Ahmad Mir, AIIMS, 2 years, 2019-22, 10 lakhs
12. R2TP complex as a target of E6 and E7 oncoproteins, Dr Riyaz Ahmad Mir, SERB (DST), 3, 2018-22, 28 lakhs
13. Study of Vascular Endothelial Growth Factor (VEGF) and its Isoforms in Obesity associated Adipose Tissue dysfunctions, Dr Rakhee Yadav, AIIMS Intramural, 2 years, 2019-21, 10 lakhs
14. Role of Macrophages in regulation of Bone and Blood forming stem and progenitor cell migration and development, Dr Pramod Kumar Gautam, DST, New Delhi, 5 years, 2017-22, 35 lakhs
15. Development of targeted drug delivery using liposomes/nanoparticles on cancer stem cell using herbal plant extract and hsp70- tumor antigen and to evaluate its anti-tumor function, Dr Pramod Kumar Gautam, DST, New Delhi, 3 years, 2019-22, 49 lakhs
16. G-protein coupled receptors as drug targets in Non-alcoholic fatty liver disease (NAFLD): Evaluation in pre-clinical cellular models and primary hepatic stellate cells from rat models of NAFLD, Pragyana Acharya, AIIMS Inter departmental, 1 year, 2021-22, 8 lakhs
17. Extracellular Vesicular Signatures of Multiple Organ Dysfunction in Acute- on-Chronic Liver Failure- a Pilot Study, Pragyana Acharya, AIIMS Intramural, 2 years, 2020-22, 10 lakhs

**Departmental projects (including thesis/dissertations)****Ongoing**

1. Construction of a dual selection plasmid for efficient genome editing in mammalian cells.
2. Role of negative regulators of EGFR in malignant transformation of oral dysplasia
3. Role of Prothymosin-  $\alpha$  in Glial Tumorigenesis
4. Cysteine cathepsins in Acute Lymphoblastic Leukemia: Implication(s) in Prognosis and Therapeutics

5. Modulation of cytotoxic effect of Doxorubicin incorporated nanoparticles by co-incorporation with chlorpromazine
6. Influence of different grades of hyperglycemia on innate immune response in pathophysiology of active tuberculosis
7. Characterization of monocytes and macrophages in acute on chronic liver failure.
8. Role of mesenchymal stem cells in survival of mycobacterium tuberculosis and reactivation of tuberculosis
9. Generation and characterization of pediatric HIV-1 envelope trimers towards immunogen design
10. Characterization of B cell receptor repertory of HIV-1 subtype C infected individuals and generation of anti HIV-1 monoclonal antibodies
11. Generation and characterization of lineage-based envelope trimers from HIV-1C infected paediatric neutralizers
12. Isolation and characterization of human neutralizing monoclonal antibodies generated during natural HIV-1 infection.
13. A study of immune responses in the pathophysiology of Human chronic pancreatitis
14. Study of B cell subsets and their immune regulatory functions in urothelial carcinoma of bladder
15. Role of Macrophages in vitiligo
16. Role of TAMs in autophagy and related molecules in Bladder cancer
17. Role of memory T cells in renal cell carcinoma
18. Exploring macrophages and NK cells in the immunopathogenesis of pemphigus
19. Phenotypic and functional characterization of myeloid derived suppressor cells (MDSCs) and regulatory T cells (Tregs) in atherosclerosis
20. Elucidating the adjunctive ant tumorigenic potential of long chain fatty acid derivatives and niflumic acid in multiple myeloma cells
21. Studying the effect of MicroRNAs on RASSF1A modulation in Urothelial Carcinoma of Bladder
22. Functional interaction of FAT1 and miRNA in glioma
23. Hypoxia and response to chemotherapy: A study in glial tumor cell lines
24. FAT1 and p53 on chemo-sensitivity of Glioma
25. FAT1 protein: Its processing and cellular function in glioma cells
26. Study of functional link between FAT1 and Microproteins in Cancer Cells
27. Study of the FAT1-PDCD4 signaling in Periampullary cancer
28. Functional interaction of FAT1, p53 and p300 in glioma cells
29. Functional link between FAT1 and YAP1 in glioma cells
30. FAT1 and autophagy in cancer cells
31. Epigenetic regulation of FAT1 expression in cancer cells
32. Elucidating molecular changes in neurons and oligodendrocytes after exposure to hypoxia
33. Molecular mechanisms underlying vulnerability of pre-myelinating oligodendrocytes to hypoxic injury
34. Evaluating the role of Symphytum officinale in bone remodeling
35. Evaluating stage specific markers and cell signaling pathways associated with OL differentiation in vitro
36. Exploring the role of hypoxia in modulating ceramide metabolism and insulin sensitivity in adipocytes
37. Investigation of the involvement of plasma membrane ATP binding cassette transporter A1 (ABCA1) in adipose tissue mediated insulin resistance.
38. Exploring a unified pathway for the anti-atherogenic effects of adiponectin, sphingosine 1-phosphate (S1P) and high density lipoprotein (HDL) on endothelial cells
39. Expression of mitochondrial VDAC and associated genes in pediatric B- Cell Acute Lymphoblastic Leukemia.
40. Study of immune response in TST and IGRA negative household contacts of adult pulmonary tuberculosis
41. Study of Immunophenotypes of monocyte subsets in TST and IGRA negative household contacts of adult pulmonary Tuberculosis.
42. Exploring the role of CD206 receptor and its downstream effect in macrophages in tuberculosis patients with type 2 Diabetes Mellitus
43. To establish an ex-vivo model of Gaucher disease and correction using Lentiviral overexpression
44. Characterization of cooperativity between IGF2BP3 and METTL3 in stabilization of oncogenic transcripts
45. A CRISPR/Cas13 based RNA editing approach to correct the L483P mutation in Gaucher Disease

46. Validation of relapse specific genes' expression in B-ALL
47. Study of Androgen receptor mediated events and molecular heterogeneity in breast cancer
48. To test the clinical utility of PSG (Placenta Specific glycoprotein) family of proteins in predicting risk of early onset Preeclampsia and compare with existing biomarkers
49. Functional Characterization, Expression, and Clinical Significance of Cancer-Testis/Germline Antigen POTE in Ovarian Cancer
50. Role of 3D Genome Architecture as Epigenetic Regulator of Pericentromeric localized Cancer-Testis/Germline Antigen POTE in Cancer
51. Immunotherapeutic Potential of novel Prostate, Placenta, Ovary, Testis – Expressed Antigen in Ovarian Cancer.
52. Functional Analysis of Human Long Non-Coding RNAs and their Association with Spatial Genome Organization in Breast Cancer
53. Characterization of innate immune responses in ACLF
54. Role of E7 in hijacking the function of the R2TP complex
55. Role of PIH1D1 complex of R2TP complex in regulating cell cycle
56. Analysis of few Biomarkers in thyroid cancer
57. Role of various transcription factors in hair cell regeneration.
58. To elucidate the role of ECM-Adipocyte communication in obesity induced adipose tissue dysfunctions
59. Assessment of Amphiregulin and CRISPLD1 as visceral Adipose Tissue derived modulators of cardiovascular Health in obesity
60. Role of Macrophages phenotype in the regulation of mesenchymal stem cell migration and development in breast cancer
61. Effect of bioconjugated chemotherapeutic molecules on stem cell, cancer stem cells and their associated microenvironment
62. To study the immunomodulatory effect of tumor derived exosomes on gamma delta cells
63. Detection of prostate cancer biomarker using sensitive and rapid lateral flow device with diagnostic and prognostic significance
64. Identification of therapeutic combinations of small molecule modulators of TGF-beta and GPCR pathways in pre-clinical laboratory models of liver fibrosis.
65. Numerical approximation of reaction-specific disassociation constants from the convex cone of a generic metabolic network

### ***Completed***

1. Cellular and Immunomodulatory Functions of Dipeptidyl peptidase III in Esophageal Cancer
2. Role of human Heterogenous Nuclear Ribonucleoprotein D (hnRNPD) in oral cancer
3. A proof of principle study for the development of CRISPR based detection of clade C HIV-1
4. Expression and characterization of HIV-1 clade C infant trimer as a potential template towards immunogen design
5. Study of bdellovibriobacteriovorus as a live antibiotic against mycobacterium tuberculosis
6. Study of NK cells in the pathogenesis of Vitiligo
7. To study the gene expression in GBM cell lines under different degree of hypoxia and the role of p53 in HIF1 regulation under severe hypoxic condition
8. Regulation of FAT1 Gene Expression in Gliomas
9. Signaling interactions between FAT1, p53 and HIF1a in glioma
10. Molecular Signature of Glioma in the context of WHO 2016 classification of Glioma
11. Exploring a unified pathway for the anti-atherogenic effects of adiponectin, sphingosine 1-phosphate (S1P) and high-density lipoprotein (HDL) on endothelial cells.
12. Analysis of genes related to metabolic flexibility in Subjects undergoing weight reduction surgery.
13. Expression of mitochondrial VDAC and associated genes in pediatric B-cell acute lymphoblastic leukemia.
14. A prospective study of changes in human Gut Microbiota (GM) and its association with insulin sensitivity in obese individuals undergoing Bariatric Surgery (MD thesis submitted in July 2022)
15. Study of the expression of vascular endothelial growth factor (VEGF-A) and its isoforms, in Obesity and their association with insulin sensitivity



16. To identify the Estrogen-regulated miRNA network in Human trophoblast invasion
17. Comparative analysis between different stage Cancer patients to discover Novel Blood-based biomarkers for detection of early stage breast cancer - A pilot study

### **Collaborative projects**

#### ***Ongoing***

1. Monoclonal Antibodies form Dengue Virus infected patients, Department of Biotechnology, School of Chemical & Life Sciences, Jamia Hamdard
2. A study on hydrogen sulphide mediated transcriptional modulation using trophoblast cells and their association in preeclampsia, Department of Anatomy, AIIMS, New Delhi
3. Generation and characterization of therapeutic BCMA (B cell maturation antigen) specific antibodies in multiple myeloma (MM), Department of Medical oncology, AIIMS, New Delhi
4. Host and environmental factors in the acute exacerbations of childhood interstitial lung disease, Department of Paediatrics, AIIMS, New Delhi
5. Immunoporosis: Establishing the role of Gtu-Innate Cells in Osteoporosis, Department of Biotechnology, AIIMS, New Delhi
6. Investigating clinically relevant genetic mutations and risk biomarkers in lung cancer using exhaled breath condensates (EBCs), Department of Pulmonary Medicine, AIIMS, New Delhi
7. To determine. the concentration of Betel nut alkaloids and Catechin in current and past betel nut users and their association with pro- oncogenic cytokines and oral potentially malignant disorders, Centre for Dental Education & Research, AIIMS, New Delhi
8. The detection of current and resistant oral HPV using non-invasive method in Oral Potentially Malignant Disorders with their clinical and molecular characteristics, Centre for Dental Education & Research, AIIMS, New Delhi
9. A comparative pilot study of rectus fascia pubovaginal sling surgery vs TOT in patients with urodynamically proven SUI, Department of Obstetrics and Gynecology, AIIMS, New Delhi
10. Evaluation of effect of cyclosporine on inflammatory cytokine levels and dermatitis in patients of air-borne contact dermatitis due to plant parthenium, Department of Dermatology, AIIMS, New Delhi
11. Comparative study of two surgical procedures in women with stress urinary incontinence, Department of Obstetrics and Gynecology, AIIMS, New Delhi
12. A randomised controlled trial to study the outcome of ‘Routine episiotomy’ versus ‘No episiotomy’ on perineal injury and pelvic floor dysfunction during normal vaginal delivery among primigravida women: A Pilot study, Department of Obstetrics and Gynecology, AIIMS, New Delhi
13. Transcriptome analysis to define Novel Pathways in Adenoid cystic Carcinomas and to correlate with clinical outcome, Pathology, Dr R.P. Centre for Ophthalmic Sciences, AIIMS, New Delhi
14. Aberrant Lipid Metabolic Pathways as Novel Molecular Targets in Aggressive Ocular Malignancies, Pathology, Dr RP Centre for Ophthalmic Sciences, AIIMS, New Delhi
15. Phased pilot study to access baseline serum level of Prestin in healthy individuals and in patients of definite Meniere’s Disease and Ototoxicity as a biomarker of cochlear outer hair cell functional status, Department of Otorhinolaryngology, AIIMS, New Delhi
16. Impact of Indian Adaptation of Mediterranean Diet versus Low fat diet on Dietary Inflammatory Index in patients with Coronary Artery Disease, Department of Cardiology, AIIMS, New Delhi
17. To study the influence of CYP2C19 polymorphism on bortezomib blood concentration and clinical response in myeloma patients, Department of Pharmacology, AIIMS, New Delhi
18. Anemia Research Consortium as part of National Centre of Excellence and Advanced Research on Anemia (NCEAR-A), Centre for Community Medicine, AIIMS, New Delhi
19. ICMR national registry on venous thromboembolic disorders, Department of Cardiology, AIIMS, New Delhi
20. Prevalence and causes of anemia among tribal women of reproductive age groups 15-49 years residing in district of Lahul Spiti, Himachal Pradesh, India, Centre for Community Medicine, AIIMS, New Delhi
21. UG Mentorship: To evaluate the role of tumor markers CA-125, CA-15-3, CEA and CA 19-9 in diagnosis of carcinoma gall bladder, Department of GI Surgery, AIIMS, New Delhi
22. Evaluation of Stress Biomarkers in Pregnancy and correlation with Maternal-fetal Outcomes, Department of Obstetrics and Gynecology, AIIMS, New Delhi

23. Nutritional status of pregnant women as assessed by nutrient intake, anthropometry and selected serum biomarkers in an urban slum of Delhi - A community based prospective study, Centre for Community Medicine, AIIMS, New Delhi
24. Serum visfatin and adiponectin levels in patients with carcinoma endometrium, Department of Obstetrics and Gynecology, AIIMS, New Delhi
25. To study the sequential changes in maternal CRH level during the course of pregnancy and correlate with outcome its role as an endocrine mediator of parturition, Department of Obstetrics and Gynecology, AIIMS, New Delhi
26. To develop a prophylactic vaccine against SARS-CoV-2 by incorporating its spike protein subunit-1 (S1) into *Mycobacterium indicus pranii* and evaluate it for inducing virus-specific antibodies and TH1 type of immunity using mouse model, IRCH, AIIMS, New Delhi
27. To study the pattern of FOXP3, OX40, PD1 and TIM-3 among renal allograft patients and its correlation with risk of kidney injury, Department of Surgical Disciplines, AIIMS, New Delhi
28. A Prospective, multicentric, Randomized, Double Blind, Parallel, Phase III Clinical study to Assess efficacy of PMZ-1620 along with standard treatment in patients of Acute Ischemic Stroke, Department of Neurology, AIIMS, New Delhi
29. Gene expression, activation of signalling pathway and its correlation with clinical outcome among Trauma hemorrhagic Shock, JPN Apex Trauma Center, AIIMS, New Delhi
30. Treatment of Multiple adjacent gingival recessions associated with non-carious cervical lesions: A randomized clinical trial with Molecular analysis comparing connective tissue graft to volume-stable collagen matrix, Centre for Dental Education & Research, AIIMS, New Delhi
31. Nuclear factor kappa b activation, hypoxia inducible factor-1 and inducible nitric oxide synthase expression in human vascular endothelial cells by serum of adults with obstructive sleep apnea, Department of Physiology, AIIMS, New Delhi
32. To test the clinical utility of Blood-based miRNA 371-373 and mi302/367 as an early biomarker to stratify who might be benefited from Retroperitoneal Lymph Node Dissection (RPLND): A patient-based study, Department of Urology, AIIMS, New Delhi
33. Role of specific nucleotide polymorphisms (SNP) in determining risk and severity of opioid dependence: A case-control study, Department of Psychiatry and NDDTC, AIIMS, New Delhi
34. A pilot study to investigate the clinical utility of circulating miRNA and RNA expression profiling in inherited bone marrow failure syndrome (IBMFS), Department of Haematology, AIIMS, New Delhi
35. To evaluate the role of tumor markers CA-242, CEA and CA 19-9 in diagnosis and prognostication of carcinoma gall bladder, Department of GI Surgery, AIIMS, New Delhi
36. Molecular Analysis to explore resistance against receptor tyrosine kinase inhibitors in RCC, Department of Urology, AIIMS, New Delhi
37. Comprehensive Genomic approach to predict responders vs non responders against common anti-depressant therapy, Department of Psychiatry, AIIMS, New Delhi
38. Epigenetic regulation of pro-inflammatory and anti-inflammatory cytokine gene in post-traumatic sepsis and septic shock - defined by sepsis-3 classification A exploratory study in major trauma patients, JPN Apex Trauma Center, AIIMS, New Delhi
39. Role of cytokines IL17 and IL 22 in polytrauma patients with ventilator-associated pneumonia admitted in Trauma ICU, JPN Apex Trauma Center, AIIMS, New Delhi
40. Urinary novel microRNAs as a biomarker for prediction of acute kidney injury in sepsis, Department of Anesthesia, AIIMS, New Delhi
41. Molecular Characterization of Endometrial Cancer and its correlation with clinicopathological Features, Department of Pathology, AIIMS, New Delhi
42. Role of Epigenetics in Female Genital Tuberculosis, Department of Obstetrics & Gynecology, AIIMS, New Delhi
43. Biomarker discovery in Celiac Disease, Department of Gastroenterology, AIIMS, New Delhi
44. Prospective Study to Evaluate the Trend of Serum Procalcitonin Levels in Surgical Neonates and Infants and its Correlation with Events during the Post-Operative Period, Department of Pediatrics, AIIMS, New Delhi
45. Cytotoxicity of intracanal medicaments used for root canal disinfection and their effect on proliferation and differentiation potentials of Stem Cells from Apical Papilla, CDER AIIMS

46. Identification of novel molecular subtypes of prostate cancer as potential therapeutic targets for immunotherapy, Department of Pathology, AIIMS, New Delhi
47. To evaluate the role of R2TP complex as a novel regulator of PI3K/Akt/Mtor and AR signalling pathway in prostate cancer, Department of Pathology AIIMS, New Delhi
48. Identification of factors predictive for weight loss after Bariatric Surgery: Building a Model for improving outcomes and maintaining weight loss, Department of Surgical Disciplines, AIIMS, New Delhi
49. Development of single-cell derived clonal spheroids as a tool for drug discovery in cancer research with focus on head and neck cancer, School of Life Science, JNU, New Delhi
50. Development of a novel cancer immunotherapeutic agent by integrating tumor antigen TRP-2 with Mycobacterium indicus pranii and analysis of its antitumor efficacy and immune-mechanisms using a mouse model, IRCH, AIIMS, New Delhi
51. To investigate the role of Natural Killer cell in implantation failure and to study immune modulatory effects of Intra lipids in women with elevated uterine Natural Killer Cells in Fresh non-donor IVF cycles-A Randomized control Trial, Department of Obstetrics and Gynecology, AIIMS, New Delhi
52. Effect of benidipine alone and in combination with bosentan and sildenafil in monocrotaline induced pulmonary hypertension in rats, Department of Pharmacology, AIIMS, New Delhi

#### Departmental projects and collaborative projects over past 3 years

Year	Total Number of Departmental projects in the Biochemistry	Total Number of collaborative projects in the Biochemistry
2020-2021	47	57
2021-2022	65	70
2022-2023	65	55
Total	177	182

#### Completed

1. To study the influence of Cyp2C19 polymorphism on bortezomid in blood conc & clinical response in multiple myeloma patients, Department of Pharmacology, AIIMS, New Delhi
2. Differential expression of molecular markers in urine with respect to genetic propensity to congenital uropathies, Department of Pediatric Surgery, AIIMS, New Delhi
3. A novel therapeutic approach of anti-B7H4 therapy in Urinary Bladder Cancer, Department of Urology, AIIMS, New Delhi
4. Evaluation of RANKL in GCF and rate of tooth movement during canine retraction assisted with low level laser therapy- a Randomized controlled trial, Department of Dental Surgery, AIIMS, New Delhi
5. To study the correlation between candida and proinflammatory cytokines and chemokines in Oral Leukoplakia with antifungal therapy, Centre for Dental Education & Research, AIIMS, New Delhi
6. The prognostic role of circulating tumor cells (CTC) and CXCR1 expression in patients with metastatic clear cell RCC, Department of Urology, AIIMS, New Delhi
7. Evaluation of serum otolin-1 as a biomarker and significance of serum vitamin-d levels in benign paroxysmal positional vertigo patients, Department of Otorhinolaryngology (ENT), AIIMS, New Delhi
8. Profile of serum hepatotrophic factors, serum ammonia levels and Quality of life in patients of EHPVO, Department of Pediatric Surgery, AIIMS, New Delhi
9. Role of Vascular Endothelial Growth Factor – in management of Recurrent Respiratory Papillomatosis, Department of Otorhinolaryngology (ENT), AIIMS, New Delhi
10. Role of cancer testis antigen POTEE in preoperative diagnosis of epithelial ovarian tumors: a pilot study, Department of Obstetrics & Gynaecology, AIIMS, New Delhi
11. To evaluate the effect of intralipid Supplementation on implantation rate in Women with two or more failed in vitro Fertilization with elevated natural killer Cell levels – a pilot randomized controlled Trial, Department of Obstetrics & Gynaecology, AIIMS, New Delhi
12. Impact of Yoga and Meditation on Epigenetic Profile in Rheumatoid Arthritis, Department of Anatomy, AIIMS, New Delhi

13. Estimation of novel Proteins among Older Subjects as biomarker for cognitive impairment, Department of Geriatric Medicine, AIIMS, New Delhi
14. One carbon metabolism and cognitive impairment in older Indians, Department of Geriatric Medicine, AIIMS, New Delhi
15. The Role of Leukotriene A4 hydrolase gene Polymorphism and Clinical outcome correlate in Corticosteroids treated Tubercular Meningitis Patients, Department of Neurology, AIIMS, New Delhi
16. Role of PARP1 and  $\gamma$ -Glutamylcysteine Synthetase Inhibitor in Cisplatin Sensitivity & Correlation with DNA Methylation in Ovarian Cancer, IRCH, AIIMS, New Delhi
17. A Prospective, multicentric, Randomized, Double Blind, Parallel, Phase III Clinical study to Assess efficacy of PMZ-1620 along with standard treatment in patients of Acute Ischemic Stroke, Department of Neurology, AIIMS, New Delhi
18. Interleukin-1 $\beta$  levels around Orthodontic Mini-Implants during Direct loading-A single-Centre, Split Mouth, Parallel group Prospective Randomized Controlled Trial, Department Of Orthodontics Centre For Dental Education & Research, All India Institute Of Medical Sciences, New Delhi
19. Effect of benidipine alone and in combination with bosentan and sildenafil in monocrotaline induced pulmonary hypertension in rats, Department of Pharmacology, AIIMS, New Delhi
20. To investigate the molecular mechanisms of Keratoconus (KC) amongst Indian subjects, RP Center for Ophthalmic Sciences, AIIMS, New Delhi
21. Study on effects of probiotics on whole gut microbiome and clinical course in patients with critical care illnesses, Department of Medicine, AIIMS, New Delhi

### Publications

**Journals: 69**

**Abstract: 18**

**Chapters in Book: 1**

### Publications over past 3 years

Year	Total Number of Research Papers published	Total Number of Abstracts published	Total number of Chapters/ Books published
2020-2021	86	05	--
2021-2022	79	08	02
2022-2023	69	18	01

### PATIENT CARE

#### Patient care over past 3 years

##### 1. Clinical Biochemistry Laboratory

2020-2021	2021-2022	2022-2023
941	997	914

##### 2. Porphyrin Tests

This test was started from year 2020 in the department

2020-2021	2021-2022	2022-2023
78	123	87

The clinical biochemistry laboratory is now on the LIS and HIS of the Institute from the year 2022. There are 13 investigations on the CLIA system of the lab and rest 3 are the porphyrin-based screening tests.

#### Quality control:

Apart from routine internal quality assurance scheme, Successful monthly participation in External quality assurance scheme (EQUAS) for last one year to deliver quality reports.

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Subrata Sinha** received **Prof R Nath Oration Award** - PGI Chandigarh, From behavior to the cell: Lessons from familial dyslexia. His **Fellowships of Academies and other bodies** include J C Bose fellowship – 2017 -22 extended till 2026; Fellow of the Indian National Science Academy, Vice President 2020-22; Fellow of the Indian Academy of Sciences; Indian Academy of Neurosciences; Fellow of the National Academy of Medical Sciences; Fellow of National Academy of Sciences and Member, Guha Research Conference. His role in **Advisory Committees for scientific and academic institutions and activities** include Institute Body, Governing Body, Standing Selection Committee; JIPMER, Puducherry (2019 -22) and AIIMS Patna (2020 – 2022) – also Chairman Standing Selection Committee; Governing Body: IACS Kolkata (2020 till date); SAC of National Institute of Pathology, ICMR (2008 till date, Chairman since 2017); Society and Scientific Advisory Committee (SAC) of the Rajiv Gandhi Centre of Biotechnology (2008 till date) and Committees of Scientific Ministries and Departments. He has been Chair, Cognitive Science Research Initiative of DST (2014 till date) and Member SERB STAR Awards (2021 till date). In **Indian Council for Medical Research** he has been Chair, Scientific Advisory Group, Basic Medical Sciences (2021 till date); Chair PRC for Biochemistry, Allergy and Immunology, ICMR (2014 till date); Chair, GTEAC Gene Therapy Evaluation and Advisory Committee (2020 till date); PRC Clinical Omics (2021 till date); PRC, Cell and Molecular Biology, ICMR (2005 till date); Member, PRC, Translational Neuroscience expert group, ICMR (2017 till date) and Member, National Apex Committee, Stem Cell Research and Therapy, ICMR. In **CSIR** he has been Chair, PRC for Medical Sciences (2020 till date).

**Professor SS Chauhan** served as Head of Biotechnology department in addition to his duties and responsibilities in the department of Biochemistry; Professor In-charge of Experimental Animal facility of the Institute and B. B. Dikshit Library (till August 2022); Chairman of Biosafety committee, animal ethics committee and PhD Grievance Committee; Chairman of Scientific Committee for ACBICON-2022, the 48th annual meeting of Association of Clinical Biochemists of India organized by Sir Ganga Ram Hospital, New Delhi from 23-26 November 2022; Subject Expert for selection/promotion of faculty at KGMU, Lucknow, JIPMER Pondicherry and UPSC, Jammu and promotion of Scientists at DRDO, New Delhi; Served on the committee for selection of ICMR emeritus scientist and Research associate and Member of the Editorial Board of Indian Journal of Clinical Biochemistry.

**Professor Kalpana Luthra** is Fellow of The National Academy of Medical Sciences India (*FAMS*); Member of the Scientific and Clinical Advisory Committee (SCAG) of the Indian SARS-CoV2 Genomic Consortium (INSACOG); Member of Expert Committee for Translational activities in Biotechnology Industry Research Assistance Council (BIRAC); Member of the Governing Body of National Institute of Animal Biotechnology (NIAB) Hyderabad with effect from September 2021 for 3 years; Member of the Jury for Sun Pharma Science Foundation Science Scholar Awards 2022-2024; Member of the THSTI-JNU academic committee; Editorial Board Member of Indian Journal of Clinical Biochemistry; Member of Technical Expert Group (TEG) committee to deal with appeals referred to the central government under the NMC act, MOHW; Chairperson for Institutional Ethics Committee at University School of Biotechnology, Guru Gobind Singh Indraprastha University, with effect from 23/12/2020; Acting Head of the Biotechnology department from 16/6/2022 to 15/07/2022 and of the Biochemistry Department from 20/6/2022 to 2/7/2022; Chairperson for the following committees: General Facility, CCRF; SARAL Committee to discuss the formation of Technical committee for management and enhancement of SARAL at AIIMS, New Delhi; the Cultural Programme Committee Of The Institute Day Celebrations and of the General Facility, CCRF; the sub-committee for E-Learning content development at SET facility; sub-committee of the technical specification evaluation committee (TSES) to provide observations on the pricing of library resources provided by the publishers for renewal of subscription 2023; Member of following committees: Library Committee; Experimental Animal Welfare Committee, Flow cytometry & BSL Facility, CCRF; Research Programming Sub-Committee in the Master plan of AIIMS, New Delhi; Research Section selection committee for recruitment of Lab-Technician/Technician/OT Assistant/Technical Assistant/Social Worker/MTW; Internal Examiner for conduct of the following: Final examination in the subject of First MBBS in Biochemistry held in January 2023; BSc in operation Theatre technology Phase -1 examination in Human biochemistry (Theory) paper-1. July 2022; MSc in Medical Biochemistry held in December 2022 Member of Technical Specifications and Evaluation Committee (TSEC), for the procurement of Machinery and Equipment items having value Rs 1.00 crore or more, for Burns and Plastic Surgery Block, AIIMS New Delhi; Member of Technical Evaluation Committee (TEC-1) for evaluating the research proposals/applications received under “Human Resource Development (HRD) Scheme” for Department of Health with effect from August 2022 for 3 years; Editor of Manuscript entitled “Complexity of Viral Epitope Surfaces as Evasive Targets for Vaccines and Therapeutic Antibodies” published in *Frontiers in Immunology* in May 2022; Member of Animal Ethics Committee; Reviewer of manuscript submitted to *Msphere*; Organizing committee member for Symposium on World Immunology Day, 29 April 2022 “Immunology to Save Lives”, organized by Department of Biochemistry, AIIMS, New Delhi; Member of the Technical Expert Committee for Infectious disease biology program of DBT, April 2022; Member of Departmental Promotion Committee for the post of Chemist at AIIMS, New Delhi; AIIMS Store purchase committee member for items having estimated cost between Rs 10 lakh and up to 1 crore and Member of project review committee (Basic Science) to review early career intramural project.

**Professor Alpana Sharma** received AIIMS Excellence Research Award 2nd Prize in Basic Science category for 2020 on Research day celebrated on 18 October 2022; Received AIIMS Excellence Oncology Basic Sciences Research Award 3<sup>rd</sup> Prize in Basic Science category for 2021 on Research day celebrated on 18 October 2022; Received Prof Sohail Ahmad Award for Excellence in Basic Science Research by Indian Academy of Biomedical Sciences Lucknow. She is Chief Organizer, Symposium on World Immunology Day held on 29 April 2022 at AIIMS, New Delhi. PDF Dr Shamima Akhtar awarded Young Investigator Award (Basic Research) in 7th Annual conference of Indian Society of Atherosclerosis Research (Delhi Chapter) ISAR-DCCON 2022 on 10th September in ESIC, Faridabad. PhD student Komal Sagar awarded Young Investigator Award (Clinical Research) in 7th Annual conference of Indian Society of Atherosclerosis Research (Delhi Chapter) ISAR-DCCON 2022 on 10th September in ESIC, Faridabad. SR Dr Nidhi Gupta received Late Munshi Ram Jain Cancer Scholar Award by Cancer Research Foundation, India on 28 October 2022 at BBICI, Guwahati. Dr Nidhi Gupta awarded Second Prize in Oral presentation at 11th Annual CME at SGRH, Delhi. Dr Nidhi Gupta received Third Prize in Oral presentation at 2nd AIIMS Research Day held at AIIMS, New Delhi 2022. She is Nominated as Board of Studies External Expert at JN Med Coll AMU, Aligarh; Nominated as External expert for Research Committee at Univ of Jamia Hamdard, Delhi; Expert Selection Committee for Professor Post at IHBAS, Delhi and AIIMS Bhubaneswar; Nodal Officer for Annual report of Biochemistry Dept.; Member Annual Report Committee of AIIMS; Member Teaching Schedule Committee for UG at AIIMS; External examiner for PhD thesis and viva conduction at PGIMER, Chandigarh, BARC, ACTREC Mumbai, Kashmir Univ & KGMU Lucknow; 2MD theses reviewed of JIPMER Pondicherry and external Examiner for MSc exam at PGIMER, Chandigarh; Chaired scientific sessions in IABSCON at Bangalore and ISSRF conference at Cuttack; DNB question paper setting and exam assessor; Reviewed research proposals of UPCST, AYUSH and DST-SERB submitted for financial grant; Active member of American Association for Cancer Research, USA and Int Gyne Cancer Society, USA; Editorial board member for Int journal: Molecular and Cellular Biochemistry (Springer).

**Professor Kunzang Chosdol** received INSA Teachers Award (2022) by Indian National Science Academy (INSA), New Delhi; was Elected fellow of the National Academy of Medical Sciences (FAMS) 2022; Co-convener of One day National seminar on CRISPR and the Clinic: so near yet so far, organized by Sun Pharma Science Foundation on 18 March 2023 at NAMS, New Delhi

**Professor Sudip Sen:** Dr Vadanya Shrivastava (PhD student) won 2nd prize in the category Poster Award selected by Organizing Committee. ACBICON 2022 for her Poster presentation in 48th Annual National Conference of Association of Clinical Biochemists of India held in New Delhi from 24-26 November 2022. Ms. Sweety Rani (MSc student) won certificate of commendation for poster on 2nd Research Day at AIIMS, New Delhi on 18 October 2022. Rani S, Tyagi S, Shrivastava V, Dey D, Sen S. Assessing involvement of the JAK-STAT cell signaling pathway in a cell-line model of oligodendrocyte differentiation in vitro.

**Dr Archna Singh I** was Elected as Executive member of the Indian Society of Atherosclerosis - Delhi Chapter; Nodal officer for department of Biochemistry the National Medical College Network; Recorded lectures under the biochemistry modules for the National Medical College Network; Subject expert in the WHO SEARO institutional networks set up by SEAR NCD Service Delivery for review of the existing teaching curriculum with the focus on competencies related to non-communicable diseases. PhD student awarded fellowship under the Newton-Bhabha placement program. Consolation prize: for best poster presentation at Three-day symposium "Towards End TB: Achievements, Challenges and Future Directions" at THSTI Faridabad. Delhi AOI Best publication award (Co-author): Association of Otolaryngologists of India 2022.

**Dr Jayanth Kumar** received AIIMS Research Excellence Award: First Prize in Oncology Basic Science Research (Oct 2022). **Full Patent No. 202211003978 filed Dec 2022;** Inventors: Dr Janvie Manhas, Dr Sudip Sen, Dr Jayanth Kumar Palanichamy, Dr Archna Singh; Filed through ICMR: Compositions for metabolic reprogramming of cells by modulating the expression of Tumor Suppressor Candidate 1 (TUSC1).

**Dr Ashok Sharma** is Expert member of the Facility Monitoring Committee of the Sophisticated Analytical Instrument Facility (SAIF) of Shivaji University, Kolhapur, Maharashtra by the Department of Science and Technology, Government of India, New Delhi; Expert member of the project review committee of "Innovative Translational Research (ITR) division" -ICMR, India; Expert member of the project review committee of DST-SERB, Government of India; Expert member of the project review committee of DBT, Government of India. In **Editorial & Review Work** he is Member of the Editorial Board of Frontiers in Oncology; Member of the Editorial Board of Cancer science and Cell Biology; Member of the Editorial Board of International Journal of Integrative Sciences, Innovation and Technology (IJIT); Guest Editor for Special Issue on Immunoepigenetics: A Future Sentinel for Tumor Directed Therapies, Journal of Oncology, Hindawi. He is **Reviewer for:** PLOS ONE, PLOS Genetics, PLOS Biology, BMC Cancer, Scientific Report, Frontiers in Neurology; Carcinogenesis- Oxford Journals; Laboratory Investigation- Nature and Molecular Biotechnology, Molecular, and Cellular Biochemistry- Springer, Molecular Report

**Dr Pragyana Acharya** received 2022 Indian National Association of the Study of the Liver (INASL): Plenary session award for the best original research in liver diseases(1st prize). 2022 IIT-Jodhpur Invited Guest Lecturer Taught a 18-lecture module on proteomics and metabolomics to post graduate students of the Department of Bioengineering and Biosciences.

**Dr Riyaz Ahmad Mir:** Mahaiwon Shadang, PhD student Awarded 'Certificate of commendation' in PhD Category; Editor: Journal of clinical pathology and Laboratory medicine; Review editor Frontiers in Oncology; Assisting Nodal Officer for Annual report of Biochemistry Dept; Nodal Officer for fire safety Biochemistry Dept; External examiner dept of Biochemistry Hindu Rao Cedral College (IP); MSc Thesis evaluation AIIMS Rishikesh; Chaired session at 48th Acbicon, 24-26 November 2022, New Delhi.

**Dr Rakhee Yadav** Chaired scientific session at 29th National conference of AMBI at Bengaluru in November 2022 and judged poster session at Mitochondrial Diseases Conference at JNU Delhi in March 2023. Has also done the evaluation of 3 MD Biochemistry Thesis from Guru Gobind Singh Indraprastha University, New Delhi. Being Co-Incharge for the Clinical Biochemistry Lab in our Department, the online reporting system of our CLIA based tests have been successfully established with the LIS of AIIMS Delhi.

**Dr Pramod Kumar Gautam** actively involved in departmental purchase, preparation of specification, participating in SPC meetings, and worked as assistant store in charge in the department; Worked as a PhD Course work in charge;Involved in the (Central instrument facility, Department of Biochemistry) training program for newly joined MSc, PhD and MD students of the department; Invited to chair secession and judge posters at JNU in the conference on Mitochondria, Cell Death, and Human Diseases; Involved as a member of the selection committee for Scientist, JRF, SRF, and project staff

**Dr Siddharth Kundu** received AIIMS Research Excellence award (2021)

#### **Visiting Scientists:**

##### **Following scientists visited the department and delivered talks:**

1. Dr TN Vivek- Senior Principal Scientist, CSIR-Institute of Genomics and Integrative Biology and Professor, Faculty of Science Academy of Scientific and Innovative Research (AcSIR) on 26 August 2022
2. Dr Amit Singh- Professor, Department of Microbiology and Cell Biology, IISc Bangalore on 26 November 2022

##### **As part of the Department Guest lecture series-**

3. Dr Sivaprakash Ramalingam, Principal Scientist, CSIR-IGIB on 24 February 2023.
4. Prof Pawan Dhar, School of Biotechnology, Jawaharlal Nehru University on the 31 March 2023.

## 9.4 Biomedical Engineering

### Professor and Head

Naresh Bhatnagar

### Associate Professors

Neetu Singh

Amit Mehndiratta

Sandeep Jha

Dinesh Kalyanasundaram

Anup Singh

### Assistant Professors

Deepak Joshi

Jayanta Bhattacharyya

Arnab Chanda

Biswarup Mukherjee

Sachin Kumar B

Deepak K Agrawal

Pradeeba Sridar

Naveen K Singh

### Inspire Faculty

Parvaiz Ahmad Shiekh

### Emeritus Professors

Harpal Singh

Veena Koul

### Visiting Professor

KK Deepak

### HIGHLIGHTS

The Department of Biomedical Engineering was established in 1971 as a joint venture of AIIMS, New Delhi and Indian Institute of Technology, Delhi. The department has applied engineering principles to address medical and biological problems. The department has collaborative projects with major institutes and hospitals in India.

The department has its vision of dissemination of knowledge & development of techniques, tools and methods for diagnosis, follow-up of treatment responses, drug delivery and help in disease treatment. The faculty of the department are dedicated towards research in the following priority areas:

- Biomaterials
- Bioinstrumentation
- Biomechanics
- Medical Imaging
- Medical Implants

In the past year, the following highlights and recognitions are to be mentioned:

1.1 CBME and NCI to collaborate with a focus towards affordable and accessible cancer treatment

**दैनिक भास्कर** इज्जर भास्कर 21-11-2022

दिल्ली एस के बाद इज्जर एनसीआई पहला संस्थान, जहां आईटीआई के वैज्ञानिक और डॉक्टर ने मिलकर कैंसर से जंग लड़ने की रणनीति बनाई

## आईआईटी के इंजीनियर और एनसीआई के वैज्ञानिक मिलकर करेंगे कैंसर के इलाज को सस्ता और सुलभ बनाने पर रिसर्च

पहली बार एनसीआई में दोनों संस्थानों का वैज्ञानिक मेला लगा, इसमें रिसर्च करने के लिए रजामंदी दी

दिल्ली के चलाई की ओर लगे लगे कैंसर का खतरा बढ़ता जा रहा है। एनसीआई के वैज्ञानिकों ने कैंसर के इलाज को सस्ता और सुलभ बनाने पर रिसर्च करने का फैसला किया है। एनसीआई के वैज्ञानिकों ने कैंसर के इलाज को सस्ता और सुलभ बनाने पर रिसर्च करने का फैसला किया है। एनसीआई के वैज्ञानिकों ने कैंसर के इलाज को सस्ता और सुलभ बनाने पर रिसर्च करने का फैसला किया है।

एनसीआई में दिल्ली आईआईटी और एस जेएन मेडिकल के वैज्ञानिकों ने मिलकर कैंसर से जंग लड़ने की रणनीति बनाई। एनसीआई के वैज्ञानिकों ने कैंसर के इलाज को सस्ता और सुलभ बनाने पर रिसर्च करने का फैसला किया है। एनसीआई के वैज्ञानिकों ने कैंसर के इलाज को सस्ता और सुलभ बनाने पर रिसर्च करने का फैसला किया है।

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## 1.2 IIT Delhi- Jhajjar Campus to be set up as a state-of-the-art hub for healthcare technology development, led by CBME



The screenshot shows a news article from Indian Express. The headline reads: "IIT-Delhi extension campus to be set up in Jhajjar district, will be country's first centre for precision medicine". Below the headline, it states: "Haryana CM Manohar Lal Khattar on Sunday said that an extension campus of IIT Delhi will be set up on a 50-acre land of Badsa village of Jhajjar district." The article is flanked by advertisements for Zoho Payroll.

2. Professor Neetu Singh wins Janaki Ammal-National Women Bioscientist Award
3. Ms Anne Tryphosa Kamatham awarded IEEE IMS Graduate Fellowship Award 2022
4. Professor Amit Mehndiratta demonstrated robotic exoskeleton to Hon'ble PM of Australia
5. Professor Sachin Kumar B awarded Teaching Excellence Award for "Biofabrication" course.
6. Professor Sandeep K Jha's Indo-US project highlighted by IUSSTF
7. IIT Delhi - Sorbonne University Workshop was organized at CBME
8. Professor Arnab Chanda was awarded the AO Spine National Research Grant 2022-23
9. CBME students win "Best presentation award" at NSRC 2023
10. Construction initiatives have been implemented in AIIMS to support the research activities of new faculties.

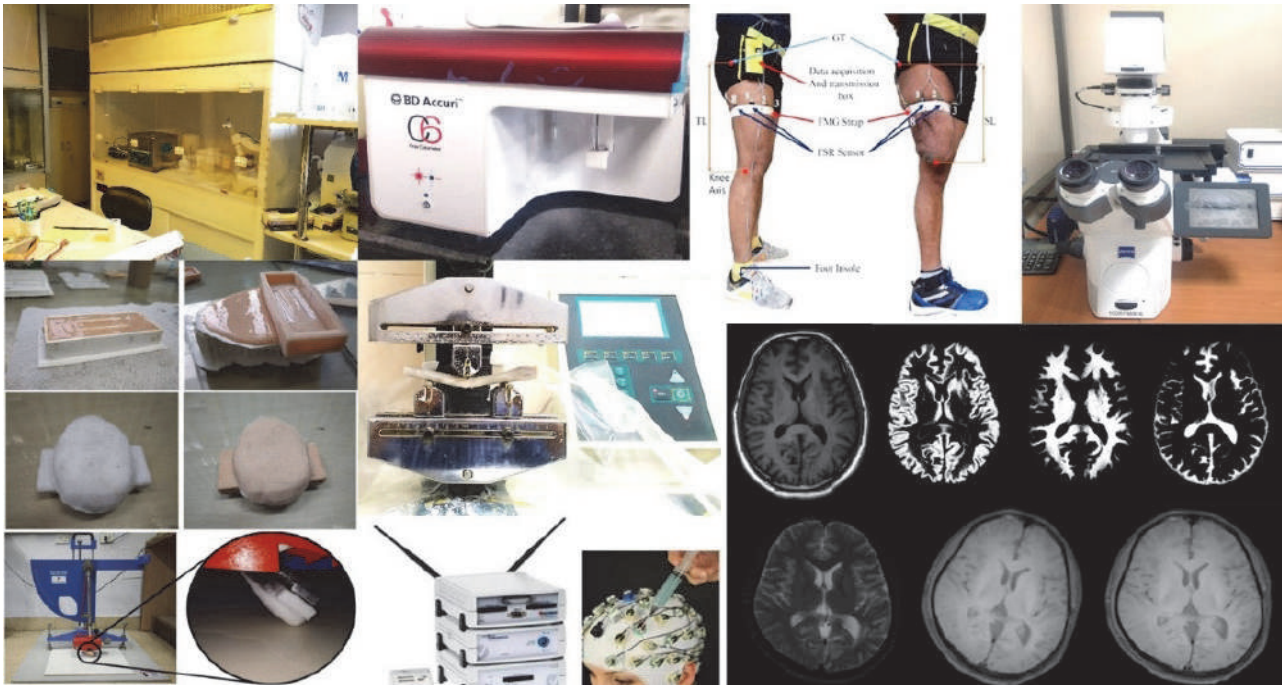


### EDUCATION

Apart from research, the department is engaged in teaching where PG, UG and Pre-PhD courses relevant to biomedical engineering are offered at IIT Delhi. 58 PhD students and 7 MTech are currently being supervised by the department's faculty. Eleven PhD students and 9 MTech students graduated in the past year.

#### PhD Program in Biomedical Engineering at IIT Delhi

Admission to the PhD programme is normally made on the basis of an interview of eligible candidates conducted by the Centre for Biomedical Engineering (CBME), through its Centre Research Committee (CRC). The CRC may decide to conduct a written test as well, or multiple interviews, or other ways of testing, in order to screen the best suitable candidates. Applications are invited from candidates by advertising in IIT-Delhi web portals in March for the first semester and in October for the second semester every year. Currently 58 registered PhD students are working in the department. This year 11 students were awarded PhD degree.



**MTech Program in Biomedical Engineering at IIT Delhi**



**Highest Package @ 51 Lacs**

**\*Average Package of 2020-22 @ 11.5 Lacs**



**RESEARCH**

**Funded projects**

**Ongoing**

1. Development of methodology for quantitative multi-parametric MRI and evaluating its potential along with Machine Learning in classification of brain tumor and treatment followup, Prof Anup Singh, DST, 3 years, 2020-23, 30 lakhs
2. Development and evaluation of artificial intelligence system for detection and classification of occlusal caries, Dr Amrita Chawla, DST, 3 years, 2020-23, 59 lakhs
3. Re-engineering High End Audiometric Devices for Robust and Affordable audiological testing sound4All - phase 2, Prof Dinesh Kalyanasundaram, Indo-German Science and Technology Center, 3 years, 2021-24, 55 lakhs
4. Medtech Product Development Acceleration Gateway of India, Prof Dinesh Kalyanasundaram, ICMR, 3 years, 2020-23, 700 lakhs

5. Development of magnetic growth rod for scoliosis patients”, Prof Dinesh Kalyanasundaram, ICMR, 3 years, 2020-23, 51 lakhs
6. A wearable system for quantitative assessment and recovery prediction during gait restoration in Parkinson’s and Cerebral Ataxia Patients”, Prof Dinesh Kalyanasundaram, DST, 3 years, 2021-24, 47 lakhs
7. Development of dispersion coating and preforming device for biomedical composites”, Prof Dinesh Kalyanasundaram, DST, 3 years, 2021-24, 54 lakhs
8. Artificial skin (Bio-inspired bi-layer polymeric hybrid Scaffold) for burn injuries and trauma care, Prof Veena Kaul, IMPRINT India, MHRD & MOH, 3 years, 2020-24, 221 lakhs
9. MUC1 pulsed DC-derived exosomes for cancer immunotherapy, Prof Jayanta Bhattacharyya, DBT, 3 years, 2021-24, 63 lakhs
10. Investigating the antiviral effectiveness of engineered dendritic-cell derived exosomes against Dengue virus, Prof Jayanta Bhattacharyya, ICMR, 3 years, 2021-24, 32 lakhs
11. Centre for Advanced Research and Excellence in Disability & Assistive Technology (CARE-DAT), & Prof MV Padma Srivastava (Neurology), ICMR, 5 years, 2020-25, 500 lakhs
12. Developing artificial intelligence based model for detection of malignant potential of pulmonary nodules in sarcoma using computed tomographic imaging and its prospective validation; Multi-Institutional Faculty Interdisciplinary Research Proposal (MIFIRP), Prof Amit Mehndiratta, IIT Delhi-AIIMS, 2 years, 2021-23, 20 lakhs
13. Centre for Advanced Research and Excellence in Disability and Assistive Technology (CARE-DAT) jointly with AIIMS, Prof Amit Mehndiratta, ICMR, 5 years, 2021-26, 255 lakhs
14. Oncologic Response Evaluation in Lymphoma using Multi-Parametric MR Imaging and Artificial Intelligence, Prof Amit Mehndiratta, DST SERB, 3 years, 2020-23, 22 lakhs
15. Sono Neuro: A multimodal electromyography-sonomyography based technique for biomechatronic control, Prof Biswarup Mukherjee, DST SERB, 3 years, 2021-24, 48 lakhs
16. Griha Mitra: Development of a smart, integrated, multi-parameter, at-home health monitoring system, Prof Biswarup Mukherjee, Sperandus Healthcare Pvt Ltd, 3 years, 2021-24, 50 lakhs
17. Development of an objective bioimpedance based non-invasive pulp vitality testing device as an alternative to traditional non-invasive pulp vitality testing methods, Prof Biswarup Mukherjee, IRD, IIT Delhi, 2 years, 2021-23, 5 lakhs
18. Sonomyography-based muscle activity sensing and control of bionic devices, Prof Biswarup Mukherjee, IEEE Instrumentation and Measurement Society, 2 years, 2021-23, 12 lakhs
19. Engineering inexpensive nanostructured biomaterials for wound healing application, Prof Sachin Kumar B, DST SERB, 3 years, 2021-24, 31 lakhs
20. Oxygen Releasing Bioenergetic Injectable gel for Cartilage Regeneration, Prof Sachin Kumar B, ICMR, 3 years, 2020-23, 141 lakhs
21. Development of cost-effective smart manufacturing assisted prosthetic mechanical heart valve from ultra-high molecular weight polyolefins, Prof Sachin Kumar B, ICMR, 3 years, 2021-24, 50 lakhs
22. Studying three-body binding chemical reaction network in deterministic and stochastic settings, Prof Deepak K Agrawal, DST SERB, 3 years, 2021-24, 66 lakhs
23. Centre of excellence (CoE) on Neurosurgery Medical Devices, Prof Deepak Joshi, ICMR, 3 years, 2021-24, 1000 lakhs
24. Expansion and Scale-up of Medtech innovation training programme: School of International Biodesign (SiB): Phase-V, Prof Deepak Joshi, DBT, 3 years, 2021-24, 2300 lakhs
25. Wearable electronics for swallow-graphy in stroke patients, Prof Deepak Joshi, Prof Awadh Pandit (Neurology, AIIMS, New Delhi), AIIMS-IIT Delhi, 2 years, 2021-23, 10 lakhs
26. Development of a 3D spheroid platform for mimicking and understanding local microenvironment changes in cancer progression”, Prof Neetu Singh, DBT, 3 years, 2021-24, 26 lakhs
27. Development of multi-parameter chips for detection of sepsis in cirrhosis patients, Prof Neetu Singh, DST-BDTD, 3 years, 2021-24, 133 lakhs
28. Cell membrane derived vesicles: a new generation nanocarriers for combined therapy applications, Prof Neetu Singh, SERB POWER Fellowship, 3 years, 2021-23, 38 lakhs
29. Development of multi-parameter chips for detection of sepsis in cirrhosis patients”, Prof Neetu Singh, B Flow Spqain, 2 years, 2022-24, 28 lakhs

30. ORGANO-MIMETIC MICROFLUIDIC CULTURE PLATFORM”, Prof Neetu Singh, Translumina Therapeutics Pvt Ltd, 3 years, 2021-24, 55 lakhs
31. Portable Slip and Fall Prevention Device, Prof Arnab Chanda, FIRE, 3 years, 2021-24, 50 lakhs

Total funding 6152 lakhs

**PUBLICATIONS**

Journals: 86                      Abstracts: 01                      Chapters in Book: 03

Significant Events/Awards

**ACADEMIC OUTREACH AND OTHER ACTIVITIES**

**1. CBME and NCI to collaborate with a focus towards affordable and accessible cancer treatment**

**दैनिक भास्कर 21-11-2022**

**दिल्ली एम्स के बाद झज्जर एनसीआई पहला संस्थान, जहाँ आईटीआई के वैज्ञानिक और डॉक्टर ने मिलकर कैंसर से जंग लड़ने की रणनीति बनाई**

**आईआईटी के इंजीनियर और एनसीआई के वैज्ञानिक मिलकर करेंगे कैंसर के इलाज को सस्ता और सुलभ बनाने पर रिसर्च**

**पहली बार एनसीआई में दोनों संस्थानों का वैज्ञानिक मेला लगा, इसमें रिसर्च करने के लिए रजामंदी दी**

दिल्ली के सबसे बड़े और पहले सार्वजनिक संस्थान टिपिकल कैंसर इंस्टीट्यूट (एनसीआई) में अपने पहले कैंसर के मामलों को और बेहतर सुझाव मिलना। क्योंकि कैंसर से जुड़ी चिकित्सा खोजों को उपचार के प्रयास से सफल बनाने का काम अब आईआईटी दिल्ली और एम्स से जुड़े वैज्ञानिक विभाग करेगी। इसके साथ फार्मा एनसीआई में दोनों संस्थानों का एक वैज्ञानिक मेला लगाया गया। इसमें दोनों ही कैंसर के अलग-अलग डिपार्टमेंट में काम करने वाले वैज्ञानिकों ने अपने अपने रूप बनकर कैंसर संकेत रिसर्च करने के लिए अपने अपने तकनीकी विभाग को जोड़ा है।

दिल्ली आईआईटी में मीडिकल इंजीनियरिंग के प्रोफेसर और ज्योमेडिकल इंजीनियरिंग के एनसीआई डॉ. नरेश भटनागर को अगुआई में आईआईटी दिल्ली के 15 इंजीनियर वैज्ञानिक यह एनसीआई में मौजूद रहे। वहीं, एनसीआई में इतनी संख्या में वैज्ञानिक यहां के रिसर्च कोऑर्डिनेटर डॉ. सन्तोष कुमार देव के नेतृत्व में शामिल हुए। इस दौरान दोनों संस्था संस्थाओं के जुड़े वैज्ञानिकों ने अपने-आपसी रिसर्च के फंडिंग के जरिए धन को: आईआईटी से अन्य वैज्ञानिकों को रिसर्च कैंसर रोगियों के उपचार में किताबें ले करके ले सकते हैं। वे एनसीआई के वैज्ञानिकों के साथ मिलकर किताबें ले सकते हैं। इस रिसर्च को कामयाब कर सकते हैं। इसके संकेत पंथन किया।

एनसीआई की हेड प्रोफेसर सुष्मा भटनागर ने बताया कि वैज्ञानिक मेले में कैंसर से जुड़े रिसर्च के माध्यम से उनके बच्चों और संस्थाओं को रिसर्च करने के लिए रजामंदी दी जाएगी। इस रणनीति का उद्देश्य है कि एम्स एनसीआई का वैज्ञानिक कैंसर से जुड़ी कठिनाई को दूर करने के लिए है। उसे अभी मीडिकल इंजीनियरिंग के वैज्ञानिकों के साथ मिलकर और पुनः संस्थाओं को रजामंदी दी जाएगी। इसके अलावा एनसीआई में रिसर्च करने के लिए रजामंदी दी जाएगी।

इंजीनियरिंग के वैज्ञानिकों की अगुआई में डॉ. नरेश भटनागर ने एनसीआई में रजामंदी दी। इस रणनीति का उद्देश्य है कि एम्स एनसीआई का वैज्ञानिक कैंसर से जुड़ी कठिनाई को दूर करने के लिए है। उसे अभी मीडिकल इंजीनियरिंग के वैज्ञानिकों की अगुआई में डॉ. नरेश भटनागर ने एनसीआई में रजामंदी दी। इस रणनीति का उद्देश्य है कि एम्स एनसीआई का वैज्ञानिक कैंसर से जुड़ी कठिनाई को दूर करने के लिए है। उसे अभी मीडिकल इंजीनियरिंग के वैज्ञानिकों की अगुआई में डॉ. नरेश भटनागर ने एनसीआई में रजामंदी दी।

**कैंसर से जुड़े इन पहलुओं पर करेंगे रिसर्च**

एनसीआई में दिल्ली आईआईटी और एम्स जुड़े वैज्ञानिकों ने संकेत रिसर्च में कई विचारों को रजामंदी दी। इसके अलावा दोनों ही संस्थानों के वैज्ञानिकों ने अपने-आपसी रिसर्च के लिए एक संकेत रोग बनाया। इसके अलावा मीडिकल प्रोडक्शन प्रोडक्शन के लिए रजामंदी दी। इसके अलावा मीडिकल प्रोडक्शन प्रोडक्शन के लिए रजामंदी दी। इसके अलावा मीडिकल प्रोडक्शन प्रोडक्शन के लिए रजामंदी दी।

इंजीनियरिंग और ज्योमेडिकल टेक्नोलॉजी से जुड़ी रिसर्च में काम करने के लिए रजामंदी दी। इसके अलावा मीडिकल प्रोडक्शन प्रोडक्शन के लिए रजामंदी दी। इसके अलावा मीडिकल प्रोडक्शन प्रोडक्शन के लिए रजामंदी दी। इसके अलावा मीडिकल प्रोडक्शन प्रोडक्शन के लिए रजामंदी दी।

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CBME faculty members headed by Prof Naresh Bhatnagar (Head of Centre) visited National Cancer Institute at Jhajjar, Haryana to discuss avenues of collaboration, and long-term research opportunities in the areas of affordable cancer treatment, diagnosis, and care. The visit was particularly important in light of ongoing efforts towards establishing a Biomedical and Biotechnology focussed satellite campus of IIT Delhi at Jhajjar.

**2. mPRAGATI, a One Stop MedTech Technology Development Facility at IIT Delhi Under ICMR-Medical Device and Diagnostics Mission Secretariat, Unveiled**

The Indian Council of Medical Research (ICMR) and the Department of Health Research (DHR) formally unveiled Medtech Product Ignition and Acceleration Gateway of India (mPRAGATI), a National Center for medical technology development under the ICMR-Medical Device and Diagnostics Mission Secretariat at IIT Delhi, on 24 June 2022.

mPRAGATI at IIT Delhi, which is sponsored by the ICMR and the DHR under PM-Ayushman Bharat Health Infrastructure Mission (PM-ABHIM), will serve as an ISO certified, C-GMP compliant medical device manufacturing and testing facility to translate medical products from TRL 3 (proof-of-concept) to TRL 7 (ready for clinical evaluation). The facility is currently developing technologies for disease diagnosis, implantable devices for orthopedic, ocular and cardiac needs.

In addition to its formal activities, the facility will also conduct periodic boot camps, manpower training sessions for students, faculty and start-ups to foster the medical device development ecosystem. The facility will bring in technical consultants to fine tune designs and products to keep them at par with industry standard.



This new initiative will bring about a major change in the biomedical ecosystem and help researchers, doctors, entrepreneurs, and academicians across India to effectively take their idea to market. Moreover, it will create a pipeline of advanced technologies and products in line with PM-ABHIM initiatives and will be monitored by the NITI Aayog. mPRAGATI is led by Prof Dinesh Kalyanasundaram and Prof Ravikrishnan Elangovan from IIT Delhi. ([https://home.iitd.ac.in/show.php?id=206&in\\_sections=News](https://home.iitd.ac.in/show.php?id=206&in_sections=News))

### 3. 5 Months Certificate CEP program on Healthcare Entrepreneurship and Management

Professor Arnab Chanda and Professor Biswarup Mukherjee in collaboration with AIIMS and DMS, IIT Delhi and training 100 + students on development and deployment of healthcare products and services (<https://www.jaroeducation.com/executive-programme-in-healthcare-entrepreneurship-and-management-ephem/>).

#### THE TIMES OF INDIA

NEWS / UNLOCK NEW PARADIGM OF GROWTH IN HEALTHCARE: HOW THIS IIT DELHI'S EXECUTIVE PROGRAMME PREPARES PROFESSIONALS TO CREATE ENTREPRENEURSHIP OPPORTUNITIES

## Unlock new paradigm of growth in healthcare: How this IIT Delhi's Executive Programme prepares professionals to create entrepreneurship opportunities

Samridhhi Bisht | SPOTLIGHT | Feb 20, 2023, 23:02 IST

The post-pandemic world is vastly different from its pre-pandemic counterpart. People prioritise their health more than ever before, creating an opportunity for new healthcare innovations. This includes medical apps, telemedicine technologies, smart wearables, and medical gadgets that track health goals. The demand for efficient healthcare delivery creates new opportunities for professionals to enter the healthcare market with their services and solutions.

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- Manish Saini on 'Shubh Yatra': The film promises to

## 9.5 Biophysics

### SERB Distinguished Professor

TP Singh

### Professor & Head

Punit Kaur

### Professors

Savita Yadav  
G Hariprasad Rao

Sujata Sharma  
Sharmishtha Dey

### Additional Professors

Ethayathulla AS

Krishna Kishore Inampudi

Saroj Kumar

### Associate Professor

Jyotirmoy Banerjee

### Assistant Professors

Pradeep Sharma

### Scientists

Asha Bhushan  
Manoj Kumar

S Baskar Singh  
Uddipan Das

### HIGHLIGHTS

During the period under report, the Department of Biophysics had over 38 ongoing research projects funded by extramural grants. Research in the Department of Biophysics is concerned with determining the molecular basis of biological process, rational structure based drug design and discovering new specific biomarkers. The department provides facilities for data collection on protein crystals, medical bioinformatics, protein sequencing and peptide synthesis, proteomics and dynamic light scattering. In the past one year, faculty and scientists had 58 research publications in various peer-reviewed journals. The Department continued providing postgraduate education and short- and long-term training to MSc, PhD and MD students.

### EDUCATION

#### Postgraduate

The faculty and scientists of the Department of Biophysics continued with teaching and guiding students for PhD degree, MSc (Biophysics) and MD (Biophysics). The postgraduate teaching includes theory classes, hands-on practical classes and a dissertation project.

#### Short- and Long-term Training

The Department also imparted long- and short-term training to MSc and MTech students from different institutes and universities.

#### Lectures delivered at CMEs, National and International conferences: 42

**T.P. Singh: 18**

**Punit Kaur: 6**

**Savita Yadav: 6**

**Sujata Sharma: 2**

**Sharmistha Dey: 4**

**Saroj Kumar: 1**

**Jyotirmoy Banerjee: 3**

**Pradeep Sharma: 1**

**Uddipan Das: 1**

#### Lectures Delivered over Past 3 Years

	2020-2021	2021-2022	2022-2023
Lectures delivered	21	47	42

**List of oral papers/posters presented: 41****Oral/poster presentations over past 3 years**

Presentation	2020–2021	2021–2022	2022–2023
Oral/poster	12	34	41

**RESEARCH****Funded projects****Ongoing**

1. Structure based *In Silico* Identification, Chemical Synthesis and Biological Evaluation for Inhibitors against DNA Gyrase from Salmonella Typhi, Dr Punit Kaur, ICMR, 3 years, 2019-2022, Rs 56,50,000
2. A multi-omics study and development of a prognostic computational model for COVID-19 to correlate clinical outcomes and disease sequelae with the differential immunological response, mutational and vaccination status in India, Dr Punit Kaur, ICMR, 3 years, 2022- 2025, Rs 94,00,000
3. Reverse pharmacology and multi-target approach for designing of novel therapeutics and candidates for Covid-19, Dr Punit Kaur, ICMR, 2 years, 2022-2024, Rs 6,68,000
4. Identifying dysregulation of miRNAs and their targets in idiopathic recurrent pregnancy loss, Dr Savita Yadav, ICMR, 3 years, 2022-2025, Rs 50,00,000
5. Functional characterization of human multimerin 1 (in-vitro and in-vivo) and identification of its inhibitors as potential therapeutic target/s in ovarian cancer, Dr Savita Yadav, SERB, 3 years, 2021-2024, Rs 54,00,000
6. Deciphering the role of Fibroblast growth factor 8 (FGF 8) in the progression of ovarian cancer, Dr Savita Yadav, SERB-POWER Fellowship, 3 years, 2021-2024, Rs 30,00,000
7. To investigate the role of dysfunctional benzodiazepine binding site on GABAA receptor in benzodiazepine-resistance associated with pharmaco-resistant epilepsy, Dr Jyotirmoy Banerjee, Office of Principal Scientific Adviser to Govt. of India under the project “Advanced Epilepsy Research: A Multidisciplinary Approach”, 5 years (with extension), 2018-2023, Rs 1,36,75,500
8. Investigating the role of metabolites and neurotransmitters in abnormal synaptic transmission associated with mesial temporal lobe epilepsy (MTLE) and focal cortical dysplasia (FCD): Possible biomarkers for localization of epileptogenic foci, Dr Jyotirmoy Banerjee, Department of Biotechnology, Govt. of India under the project “MEG Resource Facility”, 5 years (with extension), 2018-2023, Rs 1,68,20,800
9. Regulation of GABAA receptor expression and function by microRNAs in patients with focal cortical dysplasia (FCD), Dr Jyotirmoy Banerjee, AIIMS, 2 years, 2020-2022, Rs 10,00,000
10. Development of Novel near Infrared Fluorescence Imaging Probes for Detecting Amyloid Beta Species in Eyes of Alzheimer’s Disease, Dr Saroj Kumar, ICMR, 4 years, 2019-2024, Rs 37,00,000
11. Mechanistic understanding of Parkinson’s disease and developing an early screening method, Dr Saroj Kumar, DHR, 3 years, 2022-2024, Rs 33,94,960
12. Development of a non-invasive novel method for early detection of cognitive impairment, Dr Saroj Kumar, ICMR, 3 years, 2021-2024, Rs 47,58,432
13. Cross-talk between exosomes and autophagy in Alzheimer’s disease, Dr Saroj Kumar, DHR, 3 years, 2021-2024, Rs 49,45,500
14. Development of exosome-based drug delivery system for naturally inspired novel multifunctional neuroprotective molecules and their biological evaluation in Alzheimer’s disease models, Dr Saroj Kumar, ICMR, 3 years, 2022-2025, Rs 55,59,246
15. A case control study to develop “Exosomes based Molecular Signature” of Parkinson Disease, Dr Saroj Kumar, ICMR, 3 years, 2022-2025, Rs 84,67,800
16. Exploring the potential of exosomal miRNA as novel biomarker targets of Parkinson’s disease, Dr Saroj Kumar, AIIMS, 2 years, 2023-2025, Rs 10,00,000
17. Design, synthesis, and biological evaluation of mechanism-based novel theranostic agents for Alzheimer’s disease, Dr Saroj Kumar, DST, 3 years, 2023-2026, Rs 52,95,252
18. Screening of green tea antioxidants to reactivate anti-cancer activity of mutant p53 in breast cancer cell lines, Dr Ethayathulla, ICMR, 3 years, 2023-2025, Rs 33,43,304
19. Structure based Drug-design: In silico screening of inhibitors for cell division protein drug target FtsZ to develop antimicrobial agent against drug-resistant *Acinetobacter baumannii*, Dr Ethayathulla, ICMR, 3 years, 2020-2023, Rs 24,54,060

20. Screening of therapeutic p53 activator molecules to restore the function of p53 oligomerization domain mutants in breast cancer, Dr Ethayathulla, DHR, 2 years, 2020-2023, Rs 31,70,354
21. In silico screening of potential antiviral drug from FDA approved drugs and Selenium based compounds against SARS-CoV-2 main protease, Dr Ethayathulla, AIIMS, 2 years, 2020-2023, Rs 4,80,000
22. Proteomic analysis of p53Y220C mutant with potential ligand curcumin and its analogs in Non-Small-Cell Lung/adenocarcinoma, Dr Ethayathulla, AIIMS, 2 years, 2022-2024, Rs 9,80,000.00
23. Structural analysis of P4 nuclease enzyme of *Leishmania infantum*: Implications for the design of potent inhibitory molecules and vaccine candidates, Dr Hariprasad. G, ICMR, 3 years, 2020-2023, Rs 13,65,000
24. Serum proteomics for the identification of biomarkers to flag predilection of COVID-19 patients to various organ morbidities, Dr Hariprasad. G, ICMR, 3 years, 2022-2025, Rs 35,00,000
25. Identification of novel drug molecules against spore coat protein homolog (CotH) of Mucorales, Dr Pradeep Sharma, AIIMS, 2 years, 2021-2023, Rs 10,00,000
26. Rational structure-based ligand design for developing the novel antibacterial agents against proteins involved in the Histidine biosynthesis pathway in *Acinetobacter baumannii*, Dr Pradeep Sharma, ICMR, 3 years, 2021-2024, Rs 29,47,830
27. Identification of novel drug molecules against a lethal angioinvasive disease, mucormycosis, Dr Pradeep Sharma, ICMR, 3 years, 2023-2026, Rs 31,43,538
28. Rational structure-based ligand design for developing the antibacterial agent against the CoA synthetic pathway in drug resistance bacteria, *Acinetobacter baumannii*, Prof Sujata Sharma, ICMR, years, 2021-2024, Rs 45,84,220
29. Exploring the action of a potent antifungal protein lactoferrin and its derived functional fragments for the therapeutics of mucormycosis, Prof Sujata Sharma, SERB, 3 years, 2021-2024, Rs 38,10,000
30. Exploring the Structure function Interrelationships of Type-1 and Type-2 Ribosome Inactivating Proteins (RIPs) from Iris Bulbs for Anti-tumor Activity, Prof Sujata Sharma, ICMR, 3 years, 2023-2026, Rs 35,64,839
31. Structural and functional studies of Mycobacterium toxin antitoxin systems, Dr Uddipan Das, SERB, 3 years, 2022-2024, Rs 56,9,092
32. Development Of Anti-Mycobacterial Inhibitors: In Silico And Experimental Evaluations Of Lead Compounds Against Trehalose Binding Protein From Mycobacterium Tuberculosis, Dr Uddipan Das, ICMR, 3 years, 2020-2023, Rs 22,20,000
33. G-Quadruplex forming DNA Aptamers against human EGFR as an alternative therapeutic approach for epidermal carcinomas, Dr Krishna K Inampudi, SERB, 3 years, 2023-2026, Rs 40,00,000
34. Connecting pathogenesis to Calcium signalling in protozoan parasite *E. histolytica*, Dr Krishna K Inampudi DBT, 3 years, 2023-2026, Rs 82,00,000
35. Identification of the early candidate biomarkers of oral cancer from the saliva exosomal proteome, Dr Krishna K Inampudi, AIIMS, 2 years, 2022-2024, Rs 2,00,000
36. Structural and functional studies of *Mycobacterium tuberculosis* peptidyl-tRNA hydrolase: A novel drug target of multidrug resistant tuberculosis, Dr Krishna K Inampudi, DBT, 3 years, 2021-2024, Rs 68,00,000
37. Structure-based design of lead compounds targeting persistent *Mycobacterium tuberculosis* to shorten the treatment duration, Dr Manoj Kumar, ICMR, 3 years, 2022-2025, Rs 26,00,000
38. Structure-based design of lead compounds against a novel drug target for the treatment of multi-drug resistant Tuberculosis, Dr Manoj Kumar, ICMR, 3 years, 2021-2024, Rs 24,00,000

### **Completed**

1. Characterization of silk fibroin film prepared from oak tasar (*Antheraea proylei*) cocoon for potential biomaterial applications, Dr Punit Kaur, DBT-NER, 3 years, 2018-2022, Rs 29,67,000
2. Development of novel and efficient carbohydrate enzymes for bioenergy and biovalued products, Dr Punit Kaur, DBT-NER, 3 years, 2018-2022, Rs 23,99,000
3. Effect of Non-Ionizing Electromagnetic field (EMF) on human health, Dr Savita Yadav, ICMR, 5 years, 2017-2022, Rs 61,00,000
4. Exploring male factors in recurrent pregnancy losses: A genomics and proteomics-based approach, Dr Savita Yadav, ICMR, 3 years, 2019-2022, Rs 49,00,000
5. Elucidating region-specific alterations of glutamatergic excitatory neurotransmission in a rodent pilocarpine model of temporal lobe epilepsy
6. Dr Jyotirmoy Banerjee, Department of Biotechnology (DBT), Govt. of India, 4 years (with extension), 2018-2022, Rs 61,00,000



7. To explore the possible mechanisms of neuromodulation by COVID-19 virus spike protein (S) and main protease Nsp5 in neurons, Dr Jyotirmoy Banerjee, Fast track Covid Grant, Research Section, AIIMS, New Delhi, 2 years, 2020-2022, Rs 10,00,000
8. Understanding the role of neuronal salivary exosomes in Parkinson's Disease, Dr Saroj Kumar, AIIMS Early Career Intramural Research Grant, 2 years, 2020-2022, Rs 10,00,000
9. Drug repurposing against SARS-CoV-2 main protease: Structural and functional studies, Dr Pradeep Sharma, AIIMS, New Delhi, 2 years, 2020-2022, Rs 9,00,000
10. Identification of novel drugs against mucoricin, a critical toxin for pathogenesis of mucormycosis, Dr Pradeep Sharma, AIIMS, New Delhi, 1 year, 2021-2022, Rs 5,20,000
11. Structural and biochemical characterization of glyceraldehyde-3 phosphate dehydrogenase and design of inhibitors, Prof Sujata Sharma, ICMR, New Delhi, 3 years, 2019-2022, Rs 26,28,234
12. Structural and functional studies on trypsin cleaved functional fragments of lactoferrin and their binding with lipopolysaccharide, Prof Sujata Sharma, ICMR, New Delhi, 3 years, 2019-2022, Rs 60,00,000
13. Therapeutic intervention of small molecule based novel activator of Sirtuin on rat model of Alzheimer's disease, Sharmistha Dey, ICMR, 2019-2022, 2019, 2022, Rs 65,00,000
14. Effect of lactoferricin: a potent antimicrobial peptide derived from the innate immunity protein lactoferrin and its use in therapeutics of mucormycosis, Dr Pradeep Sharma, AIIMS, New Delhi, 1 year, 2021-2022, Rs 5,00,000
15. Structure based design of nanobody inhibitors against EGFR: A Protein engineering approach to develop novel therapeutics for lung cancer, Dr Krishna K Inampudi, ICMR-Extramural Grant, 3 years, 2019-2022, Rs 65,00,000
16. Development of potent inhibitors for NSP RNA polymerase and PLprotease from novel coronavirus for the treatment of COVID-19, Dr Krishna K Inampudi, AIIMS Intramural Grant, 2 years, 2020-2022, Rs 9,00,000
17. Atherosclerotic Cardiovascular disease: unravelling the early biomarkers from biofluidexosomes by iTRAQ based quantitative proteomics, Dr Krishna K Inampudi, DHR-PI Mentor, 3 years, 2019-2022, Rs 38,00,000
18. Characterization and sequencing analysis of exosomes miRNA from biofluids of Coronary Artery Disease, Dr Krishna K Inampudi, AIIMS, 2 years, 2020-2022, Rs 10,00,000
19. Characterization of potential therapeutic agents targeting crucial enzymes of novel coronavirus 2 (SARS-CoV2) for COVID-19, Dr Manoj Kumar, AIIMS, 2 years, 2020-2022, Rs 10,00,000

#### **Departmental projects**

1. Exploring the role of Multimerin1 in Ovarian Cancer
2. Exploring male contributory factors in idiopathic recurrent pregnancy losses
3. Exploring anti-tumour potential of Sesamolin in Human Ovarian Cancer
4. To study the altered expression of MMP-9 and Calpain-2 proteins in Covid-19 survivors: long term effects of covid-19 on male reproductive physiology
5. Elucidating the role of Semaphorin in epileptogenesis and hyperexcitability associated with temporal lobe epilepsy
6. Understanding age dependent dysmaturity of cerebral cortex in cortical dysplasia
7. Investigation on the role of astrocytic gap junctions in the pathogenesis of focal cortical dysplasia
8. Deciphering the role of glypican 4 (Gpc4) in altered glutamate receptor-mediated synaptic transmission in temporal lobe epilepsy
9. Evaluation of inflammatory and oxidative stress resistance proteins in serum, as biomarkers of Alzheimer's disease with therapeutic interventions
10. Development of screening method & evaluate the efficacy of novel drugs for Alzheimer's Disease
11. Study to evaluate the potential of small non-coding RNAs as biomarker targets for Parkinson's disease
12. Unraveling the exosomal and infrared based biomarker for early detection of breast cancer
13. Study of exosomal lipid content in Parkinson's disease and Amyloid beta association with exosomes
14. Structural and Functional Studies of FtsZ cell division protein as a potential drug target against Salmonella Typhi
15. Structural and functional characterization of p53
16. Structural and functional characterization of p53 tetramerization mutants
17. Structural and functional studies of p53 oligomerization mutant R337 in human cancer

18. Structure-based in silico screening of potent inhibitors against SARS-Cov2 Main protease (Mpro)
19. Structural and biophysical characterization of mutant P53 Y220N DBD
20. Identification of novel drug molecules against spore coat protein homolog (CotH) of Mucorales
21. Rational structure-based ligand design for developing the novel antibacterial agents against proteins involved in the Histidine biosynthesis pathway in *Acinetobacter baumannii*.
22. Identification of novel drug molecules against a lethal angioinvasive disease, mucormycosis.
23. Rational structure-based ligand design for developing the antibacterial agent against the CoA synthetic pathway in drug resistance bacteria, *Acinetobacter baumannii*.
24. Exploring the Structure function Interrelationships of Type-1 and Type-2 Ribosome Inactivating Proteins (RIPs) from Iris Bulbs for Anti-tumor Activity
25. Exploring the action of a potent antifungal protein lactoferrin and its derived functional fragments for the therapeutics of mucormycosis
26. Structural and Functional Studies of *Multidrug Transporters from Mycobacterium tuberculosis*
27. Identification of kinase inhibitors against EGFR Tyrosine kinase wild and mutant variants
28. Identification of Antibody like inhibitors against EGFR to treat lung cancer using protein engineering approach
29. Identification of G-Quadruplex DNA Aptamers against human sEGFR
30. Identification of the potential biomarkers of NSCLC cancer from Blood and plasma exosome
31. Identification of antibody like molecules against CbA from *Streptococcus pneumoniae* using Protein engineering and mRNA display
32. Identification of the early candidate biomarkers of oral cancer from the saliva exosomal proteome
33. Discovery of potential lead compounds targeting *Mycobacterium tuberculosis* shikimate kinase to combat multi-drug resistant tuberculosis
34. Discovery of potent inhibitors of *Mycobacterium tuberculosis* isocitrate lyase to reduce the treatment duration
35. Study on circulatory level of inflammatory proteins, their signaling cascade in metastatic breast cancer and therapeutic implications for the same
36. Analysis of Anti-neurotoxicity of Amyloid Beta (A $\beta$ ) in Alzheimer's disease (AD) pathology targeting Lipoxygenases (ongoing)
37. Exploring novel molecules as therapeutic target for the prevention of Alzheimer's diseases
38. Potential role of Klotho as a blood-based biomarker and its therapeutic importance in breast cancer by targeting miRNA

### **Completed**

1. Assessing the effect of FGF-8 knock down on ovarian cancer cell lines
2. Development of non-invasive early detection and drug response methodology of Alzheimer's disease
3. Understanding the role of salivary exosomes in Alzheimer's disease
4. Structural and Function Reactivation of p53 Mutant using Natural Compounds in Human Cancer Cell Lines harboring mutation Y220C
5. Structural and biophysical characterization of p73DBD with p53 natural promoter sequence
6. Comparative study of p53 mutant with screened drug and Curcumin
7. Structural and Biophysical Characterization of p53 Wild Type and Mutant R337H
8. Structural and Biophysical Characterization of p53 Y220 Mutant
9. Drug repurposing against SARS-CoV-2 main protease: Structural and functional studies.
10. Identification of novel drugs against mucoricin, a critical toxin for pathogenesis of mucormycosis
11. Structural and biochemical characterization of glyceraldehyde-3 phosphate dehydrogenase and design of inhibitors
12. Structural and functional studies on trypsin cleaved functional fragments of lactoferrin and their binding with lipopolysaccharide
13. Effect of lactoferricin: a potent antimicrobial peptide derived from the innate immunity protein lactoferrin and its use in therapeutics of mucormycosis
14. Structural and Functional studies of *Mycobacterium Tuberculosis* Peptidyl tRNA hydrolase – A Novel drug target of Multidrug Resistance Tuberculosis

15. Identification of antibody like molecules for inhibiting pneumococcal infection: computational approaches
16. Peptide inhibitor designing and validation for sEGFR using computational Protein design
17. Identification of DNA Aptamers against human sEGFR to treat lung cancer

### **Collaborative projects**

#### ***Ongoing***

1. Clinical significance of proteomics in liquid biopsy for Indian breast cancer women: An exploratory study, Department of Surgery, AIIMS, New Delhi
2. Elucidating the meditation associated epigenetic modulation in persons with temporal and temporal plus epilepsy, Department of Neurology, AIIMS, New Delhi Funded by Science and Technology of Yoga and Meditation (SATYAM), Department of Science & Technology (DST)
3. CSF inflammatory markers in the diagnosis of autoimmune encephalitis, Department of Neurology, AIIMS, New Delhi funded by Intramural Grant, Research Section, AIIMS, New Delhi
4. Effect of probiotics and repetitive transcranial magnetic stimulation on cognitive and motor function in 6-hydroxy dopamine rat model of Parkinson's disease, Department of Physiology, AIIMS, New Delhi
5. Elucidating the role of Fibronectin-Integrin-Src mediated glutamatergic activity in mesial temporal lobe epilepsy, Dr B.R. Ambedkar Center for Biomedical Research, University of Delhi, Delhi
6. Role of Casein Kinase 2 (CK2) signaling in mesial temporal lobe epilepsy, Dr B.R. Ambedkar Center for Biomedical Research, University of Delhi, Delhi
7. Comparative analysis of histone deacetylases mediated epileptogenesis in cortical dysplasia vs non cortical dysplasia drug resistant pathologies, Dr B.R. Ambedkar Center for Biomedical Research, University of Delhi, Delhi
8. Evaluation of inflammatory and oxidative stress resistance proteins in serum, as biomarkers of Alzheimer's disease with therapeutic interventions, Department of Biophysics, PhD Co-Supervisor
9. Elucidating the role of Proline rich tyrosine kinase 2 (Pyk2) signaling in the pathophysiology of Temporal lobe epilepsy, Dr B.R. Ambedkar Center for Biomedical Research, University of Delhi, Delhi
10. Role of genetic variants and non-coding RNAs in drug-resistant epilepsy, Department of Neurology, AIIMS, New Delhi
11. Evaluation of therapeutic efficacy and mechanism of repetitive transcranial magnetic stimulation on the cognitive enhancement in hypobaric hypoxic environment, Department of Physiology, AIIMS, New Delhi Funded by Life Science Research Board (LSRB), DRDO, Govt. of India
12. Role of Inhibitors of Apoptosis Proteins in Gastroenteropancreatic Neuroendocrine Tumors, Department of Anatomy, AIIMS, New Delhi
13. Expression profile of proteins in pancreatic neuroendocrine tumor patients, Department of Anatomy, AIIMS, New Delhi
14. Study of exosomes in saliva of pancreatic neuroendocrine tumor patients, Department of Anatomy, AIIMS, New Delhi
15. Identification and evaluation of novel proteins, inhibitors of apoptotic proteins and exosomes in cases of pancreatic neuroendocrine tumors, Department of Anatomy, AIIMS, New Delhi
16. Mechanistic understanding of Parkinson's disease and developing an early screening method, Department of Neurology, AIIMS, New Delhi
17. Identification of pathological and disease activity markers in Primary CNS Vasculitis, Department of Neurology, AIIMS, New Delhi
18. Development of screening method & evaluate the efficacy of novel drugs for Alzheimer's Disease, Department of Geriatrics and Department of Neurology, AIIMS, New Delhi
19. Development of a non-invasive novel method for early detection of cognitive impairment, Department of Geriatrics Medicine and Department of Neurology, AIIMS, New Delhi
20. Understanding of Parkinson's disease pathogenesis by using plasma derived biomarkers, Department of Neurology, AIIMS, New Delhi
21. Development of novel spectral and exosomal biomarkers for early detection of breast cancer, Department of Pathology and Department of Surgical Disciplines, AIIMS, New Delhi
22. IL6 biomarker level in sleep apnea patient after Mandibular advancement appliance and Cpap therapy, Department of Prosthodontics and Crown Bridge, Center for Dental Education & Research, AIIMS, New Delhi

23. A comparative study to evaluate the alkaline phosphatase level and implant stability quotient in immediate implants placed by using socket shield technique and conventional technique in maxillary anterior region – a randomized controlled trial, Department of Prosthodontics and Crown Bridge, Center for Dental Education & Research, AIIMS, New Delhi
24. Critical aggregation concentration for the formation of amyloid beta oligomers and nutraceuticals inhibition of its fibers. India Science and Research Fellowship (ISRF) – International Fellowship for SAARC Countries, Research Centre for Applied Science and Technology (RECAST), Tribhuvan University, Nepal.
25. Structure-based design of lead compounds against a novel drug target for the treatment of multi-drug resistant Tuberculosis, Department of Biophysics, AIIMS
26. A comparative proteomics and metabolomics study of Idiopathic pulmonary fibrosis (IPF) and Post-COVID pulmonary fibrosis (pCPF) to identify new pathological and therapeutic pathways, Department of Pulmonary, Critical Care & Sleep Medicine, AIIMS
27. Delineating the co-evolution of HIV-I broadly neutralizing antibodies and circulating viruses in mono-zygotic twins pediatric elite-neutralizers, Department of Biochemistry, AIIMS
28. Functional characterization of human Multimerin1 (in vitro and in-vivo) and identification of its inhibitors as potential therapeutic targets in ovarian cancer, Department of Biophysics, AIIMS
29. Identification of MARK4 inhibitors from bioactive phytoconstituents of Bacopamonnieri (Brahmi): Therapeutic management of Alzheimer’s disease and neuro-inflammation animal model, Jamia Millia Islamia, New Delhi
30. Screening of Inhibitory Molecules Against Kifc1, Kif4a, Kif15 And Kif20a And Evaluation of Anticancer Activity of the Identified Molecules On Breast Cancer Cells, Institute of Pathology (ICMR), New Delhi-110029,
31. Structural and functional studies of Mycobacterial Toxin antitoxin systems, School of Life Sciences, JNU, New Delhi
32. Structural and functional studies of *Mycobacterium tuberculosis* peptidyl-tRNA hydrolase: A novel drug target of multidrug resistant Tuberculosis, 1. Department of Medicine, AIIMS, New Delhi, 2. Department of Biosciences, IIT Kharagpur, 3. Department of Chemistry, University of Hyderabad
33. Connecting pathogenesis to Calcium signalling in protozoan parasite *E. histolytica*, Multidisciplinary Centre for Advanced Research and Studies, Jamia Millia Islamia, New Delhi-110025

#### Completed

1. Long term effects of COVID-19 on endocrine system, semen quality and sperm proteome, Department of Laboratory Medicine, AIIMS, New Delhi
2. Understanding the role of neuronal salivary exosomes in Parkinson’s Disease, Department of Neurology, AIIMS, New Delhi
3. Understanding the role of salivary exosomes in Alzheimer’s disease, Amity University, Noida, UP
4. Structure-based design of nanobody inhibitors against EGFR: A Protein engineering approach to develop novel therapeutics for lung cancer, 1. Life Sciences, Shiv Nadar University, Noida, 2. Faculty of Biology, Indian Institute of Petroleum & Energy, Visakhapatnam
5. Development of potent inhibitors against drug-resistant EGFR kinase for the treatment of EGFR positive tumors, 1. Department of Chemistry, IIT Delhi, 2. Life Sciences, Shiv Nadar University, Noida
6. Atherosclerotic Cardiovascular disease: unravelling the early biomarkers from biofluidexosomes by iTRAQ based quantitative proteomics, 1. Department of Cardiology, AIIMS, New Delhi
7. Characterization and sequencing analysis of exosomes miRNA from biofluids of Coronary Artery Disease, 1. Department of Cardiology, AIIMS, New Delhi
8. Development of potent inhibitors for NSP RNA polymerase and PLprotease from novel corona virus for the treatment of COVID-19, 1. Department of Chemistry, IIT Delhi

#### Research Projects over past 3 years

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	30	37	38
Total funding (Lakhs)	27,203,432	49,871,924	65,706,979

## PUBLICATIONS

Journals: 44

Abstracts: 07

Chapters in Book: 03

Publications over past 3 years

Item	2020-2021	2021-2022	2022-2023
Total	35	45	54
Journal articles	32	33	44
Abstracts	2	8	7
Chapters in books	1	3	3
Books	-	1	-

## AWARDS, HONOURS, AND SIGNIFICANT EVENTS

**Professor Tej P Singh** delivered Prof T. Veerabasappa Gowda Endowment Lecture at University of Mysore, 17 September 2022; National Science Day Lecture at the University of Mysore, 28 February 2023; Elected President of the Chemical Biology Society of India on 24 March 2023 (2023-2025).

**Professor Punit Kaur** received Lifetime Achievement Award, Bioinformatics and Drug Discovery Society; President of Indian Crystallographic Association; Member, IUPAB-INSA National Committees for ISC Union January 2020 to December 2023; External Member, Board of Studies, Department of Biophysics, Banaras Hindu University, Varanasi; External Member, Board of Studies, Department of Computational Sciences, Central University of Punjab, Bathinda; External Member, Curriculum Development (M.Sc. Biotechnology) NSUT, New Delhi.

**Professor Jyotirmoy Banerjee** received AIIMS Excellence Research Award (2nd Prize) under Basic Science Category for publication in the year 2020 at 2nd AIIMS Research Day held on 18 October 2022; received AIIMS Excellence Research Award (3rd Prize) under Basic Science Category for publication in the year 2021 at 2nd AIIMS Research Day held on 18 October 2022; Co-Editor for the journal Neurology India.

**Professor Saroj Kumar** was awarded ICMR-DHR International Short-Term Fellowship in Foreign Institutes, 2022-2023 awarded by ICMR-DHR, Ministry of Health & Social Welfare for 3 months; Mentoring an “India Science and Research Fellowship (ISRF) – International Fellowship for SAARC Countries” December 2021–May 2022; Membership of International Society for Extracellular Vesicles, 2022-2023.

**Professor Uddipan Das** received Science and Engineering Research Board International Research Experience (SERB-SIRE) award by the government of India to Visit Stanford SLAC Cyto-EM Centre, Stanford University, California, USA from August 2022 to February 2023.

## VISITING SCIENTISTS

Following noted scientists and eminent academicians have visited the department for presenting lectures and scientific cooperation in the last year:

- Dr Peter Maly, Institute of Biotechnology, Czech Republic;
- Dr Christian Betzel, University of Hamburg;
- Dr RenuBatra-Safferling, Institute of Biological Information Processing, Julich, Germany;
- Dr Anurag Agarwal, Ashoka University;
- Dr Sonika Bhatnagar, New Delhi, Dr Pushkar Sharma, New Delhi

## 9.6 Biostatistics

### Additional Professor and Head

Maroof Ahmad Khan

### Assistant Professor

M Kalaivani

### Scientists

Shivam Pandey

Nilima

Sumit Kumar Das

### HIGHLIGHTS

The Department has two ongoing extramural funded research projects. Collaborative research projects with various Centers/Departments in the Institute include 34 ongoing and 14 completed research projects. Faculty and Scientists in the department published 77 research papers in various peer-reviewed medical journals. Faculty in the department have continued to be reviewers of some medical journals in the country and for several international medical journals from various medical specialties. They have served on various administrative and scientific committees in the Institute and have been invited as members of various scientific committees of the ICMR and have served on Data Safety Monitoring Boards (DSMB) of national clinical trials.

### EDUCATION

The Department continued teaching “Biostatistics and Essentials of Research Methods” for the undergraduate, paramedical and postgraduate courses, viz. MBBS, BSc (Hons.) in Medical Technology in Radiology, BSc (Optometry), BSc (OT Technology), M Biotech, MSc (Reproductive Biology), BSc & MSc Nursing, and MD Community Medicine. Faculty members and scientists guided students of other Departments in the Institute as Co-Guides, DC Members of PhD, DM, MCH, MD/MS/MHA/MDS, students. The major activities of the department include teaching and providing scientific statistical guidance to faculty and scientists for their research study (both funded and non-funded) and all medical and paramedical students for their thesis/dissertation from planning till the end of report writing.

### Lectures delivered at CMEs, National and International Conferences

**Lectures Delivered: 01**

**Lectures Delivered over past 3 years**

2020-2021	2021-2022	2022-2023
6	9	1

**List of oral papers/posters presented: 2**

### RESEARCH

#### Funded projects

##### *Ongoing*

1. Strategic Multimodal Intervention in at-risk Elderly Indians for Prevention of Dementia (SMRUTHI INDIA): A cohort multiple randomized controlled trial (cmRCT), Dr M A Khan, ICMR, 3 years, 2022-2024, 10 lakhs (approx)
2. Development of longitudinal growth reference and assessment of growth velocity, cardio metabolic measures and its correlation among children in India– A prospective study, Dr M Kalaivani, ICMR, 3 years, December 2021-December 2024, 93.4 lakhs

#### Collaborative Projects:

##### *Ongoing*

1. Mapping functional and biochemical correlates in brain of Parkinson’s patients with mild cognitive impairment, Department of NMR & MRI facility

2. A study on cellular physiology of endometriosis-associated estrogenic action in endometrial stromal cells, Department of Physiology
3. To study the effect of diesel exhaust exposure on male reproduction in the laboratory rat, Department of Physiology
4. Enhancing mental health and substance use literacy among college going students in national capital territory of Delhi, Centre for Community Medicine
5. An OMICS approach to understand the molecular heterogeneity of Breast cancer among Indian females, Department of Biochemistry
6. Whole Exome Sequencing of Hypospadias Patients Family Trios for Identification & Validation of Genetic Markers and Development of a Genetic Panel for Hypospadias Risk Assessment, Department of Pediatric Surgery
7. To study the effect of intermittent theta burst stimulation (iTBS) repetitive Transcranial Magnetic Stimulation (rTMS) in predominantly negative symptoms and cognitive function in person suffering from schizophrenia (> 2 years duration) in a randomized sham controlled double blind trial, Department of Psychiatry
8. Identification of factors predictive for weight loss after Bariatric Surgery: Building a model for improving outcomes and maintaining weight loss, Department of Biochemistry
9. Statistical randomized to assess the determinants of HIV risk behavior among the Hijra and Transgender population using Integrated Biological and Behavioral Surveillance Survey 2014-15 in India, Centre for Community Medicine
10. Efficacy of IV rituximab versus oral mycophenolate mofetil in sustaining remission in steroid-resistant randomize syndrome maintained on calcineurin inhibitors for more than two years: An open-label randomized controlled trial, Department of Pediatrics
11. A randomized controlled trial comparing intralesional triamcinolone acetonide alone versus fractional electrolysis with topical application of triamcinolone acetonide in the treatment of keloids, Department of Dermatology & Venereology
12. A cross sectional study to assess the quality of life impairment in children and adolescents with vitiligo and their primary care givers and comparison of prevalence of depression, anxiety and low self-esteem in children and adolescents with vitiligo as compared to age and sex matched healthy controls, Department of Dermatology & Venereology
13. Host and environmental factors in the acute exacerbations of childhood interstitial lung disease, Department of Pediatrics
14. Prevalence, Risk Factors and Outcome of Undiagnosed Heart Failure with Preserved Ejection Fraction (HfpEF) Among Patients Admitted with Dyspnea, Department of Medicine
15. To evaluate the effectiveness of enhanced behavioral intervention and use of technology (Continuous glucose monitoring) for improving pregnancy outcomes in women with type 2 Diabetes mellitus: A three-arm parallel randomized controlled trial, Department of Medicine
16. Development of neuro-vascular coupled computational randomized in stroke using multimodal imaging, Department of NMR & MRI facility
17. Study of fibrosis in cardiovascular disease: FIBICAR study, Department of Cardiology
18. Strategic Multimodal Intervention in at-risk Elderly Indians for Prevention of Dementia (SMRUTHI INDIA): A cohort multiple randomized controlled trial (cmRCT), Department of Neurology
19. A comparative proteomics and metabolomics study of Idiopathic pulmonary fibrosis (IPF) and Post-COVID pulmonary fibrosis (pCPF) to identify new pathological and therapeutic pathways. Department of Pulmonary & Sleep Disorder
20. Evaluation of Artificial neural network for differentiating Iron deficiency anemia and  $\beta$ -Thalassemia trait in comparison to the conventional methods, Department of Laboratory Medicine
21. To evaluate the performance of Shonit (A New Automated Digital Imaging Platform) with respect to conventional microscopy in peripheral blood smear, Department of Laboratory Medicine
22. To evaluate the novel hematological extended inflammatory parameters in the prediction of post injury sepsis in patients at level I Trauma Centre in a tertiary care hospital, JPN Apex Trauma Center
23. Evaluation of human Epididymis Protein 4 (HE4) level in the diagnosis of ovarian cancer, Department of Lab Oncology, IRCH
24. ICMR's Network of Pulmonary Fibrosis (INPF), Department of Pulmonary & Sleep Disorder

25. Inflammatory Cytokine profiling and serial changes in Patients with Blunt Torso Trauma – A Prospective, observational study, JPN Apex Trauma Center
26. Artificial intelligence-based decision Support System for Diagnosing Ventilator Associated Pneumonia, Department of Medicine
27. Smartphone app for management of gestational diabetes mellitus in urban rural settings in India: A randomized controlled trial, Department of Obstetrics & Gynecology
28. Development and Evaluation of an Individualized Weight Management Module for Young Adults, Department of Medicine
29. A preliminary study to validate BM-AspICU algorithm for diagnosing invasive pulmonary aspergillosis in critically ill mechanically ventilated patients using post-mortem minimally invasive tissue sampling, Department of Medicine
30. Effects of high dose vitamin D3 on hemoglobin concentrations of mechanically ventilated patients with sepsis: A placebo-controlled randomized trial, Department of Medicine
31. Identification of metabolic biomarkers by using metabolomics and meta-genomics of prostate cancer associated micro-biome to distinguish aggressive prostate cancer, Department of NMR
32. Comparison of Re-188-HDD Lipiodol Trans Arterial Radionuclide Therapy (TART) with Re-188-DEDC Lipiodol TART in the management of advanced Hepatocellular Carcinoma: A Randomized Control Trial, Department of Nuclear Medicine
33. Intermediate and long-term therapeutic efficacy of rTMS in drug refractory focal epilepsy of childhood: A Randomized, Double-blind, Sham-controlled study, Department of Pediatrics
34. Genomics of Gall Bladder Carcinoma in Indian Patients, Department of Lab Oncology, IRCH

#### ***Completed***

1. Effect of regional anesthesia on perioperative inflammatory cytokines alteration and clinical complications in orthopedic trauma surgery, Department of Anaesthesiology and Intensive Care (JPNATC)
2. Study of Common Mental Disorders in adolescent living with HIV (ALHIV) attending the pediatric HIV services at AIIMS, New Delhi: A Case-Control Study, Centre for Community Medicine
3. Randomized controlled trial comparing the efficacy of cognitive behavioral therapy vs yoga nidra in persons with psychogenic non-epileptic seizures, Department of Neurology
4. Outcomes of cochlear implant in older prelingual sensorineural hearing loss patients, Department of ENT
5. Role of PET in surgical management of oral squamous cell carcinoma, Department of ENT
6. Smartphone applications-based intervention to reduce BMI and improve health related behavior among school children with overweight/obesity: A controlled clinical trial, Department of Pediatrics
7. Prevalence of low back pain and its associated factors among elderly persons in an urban colony of Delhi, Centre for Community Medicine
8. Utilization of Maternal Health Care Services in rural Ballabgarh during the COVID-19 pandemic, Center for Community Medicine
9. Role of continuous glucose monitoring in personalized glycemic management of hepatic glycogen storage disorders, Department of Pediatrics
10. Diabetes and hypertension among elderly persons in an urban resettlement colony of Delhi, Center for Community Medicine
11. Comparison of Insulin Resistance as Marker of Psychological Morbidity and Quality of Life (QoL) in PCOS and non-PCOS Infertile women - a case control study, Dept of Obstetrics & Gynaecology
12. A study to quantify the burden of insulin resistance in breast cancer women and its relationship with other known prognostic and predictive factors of breast cancer, Department of Surgical Disciplines
13. Study of Common Mental Disorders in adolescent living with HIV (ALHIV) attending the Pediatric HIV services at AIIMS, New Delhi, Center for Community Medicine
14. Association of hearing loss in geriatric patients with cognitive impairment, Department of Otorhinolaryngology, Head and Neck Surgery



## PUBLICATIONS

**Journals: 67                      Abstracts: 01**

### Publications over past 3 years

Item	2020-2021	2021-2022	2022-2023
Total	144	114	68
Journal Articles	144	114	67
Abstracts	0	0	01
Chapters in Books	0	0	0
Books	0	0	0

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Maroof A. Khan** is Member faculty selection committee, AIIMS, Kalyani as a Minority observer, member faculty selection committee, Jamia Hamdard, Chairman selection committee for project staff recruitment, ICMR, DSMB member for clinical trial, Examiner for PhD theses, Editorial Board Member (Biostatistics)-International Journal of Scientific Reports and Health Science Research, USA, and served as reviewer for Lancet journals, PLOS-One, BMJ, Turkish Journal of Analysis and Number Theory and Journal of Obesity.

**Professor M Kalaivani** is DSMB member of ICMR VPM Vaccine trial: A Phase III, Randomized, Double-blind. Three arm Placebo controlled Trial to Evaluate the Efficacy and Safety of two vaccines VPM1002 and Immuvac (Mw) in Preventing Tuberculosis (TB) in Healthy Household Contacts of Newly Diagnosed Sputum Positive Pulmonary TB Patients; Working Committee Member of Clinical Research Unit; Selection Committee Member for project staff; Life member of Indian Society for Medical Statistics; Member of International Society for Clinical Biostatistics and Life member of the Indian Association for the Study of Population.

## 9.7 Biotechnology

### Professor and Head (Additional Charge)

Shyam S Chauhan

### Additional Professor

Anushree Gupta

### Associate Professors

Sirish Kumar Ippagunta                      Rupesh Kumar Srivastava  
Vikram Saini                                      Bhupendra Kumar Verma

Sumit Rathore

### Assistant Professors

Mahendra Seervi                              Vineet Choudhary  
Avtar Singh Meena

### Scientist

Shrabani Saugandhika

### HIGHLIGHTS

- Department of Biotechnology runs a well-rated Masters in Biotechnology course with specialization in Medical Biotechnology admitting 18 students per batch. The Department also runs a PhD program. The total strength of MSc and PhD students is about 50.
- Departmental faculty have mentored about 4 postdoctoral scientists last one year.
- Department runs a student mentorship and career awareness program, to cater the needs of students from diverse backgrounds.
- Departmental faculty have obtained large number of extramural grants from various funding agencies including the prestigious Wellcome Trust-DBT India Alliance Intermediate Fellowship Grant.
- Departmental faculty have received national level honors/awards from various scientific organizations in recognition of their outstanding contributions to the field of biotechnology.
- Departmental faculty have served as experts in several scientific committees organized by various institutes and universities of the Government of India.
- Departmental faculty have published a large number of peer review research articles in, various national and international, high impact factor journals.
- Department has 6 senior demonstrators (Dr Chaman Saini, Dr Ravinder Kumar, Dr Pooja Kumari, Dr Anuj Kumar Tomer, Dr Kiran Kumari and Dr Monika) who participate in the teaching and research activities of the department.
- **Activities/steps taken to improve patient care services, education and research:** The Department is known for its commitment to biomedical research and continuous efforts of the faculty has established a name for the Department in the areas of Leprosy, TB, Malaria and Cancer. New fields of research initiated in the Department include Cardiogenomics, Bioinformatics, Osteoimmunology, Virology, Metabolism and bioenergetics of Infectious diseases, Redox Biology, Innate immunity, Inflammation, Drug development, Molecular parasitology, Lipid droplet biogenesis, Cell death and its regulation and Molecular cancer therapeutics. Dr Vikram Saini developed a novel cold chain independent cost-effective Viral Transport Medium for Improved Diagnostics of COVID-19; signed a Comprehensive Research Agreement as Lead Investigator for AIIMS-Medic Fibers Pvt Ltd, an IIT-Delhi Start-up for developing Medicated clothing within the Make in India Framework of Govt of India as a strategy for reducing Infections and improving patient health care.
- **Action plan for the coming year:** To continue making significant contributions to research in the areas of cancer biology, immunology, virology, infectious diseases, molecular parasitology, lipid metabolism, gastrointestinal and liver diseases. Also, the departmental faculty are committed to contribute to the development of technologies, and diagnostics and therapeutic assays especially for Class II and Class III infections such as tuberculosis, which is a National Health Priority. Further taking products developed by faculty of the department to the market and commercialize will also be a top priority.



1. Ms Leena Sapra, PhD student, received the Dr Arun Fotedar Memorial: Best Published Work, AIIMSONIAN Award on 1 October 2022.
2. Ms Niti Shokeen, Senior Research Fellow, received Best Oral Presentation award in Bio-Medical Sciences at National Science Festival held at SMS Medical college, Jaipur on 27 February 2023.
3. Dr Rupesh Srivastava received AIIMS Research Excellence Award at 2nd Annual Research Day celebration of AIIMS on 17 October 2022.
4. Dr Vikram Saini received the First Prize for the Innovative Product Development at 2nd AIIMS Research Day on 18 October 2022.

## EDUCATION

### Postgraduate Teaching

- The Department conducts 2 years postgraduate course in Biotechnology with emphasis on Medical Biotechnology leading to M. Biotech degree. The teaching program covers 16 subjects, namely, Cell and Developmental Biology, Genetics, Human Biochemistry, Medical Microbiology, Immunology & Immunotechnology, Molecular Biology, Infectious Disease Biology, Genetic Engineering & Genome Technology, Biophysics (Principles, Techniques & Applications in Medicine), Bioinformatics, OMICS (Genomics, Transcriptomics, Proteomics & Metabolomics), Biostatistics, Seminars in Laboratory Techniques (Principles & Instrumentation), Medical Biotechnology (Journal Club & Communication Skills), Seminars in Molecular Medicine & Biotechnology and Dissertation in frontier areas of medical research.
- The Department has introduced five new credit courses in the course curriculum of M. Biotechnology namely, Infectious Disease Biology, OMICS: Genomics, Transcriptomics, Proteomics, and Metabolomics, Intellectual Property Rights, Bioethics and Biosafety (IBB), Molecular Diagnostics and Clinical Biochemistry (MDB) and Laboratory course on Medical Microbiology and Infectious Disease Biology.
- Students are given individual attention and extensive hands-on training in Practical classes.

- Experts are invited from PGIMER, JNU, IGIB, ICGB, NII, IIT, THSTI, RCB, BCIL, TERI, Jamia Hamdard and University of Delhi in addition to AIIMS faculty from various specialties, to deliver seminars in biotechnology, bioinformatics, molecular medicine, genomics, proteomics etc.
- The Department conducts a PhD program in the area of Medical Biotechnology.
- The Department mentors and supports young Scientists having DBT and DST National Post-Doctoral and Young Scientist award.

Year	Number of students registered in the department
2020-2021	13
2021-2022	21
2022-2023	25

**Lectures delivered: 33**

**Lectures delivered over past 3 years**

**List of oral papers/posters presented: 19**

**Oral presentations over past 3 years**

2020-2021	2021-2022	2022-2023
4	10	19

## RESEARCH

### Funded projects

#### *Ongoing*

1. Cysteine Cathepsins in Acute Lymphoblastic Leukemia: Implication(s) in Prognosis and Therapeutics, Shyam S Chauhan, ICMR, 3 years, 2020-2023, Rs 21.93 lakhs
2. Evaluation of endothelin and retinal renin angiotensin system (RRAS) in glaucoma, Anushree Gupta, Interdisciplinary collaborative AIIMS intramural research project (AC-20) with Dept of Ocular Pharmacology, Dr RP Centre for Ophthalmic Sciences, AIIMS, New Delhi, 2 years, 2021-2023, Rs 10 lakhs
3. “Molecular Characterization of 5’UTR Of EDN1 gene containing single +139 ‘A’ Insertion Mutation”, Anushree Gupta, ICMR, 3 years, 2022-2025, Rs 84.51 lakhs
4. Generation of Molecular Tools for functional Characterization of Silent Genetic Variants of Endothelin Receptor Genes, Anushree Gupta, AIIMS Research Section. Early Career Grant, 2 years, 2022-2024, Rs 10 lakhs
5. Exploring the immunomodulatory activities of novel Toll-like receptor-signaling inhibitors in peripheral blood mononuclear cells from lupus patients: A study to identify TLRs as drug targets for lupus, Sirish Kumar Ippagunta, SERB, 3 years, 2020-2023, Rs 68.01 lakhs
6. Discovering the anti-inflammatory effects of novel Toll-like receptor signaling inhibitors on rheumatoid arthritis mononuclear cells and synovial fibroblasts: An in vitro study to identify TLR signaling inhibition as future potential strategy to control inflammation in rheumatoid arthritis, Sirish Kumar Ippagunta, ICMR, 3 years, 2021-2024, Rs 81.81 lakhs
7. “To elucidate the immunomodulatory role of probiotics in modulating bone health in post-menopausal osteoporosis via its effect on ILC3-ILCreg cell axis”, Rupesh K. Srivastava, DBT, 3 years, 2021-2024, Rs 82.00 lakhs
8. ‘To investigate the bone protective potential of selected homeopathic formulations (SHFs) in osteoporotic conditions”, Rupesh K. Srivastava, CCRH-AYUSH, 3 years, 2022-2025, Rs 70.00 lakhs
9. To investigate the therapeutic potential of probiotics in treatment and management of osteoporosis: “Role of regulatory B cells (Bregs), Rupesh K. Srivastava, Indian Council of Medical Research (ICMR), 3 years, 2022-2025, Rs 73.00 lakhs
10. To investigate the therapeutic potential of extracellular vesicles (EV) released by human induced pluripotent stem cell (hiPSC)-derived mesenchymal stem cells (iMSCs) to counteract oestrogen deficiency induced bone deterioration, Rupesh K Srivastava, AIIMS-University College London Collaborative Research Grant, 1 year, 2022-2023, Rs 10.00 lakhs

11. “To dissect the Immunomodulatory potential of Probiotics in ameliorating acute respiratory distress syndrome (ARDS)”, Rupesh K Srivastava, CSR funding from Unique Biotech, Hyderabad, 1 year, 2022-2023, Rs 5.00 lakhs
12. “To establish the role of Th9 cells in the pathophysiology of Osteoporosis”, Rupesh K. Srivastava, AIIMS, Intramural, 2 years, 2022-2024, Rs 10.00 lakhs
13. “To investigate the regulatory potential of Estrogen in modulating differentiation and function of regulatory B cells: Implications in bone remodeling”, Rupesh K Srivastava, AIIMS, Interdisciplinary Project, 2 years, 2021-2023, Rs 20.00 lakhs
14. Role of Hydrogen Sulfide in mycobacterial infections, Vikram Saini, DBT, 3 years, 2019-2023, 59.06 lakhs
15. Modulation of host bioenergetics health and redox function via Selenium supplementation as a novel approach to tuberculosis management, Vikram Saini, SERB, 3 years, 2020-2023, Rs 53.5 lakhs
16. Characterization of L, D-transpeptidases from Mycobacterium abscessus: An Emerging Opportunist Pathogen, Vikram Saini (Mentor to Dr Namrata Kushwaha Woman Scientist), DHR, 3 years, 2020-23, Rs 30.9 lakhs
17. Probiotics mediated bioenergetics health modulation as a novel approach to the management of microbial infections, Vikram Saini, DRDO, 3 years, 2020-23, Rs 75.50 lakhs
18. National Consortium for One Health to address Zoonotic and Transboundary Diseases in India, including the Northeast Region, Vikram Saini (PI at AIIMS), DBT, 3 years, 2021-2024, Rs 57.12 lakhs
19. Characterization of immunomodulatory proteins of MIP, Vikram Saini, AIIMS, 2 years, 2021-23, Rs 10 lakhs
20. Identifying the bioenergetics mechanisms of dysregulation of immune cells during SARS-CoV-2 infections, Vikram Saini, AIIMS, 2 years, 2021-23, Rs 20 lakhs
21. Identification and functional characterization of tRNA derived RNA fragments in DENV pathogenesis, Bhupendra K Verma, SERB, 3 years, 2019-2022, Rs 39.41
22. Mechanistic analysis of tRNA-derived RNA fragments in DENV pathogenesis, Bhupendra K. Verma, SERB, 3 years, 2023-2026, Rs 50 lakhs
23. Investigation of key splicing events modulated in DENV infection, Bhupendra K. Verma, DBT, 3, 2021-24, Rs 55.5 lakhs
24. Exome sequencing and molecular characterization in Juvenile nasopharyngeal angiofibroma, Bhupendra K Verma, AIIMS, 2 years, 2021-2023, Rs 10 lakhs
25. Understanding key regulators of Mitochondrial dynamics and hemeostasis in human malaria parasite Plasmodium falciparum, Sumit Rathore, Department of Science and Technology, 3 years, 2023-2026, Rs 67 lakhs
26. A longitudinal study to assess the incidence of chronic pulmonary aspergillosis in pulmonary tuberculosis patients and identification of Aspergillus Aspergillus immunodiagnostic antigens, Sumit Rathore, All India Institute of Medical Sciences, 2 years, 2023-2025, Rs 10 lakhs
27. Cytoplasmic stress granules: dynamic regulators of anastasis in cancer cells?, Mahendra Seervi, SERB, 3 years, 2021-2024, Rs 64 lakhs
28. Molecular Mechanisms of Lipid Droplet Biogenesis, Vineet Choudhary, Wellcome Trust/DBT India Alliance. Scheme: Intermediate Fellowship Grant in the field of Basic Biomedical Research, 5 years, 2021-2026, Rs 359 lakhs
29. Deciphering the functions of the conserved fat storage-inducing transmembrane (FITM2) protein in lipodystrophy and insulin resistance through systems approaches, Vineet Choudhary, Department of Biotechnology (DBT); Bilateral programme (Indo-Swiss Joint Research Programme (ISJRP), 4 years, 2021-2025, Rs 249 lakhs
30. Investigate the role of seipin protein in ectopic lipid droplet formation, Vineet Choudhary, AIIMS Intramural Research Grant, 2 years, 2021-2023, Rs 10.00 lakhs

#### Research projects over past 3 years

Research projects	2020–2021	2021–2022	2022–2023
Total funded projects	26	27	30
Total funding (2020 to 2026) INR	1766.25 lakhs		

#### Completed

1. Cellular and Immunomodulatory Functions of Dipeptidyl peptidase III in Esophageal Cancer, Shyam S Chauhan, ICMR, 3 years, 2019-2022, Rs 35.00 lakhs

2. Probing the biology of Toll-like receptor and Interleukin-1 Receptor in peripheral blood mononuclear cells of healthy donors using novel small molecule inhibitor, Sirish Kumar Ippagunta, All India Institute of Medical Sciences, 2 years, 2020-2021, Rs 5.00 lakhs
3. Elucidation of Cellular mechanisms involving GUT resident regulatory T cells in Probiotics mediated inhibition of Osteoporosis, Rupesh K Srivastava, DST-SERB, 3 years, 2019-2022, Rs 65.00 lakhs
4. Development of novel mushroom based synbiotic food supplement for management of Osteoporosis, Rupesh K Srivastava, AIIMS-IIT-Delhi Inter Institutional Collaborative Research Grant, 2 years, 2019-2021, Rs 20.00 lakhs
5. To establish the role of regulatory B cells (Bregs) in post-menopausal Osteoporosis, Rupesh K. Srivastava, AIIMS- Intramural Research Grant, 2 years, 2020-2022, Rs 10.00 lakhs
6. Host transcriptomic profiling in mildly symptomatic, sick and sicker COVID-19 patients, Vikram Saini, AIIMS COVID-19, 2 years, 2021-2023, Rs 10.0 lakhs
7. Dysregulation of Zinc homeostasis as a major contributing factor to Mucormycosis infection, Vikram Saini, AIIMS COVID-19, 2 years, 2021-2023, Rs 5.0 lakhs
8. Combating the challenge of antibiotic tolerance: Combining conventional anti-tubercular drugs with DevR dormancy regulator-targeted approaches for improving M tuberculosis clearance, Vikram Saini, DBT, 3 years, 2019-2022, Rs 59.3 lakhs
9. Investigation of role of tRNA derived non-coding RNAs in EMT and its relevance to malignancies, Bhupendra K. Verma, AIIMS, 2 years, 2020-22, Rs 10 lakhs
10. Circulating miRNA in Plasmodium vivax severe malaria, Sumit Rathore, All India Institute of Medical Sciences, 2 years, 2019-2021, Rs 10.00 lakhs
11. Generation of high affinity recombinant murine monoclonal antibody fragments (scFv) against spike protein of SARS-CoV-2, Sumit Rathore, All India Institute of Medical Sciences, 1 year, 2020-2021, Rs 8 lakhs
12. Role of ALDH1A3 in anastasis and associated cancer stem cells-like cellular transformation in breast cancer cells, Mahendra Seervi, AIIMS, 2 years, 2021-2023, Rs 10 lakhs

## **Departmental projects**

### ***Ongoing***

1. Construction of a dual selection plasmid for efficient genome editing in mammalian cells
2. Role of negative regulators of EGFR in malignant transformation of oral dysplasia
3. Cysteine cathepsins in Acute Lymphoblastic Leukemia: Implication(s) in Prognosis and Therapeutics
4. Role of prothymosin alpha in glial tumorigenesis
5. Cloning and Expression of Endothelin Receptor 'A' Gene Carrying SNPs Observed in Indian Patients Suffering From Coronary Artery Disease
6. Studies on transcriptional regulation by Endothelin-1 proximal and distal promoter elements in Mammalian cell-lines.
7. "Generation of molecular tools for CRISPR mediated knock-in of an 'A' in 5'- UTR region of ET-1 gene"
8. Role of intracellular gases in bacterial infections
9. Characterization of immunomodulator proteins of MIP
10. Molecular basis of severity of mucormycosis infection
11. Nutritional factors, micronutrient supplementation and tuberculosis infection
12. Development of antimicrobial clothing to combat hospital acquired infections
13. Role of probiotics in immunomodulation and microbial infections
14. Understanding the basis of drug tolerance in mycobacterial infections
15. COVID-19 coinfections and metabolic basis of immune response
16. One health approach of combating zoonotic infections
17. Studies on anti-inflammatory activity of TLR antagonists in mononuclear cells of rheumatoid arthritis patients.
18. Studies on anti-inflammatory activity of endosomal TLR antagonists in lupus PBMC
19. Evaluation of immunomodulatory activities of Toll-like receptor signaling inhibitors in lupus peripheral blood mononuclear cells
20. Toll like receptors in in-active systemic lupus erythematosus

21. "Functional characterization of ER subdomains engaged in lipid droplet biogenesis"
22. "Deciphering the functions of the conserved fat storage-inducing transmembrane (FITM2) protein in the assembly of lipid droplets"
23. "Investigate the role of lipid droplet assembly factors in the regulation of lipid droplet biogenesis"
24. "Deciphering the role of nucleocytoplasmic transport proteins in apoptotic and anastatic cancer cells"
25. "Deciphering the role of stress granules and associated molecular factors in apoptotic and anastatic cancer cells"
26. Identification and functional characterization of tRNA derived RNA fragments in DENV pathogenesis
27. Spliceosomal regulation in Dengue pathophysiology
28. Decoding miRNA-RBP nexus during Dengue virus pathophysiology

### **Completed**

1. Cellular and Immunomodulatory Functions of Dipeptidyl peptidase III in Esophageal Cancer
2. Role of human Heterogenous Nuclear Ribonucleoprotein D (hnRNPD) in oral cancer
3. Studies on Single Nucleotide Polymorphism in the 5'UTR encoding locus of Endothelin-1 Gene in Indian Glaucoma Patients
4. Studies on the effect of Insertion of a single 'A' at +139 position in 5'UTR of *Edn-1* gene on its expression via reporter gene assays
5. Cloning and Expression of Endothelin Receptor B Gene Carrying SNPs Observed in Indian Patients Suffering From Coronary Artery Disease
6. Role of Zinc in mucormycosis
7. Sulfur metabolism for mycobacterial drug targeting
8. Role of metals in regulation of Hydrogen sulfide production
9. Effect of pyrazole based small molecule on interleukin-1 beta response in healthy PBMC
10. Targeting TLR3 using pyrazole based small molecule
11. To investigate protein targeting onto ectopic lipid droplets in seipin mutants
12. Investigate the consequences of ectopic lipid droplets in cells lacking seipin function
13. Functional characterization of yeast triacylglycerol synthesizing enzyme Lro1
14. To study the role of *Bifidobacterium longum* in modulating Bone Health via regulating the host Osteo-immune system
15. To study the nexus between probiotic *Lactobacillus rhamnosus* (LR) and T cell lineages in Ovx mice
16. To dissect the role of TH17-Treg cells in Microcystin-LR induced bone loss
17. To study the effect of Sodium Benzoate (NaB) in regulating Bone remodeling
18. To study the effect of MC-LR in regulating Bone remodeling
19. To establish the immunoporotic role of SCFAs in regulating bone health
20. To dissect the immunomodulatory potential of probiotics in ameliorating acute respiratory distress syndrome (ARDS)
21. To investigate the Immunoporotic role of Innate Lymphoid Cells (ILC3s) in Osteoporosis
22. Surface Proteomics of reticulocytes in *Plasmodium vivax* severe malaria patients
23. Identification of interacting proteins of *Plasmodium vivax* Tryptophan Rich Antigen 26.3 (PvTRAg26.3) with erythrocyte surface
24. Subcellular Localization of Mitochondrial Carrier Protein of *Plasmodium falciparum*.
25. Development of Aptamer Based Assay for detection of *Plasmodium* Infection
26. Generation of Bcl-2/Bcl-xl mediated drug-resistant cell models for anticancer agents
27. Generation of an image-based cell system to study stress granule formation in real-time
28. Study of apoptosis and its signaling induced by a novel mitocan ONC212 in cancer cells
29. Characterizing pre-mRNA splicing in context of Dengue virus
30. Characterization of functional interaction between minor spliceosome and polyadenylation machinery
31. Investigation of role of tRNA derived non-coding RNAs in EMT and its relevance to malignancies

## Collaborative projects

### Ongoing

1. Development of diagnostics and experimental therapeutics using CRISPR-based technologies, Biochemistry, AIIMS, New Delhi
2. Evaluation of endothelin and retinal renin angiotensin system (RRAS) in glaucoma, Ocular Pharmacology, Dr RP Centre for Ophthalmic Sciences, AIIMS, New Delhi
3. To study the role of iPSC derived hematopoietic progenitor cells for hematopoietic failure among trauma
4. Hemorrhagic shock using animal model, Emergency Medicine, AIIMS, New Delhi
5. Deciphering the functions of the conserved fat storage-inducing transmembrane (FITM2) protein in lipodystrophy and insulin resistance through systems approaches, Department of Biology, University of Fribourg, Fribourg, Switzerland
6. Role of GAMs in preventing osteoporosis, Orthopedics, AIIMS, New Delhi
7. Role of Immune cells in osteoporotic patients, Orthopedics, AIIMS, New Delhi
8. Role of Th9 cells in Osteoclastogenesis, THSTI
9. Phytotherapeutics and Bone Health, IIT-Kharagpur
10. Gut Microbiome and NaB, NCCS, Pune
11. Role of BPA on Bone health, Delhi University
12. Development of novel mushroom-based synbiotic food supplement for management of Osteoporosis, IIT-Delhi
13. Role of Immune system in Pancreatitis, Gastroenterology, AIIMS, New Delhi
14. Role of Immune system in TB, Physiology, AIIMS, New Delhi
15. Establishing the role of Th17/Tregs cell axis in pathophysiology of Uveitis, Dr Rajendra Prasad Center for Ophthalmic Sciences (RPC, AIIMS, New Delhi)
16. Adaptive immune responses to Covaxin and Covishield, Biochemistry, AIIMS, New Delhi
17. Towards a malaria blood-stage vaccine: identification and structural analysis of key ligand complexes on
18. Plasmodium falciparum merozoite through proteomic, cryoEM and immunological approaches, International Centre for Genetic Engineering and Biotechnology (ICGEB)
19. Minor spliceosomal & Dengue, THSTI
20. Antisense oligo mediated therapies in Ataxia Talangiectasia, Paediatrics, AIIMS Delhi
21. Exome sequencing and molecular characterization in Juvenile nasopharyngeal angiofibroma, ENT, AIIMS Delhi

### Completed

1. Clinical significance of cancer stem cells markers and its proteins in different grades astrocytomas, RP Center, AIIMS
2. Exploring the Tryptophan metabolism via Kynurenine pathway and their correlation with clinical outcome in Keratoconus and Fuch's endothelial corneal dystrophy patients undergoing corneal transplantation, RP Center, AIIMS
3. Role of GAMs in preventing osteoporosis, Orthopedics, AIIMS, New Delhi
4. Development of novel mushroom-based synbiotic food supplement for management of Osteoporosis, IIT-Delhi
5. miRNA as evaluation Biomarker for tuberculosis treatment response, ICGEB New Delhi, and InStem Bangalore

## PUBLICATIONS

Journal: 32

Abstracts: 8

Chapters in Book: 3

Publications over past 3 years

Item	2020-2021	2021-2022	2022-2023
Total	48	66	43
Journal articles	37	53	32
Abstracts	4	6	8
Chapters in books	7	7	3
Books	0	0	0



## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Shyam S Chauhan** served as Professor In-charge of Experimental Animal facility of the Institute and BB Dikshit Library (till August 2022). He is also the Chairman of Biosafety committee, animal ethics committee and Ph.D. Grievance Committee. He also served as Chairman of Scientific Committee for ACBICON-2022, the 48th annual meeting of Association of Clinical Biochemists of India organized by Sir Ganga Ram Hospital, New Delhi from 23-26 November 2022. He served as Subject Expert for selection/promotion of faculty at KGMU, Lucknow, JIPMER Pondicherry and UPSC, Jammu and promotion of Scientists at DRDO, New Delhi. He also served on the committee for selection of ICMR emeritus scientist and Research associate. He is also member of the Editorial Board of Indian Journal of Clinical Biochemistry.

**Dr Anushree Gupta** is appointed and served as expert in the sector of 'Affordable Health' under the Common Research and Technology Development Hubs (CRTDHs) program of Department of Scientific and Industrial Research (DSIR), Ministry of Science & Technology (Govt of India); Central public Information Officer for the Department of Biotechnology; Appointed Member Institute Ethics Committee for PG Research (Basic Science) at AIIMS, New Delhi; Co-ordinating Bioinformatics course module for M.Biotech. students; Internal Examiner for final exams of M.Biotech. students.

**Dr Rupesh Kumar Srivastava** is M Biotech Program Coordinator; Executive Member of Indian Immunology Society-IIS (2022-2024); Member, Institutional CCRF-FLOW Cytometry committee; Review Editor, Frontiers in Cell & Developmental Biology & Frontiers in Molecular Biosciences; Editorial board member, Frontiers in Immunology Frontiers in Endocrinology (Bone Research), Frontiers in Microbiology, Frontiers in Cell & Developmental Biology, Frontiers in Bioscience; recipient of, BEST Published Paper Award (Research)-2023 at "24th Indo-US Flow Cytometry Workshop" on 1 February 2023 at IIT-Gandhinagar by TETC, AIIMS Research Excellence Award at 2nd Annual Research Day celebration of AIIMS on 17 October 2022 and a First Prize Oral Presentation at "ISBMR" national conference held at PGIMER, Chandigarh on 24-25 September 2022.

**Dr Vikram Saini** is the HarGobind Khorana Innovative Young Biotechnologist Fellow Department of Biotechnology, Govt of India and a recognized expert in infectious disease, biosafety and biosecurity. Dr Saini serves as an expert member and consultant for the National Biodefense Programme, Department of Defense, Govt of India; Expert Technical Advisory Committee, Director General of Health (DGHS) to set up Network of High containment Biosafety Level-3 (BSL-3) facilities in Various states of India under National Centre for Disease Control (NCDC), Govt. of India; and National Instt. of Biologicals, Ministry of Health, and technical evaluation of development of the priority-pathogen containment facilities, for DRDO, India. Dr Saini also serves as the nominee of the Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA), Department of Animal Husbandry and Dairying, GOI; and a principal investigator (at AIIMS) in National Consortium for One Health to address Zoonotic and Transboundary Diseases in India, including the Northeast Region. Additionally, Dr Saini is involved in several initiatives at AIIMS including being the principal investigator in the CRA between AIIMS-IIT start up for development of medicated and anti-microbial clothing in India as per the Govt of India's Make in India Policy. Further, Dr Saini is technical expert for RAISE programme of the Ministry of Power, GOI for examining efficacies of various technologies for pathogens disinfection for improving hospital air quality; Member Secretary of Institutional COVID-19 Diagnostic Committee, Member of Central Resource Committee, and member of Selection of PPE usage at the AIIMS, New Delhi during Covid-19, and Member, Institutional Purchase Committee. In addition, Dr Saini is member/special invitee to various institutional bodies/committees including Institutional Biosafety Committee (IBSC), Institutional Animal Ethics Committee (IAEC), Committee for nude-mice/Transgenic mice facility; Facility In-Charge for CCRF- BSL-3 laboratory, AIIMS; and Member-Secretary for establishment of A-BSL3 facility at Central Animal Facility, AIIMS; coordinator of Career awareness program in Biotechnology at Dept of Biotechnology, AIIMS. In addition, Dr Saini serves as the review editor at journal Frontiers in Microbiology, Frontiers in Immunology, Frontiers in Redox Biology and Physiology and reviewer for various journals and funding agencies DBT, DST-SERB, Swiss National Science Foundation (SNF), etc.

**Dr Bhupendra Kumar Verma** is M Biotech Program Coordinator; Nodal officer for COVID-19 management, AIIMS; Co-ordinator, Departmental Infection Control Committee for COVID-19; Member, COVID-19 diagnostic management committee; served as examiner for poster evaluation at the IUBMB Focused Meeting on Biochemistry & Molecular Biology of RNA Viruses, Regional Centre for Biotechnology, Faridabad on 17 November 2022; served as Session Chair at the 4th Bio group Meeting, IISER Thiruvananthapuram, Kerala on 20th August 2022.

**Dr Vineet Choudhary** is a recipient of the prestigious Wellcome Trust/DBT India Alliance Intermediate Fellowship Grant. This is the first time someone from AIIMS, New Delhi has been awarded such a prestigious Grant in the field of Basic Biomedical Research; participating at the departmental level as Course Coordinator for Structural Biology and NMR Technology, and Cell & Developmental Biology; serves as a reviewer for various national and international

scientific journals; member of American Society for Cell Biology and American Society for Biochemistry and Molecular Biology; invited speaker at PLEXUS event based on “Latest Advancements in Biotechnology” conducted at Department of Biomedical Sciences, Shaheed Rajguru College of Applied Sciences for Women, University of Delhi; organized a Guest Seminar; served as a Topic Editor for the Research Topic: “The Evolving Role of Lipid Droplets: Advancements and Future Directions” in the Journal *Frontiers in Cell and Developmental Biology*.

#### **VISITING SCIENTISTS**

1. Prof Anant K Menon, Weill Cornell Medical College, Cornell University, New York, USA has delivered seminar- Biogenesis of Mitochondria: A Lipid Perspective on 22 February 2023
2. Dr Shivaprakash Ramalingam from IGIB, New Delhi has delivered seminar - Targeted genome editing of human hematopoietic stem cells on 24 February 2023.
3. Dr Sarika Gupta from NII, New Delhi has delivered seminar - Modulating brain bone axis for ameliorating Alzheimer’s disease on 13 March 2023.
4. Dr Kaustuv Nayak from ICGEB, New Delhi has delivered seminar - Human immunity to chikungunya virus on 15 March 2023
5. Dr Shilpi from IIT, New Delhi has delivered seminar - Mechanisms of neural development and regeneration: insights from neural plasticity for intelligent machine development on 21 March 2023.
6. Dr Pawan Dhar from JNU, New Delhi has delivered seminar - Synthetic Biology: Basic concepts to applications on 31 March 2023.

## 9.8 Centre for Community Medicine

### Professor and Head

Shashi Kant

### Professors

Sanjeev Kumar Gupta	Kiran Goswami	Anand Krishnan
Baridalyne Nongkynrih	Puneet Misra	Sanjay Kumar Rai
YS Kusuma Kumari	Kapil Yadav	Sumit Malhotra

### Additional Professors

Anil Kumar Goswami (till 30 September 2022)	Ravneet Kaur
Harshal Ramesh Salve	Rakesh Kumar

### Associate Professor

Partha Halder

### Assistant Professor

Mohan Lal Bairwa

## HIGHLIGHTS

The COVID-19 pandemic has largely subsided. The community-based teaching of undergraduate and postgraduate students, research and service provision is restored to pre-pandemic levels. The faculty members of the Centre for Community Medicine (CCM) at AIIMS, New Delhi, continued providing support to Government of India in crafting a response to the pandemic by being part of the National Task Force for COVID-19 response and other specific COVID-19 committees. Faculty members also provided technical inputs to national health programmes of the Government of India.

The Department is spearheading anemia control in the country through the National Centre of Excellence and Advanced Research on Anemia Control (NCEAR-A); ensuring evidence based decision making for HIV programme of the National AIDS Control Organization (NACO), Government of India through being the National Institute for HIV Surveillance; and framing up the comprehensive health sector priorities for Non-Communicable Diseases by being the WHO collaborating center for Research and Capacity Building on Community-based Non-Communicable Diseases (NCD) Prevention and Control.

In addition, through its presence in technical resource groups of Government of India, the Department is actively contributing for strategy framework of National Viral Hepatitis Control Programme, pollution and its effect on health, National Tuberculosis Control Program, Adolescent Health, and Health Sector Strategy frameworks. CCM also houses the Technical Support unit for SRS-based Verbal Autopsy System of the Office of Registrar General of India and WHO supported SEAR NCD service delivery network.

## EDUCATION

The teaching and training resumed physically in the Department. However, after the COVID-19 pandemic, an increase in online education has been seen, especially in use of SARAL and skill training. The undergraduate research programme, as a part of community medicine training, again resumed back to physical mode based on field exercise. Postgraduate classes, seminars, and journal clubs started completely in physical mode.

### 1. Undergraduate MBBS students

MBBS students of the 7th semester, of All India Institute of Medical Sciences, New Delhi, are posted at CRHSP Ballabgarh, in 5 batches for 6 weeks each. During this posting, students learn concepts of epidemiology through practice of exercises, have orientation to community health including social determinants of health, community aspects of maternal and child health and mental health, orientation of health systems functioning at community level, and national health programmes.

There are special modules to train on Integrated Management of Neonatal and Childhood Illness (IMNCI) and epidemiology. The students also undertake a brief qualitative method-based research project known as Orientation of Undergraduates to Community Health (OUCH) during this posting. Each posting of six weeks is concluded by an internal assessment. Two skill modules namely, Glucometer use and Glowing and gowning were covered during residential posting at CRHSP Ballabgarh.

## **2. Interns**

The interns are posted for a total duration of three months at the CRHSP Ballabgarh. This period is divided into 6 weeks at SDH, and 3 weeks at each of the PHCs located at Dayalpur and Chhainsa. The entire posting is residential. At SDH, interns are posted in OPD and Wards that help them in learning basic clinical skills, as well as in-patient management, including conducting normal deliveries. They are rotated in all the available clinical disciplines at SDH under the supervision of Senior Residents (SR). During PHC posting, interns participate in health care delivery at the clinics of PHC, sub-centres, extension clinics in other villages. They are also posted at the delivery hut at each PHC under the supervision of SR of Community Medicine. They get first-hand experience in community level activities such as supervision of health workers, follow-up of patients that have defaulted on anti-tuberculosis treatment, supervision of sub-centres, undertaking outreach activities, immunization, and other ongoing activities at the PHC. Interns are also involved in special activities at PHCs such as Kayakalp assessment, annual census, public awareness generation and school health-related activities. At the end of the rural posting at CRHSP Ballabgarh, interns submit their log-book duly signed by respective SRs under whom they were posted for end posting assessment.

## **3. Postgraduate Students of Community Medicine**

The postgraduate students of Community Medicine are posted at CRHSP Ballabgarh for 18 months. This posting is residential. Out of the total duration, they spend 5 months and 10 days each, at the sub-district hospital and both PHCs on a rotation. This gives them adequate opportunity to gain the necessary skills and experiences both at the SDH and PHC. They are encouraged to take active participation in decision-making and administration at the PHC. The teaching programme includes seminars, family and clinical case presentations, operational research and problem-solving exercises based on Health Management Information System and field data. Residents also participated in various activities conducted at the PHCs and in the villages under various National health Programme.

## **4. BSc (Hons) and Post-basic Nursing Students**

B.Sc. (Hons.) and post-basic nursing students are posted for one and half months at CRHSP Ballabgarh. This posting is residential in nature. They spend 1 month at SDH and 2 weeks in either of the 2 PHCs. They are provided training in antenatal care, management of ward, and immunization. They are posted both in OPD and in ward. They provide health talks, and IEC in OPD, and ward. Training of nursing students is supervised by a Faculty Member from the College of Nursing, AIIMS, New Delhi.

## **5. In-service Training**

In addition to teaching students, periodic in-service training was conducted for different cadres of staff working at the CRHSP Ballabgarh. The trainings conducted during 2022-23 were as follows:

- A total of 50 hours of in-service training for Health Workers and ASHA workers (45\*2 = 90) were conducted at PHC Dayalpur and Chhainsa (figures are inclusive). These are conducted during the meetings, each month. Topics were decided based on the training needs identified during field supervision; for the reporting period, these were as follows: identification of JSY beneficiaries and facilitating them to avail benefit, management of animal bite cases, management of LBW babies, family planning - methods, importance and how to improve coverage, management of biomedical waste management, Tracking of High Risk Pregnancy and management, post-natal care for mother and newborn including complication management and kangaroo mother care, IMNCI- Identification and management of sick baby, identification, care and management of malnutrition at field level, Training on cold chain management PHC to immunization site and back to PHC, Diagnosis and management of TB cases.

## **CMEs/Workshops/Symposia/National and International Conferences**

1. 6th International Course on Public Health Approaches to Noncommunicable Diseases (NCDs); 5-9 April 2022; United Services Institution, Vasant Vihar, New Delhi
2. National Stakeholder Meeting on Research and Advocacy Roadmap for Prevention and Control of Influenza and other respiratory viruses in India 19-22 April 2022, New Delhi
3. West Zone Stakeholders Meeting on Prevention and Control of Influenza and Other Respiratory Viruses, 2 August 2022, Mumbai.
4. South Zone Stakeholders Meeting on Prevention and Control of Influenza and Other Respiratory Viruses, 27-28 October 2022, Chennai

5. National Technical Advisory group and Partners Meeting of MINERVA Network, 25 November 2022, New Delhi
6. Indian Network for Strengthening Partnership for Influenza Research (INSPIRE) Partners Meeting, 8-10 February 2023, New Delhi
7. Consultation of WHO SEAR member nations for Curriculum Framework review, October 2022, Online
8. Regional training of Network Institutions to deliver People-centred integrated NCD care, March 2023, Online
9. National Pre-Surveillance Workshop for Regional Institutes, State AIDS Control Societies (SACS), Central Team Members (CTM), and officials of state AIDS Control Societies of all 37 States and union territories of India at AIIMS, New Delhi from 10 to 13 October 2022, Kapashera, New Delhi
10. Pre-Surveillance Orientation and Planning Workshop for ANC, Prison, and HRGs HIV Sentinel Surveillance 2023 (HSS 2023)” for faculty members of various medical institutions, and officials of state AIDS Control Societies of five northern states (Bihar, Jharkhand, Delhi, UP, and Uttarakhand), Kapashera, New Delhi on 14-15 November 2022
11. Workshop on “Building Competencies for Adolescent Health”, 1 February 2023, Hyderabad (IAPSMCON 2023)
12. Technical Advisory Meeting of Air Pollution and Health impacts under National Programme of Climate Change (NPCCHH), July 2022, New Delhi
13. Country Consultation meeting on Air Pollution and Wash Estimates organized by World Health Organization (WHO) - Head Quarter, Geneva, July 2022 (online)
14. MINERVA Network Meeting organized by ATSU - AIIMS, 25 November 2022, AIIMS, New Delhi
15. Expert Consultation Workshop on Heat Adaptation Welcome Trust Call Organised by IIPH Gandhinagar (online), August 2022
16. Expert group Meeting on review of National Ambient Air Quality Standards (NAAQS) by Central Pollution Control Board - (online), November 2022
17. Future Primary Health Care Systems Workshop in collaboration with Johns Hopkins University. 20-30 April 2022, New Delhi

**Lectures delivered: 96**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
49	75	96

**List of oral papers/posters presented: 20**

**Oral presentations over past 3 years**

2020-2021	2021-2022	2022-2023
8	13	20

## **RESEARCH**

**Funded projects**

**Ongoing**

1. Strengthening evidence- based advocacy for influenza prevention and control in India N-1814, Anand Krishnan, CDC, Atlanta, 5 years, 2017-2022, USD 12,50,000
2. Establishing a Technical Support Unit For Verbal Autopsy Based Cause Of Death Ascertainment In The Sample Registration System, Registrar General Of India N-1725, Anand Krishnan, Ministry of Home Affairs (RGI), 5 years, 2020-2025, Rs 3 crores, Annually
3. “A Phase III, Randomized Double-Blind, Three arm Placebo Controlled Trial To Evaluate The Efficacy and Safety of 2 vaccines VPM1002 and Immuvac (Mw) in Preventing TB in HHCs of Newly Diagnosed S+ Pulmonary TB patients. mw (MIP) Vaccines In preventing TB In Healthy Household Contacts of New Pulmonary TB Patients I-1060, Anand Krishnan (Co-PI), ICMR, 5 years, 2019-2024, Rs 65,39,814
4. India Primary Health Care Support Initiative. (N-2190), Anand Krishnan, Johns Hopkins University, USA, 3 years, 2021-2023, Rs 60 lakhs, Strengthening the Medical Certification of Causes of Death Practices in Public and Private Health care facilities in India (I-1402), Anand Krishnan, ICMR-NCDIR, 2 years, 2022-2024, Rs 86 lakhs

5. National Mental Health Survey Phase 2- Mega City Survey (N - 2263), Anand Krishnan, NIMHANS, 1 year, 2022-2023, Rs 23 lakhs
6. Epidemiology of Pancreatitis and major Gastrointestinal Diseases – A multicentre study across India (I1245), Anand Krishnan, ICMR, 2 years, 2022-2024, Rs 3.5 crores
7. A quality improvement initiative for strengthening NCD care in a primary care facility of an urban Delhi, Baridalyne Nongkynrih, WHO, 11 months, February 2022, December 2023, Rs 19,56,780
8. Development of an NCD implementation roadmap for SEARO, Baridalyne Nongkynrih, WHO, 6 months, June 2022 to December 2022, Rs 892,500
9. Technical Support to India, Nepal, Bhutan, Sri Lanka, Maldives, Bangladesh, and Thailand for Strengthening People-Centred NCD Service Delivery through SEAR NCD Service Delivery Network, Baridalyne Nongkynrih, WHO, 11 months, May 2022, March 2023, Rs 18,65,000
10. HIV sentinel surveillance for India project, Sanjay K Rai, NACO, MoHFW, GoI, 2 years, 2021-2023, Rs 2,34,44,929
11. The direct and indirect protection derived by vaccinating children against COVID-19: An ambispective cohort study, Sanjay K Rai, Bharat Biotech, 1 year, 2022-2023, Rs 1.5 crores
12. A Phase III randomized, modified double-blind, multi-centric, comparative study, to evaluate the noninferiority of immunogenicity and safety of single strain oral cholera vaccine Hillchol® (BBV131) to the comparator vaccine Shanchol™ along with lot-to-lot consistency of Hillchol® (BBV131), Sanjay K Rai, Bharat Biotech, 1 year, 2022-2023, Rs 3 lakhs
13. Longitudinal follow-up of ongoing Multi-Centric Novel Coronavirus (COVID-19) Population-Based Age-Stratified Sero - Epidemiological prospective Study (In Urban, Rural and Tribal Communities) under WHO Unity protocol at Selected Centers in India with added component to see cell-mediated immune response following COVID-19 infection/vaccination and capacity building of five new sites across India, Puneet Misra, WHO, 3 years, 2020-2023, Rs 4 crores
14. Effect of Structured Yoga Program on stress, well-being and its selected biomarkers at community level in an urban resettlement colony of Delhi, Puneet Misra, DST, 2 years, 2022-2024, Rs 60 lakhs
15. Effect of structured yoga program on stress among frontline healthcare workers during COVID-19 pandemic, Puneet Misra, DST, 1 year, 2021-2022, Rs 14 lakhs
16. Situational Analysis of Health Care Facility and Community Preparedness for Implementing Govt. of India Guidelines for Gestational Diabetes Mellitus, (An ICMR Task Force Study), Puneet Misra, ICMR, 1 year, 2022-2023, Rs 40 lakhs
17. Mission Delhi Phase II Delhi Emergency life heart attack initiative at Ballabgarh funded by ICMR, Puneet Misra, ICMR, 2 years, 2023-2025, Rs 15 lakhs
18. COVID-19 vaccine acceptance and uptake: an implementation research among tribal, rural and urban communities in selected districts of four Indian states, YS Kusuma, ICMR, 1.5 years, 2022-2023, Rs 99.1 lakhs
19. Local governance and the pandemic: role of village/urban ward secretariats in the management of COVID-19 - A case study of Visakhapatnam district of Andhra Pradesh, YS Kusuma, ICMR, 1 year 4 months, 2022-2023, Rs 12.9 lakhs
20. Early marriage and teenage pregnancy: intersectionality of gender, poverty and social norms in decision making, and access to healthcare services - A case study of Visakhapatnam district of Andhra Pradesh, YS Kusuma, ICMR, 2 years, 2022-2024, Rs 26.4 lakhs
21. National Centre of Excellence and Advance Research on Anemia Control (NCEAR-A), Kapil Yadav, UNICEF, 1 year, 2023, Rs 1.16 crores
22. Innovation Learning Centre for supporting implementation of Comprehensive Primary Health Care in Nuh (Mewat), Phase II, Sumit Malhotra, National Health Systems Resource Centre, 2 years, 2021-2023, Rs 44,13,990
23. Capacity building of primary health care providers in comprehensive primary health care packages for operationalization of health and wellness centres using tele-mentoring platform in northern parts of India, Sumit Malhotra, National Health Mission, Haryana, 1 year, 2022-2023, Rs 5.1 lakhs
24. Prevalence and causes of anemia among tribal women of reproductive age group (15-49 years) residing in district of Lahaul-Spiti, Himachal Pradesh, India, Ravneet Kaur, ICMR, 1 year, 2023-2024, Rs 31,89,250
25. CAPHER India -Collaborative on Air Pollution and Health Effects Research, India, Harshal Ramesh Salve, Health Effects Institute (HEI), Boston, USA, 2.6 years, 2021-2023, Rs 80 lakhs
26. Validation and feasibility of Swaasa AI platform at a Primary Health Setting for lung health assessment, Harshal Ramesh Salve, Zensark technologies Pvt Limited, 1 year, 2023-2024, Rs 6,98,940

27. Assessment of work performance of ASHA in Population based Screening of Non- Communicable diseases (NCDs) - A multi-site study, Harshal Ramesh Salve, WHO - India, 6 months, 2023-2023, Rs 15,38,250
28. Assessment of burden, pattern and determinants of Long COVID in patients attending secondary care hospital in Ballabgarh, Haryana, Harshal Ramesh Salve, AIIMS, 2 years, 2021-2023, Rs 8.5 lakhs
29. IMPETUS: IMPlimentation of an Evaluation and Treatment Package for Uniform Stroke Care and outcomes in the Medical Colleges. An Implementation Research Study, Partha Haldar (Co-PI), Department of Health Research (Ministry of Health and Family Welfare-Govt of India), 5 years, 2020-2025, Rs 5.22 crores
30. Effectiveness of Home-based self-monitoring of blood-pressure in a primary care set-up of India: An open labelled randomized controlled trial, Partha Haldar (Co-PI), World Health Organization, Southeast Regional Office, 1 year, 2023, Rs 12,58,660
31. Efficacy of Energy Dense Nutritional Supplement (EDNS) as adjunct to standard DOTS therapy in improving treatment outcomes in malnourished newly diagnosed sputum positive pulmonary tuberculosis adult patients, Rakesh Kumar, Indian Council of Medical Research, 2.5 years, 2020-2023, Rs 90 lakhs
32. Revision of training manuals for Program Managers on effective implementation of NPCDCS, Mohan Lal Bairwa, WHO - India, 5 months, 2023, Rs 13 lakhs

### **Completed**

1. Advancing Biomedical Interventions for prevention of RSV infection in under-5 Children N-2111, Anand Krishnan, IAVI, 3 years, 2019-2022, Rs 50 lakhs
2. Centre for Excellent in Cardio-pulmonary Disorders under NPCCHH, Anand Krishnan, NCDC, 6 months, 2021-2022, Rs 5 lakhs
3. Review of WHO PEN competencies in preservice courses in health and medical courses in SEAR, Baridalyne Nongkynrih, WHO-SEARO, 8 months, July 2021, March 2022, Rs 16,69,800
4. Improving healthcare access and quality in the context of achieving universal health coverage among scheduled tribes: an implementation research in Visakhapatnam district, Andhra Pradesh, YS Kusuma, ICMR, 3 years, 2020-2023, Rs 74.4 lakhs
5. Effectiveness of point of care testing by front line workers- ANM, AWW, and ASHA) in anemia control, Kapil Yadav, ICMR, 2 years, 2020-2022, Rs 98.49 lakhs
6. Assessment of Ayushman Bharat- Health and Wellness Centres for comprehensive primary health care – A health systems study, Sumit Malhotra, National Health Systems Resource Centre, 1 year, 2022, Rs 1,39,020
7. Preparing NCD Health Emergency Framework and documenting best practices adopted by States/UT for continuing NCD services during COVID-19 Pandemic, Harshal Ramesh Salve, WHO - India Office, 1 year, 2021, Rs 27.72 lakhs
8. Delhi Cluster - Delhi Research Implementation and Innovation (DRIIV): Tackling air pollution in Delhi NCR, Harshal Ramesh Salve, Office of Scientific Advisor, GoI, 2 years, 2020-2022, Rs 8 lakhs
9. Community practices in COVID-19 outbreak in rural Ballabgarh, Haryana: A mixed method study, Harshal R Salve, AIIMS Intramural Project, 1 year, 2020-2021, Rs 2.75 lakhs

### **Research projects over past 3 years**

<b>Research projects</b>	<b>2020-2021</b>	<b>2021-2022</b>	<b>2022-2023</b>
Total funded projects*	36	33	28

\* Conducted in the particular years

### **Departmental projects**

#### **Ongoing**

1. Health and nutrition behavior needs assessment of community-based youth in north India
2. Nutritional status of women aged 15-24 years in a rural area of Haryana
3. Depression and anxiety among transgender persons who are enrolled with targeted intervention sites of HIV in Delhi
4. Management of Headache Disorders in adults residing in Rural Ballabgarh: Patient and Healthcare Provider perspective
5. Patient engagement in disease management in persons with diabetes mellitus or hypertension and its association with outcomes in rural Faridabad
6. Relevance and capture of narratives in verbal autopsies for cause of death

7. Developing an Integrated Mortality Information System at district level in selected states of north India
8. Diabetes distress and associated factors among adult patients residing in an urban resettlement colony in New Delhi
9. Study of Common Mental Disorders in adolescent living with HIV (ALHIV) attending the paediatric HIV services at AIIMS, New Delhi: A Case-Control Study
10. HIV Self Testing as a Mechanism to Increase the Uptake of HIV Test Among MSM: A Mixed Methods Study
11. “Experiences and Outcomes on Use of Energy Dense Food (EDF)/Locally prepared therapeutic food for community-based management in children aged 6-59 months with Severe Acute Malnutrition”
12. A cross sectional study to evaluate Anemia Mukht Bharat strategy for anemia control in Intensive Field Practice Area of Comprehensive Rural Health Services Project (CRHSP), Ballabgarh, Haryana
13. Enhancing mental health literacy and reducing stigma for mental illness among college going students in National Capital Territory of Delhi: An interventional study
14. Prevalence and determinants of selected chronic conditions among adolescents aged 10-19 years in a rural community of north India
15. Assessment of the implementation of Tobacco Free Educational Institutions (TFEIs) guidelines in schools of Faridabad district, Haryana
16. Knowledge and Practices related to Ambient Air Pollution and App-based Air Quality Alert System in an Urban Population in Delhi
17. Assessment of health promotion and wellness activities under Comprehensive Primary Health Care Packages in Faridabad, Palwal and Mewat districts of Haryana
18. Knowledge and acceptability of pre-exposure prophylaxis for HIV among men who have sex with men and transgender persons at select targeted intervention sites in Delhi
19. Assessment of the prevalence and pattern of traumatic dental injuries in Kabaddi players of Delhi-NCR region
20. Indian Multiple Sclerosis and Allied Demyelinating Disorders Registry and Research Network
21. Combined Trans Muscular Quadratus Lumborum Block and Sacral Erector Spinae block versus intrathecal morphine for perioperative analgesics in patients undergoing open gynaecological oncological surgery: an open labelled prospective randomized non inferiority trial
22. GIS based Surveillance of people with dementia and its risk factors among people residing in South Delhi by multi disciplinary collaborative approach - a pilot cross sectional survey for customized care plan and policy planning
23. Diagnostic and treatment delays among patients with drug-resistant tuberculosis registered under National Tuberculosis Elimination Programme at selected district tuberculosis centres in Delhi-NCR

#### ***Completed***

1. Prevalence of low back pain and its associated factors among elderly persons in an urban resettlement colony of Delhi
2. Prevalence and determinants of selected chronic conditions among adolescents aged 10-19 years in a rural community of North India
3. Healthy food purchase and retail food environment in an urban resettlement colony of Delhi
4. Estimation of cardiovascular risk among adults aged 30-59 years using updated WHO CVD risk charts in the rural population of Ballabgarh, Haryana
5. A Double-Blinded Randomized Controlled Trial to Compare the Effectiveness Of Oral Multiple Micronutrient Supplement (MMS) Vs Oral Iron And Folic-acid, for Anemia Prophylaxis Among Non-anemic Pregnant Women in Rural Haryana
6. Utilization of Maternal Healthcare Services in a rural area of Ballabgarh, Haryana during the COVID-19 pandemic
7. Assessment of Mental Health Services in District Faridabad - A Mixed Method Study

#### **Collaborative projects**

##### ***Ongoing***

1. Development of longitudinal growth reference and assessment of growth velocity, cardio-metabolic measures and its correlates among children in India - a prospective study, Department of Biostatistics



2. A Study on Evaluation of Municipal Solid Waste Management and Effectiveness of Developed Tailor-Made Digital Programme for Improving Household Waste Segregation in Raipur City of Chhattisgarh: A Mixed-Method Approach, AIIMS Raipur
3. SARSCo-V2 infection related clinical outcomes among people with and without diabetes and/or hypertension in India – A hospital based observational study, Department of Endocrinology and Metabolism
4. Celiac Disease prevalence in native south versus north Indians – A migrant study to assess reasons for difference, Department of Gastroenterology and Parenteral Nutrition
5. The effect of probiotic formulation on iron absorption in iron deficient women of reproductive age – A double blinded randomized placebo-controlled trial, Department of Cardiac Biochemistry
6. Community based assessment of disability among adult population in Delhi using WHO International Classification of Functioning, Community Ophthalmology
7. MMS Superiority Trail on birth outcomes and Anemia in India, INCLIN
8. A study to assess the effectiveness of video assisted teaching on knowledge regarding prevention and management of varicose vein among security guards of AIIMS Delhi, College of Nursing
9. Epidemiological investigation of suicide deaths during the COVID-19 pandemic in South and South-East Districts of Delhi, India, Department of Forensic Medicine & Toxicology
10. ICMR Task Force Centre on Rational use of drugs, Pharmacology
11. ICMR National Registry on Venous Thrombo-Embolic Disorders, Cardiology
12. Implementation of an Evaluation and Treatment Package for Uniform Stroke Care and outcomes in the Medical Colleges (IMPETUS). An Implementation Research Study, Neurology
13. Indian Multiple Sclerosis and Allied Demyelinating Disorders Registry and Research Network, Neurology
14. Combined Trans Muscular Quadratus Lumborum Block and Sacral Erector Spinae block versus intrathecal morphine for perioperative analgesics in patients undergoing open gynaecological oncological surgery: an open labelled prospective randomized non-inferiority trail, Anaesthesia and Pain Medicine
15. GIS based Surveillance of people with dementia and its risk factors among people residing in South Delhi by multi disciplinary collaborative approach - a pilot cross sectional survey for customized care plan and policy planning, Geriatrics
16. Development of Inflammatory Proteins as Blood Based Biomarkers for Alzheimer's Disease, Bio Physics
17. An evaluation of Oral Health related Quality of Life in Children and Adolescents affected by Traumatic Dental Injuries, CDER
18. Evaluation of inflammatory and oxidative stress resistance proteins in serum, as biomarkers of Alzheimer's disease with therapeutic interventions, Biophysics
19. Analysis of Anti-neurotoxicity of Amyloid Beta (A $\beta$ ) in Alzheimer's disease (AD) pathology targeting Lipoxygenases, Biophysics
20. Potential role of Klotho as a blood-based biomarker and its therapeutic importance in breast cancer by targeting miRNA, Biophysics
21. A Phase III, Randomized, Double-blind, Three arm Placebo controlled Trial to Evaluate the Efficacy and Safety of two vaccines VPM1002 and Immuvac(Mw) in Preventing Tuberculosis (TB) in Healthy Household Contacts of Newly Diagnosed Sputum Positive Pulmonary TB Patients, Department of Pulmonary Medicine and Sleep Disorders

## **Collaborative Projects**

### ***Completed***

1. Comparison of seroprevalence of SARSCo-V2 among people with and without Diabetes and/or hypertension among existing cardiovascular community cohort in NCR of Delhi, Department of Endocrinology and Metabolism
2. Human Microbiome Initiative of Select endogamous populations in India, Department of Gastroenterology and Parenteral Nutrition
3. Psychosocial Dynamics of Pregnancy Loss: Development of Multidimensional scale & development and efficacy (a randomized trial) of a group psychological intervention module, Department of Psychiatry AIIMS
4. Emerging drug resistance in community-acquired urinary tract infection and molecular insights into dynamics of resistance traits in Indian isolates- A multi-centric cross-sectional study, Microbiology, Medicine
5. Development and validation of dental trauma awareness tool for school teachers AIIMS Research, CDER

6. Assessment of the prevalence and pattern of traumatic dental injuries in Kabaddi players of Delhi-NCR region, CDER

## PUBLICATIONS

**Journals: 103**

**Chapters in Book: 5**

**Publications over past 3 years**

Item	2020-2021	2021-2022	2022-2023
Total	87	108	108
Journal articles	84	96	103
Abstracts	0	0	0
Chapter in books	3	12	5
Books	0	0	0

## PATIENT CARE

### Comprehensive Rural Health Services Project (CRHSP) report

#### Professor In-Charge

Puneet Misra

#### Additional Professors

Harshal Ramesh Salve

Rakesh Kumar

Comprehensive Rural Health Services Project (CRHSP), Ballabgarh is the rural program of the Centre for Community Medicine of the All India Institute of Medical Sciences, New Delhi. It comprises of a sub-district hospital (SDH), and two Primary Health Centres (PHCs) at Dayalpur, and at Chhainsa. The Intensive Field Practice area of CRHSP, as of 31 March 2023 consisted of a total population of 1,06,646. The public health care infrastructure at the Intensive Field Practice area of CRHSP is set up through a network of 12 sub-centres associated with the two aforementioned PHCs. The Mission of CRHSP Ballabgarh is to achieve excellence in public health by undertaking teaching, research and patientcare in rural setting.

CRHSP Ballabgarh is involved in patient care, teaching, training and research activities. MBBS 7th semester students, Interns, postgraduate students and Senior Residents of various disciplines, and Nursing students, are posted at CRHSP Ballabgarh for their training through exposure to health care provision at a sub-district facility, and at PHC level. The students are also sensitized to the social determinants of health, through their residential teachings at these PHCs, wherein they interact with the community members.

Healthcare provision statistics at CRHSP Ballabgarh (1 April 2022 to 31 March 2023)

- OPD services - **3,83,556** patients,
- In-patient services - **11,237** patients,
- Emergency services – **84, 329** patients
- A total of **3,735** deliveries were conducted for pregnant women
- Total number of surgeries - **2,321** (only at the SDH Ballabgarh)

Following note provides a detailed description of the activities at the CRHSP Ballabgarh, which includes the two PHCs for the financial year 1 April 2022 to 31 March 2023:

1. Teaching
2. Patient Care
3. Newer Initiatives and updates

## I. TEACHING

### 1. Undergraduate MBBS students

MBBS students of the 7th semester, of All India Institute of Medical Sciences, New Delhi, are posted at CRHSP Ballabgarh, in four batches for six weeks each. During posting students are taught concepts of epidemiology, are

given an orientation to community health, including social determinants of health, community aspects of child health and mental health, health systems at various levels, and health programmes. There are special modules to train on Integrated Management of Neonatal and Childhood Illness (IMNCI) and epidemiology. The students also undertake a brief qualitative method-based research project under the module Orientation of Undergraduates to Community Health (OUCH) during this posting. Each posting of six weeks is concluded by an internal assessment. Two skill modules namely, Glucometer use, and Glowing and Gowning were covered during residential posting at CRHSP Ballabgarh.

## 2. Interns

The interns are posted for a total duration of three months at the CRHSP Ballabgarh. This period is divided into six weeks at SDH, and three weeks at each of the PHCs located at Dayalpur and Chhainsa. The entire posting is residential. At SDH, interns are posted in OPD and Wards that help them in learning basic clinical skills, as well as in-patient management, including conducting normal deliveries. They are rotated in all the available clinical disciplines at SDH under the supervision of respective Senior Resident (SR). During PHC posting, interns participate in health care delivery at the clinics of PHC, sub-centres as well as in antenatal clinics. They are also posted at the delivery hut at each PHC under overall supervision of SR of Community Medicine. They get experience in community level activities such as supervision of health workers, follow-up of patients that have defaulted while on anti-tuberculosis treatment, supervision of sub-centres, undertaking outreach activities, immunization and other ongoing activities at the PHC. Interns are also involved in special activities at PHCs such as Kayakalp assessment, annual census, public awareness generation and school health-related activities. At the end of the CRHSP posting interns submit their logbook duly signed by respective SRs under whom they were posted for end posting assessment.

## 3. Postgraduate Students of Community Medicine

The postgraduate students of Community Medicine are posted at CRHSP Ballabgarh for 18 months. This posting is residential. Out of the total duration, they spend 10 months at the sub-district hospital and 8 months in one PHC. This gives them adequate opportunity to gain the necessary skills and experiences both at the SDH and PHC. They are encouraged to take active participation in decision-making and administration at the PHC. The regular teaching programme includes seminars, family and clinical case presentations, operational research and problem-solving exercises based on Health Management Information System and field data. Residents also participated in various activities conducted at the PHCs and in the villages under various National health Programme.

## 4. BSc Nursing and Post certificate Nursing Students

BSc nursing students and post-certificate nursing students are posted for one and half months at CRHSP Ballabgarh. This posting is residential in nature. They spend one month at SDH and two weeks in either of the two PHCs. They are provided training in antenatal care, management of ward, and immunization. They are posted both in OPD and in ward. They provide health talks, and IEC in OPD, and ward. Training of nursing students is supervised by a Faculty Member from the College of Nursing, AIIMS, New Delhi.

## II. PATIENT CARE

Patient care at the CRHSP Ballabgarh is described under following two categories:

- A. Patient care services provided at the Sub-district Hospital, Ballabgarh
- B. Patient care services provided at the Primary Health Centres
- C. Outpatient Departments:

Daily	Once weekly
• General Medicine	• Non-Communicable Disease Clinic
• General Surgery	• Physical Medicine and Rehabilitation (PMR)
• Paediatrics	• Paediatric Surgery
• Obstetrics and Gynaecology	• Nutrition OPD
• Ophthalmology	<b>Thrice weekly</b>
• Psychiatry	• Ante-natal clinic
• Dental	<b>Twice weekly</b>
• AYUSH (Ayurveda and Homeopathy)	• Dermatology
• Orthopedics	• Ear, Nose and Throat

## A. Patient care services provided at SDH Ballabgarh: (2022-23)

### Total Outdoor Patients

• Out Patient Department (OPD) Total (New + Old)	3,02,362
• New OPD patients (%)	1,58,889(52.5%)
• Medicine (New + Old)	90,532
• Paediatrics (New + Old)	56,232
• Obstetrics and Gynaecology (New + Old)	22,310
• Antenatal care Clinic registrations, Total visits, (New + Old)	22,547
• Ophthalmology (New + Old)	16,238
• Surgery (New + Old)	14,175
• ENT (New + Old)	8,370
• Dental	8,894
• Physical Medicine & Rehabilitation (New + Old)	2,310
• Non-Communicable Ds clinic, Total (New + Old)	3,202
• Dermatology (New + Old)	7,668
• AYUSH (Homeopathy + Ayurveda)	11,629
• Orthopaedic (New + Old)	25,095
• Psychiatry	9,187
• Nutrition OPD	305
• Plastic Surgery	0
• Neurology	0
• Pediatric surgery	1,668

### 1. In-patient services

- Total no. of beds: 50

<b>a. Total Admissions(including births)</b>	<b>9,966</b>
• Admission through casualty	3,961
• Admission through OPD	2,846
• Admission of New Born (births)	3,159
<b>b. Disaggregation of admissions, by specialty (N = 9,966)</b>	
• Obstetrics and Gynaecology	4,690
• Paediatrics	378
• Ophthalmology	816
• Surgery	721
• Medicine	29
• ENT	171
• Physical Medicine and Rehabilitation (PMR)	2
• New Born	3,159
<b>c. Average Bed Occupancy Rate (%)</b>	<b>107.9%</b>
<b>d. Average duration of stay for all patients (in days)</b>	<b>2.08</b>
<b>e. Total Deliveries Conducted (including IUD)</b>	<b>3,191</b>

<b>Casualty Services: No. of beds – 10</b>	
• Patients registered	68,427
• Medico-legal cases	5,790
• Emergency admissions	2,934

<b>Total Surgical Procedures at SDH Ballabgarh</b>	
1. Ophthalmology	775
2. Obstetrics and Gynaecology	668
3. General Surgery	603
4. Paediatrics Surgery	135
5. ENT	140
6. PMR	0
<b>Total</b>	<b>2,321</b>

<b>Laboratory and Diagnostic Services</b>	
a. Laboratory investigations (biochemical and haematological)	3,05,727
b. X-Ray	32,114
c. USG	9,728
• Antenatal scans	3139
Level 2 antenatal scans	319
Fetal well-being scans	2820
• General scans	6589
Venous Doppler scans	185
d. Malaria Slides	8,393
• P vivax	0
• P falciparum	0
e. Counselling and testing services provided for HIV	11208 & 11192

#### **National Tuberculosis Elimination Programme:**

SDH Ballabgarh is a Tuberculosis Unit (TU) under National Tuberculosis Elimination Programme. Three Designated Microscopy Centres (DMCs) are attached to this unit. Total new tuberculosis cases treated at Ballabgarh Hospital from 1 April 2022 to 31 March 2023 were 1,161.

#### **B. Community Health Services**

CRHSP, Ballabgarh provides community health services in Intensive Field Practice Area (IFPA) of 28 villages through a network of two Primary Health Centres (Dayalpur and Chhainsa), and 12 sub-centres. Domiciliary, outpatient, inpatient, and referral services are provided in the IFPA. Important demographic indicators for the IFPA for the year (2022-23) were as follows:

<b>Indicator</b>	<b>Value</b>
Population	106,646
Birth Rate per 1,000 population	18.5
Death Rate per 1,000 population	6.7
Sex ratio at Birth (females per 1,000 males)	832
Infant mortality rate per 1,000 live births	28.8
Under 5 mortality rate per 1,000 live births	32.7

**1. OPD Services in Intensive Field Practice Area:** This includes health care services provided at OPD of the PHC, as well as the OPD of the Extended Health Clinics, that are conducted at each of the villages of IPHA

<b>PHC</b>	<b>New Cases</b>	<b>Repeat Visits</b>	<b>Total</b>
Dayalpur	23697	22769	46466
Chhainsa	19164	15564	34728
<b>Total</b>	<b>42861</b>	<b>38333</b>	<b>81194</b>

Total No. of AYUSH OPD Patients registered at PHC Dayalpur: **11,887** (there is no AYUSH OPD at PHC Chhainsa).

## 2. Inpatient Services provided at the PHCs:

PHC	Total
Dayalpur	489
Chhainsa	782
<b>Total</b>	<b>1271</b>

## 3. Emergency Services at PHCs:

PHC	Total
Dayalpur	12,178
Chhainsa	3,724
<b>Total</b>	<b>15,902</b>

## 4. Family Welfare and Maternal Child Health

The following services are provided as per the guidelines of National Health Mission

Indicator	Value
Total ante natal registration	2,218
Complete TT coverage of registered cases (%)	90.5
<b>Percentage of Institutional delivery in IFPA</b>	<b>98.6</b>
PHC Chhainsa (%)	99.2%
PHC Dayalpur (%)	98.0%
<b>Total deliveries in delivery huts at the PHCs</b>	<b>576</b>
PHC Chhainsa	312
PHC Dayalpur	264

## 3. Other National Health Programmes

**National Vector Borne Disease Control Programme:** Collection of blood slides is done as a part of passive surveillance in OPD and as active surveillance during domiciliary visits in the IFPA.

Indicator	PHC Chhainsa	PHC Dayalpur
Total number of malaria slides tested	5701	3744
Total number of positive cases	0	0
Annual Parasite Incidence (per 1,000 population)	0	0
Annual Blood Examination rate (%)	10.9%	6.86
Slide Positivity Rate (%)	0	0

**National Tuberculosis Elimination Programme:** The National Tuberculosis Elimination Programme is carried out in the IFPA according to national guidelines. Dayalpur PHC has been designated as a Microscopy Centre and caters to all villages under the IFPA. Tuberculosis patients treated in the IFPA (category wise) is as follows:

Indicator (2022-2023)	PHC Chhainsa	PHC Dayalpur
Total number of patients started on treatment	172	160
New Cases	121	137

**National Programme for prevention & Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke (NPCDCS):** Under this programme, opportunistic screening of patients in the OPD is done.

Indicator (2022-2023)	PHC Chhainsa	PHC Dayalpur
Total NCD screening done	637	4577
Total diabetes diagnosed	125	86
Total Hypertensive diagnosed	321	266

**4. Special services:** Out Reach Speciality OPD (ORSO) is a special activity conducted at each PHC where Senior Residents posted at SDH Ballabgarh attend the patients at PHCs on a weekly basis. The services were started in June 2013. For the period, 1 April 2022 to 31 March 2023, the cases attended to at each PHC were as follows:

Services	PHC Chhainsa	PHC Dayalpur
Gynaecology	487	500
Paediatrics	194	292
Ophthalmology	251	575
Psychiatry	91	206
<b>Out Reach Speciality OPD (ORSO)* (Total)</b>	<b>1023</b>	<b>1573</b>

#### 5. Animal Bite Management Clinic

Both PHC Chhainsa and Dayalpur have Animal Bite Management Clinic. A total of 579 doses of Anti-rabies vaccination was provided in PHC Chhainsa and 362 doses in PHC Dayalpur.

#### 6. Special services to pregnant women

Special services	PHC Chhainsa	PHC Dayalpur
Pregnancy received IVIS	24	6
PPIUCD	27	80
High Risk Pregnancy Consultation (%)	40.2	38.4

#### 7. IEC Activities

**Health Talks:** A total of 143 and 116 health talks were conducted in PHC Chhainsa and Dayalpur respectively. These health talks are delivered by the nursing students, interns, residents doctors in the subcentres, PHC and in the community. The topics include Neonatal care and kangaroo mother care, Breast feeding and weaning, Antenatal care, high risk pregnancy, anaemia in pregnancy, importance of institutional delivery, Immunization, Malaria and Dengue, Tuberculosis, anaemia in children, deworming, malnutrition in children, Vitamin-A deficiency, Diabetes, Hypertension, HIV/AIDS, accidents in children, personal hygiene, family planning methods, postnatal care and diet, care of newborn, COVID-19, geriatric care, Mental health programme, etc.

#### 10. Training activities

- Training of IMNCI, high risk pregnancy, high risk infant on multiple occasions to HW
- Training of anemia prophylaxis, diagnosis and treatment to HW
- Training of DTS workers for infection prevention
- Fire safety training of all PHC worker
- Training of selected HW and staff nurse to operate portable ECG machine
- Training of PHC staff on NQAS preparedness
- Training of staff nurse, cold chain handler and health supervisors on IPV3 dose and UWIN portal

#### 11. Special activities during financial year at PHCs

- Dental camp was organized at the PHC Dayalpur and schools in Chhainsa
- Two rounds of special immunization week (SIW) to target high risk population at brick kiln and tubewells was conducted by the PHCs
- Malnutrition screening drive done among all under-five children at all villages of PHC Chhainsa
- Plantation drive (100 plants) by PHC and subcentre all staff
- T3 anemia camp at all sub-centre and PHC to screen around 6000 beneficiaries
- Short film was shown at PHC campus on the diet and sanitation targeting young child and adolescent

### III. New initiative and Updates

#### A. Newer initiative

- Home-based newborn care (HBNC) logbook for health workers was started by the PHCs
- High risk infant data base was created for identification, follow-up and intervention at the PHC
- Dietary supplement in terms of food packet (250 gm Jaggery + 200 gm chana) once in a month to all ANCs and once a week to all malnourished ANC

4. Facility-based yoga session was started in PHC Chhainsa: total 10 sessions/month, 1 hour each at the PHC campus started in February 2023
5. In November 2022, UHID based outpatient department (OPD) registration was started at the SDH at Ballabgarh. This facility registers every patient service automatically and enable digitization
6. Special clinic for long-COVID was started at OPD in SDH Ballabgarh
7. Tobacco cessation clinic (TCC) was started at the OPD in SDH Ballabgarh to provide interventions for tobacco cessation
8. In December 2022, screening of tuberculosis and tobacco use among patients attending NCD clinic was started in SDH Ballabgarh
9. Facility of teaching Yoga at SDH Ballabgarh to the patients was made available by the Haryana State Health Department
10. Celebration world health day, world TB day, world diabetes day, world heart day, hearing day, world mental day
11. Laboratory testing facility at SDH Ballabgarh expanded. The testing facility for HbsAg and thyroid profile was started

#### B. Visitors

1. Junior residents of community medicine department from Armed Forces Medical College (AFMC, Pune) visited the SDH Ballabgarh sensitization on HMIS & HDSS
2. MPH students from Ambedkar University, Delhi visited SDH Ballabgarh to learn about health systems and primary health care
3. MD community residents from Nepal University visited SDH Ballabgarh to learn about health systems and primary health care
4. Students of MD community health administrations visited SDH Ballabgarh for sensitization on HMIS and HDSS

#### C. Awards and accolades

**Kayakalp award:** PHC Chhainsa and PHC Dayalpur received the commendation award of 50,000 INR in the district of Faridabad.

**Assessment for National Quality Assurance Standards:** PHC Chhainsa received the recertification for another 3 years with score for 93.4%. PHC Dayalpur cleared the state level assessment for recertification and national level assessment was done in March 2023.

#### Urban Health Programme

The field practice area of the Urban Health Programme, Centre for Community Medicine is located at Dakshinpuri Extension, Dr Ambedkar Nagar in South Delhi, consisting of Blocks 1-7,14,15,19, Subhash camp, Dakshinpuri catering to a population of around 38056. Patient care services are provided at the Urban Health Centre.

#### Clinical Services

	Activities	Number
OPD	Total no of patients seen (including immunization)	23427
Laboratory services	Total Lab Tests	8362
	No. of Hb. Test Conducted	3058
	Of which numbers having Hb.<7 gm%	76
	Of which numbers having Hb.<11gm%	1111
	Blood Sugar-FBS, RBS, PPS	5443
	Urine albumin and sugar tested	25
	UPT	54
	RDT for Malaria	10
	Blood group	51



## Child Health Services

### Number of immunization sessions held – 101 days.

BCG		50
DPT 1 = 1	/pentavalent 1	227
DPT 2 = 2	/pentavalent1 2	241
DPT 3 = 0	/pentavalent 3	233
OPV 0 dose (birth dose)		47
OPV1		227
OPV2		241
OPV3		233
Hepatitis-B 1		0
Hepatitis-B 2		0
Hepatitis-B 3		0
Injectable IPV Fractional 1		227
Injectable IPV Fractional 2		233
Injectable IPV Fractional 3		27
Rotavirus 1		227
Rotavirus 2		241
Rotavirus 3		233
PCV 1		229
PCV 2		236
PCV Booster		207
MR		224
MR CAMPAIGN 9 MONTHS TO 5 YEARS		41
MMR		202
DPT/OPV Booster 1		181
DPT/OPV Booster 2		301
Typhoid Vaccine		319
Td-10 years		393
Td-16 years		161
Vitamin A Administered between 9 months and 5 years		947
Albendazole under 5 children		283
Number of severely underweight provided health checkup (0-5 yr)		87

## Maternal Health Services

Antenatal Care	Total number of times pregnant women seen in the Urban Health Centre (new cases = 120)	574
	Number of pregnant women given Td1	107
	Number of pregnant women given Td- 2. 68 + Td Booster 7 = 75	68 + 7 = 75
	Total number of pregnant women given 180 IFA tablets	81
Family Planning	No. of Condoms distributed	NA
	No. of Oral contraceptive pill cycles distributed.	NA
	New RTI/STI Cases Identified	91

## Patient care over past 3 years

Item	2020-2021	2021-2022	2022-2023
OPD consultations	5442	12240	23427
Special clinic consultations	3507	2698	1794
Patients provided rehabilitation services	2310	2471	179
Total inpatient admissions	9183	9381	11237

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Shashi Kant** as a member provided his inputs to the National Task Force on COVID-19. As a member of the Governing Body of AIIMS, Nagpur, he provided guidance in strategic decision-making. He was a member of Scientific Advisory Committee of the National Institute of Cholera and Enteric Diseases, Kolkata. Dr Shashi Kant was a member of the Technical Resource Group on Surveillance and Epidemiology under National AIDS Control Program, Government of India.

**Professor Sanjeev Kumar Gupta** was Reviewer of many journals, e.g, National Medical Journal of India, Indian Journal of Public Health, Indian Journal of Medical Research. Life member of JansankhyaSthirataKosh of the Ministry of Health and Family Welfare, Government of India. Member of the Data Safety Management Board (DSMB) for the project entitled “Determination of efficacy of 9 months, 12 months and 18 months of anti-tubercular treatment (ATT) for tuberculous meningitis (TBM): a randomized controlled, non-inferiority trial.” (PI: Dr Deepti Vibha, Additional Professor of Neurology, Neurosciences Centre, AIIMS).

**Professor Kiran Goswami** was Member, Programme Advisory Committee, DST-SCSP. Member NTA UGC-NET Expert Committee Social Medicine and Community Health. MD Thesis evaluation BFUHS Faridkot. Examiner - BFUHS, Delhi University, DNB (NBE). Subject Expert for moderation of FMG Exam, NBE. Chaired Session- IAPSMCON 2023 AIIMS Bibinagar. 3rd National Level Training of Master Trainer program held on 18-19 August 2022. NSS Unit (Has student enrolment over 600 including MBBS UG and BSc Nursing students; Regular activities on awareness generation in field practice area and welfare of disadvantaged groups).

**Professor Anand Krishnan** is Professor-in-charge, Clinical Epidemiology Unit. Head, WHO Collaborating Centre on Research and Capacity Building on Community-based NCD Prevention and Control. Head, AIIMS Technical Support Unit for SRS-VA and the MINerVA Network. Co-ordinator, Centre for Excellence on Cardio-pulmonary Disorders under National Program on Climate Change and Human Health. Chair, Scientific Advisory Committee of ICMR-NIREH Bhopal. Co-chairperson, Local Research Advisory Committee, MRU AIIMS Gorakhpur. Consulting Editor, WHO SE Asia Journal of Public Health Medical Sciences Editor, Current Sciences. Editor, Frontiers in Public Health. Member of UNDESA/WHO Technical Advisory Group (TAG) on COVID-19 Mortality Assessment; WHO Working Group in Influenza Burden of Disease; School Board, School of Health Sciences, IGNOU; School Board, School of Medical Sciences, Hyderabad University; Centre Committee for Centre for Social Medicine and Community Health, JNU; Governing Body of National Health System Resource Centre, MoHFW; Medical Assessment and rating Board, National Medical Commission; Scientific Advisory Group, NCDs Division, ICMR; Advisory Committee, CAPHER. Dr Krishnan undertook assignment with WHO on developing National health research Promotion strategy for Timor Leste; Was Team leader of the Joint Supportive Supervisory Mission (JSSM) visit to Odisha State for review of National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke.

**Professor Baridalayne Nongkynrih** published seven papers in indexed medical journals; Reviewer for the BMJ Open, Bulletin of WHO, Lancet Southeast Asia, Indian Journal of Community Medicine, Global Health Action, Indian Journal of Maternal & Child Health and Journal of Health, Population and Nutrition, ICDDR Bangladesh, International Journal of Medicine and Public Health, International Journal of Advanced Medical Research, WHO South-East Asia Journal of Public Health, Cancer Biology & Medicine; Member of core team and National trainer for MINerVA Network for SRS by RGI – AIIMS New Delhi. Faculty in a workshop on Primary Health Care jointly organized by AIIMS & Johns Hopkins University. External examiner for 4 universities in Manipur, Tripura, West Bengal and Delhi. Ph.D. examiner for JIPMER Puducherry; Member of selection committee for faculty recruitment, NIMHANS.; Faculty and organizer of the 7th International Course on Public Health Approaches to NCD in Delhi in April 2022. Member of Delphi survey Purchasing Quality Chronic care, 2023 WHO Geneva; Member of expert group for a survey “Assessment of continuum of care for Hypertension & Diabetes in India” Feb-May 2023 conducted by ICMR NCDIR, Bengaluru.

**Professor Puneet Misra** was Reviewer of PLOS one, IJCM, BMJ, Lancet Public Health, Indian Journal of Public Health, Indian Journal of Pediatrics, NMJI, BMC, International Journal of Diabetes in Developing Countries, Addictive Behaviors, International Journal of Adolescent Medicine and Health, BMC Public Health, BMC Women’s Health, BMC Infectious disease, Biomedical and Environmental Sciences, Family Medicine and Community Health, NMJI, Proposals for DST, SATYAM DST, ICMR, DBT, Fulbright scholarship and many others. Program Advisory Committee DST, Gov of India, SYST, AWSAR. Expert committee and paper reviewer, SEED Division, DST, Gov of India. Member Data Safety Monitoring Board (DSMB) for our upcoming Vi- DT typhoid conjugate Vaccine, Nepal. ICMR Expert Committee member, ICMR task force PCOS, Research section AIIMS, selection committee. TEC member ICMR on Diabetes, Metabolic Disorders, Kidney and Liver Disorders, Cardiovascular diseases. Project Reviewer for ICMR, DST, DBT and other agencies. More than 50 programs on TV for different media channels including DD News, LS TV, RS TV, ABP News, Zee TV, CNN, Aaj Tak, India TV etc. Chaired session at IISF 2022 and also delivered guest lecture at IISF 2022. PhD Thesis evaluator

and examiner for KGMU and DU, PhD examiner for IGNOU, MD Examiner and KGMU and MD Thesis for KGMU, AIIMS Rishikesh and PGI Chandigarh. Organised and chaired meetings for WHO Unity Protocol Studies. Conducted capacity building workshop for Different Medical Colleges in collaboration with WHO. Organising member for JC Bose International Conference and PC Ray International Conference.

**Professor Sanjay Kumar Rai** delivered more than 30 online lectures for different professional organization, e.g, Indian Association of Preventive and Social Medicine, India Public Health Association, Indian Chest Society, Association of Physicians of India, etc. Nominated by Banaras Hindu University, Varanasi, Pandit BD Sharma University of Health Sciences, and West Bengal University of Health Sciences, West Bengal, as a member of the Board of Examiners for MD Community Medicine. As an external examiner conducted MD Community Medicine examination at IMS BHU from 11-12 May 2022, at Pt BD Sharma PGIMS Rohtak from 26-27 May 2023, and at Burdwan Medical College, Burdwan, West Bengal, from 11-12 June 2022. As a member of Scientific Advisory Committee (SAC) of ICMR-NICED, participated as an expert in 50th SAC meeting of ICMR-NICED on 6-7 September 2022 at ICMR-NICED Kolkata. Nominated by National AIDS Control Organization (NACO), Ministry of Health and Family Welfare, Government of India as a “focal person” of NACO designated National Institute for HSS at AIIMS New Delhi to provide technical assistance for HIV Sentinel Surveillance (HSS) of the entire country. Made numerous visits to several districts of Uttar Pradesh, Bihar, Jharkhand, to support the ongoing HSS in these states. Member of AIIMS Engineering Advisory Committee (EAC) participated in several engineering advisory committee meetings to streamline the working of engineering services. Member of the Technical Resource Group (TRG) of NACO, MoHFW, GoI on HIV Estimations in India and participated in several TRG meetings during 2022. Elected “President” of Indian Public Health Association for the year 2019-2022.

**Professor YS Kusuma Kumari** was invited by ICMR as an Implementation Research Expert for a Brainstorming meeting on Implementation Research held at ICMR-National Institute of Implementation Research on NCDs (NIIRNCD) on 29th December 2022. Invited by ICMR-National Institute of Malaria Research (NIMR) as a Qualitative Research Expert for MERA-India project. Member of the ICMR National Task Force “Improving health care access in the context of universal health coverage among scheduled tribes”. Member of “NCD Risk Factor Collaboration (NCD-RisC)” - a network of scientists around the world that provides rigorous and timely data on risk factors for non-communicable diseases (NCDs). Member of MiHSA (Migration Health South Asia) Net Work - an evolving network involving key scholars and practitioners in research and policy institutions in South Asia and/or in the UK. Served as PhD thesis adjudicator to Gandhi Institute of Technology and Management (GITAM) University, Visakhapatnam; Indira Gandhi National Tribal University (IGNTU), Amarkantak; Jawaharlal Nehru University, New Delhi; and Osmania University, Hyderabad. Served as Reviewer to international and national professional journals such as Indian Journal of Medical Research, Journal of Migration and Health, Psychology in the Schools (PITS), Vaccines, WHO-SEARO Journal of Public Health.

**Professor Kapil Yadav** is lead of “National Centre of Excellence and Advanced Research on Anemia Control (NCEAR-A)”, Ministry of Health and Family Welfare, Government of India. Taking forward the agenda of Anemia Mukht Bharat (AMB), NCEAR-A convened all key stakeholders from academia including new AIIMS and organised Training of Trainers (ToT). Actively participated as a lead resource person in State launches of Anemia Mukht Bharat Program. Continued his work on Iodine and other micronutrients and authored chapters for textbook of Public Health Nutrition. Nominated as a member of WHO Anaemia Alliance stakeholder group. Member of the NIFTEM Ethics Committee for Human Research (NECHR). Consultant for the nutrition program in Sri Lanka, Myanmar, Democratic People’s Republic of Korea. He also worked with WHO, UNICEF, WFP, NI, GAIN, BMGF, PATH, FSSAI, and WCD. Executive Council member, Indian Public Health Association, National Service Scheme (NSS), AIIMS, Unit. Executive Council member, Indian Association of Preventive and Social Medicine.

**Professor Sumit Malhotra** is Member of working committee of Clinical Research Unit (CRU) under Research Section, AIIMS, New Delhi; member of affiliate centre of Cochrane India Network at AIIMS; member of ICMR advanced centre for clinical trials; teaching member of fellowship programme for AIIMS faculty on clinical research methodology and evidence based medicine, focal point for “Innovation and learning Centre” for supporting implementation of comprehensive primary health care in aspirational district, Nuh, Haryana; national and master trainer for community health officers and other health cadres for rolling out newer packages related to geriatric and palliative care, mental and neurological diseases [training packages developed by National Health Systems Resource Centre, Ministry of Health and Family Welfare (MoHFW), Government of India (GOI) including care related to COVID-19], emergency and trauma care as part of comprehensive primary health care and running tele-mentoring programmes for community health officers, AIIMS, Delhi. Member of AIIMS Technical Support Unit for SRS-VA and the MINERVA Network. He was an operational research mentor and part of research teams and manuscript writing under secondary data analysis of NFHS 5 datasets for hypertension and tobacco with PGIMER Chandigarh. Coordinator for the Operational and Health Systems Research module of IAPSM (Indian Association of Preventive and Social Medicine) research

methodology course. He was a member of the selection committee for selecting candidates for admission to BSc Nursing (Post-Basic) course for the session August 2022. He was invited as a judge for the poster session (SDGs) in the second AIIMS research day celebrations (17 October 2022). He attended teachers mentors workshop as part of faculty mentorship program (11 November 2022) at AIIMS, Delhi. He was nominated from the department to be part of the elimination of lymphatic filariasis group under NVBDCP (National Vector Borne Disease Control Programme) and was also nominated to be part of Disease Prevention and Outbreak Response Committee (DPORC) at AIIMS. He was an external examiner for MD examination for JIPMER Puducherry, MBBS University Examination for University College of Medical Sciences, New Delhi, prepared the theory question paper for MBBS examination of NEIGRIHMS, and was an internal MBBS examiner for professional examination (including the supplementary examination) at AIIMS, New Delhi. He also evaluated the thesis for the MPH (Masters in Public Health) course for PGIMER, Chandigarh. Chaired a session on "Innovations in food products to prevent non-communicable diseases" as part of IAPSMCON 2023 at Hyderabad.

**Dr Anil Kumar Goswami (till 30 September 2022)** was Patron of a National Body "All India Association of Medical Social Work Professionals" Chandigarh. 2016-22. Designated Nodal Officer of "Disease Prevention Outbreak Response Cell" (DPORC) AIIMS since 2008 till date. All Monitoring and Evaluation activities were taken at AIIMS Campuses for the Prevention and Control of Vector Borne Diseases. Designated Nodal Officer of "saMsqaanakIrajaBaaYaakayaa-nvayanasaimait" AIIMS since 2012 till date. Use of Hindi language was promoted at Centre for Community Medicine in daily use and especially by developing health education material on various public health topics. Was a member of sub-committee for Hygiene Promotion" (KRA-7 of Clean and Green AIIMS) under KAYA KALP (Clean Hospital Campaign). Was a member of sub-committee for "Public Feedback" (KRA-8 of Clean and Green AIIMS) under KAYA KALP (Clean Hospital Campaign).

**Dr Ravneet Kaur** is Member of project Review committee for supporting research activities in Multidisciplinary Research Units in Government Medical Colleges (MRUs) and Model Rural Health Research Units (MRHRUs) in States" under the PM-ABHIM scheme of ICMR. Member of the Advisory Group cum Data Safety Monitoring Board of the ICMR for the Taskforce study for evaluation of community-level acceptability, scalability and linkage within the health system of ICMR pre-validated Labike Technologies for screening & diagnosis in rural & urban population. Member of the Institute Ethics sub-committee on Severe Adverse Events in Clinical Trials. Faculty for SET (Skill, e-learning and Telemedicine) facility, AIIMS and prepared skill modules for undergraduate teaching. Evaluated the M.D./MPH theses for University of Delhi, GGS IP University and PGIMER, Chandigarh. Master trainer for TOT for Developing Skill modules for participants of various institutes in the country. National trainer for training of the State Master Trainers for Adolescent Friendly Health Services under the Rashtriya Kishor Swasthya Karyakram. Member of the National working group of IAPSM (Indian Association of Preventive and Social Medicine) on MIYCN (Maternal, Infant & Young Child Nutrition). Member of the Menstrual Health and Hygiene Management (MHHM) Committee of IAPSM, and contributed in developing IAPSM Advisory on Menstrual Health and Hygiene Management. Contribution in various national programs (Anemia Mukh Bharat, Poshan Abhiyan, Rashtriya Kishor SwasthyaKaryakram and SRS based verbal autopsy in India). Reviewer of journals (Global Health Research and Policy, BMJ Open, Indian Journal of Public Health, Indian Journal of Medical Research, National Medical Journal of India, Journal of Postgraduate Medicine).

**Dr Harshal Ramesh Salve** received Dr Sushila Nayar Memorial Young Leaders Oration Award by Indian Association of Preventive and Social Medicine (IAPSM). President Appreciation Award by Indian Association of Preventive and Social Medicine (IAPSM) for contribution in the field of Community Medicine and IAPSM. Member of International Society for Environmental Epidemiology (ISEE). Member of Technical Expert Group (TEG) of 'Air Pollution and Human Health' under National Programme for Climate Change and Human Health in India. Member of team supported by Central Pollution Control Board (CPCB) for Revision of National Ambient Air Quality Standards (NAAQS) in India along with IIT Kanpur. Developed Training Manual on "Air Pollution related illnesses" for District Nodal Officers under National Programme for Climate Change and Human Health (NPCCHH). Co-organized Training of on "Air Pollution related illnesses" for District Nodal Officers under National Programme for Climate Change and Human Health (NPCCHH) along with IIT Kanpur and UNEP. Member of Centre of Excellence for Cardio Pulmonary Diseases under National Programme for Climate Change Human Health in India. Course -coordinator for AIIMS – PGI Course on Public Health Approaches for Non-Communicable diseases (NCDs) (5-9 April 2022). Co-ordinator for CAPHER India-Collaborative on Air Pollution and Health Effects Research, India (Joint Collaboration between AIIMS and IIT Delhi). Faculty member of WHO Collaborating Centre for Non-Communicable Diseases for WHO Collaborating Centre for Capacity Building and Research in Community-based Noncommunicable Disease Prevention and Control at AIIMS. Faculty member of AIIMS Technical Support Unit of MINERVA supported by the Ministry of Home affairs, Government of India. Organized Capacity Building Workshop on "Designing and Implementing Air Pollution and Health Effects Research Studies" under CAPHER - India at AIIMS. (Joint Collaboration of AIIMS and IIT Delhi). Organized and moderated CAPHER Webinar

Series for Early Career Researchers. Co-organised Seventh National Civil Society Consultation on Non-Communicable Diseases and Air Pollution along with Healthy India Alliance (HRIDAY).

**Dr Rakesh Kumar** was Member of the Expert Advisory Committee of project entitled “Strengthening Mechanisms for Tuberculosis Death Reporting under the Revised National Tuberculosis Control Program (RNTCP) and the Registrar General of India”. Chairperson of the Project Review Committee of Indian Council of Medical Research for extramural adhoc research in Urology. He is reviewer for the American Journal of Tropical Medicine and Hygiene, Transactions of the Royal Society of Tropical Medicine and Health, Tropical Medicine and International Health, Indian Journal of Public Health, and The Journal of Obstetrics and Gynaecology of India. Member of the Tuberculosis Core Committee at AIIMS, New Delhi.

**Dr Partha Haldar** is a member of the Clinical Epidemiology Unit of AIIMS New Delhi. He has been, and continues to be a member of the Technical Resource Group (TRG) for Viral Hepatitis Surveillance in India, constituted by the National Center for Disease Control (NCDC), Ministry of Health and Family Welfare, Government of India. He conducted the Health Economics and Epidemiology module for MD students of Centre for Community Medicine. He is also a Member of Technical Resource Group (TRG) for HIV Self Testing in India, constituted by the National AIDS Control Organization, Ministry of Health and Family Welfare, Government of India. He is also a member of the Technical Expert Group (TEG) constituted by the National Centre for Disease Control, Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India, for National Programme for Climate Change and Human Health (NPCCHH), for providing guidance and technical support in conducting vulnerability needs assessment. He continues to be a member of NACO designated National Institute for HSS at AIIMS New Delhi (NI-HSS), and the National Centre of Excellence and Advanced Research on Anemia Control (NCEAR-A). He is a reviewer of many National and International journals including: Scientific Reports, Nature-Group Journal, BMJ Open, PLOS One, BMC Pregnancy and Childbirth, International Journal of Hypertension, Journal of Clinical Pathology, Journal of Neurology, Neurosurgery and Psychiatry, National Medical Journal of India, Indian Journal of Public Health, Indian Journal of Medical Research. He is a Member of the ICMR-DHR Committee Constituted to provide advice on ICMR-DHR Data Sharing and Access Policy. He provides technical assistance to Government of India, by being a member of the Technical Resource Group, constituted by India’s National AIDS Control Organization, MoHFW, Government of India, for Transgender’s Health, and he is also a member of the Committee for Establishing Centre of Excellence - Gender Affirmative Centre (GAC) at the AIIMS, New Delhi. He also provides technical assistance to Government of India, by being a member as an epidemiologist in the Technical Resource Group, constituted by India’s National Centre for Disease Control, MoHFW, Government of India, for Laboratory Components of national viral hepatitis control programme in India. Along with other faculty members of this Department, he was nominated for Health, Fitness and Sports Services Sectional Committee of Bureau of Indian Standard, India. For the various technical resource groups, he attended all the meetings physically/virtually as they were conducted.

**Dr Mohan Lal Bairwa** was Editorial Board Member, Frontiers in Public Health and BMC Public Health. Chaired Sessions in 3rd Young Leaders Conclave of IAPSM organised by AIIMS Bhubaneswar. Faculty member of WHO Collaborating Centre for Non-Communicable Diseases for WHO Collaborating Centre for Capacity Building and Research in Community-based Noncommunicable Disease Prevention and Control at AIIMS. Faculty member of AIIMS Technical Support Unit of MINERVA supported by Ministry of Home affairs, Government of India. Member of Board of Studies, IIMR University. Faculty in a workshop on Primary Health Care jointly organized by AIIMS & Johns Hopkins University. Adaptation Community Medicine curriculum for implementation of Competency based medical education. Member of Committee to suggest reforms in pattern of teaching, training, and evaluation of final year MBBS students in lieu of change in PG entrance examination.

## 9.9 Dermatology and Venereology

### Professor and Head

Kaushal K Verma

### Professors

M Ramam                      Binod K Khaitan                      Sujay Khandpur  
G Sethuraman                      Somesh Gupta

### Additional Professor

Kanika Sahnii

### Associate Professor

Neetu Bhari

### Assistant Professor

Vishal Gupta

### HIGHLIGHTS

- **Patient care:** Department runs an OPD for patients with skin diseases, STIs & leprosy, performs dermatosurgical procedures & review skin biopsies daily. In addition, we run 8 speciality clinics, 4 laser clinics & perform surgeries for patients with vitiligo once a week. We have continued to provide teleconsultations daily, even after the physical OPD has become fully functional. We have a 29 bedded ward, with almost 100% occupancy, & 6 bedded day care centre where we admit patients to administer steroid pulse & biologicals.
- **Education and training:** Department is training 25 junior residents, 10 senior residents, 3 PhD candidates & undergraduate students. A competency based training of 2 weeks is done for junior residents from Dept of Medicine, Emergency Medicine, Infectious diseases & Paediatrics. This year, we have extensively used e-platforms for teaching undergraduates & postgraduates while restoring the physical teaching activities. We have modified our teaching & assessment of PG training to make it more holistic (*vide infra*).
- **Research:** The newly renovated research lab has facilities for RT-PCR, immunofluorescence, ELISA among others. The faculty has received several extramural and intramural grants for research. Our faculty has published more than 65 papers in high index, peer reviewed journals, delivered more than 70 lectures including orations & guest lectures at national & international conferences.
- **Community activities:** Faculty has participated in various social media programs on radio & television. Faculty also participated in a Charitable Medical Camp at Kargil, Ladakh, 25-29 September 2022.

### EDUCATION:

**Number of students/trainees registered in the department:**

	2020-2021	2021-2022	2022-2023
<b>No. postgraduates</b>	22	25	25
<b>No. of senior residents</b>	9	10	10
<b>No. PhD students</b>	4	3	3

### CMEs/Workshops/Symposia/National & International Conferences

#### *List of events organized by the department*

- Department organised 2nd AIIMS-PGI joint conference on 29 January 2023 in JLN auditorium, AIIMS which was attended by approximately 500 delegates. We also organised a live Dermatosurgery workshop in the conference FUE ASIA, 9 March 2023.

**Lectures delivered: 75**

**List of oral papers/posters presented: 5**

**Lectures and Oral/poster presentations over past 3 years**

	2020-2021	2021-2022	2022-2023
Lectures	67	70	75
Oral presentations/Posters	8	6	5
	75	76	80

## **RESEARCH**

### **Funded projects**

#### **Completed**

1. "Evaluation of effect of cyclosporine on inflammatory cytokine levels and dermatitis in patients of air-borne contact dermatitis due to plant parthenium" Dr Kaushal Verma DST, 3 years, 2019-2022, Rs 36 lakhs
2. Th2/Th17 inflammatory cytokines modulating filaggrin expression and disease severity in children with atopic dermatitis Dr Neetu Bhari IADVL, 3 years, 2020-2023, Rs 7.45 lakhs
3. A double-blind randomized trial of transplantation of cultured melanocytes from outer root sheath of plucked hair follicles vs. cultured melanocytes from epidermis Dr Somesh Gupta DBT, 4 years, 2017-2021, Rs 60 lakhs
4. Analysis of the diagnostic and/or predictive potential of metabolomics in bacterial vaginosis, its treatment failure, relapse and susceptibilities to other sexually transmitted infections. Dr Somesh Gupta, AIIMS Intramural Collaborative Research Grant, 2 years, 2018-2020, Rs 16 lakhs
5. Efficacy and safety of non-cultured extracted follicular outer root sheath cell suspension and conventional epidermal cell suspension transplantation in stable vitiligo and correlation with constituent stem cell populations. Dr Somesh Gupta, ICMR, 4 years, 2017-2021, Rs 30 lakhs

#### **Ongoing**

1. Role of BAFF and APRIL ligands and their receptors, CD4 and regulatory B- and T cells in predicting disease relapse in pemphigus vulgaris patients receiving conventional Dexamethasone pulse and newer biological rituximab therapy, Dr Sujay Khandpur, ICMR, 3 years, 2021-2024, Rs 25 lakhs
2. A Randomized, Open-Label, Parallel-Group Study To Evaluate, The Safety And Efficacy Of Abrocitinib 100 Mg And 200 Mg Tablets In Participants Aged 12 Years And Older With Moderate To Severe Atopic Dermatitis In India, Dr Somesh Gupta, Pfizer, 2 years, 2022-2024, Rs 35 lakhs
3. Development of a metabolite-based point of care for diagnosis of bacterial vaginosis in Indian women, Dr Somesh Gupta, ICMR, 2022, Rs 60 lakhs
4. Comparison of Autologous Non Cultured Non Trypsinized Epidermal Cell Suspension NCNTECS (also known as Jodhpur Technique) vs Autologous Non Cultured Epidermal Cell Suspension NCECS in the treatment of stable vitiligo - a Multicenter interventional study across India, Dr Kanika Sahni, IADVL, 2 years, 2021-2023, 10 lakhs
5. Morphological pattern of skin lesions in different complementation groups in children with xeroderma pigmentosum and its correlation with various cutaneous and extra- cutaneous cancers and photoaging, Dr Neetu Bhari, ICMR, 3 years, 2022-2025, Rs 44 lakhs
6. A multi-center double blind and open label extension study to evaluate the efficacy and safety of ligelizumab as retreatment self-administered and mono-therapy in chronic spontaneous urticaria patient who completed studies CQGE031C2302, CQGE03102303, CQGE031C2202, CQGE031C1301, Neetu Bhari, Novartis, 3 years, 2022-2025, Rs 36.7 lakhs
7. A multicenter randomized double blind placebo-controlled phase 3 study of Remibrutinib to investigate the efficacy, safety and tolerability for 52 weeks in adult chronic spontaneous urticaria patients inadequately controlled with antihistamines, Neetu Bhari, Novartis, 3 years, 2022-2025, Rs 10.9 lakhs
8. Clinical and immunological factors predicting relapse in patients with pemphigus treated with Rituximab: A prospective cohort study, Vishal Gupta, AIIMS Intramural grant, 2 years, 2021-2023, Rs 9.8 lakhs
9. Comparison of apremilast versus betamethasone oral-mini pulse therapy in the treatment of progressive non-segmental vitiligo: An open label non-inferiority randomized trial, Vishal Gupta, IADVL, 2 years, 2021-2023, Rs 3.62 lakhs

## **Departmental projects**

### ***Ongoing***

1. An ambispective study to describe the clinical profile and treatment outcomes of Patients with Basal Cell Carcinoma presenting to a Tertiary care centre in North India
2. A cross sectional descriptive study to evaluate extracutaneous and systemic involvement in children and adults with inherited epidermolysis bullosa
3. A randomized controlled trial comparing intralesional triamcinolone acetonide with 5- Fluorouracil alone versus in combination with intralesional radiofrequency ablation in the treatment of keloids
4. Double blinded randomised controlled trial to study repigmentation in non-segmental vitiligo using 0.1% tacrolimus/0.2% tacrolimus/placebo in combination with excimer lamp
5. Evaluation of Patch Test in diagnosis of adverse cutaneous drug reactions and its correlation with oral drug provocation
6. Evaluation of Mental Health in patients of Chronic skin diseases
7. To evaluate patch test and skin prick test to elucidate the role of allergens in the occurrence of endogenous dermatitis: a prospective cohort study
8. Qualitative study on perception of treatment in vitiligo patients collaborating departments
9. Prospective randomized trial to compare efficacy and cost-effectiveness between rituximab therapy and dexamethasone pulse in pemphigus vulgaris
10. Clinico-histopathological correlation of sarcoidal tissue reaction
11. Comparison of hand and foot PUVA versus excimer light in palmoplantar psoriasis.
12. 'A prospective cohort study of the effect of cosmetic camouflage on quality of life and patient perceived stigma in patients with vitiligo
13. A cross sectional descriptive study of dermoscopic features of facial hyperpigmented skin lesions
14. Deep learning in prediction of cardio-metabolic syndrome from facial images of patients with chronic plaque psoriasis and development of a deep learning model for evaluation of psoriasis severity
15. A cross sectional descriptive study of clinical, dermoscopic and histopathological features of granulomatous facial skin lesions and their clinical mimics
16. Retrospective analysis of clinical, biochemical, immunological and radiological spectrum of systemic sclerosis from a tertiary care centre in Northern India (IEC-70/5 February 2021)
17. A Retrospective study of erythroderma and Drug Reaction with Eosinophilia and systemic symptoms (DRESS) in tertiary care centre in Northern India

### ***Completed***

1. Evaluation of Patch Test in diagnosis of adverse cutaneous drug reactions and its correlation with oral drug provocation.
2. A retrospective descriptive study of the histopathological spectrum of erythema nodosum leprosum
3. An open label non-randomized preliminary study comparing two targeted phototherapy devices i.e. hand-held Narrow Band UVB device with monochromatic excimer laser (MEL) therapy in treatment of localized vitiligo
4. Utility of excimer light therapy in residual vitiligo lesions following NBUVB therapy
5. A RCT to assess the role of camouflage in acrofacial vitiligo
6. A study to evaluate the quality of life impairment in pediatric patients with vitiligo and their family members
7. A cross-sectional descriptive study of dermoscopic findings in congenital and acquired vascular lesions in children.
8. A cross-sectional descriptive study to characterize the cutaneous and histological features in children with Langerhans cell histiocytosis

## **Collaborative projects**

### ***Ongoing***

1. Patch testing with petrolatum preparations with Hydroperoxides of linalool (1.0% in petrolatum) and hydroperoxides of limonene (0.3% in petrolatum), International Contact Dermatitis Research Group (ICDRG) and Department of Occupational and Environmental Dermatology, Skåne University Hospital, Malmö, Sweden, Departments of Nuclear Medicine and Dermatology & Venereology at AIIMS



2. Evaluation of therapeutic efficacy of radioactive Skin Patches for Treatment of Basal Cell Carcinoma
3. Evaluation of therapeutic efficacy of radioactive Skin Patches for Treatment of Keloids.
4. Evaluation of effectiveness of radioactive Skin Patches for Treatment of Hidradenitis suppurativa, Departments of Nuclear Medicine and Dermatology & Venereology at AIIMS
5. Exploring the role of innate immunity in immunopathogenesis of pemphigus vulgaris, Biochemistry

#### Completed

Sl. No.	Title of the project	Collaborating department/institution
1.	Patch testing with a textile dye mix without Disperse Orange 3 in the baseline series	International Contact Dermatitis Research Group (ICDRG) and Department of Occupational and Environmental Dermatology Skåne University Hospital, Malmö, Sweden Departments of Nuclear Medicine and Dermatology & Venereology at AIIMS
2.	Exploring the role of gamma-delta T-cells in immunopathogenesis of pemphigus vulgaris	Biochemistry
3.	Distorted frequency of dendritic cells and their associated stimulatory and inhibitory markers augment the pathogenesis of pemphigus vulgaris.	Biochemistry

#### Research projects over past 3 years:

	No. of funded projects (ongoing projects)	Amount of funding received (ongoing projects)	No. of funded projects (completed)	Amount of funding received (completed)
<b>2022-2023</b>	9	Rs 235,00,000	5	Rs 149,45,000
<b>2021-2022</b>	10	Rs 168,00,000	2	Rs 90,00,000
<b>2020-2021</b>	7	Rs 153,14,000	1	Rs 30,00,000

#### PUBLICATIONS

Journal: 59                      Chapters in Book: 16

#### Publications over past 3 years

	2020-2021	2021-2022	2022-2023
Publications in journals	68	56	59
Chapters in books	2	18	16

#### PATIENT CARE

##### (a) Facilities available in the department:

1. *Out-patient services:* Department runs an OPD for patients with skin diseases & STIs & HIV, perform dermatosurgery procedures & dermatopathology review of skin biopsies daily
2. *Teledermatology:* We have continued to provide teleconsultations daily to about 70 patients, even after the physical OPD has become fully functional
3. *Special clinics:* Leprosy, photodermatology & phototherapy, dermatosurgery, STDs, pigmentary disorders, psoriasis, pediatric dermatology, allergy clinic
4. *Side-lab:* KOH, gram stain, slit skin smear, Tzanck smear, patch & photo patch testing
5. *Surgical procedures:* Diagnostic & therapeutic biopsies, excisions, scar revision, excision of malignancies, vitiligo surgery
6. *Aesthetic procedures:* Peeling, PRP, fat transplantation, fillers, radiofrequency ablation, microneedling radiofrequency
7. *Lasers:* Hair removal laser (1 diode, & 1 with diode, Nd-YAG, Alexandrite heads), pigment (Nd:YAG) laser, vascular (PDL) laser, ablative (2 fractional CO<sub>2</sub>) lasers
8. *Phototherapy:* UVA & NB-UVB chambers
9. *In-patient services:* We have a 29 bedded ward, with almost 100% occupancy

10. *Day care facility:* We have 6-bedded day-care facility for administration of biologicals & steroid/ cyclophosphamide pulse therapy, & keeping postop patients under observation

	2020-2021	2021-2022	2022-2023
<b>OPD patients: new</b>	30263	24788	39,067
<b>OPD patients: follow up</b>	55857	30579	565789
<b>Inpatients (long admissions)</b>	771	521	697
<b>Inpatients (short admissions)</b>	2132	1589	2199

#### AWARDS, HONOURS & SIGNIFICANT EVENTS

**Professor Kaushal K Verma** is Regional Chair of the International Union against Sexually Transmitted Infections Asia-Pacific (IUSTI-AP) Region; Member - International Contact Dermatitis Research Group (ICDRG); Organising Chairman of the 2nd Joint AIIMS (Delhi)- PGIMER (Chandigarh) Dermatology Conference at AIIMS, New Delhi on 29 January 2023; Participated in the International Union against Sexually Transmitted Infections (IUSTI) -World Executive Committee meeting as Regional Chair of the IUSTI Asia-Pacific Region representing the Region, in the meeting on 3 September 2022 online; External Expert for Faculty selection in Dermatology at Jodhpur, July 28, 2022; Participated as Faculty on national webinar on Monkeypox - by Ministry of Health & Family Welfare on 10-12 and 17 August 2022; Participated and Chaired a session on Contact Dermatitis XXIV of Argentina Conference of Dermatology & ICDRG Symposium held on 24-27 August 2022, Buenos Aires, Argentina; Participated in a Charitable Medical Camp at Kargil, Laddak, 25-29 September 2022; Chaired two scientific sessions at 8th Annual International Conference of Face Aesthetic Dermatologists Society (FADS) on 5-6 November 2022; Participated and Chaired a session at 2nd Joint AIIMS (Delhi)-PGIMER (Chandigarh) Dermatology Conference on Basic concepts: Basement membrane zone & immune fluorescence on 29 January 2023; Participated in International Contact Dermatitis Research Group (ICDRG) Board meeting as ICDRG member, 31 March 2022; Convener “Experts Group” Dermatology, Venereology and Leprosy (DVL) National Medical Commission; Reviewer to 6 journals- J Cosmetic Dermatology, Contact Dermatitis, IJDVL, JEADV, Dermatologic Therapy; On Editorial Board of 3 Journals-IJDVL, CAS, NJDVL.

**Professor Sujay Khandpur** is Editor-in-Chief of IADVL Textbook of Pemphigus and other autoimmune bullous diseases; Associate Editor of IADVL Textbook of Dermatopathology; Vice President, Dermatopathology Society of India; Member Education committee and executive committee member of Asian Society of Dermatopathology; My MD thesis student received Best thesis award from IADVL; Received best review article award in Review article section of IJDVL on topic “Stem cell therapy in Dermatology”.

**Dr Neetu Bhari** is Assistant Editor, Indian Journal of Dermatology, Venereology and Leprology; Assistant Editor, Indian Journal of Paediatric Dermatology; Assistant Editor, IADVL textbook of Dermatopathology; Joint Secretary, Contact and Occupational Forum of India.

**Dr Vishal Gupta** won Second prize - AIIMS Excellence Research Award 2021 under the Clinical Sciences category

## 9.10 Emergency Medicine

### Professor and Head

Praveen Aggarwal

### Professors

LR Murmu (Superannuated on 30 November 2022)  
Sanjeev Kumar Bhoi (TC)

### Additional Professors

Nayer Jamshed  
Tej Prakash Sinha (TC)

### Associate Professors

Meera Ekka  
Akshay Kumar

### Assistant Professors

Prakash Ranjan Mishra  
Ritin Mohindra (TC): Joined on 10 January 2023  
Vineeth Chandran (TC): Joined on 10 January 2023

### HIGHLIGHTS

The Department of Emergency Medicine has been providing holistic, round-the-clock, world-class emergency care to patients with all types of medical, paediatric, surgical, as well as some of the traumatic emergencies. Nearly 1,11,063 patients visited the department in the year 2022-2023. The department has been providing training to its postgraduates in the specialty of Emergency Medicine since July 2012. Students passing out from the department are well placed both nationally and internationally. They have done high quality thesis and research and also published their work internationally.

Various skill-based courses like Emergency ECG course, Emergency ultrasound course, Difficult airway course, Simulation based training course, and Bedside procedural skill development courses have been conceptualized, designed, and developed and are being conducted regularly and successfully for postgraduate students. The departmental faculty is also involved in teaching and training of postgraduates from other departments (including Medicine, Surgery, Geriatric Medicine, Anaesthesia and Critical Care Medicine, Dermatology, Psychiatry, and several others), undergraduate students, nursing students and paramedics in the field of Emergency medicine, including life support courses. The department is also involved in training the existing and future faculty from other colleges and hospitals in the specialty of Emergency Medicine.

Under the aegis of the Ministry of Health and Family Welfare, the department is involved in developing guidelines for comprehensive primary health care for burns and trauma as well as for Emergency Department at district hospitals. The department is actively mentoring other emergency departments from various medical colleges including peripheral AIIMS for development of academic Emergency Department and postgraduation course in Emergency Medicine. In collaboration with WHO, Southeast Asia Region, the department is also involved in formulating guidelines on road safety, injury prevention, as well as integration of emergency and trauma care in India. Under the AIIMS Quality Improvement Programme, Emergency Medicine Department has started several projects to further improve patient care and outcome. This has also resulted in shorter stay of patients. At international level, the department has been actively collaborating with several universities from the USA, like the Florida State University, USA, and SUNY Downstate New York, with the aim of training doctors, nurses and paramedics.

### EDUCATION

The faculty from the department have organized life support courses for undergraduates, postgraduates and nurses posted in the department. These courses have also benefitted residents from other disciplines of the institute. It has conducted AIIMS Emergency ECG and rapid sequence intubation courses for postgraduates of the institute as well as other colleges. The department runs a schedule of academic activities for the residents of Emergency Medicine (seminars, journal clubs, case discussions, panel discussions) twice a week for around seven hours. Education and skill are imparted to residents

on the use of ultrasound in emergency care of patients. Simulation-based teaching (both table-top and on simulator) is imparted to the residents. Live workshops, cadaver-based training and hands-on skill session have provided confidence to residents in managing the patients. The faculty from the department have been a part of development of e-modules for SET facility in the institute which helps in dissemination of medical knowledge to students in a standardized and practical format. In addition, the department faculty was involved in didactic teaching of undergraduates, postgraduates and nursing students through lectures and seminars, online as well as offline. The faculty from the department were part of many workshops and conferences, national as well as international during this period. The department has also produced high-quality research and has around 25 publications in peer-reviewed indexed journals during the last three years.

## CONTINUING MEDICAL EDUCATION

### Conferences/seminars/workshops organized

1. Tactical combat care course for CRPF - Organized and conducted by Department of Emergency Medicine, AIIMS, New Delhi at JPN Apex Trauma Centre from 17 to 31 August 2022 and 12 to 28 September 2022
2. Training of Champions of Change for emergency care system strengthening in the State of Uttar Pradesh – Organized and conducted by Department of Emergency Medicine, AIIMS, New Delhi at JPN Apex Trauma Centre (WHO Collaborating Centre for Emergency and Trauma Care), from 17 to 21 October 2022, 7 to 11 November 2022 and 5 to 9 December 2022
3. AIIMS Emergency ECG workshop - Organized and conducted by Department of Emergency Medicine, AIIMS, New Delhi at SET facility, AIIMS on 28 November 2022
4. 7th National Emergency Medicine Board Review of India Course - Organized by Academic College of Emergency Experts in India and Emergency Medicine Association from 13 to 17 February 2023 at National Academy of Medical Sciences, New Delhi

**Lectures delivered: 79**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
22	32	77

**List of oral papers/posters presented: 17**

**Oral/poster presentations over past 3 years**

2020-2021	2021-2022	2022-2023
2	4	17

## RESEARCH

### Funded Projects

#### *Ongoing*

1. Delhi Emergency Life Heart Attach Initiative: Mission Delhi (Phase II), Dr Praveen Aggarwal, Indian Council of Medical Research, 3 years, 2021-2024, Rs 4.5 crores
2. Evaluation of a health system-based intervention on change in thrombolysis rate in ST-segment elevated myocardial infarction (STEMI) across selected districts of the country - A health implementation research project, Dr Praveen Aggarwal, Indian Council of Medical Research, 3 years, 2020-2024, Rs 87,93,131
3. To study the role of iPSC (Induced Pluripotent Stem Cells) derived hematopoietic progenitor cells (HPC) for hematopoietic failure among trauma hemorrhagic shock using animal model, Dr Sanjeev Bhoi, Indian Council of Medical Research, 3 years, 2021-2024, Rs 61,55,474
4. To study the role of cell free-DNA among trauma hemorrhagic shock and its correlation with clinical outcomes and severity of injury, Dr Sanjeev Bhoi, Indian Council of Medical Research, 2 years, 2021-2023, Rs 39,15,930
5. To study the pattern of mesenchymal stromal stem and progenitor cells in peripheral blood of trauma hemorrhagic shock patients, Dr Sanjeev Bhoi, Indian Council of Medical Research, 3 years, 2021-2024, Rs 38,41,703
6. Strengthening Emergency and Trauma Care System in the state of Uttar Pradesh: Baseline Gap Assessment & Training of Trainers, Dr Sanjeev Bhoi, World Health Organization, 1 year, 2022-2023, Rs 54,09,000
7. Adaptive model to strengthen facility-based emergency care system for providing quality emergency care among red triage patients (Time sensitive and other emergencies) at all levels of health care facilities, Dr Sanjeev Bhoi, Indian Council of Medical Research, 3 years, 2023-2026, Rs 18,75,18,409

8. Integrating Emergency and Injury Care to Strengthen Post Crash Response at Health and Wellness Centres in India, Dr Tej Prakash Sinha, World Health Organization, 1 year, 2022-2023, Rs 28,37,000
9. Effect of sodium-hydrogen channel (NHE-1) inhibitor in hypoxic cardiac arrest, Dr Tej Prakash Sinha, Indian Council of Medical Research, 2 years, 2022-2024, Rs 4,00,000
10. Immuno-clinical correlation in sepsis patients presenting to the emergency department, Dr Akshay Kumar, AIIMS Research Section, 3 years, 2021-2024, Rs 9.5 lakhs
11. Evaluation of cardioprotective effect of remote ischemic postconditioning in patients undergoing thrombolysis and its correlation with vitamin D, Dr Akshay Kumar, Dept. of Health Research, New Delhi, 3 years, 2023-2026, Rs 20 lakhs

#### **Completed**

1. Development of low-cost USG-guided needle tracking phantom model for medical education, Dr Prakash Ranjan Mishra, AIIMS, New Delhi (intramural), 2 years, 2020-2022, Rs 0.56 lakhs

#### **Departmental Projects**

##### **Ongoing**

1. The utility of End Tidal carbon dioxide monitoring in patients with Shock in Emergency Department
2. High dose NTG vs low dose NTG in the management of SCAPE (sympathetic Crashing Acute pulmonary edema): a randomized controlled trial
3. Diagnostic yield of Non-contrast Computed Tomography Brain in patients of Chronic liver disease presenting with altered mental status
4. Association between boarding time in the emergency department and in-hospital mortality
5. To estimate the incidence of crescent sign in ONSD using POCUS (USG) in altered mental state with raised Intracranial pressure in Emergency department
6. Comparison of scoring systems in predicting hospital mortality in patients with pneumonia presenting to emergency department
7. Does POCUS guided AIIMS-Pediatric POCUS Algorithm improves early diagnosis and critical care management decision in acutely ill pediatric patients
8. Effect of intravenous iron on symptomatic improvement in iron-deficient patients with acute decompensated heart failure
9. To estimate prevalence of pulmonary embolism in patients of acute exacerbation of COPD presenting in emergency department
10. Utility of point-of-care ultrasound guided primary survey algorithm in taking critical management decisions in adult trauma patients
11. Study of existing pain assessment and management practices in the department of Emergency Medicine
12. The utility of left ventricular outflow tract velocity-time integral monitoring in patients presenting with shock
13. Developing an antibiogram based on culture samples of suspected patients of infection presenting to the Emergency department
14. Performance of chief complaint driven triage system based on mortality at 72 hours for patients presenting to the Emergency department
15. To evaluate the prognostic significance of hypocalcemia in patients presenting with dengue fever to Emergency department
16. Role of Methylprednisolone in prevention of stricture formation in patients of Zargar class IIb Corrosive Esophageal Injury: A randomised Controlled Open Label Study
17. Profile of Acute Poisoning in Emergency Department: A retrospective study
18. Study of etiological profile of brought dead patients and comparison of death due to COVID-19 during lockdown period presenting to AIIMS, New Delhi
19. Comparing crystalloids during resuscitation in Emergency Department: An interventional cluster randomized controlled trial
20. Chest pain and heart failure in the Emergency Department registry study
21. Lung USG in pediatric patients coming with shortness of breath and fever

22. Severity of COVID-19 infection in partially or completely vaccinated and non-vaccinated patients presenting to the Emergency Department
23. To study the diagnostic characteristics of point of care ultrasound in patients of blunt trauma of chest
24. Evaluation of diagnostic characteristic of Neutrophil-Lymphocyte ratio in comparison to commonly used score (APACHE II, CTSI and BISAP) in Acute pancreatitis
25. Clinical profile of patients with rheumatic heart disease presenting to Emergency Department
26. Impact of interactive training interventions on soft skill of communication to nursing staffs in Emergency Department of a tertiary care teaching hospital: An experimental study
27. Assessment of internal jugular vein and femoral vein collapsibility in the determination of intravascular volume status as compared to inferior vena cava collapsibility
28. Prolonged capillary refilling time as a predictor of mortality post resuscitation in a patient with shock
29. Clinical profile of patients with malignancy presenting to Emergency department
30. Comparison of efficacy of erector spinae plane block versus conventional pharmacological therapy in successfully alleviating abdominal pain of patients with pancreatitis in an emergency department: a randomized controlled trial
31. To assess Norepinephrine requirements in Methylene Blue group to maintain mean arterial blood pressure greater or equal to 65 mm Hg in comparison to Vasopressin group: a randomized controlled open label study
32. To study the utility of USG guided dynamic close reduction of long bone fractures compared to conventional treatment
33. To evaluate prognostic utility of absolute lymphocyte count in patients with acute heart failure presenting to Emergency Department

#### ***Completed***

1. To validate the F-AST score as CT decision tool in pediatric blunt abdominal trauma
2. Role of Methylprednisolone in corrosive esophageal injury: A randomised open label trial
3. Changes in Optic nerve sheath diameter following rigid cervical collar application in patients with traumatic brain injury: a prospective observational study in a tertiary care hospital
4. Efficacy and safety of intramuscular haloperidol and olanzapine in management of acutely agitated patients in emergency department – a randomized controlled trial
5. Role of hydrocortisone in outcome of patients with cardiac arrest - a randomized placebo-controlled trial
6. To study the first pass success rate of ultrasound guided peripheral intravenous access in difficult intravenous access (DIVA) patients when compared to traditional methods with training in emergency care providers
7. Impact of flipped classroom in learning of Emergency Medicine residents
8. A randomized trial of modified Valsalva versus standard Valsalva maneuver for cardioversion in patients with supraventricular tachycardia in Emergency Department
9. The performance of sono-triage in reducing under-triage rate as compared to conventional AIIMS triage protocol among patient presenting to Emergency Department
10. First pass success rate of endotracheal intubation in Emergency Department: a Quality improvement study
11. Does POCUS-guided acute abdomen algorithm improves early diagnosis and critical management decision in adult patients with undifferentiated acute abdominal pain presenting to Emergency department
12. Clinico-epidemiological profile of patients presenting with acute chest pain in Emergency department

#### **Collaborative projects**

##### ***Ongoing***

1. Comparative efficacy of low vs high dose Terlipressin in the management of upper Gastrointestinal bleeding: An Open label Randomized Control Trial, Gastroenterology, AIIMS, New Delhi
2. Standard medical therapy plus intravenous Albumin vs standard medical therapy in patients with acute variceal bleeding. A Pilot Randomized Controlled Trial, Gastroenterology, AIIMS, New Delhi
3. Role of antibiotic prophylaxis in Child-A Cirrhosis with acute variceal haemorrhage: a multi-centric Open label Randomized Controlled Trial, Gastroenterology, AIIMS, New Delhi
4. Optimal usage of laboratory information system and its impact in the emergency care setting. A prospective observational study, Laboratory Medicine, AIIMS, New Delhi

5. Epidemiology of emergency department visits – an international multicentric study, Department of Emergency Medicine University of Michigan, Ann Arbor, USA
6. Efficacy and safety of Injection Tenecteplase in 4.5 hours to 24-hour imaging in eligible window patients with Acute Ischemic Stroke (EAST-AIS), Department of Neurology, AIIMS, New Delhi (SERB-DST Project)
7. Thromboelastography parameters as predictor of thrombus burden in ST-Segment Myocardial Infarction undergoing primary Percutaneous Coronary Intervention, Department of Cardiology, AIIMS, New Delhi
8. Evaluation of workplace violence and communication skills of resident doctors at a tertiary care teaching hospital, Department of Medicine, AIIMS, New Delhi
9. Impact of COVID-19 on Tuberculosis, Department of Microbiology, AIIMS, New Delhi
10. Genomic analysis of symptomatic SARS-CoV-2 vaccine breakthrough infection, Department of Microbiology, AIIMS, New Delhi
11. Point of Care Thromboelastography for critical decision making in patients requiring Massive Transfusion Protocol at a Level 1 Trauma Centre, Laboratory Medicine, AIIMS, NEW Delhi
12. Development of a real-time PCR technique using the CotH gene as a target for early diagnosis of Mucormycosis, Department of Microbiology, AIIMS, New Delhi

**Completed**

1. Development of Aptamer-based rapid diagnostic test for acute heart failure, THSTI, Faridabad, Haryana

**Research projects over past 3 years**

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	12	09	11
Total funding (Lakhs)	Rs 8,86,13,131	Rs 7,19,24,131	Rs 26,68,20,647

**PUBLICATIONS**

**Journals: 20**

**Author of Book: 1**

**Editor of Books: 1**

**Publications over past 3 years**

Item	2020-2021	2021-2022	2022-2023
<b>Total</b>	<b>50</b>	<b>26</b>	<b>22</b>
Journal articles	44	20	20
Abstracts	3	3	-
Chapters in books	3	3	-
Books	-	-	2

**PATIENT CARE SERVICES**

**1. (a) Number of patients attended Emergency services**

Total new patients	Total revisit patients	Total patients
75,135	35,928	1,11,063

**(b) Medico-legal cases**

Year	Total MLCs
2022-23	10,940

**2. Point of Care Testing Laboratory (POCT) data**

Test type	Total test done
Complete blood count	85,345
Quantitative Troponin I	13,753
Blood gas analysis	1,35,186
BNP and NT pro-BNP	1,825
D-Dimer	1406
Urine Tox screen	786

PT/INR	2,450
Procalcitonin	150
hs CRP	20
Urine and Serum Osmolality	977
<b>Total tests done:</b>	<b>2,41,898</b>

### 3. Procedures done in Emergency OT

Name of procedure	Total number
Tracheostomy	222
Other Procedures	44
<b>Total procedures done</b>	<b>266</b>

### Patient care over past 3 years

Item	2020-21	2021-22	2022-23
Total Emergency visits	95,184	1,07,853	1,11,063
Total MLCs generated from Emergency.	10,959	9,169	10,940
Total Point-of-care investigations done in Emergency laboratory.	1,61,600	2,38,001	2,41,898
Total Procedures done in Emergency OT	101	122	266

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Praveen Aggarwal** was Chief Editor of the Journal of Emergencies, Trauma and Shock, an international journal indexed in PubMed; Member of Signal Review Panel of the Central Drugs Standard Control Organization and the Indian Pharmacopoeia Commission for the Pharmaco-vigilance Programme of India; Member of the Scientific Body, Indian Pharmacopoeia Commission, Ministry of Health and Family Welfare, Government of India; Vice-President of the Academic College of Emergency Experts in India and Joint Secretary of Organized Medicine Academic Guild of India which is a Guild of major medical associations and societies in India with the aim to formulate national policies in term of patient care, education, and research; The Chief Editor for revising 'Washington Manual of Emergency Medicine' South-East Asia Edition; member of Institute Ethics Sub-Committee for assessing Serious Adverse Effects of drugs being studied in various projects; Member of the Core Committee of Experts for revising the National Drug Formulary of India; Chairman of the Committees formed by the National Medical Commission (NMC) and National Board of Examinations (NBE) involved in preparing core-curriculum and guidelines for the Departments of Emergency Medicine across India.

**Professor Sanjeev Bhoi** worked in emergency and trauma care system building. He is assessing the status of facility-based emergency and injury care system in secondary and tertiary care in India and providing technical advice to the NITI Aayog in building emergency care system. Major focus area is use of point of care ultrasound for emergency & trauma conducting training programs on using point of care ultrasound in medical education by training undergraduate students for learning anatomy and physiology. Point of care ultrasound in acute/emergency care including its use in disaster scenarios; Chief guide for point of care ultrasound related thesis and other thesis as co-guide; Educational Sub-committee co-chair of global emergency medicine research network "Emergency Medicine Education & Research by Global Experts (EMERGE)" with a vision to transform lives globally through emergency care research; Officer of WHO-collaborating centre for Emergency and Trauma in the region and have been working collaboratively with various states of India and member countries of SEARO for emergency medicine in building systems of integrated emergency and trauma care in India and SEAR region. He has done high quality research work and has ongoing projects funded by ICMR, New Delhi and other projects in collaboration with WHO-SEARO. Quality emergency care for addressing patient safety concerns has been his domain of work since a decade and he continues to focus on this issue. Key area of his research is Trauma haemorrhagic shock especially translational, since last 8 years and he has published many research papers on the same

**Dr Nayer Jamshed** published 14 research papers in peer reviewed, PubMed-indexed journals in 2022-23; Principal investigator in 4 research projects and co-investigator in 09 research projects; Chief guide for 4 students and co-guide for 11 postgraduate students; 3 Randomized controlled trial as Principal investigator/Chief guide and 4 RCT as co-investigator; Faculty for the proposed Emergency fellowship program in Toxicology; Adjunct faculty in the proposed DM Course in Psychosomatic Medicine; Faculty to the SET Facility of AIIMS and in-charge of the academic teaching program, departmental simulation teaching and training program, quality assurance meetings, radio-conference, and



monthly panel discussion of the department; Part of departmental quality improvement program to improve quality of patient care; Associate editor of Washington manual of Emergency Medicine and has written chapters in various textbooks; Reviewer of 3 International journals of Emergency Medicine; Nodal Officer for COVID-19, hospital infection control committee, MBBS curriculum revision program of AIIMS; Nodal officer for various committees and National Programs of national importance; Member of student wellness committee and Institute selection committee for senior residents/Nurses; Member of various hospital purchase committee; National moderator of NBE exams and was also the external and internal examiner for the subject of Emergency Medicine at AIIMS and other postgraduate institutes (2022-23); Board members for the Pediatric Emergency Medicine, Diplomate National Board fellowship program; Contributed immensely in the development of proposed new Emergency block which will help in catering 2 lakhs patients; Vision to start preventive Emergency Medicine OPD as a long-term plan; One of the members for formulating the National Guidelines for caustic Ingestion injuries and its management under Indian Society of Gastroenterology; Member of various Scientific Committees like Asia Pacific Association of Medical Toxicology; Committed to quality patient care, research, and various teaching programs of the Institute.

**Dr Tej Prakash Sinha** was involved in Emergency and trauma care system building; Involved in assessing the status of facility-based emergency and injury care system in secondary and tertiary care in India and providing technical advice to the NITI Aayog in building emergency care system; Involved in training of postgraduate students for using point of care ultrasound in acute/emergency care including its use in disaster scenarios; Chief guide for point of care ultrasound related thesis and other thesis as co-guide; Educational Sub-committee Co-Chair of global emergency medicine research network “Emergency Medicine Education & Research by Global Experts (EMERGE)” with a vision to transform lives globally through emergency care research; Officer of WHO-collaborating centre for Emergency and Trauma in the region and have been working collaboratively with various states of India and member countries of SEARO for Emergency medicine in building systems of integrated emergency and trauma care in India and SEAR region.

**Dr Meera Ekka** was Reviewer of various international journals and is on editorial board of Annals Clinical Case Studies; Member of Asia Pacific Association of Medical Toxicology, Association of Physician of India and Emergency Medicine Association of India; Delivered 4 lectures at institute level; Published six articles in international and national indexed journals; Co-author of three oral presentation in national conference; Associate editors of Washington manual of Emergency Medicine, SAE and contributed one chapter on COVID-19 disease in the same manual; Faculty In-charge, store and nodal officer for equipment audit for the Department of Emergency Medicine; Nodal officer for parliament affairs for Emergency Department from AIIMS; Involved in initiation of Triage and Screening OPD in the department; Part of quality improvement projects for pain-free Emergency Department; Teaching faculty for SET Facility and has developed a teaching module on “needle decompression in tension pneumothorax” for MBBS students; Teaching faculty for AIIMS Emergency ECG and comprehensive Emergency and trauma care training of medical/paramedical CAPFS course run by the department; Chief guide of nine Emergency Medicine postgraduate students and moderates postgraduate students for various seminars and journal clubs in seminars conducted in the department; Teaching faculties for the proposed Toxicology Fellowship Program; Member of purchase committee for various equipments for the department at institute level; Started one registry study on acute chest pain and heart failure in Emergency Department; Working on acute poisoning registry; Along with her 5 postgraduate students designed, studied, completed, and submitted 5 research studies as thesis project; Her three postgraduate students presented (oral) their thesis in national emergency medicine conference in October 2022 in Goa.

**Dr Akshay Kumar** was involved in establishing emergency care network in Delhi; Nominated by Director to be part of the 4-person committee establishing inter-hospital transfer in Delhi; Presented the conceptual model of inter-hospital transfer between Delhi Hospitals to the Medical Superintendents of various hospitals in Delhi; In March 2023, he was part of the team visiting the office of the Lieutenant Governor to establish inter-hospital transfer policy; Involved in key initiatives to improve inter-hospital patient transfer between emergency departments across the state of Delhi and as part of the effort, visited Indira Gandhi Medical College in Dwarka and Charak Pallika Hospital in Moti Bagh, New Delhi; Led and completed a key quality improvement project and brought improvement in airway management improving the first pass success rate to over 82%; invited as a faculty at the National Emergency Board Review of India Course in February 2023, Paediatric Emergency Medicine Workshop (EMPART 2023) and at the 1st International Kerala Emergency Medicine Summit in March 2023; Involved in Training and Capacity Building of doctors and nurses working in emergency department from across Delhi; Delivered lectures at workshops, such as Acute Critical Care Courses and ECG Workshop; Part of the technical expert team invited by the Ministry of Health and Family Welfare and involved in developing key performance indicators for establishing clinical governance in district hospitals of India and also part of the technical team involved in developing emergency management algorithms for common diseases presenting to the emergency department. The Health Ministry led operational guideline was published in March 2023; 9 publications in indexed journals and is the corresponding author in 4 papers.

**Dr Prakash Ranjan Mishra** was involved in training residents and post-graduate students in Point-of-care ultrasound, trauma care and ‘simulation-based teaching’; Developed the ‘AIIMS Emergency ECG Course’ and has conducted many sessions of the workshop as Course director and teaching faculty; Trained doctors from government hospitals across Delhi in emergency ECG skills where the workshop was a part of inter-hospital training for Delhi government doctors, led by AIIMS, New Delhi; Course faculty for the Paediatric emergency and trauma workshop (EMPART and EPICON-2023) and moderator for the Consultative Haematology workshop (National haematology update - XII) organized at New Delhi; Participated actively in academics of the department as a moderator during seminars, journal clubs, tabletop sessions and as a panellist during panel discussions; Involved in organizing and teaching several skill workshops including, paediatrics, ACLS and trauma emergency skills to post-graduate students; Teaching faculty for SET facility in the institute and has developed e-modules for training of students; Associate editors of Washington manual of Emergency Medicine, SAE edition; Part of departmental quality improvement program and has actively participated in mortality meetings and QI programs of the department. In view of his administrative skills, he was the roster-in-charge of residents working in the department, has been a part of store purchase committee, is an officer in the team for equipment audit for the department of Emergency Medicine, is the Assistant central public information officer for RTI from the department, nodal officer for content update related to department of Emergency Medicine on AIIMS website, nodal officer for process of NABL accreditation for point-of-care laboratory of emergency department, and nodal officer for management of heat-related illnesses at main AIIMS. Two publications in peer reviewed indexed journals in the current year; Principal investigator in two ongoing research projects, co-investigator in two projects; Chief thesis guide for two post-graduate students, co-guide for 20 postgraduate candidates of the department and co-guide for a PhD student from the department of Biochemistry. His long-term vision is strengthening emergency care services in the country and creating a robust Emergency Medicine department at AIIMS, New Delhi.

**Dr Vineeth Chandran KP** was actively involved in the evaluation and management of patients presenting to the emergency department of both AIIMS and JPN Apex Trauma Centre; Oversees the administrative management related to the patient; Planning and execution of management plans in mass casualty incidents like Holi at JPN Apex Trauma Centre; Faculty at the National Emergency Board Review of India Course in February 2023 and Paediatric Emergency Medicine Workshop (EMPART-2023) held at New Delhi; Actively involved in academics of the department and participated in Panel discussion sessions organized by the Department of Emergency Medicine, AIIMS, New Delhi.

## 9.11 Endocrinology and Metabolism

### Professor and Head

Nikhil Tandon

### Professors

Ravinder Goswami

Rajesh Khadgawat

Viveka P Jyotsna

### Additional Professor

Yashdeep Gupta

### Assistant Professors

Alpesh Goyal  
(w.e.f. 29.11.2022)

Rahul Gupta  
(w.e.f. 29.11.2022)

Ashutosh Kumar Arya  
(w.e.f. 30.11.2022)

### HIGHLIGHTS

The department is engaged in many academic activities such as Endocrine-Pathology Conference every alternate week, Endocrinology-Surgery-Nuclear Medicine (Wednesday) and Endocrinology-Radio diagnosis (Friday) meet every week. There are Seminars (Wednesday), Journal Club (Friday) and Clinical class (Thursday) every week. During these academic events the topics of clinical importance and recent high impact articles are discussed. The Department runs daily outpatient facilities, has state-of-the-art laboratory services for hormone assays, metabolic studies and bone density measurement. Due to COVID-19, majority of the academic activities of the department were conducted in virtual mode during the year.

### EDUCATION

#### Undergraduate, Postgraduate, Paramedical Training

The department was actively involved in teaching undergraduate medical students and nursing students. Postgraduate students (MD) from Internal Medicine and Geriatric Medicine come for one and two-month postings to the department. In addition, postgraduate fellows enrolled in MCh Breast and Endocrine Surgery, DM Nuclear Medicine, DM Reproductive Medicine Residents from Department of Obstetrics and Gynaecology and MSc Reproductive Biology also rotated for a period of 2-4 weeks in the department.

#### Long- and Short-Term Training

- Two candidates joined the DM course [Three General (July 2022), Two General (January 2023), One sponsored seat vacant].
- No candidate for short-term training.

#### CMEs/Workshops/Symposia/National and International Conferences

##### National and International Conferences/Lectures delivered

1. "Pathophysiology and emerging drivers of type 1 diabetes", Dr Usha Sriram, DIWAS & DiDi Team Session: "Diabetes in women and children", 2 April 2022, Virtual
2. Cushing's Disease at the Endocrine Masterclass: Faculty discussion for Case Discussion, CMC Vellore, 8 April 2022, Virtual
3. Decolonizing Global Health - A Panel discussion, Emory University, Atlanta, USA, 18 April 2022, Virtual
4. "Management of Hyperthyroidism", 5th Annual Conference of "SPEED-SPEEDCON 2022", 30 April 2022, Gurugram
5. "Cushing's Syndrome", CMC Vellore, 6 May 2022, Virtual
6. "Gestational diabetes - The post-delivery years A decade-long journey", Research Society for the Study of Diabetes in India (RSSDI): "RSSDI Research Retreat", Pune, 28 May 2022, Virtual
7. Youth Onset Diabetes: A Pan India Narrative Update on Type 2 Diabetes, Diamond Jubilee Celebrations of BYL Nair Ch. Hospital and TN Medical College, Mumbai, 19 June 2022, Mumbai
8. "Diabetes Management in chronic kidney disease: A practical approach", Diabetes Care Foundation of India (Nagpur) 8th Hello Diabetes Academia 2022: International Conclave, Nagpur, 25 June 2022, Virtual

9. "Diabetes Management in Chronic Kidney Disease", Academic Session: Sri Lanka Association of Clinical Pharmacology and Therapeutics (SLACPT): Symposium on cardio-vascular diseases, Colombo, Sri Lanka, 27 June 2022, Virtual
10. "A Comprehensive Approach to Bone Health - Calcium, D and other non-pharmacologic measures", Indian Society for Bone & Mineral Research (ISBMR): CME on "Bone Health Drive" for Orthopedic Surgeons, Delhi, 2 July 2022, Virtual
11. "Teacher-Researcher-Policy Maker", CME-cum-workshop program titled, "Endocrine Entrepreneurship" organized by All India Institute of Diabetes and Research (Non-Profit Organisation), Goa, 10 July 2022, Virtual
12. "LIVING - our trial on lifestyle intervention", Madras Diabetes Research Foundation, "Dr Mohan's International Diabetes Update 2022 Symposium: **Gestational diabetes mellitus (GDM)**", 24 July 2022, Virtual
13. "Steroids and COVID: concerns, caveats, consequences" ar, Symposium Session: COVID-19 AND Endocrine Care - Tweak topics to highlight, 26 August 2022, Virtual
14. "COVID-19: Impact on Endocrinology", 20th International Congress of Endocrinology, 18th Asia Oceania Congress of Endocrinology and 21st Asean Federation of Endocrine Societies Congress, 28 August 2022, Virtual
15. "Cushing Disease: Our experience", King Edward Memorial Hospital, Mumbai along with Maharashtra Endocrine Society, 17 September 2022, Mumbai
16. "Improving quality of care across the health system: Harnessing technology and non-physician health care providers", National Conference of RSSDI, 7 October 2022, Chennai
17. "Lifetime Achievements Award", National Insulin and Incretin Summit 2022, 19 November 2022, Bangalore
18. "GDM-longterm outcome" A panel discussion for the NUCD programme, KIDS Hospital, 15 January 2023, Virtual

**Lectures delivered: 27**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
59	44	27

**List of oral papers/posters presented in International Conference: 1**

**Oral/poster presentations over past 3 years**

2020-2021	2021-2022	2022-2023
2	2	1

**RESEARCH**

**Funded projects**

**Ongoing**

1. SARS-CoV-2 infection(COVID-19) related clinical outcomes among people with and without diabetes and/or hypertension in India- A hospital based observational study, Dr Nikhil Tandon, ICMR, 1¼ years, 2022-2023, Rs 45,21,300
2. Integrated Tracking Referral, and Algorithmic Management (I-TREC) System for Hypertension and Diabetes Institution, Dr Nikhil Tandon, NIH, USA, 6 years, 2017-2023, \$649,748
3. Development of Phase II Clinical Trial for an Investigational New Drug, Dr Nikhil Tandon, Torrent Pharma, 9 years, 2014-2023, Rs 84,53,212
4. ICMR - Young Diabetes Registry (YDR) & YDR cohort - Phase III", Dr Nikhil Tandon, ICMR, 3 years, 2020-2023, Rs 2,70,26,286
5. Centre for Advanced Research and Excellence (CARE) in Young Diabetes, Dr Nikhil Tandon, ICMR, 5 years, 2019-2024, Rs 1,04,95,880
6. SOUL - Semaglutide cardiovascular outcomes trial in patients with type 2 diabetes, Dr Nikhil Tandon, Novo Nordisk India Pvt Ltd, 5 years, 2019-2024, Rs 30,00,000
7. Long-term effects of semaglutide on diabetic retinopathy in subjects with type 2 diabetes (FOCUS), Dr Nikhil Tandon, Novo Nordisk India Pvt Ltd, 5 years, 2019-2024, Rs 27,50,000

8. Changing diabetes in children, Dr Nikhil Tandon, Novo Nordisk India Pvt Ltd, 11 years, 2012-2023, Rs 25,00,000
9. To develop a strategy for postpartum follow up of woman with history of gestational diabetes mellitus by using the right test and frequency of testing and developing patient centric approach after incorporating their views, Dr Nikhil Tandon, Lupin Ltd, 5 years, 2018-2023, Rs 40,41,400
10. Evaluation of maternal and fetal outcomes in women diagnosed with GDM or normoglycaemia using IADPSG criteria, among women diagnosed with normoglycaemia by DIPSI criteria: Prospective multi-centre observational cohort study, Dr Nikhil Tandon, ICMR, 3 years, 2022-2025, Rs 72,44,005
11. Vitamin D deficiency and bone microarchitecture in asymptomatic healthy Indians: Exploring the functional significance of low serum 25(OH)D and high PTH, Dr Ravinder Goswami, DBT, 4 years, 2019-2023, Rs 76,00,000
12. One alpha hydroxyl vitamin D versus 1,25 dihydroxy vitamin D for achieving optimal calcemic and phosphatemic control in patients with idiopathic hypoparathyroidism, Dr Ravinder Goswami, ICMR, 2 years, 2021-2023, Rs 31,20,076
13. Neuropsychiatric and cognitive dysfunctions in hypoparathyroidism, its natural course after 10 years of follow up in patients with idiopathic hypoparathyroidism on conventional therapy and effect of these dysfunctions on theorcalcemic control, Dr Ravinder Goswami, ICMR-DHR, 3 years, 2023-2025, Rs 54,0000
14. A randomised, multinational, active-controlled,(open-labelled), dose finding, (double-blinded), parallel group trial investigating efficacy and safety of once-weekly NNC0195-0092 treatment compared to daily growth hormone treatment in growth hormone treatment naïve pre-pubertal children with growth hormone deficiency, Dr Rajesh Khadgawat, Novo Nordisk, 6 years, 2017-2024, Rs 30,00,000
15. A Randomized, Double-blind, Placebo-controlled, Parallel-group, Multicenter Study to Evaluate the Effect of Efglenatide on Cardiovascular Outcomes in Type 2 Diabetes Patients at High Cardiovascular Risk, Dr Rajesh Khadgawat, Sanofi Aventis, 5 years, 2018-2023, Rs 20,00,000
16. A trial comparing the effect and safety of once weekly dosing of somapacitan with daily Norditropin® in children with growth hormone deficiency, Dr Rajesh Khadgawat, Novo Nordisk, 6 years, 2018-2024, Rs 10,00,000
17. Efficacy and safety of oral semaglutide versus oral placebo both in combination with metformin and/or basal insulin in children and adolescents with type 2 diabetes, Dr Rajesh Khadgawat, Novo Nordisk, 3 years, 2020-2023, Rs 25,00,000
18. To study the effect of changes in growth hormone status on metabolomic profile of human subjects, Dr Rajesh Khadgawat, ICMR, 3 years, 2021-2023, Rs 29,00,000
19. Molecular Genomics of congenital Growth Hormone Deficiency and GH sensitivity, Dr Rajesh Khadgawat, Self funded, 3 years, 2021-2023, Self funded
20. A 26-week, randomised, multicentre, open-label, active-controlled, parallel group, two armed, treat-to-target trial investigating the effect on glycaemic control and safety of treatment with once weekly Insulin Icodec compared to once daily Insulin Degludec, both in combination with Insulin Aspart in adults with type 1 Diabetes, with a 26-week extension investigating long term safety, Dr Rajesh Khadgawat, Novo Nordisk, 4 years, 2021-2026, Rs 34,95,400
21. A dose-finding trial evaluating the effect and safety of once-weekly treatment of somapacitan compared to daily Norditropin® in children with short stature born small for gestational age with no catch-up growth by 2 years of age or older, Dr Rajesh Khadgawat, Novo Nordisk, 5 years, 2020-2025, Rs 25,00,000
22. A randomized, controlled, multicentre study to evaluate the safety and efficacy of paltusotine in subjects with non-pharmacologically treated acromegaly, Dr RajeshKhadgawat, Crinetics, 4 years, 2022-2025, Rs 38,34,170
23. An open label multicentre roll over study to assess long term safety in patients with endogenous Cushings syndrome who have completed prior Novartis sponsored osilodrostat (LCI699) study and are judged by the investigator to benefit from continued treatment with osilodrostat, Dr Viveka P Jyotsna, Novartis/IQVA, 6 years, 2019-2024, Rs 30,00,000
24. Effect of comprehensive sleep programme on sleep quality and glycemic/metabolic control in patients with diabetes mellitus: A randomized control trial, Dr Viveka P Jyotsna, Department of Health Research, 3 years, 2023-2026, Rs 20,16,882
25. To evaluate the effectiveness of lifestyle intervention program in overweight/obese women [within two years of last child birth] when delivered to them along with their spouse as compared to them alone: Two arms parallel Randomized Control Trial, Dr Yashdeep Gupta, ICMR, 4 years, 2019-2023, Rs 47,00,000

26. To generate normative data using continuous glucose monitoring system for glycemia in pregnancy at 24 to 32 weeks of gestation in women defined as normal by IADPSG (International Association of Diabetes and Pregnancy Study Groups) criteria, Dr Yashdeep Gupta, ICMR, 3 years, 2021-2024, Rs 45,00,000
27. To develop and evaluate the effectiveness of multidisciplinary education and care model for individuals with diabetes affected with COVID-19: A two-arm parallel Randomized Control Trial, Dr Yashdeep Gupta, ICMR, 3 years, 2022-2025, Rs 74,00,000

#### ***Completed***

1. Comparison of Seroprevalence of SARS-CoV2 among people with and without diabetes and/or hypertension among existing cardio-vascular community cohort in National Capital Region (NCR) of Delhi, Dr Nikhil Tandon, ICMR, 1¼ years, 2021-2022, Rs 58,51,650
2. To Study the prevalence of Primary Aldosteronism among the patients of essential hypertension, Awarded to UG students; Mentor - Rajesh Khadgawat, AIIMS UG Research grant, 1 year, 2021-2022, Rs 2,00,000
3. Performance analysis of point of care device for HbA1c developed indigenously against gold standard of HbA1c HPLC-123G8 machine (by High Performance Liquid Chromatography), Dr Viveka P Jyotsna, ICMR, 2½ years, 2019-2022, Rs 22,88,494
4. Metabolic profiling as per glycemic status [normoglycemia/prediabetes/diabetes] in women with a history of gestational diabetes mellitus (GDM) - A cross-sectional study, Dr Yashdeep Gupta, AIIMS-THSTI, 2 years, 2020-2022, Rs 20,00,000

#### **Departmental Projects**

##### ***Ongoing***

1. Etiological and clinical profile of patients with ectopic ACTH syndrome: Ambispective study
2. Pattern of islet antibodies and their persistence in Type 1 Diabetes patients from North India
3. Vitamin D status and its functional significance
4. Molecular aspects in the pathogenesis of Basal ganglia calcification in hypoparathyroidism
5. Characterization of Neuroendocrine Tumors with Ga68-DOTANOC PET/CT and F18- FDG PET/CT and compare results with histopathology
6. Assessing Indian vegetarian diets with respect to their “potential protective impact” on cardio-metabolic health of urban adults in Delhi
7. To study the effect of personality on diet quality & academic performance among adolescents: a comparison between boys & girls
8. To study the prevalence of primary aldosteronism in high risk subjects with hypertension
9. To study the response to vitamin D treatment in obese, overweight and normal BMI, vitamin D deficient Indian children aged 5 to 12 years-an open labelled randomized intervention study
10. To study the management outcomes in patients with primary aldosteronism
11. Evaluation and characteristics of multiple Endocrine neoplasia in cases with primary hyperparathyroidism admitted in Endocrine ward over last 10 years : an ambispective study
12. Etiological and clinical profile of non-diabteichypoglycemia: an ambispective study.
13. Long-term treatment outcomes of Acromegaly in a tertiary care center in India-an ambispective observational study
14. Clinical, biochemical, radiological profile and treatment outcome of patients with tumor induced osteomalacia: an ambispective study

##### ***Completed***

1. To study the clinical spectrum/profile of MEN syndrome patients in North India
2. The comparison of Freestyle Libre Pro and Medtronic CGMS for glucose monitoring, using self-monitored glucose values (using blood glucose meter) as reference in women with hyperglycemia in pregnancy
3. To study and compare the prevalence of Non-Alcoholic Fatty Liver Disease in women with and without previous history of Gestational Diabetes
4. To generate normative data for glycemic levels and pattern using CGMS for normoglycemic pregnant women during early pregnancy (<20 weeks) and compare this with glycemic levels of women fulfilling IADPSG criteria for GDM

5. Modalities of therapeutic intervention and assessment of multisystem complications in Idiopathic Hypoparathyroidism
6. A 26-week, randomised, multicentre, open-label, active-controlled, parallel group, two armed, treat-to-target trial investigating the effect on glycaemic control and safety of treatment with once weekly Insulin Icodec compared to once daily Insulin Degludec, both in combination with Insulin Aspart in adults with type 1 Diabetes, with a 26-week extension investigating long term safety.
7. To Study the prevalence of Primary Aldosteronism among the patients of essential hypertension.
8. Characterization of Neuroendocrine Tumors with Ga68-DOTANOC PET/CT and F18- FDG PET/CT and compare results with histopathology
9. Assessing Indian vegetarian diets with respect to their “potential protective impact” on cardio-metabolic health of urban adults in Delhi
10. To study the effect of personality on diet quality & academic performance among adolescents: a comparison between boys & girls
11. To study the prevalence of primary aldosteronism in high risk subjects with hypertension
12. To study the response to vitamin D treatment in obese, overweight and normal BMI, vitamin D deficient Indian children aged 5 to 12 years - an open labelled randomized intervention study
13. To study the management outcomes in patients with primary aldosteronism
14. To study the prevalence of vitamin D deficiency in pregnant women at first and third trimester during the routine care
15. Correlation between first trimester glucose screening & serum insulin levels with development of gestational diabetes mellitus in pregnancy
16. Prevalence of thyroid peroxidase antibody positivity in pregnant Asian-Indian subjects
17. To assess the prevalence of vitamin D deficiency in patients with non-traumatic fracture of hip
18. To study the clinical, biochemical and radiological features of primary hyperparathyroidism: impact of vitamin D nutrition and histopathology
19. To Study Carotid Intima Media Thickness (CIMT) As A Marker Of Atherosclerosis And Its Correlation To Insulin Resistance In Children With Obesity In The Age Group Of 4-18 Years
20. To study the correlation of serum vitamin D level with insulin resistance and beta cell function in subjects with obesity in the age group of 6-18 years
21. Assessment of arterial stiffness in obese children and adolescents in the age group of 6-18 years
22. To study the impact of adiposity on serum androgen parameters in apparently healthy male subjects
23. To study determinants of insulin resistance in children and adolescents with obesity
24. Study of mitochondrial defects and VDR polymorphisms in Type 2 Diabetes
25. A Randomized Double Blind Controlled Trial to Investigate the Effects of Vitamin D Supplementation on Insulin Resistance and Beta cell function in obese Asian-Indian Subjects, aged 11-17 years
26. To study the variability in content strength of commercially available cholecalciferol preparations in India
27. Phenotype and radiological correlation in children with growth hormone deficiency
28. To study pituitary morphometry across different age groups
29. To study the determinants of insulin resistance in Asian Indian children with obesity aged 11-17 years
30. Effect of Vitamin D supplementation on pancreatic  $\beta$  cell functions in obese Indian subjects: A randomized controlled trial.
31. To compare the efficacy of 90,000 and 1,80,000 IU oral single dose vitamin D for treatment of rickets in 6 month to 5 years of age
32. Determinants of bone mass in Asian Indian newborns - Nutritional perspective
33. To study the effect of parental origin of X-chromosome on clinical features and biochemical profile in patients with Turner syndrome
34. Evaluation and characteristics of multiple Endocrine neoplasia in cases with primary hyperparathyroidism admitted in Endocrine ward over last 10 years: an ambispective study

**Research projects over past 3 years – Dr Nikhil Tandon**

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	12	10	10
Total funding	13,48,64,133	12,22,44,414	12,36,36,769

**Research projects over past 3 years – Dr Viveka P Jyotsna**

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	2	2	2
Total funding	52,42,374	42,88,494	40,16,882

**Research over past 3 years – Dr Yashdeep Gupta**

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	3	3	3
Total funding	1,50,00,000	1,50,00,000	1,60,00,000

**Collaborative projects****Ongoing**

1. Pathogenesis of primary parathyroid adenoma, Departments of Pathology, Forensic Medicine and Anatomy
2. Study to quantify the burden of Insulin resistance in breast cancer women and its relation with other known prognostic and predictive factors of breast cancer (2021-2023), Department of Surgery, AIIMS
3. A randomised control trial to compare the safety and outcome of trans-oral vestibular and axillo-breast approach for endoscopic hemithyroidectomy in patients with benign thyroid swellings. (2021-2024), Department of General Surgery, AIIMS
4. Evaluation of role of platelet rich plasma in healing of chronic diabetic and peripheral arterial disease ulcers as compared to standard medical care: a randomised control study.(2021-2024), Department of Surgery, AIIMS
5. Effect of benfotiamine as an adjuvant drug on oxidative stress in patients with type 2 diabetes mellitus - a randomized double-blind placebo-controlled clinical trial. (2021-2024), Department of Pharmacology, AIIMS
6. Identification of genetic mutation in neuroendocrine tumors: Implication in diagnosis and management (2020-2023), Department of Anatomy, AIIMS
7. Assessment of risk factors of Graves orbitopathy and predicting odds of dysthymic optic neuropathy in hyperthyroidism. (2021-2024), Department of Ophthalmology, AIIMS

**Collaborative projects****Completed**

1. Correlation of Levator-Muller's Complex Thickness on UBM with Clinical Response to Botulinum Toxin A injection in Patients with Thyroid-related severe Retraction of Upper Eyelid, Department of Ophthalmology, AIIMS
2. A Prospective study to determine early predictive factors of hypocalcemia in patients undergoing total or completion thyroidectomy, Department of Otorhinolaryngology, AIIMS

**Publications****Journal: 54****Abstract: 19****Patient Care****OPD/Clinic attendance from 1 April 2022 to 31 March 2023**

Endo New Patient	Endo Old Patient	PAE Clinic	DOY Clinic	GDM Clinic	Total
13654	44021	785	1866	564	60890



**Month wise break-up for OPD attendance from 1 April 2022 to 31 March 2023**

Month	New Patient	Old Patient	PAE Clinic	DOY Clinic	GDM Clinic	Total
April, 2022	1102	3173	48	157	31	4511
May, 2022	1140	3410	70	144	30	4794
June, 2022	1244	3709	49	136	25	5163
July, 2022	1238	3619	55	184	62	5158
August, 2022	1174	4080	71	154	42	5521
September, 2022	1276	4092	75	129	44	5616
October, 2022	1015	3421	56	181	42	4715
November, 2022	1140	4061	87	144	64	5496
December, 2022	991	3129	124	173	91	4508
January, 2023	1031	3609	61	167	34	4902
February, 2023	1097	3659	28	152	35	4971
March, 2023	1206	4059	61	145	64	5535
<b>Total</b>	<b>13654</b>	<b>44021</b>	<b>785</b>	<b>1866</b>	<b>564</b>	<b>60890</b>

**Inpatient and other patient related details may please be seen in Hospital (Medical Record Division)**

**Laboratory Services**

**Hormonal assays**

No.	Hormone	Tube assays done	No.	Hormone	Tube assays done
1	T4	15267	17	CT-II	95
2	TSH	20628	18	GAD65	635
3	TPO	2855	19	F T4	7102
4	LH	2787	20	T3	4146
5	FSH	2748	21	F T3	1918
6	PRL	3178	22	IGF 1	2087
7	CORTISOL	5406	23	E2	1293
8	TESTOSTERONE	2454	24	ALDOSTERONE	1349
9	DHEA	1565	25	RENIN	1149
10	17 OHP	365	26	FGF 23	207
11	ACTH	2508	27	OSTEOCALCIN	182
12	PTH	4187	28	IA2	246
13	25 OHVITAMIN D	5724	29	ZnT8	400
14	INSULIN	7523	30	β CROSS LAPS	285
15	C PEPTIDE	3696	31	TP1NP	285
16	GH	1260	<b>GRAND TOTAL</b>		<b>103530</b>

We have started steroid hormone estimations by Liquid chromatography - Mass spectrometry (LC-MS) method on Sciex QTRAP 6500+ Mass spectrometer installed in our Immunoassay laboratory. Currently we are reporting testosterone (for female patients) and 17-OH progesterone by LC-MS method, having better sensitivity than immunoassays.

Currently, we are in process of establishing LC-MS based measurements of plasma-free metanephrines (metanephrines, normetanephrine and 3-methoxy tyramine) in patient's samples in our immunoassay laboratory.

## Biochemical investigations

No.	INVESTIGATION	NUMBER OF SAMPLES
1	Blood glucose	24054
2	Glycated hemoglobin (HbA1c)	21780
3	Urine pH	114
4	Osmolality (urine and serum)	740
5	Lipid Profile	13028
6	tTG Elisa test	1085
	<b>Total tests</b>	<b>60801</b>

### Specialty Clinics:

- Diabetes of Young (DOY) Clinic on Saturdays
- Paediatric and Adolescent Endocrine Clinic (PAEC) on Monday afternoons
- Gestational Diabetes Mellitus (GDM) Clinic on Friday mornings
- Community services/camps

The department regularly holds camps especially awareness and screening programs on obesity, PCOS, diabetes, and thyroid disorders.

### Sessions Conducted for Media and General Public:

#### Prof Nikhil Tandon

Sl. No.	Subject	Channel	Date	Medium
1.	Health Programme for Public Awareness on Diabetes	Producer, Health Show, All India Radio (AIR), Akashwani Bhawan	6 April 2022	Hindi/English
2.	Panelist for an Interactive session – As Endocrinologist	NDTV	3 August 2022	Virtually

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Nikhil Tandon** was nominated by Director-General, World Health Organisation (WHO) to serve on the 13th General programme of Work (GPW 13) Measurement and Impact Framework Committee, Geneva, Switzerland; Member, Expert Panel of the Joint Global Health Trials scheme (Medical Research Council UK/DFID/Wellcome Trust); Member of the KDIGO Management of Diabetes & CKD Guideline: Work Group; Nominated as Global Panel Member of the FOCUS study; Member of the Governing Body of the Institute of Medical Sciences, Banaras Hindu University, Varanasi; Nominated by the Ministry of Earth Sciences, Government of India as a Member of the National Coordination Committee for Polar Science Programme (NCCP), Antarctica; Member of the Governing Body of the National Institute of Health and Family Welfare (NIHFW), Ministry of Health and Family Welfare, Munirka, New Delhi; Nominated as a Chairman of the Selection Committee for the Selection of Medical Officers for the 38-Indian Scientific Expedition to Antarctica (ISEA), Goa; Vice President, National Board of Examination (NBE), New Delhi; Associate Editor, National Medical Journal of India (NMJI), New Delhi; Member, International Expert Advisory Group, Global Alliance for Chronic Disease; Member, NCD Policy Group of the Comprehensive National Nutrition Survey; Member, Council of the Indian Academy of Science; Member, Governing Council of the Sun Pharma Foundation; Member, Research Council of the CSIR-Institute of Genomics and Integrative Biology; Member, Selection Committee constituted by the National Academy of Sciences, India for Award of Fellowships and Memorial Lectures (Senior Scientist Platinum Jubilee Fellowship, Young Scientists Award, and NASI Memorial Lecture Award); External Member of the Selection Board at Dr Ram ManoharLohia Hospital, for selection of Assistant Professor (Endocrinology) on contract basis; Program chair of the Scientific Advisory Board for the “Endocrinology Masterclass” being organized by Centre for Control of Chronic Conditions and Public Health Foundation of India; Member, Technical Committee, Central Drug Standard Control Organisation, Drug Controller General of India, New Delhi; Member of the Scientific Committee of Chellaram Diabetes Institute and join the Editorial Board of “Chronicle of Diabetes Research and Practice”; Nominated by the Hon’ble HFM as a Member, Scientific Advisory Board (SAB), Indian Council of Medical Research (ICMR) for a period of 3 years. The SAB is entrusted to examine all proposals in connection with the scientific objects of ICMR; Nominated by the Chairman and Managing Director, SitaramJaipuria Foundation (SJF) to serve as Jury Member for SitaramJaipuria Medical & Healthcare Excellence Awards; Invited by Dr Samiran Nundy, Editor-in-Chief, Raxapedia to be a part of the Editorial Board to help peer-review and curate a set of best practices on Raxapedia that will be made instantly, freely available to all providers and

patients; Nominated by the HE the Governor of Uttar Pradesh/Visitor of the SGPGIMS, Lucknow as an External Expert of the Selection Committee for Assessment Promotions to the post of Associate Professor in the Department of Endocrinology (Clinical) at SGPGIMS, Lucknow on 15 November 2022 (through Video Conference); Nominated by the DG, CSIR as a Chairman of the CSIR-Major Laboratory Project on Phenome India-CSIR Health Cohort Knowledgebase (HCP 47) - Monitoring Committee and the meeting of the same held in March, 2023; Invited by the Chairman, Sun Pharma Science Foundation to participate in a National Seminar on "Surveillance of Communicable Diseases and Integration with the Health System: Lessons from Covid-19 to be held on 25 April 2022 in Delhi; Global Expert Panel Group meeting of the Project FOCUS (Co-Chair): 27 April 2022; Invited by the Indian Academy of Sciences to participate as Member in the Statutory Meeting of the Council of the Indian Academy of Sciences to be held on 9 July 2022 at Bengaluru; Invited by the Department of Biotechnology (DBT) to participate in the First Meeting of Apex Board of the Department of Biotechnology (DBT) to be held on 21 July 2022 (whole day meeting) at DBT, Lodhi Road, New Delhi; Expert for Selection of Suitable Faculty member in the specialty of Endocrinology & Metabolism at AIIMS, Vijaypur Jammu. The Selection committee held on 23 July 2022, Saturday 08.00 am onwards; Invited by the WHO South East Asia Regional Office to participate as an Expert to review and revise the draft plan for development of roadmap of WHO South East Asia Regional NCD Implementation roadmap 2022-23 meeting held on 13 June 2022 through virtual mode; Invited by the Ministry of Health & family Welfare, Government of India to participate in National workshop on "Accelerating the Progress towards Health and wellness-Evidence from NFHS-5" from 5-6 August 2022, New Delhi; Participated in a panel discussion on Emerging Burden of NCDs held on 6 August 2022; Collaborative project PRECISION-CARRS's Investigators Meeting, held on 12-13 October 2022 in Gurgaon, India; Invited by the Vice Chancellor, King George's Medical University to participate and deliver the 5th Dr APJ Abdul Kalam Oration held on 17 October 2022 at King George's Medical University, UP, Lucknow; Nominated by the Public Health Foundation of India (PHFI) as Co-Chair of the PHFI Research Advisory Council (RAC) along with Prof Howard Hu.; Invited by the IIT Bombay to join Advisory Board of AUDOSens Pvt Ltd (startup out of IIT Bombay, Dr Rohit Srivastava, Himanshu Patel Chair Professor, IIT Bombay, Powai, Mumbai; Nominated as India National Leader and Global Expert for the clinical trial ID: NN9838-4942 (Redefine 3), project titled, "The cardiovascular safety of cagrilintide 2.4 mg s.c. in combination with semaglutide 2.4 mg s.c. (CagriSema 2.4 mg/2.4 mg s.c.) once weekly in participants with obesity and established cardiovascular disease"; Leading expert in the panel discussion in preparatory workshop with reference to National Chief Vascularities Conference. The workshop held on 25 November 2022 (9.30 AM) at Jacaranda Hall, India Habitat Center, New Delhi; Invited by the National Heart, Lung and Blood Institute (NHLBI) of the National Institutes of Health (NIH) (is hosting a two-day virtual workshop title, "Advancing the Science of Community - Engaged Health Disparities Research" on 14-15 November 2022 (virtual mode)); As co-chair and speaker in the Novo Nordisk FOCUS clinical study Global Investigator Meeting in Denmark held on 8-10 November 2022. This is an ongoing research project registered in the Research Section, AIIMS (project titled "long-term effect of semaglutide on diabetic retinopathy in subjects with type 2 diabetes [FOCUS] Project Code No. 1977). Currently Co-Chair of the Global Expert Panel of the project; The Global Stakeholder Meeting in Copenhagen, Denmark, on 29-30 November 2022 organized by the Scientific Director, Translational Science, Novo Nordisk Fonden; The statutory meeting of the Council of the Indian Academy of Science held in Bangalore on 3 December 2022;; Invited by the Society for Promotion of Education in Endocrinology and Diabetes (SPEED) to serve as a Patron to the Curriculum for Type 1 Diabetes Education Program aimed at educating general physicians, paramedics and Type 1 Diabetes caregivers/patients. The SPEED is a not-for-profit making educational society involved in education dissemination to medical fraternity and patients; Invited by Prof D Prabhakaran, Executive Director, Centre for Chronic Disease Control (CCDC) to serve as Member of Treatment Optimisation for Blood Pressure with Single-Pill Combinations in India (TOPSPIN) trial Steering Committee (TSC); Invited by Prof Jayaram N Chengalur, Distinguished Professor and Director, Tata Institute of Fundamental Research (TIFR), Mumbai to be a Member of the Scientific and Technical Advisory Board of Advanced Research Unit on Metabolic, Development and Aging (ARUMDA) at TIFR held on 17-18 March 2023 at Hyderabad.

**Professor Ravinder Goswami** is Member for the 3rd International Task Force on Hypoparathyroidism Initiated by Endocrine Society of USA; Member Project Review Committee for Medical Projects, CSIR since 2015 till date; Member Core Committee of the Central Core Research Facility (CCRF); Subject expert for Endocrinology for selection of faculty member in Endocrinology at AIIMS, Bhubaneswar, Hyderabad; Nominated by the HE the Governor of Uttar Pradesh/Visitor of the SGPGIMS, Lucknow as an External Expert of the Selection Committee for Assessment Promotions to the post of Associate Professor in the Department of Endocrinology (Basic) at SGPGIMS, Lucknow on 15 November 2022 (through Video Conference); Physical Assessment of the facilities and Infrastructure for Endocrinology Course, at RML, Delhi for accreditation to DNB Endocrinology Course 2022

**Professor Rajesh Khadgawat** received Fellowship of Royal College of Physician (FRCP), Edinburgh, UK; was appointed as Board of Member of Aligarh Muslim University (AMU); Member, Scientific Council of Zandu Foundation of Health Research, Kolkata; Expert, National Anti-Doping Agency (NADA), Ministry of Youth Affairs and Sports, Govt of India; Endocrinology External expert, Japan Anti-Doping Agency (JADA), Japan; Board of Members (BOM), Rajasthan University of Health Sciences (RUHS), Jaipur; Member, Selection Board, Rajasthan University of

Health Sciences (RUHS), Jaipur; Member, SAE-Death committee, DCGI, Govt of India; Subject Expert Committee (Endocrinology), DCGI Govt of India; Subject Expert, National List of Essential Medicines (NLEM), Department of Health Research, Govt of India; Subject Expert, Standing National Committee on Medicines (SNCM), Department of Health Research, Govt of India; Member, Subject Review Committee, National Formulary of India (NFI), 6th edition; Member (Clinician), The Institutional Ethics Committee, University of Delhi South Campus; Member (Clinician), The Central Ethics Committee, Central Council for Research in Ayurvedic Sciences (CCRAS), Ministry of Ayush, Govt of India; Subject expert (Endocrinology) for faculty selection/promotion for Union Public Service Commission (UPSC), AIIMS-Bhopal, AIIMS-Bhubaneswar, AIIMS-Jodhpur, AIIMS-Raipur, AIIMS-Manglagiri, AIIMS-Kalyani, Rajasthan Public Service Commission (RPSC), PGI Rohtak and other State Public Service Commissions; Health camp in Kargil, Ladakh, 24 April to 1 May 2022 organized by Asoka Mission, New Delhi; Health camp in Kargil, Ladakh, 25 September to 1 October 2022 organized by Asoka Mission, New Delhi; Subject Expert in Athlete Biological Symposium organized by NDTL (National Dope Testing Laboratory) GoI, 12-14 October 2022; Participated in Interview Committee, National Medical Council (NMC), Delhi held on 14 November 2022; Physical Assessment of the facilities and Infrastructure for Endocrinology Course, Lucknow held on 3 December 2022; Dr Shurvir Singh Trust Oration, Award Ceremony, RNT Medical College held on 10 December 2022; Participated as External Examiner for virtual DM/PhD exams organized by West Bengal Health University, Banaras Hindu University (BHU), SMS Medical College, Jaipur, SKIMS, Srinagar, J&K; Participated as Chief coordinators and External Examiner for DNB Endocrinology Practical exams and physical inspection of hospitals for DNB (Endocrinology) organized by the National Board of Examinations (NBE); DNB Practical Endocrinology Exam 14-15 June 2022; NBE inspection - 3 December 2022; NBE inspection - 23 March 2023.

**Professor Viveka P Jyotsna** is Central Assistant Public Information Officer (CAPIO) of the Department of Endocrinology and Metabolism under Right to Information Act, 2005 at AIIMS since 2010 till date; Active Member of the subject expert committee (Endocrinology), New drug division, Drug Controller General, India, since January 2015 till date; Member of Department Purchase Committee, Dept of Endocrinology since January 2016; Reviewer for National and International journals: Indian Journal of Endocrinology and Metabolism, Indian Journal of Medical Research, Endocrine practice, Clinical Endocrinology, JCEM; Evaluated DM Endocrinology thesis of 2 students of Government Medical College, Thiruvananthapuram, Kerala University of Health Sciences, Thrissur, June 2022; Evaluated DM Endocrinology thesis of 2 students of DM Endocrinology, August 2022, Institute of Medical Sciences, Banaras Hindu University, Varanasi; Made MCQs for INI-SS Entrance exam for DM Endocrinology Exam Section 14 October 2022; Set question papers for DNB Endocrinology on 25 November 2022, at National Board of Examinations in Medical Sciences, Dwarka; Made MCQs for DNB Endocrinology question bank, December 2022.

#### **VISITING SCIENTISTS**

Due to spread of Covid-19, during the year nobody invited/visited the Department.

## 9.12 Forensic Medicine and Toxicology

### Professor and Head

Sudhir Kumar Gupta

### Professors

DN Bhardwaj                      OP Murty                      Millo Tabin  
Sanjeev Lalwani (JPNATC)                      Adarsh Kumar (JPNATC)  
Chittaranjan Behera

### Additional Professors

Kulbhushan Prasad                      Abhishek Yadav

### Assistant Professors

Swati Tyagi (JPNATC)                      Abilash S

### Scientist - 1

Nidhi Sharma (Group A Officer)

### Chemist

AK Jaiswal (Group A Officer)

### HIGHLIGHTS

The Department of Forensic Medicine and Toxicology is the apex referral centre for complicated medico-legal problems in India. The department is providing expert opinions in referred cases from the CBI, NIA, NHRC, courts, and crime branches of different states. It is involved in medico-legal autopsy, embalming of MLC deaths, clinical forensic medicine services, teaching, training, research, expert opinion in referred medico-legal cases, and court-related work. The department is running three laboratory services: toxicology, DNA fingerprinting, and histopathology, and three support services in the form of forensic radiology, forensic anthropology, and forensic biochemistry. A total of 1523 medico-legal autopsies were conducted. The facility of virtual autopsy (the Centre of Advanced Research and Excellence in Virtual Autopsy) is functional, and now it is catering to medico-legal autopsy with an objective for dignified management of dead bodies and also being used for research purposes. The department was awarded the 3rd best prize for exhibition at the Institute Day celebration in 2022. Two faculties from the University of Utah, USA, have visited the department for a research collaboration meeting. A total of 14 departmental research projects are continuing, and four have been completed. One collaborative project was completed, and 10 are continuing.

### EDUCATION

There are nine postgraduate (MD) students and three PhD students enrolled in the department.

### CMEs/Workshop/Symposium/Conferences

1. National CME on Practical Aspects of Research and Publication, 19 November 2022
2. Certificate Course in Forensic Science 30 September to 17 October 2022 in collaboration with Department of Chemistry, Kirori Mal College, University of Delhi
3. Faculty Development Program: Short Term Course in Forensic Nursing organized by Dte. GHS, Nursing Division, MoHFW, Government of India in collaboration with College of Nursing and Department of Forensic Medicine, AIIMS, New Delhi, ECHO-India on 20-21 April 2022

**Lectures delivered: 20**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
18	20	20

**List of oral papers/posters presented: 40**

**Oral/poster presentations over past 3 years**

2020-2021	2021-2022	2022-2023
1	9	40

**RESEARCH**

**Funded projects**

**Ongoing**

1. Centre of Advanced research and excellence in Virtual Autopsy, Dr Sudhir K Gupta, ICMR, 5 years, 2019-2024, Rs 5 Crores
2. Establishing the cause in sudden unexplained deaths in young, Dr Sudhir K Gupta, ICMR, 2 years, 2023-2025, Rs 87 lakhs
3. Determination of relationship in third degree maternal relative by mitochondrial DNA analysis, Dr Nidhi Sharma, AIIMS Intramural, 2 years, 2022-2024, Rs 10 lakhs

**Departmental projects**

**Ongoing**

1. Mitochondrial DNA analysis in post mortem samples under degrading conditions to establish relatedness
2. Age estimation by radiological study of bones and joints
3. Virtual autopsy findings vis a vis traditional autopsy finding in road traffic accidents cases.
4. A study of aspiration in medico legal autopsies by gross, histopathological and radiological examination
5. Estimation of Age by CT scan of pubic symphysis using Suchey Brooke's method in North Indian population- A digital autopsy-based study
6. PM CT Angiography
7. A comparative study of ethyl alcohol in human blood, urine, vitreous humor, and cerebrospinal fluid in cases brought for post-mortem examination in AIIMS mortuary
8. Computed Tomographic and morphometric analysis of dimensions and weights of internal organs in Indian population
9. Viability assessment of different organs and tissues in non-heart beating cadavers for transplantation purposes
10. CT Scan and Digital X-ray based virtual autopsy Vis A Vis traditional autopsy including histopathological examination findings in cases of death due to fatal pressure on neck
11. A comparative analysis of post-mortem CT findings with that of violent asphyxial deaths
12. Analysis of death due to poisoning, of 25 years of postmortem records (1996-2020) in the Dept of FMT, AIIMS, Delhi.
13. Trauma focused postvention module for family and friends of victims of completed suicide- development and validation
14. A comparative study of CT Scan and digital X-ray based on virtual autopsy and traditional autopsy including histopathological examination in various causes of death

**Completed**

1. Genetic association of cytokine gene polymorphisms with suicidal behavior in Indian population
2. Virtual autopsy findings vis a vis traditional autopsy findings in sudden deaths with cardiac origin
3. A comparative study of psychosocial risk factors and personality-behavioral dimensions between suicide note writers and non-note writers in completed suicides
4. Characterization of chronic kidney disease of unknown origin in patients attending Nephrology OPD of AIIMS, New Delhi- A cross-sectional study

**Collaborative projects**

**Ongoing**

1. Please do not list the names of faculty/guide/candidate or whether it is a PhD, DM, MD thesis, etc
2. If the faculty member from the department is the PI of a funded collaborative project, please provide details in the list of Funded projects above

3. If the PI is in another centre/department/section, please provide details here but only the information mentioned in the table below
  - a. Editing of Atoh1 in cadaver derived supporting cells for the regeneration of auditory cells, Dept. of Biochemistry and ENT
  - b. Epidemiological investigation of suicide deaths during the COVID-19 Pandemic in south and south- east districts of Delhi, Department of Community Medicine
  - c. Genetic landscape of cardiomyopathies, Department of Pathology
  - d. Sudden cardiac death in young: An autopsy and molecular study to identify the cause, Department of Pathology
  - e. An exploratory study on the interface of social media and completed suicides, Dept of Psychiatry
  - f. Comparison of suction verses microdissection method for harvesting supporting cell from inner ear, Dept of ENT
  - g. Development and method validation for Z-drugs and Tramadol analysis in biological matrices, National Forensic Science University, Delhi campus
  - h. The evaluation of STR markers in various global and Indian populations for exploring the correlation between genotype and geolocation, National Forensic Science University, Delhi campus
  - i. Evaluation of immune modulatory and antioxidant potential of a unani formulation, Department of Ocular Biochemistry, AIIMS
  - j. Impact of alcohol on dysregulation of inflammation and recovery of trauma hemorrhagic shock patients, JPNATC AIIMS

#### **Completed**

1. To study the extent of variation in ridge characteristics and determining gender among twins using their fingerprint characteristics, Dept. of Forensic Medicine & Toxicology, KMC, Manipal

#### **Research Projects over past 3 years**

Component	2020-2021	2021-2022	2022-23
Total number of projects	3	3	3
Total amount of funding received for research	Rs.69,76196/-	Rs. 72,70238/-	Rs.96,50110/-

#### **Publications**

**Journal: 27**

**Books & Monographs: 3**

Item	2020-2021	2021-2022	2022-2023
Total	33	29	30
Journal articles	33	29	27
Abstracts	0	0	0
Chapters in books	0	0	0
Books	0	0	3

#### **PATIENT CARE**

##### **1. Casualty services**

Providing round-the-clock medico-legal services like in cases of injury, sexual offences, poisoning etc. to the South and South-east district of Delhi

##### **2. Mortuary Services**

Total 1523 medico-legal autopsies were conducted at mortuary of main department.

##### **3. Clinical Forensic Medicine**

Total 578 cases of potency and other medico-legal examination brought by investigating officer and referred from court were dealt by the department. A total of 27 cases from CBI were dealt by medical board of the department. A subsequent opinion in complicated cases including reference from casualty etc. was offered in total 380 cases.

**4. Summons**

Doctors of the department attended court of law in 409 cases from Delhi and other states

**5. Medical Toxicology**

Total 249 cases received, 357 samples were examined, 1643 tests were performed for various poisons referred from the clinical department of AIIMS, medico-legal cases and in academic cases

**6. Forensic Histopathology**

The department is providing histopathology services for the samples of medico-legal autopsy cases from South and South-east district and also research purpose. Total 121 cases were done and 877 slides were made during this period

**7. Embalming facility**

The department is providing embalming facility for MLC cases (Postmortem cases). Total 134 cases of embalming were done during this period.

**8. Organ Retrieval for Therapeutic Transplantation**

Total 208 corneas from 104 donors were retrieved at mortuary for transplantation by National Eye bank.

**9. Forensic Radiology Services**

X-ray was done in 116 cases, for various medico-legal and academic purposes (both autopsy and live cases). CT Scan service was provided to 1214 cases for various medico legal and academic purposes during autopsy.

**10. Forensic Anthropology Services**

Age estimation for 16 cases referred from courts as well as sports authorities and also in academic cases.

**11. DNA Fingerprinting Laboratory**

DNA - Profiling of unidentified bodies sample (hairs, tooth pulp, Blood in gauze) processed: DNA Isolation, Quantitation of DNA and sample RUNS (186 cases and 125 runs for profiling). Research Samples (blood & saliva) processed for DNA Isolation and Quantitation of DNA (201 samples). Samples performed for other technique's-PCR: 912, Real Time PCR:64, Sequencing PCR: 105, RFLP: 233, STR Profiling:32

**Number of patient-care related activities - specialty clinics, procedures, investigations etc.**

Sl. No.	Item	2020-21	2021-22	2022-23	
	Medico legal Postmortem	1905	1906	1523	
	Clinical Forensic Medicine	Potency and other Medico-legal examination	467	554	578
		CBI Cases	25	39	27
		Subsequent opinion	348	289	380
	Summons	54	130	409	
	Toxicology Laboratory services No. of Tests	No. of cases	81	83	249
		226	283	1643	
	Embalming	59	97	134	
	Forensic Radiology Services CT Scan in no. of cases	X-rays in no. of cases	262	141	116
		-	991	1214	
	Forensic Anthropology Services (Age estimation) in no. of cases	69	10	16	
	Forensic Histopathology in no. of case	35	105	121	



DNA Fingerprinting Laboratory	<p>Paternity test: (02 cases and 6 runs).</p> <p>DNA –Profiling of unidentified bodies sample(s): (137 cases and 156 runs for profiling).</p> <p>Research Samples processed for DNA Isolation and Quantitation of DNA (68 samples, Real time PCR: 245 reactions, PCR: 6753 reaction)</p>	<p>- DNA –Profiling of unidentified bodies sample(s): (168 cases and 302 runs for profiling).</p> <p>Research Samples (blood &amp; saliva) processed for DNA Isolation and Quantitation of DNA (195 samples). Samples performed for other technique's-PCR: 1519, RFLP: 1033, Sequence reaction:47.</p>	<p>- DNA –Profiling of unidentified bodies sample(s): (186 cases and 125 runs for profiling).</p> <p>Research Samples (blood &amp; saliva) processed for DNA Isolation and Quantitation of DNA (201 samples). Samples performed for other technique's-PCR: 12, Real Time PCR:64, Sequencing PCR:105, RFLP: 233, STR Profiling:32.</p>
Organ Retrieval for Therapeutic Transplantation (No. of corneas retrieved)	113	56	208

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor OP Murty** was awarded Fellowship by Indian Academy of Forensic Medicine at IAFM Conference at Amritsar. Appointed as National Faculty by National University of Forensic Sciences, Ahmadabad.

**Professor Adarsh Kumar** delivered First MR Chandran Oration on “Virtual Autopsy” during First State Conference of Kerala Medico Legal Society “KMLECON-2023” held on 22 Jan 2023 at Jubilee Mission Medical College, Thrissur, Kerala. Elected Secretary General of Indo-Pacific Association of Law, Medicine & Science (INPALMS). Elected Vice President of Indian Academy of Forensic Medicine. Nominated Management Committee member of Asia Pacific Association of Medico Legal Agencies (APMLA). Board of Studies Member-External Expert in Forensic Medicine at Manipal University, Manipal, Board of Studies Member-External Expert in Forensic Sciences at The West Bengal University of Juridical Sciences, Kolkata, Research Advisory Board Member in Forensic Sciences and allied subjects of Jain University, Bengaluru. Research Advisory Committee member of National Forensic Science University, Ahmedabad and New Delhi campuses. Chairman, Disability Medical Evaluation Board at JPNA Trauma Centre.

**Professor Chittaranjan Behera** is member of the expert committee by DGHS for Creation of Digital DNA Labs and National DNA Bank for Digital record of DNA of all patients undergoing Post-mortem. Member of the expert committee by DGHS to discuss regarding single window system for post-mortem. Assistant editor of International Journal of Medical Toxicology & Legal Medicine, Associate Editor of IP International Journal of Forensic Medicine and Toxicological Sciences, Editorial board member of ARC Journal of Forensic Sciences, Annals of Forensic Research and Analysis, Sci. Fed Journal of Forensic, Journal of Forensic Medicine, IP International Journal of Forensic Medicine and Toxicological Sciences, Editorial advisory board of Indian Journal of Forensic Medicine and Toxicology.

**Dr Abhishek Yadav** received Certificate of Appreciation for contribution as Expert Speaker in Faculty Development Program: Short Term Course in Forensic Nursing organized by Dte. GHS, Nursing Division, MoHFW, Government of India in collaboration with College of Nursing and Department of Forensic Medicine, AIIMS, New Delhi, ECHO-India. Certificate of Appreciation for Guest speaker in 43rd Annual National Conference of Indian Academy of Forensic Medicine. Resource Faculty for Content Development and “Induction Training Programme for newly recruited Medical Officer” by Public Health Foundation of India. Expert on National Advisory Committee, Certificate Course in Forensic Science in collaboration with Department of Chemistry, Kirori Mal College, University of Delhi.

**Dr Kulbhushan Prasad** received Certificate of Appreciation as an expert speaker in faculty development programme: Short Term Course in Forensic Nursing organized by Dte. GHS, Nursing Division, MoHFW, Govt. of India in collaboration with College of Nursing, AIIMS, New Delhi. A Nodal Officer to develop Learning Management System (LMS) for Under Graduate Teaching: A project by the Ministry of Health and Family Welfare, Govt. of India initiative.

## 9.13 Gastroenterology and Human Nutrition

### Professor and Head

Anoop Saraya

### Professors

Pramod Garg  
Shalimar

Vineet Ahuja

Govind K Makharia  
Baibaswata Nayak

### Associate Professors

Saurabh Kedia

Deepak Gunjan

### Assistant Professor

Soumya Jagannath Mahapatra

### HIGHLIGHTS

The faculty, residents and PhD students of the department received many awards including best paper awards, travel grants in national and international conferences. The faculty of the department initiated and coordinated making of national guidelines on various GI diseases.

### EDUCATION

The department continued the training program for courses on DM in Gastroenterology, and PhD in Gastroenterology and Human Nutrition. The department also participated in the training of undergraduate and postgraduate students. The department initiated Advanced Fellowship Training program.

**Long-term training:**     **24 DM students**  
7 PhD students  
6 Advance Fellowships in Advanced Endoscopy, Hepatology,  
Pancreatology & IBD

### CMEs/Workshops/Symposia/National & International Conferences:

1. Academic Training programme for Senior Residents/Fellows on “Third Space Endoscopy on Animal Models”, at AIIMS, New Delhi, 10 June 2022
2. Academic training program for Senior Residents on “Full thickness resection devices on animal models” at AIIMS, New Delhi, 22 July 2022
3. Academic training programme for Fellows on Third Space Endoscopy on animal models, 10 October 2022
4. 4th APGE (Asia Pacific Association of Gastroenterology Clinical Forum of Inflammatory Bowel Disease and 7th National IBD Meet, CCFI) on 2-4 December 2022, New Delhi
5. Young Clinicians Program (YCP), Chennai, April 2022

### Lectures delivered at CMEs, National and International Conferences

1. Nutrition: How early, what and how? GASTROCON, 15-17 July 2022, Kolkata
2. Hepatic Osteodystrophy- Clinical Relevance, Indian National Association for Study of the Liver (INASL), 6-7 August 2022, New Delhi
3. Enteral nutrition in ICU, 6th PGI GI Emergency Postgraduate Program, 24-25 September 2022, Chandigarh
4. Nutrition: How early and what to feed? Indian Pancreas Club, 8-9 October 2022, New Delhi
5. Topic: Cystic lesions of Pancreas, UPISGCON Session: Pancreato biliary Disorders: Sticky Issues, 12 November 2022, Taj Ganges, Varanasi
6. Topic: Gut Liver Axis, Indian society of Gastroenterology Session: Hepatology, 5 January 2023, Rajasthan
7. Nutritional management of critically ill cirrhotic, Indian society of Gastroenterology Session: Management of Complications of Cirrhosis, 6 January 2023, Rajasthan
8. Diagnosis & implications of assessment of nutritional status in cirrhosis, CPLD 2023 Session: Muscle and liver, 26 February 2023, Lucknow

**Lectures delivered: 123**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
49	53	123

**List of Oral Papers/Posters presented: 63**

**Oral presentations over past 3 years**

2020-2021	2021-2022	2022-2023
18	40	63

**Research**

**Funded projects**

**Ongoing**

1. Sarcopenia in chronic pancreatitis: epidemiology, diagnosis and evaluation of etiological factors and molecular mechanisms responsible for sarcopenia (5/9/1074/2019-Nut), Dr Anoop Saraya, ICMR, 4 years, 1 August 2019 to 31 July 2023, Rs 78.84 lakhs
2. Role of gene-regulating and immunological markers in pathogenesis of pancreatic adenocarcinoma (5/13/49/2018/NCD-III), Dr Anoop Saraya, ICMR, 5 years, 3 December 2018 to 2 June 2023, Rs 98 lakhs
3. Centre for Advanced Research and Excellence in Intestinal Diseases, Dr Vineet Ahuja, Indian Council of Medical Research (ICMR), 5 years, 2019-2024, Rs 5 crores
4. To evaluate the role of phage transfer through fecal microbiota transplantation in causing anti-microbial gene depletion and intestinal decolonization from multidrug resistant organisms, Dr Vineet Ahuja, Indian Council of Medical Research (ICMR), 3 years, 2021-2024, Rs 57.35 lakhs
5. Crohn's Disease (CD) in South Asians: Defining disease biology for prevention and better treatment, Dr Vineet Ahuja, The Leona M and Harry B Helmsley Charitable Trust, 3 years, 2021-2024, Rs 1.02 crores
6. International study of COVID-19 Antibody Response Under Sustained immune suppression in IBD, Dr Vineet Ahuja, The Leona M and Harry B Helmsley Charitable Trust, 2 years, 2021-2023, Rs 9,24,000 lakhs
7. Epigenetic reprogramming of intestinal epithelial stem cells via gut microbiota derived metabolites in Ulcerative Colitis, Dr Vineet Ahuja, Science and Engineering Research Board (SERB), 3 years, 2020-2023, Rs 56.45 lakhs
8. Gut Microbiome - Regulators of the Intestinal Stem cell niche in Health and Inflammatory Bowel Disease, Dr Vineet Ahuja, MHRD-Scheme for Promotion of Academic and Research Collaboration (SPARC), 4 years, 2019-2023, Rs 45.97 lakhs
9. A Multicenter, Single-arm, Open-label, Phase 4 Study to Evaluate the Safety and Efficacy of Vedolizumab in Indian Patients With Ulcerative Colitis and Crohn's Disease, Version 3 Dated 30 March 2021, Study no- Vedolizumab 4020", Dr Vineet Ahuja, Takeda- SIRO, 2 years, 2022-2024, Rs 1.50 lakhs
10. A prospective, multi-centre, open label, phase IV study to evaluate safety and efficacy profile of Infimab™ in patients with moderate to severe Crohn's disease, Dr Vineet Ahuja, Reliance Pharmaceuticals, 2 years, 2022-2024, Rs 1.75 lakhs
11. A Phase 3, Multicenter, Randomized, Double-Blind, Placebo- and Active- Controlled, Treat-Through Study to Evaluate the Efficacy and Safety of Mirikizumab in Patients with Moderately to Severely Active Crohn's Disease, Dr Vineet Ahuja, Eli Lilly, Pharmaceutical company, 2 years, 2021-2023, Rs 8.04 lakhs
12. An open label, single arm, investigator initiated Phase I/II study to assess the safety and efficacy of local administration of stempeucel (Adult Human Bone ) Derived, Cultured Pooled, Allogenic Stromal Cells Marrow, Dr Vineet Ahuja, Stempeutics Research Pvt Ltd, 4 years, 2018-2022, Rs 5.77 lakhs
13. Combined Phase 3, Double Blind, Randomized, Placebo-Controlled Studies Evaluating the Efficacy and Safety of Filgotinib in the induction and maintenance of Remission in Subjects with Moderately to Severely Active Crohn's Disease, Dr Vineet Ahuja, Gilead Sciences, 7 years, 2017-2024, Rs 8.72 lakhs
14. A Long-Term Extension Study to Evaluate the Safety of Filgotinib in Subjects with Crohn's Disease, Dr Vineet Ahuja, Gilead Sciences, 6 years, 2017-2023, Rs 6.71 lakhs
15. Combined Phase 2b/3, Double-Blind, Randomized, Placebo-Controlled Studies Evaluating the Efficacy and Safety of Filgotinib in the Induction and Maintenance of Remission in Subjects with Moderately to Severely Active Ulcerative Colitis, Dr Vineet Ahuja, Gilead Sciences, 5 years, 2017-2022, Rs 6.73 lakhs

16. A Long-Term Extension Study to Evaluate the Safety of Filgotinib in Subjects with Ulcerative Colitis, Dr Vineet Ahuja, Gilead Sciences, 6 years, 2017-2023, Rs 70,200
17. Entyvio (Vidolizumab IV) Extended Access Program in Ulcerative colitis and Crohn's Disease, Dr Vineet Ahuja, Pharmaceutical Product Development (PPD), 6 years, 2016-2022, Rs 4.29 lakhs
18. Exploration for development of wheat with low immunogenic gluten (CS 11/6/2014-IA-IV), Dr Govind K Makharia, ICAR, 8 years, 2017-2026, Rs 47.50 lakhs
19. (Exploration of immunopathogenesis of extra-intestinal organ involvement in patients with Celiac Disease" (No. F: 2-1470/2023/RS), Dr Govind K Makharia, ICMR, 3 years, 2023-2026, Rs 73.50 lakhs
20. Celiac disease prevalence in native south versus north Indians; migrant study to access regions for the difference, Dr Govind K Makharia, ICMR, 2 years, 2022-2024, Rs 68.45 lakhs
21. A pilot study to estimate prevalence of celiac disease in high-risk group in Asia (Asian Celiac disease study), Dr Govind K Makharia, Takeda Pharmaceuticals, USA, 3 years, 2021-2024, Rs 1.82 crores
22. Towards understanding the role of gut microbiota and their metabolites in the causation and treatment of colorectal cancer, Dr Govind K Makharia, SERB, 3 years, 2020-2023, Rs 18.62 lakhs
23. The Gastrointestinal manifestation of coronavirus Disease 2019 (COVID-19), Dr Shalimar, AIIMS, 2 years, 2020-2022, Rs 5 lakhs
24. Genetic basis of Budd Chiari Syndrome/hepatic venous outflow tract obstruction in Indian patients, Dr Shalimar, ICMR, 3 years, 2019-2022, Rs 74 lakhs
25. Development of a recombinant vaccine against the hepatitis E virus and immunological characterization of hepatitis E cohort and potential vaccine recipient cohort, Dr Shalimar, BIRAC (Co-PI), 2 years, 2021-2023, Rs 110 lakhs
26. Metabolic associated liver disease (MAFLD) in lean and obese: search for disease and progression biomarkers, Dr Shalimar, SERB, 3 years, 1 January 2022 to 20 January 2025, Rs 44 lakhs
27. Role of pancreatic enzyme replacement therapy on gut microbiome and metabolome and body response to in patients with chronic pancreatic, DrDeepak Gunjan, Indian Council of Medical Research, 2 years, 1 February 2021 to 31 July 2023, Rs 50.24 lakhs
28. Standard medical therapy plus Rifaximin vs standard medical therapy alone for the management of sarcopenia in patients with cirrhosis: A pilot Randomized Controlled Trial, Dr Deepak Gunjan, Sun Pharmaceutical Pvt Ltd, 2 years, 18 April 2022 to 17 April 2024, Rs 16 lakhs
29. Cancer stemness signatures of Hepatitis B induced hepatocellular carcinoma, Dr B Nayak (Women Scientist: Dr Sonali Sengupta), DST, 3 years, 2022-2025, Rs 24 lakhs
30. Determination of receptor mediated pathogenesis of SARS-COV2 variants and immunomodulation by viral proteins, Dr B Nayak, ICMR, 3 years, 2021-2024, Rs 48 lakhs
31. Role of nuclear receptor in Hepatitis B (HBV) mediated hepatocarcinogenesis, Dr B Nayak (RA: Dr Afnan), ICMR, 3 years, 2021-2024, Rs 22.92 lakhs
32. Role of potentially oncogenic miRNAs in Hepatitis B virus induced hepatocarcinogenesis, Dr B Nayak (RA: Dr Neeti Nadda), ICMR, 1 year, 2021-2022, Rs 22.92 lakhs
33. Liquid Biopsy for Early Prediction of Hepatocarcinogenesis in Chronic Liver Disease Patients, Dr B Nayak, ICMR, 3 years, 2019-2022, Rs 49.48 lakhs

#### Research projects over past 3 years

Research projects	2020-21	2021-22	2022-23
Total Funded projects	42	38	33
Total Amount	Rs 26.70 crores	14.26 crores	16.72 crores

#### Funded Projects

##### Completed

1. Comparative gut eukaryotic microbiome in inflammatory bowel disease: Search for common link in genetically similar population residing in areas with differing disease prevalence, Dr Vineet Ahuja, DST-UKIERI, 2 years, 2015-2017, Rs 21.50 lakhs
2. Glue Grant Scheme "Human Gastrointestinal Immunology Translational Program", Dr Vineet Ahuja, DBT-Glue Grant, 3 years, 2014-2017, Rs 1.44 crores

3. Crohn's Disease in India: A multi-centric study from a country where intestinal tuberculosis as well as Johne's Disease is endemic, Dr Vineet Ahuja, Department of Health Research (DHR), 4 years, 2017-2021, Rs 42.57 lakhs
4. Department of Biotechnology- Consortium on celiac disease (BT/MED/12/SP17783/2016), Dr Govind K Makharia, DBT, 5 years, 2018-2023, 5.83 crores
5. Human Microbiome initiative of select endogamous populations of India (BT/PR23968/BRB/10/1602/2017), Dr Govind K Makharia, DBT, 2 years, 2020-2022, Rs 1.065 crores
6. Whole gut and intestinal metagenome in patients with irritable bowel syndrome and non-celiac gluten sensitivity and effect of gluten free diet, Dr Govind K Makharia, DST, 4 years, 2018-2022, Rs 61.7 lakhs
7. Development of a low-cost diagnostics platform for the identification of viral DNA using CRISPR/Cas13a system, Dr Shalimar, DBT (Co-PI), 3 years, 2018-2021, Rs 24 lakhs
8. An open label pilot randomized controlled study to assess the efficacy of fecal microbiota transplantation (FMT) in chronic Hepatitis B patients", Dr Shalimar, PFI, 2 years, 2019-2021, Rs 1.25 lakhs
9. Targeting of HBx in Hepatitis B virus induced hepatocarcinogenesis and development of replicon based assay to study effect of mutation on replication, Dr B Nayak (NPDF: Dr Geetanjali), SERB-DST, 2 years, March 2020-2022, Rs 22.36 lakhs
10. Adeno associated virus-2 vectored expression of SARS-CoV-2 proteins to study virus induced immunomodulation and host immune response, Dr B Nayak, AIIMS Intramural, 2 years, March 2020-2022, Rs 10.00 lakhs

### **Departmental projects**

#### ***Ongoing***

1. Status and effect of pancreatic enzyme replacement on gut microbiota and resting energy expenditure in patients with chronic pancreatitis
2. Carvedilol to prevent decompensation in patients with compensated advanced chronic liver disease without high risk varices with liver stiffness more than 20kPa (CaLD-20 trial): An open label randomized controlled trial
3. Treatment of iron deficiency anemia with intravenous ferric carboxymaltose versus oral ferrous ascorbate in patients with cirrhosis after an episode of upper GI bleed: an open-label randomized controlled trial
4. To study the quality of skeletal muscle in non alcoholic fatty liver disease
5. To evaluate the role of phage transfer through fecal microbiota transplantation in causing anti-microbial gene depletion and intestinal decolonization from multidrug resistant organisms
6. The effect of structured yoga practices on the quality of life and clinical outcomes in patients with ulcerative colitis"
7. A Randomized Controlled Trial Comparing the time to achieve clinical response in Patients with Moderate to Severe Ulcerative Colitis using cortico-steroids Vs Tofacitinib
8. Development and validation of a tool for assessment of gluten free diet in Indian celiac disease patients
9. To assess the prevalence and etiology of non-responsive celiac diseases in patients on gluten free diet for one year or more
10. Prevalence of Celiac Disease in patients of Inflammatory Bowel Disease
11. Comparative analysis of cost and nutritional composition of gluten-free food with their gluten containing counterparts.
12. Exploration of intestinal stem cell (ISC) niche in persistent villous atrophy in patients with gluten free diet in unresponsive celiac disease at 12-months post-GFD
13. Role of non-biopsy pathway in diagnosis of celiac disease in adults
14. Exploration of immunopathogenesis of extraintestinal organs involvement in patients with celiac disease
15. Prevalence of clarithromycin in helicobacter pylori using a molecular diagnostic method in a tertiary care center in north India
16. Etiology, nature and severity of dyspepsia in India: a National Task Force study" and "Rifaximin's. Placebo in functional dyspepsia - a randomized double-blind controlled trial
17. Prevalence of elevated alanine aminotransferase levels in adult participants from a community-based study from northern part of India
18. Prevalence of celiac disease in cirrhosis of liver
19. Prevalence of celiac disease in pancreatitis
20. To evaluate the biochemical and clinical response to second-line drugs in patients with Auto-immune Hepatitis

21. Comparison of 1-day vs 3-day intravenous terlipressin in patients with acute variceal bleeding: An open-label pilot randomized control trial
22. N butyl cyanoacrylate glue versus n butyl cyanoacrylate glue plus radiologic intervention for secondary prophylaxis of gastric varices: A randomized controlled trial
23. Comparing plastic vs no plastic after EUS guided lams drainage for recurrence of pancreatic fluid collection in patients of acute pancreatitis
24. Prevalence of anxiety and depression in patients with chronic pancreatitis and its impact on pain and quality of life
25. Reverse genetics and gene editing approaches for understanding chronic hepatitis virus reactivation, propagation and virus induced carcinogenesis, and drug resistance following infection
26. Cancer stemness signatures of Hepatitis B induced hepatocellular carcinoma
27. Role of potentially oncogenic miRNAs in Hepatitis B virus induced hepatocarcinogenesis
28. Targeting of HBx in Hepatitis B virus induced hepatocarcinogenesis and development of replicon-2021based assay to study effect of mutation on replication
29. Role of Liquid Biopsy Biomarkers in Hepatocellular carcinoma and Hepatitis B virus induced carcinogenesis

### **Completed**

1. Assessment of gut barrier dysfunction, endotoxemia and inflammatory mediators in patients with cirrhosis across different clinical stages during an episode of acute variceal bleeding: A prospective observational study
2. A randomized controlled trial of adjunctive incremental pregabalin therapy vs placebo for pain management in chronic pancreatitis
3. Role of antibiotic prophylaxis in preventing infections in patients with Child-A cirrhosis during the episode of Acute variceal bleeding: A randomized controlled trial.
4. Treat to target strategy in active Ulcerative Colitis patients: A Randomized Control Trial
5. A randomized control trial of exclusive enteral nutrition with corticosteroids vs corticosteroids alone in patients with acute severe ulcerative colitis
6. An open label, single arm, investigator-initiated phase I/II study to assess the safety and efficacy of local administration of Stempeucel® (*Adult human Bone marrow derived, cultured, pooled, Allogeneic Mesenchymal Stromal Cells*) in patients with perianal fistulizing Crohn's disease
7. Efficacy and Tolerability of Hyperbaric Oxygen Therapy in Small Bowel structuring and Fistulizing Crohn' Disease: A stratified RCT
8. A multiparameter model to differentiate intestinal tuberculosis from Crohn's Disease in ulcero-constrictive disease of the intestine
9. Modulation of Human Immune and Inflammatory Responses by Vitamin A in Inflammatory Bowel Disease (Ulcerative Colitis, Crohn's Disease)
10. Spectrum of height in patients with celiac disease
11. Prevalence of celiac disease in adults with cryptogenic liver disease
12. Efficacy of anti-endomysial antibody
13. Estimation of gluten content in unlabelled and labelled gluten-free food products and commonly used food items consumed by celiac disease patients
14. Assessment of villous enteropathy in first-degree relatives of patients with celiac disease
15. Sieving out Non-Celiac Gluten Sensitivity amongst Patients with Irritable Bowel Syndrome
16. Evaluation of bone turnover markers and performance of CT based prediction of osteoporosis in chronic pancreatitis
17. Adeno associated virus-2 vectored expression of SARS-CoV-2 proteins to study virus induced immunomodulation and host immune response

### **Collaborative projects**

#### **Ongoing**

1. A prospective observational study on the impact of sarcopenia on perioperative outcomes following pancreaticoduodenectomy for periampullary carcinoma, Department of GI Surgery, AIIMS
2. Molecular expression and interaction between growth differentiation factor – 15 (GDF-15), iron trafficking proteins, micronutrient antioxidants in diabetes and Metabolic syndrome, Department of Lab Medicine, AIIMS

3. Towards understanding the role of gut microbiota and their metabolites in the causation and treatment of colorectal cancer, National Institute of Immunology (NII), New Delhi
4. Biopsy in Adult celiac disease (Bio.A.CeD)- the ESsCD Consensus: Multinational study, Partimento di Medicina e Chirurgia, Scuola Medica Salernitana, Università di Salerno, Italy
5. miRNA as disease modifier in HLA-DQ2/DQ8 matched first degree relatives of patients with celiac disease, Department of Pathology, AIIMS, New Delhi
6. Comparison of various diagnostic modalities for identification of refractory celiac disease in a cohort of patients with celiac disease unresponsive to gluten free diet, Department of Pathology, AIIMS, New Delhi
7. Prevalence of acute gastrointestinal injury in critically ill children, Department of Paediatrics, AIIMS, New Delhi
8. Genetic association of cytokine with suicidality in Indian population, Department of Forensic Medicine, AIIMS

## PUBLICATIONS

**Journals: 123**

**Abstracts: 28**

### Publications over past 3 years

Item	2020-2021	2021-2022	2022-2023
<b>Total</b>	<b>160</b>	<b>190</b>	<b>151</b>
Journal articles	120	131	123
Abstracts	38	58	28
Chapters in books	2	1	Nil
Books	Nil	Nil	Nil

## PATIENT CARE:

The following numbers of patients were seen in outpatient: Routine OPD and special clinics

Investigation name	2020-2021		2021-2022		2022-2023	
<b>Routine Gastroenterology OPD (Monday to Friday)</b>						
New cases	7920		17790		42586	
Old cases	11956		35622		93358	
<b>Specialty clinics</b>	<b>New cases</b>	<b>Old cases</b>	<b>New cases</b>	<b>Old cases</b>	<b>New cases</b>	<b>Old cases</b>
Liver Clinic	502	2323	901	6182	1105	10317
Pancreas clinic	265	985	664	2251	898	4290
IBD & ITB Clinic	248	5187	512	4121	855	7844
Interventional Clinic	37	19	156	206	--	527
Celiac Clinic	42	100	67	493	101	955
<b>Endoscopic procedures</b>						
Diagnostic and therapeutic endoscopies	5027		17427		18602	
Diagnostic and therapeutic colonoscopies	1445		4402		2549	
Diagnostic sigmoidoscopies	711		2058		1683	
Side viewing endoscopies	417		850		502	
Endoscopic retrograde cholangiopancreatography (ERCP)	712		1650		1908	
Endoscopic ultrasound (Diagnostic and therapeutic)	434		1048		340	
Per Oral Endoscopic Myotomy	16		74		51	
Percutaneous Endoscopic Gastrostomy	46		170		5	
Walled off necrosis-endoscopic lavage	43		220		38	
Self-expanding metallic stent placement	49		207		39	
Enteroscopy	28		108		53	

<b>Fibroscan (transient elastography)</b>	4079	7168	12344
<b>Hepatic venous pressure gradient measurement</b>	106	440	64
<b>GI motility investigations:</b>			
High resolution esophageal manometry	113	234	384
High resolution anorectal manometry	169	316	654
Biofeedback	105	357	1172
24 hrs. ambulatory PH monitoring	6	34	43
<b>Laboratory tests</b>			
No. of Patients for Lab Investigations	1675	Nil	Nil
Viral nucleic acid isolation for testing	1220	2410	7120
Genomic DNA isolation from blood	841	540	727
HBV quantitation by Real time PCR	770	1876	4799
HCV quantitation by real time PCR	544	1076	2599
HCV genotyping by Real time PCR	40	89	170
HEV detection quantitative	155	392	687
HBsAg by ELISA	319	650	958
HBeAg by ELISA	371	878	2020
Anti Hbe by ELISA	100	249	615
Anti HBc Total by ELISA	75	309	746
HBc IgM by Vidas	9	105	246
HAV IgM by ELISA	130	272	427
HEV IgM by ELISA	184	422	891
Anti HCV by ELISA	157	211	287
EBV IgM by ELISA	96	-	23
CMV IgM by ELISA	60	-	98
Arterial Ammonia	441	368	510
IgG4 by Nephelometry	16	63	250
D-Xylose by colorimetry	32	213	418
Fecal Fat by ether extraction	7	Not done because of COVID	3
Fecal elastase by ELISA	110	-	1033
Hydrogen breath test	23	-	51
Urea breath test	26	-	231
Ttg IgA by ELISA	963	-	5235
Ceruloplasmin by turbidometry	538	-	2543
Serum Copper by colorimetry	310	-	2274
24 hr Urinary copper	245	-	895
Lipid peroxidation (MDA) by spectrophotometry	83	-	14
Free radical Antioxidant potential (FRAP)	83	-	14
Fecal Calprotectin	96	-	322
Total Oxidant Stress (TOS)	12	-	14
Total Antioxidant Stress (TAS)	12	-	14
Fecal Bile Acid Test	-	-	280
IL6	-	-	320
FABP	-	-	160
CRP	-	-	320



HCV genotyping by Line probe Assay (LIPA)	80	-	-
Anti HBsAg by ELFA	-	-	187

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Govind Makharia** is a Governing Council Member of Indian Council of Medical Research; Member Academic Council, ICMR; Governing Council Member, World Gastroenterology Organization; Chairman, Clinical Research Committee, World Gastroenterology Organization (2020-23); Member of the Climate Committee and Planetary Health, World Gastroenterology Organization; Council Member, Asian Pacific Association of Gastroenterology (2019-2022); President Elect, Indian Society of Gastroenterology (2022-23); Editorial Advisory Board Member, Clinical and Translational Gastroenterology (American College of Gastroenterology); Member, Technical Evaluation Committee, Department of Biotechnology; Member, TEC, BIRAC; Member Special Selection Committee, Council for Scientific and Industrial Research; Society Member, National Agro-Food Biotechnology Institute, Mohali; Society Member, CIAB; Institutional Ethics Review Board (IERB), JNU, (2020 onwards); Member of the Special Committee of the Special Centre for Systems Medicine; Coordinator of the Department of Biotechnology Consortium on Celiac Disease; Group leader, Asian Pacific Working Group on Celiac disease; Coordinator of Young Clinician Program, Indian Society of Gastroenterology; Professor In charge, Employees Health Scheme, AIIMS.

**Dr Deepak Gunjan** won the First prize in free paper session in Indian Pancreas Club(IPC) 8-9 October 2022 Delhi, Consolation prize in plenary session in Indian Pancreas Club(IPC) 8-9 October 2022 Delhi

**Professor Baibaswata Nayak** was awarded AIIMS Excellence Research Award 2020 on 2nd Research day, AIIMS, 18 October 2022. He received best oral presentation award in Indian Virological Society conference VIROCON 2022, 5-6 November 2022, Srinagar, Kashmir. Under his mentorship fellowship for Women Scientist Scheme-A (WOS-A) in Research was awarded to fellow Dr Sonali Sengupta. He has been chosen as Associate editor of 2 Journals including Frontiers in Medicine (Hepatology) and Frontiers in Microbiology (Virology). He is chosen as reviewer to 26 national and international journals including Frontiers in Molecular Biosciences, PLoS Pathogen, Virus diseases, Nature Scientific Reports, Biochemistry and Biotechnology Research, Drug Research, Tropical Gastroenterology, PLoS One, Indian Journal of Medical Research, Indian Journal of Virology, Virus Research, Virology Journal, Viral Immunology, Journal of Veterinary Science, Acta Tropica, BioMed Research International, BMC Medical Genomics, Molecular and cell biology of Lipids, Research Report, Canadian Journal of Gastroenterology and Hepatology, Computer Methods and Programs in Biomedicine, Journal of Gastroenterology and Hepatology, Frontiers in Cellular and Infection Microbiology, Frontiers Immunology, Turkish J of Gastroenterology, Letters in Drug Design & Discovery. At national level, he served as reviewer to Intensification of research in high priority Areas (IRHPA), SERB for Biosafety level 3/4 development; served reviewer to various COVID-19 related grants by ICMR and DST as national importance. He is also reviewer and expert committee member for Innovation & Translation Research (ITR), ICMR, Reviewer for ICMR RA and SRF, and ICMR Project review committee member for (diarrheal diseases). He is also reviewer to extramural funding of DST SERB, AYUSH/CCRH, ICMR STS expert group, ICMR ITR (innovation translation research) group and DBT nominee for Institute Biosafety committee.

#### VISITING SCIENTISTS

- Lecture delivered on “Eosinophilic Esophagitis” by Dr Anjan Dhar, Professor of Medicine. Teesside University, UK
- Dr Anne Marie Lenon, Dr Venkat Akshintala. Hopkins meeting on 21 November 2023
- Professor Patrick Kamath (MELD Score) Mayo Clinic for delivering a lecture

## 9.14 Gastrointestinal Surgery and Liver Transplantation

### Professor and Head

Peush Sahn

### Professors

Sujoy Pal

Nihar Ranjan Dash

### Assistant Professors

Rajesh Panwar

Anand Narayan Singh

Saurabh Galodha

Kailash Kurdia (w.e.f. 28 December 2022)

### HIGHLIGHTS

The department organized many hands-on surgical skills workshops on bilio-enteric anastomosis, vascular anastomosis and cadaveric multi-organ retrieval. The department also organized IAPEN Delhi Chapter mid-term CME Nutrition management in “Dysphagia Patients”. The department faculty is a part of educational and scientific committees of the national scientific associations of surgical gastroenterology (the Indian Association of Surgical Gastroenterology and the Indian Chapter of International Hepato-pancreato-biliary Association) and is actively involved in their teaching and training activities. The department faculty is invited for delivering lectures, moderating sessions, judging papers, and chairing sessions in numerous conferences and CMEs. The department is running many research projects, participating in multi-centre projects and also conducting research in collaboration with other departments. The department has scaled up the out-patient services from three-days-a-week to five-days-a-week to cater to the higher patient load. The operation theatre services have also been scaled up to provide high level care to a greater number of patients and decrease the waiting period.

### EDUCATION

The department is actively involved in the teaching of undergraduate students. The following topics were taught to sixth and eighth semester students through didactic lectures and integrated seminars:

Portal hypertension	Benign and malignant esophageal disorders
Upper Gastrointestinal bleeding	Lower Gastrointestinal bleeding
Acute Intestinal obstruction	Intestinal tuberculosis
Inflammatory lesions of small and large bowel	Amoebic lesions of the bowel and liver
Cancer of the stomach	Gall stone disease and complications
Biliary strictures	Gall bladder cancer
Obstructive Jaundice	Diseases of the Pancreas
Acute Pancreatitis	Chronic Pancreatitis
Nutrition in surgical patients	

The department offers 3-year training leading to award of MCh in Gastrointestinal Surgery. Currently, there are 13 MCh students in the department. The department also offers short-term observership for a period of 1–3 months. The weekly academic activities include weekly audit, presentations of abstracts of recently published papers, seminar, journal club, and discussion on research and dissertation projects. Besides these, a combined round with Gastroenterology and a GI Radiology conference are held once a week, and a GE-GI Surgery histopathology conference once in two weeks.

### CMEs/Workshops/Symposia/National & International Conferences

1. Hands-on Workshop on bilio-enteric anastomosis for postgraduate students, 23-24 April 2022, Wet lab, SET facility, AIIMS, New Delhi
2. Hands-on Vascular anastomosis Workshop for postgraduate students, 29 May 2022, Wet lab, SET facility, AIIMS, New Delhi
3. Cadaveric Multiorgan Retrieval Workshop for MCh GI Surgery residents, 1 June 2022, Cadaver Training facility, JPNA Trauma Centre, AIIMS, New Delhi
4. Hands-on workshop on bilio-enteric anastomosis for postgraduate students, 21-22 June 2022, Wet lab, SET facility, AIIMS, New Delhi

5. Hands-on workshop on bilio-enteric anastomosis for postgraduate students, 20 August 2022, Wet lab, SET facility, AIIMS, New Delhi
6. Hands-on workshop on bilio-enteric anastomosis for postgraduate students, 18-19 October 2022, Wet lab, SET facility, AIIMS, New Delhi
7. IAPEN Delhi Chapter mid term CME Nutrition management in “Dysphagia patients”, 17 December 2022, SET facility, AIIMS, New Delhi
8. Hands-on workshop on bilio-enteric anastomosis for postgraduate students, 17 December 2022, Wet lab, SET facility, AIIMS, New Delhi
9. Hands-on workshop on bilio-enteric anastomosis for postgraduate students, 18 January 2023, Wet lab, SET facility, AIIMS, New Delhi
10. Webinar: Wikipedia of women wellness, 4 March 2023, AIIMS, New Delhi

**Lectures Delivered:42**

**Lectures delivered over past 3 years**

2020–2021	2021–2022	2022–2023
28	24	42

**Oral papers/posters presented: 3**

**Oral papers/poster presented over past 3 years**

Presentation	2020–2021	2021–2022	2022–2023
Oral papers/poster	7	10	3

**RESEARCH**

**Funded projects**

**Ongoing**

1. Developing and implementing a Gall Bladder Cancer Registry to collect clinico-pathological data, Sujoy Pal, AIIMS-THSTI, 3 years, 2019-22, Rs 10 lakhs
2. Development and validation of a structured hands-on surgical skills training module for bilio-enteric anastomosis using animal tissues, Rajesh Panwar, AIIMS Intramural, 2 years, 2021-23, Rs 5 lakhs
3. Correlation of the presence of circulating tumour cells (CTC) with recurrence-free and overall survival in patients with periampullary carcinoma: a prospective study, Anand Narayan Singh, AIIMS Intramural, 2 years, 2020-22, Rs 4.5 lakhs
4. To evaluate the role of tumor markers CA-242, CEA and CA19-9 in diagnosis and prognostication of carcinoma gall bladder, Saurabh Galodha, AIIMS Intramural, 2 years, 2020-22, Rs 4.96 lakhs
5. To evaluate the role of tumor markers CA-125, CA-15-3, CEA and CA19-9 in diagnosis of carcinoma gall bladder singly and combined, Saurabh Galodha, AIIMS Intramural Mentor-mentee research grant, 1 year, 2022-23, Rs 2 lakhs

**Departmental projects**

**Ongoing**

1. Comparison of Clinical and Biochemical Optimization After Unilateral vs Bilateral Percutaneous Transhepatic Biliary Drainage in Primary Level Malignant Hilar Separation: A Randomized Control Trial
2. Utility of Palliation with Percutaneous Transhepatic Biliary Drainage in Patients with Unresectable or Disseminated Carcinoma Gall Bladder
3. Outcomes of external pancreato-biliary drainage in patients undergoing Whipple’s pancreatoduodenectomy : a non-inferiority randomised controlled trial
4. A study of the efficacy of intraperitoneal injection of methyl prednisolone on the severity of organ dysfunction in adult male wistar rats with acute pancreatitis induced by surgical ligation of the biliopancreatic duct
5. Postoperative Albumin Drop is a Marker for Surgical Stress and a Predictor for Clinical Outcome in Hepatopancreaticobiliary Surgeries: A Prospective Study

6. Prevalence of Minimal Hepatic Encephalopathy in Extra Hepatic Portal Venous Obstruction patients following Proximal Lienorenal shunt surgery
7. Comparing feeding jejunostomy with nasojejunal tube placement in patients undergoing esophagectomy - A pilot study
8. To study the long term follow up of patients who have undergone prophylactic shunting for EHPVO at AIIMS
9. To study the spectrum of pancreatic neuroendocrine tumors occurring in the background of a cohort of MEN1 patients presenting to AIIMS, New Delhi

#### **Completed**

1. Predictors of malignancy in patients with suspected gall bladder cancer
2. A Prospective observational study to see the impact of sarcopenia on the outcomes of patients undergoing PD for periampullary cancers

#### **Collaborative projects**

##### **Ongoing**

1. Elucidating the role of differentially expressed gene(s) in colorectal cancer stem cells (Biochemistry)
2. Isolation, identification and characterization of cancer stem cells from different histopathological grades of colorectal carcinoma (Biochemistry)
3. Clinicopathological study of targetable biomarkers in ampullary carcinomas and their correlation with histological subtypes (Pathology)
4. Assessment of frailty in geriatric patients undergoing GI Surgery (Geriatric Medicine)
5. Role of Nuclear Receptor network signalling in pathogenesis of Gallbladder cancer (Biochemistry).
6. Genomics of Gallbladder carcinoma in Indian Patients (ICMR 5-year task force project)
7. Identification of differentially expressed protein based biomarkers involved in downstream signalling pathways of gall bladder carcinoma (Onco-pathology)
8. Global miRNA expression profiling to predict response of esophageal carcinomas to neoadjuvant-therapy (School of Biotechnology, Guru Gobind Singh Indraprastha University, Delhi)
9. An open label, single arm, investigator initiated phase i/ii study to assess the safety and efficacy of local administration of stempeucel® (adult human bone marrow derived, cultured, pooled, allogeneic mesenchymal stromal cells) in patients with perianal fistulizing Crohn's disease (Gastroenterology)

#### **Research projects over past 3 years**

<b>Research projects</b>	<b>2020–2021</b>	<b>2021–2022</b>	<b>2022–2023</b>
Total funded projects	3	5	5
Total funding	19,46,000	26,46,000	26,46,000

#### **PUBLICATIONS**

**Journals: 21**

**Abstract: 11**

**Books: 01**

#### **Publications over past 3 years**

<b>Item</b>	<b>2020–2021</b>	<b>2021–2022</b>	<b>2022–2023</b>
<b>Total</b>	<b>20</b>	<b>27</b>	<b>33</b>
Journal articles	15	25	21
Abstracts	4	1	11
Chapters in books	1	0	0
Books	0	1	1

**PATIENT CARE****OPD****New patients: 3277****Revisits: 10781****Specialty clinics**

Department is running a daily clinic for stoma patients.

**Inpatients****Total Surgical procedures: 624****Elective: 392****Emergencies: 232****Special interest areas**

Biliary obstruction:	106	Portal hypertension:	14
Oesophageal cancer:	20	Carcinoma gall bladder:	39
Ulcerative colitis:	32	Upper GI haemorrhage:	3
Lower GI haemorrhage:	16	Acute pancreatitis:	38
Chronic pancreatitis:	17	Biliary strictures:	23
Pancreato-duodenectomy:	79	Liver resections:	46

**Patient care over past 3 years**

Item	2020–2021	2021–2022	2022–2023
OPD Total	3941*	6325	14058
OPD: New	1277	2167	3277
OPD: Follow up	2241	4158	10781
Total inpatient admissions	487	636	994
Elective surgeries	174	372	392
Emergency surgeries	143	188	232

\* Includes 423 Teleconsultations

**AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Peush Sahni** is Section Editor, *Gastroenterology*, Associate Editor, *GI Surgery Annual*, Chairperson, Education Committee, Indian Association of Surgical Gastroenterology; Editor, The National Medical Journal of India; Editorial Board, Indian Journal of Dermatology, Venereology and Leprology; Chairperson, Membership Committee, World Association of Medical Editors; Member, International Committee of Medical Journal Editors; President, Indian Association of Medical Journal Editors; Delivered the Sushruta Oration of ASI State Chapter of Odisha, 2022; Vice President, AIIMSONians

**Professor Sujoy Pal** is Chairman of the scientific committee of IHPBA - India chapter; has been involved in the teaching of postgraduates from all over the country through Certificate courses and CME meetings [4 meetings have been already conducted: Chennai (August 2022), Ahmedabad (May 2022), Chandigarh (November 2022) and Mumbai (LTSI-January 2023)]; Secretary of the 'The AIIMSONIANS', the alumni association of AIIMS, New Delhi. The activities and management of the affairs of the AIIMSONIANS is also under his supervision; he had the privilege of getting a new office sanctioned which had been a long standing demand for many years; has contributed to the Stores work of the department and Institute as member of the SPC; was invited as a chairperson at the world congress of the IHPBA held in New York, USA; is actively involved in the activities of IHPBA- India as an executive member and the Liver transplantation society of India (LTSI) as an editor of its newsletter 'LiveReport'; has been appointed as an MCh examiner by JIPMER, GB Pant- Delhi University and PGIMER Chandigarh and have conducted exams in all these institutes of National Importance

**Professor Nihar Ranjan Dash** was awarded second prize in the 'innovative devices category' on the occasion of second annual research day organized at AIIMS, New Delhi; Organized IAPEN Delhi Chapter mid-term CME Nutrition management in "Dysphagia Patients" at SET facility; Organized Webinar: Wikipedia of women wellness; Featured Article on innovative research device "Stoma Cap" for stoma patients that was published in 3 national newspapers; featured on DD Urdu Program: Hello Doctor for 'Jaundice'.

**Dr Rajesh Panwar** is a member of the education committee of the IASG; was invited as faculty for the prestigious bursary program of the Indian Association of Surgical Gastroenterology (IASG) during IASGCON 2022 held at Kolkata; Chaired sessions during IASGCON 2022, mid-term IASG conferences held at Jodhpur, and at Patna, and the 4th APAGE Clinical Forum on IBD, 7th National meeting of CCFI, 1st CDAI-IBD meet; Judged paper presentations at the IASGCON 2022, and Midterm Indian Chapter IHPBA Conference held at Srinagar; Organized a number of skills training courses (bilio-enteric anastomosis, vascular anastomosis, bowel anastomosis, multi-organ retrieval) for postgraduate students; is a reviewer for numerous international and national indexed journals; was elected as the Joint secretary of 'The AIIMSonians', the alumni association of AIIMS, New Delhi (tenure: 2022–2024) and organized its various activities.

**Dr Saurabh Galodha** was selected for the International Observership to Korea by the Korean Association of Hepato-Biliary-Pancreatic Surgery and was invited to attend the HBP Surgery Week held in Busan.

## 9.15 Geriatric Medicine

### Professor and Head (Additional Charge)

Naveet Wig

### Additional Professors

Prasun Chatterjee

Avinash Chakrawarty

### Assistant Professors

Nidhi Soni

Pramod Kumar

### Assistant Professor (Contractual)

Gudeti Baburao

## HIGHLIGHTS

Year	2020-2021	2021-2022	2022-2023
<b>Patient care over past 3 years</b>			
Total OPD consultations	11,922	20,986	34,182
Total Clinic consultations	137	192	347
Total patients provided rehabilitation services	4,963	7,826	11,589
Total inpatient admissions	654	399	1,521
<b>Research and Education over past 3 years</b>			
Total funded research projects	6	5	6
Total funding (in Rs)	25,89,06,639	2,13,38,462	2,98,92,766
No. of oral presentation	06	05	12
Total publications	20	24	19

The soft launch of National Centre for Ageing, a state-of-the-art facility, at AIIMS, New Delhi, is the dawn of a new era of integrated geriatric care in India. With the increasing longevity of our population, the proportion of elderly is expected to rise to 12.5% of total population by 2030. The Centre, which is dedicated to the care of older persons shall also play a key role in guiding research in the field of geriatric medicine. It would also be a key training facility for undergraduate and postgraduate courses. It will provide multi-specialty healthcare with 180 general ward beds, four modular operation theatres and twenty ICU beds. The Centre has been developed at a cost of Rs 330 crores. This will be made functional in phases to eventually cover all the proposed facilities.

From March 2023, outpatient services have been started and it provides comprehensive care to the old age patients with currently functional Geriatric Medicine OPD, along with Surgery, Psychiatry, PMR, Gynecology, Clinical Psychology and Orthopedics OPD services. Memory Clinic under Geriatric Medicine has also started at the Centre. Other collaborative OPDs and Geriatrics clinics like Frailty clinic, Falls clinic, Onco-geriatrics clinic, and more, will also be launched at the Centre in near future.

## EDUCATION

The department at AIIMS, New Delhi is the largest post-graduate department of Geriatric Medicine in India. In addition to active participation in institutional academic activities like Clinical Combined Rounds, the department placed major focus on postgraduate training with five sessions of teaching every week. Post-graduate students and Senior Residents along with the help of faculty have been able to keep up the teaching schedule with discipline and punctuality. Residents have also been

involved in various workshops and conferences within and outside the institute. Residents have been performing well at their thesis work and help in the delivery of good patient care.

**Lectures delivered at CMEs, National and International conferences: 02**

**Prasun Chatterjee: 2**

**List of oral papers/posters presented: 12**

**Oral presentations over past 3 years**

Year	2020-2021	2021-2022	2022-2023
No. of oral presentation	06	05	12

**RESEARCH**

**Funded projects**

**Ongoing**

1. GIS Based Surveillance of People with Dementia and Its Risk Factors among People Residing in South Delhi by Multi-Disciplinary Collaborative Approach - A Pilot Cross Sectional Study for Customized Care Plan and Policy Planning, Dr Prasun Chatterjee, DHR, 2 years, 2022-24, Rs 15,00,000
2. Health Awareness Amongst Elderly and Family Member of India through Series of Audio Visual and Print Media, Leveraging Existing Old Age Solution Portal of the Department of Geriatric Medicine-AIIMS, Dr Prasun Chatterjee, Central Warehousing Corporation (CWC), 1 year, 2023-24, Rs 30,00,000 (Received Rs 15,00,000 as the 1st installment)
3. Development and validation of an android based application app to assess cognitive status of older people through speech, emotion and visuo-spatial pattern recognition. (Sanctioned), Dr Prasun Chatterjee, DST, 2 years, 2023-25, Rs 21,43,650
4. Use of AI m-Health Improvement of Symptoms and Adherence in geriatric medicine care –A Randomized Controlled study, Dr Avinash Chakrawarty, Know Your Meds India Private Limited, 1 year 10 months, 2021-23, Rs 15,42,200
5. Determination of anti-aging and antioxidant potential of a Unani formulation, Dr Avinash Chakrawarty, CCRUM, Ministry of AYUSH, Government of India, 3 years, 2021-24, Rs 48,71,832
6. Blood plasma derived exosomal profiling of cytokines and chemokines in frail elderly and assessment of impact of Nordic walking intervention on exosomes, Dr Avinash Chakrawarty, ICMR, 3 Years, 2023-26, Rs 70,35,084 (Rs 27,82,288 is sanctioned for 2023-24)

**Funded projects**

**Completed**

1. Characteristics of Indian Super Agers- A pilot prospective cohort study with a potential future predictive model, Dr Prasun Chatterjee, ICMR, 3 years, 2019-22, Rs 50,98,750
2. Study of Sarcopenia: Establishment of norms for diagnosis, prevalence and risk factors in ageing North Indian population and development of preventive strategies, Dr Prasun Chatterjee, ICMR, 3 years, 2019-22, Rs 88,25,680
3. Online and Tele survey for assessment of Knowledge, Attitude and Perception (KAP) levels about COVID-19 in various Districts of Delhi/NCR, Dr Prasun Chatterjee, DST, 1 year, 2021-22, Rs 10,00,000

Year	2020-2021	2021-2022	2022-2023
Total funded research projects	6	5	6
Total funding (in Rs.)	25,89,06,639	2,13,38,462	2,98,92,766

**Departmental projects**

**Ongoing**

1. A prospective cohort to study the adverse outcomes related to inappropriate medications as per Beer’s criteria in elderly patients
2. A prospective observational study on assessment of cognitive impairment as a predictor outcome



3. Assessment of Cardiopulmonary Exercise indices in sarcopenic patients after guided physiotherapy and nutritional intervention
4. Assessment of IC in Indian Older Adults with Prostate Ca
5. Assessment of self-reported sleep duration and quality in relation to the cognitive status of older adults - a. A case control study
6. Assessment of structural and functional brain changes associated with increasing age
7. Change in the cognitive status of older people registered and followed up in the memory clinic of AIIMS on 3 years follow up
8. Comparing the performance of CARG and CRASH score for predicting toxicity in older adults with cancer
9. Effect of COVID-19 infection on functionality in older adults in older patients with heart failure
10. Self-Assessment screening tool for Dementia
11. Study of gut microbiota in cognitively frail adults
12. Study of hospitalization in post covid older adults

### Departmental Projects

#### Completed

1. A cohort study to assess the feasibility of WHO ICOPE in tertiary health care.
2. A comparative study of left ventricular muscle mass and function between sarcopenic and non-sarcopenic Indian Geriatric population
3. A cross-sectional study on cognitive impairment in older population in the community and their risk stratification using digital technology
4. A cross-sectional study on diagnosis of Dementia in elderly. based on informant interview using modified CDR
5. A cross-sectional study to compare health status among obese, sarcopenic and sarcopenic obese in elderly population
6. A study to assess risk factors which act as a barrier for early hospital discharge
7. Cognitive impairment and its impact on treatment outcome of older adults attending AIIMS Cancer clinic
8. Evaluation of the efficacy of a self-assessment questionnaire (ICT Brief 10) to assess the intrinsic capacity of older adults in comparison with standard tools
9. Prevalence of Orthostatic Hypotension in patients with Subjective Cognitive Decline
10. Prospective study to assess the feasibility of WHO ICOPE approach and impact of WHO ICOPE based personalized care plan given for 6 months by WHO 5 well-being index

### Publications:

**Journals: 19**

#### Publications over past 3 years

Year	2020-2021	2021-2022	2022-2023
<b>Total publications</b>	<b>20</b>	<b>24</b>	<b>19</b>
• Journal articles	18	21	19
• Abstract	00	00	00
• Chapters in book	02	03	00
• Books	00	00	00

### Patient care

The Department has been providing daily OPD and once-a-week afternoon Memory Clinic services. During the year, a total of 34,182 (7,864 new and 26,318 revisits) consultations were provided to patients in OPD. 347 (197 new and 150 revisits) patients were assessed for cognitive impairment in the Memory Clinic in the previous year. Physiotherapy and rehabilitation services from the Day Care service of the department were provided to 11,589 patients. In Geriatric Medicine Ward, 556 patients were admitted during the year. Number of patients admitted under the department in private and periphery wards were 234 and 152 respectively.

**Patient care over past 3 years**

<b>Year</b>	<b>2020-2021</b>	<b>2021-2022</b>	<b>2022-2023</b>
Total OPD consultations	11,922	20,986	34,182
Total Clinic consultations	137	192	347
Total patients provided rehabilitation services	4,963	7,826	11,589
Total inpatient admissions	654	399	1,521

**AWARDS, HONORS AND SIGNIFICANT EVENTS**

**Dr Prasun Chatterjee** is a Member of the Technical Advisory Group for Measurement, Monitoring and evaluation for the UN Decade of Healthy Ageing (2021-2023), at the WHO Headquarters.

## 9.16 Haematology

### Professor and Head

M Mahapatra

### Professors

Tulika Seth

S Tyagi

### Assistant Professors

Rishi Dhawan

Jasmita Dass

Mukul Agarwal

Ganesh Kumar V

Pradeep Kumar

Richa Chauhan

### Scientist - II

Suman Lata

### Scientists - I

Ravi Ranjan

Ravi Kumar

### HIGHLIGHTS

- The department of Hematology is a composite department which provides both **Clinical Haematology** and **Haemato-Pathology** services to the institute.
  - **Clinical Haematology** services include comprehensive management for patients with benign and malignant Haematological illnesses. The department runs specialized outpatient clinics for patients with these illnesses. The department has been performing autologous and allogeneic hematopoietic stem cell transplantation (HCT), including haploidentical donor HCT, for various benign and hematological illnesses like aplastic anemia, thalassemia, myeloma, lymphomas, leukemias, and myelodysplastic syndromes.
  - **Haemato-Pathology** provides state-of-the-art evaluation of blood and bone marrow diseases. Expert hematopathology services offered by the department include bone marrow examination including immunohistochemistry and cytochemistry; flow cytometry; molecular diagnostics; specialized hemolytic and coagulation tests.
- The ISHTM-AIIMS external quality assessment program for hemogram, conducted by Department of Hematology, was accredited for further two years as PT provider by NABL.
- Department of Hematology continued to be regional training Centre for International Society of Hemostasis and Thrombosis in collaboration with the Institute of Experimental Hematology and Transfusion Medicine, University Clinic Bonn.

### EDUCATION

- The department conducts **DM (Clinical Haematology)**, **DM (Haematopathology)** and **PhD program** in the field of Haematology. The academic program includes regular seminars, symposia, micro-teaching and case discussions.
- The faculty is involved in theory and practical classes for MBBS students in the subjects of Pathology, Hematology and Medicine. Students of MD (Pathology) are trained in Haematology laboratory. Students from MD (Pediatrics), MD (Medicine), MD (Geriatric Medicine), MD (Emergency Medicine) and MD (Transfusion Medicine) as well as DM (Pediatric Oncology) and DM (Infectious Diseases) come for training and for case discussion in the department.
- The department provides short-term training for visiting doctors, healthcare professionals and M.Sc. students interested in the field of Haematology.

### CMEs/Workshops/Symposia/National and International Conferences

- “National Hematology update-XII” on 4-5 March 2023 at AIIMS, New Delhi
- Five parallel pre-conference workshops as part of National Hematology Update on 3 March 2023
- The 4th AIIMS Hematology Alumni meeting on 3 March 2023 at AIIMS, New Delhi
- Seven workshops on hemophilia and coagulation disorders under NNHF project in 2022-23

**Lectures delivered: 112**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
78	119	112

**List of oral papers/posters presented: 18**

**Oral/poster presentations over past 3 years**

2020-2021	2021-2022	2022-2023
22	20	18

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. A Phase II, open label study of NM8074 in patients with Paroxysmal Nocturnal Hemoglobinuria (PNH), Dr Tulika Seth, NovelMed Therapeutics, 2 years, 2022-2024, Rs 15 lakhs
2. Assessment of BCL-2 expression in B-Acute lymphoblastic leukemia at diagnosis and after therapy for minimal residual disease assessment, Dr Pradeep Kumar, AIIMS Early career intramural, 5 years, 2020-2024, Rs 10 lakhs
3. Comparative study of digital droplet polymerase chain reaction (dd-PCR) and quantitative real time polymerase chain reaction (qRT-PCR) for BCR-ABL1 transcript quantitation in chronic myeloid leukemia (CML) patients on tyrosine kinase inhibitor (TKI therapy) and eligible for treatment free remission (TFR), Dr Ganesh Kumar V, AIIMS Early career intramural, 5 years, 2020-2024, Rs 10 lakhs
4. CRISPR mediated genetic correction of sickle cell disease towards clinical trials in a small patients cohort, Dr Rishi Dhawan, Department of Science and Technology, 5 years, 2022-2027, Rs 6000 lakhs
5. Efficacy and safety of concizumab prophylaxis in patients with Hemophilia A and B with Inhibitors, Dr Tulika Seth, Novonordisk Pvt Ltd, 5 years, 2020-2025, Rs 14 lakhs
6. Elucidation of molecular genetics of triple negative myeloproliferative neoplasm, Dr Seema Tyagi, DST, 3 years, 2021-2024, Rs 69.50 lakhs
7. Genome-wide association study in an Indian cohort of patients with acquired aplastic anemia, Dr Rishi Dhawan, American Society of Hematology Global Research Award 2021, 3 years, 2022-2025, Rs 112 lakhs
8. Impact of transplant conditioning regimen intensity on gut microbiota changes in patients undergoing hematopoietic cell transplantation, Dr Rishi Dhawan, AIIMS Intramural, 5 years, 2020-2025, Rs 10 lakhs
9. Mitigation of clinical phenotype by activated platelets in severe hemophilia, Dr M Mahapatra, DBT, 3 years, 2019-2023, Rs 8 lakhs
10. Strengthen and standardize the national referral training centers in India, Dr Tulika Seth, NNHF (global NGO), 3 years, 2020-2023, Rs 454.44 lakhs
11. Study of B-cell subsets and NK cell subsets in patients of acquired a plastic anemia, Dr Jasmita Dass, AIIMS Early career intramural, 5 years, 2020-2024, Rs 10 lakhs
12. To study whether the levels of tissue factor pathway inhibitor (TFPI) and its polymorphisms influence bleeding severity in moderate and severe Hemophilia A patients, Dr Mukul Aggarwal, AIIMS Early career intramural, 5 years, 2020-2024, Rs 10 lakhs

#### ***Completed***

1. Burden of vaso-occlusive pain crisis: A cross-sectional observational study among patients with sickle cell disease in India (B-VOCAL STUDY), Dr Tulika Seth, Novartis, 2021-2023, Rs 2 lakhs
2. Phase 4, multicenter, prospective, interventional, post-marketing study in Hemophilia A patients in India receiving ADVATE as on-demand or prophylaxis under standard clinical practice, Dr Tulika Seth, Takeda, 2021-2023, Rs 2 lakhs

### **Departmental projects**

#### ***Ongoing***

1. A prospective multi-centric observational study on the role of blood coagulation and fibrinolysis in emergence of ARDS in patients with new coronavirus pneumonia (COVID-19)

2. A study of anti-phosphatidylserine/anti-prothrombin IgG antibodies as a tool to improve diagnosis of antiphospholipid antibody syndrome (APS)
3. Addition of bortezomib to standard multiagent induction chemotherapy in ALL patients increases their EOI MRD negativity rates
4. Analysis of CD9 expression in AML by flow cytometry: Prognostic role, correlation with clinicopathological parameters, cytogenetics and mutation profile.
5. Analysis of Monocyte subsets by Multiparameter flow cytometry in peripheral blood in cases of Monocytosis
6. Azacytidine and Venetoclax followed by HiDAC consolidation in Previously Untreated Acute Myeloid Leukemia patients unfit for intensive chemotherapy
7. B VOCAL study on sickle cell quality of life
8. Central nervous system hemorrhage and thrombosis in acute promyelocytic leukemia
9. Characterization of immunoparesis in newly diagnosed myeloma and its impact on progression-free and overall survival with regards to anti myeloma therapy
10. Clinical profile, treatment patterns and quality of life in cancer patients with venous thromboembolism
11. Correlation of endogenous thrombopoietin levels with response to thrombopoietin receptor agonists and assessment of serum LDH profile in adults with primary ITP
12. Evaluation of programmed death- ligand1 (PD- L1)/CD274 expression on myeloblasts in acute myeloid leukemia (AML) by flow cytometry
13. Evaluation of response rate after early initiation of eltrombopag with cyclosporine in treatment naive severe aplastic anemia patients compared to historical cohort. A pilot study
14. Evaluation of response to immunosuppressive therapy and eltrombopag in aplastic anemia
15. Expression of basophil-lineage commitment marker CD203c in acute promyelocytic leukemia and its correlation with disseminated intravascular coagulation (DIC) profile
16. Flow cytometric detection of leukemic blasts in CSF in ALL patients with CNS stage 1 disease and monitoring the efficacy of standard Intrathecal methotrexate in them
17. Flow cytometry assessment of CD 26+ leukemia stem cells in chronic myeloid leukemia
18. Genome-wide association study in an Indian cohort of patients with acquired aplastic anemia
19. Global longitudinal staring pattern as a measure of cardiac dysfunction in patients receiving 7 plus 3 for AML
20. Identification and quantification of Myeloid-derived suppressor cells in Precursor B cell acute lymphoblastic leukemias by flow cytometry
21. Minimal residual disease analysis in acute myeloid leukemia by flow cytometry using a limited antibody panel
22. Preclinical study of CRISPR-Cas mediated gene editing of globin gene locus in healthy donor derived CD34+ hematopoietic stem progenitor cells (HSPCs) in mouse models to develop a potential therapy for sickle cell anemia patients
23. Prevalence of common variable immunodeficiency and autoimmune lymphoproliferative disorder in autoimmune hemolytic anemia/Evans syndrome and their impact on clinical outcomes
24. Study of molecular basis of idiopathic erythrocytosis
25. Study of the expression of GATA1 protein by immunohistochemistry in BCRABL negative myeloproliferative neoplasm.
26. Study of the role of thromboelastography in predicting risk of hemorrhage in patients with acute leukemia
27. To assess utility of MPN 10 questionnaire for assessment of symptoms burden and quality of life) and assessment of various scoring systems being used in patients of myelofibrosis
28. To study the predictors of response to thalidomide in patient with transfusion dependent thalassemia

### ***Completed***

1. Assessment of eligibility for treatment-free remission in patients of chronic phase of CML attending OPD of a tertiary care center
2. Compare HbCZE and HPLC in diagnosis of hemoglobinopathies
3. Effect of tyrosine kinase inhibitor on sperm parameters and pituitary gonadal axis in male patients with Chronic myeloid Leukaemia
4. Evaluation of transient elastography, hepatic iron concentration by MRI t2\* liver, serum liver fibrosis indexes versus liver biopsy in thalassemia major patients who are candidates for hematopoietic stem cell transplant, a comparative pilot study

5. Flow cytometric ploidy analysis in B-cell acute lymphoblastic leukemia
6. Imatinib dose escalation in CML: indication, responses and outcomes
7. Immunophenotyping and MRD analysis in Multiple myeloma by flow cytometry
8. To compare the diagnostic performance of Whole-Body Low Dose Computed Tomography (WB LDCT) and Conventional Skeletal Survey (CSS) in diagnosis and management of patients with Multiple Myeloma (MM) in a Tertiary Care Centre
9. To compare the side effect profile, minimal residual disease and early event free survival in patients of CD 20 positive precursor B acute lymphoblastic leukemia who receive rituximab versus those who do not receive rituximab with induction therapy
10. To evaluate the utility of enumerating circulating stem cells with aberrant h-MiCL expression by flow cytometry in the diagnosis and prognosis of Philadelphia chromosome negative Myeloproliferative Neoplasms

### **Collaborative projects**

#### ***Ongoing***

1. Screening, classification and clinical profile of patients with Anaemia and Diabetes mellitus, Medicine, AIIMS
2. ICMR registry on rare disorders, ICMR, Delhi
3. Venetoclax with chemotherapy for Remission induction in AML patients: a phase Ib/II study, Medical Oncology, AIIMS
4. Effect of different vitamin D supplementation practices in vitamin D deficient mechanically ventilated patients with sepsis in a medical ICU on hemoglobin levels at day 0 and day 14, Medicine, AIIMS
5. MYD88 L265P Mutational studies in characterization of unclassifiable mature small B cell lymphoid neoplasms, Pathology, AIIMS
6. An open label randomised control trial to compare the outcomes with and without preoperative splenic artery embolization (SAE) in patients with moderate splenomegaly undergoing elective laparoscopic splenectomy, Surgery, AIIMS
7. Real Time PCR for Diagnosis of Invasive Fungal Infections, Microbiology, AIIMS

#### ***Completed***

1. Clinical and laboratory profile of patients with hyper eosinophilia presenting to a tertiary care center in north India, Medicine, AIIMS
2. A population based prospective cohort study to unravel the causes of stroke and cognitive decline: a cross cultural perspective international co-operation division. AIIMS and Erasmus Medical Center Rotterdam, Netherlands, Clinical Epidemiology Unit, AIIMS
3. Role of platelet activation in the development of systemic inflammations in patients with type-2 diabetes, Endocrinology, AIIMS and Regional Centre for Biotechnology (RCB)
4. Identifying association of gene polymorphism and Prakriti in responders & non responders to dual antiplatelet therapy in coronary artery disease patients, Cardiology, AIIMS
5. To evaluate the role of serum d-dimer, neutrophil:lymphocyte ratio, platelet:lymphocyte ratio and CA125 in assessment of ovarian masses, Obstetrics and Gynaecology, AIIMS
6. Efficacy of intravenous iron therapy compared to oral iron treatment in iron deficient adult cyanotic, congenital heart disease patients for improvement in clinical outcome at 3 months, Cardiology, AIIMS
7. Prospective observational study to assess the prevalence of platelet refractoriness and its reasons in patients receiving multiple platelet transfusion in an Indian setting, Transfusion Medicine, AIIMS
8. Autoimmune haemolytic anaemia: Clinical and Serological correlation, Transfusion Medicine, AIIMS

### **Research projects over past 3 years:**

<b>Research projects</b>	<b>2020-2021</b>	<b>2021-2022</b>	<b>2022-2023</b>
Total funded projects	32	39	14
Total funding (lakhs)	507 lakhs	7974 lakhs	6726.94 lakhs

**PUBLICATIONS****Journal: 20****Abstract: 15****Chapters in Book: 1****Publications**

Item	2020-2021	2021-2022	2022-2023
<b>Total</b>			
Journal articles	32	30	20
Abstracts	22	18	15
Chapters in books	-	-	1
Books	-	-	-

**PATIENT CARE****A. CLINICAL SERVICES**

- **OPD/Clinics runs 6 days per week:**

- New Patients: on Monday/Wednesday/Friday

- **CLINICS:**

1. Monday: CML, Hemato-oncology
2. Tuesday: Stem cell Transplant Clinic
3. Wednesday: Hemolytic anemias and ITP, CLPD
4. Thursday: Coagulation and Bleeding clinic
5. Friday: Aplastic anemia, CMPD clinics
6. Saturday: Leukemia Survivor clinic

- **In Patient care:**

1. Inpatients: C2, C6, D6, Emergency ward, Private wards
2. Stem cell Transplant: 4-6 New Allogeneic transplants per month
3. Hematology Day care: For procedures, chemotherapy and transfusion services

- **TOTAL INPATIENT census in 2022-23**

**Regular admission - 926****Short admissions - 13924****Total Admissions - 14850****Hematology Day Care Center (Near C2 ward) Census 2022-23**

Month	Admissions	Chemotherapy	Transfusions		Procedures			Total Procedures
			RBC	SDP/PRP/FFP/Cryo	Bone marrow	Intra-thecal	Phlebotomy	
April 2022	1071	489	327	119	109	45	23	1112
May 2022	1201	574	353	132	115	36	41	1251
June 2022	1210	635	345	118	160	42	36	1336
July 2022	1221	563	345	176	117	44	44	1289
August 2022	1197	619	348	163	108	32	25	1295
September 2022	1206	589	339	151	113	63	39	1294
October 2022	1127	450	355	176	109	49	66	1205
November 2022	1133	472	341	183	96	58	25	1175
December 2022	1119	551	359	138	80	50	28	1206
January 2023	1250	534	341	164	77	53	54	1223
February 2023	1122	574	322	140	75	47	40	1198
March 2023	1200	617	345	175	80	52	40	1309

- Community services

The department has been active around thalassemia and hemophilia awareness with the help of Thalassemia federation of India and Hemophilia Federation of India.

### LABORATORY SERVICES

The Department of hematology has state of art facilities of following:

- Bone marrow aspirate, bone marrow biopsies and peripheral smears
- Immunohistochemistry
- Molecular genetics
- Hemolytic anemia workup
- Flow cytometry
- Capillary electrophoresis for hemoglobinopathies
- Coagulation workup for inherited and acquired bleeding disorders
- Platelet aggregometry
- Thrombophilia workup
- Prenatal diagnosis of Hemophilia and hemoglobinopathies

### Census of various laboratories (2022-2023)

Lab Name	Test	Number	Total
<b>Bone marrow biopsy laboratory</b>	Biopsy (H&E)	2535	3440
	Reticulin Stain	805	
	Masson Trichome	78	
	Congo red	22	
<b>Immunohistochemistry lab</b>	Immunostains performed	1063	3760
<b>Coagulation lab</b>	Prothrombin time	5693	43860
	INR	5693	
	Activated partial thromboplastin time	7513	
	APTT for heparin monitoring	150	
	Thrombin time	5693	
	Fibrinogen	5693	
	Platelet count	-	
	D-dimer	4600	
	Clot solubility test	500	
	Factor assay (VIII, IX, X, II, V, VII, XI)	400	
	Factor inhibitor screening	345	
	Bethesda assay for inhibitor titer	40	
	Platelet aggregation	480	
	von-Willebrand antigen	380	
	Lupus anticoagulant (PTT-LA, KCT and DRVVT)	1900	
	Protein C	500	
	Protein S	500	
	Activated protein C resistance	400	
	Antithrombin	500	
		β2-glycoprotein I	



<b>Hemolytic lab</b>	HPLC	5679	10,712
	Ferritin	857	
	G6PD	781	
	DCT	345	
	OFT	211	
	PNH	28	
	Urine Hemosiderin	09	
	Cryoglobulin	11	
	Sickling test	39	
	LAP score	11	
	Cytochemistry	2741	
	<b>Hemogram laboratory</b>	OPD and ward patients	
Hematology OPD patients		4403	
Hemograms for HDCC, bone marrows and hemolytic lab		4000+	
Bone marrow staining		3300	
Retic Count		12000+	
Hemogram PS staining		24550+	
Slide staining for MBBS class		1200+	
Hematology clinic		5030	
<b>Molecular diagnostic laboratory</b>	RTPCR/RQPCR	363/1494/658/69	RT-363 RQ-1499 JAK-658 CAL R-69 2589
	Hemophilia prenatal diagnosis		
	Factor V Leiden		
	MTHFR polymorphism		
	Prothrombin gene mutation (P20210)		
	$\alpha$ -thalassemia		
	$\beta$ -thalassemia		
	$\alpha$ -triplication		
<b>Flow cytometry</b>	Acute leukemia	770	3026
	Chronic lymphoproliferative disorders	636	
	Paroxysmal Nocturnal hemoglobinuria	1138	
	Minimal Residual disease	287	
	CD34 enumeration	851	
	Platelet disorders	110	

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor M Mahapatra** continued as Editor-in-chief of Indian Journal of Hematology and Blood Transfusion (IJHBT); Member of GATEC (Gene Therapy Advisory and Evaluation Committee) working group on Hematology; Member of Expert group for CSIR Mission on Sickle cell anemia; Member of Expert committee on “Use of stem cell as standard of care for their therapeutic use”; International Member of European Society of Hematology (EHA); International member of International society of thrombosis and hemostasis (ISTH).

**Professor Tulika Seth** is National NTPPH coordinator for PHO Chapter of Indian Academy of Pediatrics 2021-current; EC member IAHAD (Indian Academy for Hemophilia and Allied Disorders); Member Institute Ethics Committee for Post Graduates, AIIMS, New Delhi; Member subcommittee to assist ethics committee with monitoring for adverse events for clinical trials (AIIMS, New Delhi); Member Library Committee AIIMS; Governing body member of Delhi School of Public Health (DSPH); National board of examiners (NBE) Specialist Member for Hematology; Member National centre of excellence and advanced research on anemia control (NCEAR-A); Member National Consortium for Research and Development on Therapeutics for Rare Diseases (NCRDTRD) - Hematology expert group; Member JNU stem cell ethics committee IC-SCR.

**Dr Mukul Agarwal** is working as Hematology expert for Athlete biological passport management unit (ABPU) with National Anti-doping Agency (NADA), India and with Anti-Doping Laboratory, Tokyo; Completed GVACI course by IGIB, New Delhi; Completed Basic course in biomedical research and Ethics Review of Health Research courses by ICMR-NIC; Completed GCP course organized by AIIMS, THSTI, Delhi; Coordinator, Dental masterclass in Hemophilia, 18 April 2022, Virtual; Chairperson - Sequencing in Hematology, PHOCON 2022, 20 November 2022, Delhi; Chairperson - Graft versus Host disease, Malignant Transplantation, BMT Masterclass, 18 December 2022, Lucknow.

**Dr Rishi Dhawan** received American Society of Hematology Global Research Award 2021-2022; Completed Global Clinical Scholars Research Training Program from Harvard Medical School.

**Dr Jasmita Dass** is Chairperson for session on Update in Myeloma, Panel discussion on relapsed and refractory myeloma, Hybrid Conference - Hematology Update 2022, 7 May 2022, New Delhi; Chairperson for Lab stream, 2nd Annual Scientific Meeting of Association for Haemophilia and Allied Disorders - Asia Pacific, 17 September 2022, Virtual; Judge for the oral paper session, Fifth Haematology Update, 22 January 2023, Jodhpur

#### VISITING SCIENTIST

1. International speaker program: Dr Kalpana Gupta, National Institutes of Health (NIH), Bethesda, USA, on 7 November 2023
2. International speaker program: Dr Pankaj Qasba, Program Director, National Institutes of Health (NIH), Bethesda, USA, on 7 November 2023
3. International speaker program: Dr Rajat Kumar, Head, Complex Malignant Hematology at Princess Margaret Cancer Centre, Canada, on 30 December 2022
4. International speaker program: Dr Sandeep Soni, Clinical Associate Professor, Division of Pediatric BMT at University of California, San Francisco, USA, on 6 March 2023
5. International speaker program: Dr Giuseppe A. Palumbo, Assistant Professor of Hematology at the University of Catania, Italy, on 15 March 2023

#### Comparison with previous years

Item	Sub-types	2020-21	2021-22	2022-23
Number of students/trainees registered in the department	DM Clinical Hematology and Hematopathology	25	24	25
Number of oral presentations and posters		22	20	18
Number of different types of publications		39	31	40
Total number and amount of funding received for research	Intramural and Extramural	5,07,00,000	79,74,00,000	67,46,94,357
Number of patient care related activities	Inpatient census	8367	11182	14850
	Specialty clinics	10	10	10
	Procedures	7197	11,747	17,780
	Lab Investigations	95201	80783	1,47,700
	Other activities- patient seminars/workshops	3	4	4

## 9.17 Hospital Administration

### Medical Superintendent

DK Sharma  
(till 15 December 2022)

Sanjeev Lalwani (Additional Charge)  
(w.e.f. 16 December 2022)

### Professor and Head

Sidhartha Satpathy

### Professors

Sanjay Arya  
Nirupam Madaan

Aarti Vij  
Amit Lathwal

Mahesh R

### Additional Professors

Anoop Daga  
Parmeshwar Kumar

Angel Rajan Singh  
Vijaydeep Siddharth

### Associate Professors

Abdul Hakim

Jitender Sodhi

### Assistant Professors

Sheetal Singh  
Kanika Jain  
Namarata Makkar  
Charan Raj

Vikas H  
Arun Verma  
Khalid Mehmood  
Nishant Sharma

## EDUCATION

The Department is running a postgraduate degree program for medical graduates, viz. MD(HA), earlier known as MHA (Masters in Hospital Administration). This course was started in February 1966, for the first time in India and has since been recognized as a distinct postgraduate discipline. In Jan 2016, this course was converted to MD (Hospital Administration) in accordance with decision of Academic Committee (AC-113/10) duly ratified by GB (GB-152/7) during its meeting held on 13 April 2015. The Residency Program in Hospital Administration focuses on 'hands on' training, where Resident Administrators are posted in the 'Administrative Control Room' of main hospital, Jay Prakash Narayan Apex Trauma Center, and National Cancer Institute, Jhajjar campus round the clock as 'Duty Officers', and coordinate all the hospital activities after duty hours. It is also the nerve center of the Hospital/centers. The Department also has Senior Residents who are posted in the Main Hospital and various centers for assisting Faculty members in administrative tasks. They are also involved in new projects at AIIMS.

Faculty members conducted several training programmes for the doctors working in various organizations including Central, State Governments, Paramilitary Forces and in various PSUs such as IICM, Ranchi and also other management institutes.

## LONG-AND SHORT-TERM TRAINING:

1. Two MD(HA) Students from Sher-I-Kashmir Institute of Medical Sciences, Srinagar, J&K
2. Ten ITBP Medical Officers
3. One MBA(Healthcare and Hospital Management) student from Jamia Milia Islamia

## **CONTINUING MEDICAL EDUCATION**

### **Research**

#### **Ongoing Thesis/dissertation/ projects:**

1. A study on the maintenance strategies of critical medical equipment and its cost implications
2. A study to evaluate the utility of Telemedicine as a screening tool in the Pediatric Outpatient Department of a tertiary care teaching hospital in Delhi
3. An exploratory study into the perceived impact of accreditation on healthcare quality and its associated cost among accredited healthcare organizations in India
4. Impact of interactive training interventions on Soft Skill of communication in Nursing staff of emergency of a tertiary care teaching hospital – An Experimental Study
5. A quality study to assess the perception of Principal Investigators conducting extramural research about Research Management systems at AIIMS
6. A study on procurement practices through Govt. eMarketplace (GeM) at tertiary care hospitals in north India
7. A study on Patient Centered Care at AIIMS, New Delhi
8. Application of Artificial Intelligence in hospitals in India
9. To study the knowledge, awareness, skill practices among officials in the procurement process at AIIMS, New Delhi and identification of preferred model for procurement
10. A study to estimate the consumption pattern of surgical consumables over a period of 4 months in operating rooms of Main hospital at AIIMS to optimize their storage and buffer stock levels.
11. A comparative medical record audit of Covid positive, covid suspect and non-covid patient records in a tertiary care hospital in New Delhi
12. Process of renewal of PC & PNDT license of a large tertiary care teaching hospital in North India – How one needs to plan for it?
13. To study the impact of interventions to streamline the patient flow in Emergency Department – A systematic review
14. A study to evaluate the health literacy of patients of JPNATC
15. Soft skills of Security Personnel
16. A study to assess the shared professional role and responsibilities in nursing services at CDER & DrBRAIRCH, AIIMS: Social Network Analysis
17. Cost conundrum of anti-cancer drugs: A study on pricing variations across India
18. An interventional study to evaluate the impact of a Patient Safety Incident Reporting system on Incident Reporting in various in-patient areas of AIIMS
19. A study to assess the shared professional role and responsibilities in nursing services in CDER & Dr BRAIRCH, AIIMS: Social Network Analysis
20. Comparative study of secondary trauma, burnout, compassion fatigue of healthcare workers of COVID positive, COVID suspect and non-COVID patients in a tertiary care hospital.
21. Assessment of Quality of death certification practices at AIIMS, New Delhi and testing quality improvement solutions
22. Cost-effectiveness of early stoppage of empirical antibiotic therapy at the clinical improvement in pediatric cancer patients with high risk febrile neutropenia in an ongoing label randomized control trial
23. Electrical safety in operating rooms of tertiary care teaching hospital in North India
24. Capacity building of doctors and hospital engineers in structural and non-structural mitigation measures for hospital safety and disaster resilience
25. National Capacity building program for healthcare workers in infection prevention and control (IPC) including biomedical waste (BMW) management for pandemic preparedness
26. Assessment of serial COVID-19 IgG antibody response among fully vaccinated healthcare workers involved in sanitation and housekeeping at AIIMS, New Delhi

#### **Completed Thesis/Dissertation/projects:**

1. Needs Analysis of CSR (Corporate Social Responsibility) in AIIMS, New Delhi
2. Costing of Intensive Care of Neuroscience Centre, AIIMS, New Delhi
3. A Review on the challenges and experiment of person with disability with unique disability identification in Journal NeuroQuantology

4. Study on increasing throughput of COVID-19 screening and testing facility at an apex tertiary care hospital in New Delhi using discrete-event simulation software DIGITAL HEALTH, January 2021
5. Impact of Health Care professionals on Perceived Quality of Care
6. Impact of Life Cycle Costing in Procurement of Robotic Track-Based Central Laboratory at Apex Institute of India
7. Do Digital technologies improve perceived quality of care: understanding the healthcare professional perspective using the technology acceptance model
8. Utility of nano-impregnated surface coating to achieve continuous active disinfection in an intensive care unit of a tertiary care hospital
9. Comparative analysis of the impact of in-hospital confinement in different inpatient settings on the psychology of corona patients.
10. A study on work engagement at AIIMS Hospital, New Delhi
11. Audit for antifungal treatment adequacy in adults with invasive fungal infections
12. Monitoring of hospital environmental cleaning and disinfection practices by Adenosine Triphosphate (ATP) bioluminescence-based during COVID-19 times (under publication)
13. Hybrid method of teaching-learning is effective in improving communication- an experience of an interventional pre-post single-arm study through communication workshop for nurses (under publication)
14. Effectiveness of robot in floor cleaning for minimizing human exposure in view of COVID-19 pandemic
15. Impact of air quality interventions on air quality including microbial load in patient environmental air

**Lectures delivered: 84**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
26	31	84

**List of oral papers presented: 5**

**Oral presentations over past 3 years**

2020-2021	2021-2022	2022-2023
2	0	5

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

#### **Extramural**

1. Capacity building of doctors and hospital engineers in structural & nonstructural mitigations measures for hospital safety & disaster resilience, Dr Vijaydeep Siddharth, Ministry of Health & Family Welfare, Govt of India, 3 years, 2021-2024, Rs 1,54,00,000
2. National Capacity building program for healthcare workers in infection prevention and control (IPC) including biomedical waste (BMW) management for pandemic preparedness, Dr Vijaydeep Siddharth, USAID, India & JHPIEGO, India, 1 year, 2022-2023, Rs 3,00,00,000

#### **Intramural**

1. Assessment of serial COVID-19 IgG antibody response among fully vaccinated healthcare workers involved in sanitation and housekeeping at AIIMS, New Delhi, Dr Abdul Hakim, AIIMS Intramural Grant, 1 year, 2022-2023, Rs 4,50,000
2. Utility of nano-impregnated surface coating to achieve continuous active disinfection in an intensive care unit of a tertiary hospital, Dr Nirupam Madaan, UNIDO (Direct provision of materials and supplies), 1 year, 2022-2023

#### ***Completed***

1. Effectiveness of robot in floor cleaning for minimizing human exposure in view of COVID-19 pandemic, Dr Vijaydeep Siddharth, AIIMS Intramural Grant, 1 year, 2020-2021, Rs 6,28,580
2. Impact of air quality interventions on air quality including microbial load in inpatient environmental air, Dr Vijaydeep Siddharth, AIIMS Intramural Grant, 1 year, 2020-2021, Rs 3,46,000

## Collaborative projects

### Ongoing

1. Development of online course for training and capacity building of Physicians for certifying the underlying cause of death and improving cause of death statistics, Centre for Community Medicine
2. To develop and evaluate the effectiveness of multidisciplinary education and care model for individuals, with diabetes, affected by COVID-19: A two-arm parallel Randomized Control Trial, Endocrinology, Pulmonary, Medicine, Cardiology, Urology, Nephrology, Orthopedics, Psychiatry, Computer Facility
3. Cost-effective analysis of evidence based interventions underlying Acute Ischemic Stroke: A Retrospective Study of Patients in a Tertiary Care Hospital, Delhi, India”, Neurology
4. Errors in medico-legal reporting by first responders at a tertiary trauma unit in North India, Forensic Medicine
5. Clinical Characteristics of critically ill older adults with COVID-19, Geriatric Medicine
6. High frequency panel for real time insights into COVID-19 in India, Geriatric Medicine
7. Study to standardize acceptable communication between female and male doctors in a hospital setting with regard to the provisions of the PoSH Act, 2013, Psychiatry

### Completed

1. Antimicrobial susceptibility patterns of pathogens isolated in blood stream infections vis-à-vis antibiotic prescribing practices and genotype clonality of Acinetobacter Baumannii various patient care units/areas, Dr Vijaydeep Siddharth and Dr Hitender Gautam, AIIMS Intramural Grant, 1 year, 2021-2022, Rs 10,00,000

## Research projects over past 3 years

Research Projects	2020-2021	2021-2022	2022-2023
Total funded projects	3	4	4
Total funding	Rs 9,74,580/-	Rs 1,70,60,000/-	Rs 3,04,60,000/-

## PUBLICATIONS:

Journal: 29

Abstract: 3

Chapters in Book: 15

### Publications over past 3 years

Item	2020-2021	2021-2022	2022-2023
Journal articles	34	31	29
Abstracts	-	-	3
Chapters in Books/Monographs	2	6	15
Books	1	2	-

## PATIENT CARE :

### (a) Facilities:

- Operationalized ABHA system, research complex, Dining Hall for patients, biometric system for outsourced staff, procured immune analyser for NDDTC lab and initiated Engineering projects at community clinics
- Soft launch of the National Centre for Ageing (OPD services)
- Mentorship of Medical Colleges and laboratories of the states of Bihar and Delhi for registration of COVID testing
- Planning and Installation of new Manifold for JPNATC-Burns, including g arrangement for CSR funding for the same
- Planning and tendering of new modular OTs at JPNATC and NCA
- Redesigning and commissioning of Emergency of JPNATC
- Repair and renovation of the old wards of JPNATC
- Equipping and Commissioning of two ICUs (28 beds) in JPNATC
- Renovation of the blood bank at JPNATC
- Commissioning and maintenance of additional 31 beds for COVID care on the third floor of Burns
- Technical and auxiliary support to the Burns block during COVID

- Completion of the renovation of the blood bank at JPNATC, which is currently in process
- Provisioning of ICU for pediatric COVID cases, along with training of manpower in paediatric airway and COVID management
- Facilitation of establishment of a bio-incubator on the ninth floor of the National Centre for Ageing under the bio-nest project sanctioned by the ICMR (in process) for Centre for Medical Innovation and Entrepreneurship (CMIE)
- Setting up of a Central Clinical Research Unit on the eighth floor of the National Centre for Ageing
- Establishment of a National Centre for Assistive Health Technology on the ninth floor of the Center for Ageing (in process)
- Change in registration and crowd management in New RAK OPD
- Initiation of token management system for outpatients in New RAK OPD
- Incremental increase in creation of ABHA IDs (from 90,000 to 3,00,000) under ABDM

**(b) Community Services/Camps, etc.**

- Creation and display of health educational material in the New RAK OPD
- Student awareness and interactive session for undergraduates in workplace behaviors and the POSH Act- January 2023

**AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Sidhartha Satpathy** was nominated as Member of National Accreditation Board for Hospitals and Health care Providers (NABH) as representative from AIIMS by Director AIIMS, New Delhi; nominated as member of Quality Steering Committee for monitoring Quality of empaneled hospitals under AB-PMJAY by National Health Authority, MoHFW; participated as Panelist for Round Table on Guidelines/Standards for re-processing of multiple use Health Care textiles on 7 July 2022 organized by International Finance Corporation, World Bank and USAID. This was taken up later by BIS; Contributed to development of BIS standards on PPE & re-processing of hospital garments under aegis of MHD Sectional Committee-Medical Equipment & Hosp Planning Committee; Chaired Session on BMW and Climate change during International Conference on BMW on 17-18 June 2022 at Mahatma Gandhi Medical College, Hyderabad; The Department was awarded “Mc-Gibony Institutional award” for great Hospital Administration Department by Academy of Hospital Administration, NOIDA on 13 August 2022 during Annual General Body Meeting (AGBM); was awarded “Vivekananda- great communicator award” by Academy of Hospital Administration, Noida on 13 August 2022 during AGBM; Participated as Subject Expert for selection of Assistant Professor Hospital Administration at AIIMS Jammu (26 July 2022), AIIMS Raipur (4 August 2022 FN), NEIGHRIMS, Shillong (4 August 2022 AN); TISS Mumbai (11 November 2022); AIIMS Gorakhpur (10 February 2023) and AIIMS Patna (17 February 2023), besides AIIMS New Delhi for 2021 and 2022 Faculty advertisements; was nominated as Member in National Oversight Committee (NATCOM) for Pradhan Mantri National Dialysis Program (PMNDP); Participated in stakeholders conclave conducted by NHA on HPQA discussion online on the theme “From Volume based care to value based Care” on 13 July 2022; Contributed as Member of Building Committee of National Brain Research Institute (NBRI) for shortlisting of Architect for undertaking further development works; Continued as Expert member of Academic Audit Committee of IIMR University for improvement of Academics and Research as mandated by University Grants Commission; Continued as Advisor, Editorial Committee of JAHA and Reviewer for NMJI, WHO-SEAJP, IJCM etc.

**Professor Mahesh R** was Chairman, Sub-Committee for assessment of cases for eligibility for Compassionate appointment at AIIMS, New Delhi; Member, Committee to examine the pros and cons of Central Legislation against the assault on Doctors on duty and Clinical Establishments; Member Secretary, Fire Audit Team Constituted vide Memo No. F.20-5/2020- Estt.I (Committee); Technical Expert, Medical Value Travel as part of Champion Service Sector Scheme, MOHFW, FICCI & SEPC Dept of Finance Services; Member of the Medical Equipment & Hospital Planning Division Council (MHDC), Bureau of Indian Standards; Involved in various clean drive activities of the Disease Prevention Outbreak Response Cell (DPORC), AIIMS, New Delhi as a member of the committee; Nodal Officer for National Vector Borne Disease Control Program, MOHFW, GOI; Technical Expert, Medical Value Travel as part of Champion Service Sector Scheme, MOHFW, FICCI & SEPC Dept of Finance Services.

**Dr Anoop Daga** was Executive Editor, Journal of Academy of Hospital Administration (JAHA), Noida, India; Member, Editorial Board, International Journal of Research Foundation of Hospital & Healthcare Administration (IJRFHHA), New Delhi, India; Member, Technical Textile Committee (incl. Medical & Surgical Textile), Bureau Of India Standards (BIS), New Delhi, India; Member, Service Sector Division Council, Bureau Of India Standards (BIS), New Delhi, India.

**Dr Angel Rajan Singh** got Scholarship by MASHAV for Training on “Management of Health Services in times of Crisis” from 13-24 June in Israel; Nominated Member of the Technical Committee of NABH; Nominated Member of Technical Committee for Validation of ABDM Health Solutions

**Dr Vijaydeep Sidharth** is International Expert: Conducting training of trainers and review of capacity development modules on Human Resource Management for hospital directors of the Ministry of Health and Royal Medical Services for the country of Jordan organised in collaboration with USAID Health Services Quality Accelerator (HSQA) and World Health Organisation, EMRO region in October 2022; Resource Faculty: (a) IIM, JAMMU: To teach the “Hospital & Healthcare service in India” course to Term I MBA(HA&HM) students of Batch 2022-23 at IIM Jammu (b) Coal India Limited: Conducting the training programme on Hospital Management and Administration for Medical Professionals of Coal India Limited at Indian Institute of Coal Management, Ranchi (c) IGNOU Revising the course modules of Post Graduate Diploma Programme in Hospital and Health Management (PGDHHM) for School of Health Sciences (d) State conference of Medical Superintendents, Shillong, Meghalaya (e) Round table discussion on “Digitalization of patient monitoring beyond ICU to enhance patient safety” at 9th International Patient Safety Conference 2023 at Delhi organised by Apollo Hospitals at Taj Palace, Delhi and (f) Induction training programme for newly joined residents at AIIMS, New Delhi. Examiner: (a) Thesis review for MD Hospital Administration for PGIMER, Chandigarh and (b) Thesis review for MD Hospital Administration for Shri DharamstahalaManjunatheshwara University, Dharwad. Convened the first meeting of National Expert Advisory Group Meeting on Infection Control and Biomedical Waste Management for Pandemic Preparedness under the Chairmanship of Sh Vishal Chauhan, Joint Secretary, Health Policy, Ministry of Health & Family Welfare, GOI; Convened the second meeting of National Expert Advisory Group Meeting on Infection Control and Biomedical Waste Management for Pandemic Preparedness under the Chairmanship of Sh Vishal Chauhan, Joint Secretary, Health Policy, Ministry of Health & Family Welfare, GOI; Conducted the Programme on Implementation of 5th Edition NABH Standards for Accreditation of Healthcare Facilities at Burns & Plastic Surgery Block; Convened Focussed Group Discussion on impact of accreditation on quality and costs in healthcare organisations; Commissioned the Private Ward III Block at AIIMS New Delhi; Member Secretary, Committee for setting up of Gender Affirmation Clinic at AIIMS; Member of the expert committee visiting the Base Hospital, Kotdwar, Uttarakhand under the leadership of Director, AIIMS; Coordinating Machinery & Equipment donation worth Rs 108 Crores under corporate social responsibility from Infosys Foundation for MCH block; Chairperson, Member Secretary and Members of numerous committees at Main Hospital and at Institute level for procurement of various items/services; Member Secretary, Lung Transplant Programme at AIIMS New Delhi; Jury Member (a) Various competitions held during Swachhta Pakhwada from 1 to 15 April 2022 at AIIMS Hospital and (b) Various competitions organised by ORBO on Organ Donation to promote organ and tissue donation; External Assessor under Kaya Kalp Programme for Government of Delhi: (a) External Assessment of Pt Madan Mohan Malviya Hospital under Kaya Kalp Scheme from 16-17 February 2023 and (b) External Assessment of PUHCs from 19-21 December 2022. External expert for finalisation of technical specifications at NEIGRIHMS, Shillong.

**Dr Jitender Sodhi** was Member of the Specialists Board in Health Administration including Hospital Administration of National Board of Examinations; Member of the Annual Report Compilation Committee of AIIMS, New Delhi; Contributed as Resource faculty in the Induction training programme for newly joined residents at AIIMS, New Delhi; Member Secretary of Department Academic Committee; Member of the Rare Diseases Committee of AIIMS, New Delhi; Contributed in the Directory of Research Interest of Faculty & Scientists at AIIMS, New Delhi; Contributed extensively in coordination of disability assessment boards of UPSC Civil Services Candidates marked to AIIMS, New Delhi by DoPT; Contributed substantially in preparation of replies from the hospital side for group petitions listed in the matter of Rare Diseases of children in Hon’ble High Court of Delhi in the capacity of Officer-in-charge for court cases; Contributed as faculty in-charge, Hospital Establishment in bringing a change in the quality of administrative proposals related to leave matters and disciplinary proceedings of employees being put up on the file; Contributed in creation of a digital library of court cases related of Main hospital; Contributed consistently towards the fire prevention and safety aspects of Main OT and AB-8 ICU-periodic trainings of staff on use of portable fire extinguishers and evacuation methods; Contributed as resource faculty in the training of Hospital and Sanitary Attendants of Main OT and AB-8 ICU.

**Dr Abdul Hakim** coordinated and facilitated the conduct of Kaya Kalp Assessment of the Institute and AIIMS won the first prize in Kaya Kalp Programme in Group A of Central Government of Tertiary Care Hospitals. (2021-22); Conducted Kaya Kalp peer assessment at National Institute of Tuberculosis and Respiratory Disease, New Delhi; As a Faculty In-charge of Swachhta Team AIIMS, conducted Swachhta rounds across Institute for overall improvement in Swachhta at AIIMS; Provisioning of regular Fire Safety training sessions for all categories of staff and Fire safety drills across Institute; Member of the expert committee constituted by CPCB for drafting guidelines for disposal of Covid-19 self testing kits; Member of National Medical Value Travel Services committee; External Expert of MGPS Committee of AIIMS Bilaspur; Member of Selection Committee for appointment of Quality Manager at Hamdard Institute of Medical Sciences & Research (HIMSR); Organised Swachhta Pakhwada activities across Institute as per guidelines of MoHFW for observance of Swachhta Pakhwada from 1-15 April 2022 in Central Govt. Hospitals/Institutes.



**Dr Anant Gupta** was awarded the DMA Distinguished Service Award; Organized two training workshops of NABH 5th Edition at JPNATC; Member Secretary and Project Officer of Infectious Disease and Critical Care Block; Member of SPC of JPNATC; Member of SPC of Main Hospital; Contributed through the Guest Lectures for IIM Jammu; Contributed in various projects of Institute as well as JPNATC like the CBRN facility, Modular OT, Hybrid OT, CAPFIMS, Critical Care Block, NABH etc. Most significant contribution is towards the Infectious Disease and Critical Care Block through application of knowledge of Hospital planning and designing to design plan the said block and to make it a Model Block. His other contribution is as NABH coordinator for JPNATC which has taken the first step towards ensuring quality care to patients; Member of Space allocation committee at JPNATC. Space for ICU, Emergency. Operationalization of TC3 A ICU; Involved in Modular OT project which is nearing Completion; Involved in Hybrid OT project (47 Cr) from creation to SFC agenda. Currently in tendering stage; Draft report for Takeover of CAPFIMS Medical College by AIIMS New Delhi along with Dr Angel; Planning and Designing of CBRN Facility at JPNATC. Site and Feasibility report creation; Planning and Designing of OPD at JPNATC to augment the OPD Chambers; Planning and Designing and operationalization of 5-bedded ICU to be used at Disaster beds; Planning of space for shifting of billing section to a place near the Main Hospital; Coordinator of NABH entry level. Application filed for entry level NABH. More than 10 manuals and various processes created; Involved in tenders for hiring agency to help AIIMS for NABH and NABL; Nodal person at JPNATC for Containment of Vector Borne Diseases; Member in Implementation of Good Samaritan Scheme; Member of Quick Response team; Planning and Conduction of Meeting of Director AIIMS with Medical Superintendent of hospitals in Delhi for smooth referral; Officer incharge of Emergency and transport at Main Hospital for Brief Period; Involved in inquiry committees; Member of Medical Record Committee at JPNATC Creation of Draft KPI for Director AIIMS to document Achievements of Departments of AIIMS; Member of Department Academic Committee; Creation of Dashboard for Emergency of Main Hospital and JPNATC in coordination with the respective Computer Facility; Member Secretary and Project Officer of Infectious Disease and Critical Care Block.

**Dr Namarata Makkar** attended workshop on Role of Artificial Intelligence in Research & Patient Management, 2023 at JLN Auditorium, AIIMS on 28 February 2023; Member of ICCSHW.

**Dr Mohammad Kausar** is Reviewer for scientific journals.

## 9.18 Laboratory Medicine

### Additional Professor and Head

Sudip Kumar Datta

### Additional Professor

Shyam Prakash

### Assistant Professors

Suneeta Meena

Ashok Kumar Ahirwar

Tushar Sehgal

Rojaleen Das

### HIGHLIGHTS

The Department is the backbone of diagnostics in the institute providing services in the areas of Clinical Biochemistry, Hematology and Coagulation, Microbiology and Clinical Pathology to the entire institute. The department is an ideal example of integration of different diagnostic domains using latest state-of-the-art technology to provide holistic diagnostic support to the clinicians and patients in the Institute. The Department currently runs its services 24x7 from two different locations (Main Hospital Building, 2nd Floor and SMART Lab, New RAK OPD) and performs approximately 62,000-65,000 tests per day amounting to more than eighteen million tests in the current year. The Main Hospital Lab (Dry Chemistry Automation and Hematology) caters to an extended list of lab parameters (biochemistry, immunoassays, CBC, coagulation including body fluids) with a minimal turn-around time for IPD and Emergency department patients. All the departmental labs are enrolled with External Quality Assurance Programs for Biochemistry, Immunoassays, Hematology, Coagulation, Serology and Viral load testing.

In the month of October, the institute suffered a cyber-attack causing breakdown of hospital information system. During that period as well, the diagnostic services were run using manual mode. Patient registration, test programming, report entry and distribution were all done successfully through manual mode for a period of almost one month. The departmental staff, residents and faculty members worked relentlessly during this time period to ensure the timely dispatch of test reports.

The OPD Collection centres (Room No. 27-28, near Old RAK OPD and New RAK OPD) are operational from 8:00 AM to 6:30 PM. This year, the department has extended its collection and testing facility to National Centre Aging, AIIMS apart from the Mother and Child and Surgical Blocks in the adjoining Masjid Moth area. The department had also provided diagnostic support to COVID patients and is prepared to handle any eventuality.

The department continues to offer MD (Laboratory Medicine) and PhD programs with two candidates being awarded MD and one PhD degrees. Five candidates completed short-term training in the department. The department facilitated a short visit of diagnostic services at AIIMS for school students of Bal Bharti Public School, Pitampura. The department successfully organized a national pre-conference workshop on “End to end, Integrated Total Laboratory Automation” during ACBICON 2022 which was attended by 25 candidates from all over the country.

The department currently has 01 multicentric project, 09 Funded projects from Extramural and Intramural funding agencies with One Scientist C and two Scientist B working on research projects.

### EDUCATION

The Department offers MD Laboratory Medicine and PhD teaching courses

1. Two candidates were awarded MD (Laboratory medicine) and one candidate was awarded PhD in the year
2. The academic activities of undergraduate, postgraduate and paramedical teaching include:
  - For MD (Lab Medicine) including Lectures, Seminars, IQC and EQAS discussions, Journal Clubs
  - Extensive lab exercises on techniques and interactive discussions through equipment such as ELISA, PCR, real-time PCR, Gel electrophoresis and HPLC have been introduced
  - Department continued the training support to MD Pathology, MD Biochemistry and MD Paediatrics residents.

- Departmental faculty has taken regular allotted classes/seminars for MBBS (VI and VIII semesters), BSc Nursing (1st year), M Biotech (1st and 2nd year)
3. Two hours seminar slot has been allotted to the department for 8th-semester students for visit of Smart Lab and to orient them towards automation

#### **CMEs/Workshops/Symposia/National and International Conferences**

1. Workshop on “End to end, Integrated Total Laboratory Automation” on 23 October 2022, with the 48th National Conference of the Association of Clinical Biochemists of India (ACBICON-2022) in New Delhi
2. Visit and orientation for Laboratory Technologists on 17 July 2023 as a part of National Medical Laboratory Professionals Week (NMLPW-2022) in New Delhi
3. Organized Lab visit for school children from Bal Bharti Public School, Pitampura on 21 December 2023 in New Delhi

#### **Lectures delivered:**

**Sudip Kumar Datta: 6    Shyam Prakash: 5            Tushar Sehgal: 8**

#### **Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
8	15	15

#### **Oral papers/posters presented: 23**

#### **Oral/poster presentations over past 3 years**

2020-2021	2021-2022	2022-2023
11	11	23

### **RESEARCH**

#### ***Ongoing***

1. Evaluation of the role of Vitamin D receptor (VDR) polymorphisms on the efficacy of calcitriol therapy in stage 3 to 5 chronic kidney disease: A prospective double-blind study: Funded by ICMR, Dr Sudip Kumar Datta, ICMR, 3 years, 2021-2024, Rs 53,97,494
2. Characterization and expression of transfer RNA derived small RNAs as a circulating biomarker for disease diagnosis and prognosis in NAFLD, Dr Shyam Prakash, ICMR, 3 Years, 2022-2025, Rs 65,50,000
3. Molecular interaction of iron trafficking gene variants with mitochondrial dysfunction in metabolically associated fatty liver disease, Dr Shyam Prakash, ICMR, 3 Years, 2022-2025, Rs 55,50,000
4. Molecular coordination of T-regulatory cells and Prokineticins in obesity and their clinical correlation in obesity associated inflammation in non-alcoholic fatty liver disease and metabolic syndrome, Dr Shyam Prakash, ICMR, 2 years, 2021-2023, Rs 70,00,000
5. An expensive and rapid diagnostic method for detection of SARS COV-2 and COVID -19 RNA by loop mediated isothermal amplification (LAMP), Dr Shyam Prakash, AIIMS, 3 years, 2020-2023, Rs 10,00,000
6. Rapid diagnostic evaluation of Micro PCR for Hepatitis B virus DNA quantitation, Dr Shyam Prakash, BigTech Bangalore, 6 Years, 2017-2023, Rs 52,00,000
7. Triacetylfusarinine C as a potential marker of invasive aspergillosis, Dr Suneeta Meena, AIIMS, 2 years, 2021-2023, Rs 4,50,000
8. Evaluation of artificial neural network for differentiating Iron deficiency anemia and  $\beta$ -Thalassemia trait in comparison to the conventional methods, Dr Tushar Sehgal, ICMR, 1 year, 2022-2023, Rs 22,87,766
9. Evaluation of Extended inflammatory parameters of activated neutrophils (NEUT-RI, NEUT-GI), immature granulocytes (IG), reactive lymphocytes (RE-LYMP) and T cell-independent plasma cells (AS-LYMP) in Pyrexia of unknown origin and its correlation with functional imaging and conventional inflammatory parameters, Dr Tushar Sehgal, SYSMEX, INDIA, 1 year, 2022-2023, Rs 13,36,500

#### ***Completed***

1. Development of Opto-electronic sensor for point-of-care diagnostics of micro-albumin in urine sample, Dr Sudip Kumar Datta, AIIMS IMRG Collaborative Project with IIT-D 2 years (extended for 6 months), 2020-2022, Rs 10,00,000

2. Next-gen sequencing based evaluation of the functional implications of Angiotensin Converting Enzyme 2 (ACE2) gene polymorphisms in Indian population and their role in the outcome of SARS CoV2 infection in Indian COVID-19 patients: a pilot study, Dr Sudip Kumar Datta, AIIMS IMRG, 2 year, 2020-2022, Rs 9,60,000
3. Long Term Effects of COVID-19 on endocrine system, semen quality and sperm proteome, Dr Sudip Kr Datta, AIIMS -IMRG Collaborative Research Project, 1 year, 2021-2022, Rs 5,00,000
4. Development and validation of standalone meter for non-invasive salivary glucose quantification, Dr Shyam Prakash, BIRAC (DST), 2 years, 2021-2022, Rs 10,00,000
5. Clinical validation of two versions of salivary glucose and urea analyzers for developing of rapid non-invasive prototypes, Dr Shyam Prakash, IMRG AIIMS, 2.6 years, 2020-2022, Rs 10,00,000
6. A prospective multicentric study on the role of blood coagulation and fibrinolysis in the emergence of ARDS in patients with New Coronavirus Pneumonia (COVID-19), Dr Tushar Sehgal, AIIMS, 1 year, 2019-2020, Rs 10,00,000
7. Evaluation of rapid thromboelastography in predicting acute trauma-induced coagulopathy in severe traumatic brain injury, Dr Tushar Sehgal, AIIMS, 1 year, 2021-2022, Rs 4,79,000

#### **Departmental projects (MD/PhD thesis/dissertation)**

##### ***Ongoing***

1. CAP-53194, a novel predictive tumor inhibitor of polo-like Kinase-1
2. Molecular coordination of Adropin, Irisin, preptin gene expression in metabolic syndrome and type-2 diabetes mellitus patients
3. Molecular expression and interaction between growth differentiation factor-15 (GDF-15) and nitric oxide regulatory genes in diabetes and metabolic syndrome
4. Role of endothelial GATA 4 and Platelet derived growth factor-B in metabolic associated fatty liver disease
5. Role of glucose regulated protein-78 and Fatty acid binding protein-4 in non-alcoholic fatty liver disease and type-2 diabetes mellitus patients

##### ***Completed***

1. A prospective study on the optimal usage of hospital information systems and its impact in emergency care settings
2. Association of GRP-78, Zinc, Iron and vitamin C levels in patients with Covid-19 and the occurrence of mucormycosis
3. CAP-53194, a novel predictive tumor inhibitor of polo-like Kinase-1 Collaborative Projects
4. Determination of reference ranges for healthy individuals for new red blood cell and reticulocyte parameters in Indian population
5. Evaluation of acute and long-term consequences of COVID-19 infection on thyroid function
6. Evaluation of myelin loss and oligodendrocyte pathology in severe traumatic brain injury
7. Microsporidia. Microsporidia and gastrointestinal infections in renal transplant recipients
8. Molecular coordination of Adropin, Irisin, preptin gene expression in metabolic syndrome and type -2 diabetes mellitus patients
9. Molecular interaction of reactive oxygen species in mitochondrial dysfunction and nrf-2 gene expressions in polycystic ovary syndrome (PCOS)
10. Role of serum matrix metalloproteinase 7 levels in diagnosis and prognostication of infants with extra-hepatic biliary atresia structural and functional adaptation in renal, cardiovascular and bone mineral metabolism in living kidney donors: a prospective observational study

##### ***Ongoing***

1. A longitudinal, multi centric Novel Coronavirus (COVID-19) population based age stratified seroepidemiological study (urban, rural, tribal communities), Department of Community Medicine, AIIMS, New Delhi
2. A prospective cohort study on trajectories of postpartum weight, risk factors associated with weight retention and its relationship with metabolic derangements till 18 months post-delivery among women in India, Department of Obstetrics and Gynaecology
3. A study of association of metabolic dysfunction associated fatty liver disease (MAFLD) and dynapenia/sarcopenia with cardio metabolic risks, Department of Medicine, AIIMS, New Delhi

4. Assessment of eating behavior and nutritional chronotypology and its association with body composition and metabolic parameters in obese adults, Department of Medicine, AIIMS, New Delhi
5. Biochemical and enzymatic analysis of bile in choledochal cyst and correlation with histopathological features and expression of immune modulators, Department of Pediatric surgery, AIIMS, New Delhi
6. Classification of Anemia in patients with Type 2 Diabetes Mellitus and association with metabolic indices, Department of Medicine
7. Comparative evaluation of endocrine disrupter chemicals (organochlorine, organophosphate, Biphenyl A, Phthalate) in polycystic ovary syndrome, type-2 diabetes mellitus and healthy reproductive age Indian women, and their correlation with dietary habits (vegetarian Vs non-vegetarian ) and genetic variability, Multi-centric project
8. Comparison of dried blood spots and plasma samples for the quantification of amino acid using HPLC method among inborn error of metabolism patients, Division of Genetics, Department of Pediatrics, AIIMS, New Delhi
9. Effect of body composition on gait, balance and strength in obese individuals in comparison to non-obese individuals, Department of Medicine, AIIMS, New Delhi
10. Effect of parental presence on stress biomarkers, melatonin level and anxiety scores during induction of anesthesia in children undergoing ophthalmic procedures. A randomized controlled trial, Department of Anaesthesia, RPC AIIMS, new Delhi
11. Efficacy of Cognitive Retraining Based Intervention Modules for Treating Cognitive Deficits Among Obese Individuals, Department of Clinical psychology NDDTC
12. Evaluation of lifestyle related factors and biochemical markers for the occurrence and severity of Non Alcoholic Fatty Liver Disease in India, Department of Medicine
13. Evaluation of prevalence, regional phenotypic variation, co-morbidities, risk factors and the variations in response to different therapeutic modalities among Indian women with polycystic ovary syndrome (PCOS): A Multicenter study across India, Multi-centric project
14. Evolution of cerebral edema, blood brain barrier disruption and its subsequent restoration along with the comparison of equiosmolar solutions in pediatric traumatic brain injury patients, Department of neurosurgery, JPN Trauma center, AIIMS, New Delhi
15. Expression of Immune checkpoints (CTLA-4, PD-1, PD-L1), cytokines and T-reg cells in Lupus Nephritis, Department of Nephrology, AIIMS, New Delhi
16. Hypomagnesemia and its correlation with clinical outcomes in admitted sepsis patient, Department of Medicine
17. Impact of intravenous iron therapy on fatigue and quality of life in cancer patients receiving palliative care: a prospective interventional study, Department of Onco-Anaesthesia Palliative Medicine AIIMS New Delhi
18. Randomized controlled trial to compare the effect of dietary intervention and resistance exercises on changes in muscle strength, mass and function in Type-2 diabetes patients with Dynapenia and sarcopenia, Department of Medicine, AIIMS, New Delhi
19. Randomized controlled trial to compare the impact of costal expansion exercises and dietary intervention on lung function rate of perceived exertion and quality of life in obese individuals, Department of Medicine, AIIMS New Delhi
20. Randomized Controlled trial to compare the impact of exercise and nutritional interventions on changes in skeletal muscle mass and function in obese patients with sarcopenia, Department of Medicine, AIIMS, New Delhi
21. Role of Pre-operative Thromboelastography (TEG) in predicting Peri-operative Blood Loss during Gynaecology Surgeries, Department of Obstetrics and Gynaecology
22. Role of T- Regulatory cells (T-regs) in obesity and their clinical correlation in obesity associated inflammation in type 2 diabetic and chronic kidney disease (CKD), Department of Nephrology, AIIMS, New Delhi
23. SARSCoV-2 antibody response to COVID-19 vaccination among immunocompromised and comorbid individuals, Department of Medicine, AIIMS, New Delhi
24. Study of evolution of cerebral edema, neuroinflammation and blood brain barrier disruption in pediatric traumatic brain injuries, Department of Neurosurgery JPN Trauma Center AIIMS New Delhi
25. Study of molecular and peripheral blood biomarkers and their utility to diagnose mild and moderate TBI induced cognitive impairment, Department of Laboratory Medicine, JPNTC, AIIMS New Delhi
26. Study of the effect of stainless steel and titanium biomaterial on the level of C3 and C4 serum complement levels in patients undergoing intramedullary nailing for fracture shaft femur, Department of Orthopedics

27. To evaluate the personality traits and assess the impact of humanistic psychotherapy for trait specific intervention on body composition and metabolic parameters in obese subjects, Department of Medicine, AIIMS, New Delhi
28. To examine myelination and changes in oligodendrocytes in white matter pathology post severe traumatic brain injury (sTBI) among humans, Forensic Pathology and Molecular DNA, JPNATC AIIMS, New Delhi
29. Validation study of portable analyzer device for diagnosis of Liver, Pancreas, Heart and Kidney function from human blood/serum/urine/CSF at point of Care(POC), Department of GI surgery
30. Valuation of micro-RNA profiles in the follicular fluid of women with and without PCOS and their correlation with IVF outcomes: A case control study, Department of Obstetrics and Gynecology, AIIMS, New Delhi

#### **Completed**

1. A double-blind randomized placebo-controlled trial comparing genotype guided standard dosing with conventional dose escalation strategy of azathioprine in patient with ulcerative colitis, Department of Gastroenterology, AIIMS, New Delhi
2. Determination of reference ranges for healthy individuals for new red blood cell and reticulocyte parameters in Indian population, Transfusion medicine
3. A prospective study on the optimal usage of Hospital information systems and its impact in Emergency care settings, Emergency medicine, Red-cell distribution width as a prognostic marker in an acute traumatic brain injury, Neurology

#### **Research over past 3 years**

<b>Research projects</b>	<b>2020-2021</b>	<b>2021-2022</b>	<b>2022-2023</b>
Total funded projects	4	14	09
Total funding	Rs 88,97,494	Rs 3,73,91,760	Rs 2,88,76,760

#### **PUBLICATIONS**

**Journals: 26**

**Chapters in Book: 01**

#### **Publications over past 3 years**

<b>Item</b>	<b>2020-2021</b>	<b>2021-2022</b>	<b>2022-2023</b>
Total	24	31	27
Journal articles	20	28	26
Abstracts	03	02	00
Chapters in books	01	01	01
Books	0	0	0

#### **PATIENT CARE:**

**Central Collection Facility (Old RAK OPD and New RAK OPD)**

#### **LABORATORY SERVICES**

<b>S. No.</b>	<b>Lab No 27 at New RAK OPD and Old RAK OPD (Samples drawn)</b>	<b>No. of Bleed patients</b>
1.	Blood Culture (Microbiology Room No. 2071)	2552
2.	BLUE CAPPED	41778
3.	Clinical Immunology	15782
4.	Clinical Microbiology (HIV AND VIRAL MARKER)	28304
5.	Clinical Microbiology (PCR)	171
6.	Clinical Microbiology (Torch Profile)	4607
7.	ENDOCOLLECTION	94
8.	Grey Capped lab	56369
9.	HBA1C TUBE	25939
10.	Hematology (OPD)	27931

11.	Hematology Trauma	0
12.	Hemolytic Anemia	3
13.	Lab Oncology (IRCH)	12
14.	Mycology (Fungal) Lab BC	5
15.	Mycology (Fungal) Lab BT	32
16.	Parasitology Lab Subcenter	7069
17.	Renal Lab (Clinical Chemistry)	9
18.	Reproductive Biology (Main Building 2nd Floor Room No. 20)	110014
19.	Serology Lab (Microbiology Room No. 24)	6528
20.	Serology Lab New (Microbiology Room No. 24)	10
21.	Specialpathogentestsnon-NABL (Anaerobic Lab)	22
22.	Violet Cap Lab Hematology	540000
23.	Virology Laboratory-Chikungunya	4
24.	Virology Laboratory-Dengue	179
25.	Blood Bank	6123
26.	ESR	58374
27.	YELLOW CAP (Chemistry)	540500
	<b>Total</b>	<b>1472411</b>

#### EMERGENCY LABORATORY SERVICES (Round the clock)

##### Hematology Services

Name of Tests	No. of Tests
CBC	260698
Retic Count	3470
Peripheral Smear	53299
ESR	20719
PT/INR	157529
APTT	95660
D-Dimer	15120
Fibrinogen	14969
Body Fluids	14790
PFT	81
IPF samples	3439
<b>Grand Total</b>	<b>639774</b>

##### Clinical Biochemistry (Emergency and Ward 24 × 7 services)

##### Main Lab (2nd Floor)

S No	Test Name	Total Nos.
1.	Albumin	337747
2.	Alk Phosphatase	342835
3.	ALT	352265
4.	Amylase	30055
5.	AST	347635
6.	Bilirubin (C)	313072
7.	Bilirubin (U)	313072
8.	Calcium	380909

9.	Cholesterol	13234
10.	CK	4149
11.	Cl-	388385
12.	Creatinine	388358
13.	GGT	328
14.	dHDL	11387
15.	dLDL	4245
16.	FT3	3436
17.	FT4	3415
18.	Glucose	40857
19.	K+	421537
20.	LDH	26068
21.	Lipase	13532
22.	Na+	416166
23.	Phos	329059
24.	PROT-CSF	17943
25.	Bilirubin (T)	372652
26.	Total Protein	337150
27.	Triglycerides	12719
28.	TSH	12890
29.	TT3	7039
30.	TT4	7077
31.	UREA	405679
32.	URIC acid	331620
33.	AFP	1333
34.	Beta HCG	1928
35.	CA125	388
36.	CA199	324
37.	CEA	430
38.	CKMB	4868
39.	Cortisol	1716
40.	iPTH	3010
41.	Vit D3	6335
42.	HbA1c	1811
43.	ESR	19555
44.	tPSA	558
45.	C peptide	221
46.	CRP	302
47.	Insulin	134
48.	Micro Albumin	792
49.	ADA	15
50.	ESR	58374
51.	BT/CT	9125
52.	Chromogranin A	1048
<b>Total No of test of all parameters</b>		<b>60,98,782</b>



<b>ABG test (Emergency and Ward 24 × 7 services)</b>	
<b>Main Lab (2nd Floor)</b>	
<b>Total ABG Tests done 9058</b>	
<b>Fluid Chemistry (Emergency and Ward 24 × 7 services)</b>	
<b>Main Lab (2nd Floor)</b>	
<b>Total</b>	<b>46393</b>
<b>Grand Total</b>	<b>61,54,233</b>

#### SMART LAB SERVICES

S. No.	HEMATOLOGY	Total count
1.	CBC	3,57,786
2.	Lupus Anticoagulant Screen	353
3.	PS for (Others)	19,370
4.	Reticulocyte Count - Abs	5,913
5.	Corrected Reticulocyte	5,917
6.	Lupus Anticoagulant Confirm	355
7.	PS for Schistocytes	1,195
8.	PS for Atypical cells	2,317
9.	INR	54,285
10.	APTT	54,310
11.	TT	30
12.	D Dimer	2,385
13.	Fibrinogen	1,053
14.	Protein C	200
15.	Antithrombin	116
<b>Total Count</b>		<b>5,05,585</b>
<b>SEROLOGY</b>		
1.	HIV Combo (HIV 1, 2)	58,599
2.	Anti HAV IgM	13,184
3.	HBs Ag	63,104
4.	Anti HBs	20,697
5.	IgM Anti HBc	4,189
6.	Anti HCV Ab	63,962
<b>Total Count</b>		<b>2,23,735</b>
<b>IMMUNOASSAY</b>		
1.	FSH	4,630
2.	LH	4,494
3.	Prolactin	4,158
4.	Testosterone	3,948
5.	Cortisol	5,279
6.	Estradiol	2,145
7.	Progesterone	1,802
8.	Insulin	6,154
9.	Intact PTH	34,038
10.	TSH (ultrasensitive)	1,14,950
11.	FT3	8,264
12.	FT4	8,779

13.	T3	1,12,890
14.	T4	1,12,909
<b>Total Count</b>		<b>4,24,440</b>
<b>CHEMISTRY</b>		
1.	VLDL-C	1,20,094
2.	LDL-C	1,20,297
3.	HDL-C	1,20,346
4.	CHOL/HDL Ratio	1,20,394
5.	LDL/HDL Ratio	1,20,263
6.	Iron	46,203
7.	Transferrin	39,392
8.	Ferritin	51,716
9.	TIBC	43,634
10.	Vitamin B12	85,774
11.	Serum Folate	52,160
12.	IgG	10,985
13.	IgA	7,359
14.	IgM	6,326
15.	CRP	1,11,768
16.	hs CRP	3,786
17.	ASO	1,240
18.	RA Factor	14,606
19.	Complement C3	6,394
20.	Complement C4	5,420
21.	AFP	11,289
22.	Total PSA	4,277
23.	Free PSA	1,,350
24.	Beta HCG	1535
25.	OGTT-1 Hr	3,639
26.	OGTT-2 Hr	3,617
27.	Urine Protein	6,749
28.	Urine 24hr Protein	4,724
29.	Urine 24hr Albumin	3,634
30.	CSF Protein	21
31.	CSF Glucose	21
32.	CSF LDH	7
33.	Fluid Protein	427
34.	Fluid Glucose	422
35.	Fluid LDH	128
36.	Other Body Fluid Sp Request	20
37.	GGT	6,297
38.	Urine 24hr Urea	726
39.	Urine 24hr Creatinine	4,488
40.	Urine 24hr Calcium	2,905
41.	Urine 24hr Phosphate	1,847
42.	Urine 24hr Uric Acid	1,210
43.	Urine Urea	409
44.	Urine Calcium	1,800

45.	Urine Phosphate	859
46.	Urine Uric Acid	380
47.	Urine Sodium	3,154
48.	U Chloride (Cl)	1,039
49.	Urine Potassium	2,361
50.	U Sp Request	89
51.	U 24 Sp Request	140
52.	Urine 24hr Sodium	1,079
53.	Urine 24hr Potassium	933
54.	Urine 24hr Chloride	432
55.	Fluid Cholesterol	137
56.	Fluid Triglyceride	64
57.	Fluid Amylase	392
58.	Fluid Albumin	495
59.	Urine Protein	10
60.	Urine Albumin	9,506
61.	Urine Creatinine	12,847
62.	Urine ACR	18,186
63.	LDH	814
64.	Glucose R	12,584
65.	Glucose F	89,355
66.	Glucose PP	43,657
67.	OGTT	3,728
68.	Urea	39,9721
69.	Creatinine	4,00,331
70.	Uric Acid	4,18,766
71.	Calcium	4,20,223
72.	Phosphorus	4,19,589
73.	Sodium	3,99,901
74.	Potassium	4,00,049
75.	Chloride	4,00,329
76.	Magnesium	14040
77.	Bilirubin (T)	416909
78.	Bilirubin (D)	416727
79.	Bilirubin (I)	416940
80.	ALT	417378
81.	AST	417215
82.	ALP	417674
83.	Total protein	388593
84.	Albumin	388906
85.	Globulin	388520
86.	A/G ratio	388783
87.	Vitamin D3 Total	94136
88.	Total Amylase	8988
89.	Lipase	5682
90.	CK	8331
91.	CK-MB (Activity)	4405
92.	Troponin T - hs	2167

93.	Myoglobin	655
94.	Homocysteine	5071
95.	LDH	24632
96.	Carbamazepine	289
97.	Valproic acid	1745
98.	Total Cholesterol	140302
99.	Triglycerides	120165
<b>Total Count</b>		<b>9099102</b>
<b>Grand Total</b>		<b>1,00,29,127</b>

## Clinical Microbiological Division

### A. Routine Investigations

#### 1. Urine

Name of the Tests	OPD	WARD	TOTAL
Routine	93128	59864	1,52,992
Microscopic	46564	32920	79484
pH	46564	32920	79484
Specific Gravity	46564	32920	79484
Acetone	46564	32920	79484
Bile Pigment/Salt	46564	32920	79484
Urobilinogen	46564	32920	79484
Blood	15	13	28
Bence Jones Protein	70	18	88
Chyluria	41	25	66
Porphobilinogen	8	0	8
Myoglobinuria	30	20	50
Haemoglobin	0	0	0
Urine Cultures	31773	0	31773
Strain Identifications Tests	13934	0	13934
Antibiotic Sensitivity	4530	0	4530
<b>Sub Total</b>	<b>4,22,913</b>	<b>2,57,460</b>	<b>6,80,373</b>
<b>2. Stool Investigations</b>	<b>OPD</b>	<b>WARD</b>	<b>TOTAL</b>
Wet Mount Saline	10213	3096	13309
Wet Iodine Stain	10213	3096	13309
Occult Blood in Stool	4522	1589	6111
Fat Globules	24	20	44
Special Stains for Stool Z-N Stain, Modif	36	41	77
<b>Sub Total</b>	<b>25008</b>	<b>7842</b>	<b>32850</b>
<b>3. Semen Analysis</b>	<b>OPD</b>	<b>WARD</b>	<b>TOTAL</b>
Routine	4619	0	4619
No. of Reactions	4619	0	4619
Motility	4619	0	4619
Count	3207	0	3207
Fructose	1521	0	1521
<b>Subtotal</b>	<b>18585</b>	<b>0</b>	<b>18585</b>
<b>4. Sputum Analysis</b>	<b>OPD</b>	<b>WARD</b>	<b>TOTAL</b>
Total Number of Samples Received	2729	0	2729

ZN Staining (Microscopy)	5458	0	5458
MTB Culture	0	0	0
<b>Sub total</b>	<b>8187</b>	<b>0</b>	<b>8187</b>
<b>5. Urine AFB Analysis</b>	<b>OPD</b>	<b>WARD</b>	<b>TOTAL</b>
Total Number of Samples Received	1368	0	1368
ZN Staining (Microscopy)	2736	0	2736
MTB Culture	0	0	0
<b>Subtotal</b>	<b>4104</b>	<b>0</b>	<b>4104</b>

## B. Specialized Investigations

### Immuno-Serological & Molecular Diagnosis Tests

#### 6. TORCH

##### NAME OF THE TEST

Toxoplasma Gondii IgG	1730
Toxoplasma Gondii IgM	1616
Rubella IgG	1895
Rubella IgM	1771
Cytomegalo Virus IgG	1857
Cytomegalo Virus IgM	1837
Herpes Simplex Virus IgG	570
Herpes Simplex Virus 2 IgG	572
Sub Total	11848
6. Viral Marker & HIV	
HAV IgM	1043
HBsAg	20798
HBc IgM	275
HBeAg	1520
Anti HBe	340
Anti HBs	731
Anti HCV Antibody	20453
HEV IgM	286
HIV	16793
HBV DNA	404
HCV RNA	222
<b>Subtotal</b>	<b>62865</b>
7. Others	
Measles IgG	72
Mumps IgG	72
Varicella IgG	72
Varicella IgM	0
Subtotal	<b>216</b>
8. Molecular Tests	
CMV PCR	150
Subtotal	<b>150</b>
11. TB Laboratory	
Total Number of Samples Received	3827
ZN Staining:	7654

GeneXpert MTB/RIF	155
DNA Sequencing	0
Subtotal	11648
<b>Grand Total</b>	<b>8,30,853</b>

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Sudip Kumar Datta** is Member, International Federation of Clinical Chemistry (IFCC) Task Force on Ethics (2018-till date); Member, ICMR “Capacity Building Program for Pandemic Preparedness” (CBPPP) Implementation Framework as part of PMABHIM (2022-till date); Member, ICMR Task Force for Establishment of Reference Intervals in Indian Population (TERIP) (2022-till date); Member, MHD-10, Bureau of Indian Standards; Member, Genomics Sub Committee, Centralized Co-research Facility (CCRF), AIIMS (2019- till date); Examiner for MBBS (1st Prof ) for Biochemistry at PGIMS, Rohtak, NRSMC, Kolkata and BSA MC Rohini, Delhi; Member, Scientific Committee of ACBICON 2022; Organizer, Pre conference Workshop on “Total Lab Automation” in ACBICON 2023; Associate Editor, Journal of Laboratory Physicians; Secretary, American Association of Clinical Chemistry (AACC)- India Section (2018-till date); Technical Assessor for Clinical Biochemistry, NABL as per ISO 15189:2012.

**Professor Shyam Prakash** is Associate Editor of Manipal Journal of Medical Sciences External PhD Thesis evaluator for the following institutes; (a) National Institute for Interdisciplinary Science and Technology, CSIR, Thiruvananthapuram; (b) Indian Institute of Toxicology Research, CSIR, Lucknow; (c) National Institute for Interdisciplinary Science and Technology, CSIR, Thiruvananthapuram.

**Dr Tushar Sehgal** received Venus International Health Care Awards (VIHA) and Annual Health Summit - Outstanding Researcher in Hematology-June 2022, Chennai India; GAPIO Excellence in diagnostic wards in young category - Feb 2023 Gandhinagar, Gujarat; Organiser committee for National hematology update-XII March 2023; Organiser committee for ACBICON Pre-conference workshop - December 2022.

## 9.19 Medicine

### Professor and Head

Naveet Wig

### Professors

Sanjeev Sinha      Naval K Vikram      Manish Soneja      Piyush Ranjan

### Additional Professors

Neeraj Nischal      Pankaj Jorwal      Arvind Kumar      Ranveer Singh Jadon

### Associate Professors

Upendra Baitha      Animesh Ray

### Assistant Professors

Prayas Sethi      Ved Prakash Meena  
Siddharth Jain      Amandeep Singh  
Bindu Prakash

### Assistant Professor (Contract)

Gaurav Gupta

## HIGHLIGHTS

The Department of Medicine has been at forefront for achieving the “Trinity of Mission” at AIIMS. It provides holistic patient care services, strives for innovation in medical education, and conducts translational and clinical research. The department has launched quality improvement initiatives to enhance various aspects of patient care services. The Department continues to strengthen the existing services continuously to provide quality care to ever increasing number of patients coming to AIIMS.

The Department is continuously updating and improving the digital platform (<https://www.aiimsmedicine.org>) used for teaching, training, and assessment. Online assessment of our students is now a regular feature in addition to the traditional system of assessment. Emphasis is placed on the practical skill development of undergraduates through workplace-based assessments and feedback. Additionally, mentorship and wellness programs are being prioritized for residents.

The faculties of the department are at the forefront in contributing to national guidelines across a vast spectrum of clinical conditions. During the COVID-19 pandemic, the Department of Medicine took the lead at the national level to tackle COVID-19 by preparing management guidelines and algorithms that were subsequently adapted as National Guidelines for the management of COVID-19. With the vision of the end TB strategy by 2025, all faculty and resident doctors have worked hard to draft an extensive training module on extrapulmonary tuberculosis, which was launched by the Honourable Prime Minister of India on March 24, 2023.

## EDUCATION

The department runs comprehensive undergraduate and postgraduate teaching program which includes integrated lectures, seminars, Clinical Combined Rounds(CCR) and Clinical Grand Rounds(CGR), journal club, mortality meet, Infectious Diseases meet, antibiotic stewardship monthly updates and bedside clinical case discussions. Currently 71 MD students, 36 DM-Infectious Diseases and 23 Senior Residents are being trained in the department. The department continuously works to improve the clinical training of undergraduates and postgraduates with better alignment between the expected outcomes, learning opportunities and assessments. Orientation program for newly joined residents was further strengthened to include POC sonography in clinical medicine, quality improvement in patient care and workshop on Travel medicine. A national level quiz was organized for residents across India.

## CMEs/Workshops/Symposia/National and International Conferences

- Guest Lecture on “Towards a Smart ICU” held on 27 March 2023, at AIIMS, New Delhi
- Medicine Club on “Endocrinology” held on 25 March 2023, New Delhi
- Medicine Club on “Pulmonology” held on 18 March 2023, New Delhi

- Medicine Club on “Mycology” held on 11 March 2023, New Delhi
- Medicine Club on “Rheumatology” held on 4 March 2023, New Delhi
- Medicine Club on “Medical Oncology” held on 25 February 2023, New Delhi
- Medicine Club on “Essentials in Cardiology” held on 18 February 2023, New Delhi
- Medicine Club on “Neurology” held on 11 February 2023, New Delhi
- Medicine Club on “Common Nephrology Problem in Medicine Ward” held on 4 February 2023, New Delhi
- Medicine Club on “Emergency Medicine” held on 28 January 2023, New Delhi
- Medicine Club on “Geriatric Medicine” held on 21 January 2023, New Delhi
- Medicine Club on “Parasitology: Opening the can” held on 3 December 2022, New Delhi
- Medicine Club on “HIV: Ignorance is not bliss” held on 12 November 2022, New Delhi
- Medicine Club on “Hematology: A Walk-Through Red Carpet” held on 26 November 2022, New Delhi
- Medicine Club on “Critical Care: Dying, Living & Everything in Between” held on 19 November 2022, New Delhi
- Medicine Club on “Medical Oncology” held on 8 October 2022, New Delhi
- Medicine Club on “Rheumatology” held on 9 October 2022, New Delhi
- Medicine Club on “Cardiology: Basics & Beyond” held on 10 October 2022, New Delhi
- Medicine Club on “Gastrointestinal System: Basics & Beyond” held on 15 October 2022, New Delhi
- Medicine Club on “Pulmonology” held on 16 October 2022, New Delhi
- Medicine Club on “Tuberculosis” held on 22 October 2022, New Delhi
- Medicine Club on “Endocrinology: Endocrine perspective” in Medicine held on 29 October 2022, New Delhi
- Medicine Club on “Emergency Medicine” held on 3 September 2022, New Delhi
- Medicine Club on “Viral Diseases: Threats knocking at the door” held on 10 September 2022, New Delhi
- Medicine Club on “Common Renal Diseases in Medicine Ward” held on 17 September 2022, New Delhi
- Medicine Club on “Neurology: Must Know for Postgraduate in Medicine” held on 24 September 2022, New Delhi

**Lectures delivered: 35**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
32	53	35

**List of oral papers/posters presented: 13**

**Oral presentations over past 3 years**

2020-2021	2021-2022	2022-2023
4	4	13

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. Adherence Need Assessment Tool development and validation among asymptomatic PLHIV to improve adherence to Antiretroviral therapy, Dr Naveet Wig, NACO, 2 years, 2022-24, Rs 27 lakhs
2. Translational Research Consortium for Establishing Platform Technologies to Support Prophylactic and Therapeutic Strategies for Dengue - Discovery to Proof-of-Concept, Dr Naveet Wig, BIRAC, 4 years, 2019-23, Rs 33,56,908
3. To evaluate efficacy of Bacillus Calmette-Guerin (BCG) in Reducing the Incidence and severity of COVID-19 in the high-risk population (BRIC): a phase III, Multicentric, Quadruple blind Randomized controlled trial, Dr Sanjeev Sinha, DHR, 3 years, 2020-23, Rs 2 crores
4. A Phase 2 randomized, multi-centric, Clinical Trial of Heterologous Prime-Boost Combination of SARS-CoV-2 Vaccines to evaluate the immunogenicity and safety of BBV152 (COVAXIN®) with BBV154 (Adenoviral Intranasal COVID-19 vaccine) in Healthy Volunteers, Dr Sanjeev Sinha, AIIMS, 2 years, 2021-23, Rs 16 lakhs



5. To evaluate the gaps in the diagnosis and treatment in extra-pulmonary tuberculosis patients under National Tuberculosis Elimination Programme (NTEP) guidelines among various multi-specialties: a multicentric observational study, Dr Sanjeev Sinha, ICMR, 2 years, 2023-25, Rs 63,18,226
6. Survival Analysis of PLHA (People living with HIV/AIDS) with Adult and Pediatric HIV Progression model, a multicentric study, Dr Sanjeev Sinha, NACO, 5 years, 2017-22, Rs 2.0 Crores
7. To determine the effectiveness of pulmonary rehabilitation on functional exercise capacity and health-related quality of life (HRQOL) in patients with post tuberculosis lung disease: pre-and post-interventional cohort study, a multi-centric study, Dr Sanjeev Sinha, ICMR, 1 year, 2023-24, Rs 57,08,207
8. A randomized controlled trial of 6 months yogic exercise vs regular physical activity on body composition, multiple metabolic measures in North India individuals with non-alcoholic fatty liver disease and obesity, Dr Naval K Vikram, DST, 3 years, May 2019-23 (Extension), Rs 96,39,720
9. Randomized controlled trial to compare the impact of exercise and nutritional interventions on muscle functional improvement and changes in skeletal mass in obese patients with sarcopenia, Dr Naval K Vikram, ICMR, 3 years, 2019-23 (extension), Rs 83,01,698
10. To compare the effect of Intermittent fasting and Continuous energy restriction on body composition, multiple metabolic and physiological parameters in obese adults, Dr Naval K Vikram, ICMR, 2 years, 2021-23(extension), Rs 53,16,985
11. Randomized controlled trial to compare the effect of dietary intervention and resistance exercises on changes in skeletal muscle strength, mass and function in Type 2 Diabetes patients with Dynapenia and Sarcopenia, Dr Naval K Vikram, ICMR, 3 years, January 2022-25, Rs 73,46,403
12. A study on Association of Metabolic Dysfunction Associated Fatty Liver Disease (MAFLD) and dynapenia/sarcopenia with cardio-metabolic risk, Dr Naval K Vikram, ICMR, 3 years, February 2023-26, Rs 59,13,114
13. To evaluate the personality traits and assess the impact of humanistic psychotherapy for trait specific intervention on body composition and metabolic parameters in obese subjects, Dr Naval K Vikram, ICMR, 3 years, January 2023-26, Rs 59,43,606
14. Need-based vs guidelines-based fluid administration in dengue patients with warning sign: Open-label randomized study, Dr Manish Soneja, ICMR, 3 years, 2019-23 (Extension), Rs 57 lakhs
15. Development and Evaluation of a Comprehensive retraining module for patients with obesity to achieve clinically significant weight loss- An open-label randomized controlled, Dr Piyush Ranjan, DST, 3 years, 2023-26, Rs 46.36 lakhs
16. Development and Evaluation of an Individualised Weight Management Module for Young Adults, Dr Piyush Ranjan, ICMR, 3 years, 2023-26, Rs 56 lakhs
17. Development and evaluation of a women-centric comprehensive weight management module, Dr Piyush Ranjan, DST, 3 years, 2020-23, Rs 38.29 lakhs
18. Study of the course of somatic symptoms severity and disability in patients with medically unexplained physical symptoms (MUPS) in an Indian setup- [AIIMS- MUPS Cohort Study], Dr Piyush Ranjan, DHR, 2 years, 2021-23, Rs 19.27 lakhs
19. Development and Evaluation of a Yoga-based intervention program to deal with the psychological distress among family members of the healthcare workers engaged in the management of COVID-19 patients, Dr Piyush Ranjan, DST SATYAM, 1 year, 2021-22, Rs 9.28 lakh
20. Immunological response to COVID-19 among adults living with HIV - A prospective observational case control study, Dr Neeraj Nischal, ICMR, 2 years, 2022-24, Rs 77 lakhs
21. Paradoxical reaction in lymph node tuberculosis among non-HIV subjects –Clinical implications and Outcome. Dr Pankaj Jorwal, RNTCP, 1 year, 2019-21, Rs 1,90,000
22. Clinical and cytokine profile of acute febrile illness patients with multi-organ dysfunction presenting with and without shock: a prospective observational study, Dr Ranveer Singh Jadon, AIIMS Intramural Grant, 1 year (Extension taken), October 2019-22, Rs 2,00,000
23. Association of GRP78, Zinc, Iron & Vitamin C levels in patients with COVID-19 and the occurrence of Mucormycosis, Dr Ranveer Singh Jadon, AIIMS, Intramural Grant, 1 year, 2021-22, Rs 9,79,600
24. Effect of general anaesthesia with mechanical ventilation on biomarkers of lung inflammation/injury in COVID-19 survivors–case-control study, Dr Ranveer Singh Jadon, AIIMS Intramural Grant, 1 year, 2021-22, Rs 10,000,00
25. Randomized control trial to study the impact of weight bearing and resistance exercise with nutritional intervention on bone and muscle health in obese patients with Osteosarcopenia, Dr Ranveer Singh Jadon, ICMR, 3 years, 2022, Rs 76,74,989

26. Correlation of muscle strength and hand grip with body composition in different body mass index participants, Dr Upendra Baitha, ICMR, 3 years, 2023, Rs 22,22,282
27. Artificial Intelligence based Decision Support System for Diagnosing Ventilator Associated Pneumonia, Dr Animesh Ray, DHR, 3 years, 2021-24, Rs 26,86,419
28. Effect of probiotics on gut microbiome and clinical course in patients with critical care illnesses - a pilot study, Dr Animesh Ray, ICMR, 2 years (One-year extension granted), 2019-22, Rs 35,33,234
29. A study on pulmonary microbiome and metabolomics in patients with Chronic pulmonary aspergillosis, Dr Animesh Ray, AIIMS, 2 year + 6 months extended, 2020-23, Rs 9,98,168
30. A pilot study on frequency, risk-factors and characteristics of upper respiratory tract microbiome in COVID-19 associated mucormycosis, Dr Animesh Ray, AIIMS, 1 year, 2021-22, Rs 7,48,590
31. "Effect of high dose vitamin D3 on hemoglobin concentrations of mechanically ventilated patients with sepsis: A placebo-controlled randomized controlled trial", Dr Animesh Ray, ICMR, 3 years, 2022-25, Rs 50,47,800
32. "A preliminary study to validate BM-AspICU algorithm for diagnosing invasive pulmonary aspergillosis in critically ill mechanically ventilated patients using post-mortem minimally invasive tissue sampling", Dr Animesh Ray, ICMR, 3 years, 2023-26, Rs 40,00,000/-
33. Sarcopenia in people living with HIV/AIDS: clinical and metabolic correlates and the effect of resistance training exercises, Dr Prayas Sethi, ICMR, 3 years, 2021-24, Rs 19 lakhs
34. Effect of weight loss on hemoglobin and its association with the immuno metabolic parameters in obese patients, Dr Prayas Sethi, AIIMS Intramural grant, 2 years, 2021-24, Rs 5 lakhs
35. Study on the impact of continuous glucose monitoring system on achievement of glycemic and clinical outcomes in critically ill patients, Dr Ved Prakash Meena, Intramural AIIMS early career grant, 1 year, 2023-24, Rs 5,00,000

#### **Completed**

1. AIIMS: New Delhi Initiating Antimicrobial stewardship activities in hospital in India Implementation of AMS program, Dr Naveet Wig, ICMR, 3 years, 2019-22, Rs 10,00,000
2. Function analysis of human CD8-T cell response induced during dengue disease: A molecular approach, Dr Naveet Wig, DBT, 3 years, 2019-23, Rs 25,18,800
3. Clinical Predictor of Severity among COVID-19 Cases, Dr Pankaj Jorwal, Intramural, 2 years, 2020-22, Rs 10 lakhs
4. To study the effect of Vitamin C and Thiamine in patients with sepsis in Indian Population: Single blind, Parallel Group, Randomized controlled trial, Dr Arvind Kumar, ICMR New Delhi, 3 years, 2019-22, Rs 50 lakhs
5. Association between Immunological characteristics and Clinical Outcomes in COVID-19, Dr Arvind Kumar, AIIMS, New Delhi, 2 years, 2021-23, Rs 5 lakhs
6. Efficacy of LD Bio Aspergillus ICT Lateral flow assay for serodiagnosis of Chronic pulmonary aspergillosis, Dr Animesh Ray, Pvt. Company (Jolly Healthcare), 1 year, 2021-22, Rs 2,49,700
7. "Yoga Based Rehabilitation Program for patient with successfully treated COVID-19 A Randomized Controlled Trial", Dr Upendra Baitha, DST, 1 year, 2021-22, Rs 8,54,635
8. Clinical and Socio-demographic Profile of COVID-19 Patients at AIIMS, New Delhi, Dr Upendra Baitha, Intramural project sanctioned by AIIMS, New Delhi, 2 years, 2020-22, Rs 5 lakhs
9. SOLIDARITY-Plus, Dr Manish Soneja, 6 months, 2022, Rs 4,59,061

#### **Departmental projects**

##### **Ongoing**

1. Frequency and risk factors for latent tuberculosis infection among type 2 diabetes mellitus patients
2. Bacterial contamination and central line-associated bloodstream infections in the medicine ICU: a prospective observational study
3. Frequency and Risk Factors for LTBI among Medical Students and Residents"
4. Assessment of eating behavior and its association with body composition and metabolic parameters in obese adults
5. Prevalence of MAFLD in Indian adult population
6. Clinical outcome of TLD regimen in PLHIV: A prospective observational study at a tertiary hospital in north India.
7. Predictors of adverse outcomes in patients with drug sensitive TB

8. Factors affecting outcomes in patient with advanced HIV on TLD
9. Prevalence and correlates of neurological and neurocognitive disorders in PLHIV on ART
10. Immune response to COVID-19 vaccination in adult patients with HIV infection
11. Study of current existing cleaning practices of Ultrasound probe in point of care sonography and effectiveness of educational program on the same
12. Diagnostic accuracy of Gene Xpert Ultra in Tuberculous pleural effusion
13. To assess the knowledge, attitude and practices regarding adult immunization amongst medicine and infectious disease residents of AIIMS, Delhi– a quasi-interventional study
14. Evaluation of mini Bronchoalveolar Lavage Galactomannan antigen detection for diagnosis of invasive pulmonary aspergillosis: A cross-sectional, diagnostic test validation study
15. Prevalence of non-communicable diseases among HIV patients on antiretroviral therapy- A cross-sectional study
16. Willingness for participation in clinical trial and their determination include outpatient in health facilities in Delhi
17. Prevalence of obstructive sleep apnea/hypopnea syndrome in patients with interstitial lung disease.
18. Post covid-19 pulmonary changes: a prospective observational study
19. A study to determine the effectiveness of outpatient pulmonary rehabilitation on functional exercise capacity and health-related quality of life (HRQOL) in patients with post tubercular lung disorder: pre – and post interventional study
20. “Observing the changes in upper airway anatomy using magnetic resonance imaging and correlating with changes in apnea-hypopnea index in patients undergoing weight loss with bariatric surgery
21. Spectrum of opportunistic infections in patients living with HIV aids at a tertiary care centre
22. Prevalence and risk factors of anal HPV infection and cytological abnormalities in HIV positive males in a tertiary care center in North India
23. Study of Body composition, clinical and metabolic profile of non-obese individuals
24. Study of osteo-sarcopenia in obese adults
25. Study to assess the prevalence of metabolically healthy obesity (MHO) and metabolically unhealthy obesity (MUO) among obese patients
26. To study the effect of different vitamin D supplementation practices on hemoglobin levels in vitamin D deficient mechanically ventilated patients with sepsis in a medical ICU at day 0 and day 14
27. Prediction of VAP using AI based decision support system
28. Prevalence of Aspergillus Co-infection in Newly Diagnosed Pulmonary Tuberculosis patients and on Treatment completion by serological and microbiological methods.
29. Effect of probiotics on whole gut microbiome in patients with critical care illnesses
30. A cross-sectional study of developing reference equations for prediction and validating respiratory impedance parameters of healthy Indian Adults in North India
31. Assessment of cardio-respiratory fitness in obese adults through spiro-ergometry and effect of structured exercise in improvement of cardiorespiratory response
32. Hypomagnesemia and its correlation with clinical outcomes in admitted sepsis patients
33. Correlation of impulse oscillometry with clinic-radiological profile of patients with post pulmonary tubercular sequelae

### ***Completed***

1. Role of CSF Lactate and Chloride in identifying the etiology of Meningitis
2. Role of [18 F]-FDG PET brain in PLHIV with cognitive impairment: A prospective observational study.
3. Knowledge, Attitude and Practice of travel medicine among medicine and infectious disease residents in AIIMS, NEW DELHI- A Quasi Experimental Interventional study
4. To study the effect of intermittent fasting vs continuous energy restriction diet on body composition and metabolic parameters in subjects with obesity
5. Clinico-epidemiological spectrum and factors affecting prognosis of patients with mucormycosis
6. Diagnostic accuracy of the Gene Xpert MTB/Rif Ultra in tubercular lymphadenitis

7. Role of GeneXpert ultra in diagnosis of Tuberculosis meningitis
8. Perception of online teaching during Covid-19 pandemic among MBBS students at AIIMS Delhi”
9. Impact of upper body exercise on body composition and weight in obese patients with knee osteoarthritis Study of osteo-sarcopenia in obese adults
10. Role of impulse Oscillometry (IOS) in the evaluation of newly diagnosed cases of interstitial lung disease
11. A prospective observational study on clinical profile and outcome of patients with chronic pulmonary aspergillosis attending a Tertiary care hospital
12. Association of Pneumocystis Jirovecii infection in bronchiectasis and its effect on clinical characteristics and disease progression
13. Effect of implementation of protocol based nutrition therapy on outcomes in medical ICU
14. Role of Human cytomegalovirus (HCMV) reactivation in causing pneumonia in immunocompetent mechanically ventilated patients
15. Lung function impairment and radiological sequelae post pulmonary tuberculosis: A systematic review
16. Effect of probiotics on whole gut microbiome in patients with critical care illnesses
17. A comparative study on lung ultrasound based peep titration vs fio2 based peep titration in patients with acute respiratory distress syndrome: a two-year prospective randomized study at a tertiary hospital in New Delhi

### Collaborative projects

#### Ongoing

1. Efficacy and Safety of Oral Semaglutide versus Placebo in Subjects with Type 2 Diabetes Mellitus treated with insulin, A 52-week, randomised, placebo-controlled trial, double-blinded study, Endocrinology
2. A Randomized, Double-blind, Placebo and Active-controlled, Multicenter, Phase 3 Study to Assess the Efficacy and Safety of Filgotinib Administered for 52 Weeks Alone and in Combination with Methotrexate (MTX) to Subjects with Moderately to Severely Active Rheumatoid Arthritis Who Are Naïve to MTX Therapy, Rheumatology

### Research projects over past 3 years

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	32	36	35
Total funding	Rs 10,65,44,773	Rs 13,97,85,331	Rs 16,46,45,949

### PUBLICATIONS

Journals: 125

Chapters in Books: 3

Books & Monographs: 1

#### Publications over past 3 years

Item	2020-2021	2021-2022	2022-2023
Total	121	103	129
Journal articles	118	101	125
Abstracts	-	-	-
Chapters in books	1	2	3
Books	2	-	1

### PATIENT CARE

#### Medical OPD

Year	Number of cases
2022-23	150634
2021-22	70397 (including tele OPD)
2020-21	22974 (including tele OPD)

**Infectious Diseases, Travel Health & Adult Immunization Clinic (Monday & Thursday 2.00 PM)**

Year	Number of cases
2022-23	4352
2021-22	1823 (including tele OPD)
2020-21	300 (including tele OPD)

**Sleep Clinic (Monday 2.00 PM)**

Year	Number of cases
2022-23	479
2021-22	330
2020-21	51

**Obesity and Metabolic Disorders Clinic (Wednesday 2.00 PM)**

Year	Number of cases
2022-23	3361
2021-22	711 (including tele OPD)
2020-21	87

**Chest Clinic (Friday 2.00 PM)**

Year	Number of cases
2022-23	1750
2021-22	1191 (including tele OPD)
2020-21	260

**Total Inpatient Admissions**

Year	Number of cases
2022-23	4464
2021-22	4172
2020-21	4045

**Antiretroviral (ART) Centre**

Year	Number of visits
2022-23	Pre-ART 523 ART 63582
2021-22	Pre-ART 485 ART 60717
2020-21	Pre-ART 433 ART 59078

**Laboratories:**

POCT Lab	2022-23	2021-22	2020-21
Procalcitonin (PCT)	4320	3284	3504
NT - Pro BNP	2166	1411	1868
Troponin I (Trop I)	2164	1429	1907
ABG (Arterial blood gas analysis)	33290	29108	25641
Blood Culture	5814	4375	3025
ROTEM's INTEM	146	150	131
ROTEM's EXTEM	149	119	-

ROTEM's FIBTEM	128	99	-
ROTEM's APTM	74	97	-
Dengue NS1 IgG/IgM	183	283	-
SCRUB TYPHUS IgG/ IgM	91	195	-
Malaria Antigen	97	122	-
<b>Sleep lab:</b>	<b>2022-23</b>	<b>2021-22</b>	<b>2020-21</b>
Sleep studies	350	217	52
Ambulatory monitoring of blood pressure	19	6	8
Actigraphy	4	2	-6
Endothelial dysfunction studies	-	-	-
<b>PFT Lab:</b>	<b>2022-23</b>	<b>2021-22</b>	<b>2020-21</b>
Pulmonary Function Test	7553	2992	428
6 Minute walk test	791	409	90
FOT	478	376	48
SVC	1072	436	-
DLCO	1083	434	-
TLC	187	76	-
MIP/ MEP	5	9	-
CPET	1	1	-
<b>Number of Bronchoscopy done:</b>	<b>2022-23</b>	<b>2021-22</b>	<b>2020-21</b>
Fiber-optic bronchoscopy	5	-	-
Broncho-alveolar (BAL)	232	173	78
Biopsy	-	31	17
Forceps Biopsy	23	-	-
Brush Biopsy	1	-	-
Radial Probe Biopsy	1	1	-
Brush Cytology	1	-	-
Transbronchial Needle Aspiration (TBNA)	0	15	27
EBUS	71	43	6
Tracheostomy	6	4	1
BPF Closure	-	3	-
Thoracoscopy	1	1	-
Ampho B	0	14	-
Pic-tail Insertion	-	2	-
FNAC	1	-	-
<b>ADA/ACE Lab:</b>	<b>2022-23</b>	<b>2021-22</b>	<b>2020-21</b>
ACE tests	1565	790	340
<b>Intermediate Reference Laboratory (IRL) services:</b>	<b>2022-23</b>	<b>2021-22</b>	<b>2020-21</b>
No. of samples for sputum smear-	9081	-	13299
No. of samples for liquid culture-	11011	8969	9972
No. of samples for liquid DST (1st line)	65	73	113
No. of samples for liquid DST (2nd line)	109	135	201
No. of samples for Line Probe Assay (1st line LPA)	5662	3940	5683
No. of samples for Line Probe Assay (2nd LPA)	641	417	718
No. of samples for Gene/Xpert	7977	1880	4835
No. of samples for TB Ag MPT64	180	-	-

## **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Naveet Wig** was Chairperson of COVID-19 Task Force and Chairman Medical Board at AIIMS, New Delhi; member of National Task Force on COVID-19, Clinical Research Group (ICMR) on COVID-19; Nodal Officer, WHO Collaborating Centre for Training and Research in Tuberculosis; Chairman, National Technical Working Group on TB - comorbidities; Chairman Expert Committee, DHR - ICMR for funded workshop on clinical training and translational research; Co-chair, Standing Treatment Guidelines (Medicine), ICMR; Member, Governing Body of All India Institute of Ayurveda; Member of Scientific Body of Indian Pharmacopoeia Commission; Member of ICMR Technical Resource Group on HIV/AIDS and member of HIV/AIDS Project Review Committee (PRC) of ICMR.

**Professor Sanjeev Sinha** is Member of Medical Board Antarctica Expedition, Govt. of India, Goa, Member of Scientific Committee, NACO, Ministry of Health & FW, Govt. of India, Member of Health wellness program, Ministry of Tourism, Govt. of India, Member of FDC, DCGI, India. Administrative responsibilities include Member Secretary of AIIMS Ethics Committee of PGR. Also, member of Editorial board of “Cases Journal”, Member of Review Committee of Journal of Physical Education and Sport Management. Published from South Africa, Member of Review Committee of Journal IJMR, Member of Review Committee of Journal of Current HIV Research, Member of Review Committee of projects funded by DHR, ICMR, Government of India. Fellowship of National Academy of Sciences India (NASI), Member of council of National Academy of Sciences India (NASI).

**Professor Manish Soneja** was awarded first prize in AIIMS Research Award (Clinical).

**Dr Neeraj Nischal** received “Eminent Medical & Health Education Teacher Award” by Delhi Medical Association.

**Dr Arvind Kumar** was Awarded APICON original paper merit award, at APICON2022, on 15th April held at Jaipur, India, awarded, Fellowship of Royal College of Physicians of Edinburgh FRCP (EDINBURG, UK) in 2022, awarded “Fellowship of Indian Association of Clinical Medicine (FIACM) on 13 November 2022, awarded FIMSA, Fellowship of International Medical Sciences Academy (IMSA) on 19 November 2022, awarded Best paper for podium presentation at 7th ANNUAL MEETING OF THE American College of Physician INDIA 2022.

**Dr Animesh Ray** was awarded Fellowship in Indian College of Physicians, APICON 2021 and Two-year part-time fellowship in “Clinical Research Methodology and Evidence Based Medicine” in 2021.

**Dr Siddharth Jain** was selected for the Indo-UK Rheumatology Forum Travel Fellowship 2023 and won the Japanese College of Rheumatology (JCR) 2023 Travel Award.

## **VISITING SCIENTIST**

A guest lecture was organized on “Towards a Smart ICU” by Dr Ankit Sakhuja (MBBS MS FACP FASN FCCP), Director of Informatics, WVU Heart & Vascular Institute and Assistant Professor of Medicine, Division of Cardiovascular Critical Care, Dept of Cardiovascular and Thoracic Surgery, West Virginia University on 27 March 2023.

## 9.20 Microbiology

### Professor and Head

Rama Chaudhry  
(Superannuated on 31 January 2023)  
Lalit Dar (Since 1 February 2023)

Arti Kapil  
(VRS in January 2023)

### Professors

Bimal K Das  
Immaculata Xess  
Seema Sood

Bijay Ranjan Mirdha  
Benu Dhawan  
Urvashi B Singh

### Additional Professors

Sarita Mohapatra  
Gagandeep Singh  
Nishant Verma

Aashish Choudhary  
Hitender Gautam

### Associate Professors

Megha Brijwal  
Priyam Batra

Kiran Bala  
Tanu Sagar

### HIGHLIGHTS

The Department of Microbiology has been NABL Accredited w.e.f. November 2019 (As per ISO 15189:2012). While a total of 48 routine tests were accredited in 2019, the SCOPE was enhanced to 64 tests during renewal of accreditation in 2021-22 (all routine microbiological tests have been covered under accreditation and newer tests are to be added). Further, all the sections in the department participate in EQA/PT programs. The National HIV Reference Laboratory (NRL) has been NABL accredited since 2012 (more than 10 years) and the NACO Regional Reference Laboratory for HIV Viral Load and Early Infant Diagnosis accredited since 2017. The Department of Microbiology is amongst the few government medical colleges with an accredited parasitology laboratory.

#### *Activities/steps taken to improve patient care services, education and research*

In our continuous endeavour to provide timely reports to our patients, rapid reporting from all sections is being done using automated techniques. The department has initiated 24 × 7 services during this year. Also, residents are being posted on weekends and holidays to avoid any delays in reporting. The Department of Microbiology has been at the forefront in fighting the COVID-19 pandemic during the past few years including the last year, be it through diagnostic support including RT-PCR and CBNAAT/TruNAT, or by infection control activities. Since early 2020, while the high-throughput RT-PCR testing provided by the virology laboratory took care of the heavy workload of COVID-19 testing for the patients admitted to the various wards and for the staff, with the best possible turnaround time for such tests, the latter more rapid tests systems provided diagnosis in 1-1.5 hrs to patients reporting to the Emergency Department and for those requiring emergency interventions.

The Mycology Section has been designated as 'Advanced Mycology Diagnostic and Research Centre in Northern Region of India' (AMDRC) under ICMR since March 2021. The laboratory worked tirelessly to provide timely diagnosis to patients during the mucormycosis outbreak that happened during the second wave of the pandemic, thus facilitating early initiation of treatment. The Virology Laboratory continues to be a DHR- ICMR designated Regional Virus Research and Diagnosis Laboratory (R-VRDL), a NACO Regional Reference Laboratory for HIV Viral Load and Early Infant Diagnosis, a National Vector-Borne Disease Control Programme Apex Laboratory for Dengue and Chikungunya, as well as a National Viral Hepatitis Surveillance Programme Network Laboratory.

The Department of Microbiology, which is an essential component of health care services, contributed significantly towards patient care. During this year it carried out a total of 2,96,909 diagnostic tests.

The Department of Microbiology was the first in India to start a clinically relevant organ-system and syndrome-based curriculum in this subject, pre-empting the current competency-based curriculum by many years. It also started the first truly collaborative DM programme in Infectious Diseases with the Department of Medicine. The virology laboratory helped MCI in designing the first curriculum for starting a DM programme in Virology.



A number of faculty members were a part of the Hospital Infection Control Committee and had been involved in training the entire staff of the institute for prevention and control of COVID-19. They also prepared a number of documents related to infection prevention and control guidelines which served as ready references to all our healthcare workers.

The past year has been unique in terms of innovations for teaching for all of us. The curriculum of the undergraduate and postgraduate students enrolled in MBBS, MD, DM, PhD and BSc (Nursing) courses was managed in hybrid mode (online + offline) to facilitate dissemination of knowledge while maintaining adequate social distancing.

The department successfully organized a workshop under the headship of Dr Rama Chaudhry, HOD in collaboration with entitled ICMR-AIIMS Workshop on “Laboratory Diagnosis of Lyme Disease” in October.

#### **Action Plan**

For the diagnostic services, provision of 24 × 7 reporting facility, provision of complete automation and provision of molecular genotyping of resistance markers for the appropriate patient management is being planned. Further, with reference to teaching, simulation models for various microbiological teaching, diagnostic procedures, and resistance mechanisms are being proposed. Additionally, for the research activities, provision of biorepository facility to facilitate diagnostics, research and patient management is being considered.



*World Tuberculosis Day CME, held at AIIMS, New Delhi, 23 March 2023*

*AIIMS-ICMR-ISMM 'Workshop On Diagnostic Medical Mycology' held at AIIMS, New Delhi, from 31st October to 2nd November, 2022*





National Accreditation Board for  
Testing and Calibration Laboratories

**CERTIFICATE OF ACCREDITATION**

**DEPARTMENT OF MICROBIOLOGY, ALL INDIA  
INSTITUTE OF MEDICAL SCIENCES (AIIMS)**

has been assessed and accredited in accordance with the standard

**ISO 15189:2012**

**"Medical laboratories - Requirements for quality and  
competence"**

for its facilities at

DEPARTMENT OF MICROBIOLOGY, SECOND FLOOR, TEACHING BLOCK, ANSARI NAGAR, NEW  
DELHI, DELHI, INDIA

in the field of

**Medical Testing**

Certificate Number: MC-3267

Issue Date: 15/11/2019

Valid Until:

14/11/2021

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued  
satisfactory compliance to the above standard & the relevant requirements of NABL.

(To see the scope of accreditation of this laboratory, you may also visit NABL website [www.nabl-india.org](http://www.nabl-india.org))

Name of Legal Identity : ALL INDIA INSTITUTE OF MEDICAL SCIENCES

Signed for and on behalf of NABL



N. Venkateswaran  
Chief Executive Officer



National Accreditation Board for  
Testing and Calibration Laboratories

**CERTIFICATE OF ACCREDITATION**

**NATIONAL HIV REFERENCE LABORATORY & NACO RRL  
FOR HIV VIRAL LOAD AND EARLY INFANT DIAGNOSIS,  
DEPARTMENT OF MICROBIOLOGY.**

has been assessed and accredited in accordance with the standard

**ISO 15189:2012**

**"Medical laboratories - Requirements for quality and  
competence"**

for its facilities at

ROOM NO-2062, SECOND FLOOR, DEPARTMENT OF MICROBIOLOGY, ALL INDIA INSTITUTE OF  
MEDICAL SCIENCES, ANSARI NAGAR, NEW DELHI, DELHI, INDIA

in the field of

**Medical Testing**

Certificate Number: MC-2472

Issue Date: 11/07/2021

Valid Until:

10/07/2023

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued  
satisfactory compliance to the above standard & the relevant requirements of NABL.  
(To see the scope of accreditation of this laboratory, you may also visit NABL website [www.nabl-india.org](http://www.nabl-india.org))

Name of Legal Identity : ALL INDIA INSTITUTE OF MEDICAL SCIENCES

Signed for and on behalf of NABL



N. Venkateswaran  
Chief Executive Officer

## EDUCATION

### Undergraduate Teaching

MBBS for Medical Microbiology

BSc (Nursing)–Medical Microbiology

BSc OT Technology - Medical Microbiology

### Postgraduate Teaching

PhD (Microbiology)

Lecture - Once/week

Journal Club - Once/week

MD (Microbiology)

- Lecture/Seminar - Once/week
- Journal Club - once/week
- Tutorial - Twice/month
- Practical Exercise presentation - Twice/month
- Laboratory postings in different sections of the department

DM (Infectious Diseases)

- Seminar - Once/week
- Laboratory postings in different sections of the department

Short-term trainees: 15

### CME/Workshops/Symposia/National & International Conferences:

1. World Tuberculosis Day CME, held at AIIMS, New Delhi, 23 March 2023
2. AIIMS-ICMR-ISMM Workshop on Diagnostic Medical Mycology' held at AIIMS New Delhi, from 31 October to 2 November 2022
3. EQAS activity with Apex lab, National AIDS Research Institute, Pune, August 2022 & January 2023: Performance: 100%
4. EQAS panel distributed to 4 HIV State Reference Laboratories in July 2022 and December 2022
5. Workshop/Training Organized for HIV State Reference Laboratory
  - EQAS panel distribution Workshop - March 2023 (virtual) with participants from four State Reference Laboratories participated i.e. PGIMER, Chandigarh; Govt. Medical College, Patiala; Govt. Medical College, Amritsar and Indira Gandhi Medical College, Shimla and staff of HIV Laboratory, AIIMS.
6. Successful participation in online HIV Sentinel Surveillance program (HSS-DBS) training conducted by ICMR-NARI
7. Online one-day workshop/training for HIV EQAS- participant ICTC laboratory technician: 14 March 2022
8. Training CD4 labs on NACO Prayogshala, 4 February 2022- Participant: Mr. Ashutosh Sharma Technical Officer, HIV NRL AIIMS

**Lectures delivered: 37**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
19	27	37

**List of oral papers/posters presented: 43**

**Oral/poster presentations over past 3 years**

2020-2021	2021-2022	2022-2023
24	25	43

## RESEARCH

### Funded Projects

#### Ongoing

1. Clinical and Epidemiological study of Lyme disease: A multi-centric task force study in India (Indian Council of Medical Research (ICMR) a multi-centric task force study), Dr Rama Chaudhry, ICMR, 3 years, 2020-2023, Rs 90 lakhs
2. Bacteriophage endolysins: An alternative strategy for MDR Acinetobacter spp, Dr Rama Chaudhry, ICMR, 3 years, 2020-2023, Rs 45 lakhs
3. To determine the gut colonization of *Clostridioides difficile*, Vancomycin resistant Enterococci and Carbapenem resistant *Enterobacteriaceae* in recovered COVID cases, Dr Rama Chaudhry, AIIMS Intramural, 1 year, 2022-2023, Rs 10 lakhs
4. Regional Virus Research and Diagnosis Laboratory, Dr Lalit Dar, DHR-ICMR, No fixed duration, 2019, Ongoing, Rs ~5 crores
5. NACO Regional Reference Laboratory for HIV Viral Load (VL), Dr Lalit Dar, National AIDS Control Organization, No fixed duration, 2019, Ongoing, Rs ~40 lakhs
6. NACO Referral Laboratory for HIV Early Infant Diagnosis (EID), Dr Lalit Dar, National AIDS Control Organization, No fixed duration, 2012, Ongoing, Rs ~82 lakhs
7. Evaluation of NF- $\kappa$ B based reactivation of latency in HIV infected individuals who are on antiretroviral therapy for more than 15 years: A Quest for Cure, Dr Bimal Kr. Das (Fellowship to Young Scientist to Dr Shesh Prakash Maurya), DHR, MoHFW, GOI, 3 years, 2022-2025, Rs 50,92,497
8. Evaluation of role of B-1 cells in modulating the response of T cells in HIV infected patients pre and post antiretroviral therapy: cohort study, Dr Bimal Kr Das, ICMR, 3 years, 2022-2025, Rs 50,40,572
9. Evaluating immune mechanism leading to carrier stage in typhoid infection among Indian Population; prospective cohort study, Dr Bimal Kr Das, ICMR, 3 years, 2020-2023, Rs 1,01,52,555
10. External Quality Assurance Scheme (EQAS) of National HIV/AIDS Reference Laboratory, AIIMS, Delhi, Dr Bimal Kr Das, NACO, Continuous, 2005, Continuous, Rs 13,93,800 p.a.
11. Streptococcus pneumoniae and Hemophilus serotype distribution and antibiotic resistance in isolates from pediatric pneumonia cases in Assam, Dr Bimal Kr Das, DBT, 3 years, 2019-2022, Rs 38,18,360
12. Proteomic study of *Giardia intestinalis* isolates to associate with clinical spectrum different and extrapolate its invasive potential (ID-2021-143-65), Dr BR Mirdha, ICMR, 3.5 Years, 2023, Technically approved, 2026, Rs 45 lakhs
13. ICMRs: Advanced Mycology Diagnostic and Research Centre (AMDRC), Dr Immaculata Xess, ICMR, 5 years, 2022-2027, Rs 500 lakhs
14. Multi-centric study on prevalence of Mycoplasma genitalium and its resistance markers in the high-risk group (MSM and FSW) attending sexually transmitted disease clinics in North India, Dr Benu Dhawan, ICMR, 3 years, 2021-2024, Rs 28,65,104
15. Exploring SELEX technology for potential POCT development for Genital Chlamydia trachomatis, Dr Seema Sood, ICMR, 3 years, 2022-2025, Rs 49.8 lakhs
16. Towards point of care test development for Bacterial Vaginosis, a polymicrobial infection, Dr Seema Sood, ICMR, 3 years, 2020-2023, Rs 51.0 lakhs
17. Rapid electrochemical detection of methicillin-resistant Staphylococcus aureus (MRSA) and azithromycin-resistant *Neisseria gonorrhoeae* (NG): A Novel Strategy (2021-2024)), Dr Seema Sood, SERB-TARE, 3 years, 2021-2024, Rs 7.5 lakhs
18. Epidemiological impact and intersection of the COVID-19 and Tuberculosis Pandemics in Brazil, Russia, India and South Africa, Dr Urvashi B Singh, DST, 2 years, 2021-2023, Rs 1.72 crores
19. Validation of Indigenously Developed Diagnostic kit based on Detection of Proteomic markers from Urine for Diagnosis of Pulmonary and Extra-pulmonary Tuberculosis, Dr Urvashi B. Singh, ICMR, 3 Years, Sanctioned in March 2022-2025, Rs 1.4 crores
20. Operational feasibility and performance of Indigenous phenotypic kit for detection of Multidrug resistant tuberculosis and extensively drug resistant tuberculosis in field settings under the National Tuberculosis Elimination Program, Dr Urvashi B Singh, ICMR, 2 years, 2023-2025, Rs 40 lakhs
21. Development of Surface Plasmon Resonance Array Biosensor for Rapid Molecular Drug Resistance Detection for MDR and XDR TB, Dr Urvashi B. Singh, ICMR, 2 years, Sanctioned in March 2023-2025, Rs 40 lakhs

22. Development of Surface Enhanced Raman Scattering (SERS) based Biosensor for Rapid Detection of oligonucleotides in MDR-TB and XDR-TB, Dr Urvashi B Singh, AIIMS-IITD, 1 years, Sanctioned in September 2022-2023, Rs 5 lakhs
23. To determine the prevalence of common virulence determinants associated with Uropathogenic *Escherichia coli* from community-setting at different geographical regions of India using phenotypic and genotypic methods, Dr Sarita Mohapatra, ICMR, 1year, 2022-2023, Rs 553400.00
24. In vitro susceptibility of Cefiderocol against carbapenem-resistant gram-negative bacilli from patients with blood stream infection/sepsis, urinary tract infection or pneumonia, Dr Sarita Mohapatra, Funded (Intramural), 2 years, 2021-2023, Rs 9.7 lakhs
25. National Program for the Surveillance of Viral Hepatitis, Dr Aashish Choudhary, MoHFW, 5 years, 2019-2024, Rs ~ 95 lakhs
26. Molecular Epidemiology and In-Vitro Antifungal Susceptibility of Cryptic *Aspergillus* species from Clinical and Environment samples, Dr Gagandeep Singh, ICMR, 3 years, 2022-2025, Rs 35 lakhs
27. Implementation of an Institutional Antifungal Stewardship Program (AFSP) on the Appropriate use of Antifungal Therapy And Outcomes in Patients With Invasive Fungal Infections, Dr Gagandeep Singh, ICMR, 3 years, 2020-2023, Rs 48 lakhs
28. Genomic profiling of invasive and hospital acquired *Escherichia coli* pathotypes from different clinical samples to identify the virulence and antimicrobial resistance markers, Dr Hitender Gautam, Science & Engineering Research Board SERB (Under DST), 2 years, 2022-2024, Rs 45,45,816
29. Site-specific biomarkers to differentiate infection from either colonization or aseptic inflammation in ICU, Dr Hitender Gautam, ICMR, 3 Years, 2023-2026, Rs 73,39,362
30. *In vitro* susceptibility of Isepamicin in clinical isolates of *Enterobacteriaceae* and its correlation with Aminoglycoside modifying enzyme resistance mechanism, Dr Hitender Gautam, Intramural Project at AIIMS, 1 year, 2020-2022 (Extended by one year), Rs 4,82,500
31. Post exposure effect of COVID-19 infection on *Nuclear factor kappa B* (NF- $\kappa$ B) activity in immune cells: friend or foe in long term complications? Inter-Disciplinary for COVID-19 IMRG 2020-21, Dr Hitender Gautam, Inter-Disciplinary for COVID-19 Intramural Project at AIIMS, 1 year, 2021-2022, Rs 9,95,000
32. Magnitude of asymptomatic malaria infections in pregnant women in a community hospital, Dr Nishant Verma, AIIMS, New Delhi, 1 year, 2018-2019 (work continued in this year too), Rs 4,98,00
33. Clinical and epidemiological study of Lyme disease: a multi-centric taskforce study in India, Dr Nishant Verma, ICMR, 3 years, 2020-2023, Rs 3,86,71,240
34. Expanded viral etiological investigation of genital ulcer disease with phenotyping and genotyping for antiviral drug resistance in herpes simplex viruses, Dr Megha Brijwal, ICMR Delhi, 3 years, 2023-2025, Rs ~ 59 lakhs
35. Strengthening Capacity for Genomic Sequencing of Outbreak Prone Respiratory Pathogens like Influenza and Other Respiratory Viruses, Dr Megha Brijwal, CDC, APHL, 5 months, 2023-2023, Rs ~ 40 lakhs
36. Point of care Urinary Lipoarabinomannan antigen (LAM) detection as a diagnostic tool for Extra-pulmonary tuberculosis, Dr Kiran Bala, AIIMS, Intramural, 2 years, 2021-2023, Rs 4.94 lakhs
37. Changing epidemiology of tuberculosis among SARS CoV-2 pandemics, Dr Kiran Bala, AIIMS, Intramural, 2 years, 2021-2023, Rs 7.14 lakhs

#### **Completed**

1. Development of superhydrophobic catheter to inhibit bacterial and yeast growth, Dr Immaculata Xess, AIIMS-IIT, 2 years, 2020-2022, Rs 10 lakhs
2. Diagnosis of Invasive mucormycosis in COVID patients using conventional and molecular methods, Dr Immaculata Xess, AIIMS Intramural, 1 year, 2021-2022, Rs 5 lakhs
3. Effectiveness of bundled intervention in surgical site infections among patients undergoing clean orthopedic surgeries with hardware implants: A randomized controlled trial”, Dr Benu Dhawan, ICMR, 3 years, 2019-2022, Rs 43,01,220 lakhs
4. Molecular characterization, biofilm formation, in vitro antifungal susceptibility of Mucorales causing COVID associated Mucormycosis (CAM), Dr Gagandeep Singh, AIIMS Intramural, 2 years, 2021-2022, Rs 5 lakhs
5. Efficacy of cold atmospheric plasma jet for its antimicrobial activity against drug resistant bacterial and fungal pathogen: An in-vitro and in-vivo study, Dr Gagandeep Singh, AIIMS-IIT, 2 years, 2020-2022, Rs 5 lakhs
6. Biomarkers for bacteremia, antimicrobial resistance and hospital acquired infections by NMR and Mass Spectrometry among febrile neutropenic patients”, Dr Hitender Gautam, Biotechnology Industry Research Assistance Council (BIRAC), DBT, 3 years, 2019-2022, Rs 36,46,000

## Departmental projects

### Ongoing

1. Evaluation of lateral flow assay for diagnosis of chronic pulmonary aspergillosis
2. Epidemiology of Invasive Fungal Infection in Covid and Non-Covid patients
3. Prevalence of Histoplasmosis in Patients Suspected with Tuberculosis
4. Invasive fungal infection in ACLF patients -A prospective study
5. Diagnosis of catheter related bloodstream infections at a tertiary hospital in North India- A prospective study.
6. *Chlamydia trachomatis*, *Neisseria gonorrhoeae* and *Treponema pallidum* screening in HIV infected patients attending a tertiary care hospital
7. Clinico-Microbiological Profile of Patients with Acute Cholangitis
8. Development of POCT using Aptamers: *Neisseria gonorrhoeae* as a prototype
9. Rapid electrochemical detection of MRSA and azithromycin-resistant NG: A Novel strategy
10. Role of aptamer technology in detection of Bacterial Vaginosis (BV) associated bacteria
11. *Chlamydia trachomatis* and *Neisseria gonorrhoeae* coinfections in MSM
12. *Streptococcus pneumoniae* and *Hemophilus influenzae* serotype distribution and antibiotic resistance in isolates from pediatric pneumonia cases in Assam
13. Molecular detection of viral pathogens causing non-gonococcal urethritis (NGU)
14. In vitro susceptibility of Cefiderocol against carbapenem-resistant gram-negative bacilli from patients with blood stream infection/sepsis, urinary tract infection or pneumonia
15. Comparison of conventional and automated culture for aerobic bacterial isolates in Bacteraemia
16. Human cytomegalovirus (HCMV) disease in pediatric leukemias (ALL and AML) (Dr Aashish Choudhary)
17. Acute diarrhoeal disease due to typical and atypical Enteropathogenic Escherichia coli among under-5 children
18. In vitro susceptibility of Omadacycline against Extensively Drug Resistant (XDR) *Acinetobacter baumannii* and *Klebsiella pneumoniae* clinical isolates from bacterial meningitis and blood stream infections
19. Quality control tests of routinely used therapeutic radiopharmaceuticals
20. Long term outcome & prevalence of post-sepsis syndrome
21. Central line-associated bloodstream infections and bacterial contamination among health care workers in medical ICU: a prospective observational study
22. Antibody response among healthcare workers recovered from COVID-19
23. Association of Microbial Pathogens in Oral Infection with Various Systemic Diseases such as Cardio Vascular Disease and Preterm Birth and Effects of Neem Leaf and other Herbal Medicine Extracts on Oral Pathogens (Texila American University)
24. Development and standardization of ultrasound probe cleaning for Medicine residents
25. Identification and characterization of microsporidia in HIV-seropositive patients
26. Screening of stool specimens from admitted patients on antibiotics for Carbapenem resistant Enterobacterales, Carbapenem resistant *Acinetobacter baumannii* and *Clostridioides difficile* to detect carriers
27. Study of thymidine kinase gene polymorphism in Herpes simplex virus positive clinical isolates
28. Detection of Parvovirus B19 infection in patients with hematological disorders

### Completed

1. Occurrence of *Chlamydia trachomatis*, *Ureaplasma urealyticum*, *Mycoplasma hominis* and *Mycoplasma genitalium* in patients with sterile pyuria
2. Prevalence and characterization of *Chlamydia trachomatis*, *Neisseria gonorrhoeae* and Genital Mycoplasmas at Genital and Extra-genital sites
3. In vitro evaluation of alternate antimicrobial combinations for *Neisseria gonorrhoeae*
4. Biomarkers for bacteremia, antimicrobial resistance and hospital acquired infections by NMR and Mass Spectrometry among febrile neutropenic patients
5. In vitro susceptibility of Isepamicin in clinical isolates of *Enterobacteriaceae* and its correlation with Aminoglycoside modifying enzyme resistance mechanism
6. Identification and antimicrobial susceptibility pattern of hypervirulent *Klebsiella pneumoniae*
7. Incidence, risk factors and complications of venous thrombosis associated with central venous catheters



8. Incidence and Impact of Gut Colonization by Multi-Drug Resistant Bacteria in Patients receiving Standard Induction Chemotherapy for AML or Conditioning for Autologous HSCT
9. A cross-sectional study to determine the cause of death in adults using minimally invasive tissue sampling (MITS)
10. Prevalence of parasitic infections in patients with eosinophilia in a tertiary care hospital in North India
11. BK and JC polyomavirus detection in patients with allogenic hematopoietic stem cell transplant (Dr Megha Brijwal)

### **Collaborative projects**

#### ***Ongoing***

1. CDC-AIIMS Cooperative Agreement projects on Influenza and other respiratory viruses, Centre for Disease Control (CDC), Atlanta (USA) and Centre for Community Medicine, AIIMS
2. Rapid point of care detection of HPV-associated malignancies (National Cancer Institute, NIH, USA), Department of Obstetrics and Gynaecology
3. To explore the association of enteric parasitic infections with duodenal eosinophilia in patients with Functional dyspepsia (DMID ), Gastroenterology, Pathology. Internal Medicine
4. Detection of malaria with special focus on submicroscopic malaria, among febrile patients, characterization of plasmodia species and correlation of clinical effects (MD), Internal Medicine, Pediatrics
5. A study on frequency, risk-factors and characteristics of sino-nasal mycobiome in COVID-19 associated mucormycosis, Department of Medicine
6. Antifungal Effect of Lactoferricin, a natural potent antimicrobial peptide derived from the innate immunity protein, Lactoferrin and its use in the therapeutics of Mucormycosis, Department of Biophysics
7. A preliminary study to validate BM-AspICU algorithm for diagnosing invasive pulmonary aspergillosis in critically ill ventilated patients using post-mortem minimally invasive tissue sampling, Department of Medicine
8. National Capacity building program for healthcare workers in infection prevention and control (IPC) including biomedical waste (BMW) management for pandemic preparedness, Department of Hospital Administration
9. Role of 99m-Tc-Ubiquicidinscintigraphy in diagnosis of orthopaedic implant infection, Department of Nuclear Medicine
10. Clinical and radiological outcomes of revision Joint replacement surgery in periprosthetic joint infections: An ambispective study, Department of Orthopaedics
11. Analysis of vaginal microbiome and metabolome in women affected with bacterial vaginosis before and after treatment and their correlation with relapse or recurrences, Dermatology, AIIMS
12. Exploration of alternate salivary diagnostic strategies for ovarian cancer, Biophysics, AIIMS
13. A preliminary study to validate BM-AspICU algorithm for diagnosing invasive pulmonary aspergillosis in critically ill ventilated patients using post-mortem minimally invasive tissue sampling, Medicine, AIIMS
14. Incidence and characteristics of VAE in an adult ICU, Medicine, AIIMS
15. Studies on antimicrobial resistance, IIT, Delhi
16. A phase IIB Open label randomized controlled clinical trial to evaluate the anti-bacterial activity, pharmacokinetics, safety and tolerability of metformin when given along with rifampicin, isoniazid, pyrazinamide and ethambutol in adults with newly diagnosed sputum positive pulmonary tuberculosis: an 8- week study, Pulmonary Medicine and Sleep Disorders, AIIMS
17. Phase III, Randomized, Double blind, Placebo controlled Trial to Evaluate the Efficacy and Safety of VPM1002, Immunovac Vaccines in Preventing of Tuberculosis Disease in Healthy Household Contacts of Newly Diagnosed Sputum Positive Pulmonary TB (PTB) Patients Funded by ICMR, New Delhi; 2018-20, Pulmonary Medicine and Sleep Disorders, AIIMS
18. Role of tuberculosis and genital Chlamydia trachomatis infection in women with “unexplained infertility”, Gyne & Obs
19. Efficacy of Energy Dense Nutritional Supplement (EDNS) as adjunct to standard DOTS therapy improving treatment outcomes in malnourished newly diagnosed sputum positive pulmonary tuberculosis adult patients, Centre for Community Medicine (CCM)
20. Evaluation of newer molecular methods and antigen based diagnostic modalities against RNTCP recommended methods in early diagnosis of female genital tuberculosis, Gyne & Obs
21. Burden of multidrug-resistant neonatal sepsis in district hospital settings in India, Dept of Paediatrics

22. In-vitro susceptibility of Eravacycline V/S tigecycline in clinical isolates of XDR Acinetobacter baumannii and study of resistance mechanisms, Department of Microbiology
23. Developing an antibiogram based on culture samples of suspected patients of infection presenting to the emergency department, Emergency Medicine
24. Central line-associated bloodstream infections and bacterial contamination among health care workers in medical ICU: a prospective observational study, Dept of Medicine
25. Acute diarrhoeal disease due to typical and atypical Enteropathogenic Escherichia coli among under-5 children, Dept of Microbiology
26. A study of cytokines and the immune response in acute bacterial meningitis among paediatric patients, Dept of Microbiology
27. Multi-drug resistant and Extensively drug resistant Enterobacterales - Prevalence, Treatment and Outcomes - A Prospective Observational study, Dept of Medicine
28. Clinical profile & outcomes of ventilator associated pneumonia due to MDR & XDR gram-negative bacilli, Dept of Medicine
29. AMR-Educate: A multinational and interdisciplinary research-integrated education partnership for a sustainable future against infection and antimicrobial resistance threat, International (Indo-Norway)
30. OH-AMR Diag: Novel technological solutions for rapid detection and screening of AMR from a One-Health perspective, International (Indo-Norway)
31. National Capacity Building for healthcare workers in Infection, Prevention and Control including biomedical waste management for pandemic. Funded by USAID & JHPIEGO, Department of Hospital Administration, AIIMS, New Delhi
32. APP-DIP: Development of AI based prognostic platform for an early detection of infections in immunocompromised patients. Jointly sanctioned under Indo-Sweden Collaboration in Biotechnology (IITD) & AIIMS, New Delhi. Indo (DBT)-Sweden Collaboration, Indo-Sweden Collaboration in Biotechnology with IIT-D and Department of Medical Oncology, AIIMS, New Delhi
33. Metabolic resuscitation using early administration of ascorbic acid, thiamine and corticosteroids in perioperative management of surgical patients with septic shock: an exploratory Randomized Controlled trial, Department of Surgery
34. Multi-centric prospective hospital based sentinel surveillance to determine the aetiology of acute bacterial meningitis in children, Central Research Laboratory, KIMS Hospital & Research Centre, Kempegowda Institute of Medical Sciences, Bangalore
35. Utility of Radiolabeled Antibiotics as Imaging Agents in Establishment of a Decision Support Algorithm in Patients with Pyrexia of Unknown Origin (PUO) caused by Infection and its Impact on Short Term and Long Term Clinical Outcomes, Department of Nuclear Medicine, AIIMS, New Delhi
36. Etiological profile of infants, children and adolescents presenting with acute, subacute and chronic encephalitis/encephalopathy in a tertiary care centre in North India, Division of Neurology, Department of Paediatrics, AIIMS, New Delhi
37. Effectiveness of Robot in floor cleaning for minimizing human exposure in view of COVID-19 pandemic, Department of Hospital Administration, AIIMS, New Delhi
38. Determination of seroprevalence of COVID-19 IgG antibody among healthcare workers involved in Sanitation, housekeeping and Security services, Department of Hospital Administration, AIIMS, New Delhi

### **Completed**

1. Evaluation of various clinical and immunological parameters in predicting the outcome of sino-nasal and skull base invasive fungal diseases: A descriptive study, Department of Otorhinolaryngology
2. A Prospective Observational study on Clinical profile and treatment outcome of patients with Chronic Pulmonary Aspergillosis attending tertiary care Hospital, Department of Medicine
3. *Candida auris*: infection, colonization and risk of transmission in healthcare setting, Department of Medicine
4. Developing an app-based bilingual e-learning module for primary health care workers in response to COVID-19 pandemic, Centre for Community Medicine
5. Impact of air quality interventions on air quality including microbial load in inpatient environmental air, Department of Hospital Administration
6. Evaluation of nasal swab PCR as a preliminary screening tool to detect Mucorales in nasal turbinates of post covid patients, Department of Medicine

7. Utility of Blood Real Time PCR for early detection of Mucormycosis in Patients with COVID-19, Department of Onco-Anaesthesia
8. Efficacy of LD Bio Aspergillus ICT Lateral flow assay for serodiagnosis of chronic pulmonary aspergillosis, Department of Medicine
9. Analysis of vaginal microbiome and metabolome in women affected with bacterial vaginosis before and after treatment and their correlation with relapse or recurrences, Department of Dermatology and Venereology
10. A Phase-IV, double blind, comparative, prospective, multicentric study to assess safety and efficacy of fixed dose combination of Clindamycin 100 mg & Clotrimazole 100 mg vs Clotrimazole 100mg vaginal suppositories in patients with mixed vaginal infection, Obstetrics & Gynaecology, AIIMS
11. Analysis of the diagnostic/or predictive potential of metabolomics in BV, its treatment failure, relapse and susceptibilities to other STIs, Dermatology, AIIMS
12. In vitro evaluation of sulbactam combination therapies for *Acinetobacter baumannii* ventilator-associated pneumonia (VAP), Medicine, AIIMS
13. Evaluation of diagnostic potential of Hysteroscopy, Histopathology, and molecular Microbiology in chronic endometritis in women with tubal and unexplained infertility undergoing IVF-A Prospective Cohort study, Obstetrics & Gynaecology, AIIMS
14. To study the effect of Vitamin C and Thiamine in patients with sepsis in Indian Population: Single blind, Parallel Group, Randomized controlled trial, Department of Medicine
15. Secular trend of the urinary tract infection in diabetic patients and their antibiotic sensitivity, Department of Endocrinology & Metabolism
16. Efficacy of cold atmospheric plasma jet for its antimicrobial activity against drug resistant bacterial and fungal pathogen: An in-vitro and in-vivo study, IIT, New Delhi
17. Clinical efficacy of using MALDI-TOF MS over Conventional processing in Blood Stream Infections patients combined with Prescription pattern monitoring: A pre-post quasi experimental study, Department of Medicine
18. Umbilical cord blood culture positivity in preterm and term neonates: prospective cohort study, Dept of Paediatrics
19. Acteriophage endolysins: An alternative strategy for superbug MDR *Acinetobacter* spp, Dept of Microbiology
20. Effectiveness of a Cranberry extract mouth rinse vs a Sodium Fluoride mouth rinse on microbial counts in caries active children-A double blind randomised controlled trial, Center of Dental Research and Education
21. Efficacy of two different Chlorhexidine gluconate preparation for skin antisepsis in neonates: a noninferiority randomized trial, Department of Pediatrics
22. Abdominal infections in immunocompromised hosts: A radiological, microbiological and clinical correlation, Department of Haematology
23. NeoAMR Global Observational Study: a prospective cohort study of sepsis in hospitalised neonates, Dept. of Paediatrics
24. Association of anti-malarial antibody levels and disease outcomes in Coronavirus disease 19 infection, Medicine

#### Research projects over past 3 years

Research project	2020-2021	2021-2022	2022-2023
Total Funded projects	49	62	43
Total Funding (Lakhs)	Rs 589.7	Rs 869.4	Rs 1179.46

#### PUBLICATIONS

**Journal: 83**

**Abstracts: 15**

**Chapters in Book: 1**

#### Publications over past 3 years

Item	2020-2021	2021-2022	2022-2023
Total	102	105	99
Journal articles	90	91	83
Abstracts	0	9	15
Chapters in books	2	5	1
Books	1	0	0

**PATIENT CARE:**

The Department of Microbiology carried out a total of 2,27,322 tests during the year 2022-23

Name of assay/test/investigation	No. of tests performed	Name of assay/test/investigation	No. of tests performed
<b>TUBERCULOSIS &amp; CBNAAT COVID LABORATORY</b>		<b>BACTERIOLOGY LAB</b>	
<b>TB TEST</b>		Respiratory samples:	
Gene Xpert MTB/RIF	3079	Culture and identification	21,310
Samples processed for ZN Smear	9573	Antimicrobial susceptibility testing	8,305
PCR for <i>Mycobacterium tuberculosis</i>	4360	Total	29615
Rapid Culture on MGIT 960	2698	CSF/Sterile samples: Culture and identification	6921
		Automated culture of CSF samples for routine patient care	2956
Culture on LJ medium	7821	Stool samples: Culture and identification	1856
Truenat *(started in January 2023)	338	CSF/Sterile samples - Automated antimicrobial susceptibility testing (VITEK-2)	821
MGIT DST	50	Latex Agglutination (Antigen detection) from CSF Samples for Bacterial Meningitis	618
Total	27919	Total	10216
<b>COVID TEST</b>		<b>SEXUALLY TRANSMITTED DISEASES LABORATORY</b>	
Gene Xpert	4723	<i>Culture (Routine/NG)</i>	
TRUENAT	2590	High vaginal swabs (HVS)	524
Total	7313	Semen	1188
<b>ANAEROBIC LABORATORY</b>		Expressed prostatic secretions (EPS)	29
<i>Clostridioides difficile</i>		Urethral discharge	206
Stool culture for <i>C. difficile</i>	568	Cervical discharge	162
Stool samples for <i>C. difficile</i> ELISA	568	Vaginal discharge	05
		Pharyngeal swabs	132
Samples for Anaerobic culture (Blood, Bile, BAL, CSF, Tissue)	498	Rectal swabs	132
<b>SPECIAL BACTERIAL PATHOGEN LABORATORY (SBPL)</b>		Endometrial aspirate	18
<b>Leptospira</b>		<b>Total</b>	2396
Citrate blood samples for Culture for <i>Leptospira</i> spp.	677	<i>microscopy</i>	
		Vaginal swabs for BV	16
Urine samples for Culture for <i>Leptospira</i> spp.	677	<b>Total</b>	
ELISA for <i>Leptospira</i> IgM antibodies	677	<i>PCR for NG</i>	
Urine Dark Ground Microscopy	677	Urethral discharge	206
Plasma Dark Ground Microscopy	677	Vaginal discharge	07
<i>Leptospira</i> PCR	9	Cervical discharge	162
<b>Scrub typhus and Rickettsia</b>		Rectal swab	132
IgM ELISA for Scrub typhus	717	Pharyngeal swab	132
IFA for Scrub typhus	31	Total	<b>3051</b>
ICT for scrub typhus	117	<b>MYCOLOGY LABORATORY</b>	
Scrub typhus PCR	287	<b>Direct microscopy/Culture</b>	
Scrub nested Real-time PCR (56 KDA gene)	51	Blood culture/Bone marrow/Blood BACTEC	2254

Rickettsia Spotted fever group IgM ELISA	140	Respiratory (BAL, Sputum, Tracheal aspirate)	7303
Rickettsia nested PCR glt gene	2	Urine	1664
Rickettsia real-time PCR glt gene	211	CSF	1736
<b>Bartonella</b>		Tissue/Biopsy	1053
Samples for Bartonella Culture	34	Skin scrapping/Nail/Hair	388
Sample for Bartonella IFA (IgG)	30	Fluid (Peritoneal, Pericardial and Ascitic fluid)	1083
Sample for Bartonella IFA (IgM)	31	Pus	582
Sample for Bartonella PCR	34	Miscellaneous (plates, Swabs, Catheter tips)	1700
<b>Legionella pneumophila</b>		<b>Total</b>	17763
Legionella serology	98	<b>Fungal Serology/Antifungal/TDM/PCR</b>	
Legionella PCR	140	Cryptococcal antigen	1816
Legionella urine antigen	97	Galactomannan antigen	6415
<b>Mycoplasma pneumoniae</b>		Urinary Histoplasma antigen	217
Mycoplasma IgM antibody detection	128	TDM (Voriconazole, Posaconazole, Itraconazole)	563
Mycoplasma PCR	209	Antifungal Susceptibility	505
Mycoplasma culture	105	PCR (Panfungal 4, Sequencing 45, Aspergillus 154)	203
<b>Chlamydia pneumoniae</b>		BD Glucan	832
ELISA for Chlamydia pneumoniae IgM antibodies	81	<b>Total</b>	10551
<b>Lyme Disease</b>	205	<b>Grand Total</b>	28314
Lyme Disease IgM ELISA	205	<b>PARASITOLOGY LABORATORY</b>	
Lyme Disease IgG ELISA	39	<b>SEROLOGICAL INVESTIGATIONS</b>	
Lyme Disease IgM Immunoblot	31	Serology for anti-amoebic IgG antibodies by ELISA	185
Lyme Disease IgG Immunoblot	205	Serology for anti-echinococcus for IgG antibody by ELISA	217
Borrelia 16S Real-time PCR	8256	Serology for anti-toxoplasma IgG antibodies by ELISA	31
<b>Total</b>		Serology for Teaniasolium infection	30
<b>VIROLOGY LABORATORY</b>		Serology for Strongyloidiasis	107
<b>Molecular tests (Conventional, Real time PCR)</b>		Serology for Toxocariasis	31
Monkeypox (including Orthopox) real time PCR	50	<b>INVESTIGATION FOR MALARIA</b>	
SARS-CoV-2 novel coronavirus real time RT-PCR	5754	Fluorescent staining (Acridine Orange)	6428
Whole genome sequencing (NGS) for SARS-CoV-2	288	Giemsa staining	6428
Influenza real time multiplex RT-PCR	2285	Quantitative Buffy Coat (QBC) Assay	6428
Respiratory virus panel (other than influenza) multiplex PCR	515	HRP-II Antigen Detection test	6428
HSV 1&2 DNA PCR (CSF, GUD, ocular etc.)	10	<b>INVESTIGATION FOR KALA-AZAR</b>	
HCMV DNA PCR (Urine, Colonic biopsy, CSF etc.)	2054	Fluorescent staining (Acridine Orange)	230

HIV-1 RT-PCR for Early Infant Diagnosis (DBS samples)	2172	Giemsa staining	230
HIV-1 RNA RT-PCR (Viral load)	16701	Kala-azar serology (rk-39)	711
Dengue and Chikungunya virus real time RT-PCR	13	<b>EXAMINATION OF FECAL SAMPLES FOR INTESTINAL PARASITOSIS</b>	
Zika virus real time RT-PCR	614	Direct and concentration techniques	1759
Polyomavirus (BK/JC) real time RT-PCR	605	<i>In-vitro</i> Cultures	20
Fever with Rash- Viral PCR Panel (Measles, Enterovirus, Parvovirus B19, HHV-6 & HHV-7)	10	Modified Acid-fast and special staining for intestinal coccidia	1759
Viral Meningitis/Encephalitis PCR panel (HSV, Enteroviruses, Parechoviruses, VZV, Mumps)	534	PCR assay for the detection of microsporidia species	1759
Viral Gastroenteritis PCR Panel (Rotavirus, Norovirus, Adenovirus 40/41)	104	<b>EXAMINATION OF ASPIRATES</b>	
Epstein-Barr virus (EBV) DNA PCR (Conventional, real time PCR)	417	Sputum, pus and other aspirates	180
Parvovirus B19 real time PCR	165	<b>INVESTIGATION FOR FILARIASIS</b>	
Enterovirus real time RT-PCR	40	Direct and Concentration techniques	980
Adenovirus real time PCR	71	Acridine Orange	980
Measles real time RT-PCR	20	Thin Smear examination	980
VZV real time PCR	33	Thick Smear examination	980
Dengue virus serotyping by real time RT-PCR	142	Filarial Antigen detection	980
<b>Antigen detection</b>		QBC	980
Dengue NS1 antigen (ELISA)	6759	<b>OTHER INVESTIGATIONS</b>	
HBsAg (ELISA/CLIA)	137	Investigation for the detection of <i>Pneumocystis jirovecii</i> infection (PCP) by staining & PCR assay	122
<b>Antibody detection (Serology)</b>		Cerebrospinal fluid examination for Freelifving Amoebas (FLAs)	81
Anti-Dengue IgM (ELISA)	5959	Worm Specimens	04
Anti-Chikungunya IgM (ELISA)	186	Arthropod Specimens	02
Anti-Japanese Encephalitis IgM (ELISA)	64	<b>Total</b>	39050
Anti_HAV IgM	137	<b>MYCOPLASMA LABORATORY</b>	
Anti_HEV IgM	137	<i>Chlamydia trachomatis</i> PCR	807
Anti-HBc IgM (ELISA/CLIA)	137	<i>Ureaplasmaurealyticum</i> culture	677
Anti-HCV (ICT/CLIA)	137	<i>Ureaplasmaurealyticum</i> PCR	782
Anti-Measles IgM (ELISA)	14	<i>Mycoplasma hominis</i> culture	676
Anti-EBV (VCA) IgM (ELISA)	4	<i>Mycoplasma hominis</i> PCR	776
Anti-SARS-CoV-2 IgG (ELISA)	658	<i>Mycoplasma genitalium</i> PCR	727
<b>Direct Microscopy</b>		<i>H.ducreyi</i> PCR	02
Tzanck smear (for HSV 1&2, VZV)	2	<b>Total No. of Samples</b>	4447
PS for Downey cells/atypical lymphocytes (EBV-related Infectious mononucleosis)	1		
<b>Grand Total</b>	46271	<b>SEROLOGY LABORATORY</b>	
<b>MOLECULAR BIOLOGY LABORATORY</b>		Widal test:	6491
Multiplex PCR for Acute Bacterial Meningitis (ABM)	415	VDRL test	12649
		Treponema Pallidum Hemagglutination Assay (TPHA)	962
		Anti-streptolysin O (ASLO):	52

	Standard Agglutination Test (SAT) for Brucella antibody	235
	<i>H.pylori</i> IgG antibody	6
	<i>H.pylori</i> Stool Antigen	89
	Serum Procalcitonin	337
	<b>Total</b>	20821

#### Patient care

Item	2020-2021	2021-2022	2022-2023
OPD consultations	Not applicable	Not applicable	Not applicable
Special clinic consultations	Not applicable	Not applicable	Not applicable
Patients provided rehabilitation Services	Not applicable	Not applicable	Not applicable
Total investigations performed	2,89,009	2,96,909	2,27,322

\* 2020-22: Total number of samples were higher because of the surge in COVID-19 testing

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Rama Chaudhry** has Professional Society Memberships including Anaerobic Forum of India (AFI), American Society for Microbiology (ASM), Indian Association of Medical Microbiologists (Life Member), Expert group on leptospirosis constituted by Indian Council of Medical Research; is Editorial Board/Reviewer of Indexed Journals: Emerging Infectious Diseases, Gut Microbes, Journal of Gastroenterology and hepatology, Journal of Clinical Microbiology, PLOS One, Indian Journal of Medical Research, Indian Journal of Medical Microbiology, Indian Journal of Pathology and Medical Microbiology, Indian Journal of Pediatrics; and is Grant Review Panels of National Funding Agencies- Grant Reviewer for Biotechnology Industry Research Assistance Council (BIRAC), Govt of India, Indian Council of Medical Research, Govt of India, Department of Biotechnology, Govt of India, Department of Science and Technology, Govt of India, Council of Scientific and Industrial Research, Govt of India, Indian Agricultural Research Institute, Govt of India, Sir Ganga Ram Hospital, New Delhi, India.

**Professor Lalit Dar** is Member, Government of India National Task Force for SARS-CoV-2/COVID-19; Member, Joint Monitoring Group (JMG) for emerging diseases, DGHS, MoH; Nominated member of the National Technical Advisory Group on Immunization (NTAGI), the apex body for advising the Government of India on its immunization policies; Member, Advisory Committee of the National Accreditation Board for Testing and Calibration Laboratories (NABL); Member, Technical Resource Group, National Viral Hepatitis Control Programme (NVHCP); Chair, Technical Resource Group for Laboratories, National Viral Hepatitis Surveillance Programme (NVHSP); Member, ICMR Virology Project Review Committee for Virology; Member, ICMR Fellowship Committee; Member, NACO Technical Resource Groups (Laboratory Services, Basic Services).

**Professor Bimal Kumar Das** won First prize in oral paper presentation at 13th National Conference of AIDS Society of India, Hyderabad, 3-5 April 2022 (Dr Shesh Prakash Maurya, Research Associate under Dr Bimal Kr Das); Scholarship to attend in-person AIDS 2022, the 24th International AIDS Conference, to be held in Montreal, Canada, from 29 July to 2 August 2022, and the official pre-conference events, taking place on 27 and 28 July (Dr Shesh Prakash Maurya, Research Associate under Dr Bimal Kr Das); Sanjay Sardana Memorial Award for best poster presentation in MICROCON-Delhi chapter 27 Nov. 2021 (Sonu Tyagi, PhD student under Dr Bimal Kr Das).

**Professor BR Mirdha** is Expert member for the Government of India, to take policy decision on lymphatic filariasis; Search-cum Selection committee member for selection of important posts at Central Institutes, Government of India.

**Professor Benu Dhawan** received IUSTI-IASSTD & AIDS SCHOLARSHIP by Indian Association for the Study of Sexually Transmitted Diseases and AIDS (Senior corresponding author of paper); Received the title "Name in Medical Science and Practice" by the Europe Business Assembly and Socrates Nomination Committee, The Academic Union Oxford, UK.

**Professor Seema Sood** is Executive Member- IUSTI World Committee (2021-25); Advisor for Asia Pacific Sexual Health Experts Advisory Board by Abbott Laboratories Pte Ltd (Singapore); Filed PATENT (Authors: Mala R, Malhotra S, Sood S, Gupta S, Yadav S, Singh N, Kapil A (May 2022), Title: Novel aptamers against Bacterial Vaginosis associated Bacteria (BVAB). Application no. 20221102919. A/F in Patent Office, Delhi; AIIMS Excellence Research Award-2021; Rabindranath Dutta Memorial Award- First Prize at ASTICON 2022, September 9-11, Telangana; Expert ICMR - Project Review Committee (PRC) for STI Task Force - call for proposals on STIs; Expert ICMR - Evaluation of Annual

progress reports on HIV/AIDS and STIs; Member - TRG on surveillance & epidemiology under NACP-constituted by NACO, Min of H & FW, GOI; Member - International Scientific Committee (Basic and Translational Science Track) for STI & HIV World Congress 2023, July 2023, Chicago; Grant of Teachers Associateship for Research Excellence (TARE) fellowship – SERB; Faculty - National Board of Examination (NBE) for MCQ validation workshop, Question bank validation and conduct of DNB exam.

**Professor Urvashi B Singh** is Member, National Technical Expert Group under National TB Elimination Program, GoI (since March 2022); Member, Subject Expert Committees (Antimicrobial and Antiviral), CDSCO (DCGI), GoI (Since January 2020); Member, Subject Expert Committees (In-vitro Diagnostic Devices), CDSCO (DCGI), GoI (Since January 2020); Member, Operational Research Committee, National TB Elimination Program, GoI (Since March 2019); Member, Diagnostic Committee, India TB Research Consortium, ICMR, GoI (Since 2019); Member, ICMR Steering Committee for BCG Vaccination Implementation, GoI (Since Mar 2023); Chairperson, Diagnostic Working Group, India TB Research Consortium, ICMR; Member, ‘Expert Committee for finalizing validation protocols for Indian Indigenous Technologies’; Member, State TB Task Force and Operation Research Committee National TB Elimination Program, GoI (Since 2002); Member, Project Review Committees of DBT, ICMR, TDB, GoI; Associate Editor, Infectious Diseases Section, *Frontiers in Microbiology, Medicine and Public Health*; Reviewer: (Year 2022-23) *Clinical Infectious Diseases, Microbiology Spectrum, Nature Scientific Reports, Microbes and Infection, Epidemiology and Infection, PLOS One, Journal of Biosciences, Indian J Med research, Indian J Tuberculosis*.

**Dr Sarita Mohapatra** received Professional Development Award by Bill and Melinda Gates at International Society of Infectious Diseases, 17-20 November 2022.

**Dr Aashish Choudhary** is Member- Institute Biosafety Committee (IBSE), AIIMS Delhi; Member- BSL-3 facility, Central Core Research Facility (CCRF), AIIMS Delhi; Member- DHR-ICMR working group to establish diagnostic algorithm based on syndromic approach under One Health.

**Dr Gagandeep Singh** is Member, Standing National Committee on Medicines and Healthcare Products (SNMC & HCP) under the National List of Essential Medicines (NLEM), Subcommittees 1. Hygiene and other healthcare products and 2. Anti-infectives, MOHFW & ICMR; Member of the National Medical College Network (NMCN), with AIIMS, New Delhi as the nodal centre, Subcommittee: Telemedicine; Mentor, Center for Medical Innovation and Entrepreneurship (CMIE), BIRAC-BioNEST program at AIIMS, New Delhi; Member, Core Committee of the Hospital Infection Control Committee (HICC), AIIMS, New Delhi involved in: Preparation of Infection Prevention & Control Guidelines, and Delivered Lectures for Health Care Staff of Main AIIMS on Prevention & Control of HAI. Faculty resource person, Resident training program for HIC on SARAL platform; Nodal person for NABL accreditation of Mycology lab; Chairperson, Committee looking into equipment for large scale renovation of Laundry at Main AIIMS; Member, Committee for monitoring progress of work for new CSSD at Masjid Moth Complex; Member, Departmental Store Purchase Committee; Member, Departmental Committee for AIIMS Master Plan; Member, Committee for Departmental Equipment audit (external and internal); Member, Committee for MBBS Curriculum reforms & AIIMS Undergraduate Curriculum Organizing Group (AU-COG) at AIIMS, New Delhi; Executive Committee Member: Indian Association of Medical Microbiology-Delhi Chapter; Reviewer: *Frontiers in Fungal Biology, Mycopathologia, BMC Infectious Diseases, Mycoses, Indian J Med Microbiology, Indian J of Dermatology, Venereology and Leprosy, Journal of Lab Physicians, Iranian J of Microbiology, National Medical Journal of India* etc.

**Dr Hitender Gautam** is Member, Swachhta Team Committee, AIIMS, New Delhi w.e.f. 18 October 2022; Member, AIIMS NABL Coordination Core Committee w.e.f. October 2022 for NABL Accreditation of all laboratories at AIIMS, New Delhi. Also coordinating NABL training of all staff of all laboratories of AIIMS, New Delhi as per ISO-15189; Nodal Officer for COVID-19 for Department of Microbiology; Contact tracing of Positive COVID-19 cases, Defining and managing high risk & low risk contacts of positive cases, Provision of PPE for whole department including the COVID-19 testing laboratories, Infection Prevention & Control activities of department, Management of Cleaning & Disinfection of department, COVID-19 related Bio-Medical Waste management for the department. He also contributed in Initiation, planning and running of Extended hours of sample collection & 24 × 7 laboratory in Department of Microbiology w.e.f. 1 June 2022; Nodal Officer for Department: Information Technology Program Management Consultant (IT PMC) facilitation; was nominated faculty from Department for AIIMS Content Provider Communication w.e.f. 11 March 2022; Clean & Green AIIMS Sub-committee member for Key Result areas (KRA)”: For KRA 5: Waste Management and For KRA 6: Infection Control; Technical Specification & Evaluation Committee (TSEC) member for Antiseptics, Disinfectant & Chemicals at AIIMS w.e.f. February 2022; Invited Judge for The best free poster award I (PhD category) at Indian Association of Medical Microbiologists - Delhi Chapter on 9 April 2022, ILBS, New Delhi; Nodal Officer for department: Equipment audit of Department SARS CoV-2 IgG Sero-surveillance of Delhi under MOHFW, GOI, India; Member, Department Contact Tracing Team (DCTT) for COVID-19; In House preparation of Anti-Microbial Handrub for Department of Microbiology in concern with COVID-19; Member Secretary: Infection Control Committee



in Dr BRAIRCH, AIIMS, New Delhi; Initiation of Environmental Cleaning Monitoring through ATP bioluminescence in Dr BRA IRCH, AIIMS, New Delhi; Hospital Infection Control Committee (HICC), Core Committee Member, AIIMS, New Delhi; Team member from HICC for setting up of new inpatient wards for management of COVID cases, Formulation of Infection Prevention & Control Guidelines for 2019-nCoV (COVID-19) for AIIMS, New Delhi, as a core group member for HIC at AIIMS, New Delhi, Series of Lectures for Health Care Staff of Dr BRA IRCH& Main AIIMS on “Prevention & Control of COVID-19 in Health Care Setting” AND “Donning & Doffing of PPE”, Involved with making & implementation of Cleaning & Disinfection Protocols and checklist, Centralized preparation of Checklists for prevention of Device associated infections (CLABSI, CAUTI, VAP) and SSI, Hospital Infection Control activities at Surgical block, Incharge: Departmental KAYA KALP Committee. Part of AIIMS KAYA KALP Team. KAYA KALP Inspection Management for Department, Department NABL Core Committee Member & Deputy Quality Manager for Dept. of Microbiology, AIIMS, New Delhi: Department has been NABL Accredited w.e.f. 15 November 2019, Member: Australasia College for Infection Prevention & Control (ACIPC), Member of the British Society for Antimicrobial Chemotherapy (BSAC), Committee member for MBBS Curriculum reforms & AIIMS Undergraduate Curriculum Organizing Group (AU-COG) at AIIMS, New Delhi, Co-Guide for PhD in Medicine by Research Medical Microbiology program at Texila American University, Committee member for Department for AIIMS Master Plan of the department, Store Purchase Committee Member for Department of Microbiology, Technical Expert for Equipment Purchase for AIIMS, Rai Bareilly, External Expert as reviewer for Technology Development Board (TDB), Department of Science and Technology (DST), Central Core Research Facility (CCRF), Proteomics facility Sub-Committee member w.e.f. 31 January 2023.

**Dr Nishant Verma** got NABL accreditation of investigations in parasitology laboratory; Member - Core committee for coordination of NABL work at AIIMS; Undergraduate teaching in-charge; Faculty In-charge, Departmental Stores (Plan); Departmental DM ID teaching committee member; Core committee member for DM infectious diseases curriculum; Member-AIIMS undergraduate curriculum organizing group; Coordinator -AIIMS master plan departmental committee; Member of the committee coordinating the establishment of Microbiology services at NCI, Jhajjar; Co-editor for Microbiology newsletter released by the department; Member of the ‘clean & green AIIMS’ sub-committee; Member of the team for peer assessment of NITRD, New Delhi under Kaya Kalp award scheme; CAPIO-RTI; Core Group Member: Hospital Infection Control Committee (HICC), AIIMS, New Delhi: A series of training sessions for healthcare staff regarding COVID-19; Member Secretary: Infection Control Committee at CDER, AIIMS, New Delhi; Monitoring and surveillance of HIC activities at Mother and Child Health block, and CDER; Involved in the development of E-learning modules for undergraduate teaching; External examiner for II MBBS (Microbiology) examination at AIIMS, Jodhpur; External examiner for M.Sc. (MLT-Microbiology) – Practical & Oral examination at JIPMER, Puducherry; Internal examiner for DM Infectious Diseases examination at AIIMS, New Delhi; Thesis evaluation for 2 (Two) MD students, University of Delhi; Subject Matter Expert in development of online training modules for final year medical Students and interns in General Pandemic and Corona Management under a MeitY funded project “Facilitating IT enabled Trainings for generating skilled HCWs in General Pandemic Management & COVID-19 Management”; Executive committee member: Indian Association of Tropical Parasitology; Member-Hospital Infection Society- India; Member-IAMM- Delhi Chapter; Reviewer for several reputed journals; Member – selection committee for recruitment of consultant/computer programmer/ assistant in various research projects; Member of Microscopy Sub-Committee - for Centralized Core Research Facility (CCRF) at AIIMS, New Delhi.

**Dr Kiran Bala** is Member - Indian association of Medical Microbiologists (Life Membership 3301/19), The Union International union against tuberculosis and lung disease (Membership CU 0783207). Hospital Infection Control Society, HISI Life Membership Number (L-1111); Member- Infection prevention & control team of centralized core research facility at AIIMS, New Delhi; Expert member BSL-3, BSL-2 Subcommittee of CCRF core committee at AIIMS, New Delhi; Reviewer: BMJ case reports, Indian J of Urology, International J of Medicine and public health, Medical mycology, Indian J Med research, Indian J Tuberculosis, Mycopathologia, Plos one, Journal of Medical Virology.

**Dr Megha Brijwal** is Member - DHR-ICMR working group to establish diagnostic algorithm based on syndromic approach under One Health.

## 9.21 Nephrology

### Professor and Head

Sanjay Kumar Agarwal

### Professors

Dipankar Madhusudhan Bhowmik

Sandeep Mahajan

### Additional Professor

Raj Kumar Yadav

### Assistant Professor

Arun Kumar Subbiah

### HIGHLIGHTS

The department was regularly doing state of art nephrology care including renal transplantation at affordable cost. The department continued to provide hemodialysis to nearly 80-100 patients per week at very low cost and free for patients below poverty line. The department also provided bedside dialysis in many departments across institute main hospital as well as various centers and blocks. Dr SK Agarwal contributed to guidelines for primary care physicians for CKD being integrated in NPCDCS and also contributed to policy document for one nation and one transplant approach of Government of India.

### Steps taken to improve patient care, education, and research

For transplant patients, therapeutic drug monitoring of immunosuppressive medicine was continued free of cost. For research, biorepository is being maintained in the department and number of funded research projects are being continued. Residents are being trained in interventional nephrology within the department.

### Action Plan for coming year

Department of nephrology is having critical shortage of space and manpower for last few decades. Department is thankful to director Prof Srinivas for allotment of space for additional 36 dialysis beds and 16 regular beds for the department of nephrology, which will greatly help for care of more number of patients.

### EDUCATION

#### Long-term training

The department runs DM Nephrology, a three-year degree course for post MD (Medicine and Pediatric) candidates, selected by AIIMS on the basis of merit through all India entrance examination. Along with AIIMS Delhi, department is conducting examination for other AIIMS like institutions as per need. Four candidates were admitted to DM nephrology course at AIIMS, New Delhi during this period. Residents from department of pediatrics, and pathology regularly come for the training courses in Nephropathology. At present the department has three non-academic junior residents for 6 months each.

#### Short-term training

The department is providing short-term training for the following:

1. Postgraduates from the department of Internal Medicine, Geriatric Medicine, Emergency Medicine, Urology, Anesthesia, Infectious disease, Critical Care Medicine and Transfusion Medicine are posted on rotational basis for a variable period of few weeks to few months.

### CME/Workshops/Symposia/National & International Conference Organized by Department

1. World Kidney Day 2023, on 9th March was organized with the following activities
  - Morning seminar related to kidney disease on 9th March
  - Nukad Natak in the evening

**Lectures delivered: 30**

**Oral papers/posters presentations over past 3 years**

Year	No. of Oral Presentation
2020-2021	Nil
2021-2022	4
2022-2023	6

## **RESEARCH**

### **Funded Projects**

#### **Ongoing**

1. Prospective cohort study to find Circulating Levels of Anti Phospholipase A2 receptor (PLA2R) Antibodies and its Correlation with Idiopathic Membranous Nephropathy (IMGN), Dr SK Agarwal, ICMR, New Delhi, 3 years, 2017-2023, Rs 31 lakhs
2. A randomized, double-blind, placebo-controlled, parallel-group, multicenter Phase 3 study to investigate the efficacy and safety of FInerenone, in addition to standard of care, on the progression of kidney disease in patients with Non-Diabetic Chronic Kidney Disease, Dr SK Agarwal, Bayer Pharmaceutical Private Limited, 5 years, 2022-2026, Study coordinator Rs 49000/month + Rs 250000/per patient
3. Expression of Immune checkpoints (CTLA-4, PD-1, PD-L1), cytokines and T-reg cells in Lupus Nephritis, Sandeep Mahajan, ICMR, 3 years, 2021-2024, Rs 8616605.00
4. A multi-center, randomized, double-blind, placebo controlled, parallel group, phase III study to evaluate the efficacy and safety of LNP023 in primary IgA nephropathy patients, Soumita Bagchi, Novartis Ltd, 2 years, 2021-2023, Rs 200000 per patient
5. A multicentre, randomized, double-blind, parallel group, placebo-controlled study to evaluate the efficacy and safety of iptacopan (LNP023) in complement 3 glomerulopathy, Soumita Bagchi, Novartis Ltd, 2 years, 2022-2024, Rs 559000 per year (CRC salary) + 224275 per patient
6. A randomized, treatment open-label, dose-blinded parallel group, three arm, proof-of-concept clinical trial to investigate the efficacy and safety of LNP023 compared with rituximab in the treatment of subjects with idiopathic membranous nephropathy, Soumita Bagchi, Novartis Ltd, 4 years, 2019-2023, 200000 per patient + CRO salary
7. Randomised, double-blind, placebo-controlled and parallel dose group trial to investigate efficacy and safety of multiple doses of oral BI 690517 over 14 weeks, alone and in combination with empagliflozin, in patients with diabetic and non-diabetic chronic kidney disease, Dr RK Yadav, Boehringer Ingelheim Clinical Trial, 1 year, 2022-2023, 1,32,000/patient
8. Hydroxychloroquine blood concentration and its correlation with disease activity in lupus nephritis, Arunkumar Subbiah, Intramural grant, 2 years, 2020-2022, Rs 4,75,000/year
9. Therapeutic drug monitoring of valganciclovir in renal transplant recipients, Arunkumar Subbiah, Indian Society of Nephrology, 2 years, 2020-2022, Rs 5,00,000

#### **Completed**

1. Prospective monitoring of BK virus replication in the first year following renal transplantation in Indian patients, Soumita Bagchi, Intramural grant, 2 years, 2014-2016, Rs 620000
2. Prevalence and significance of serum galactose deficient IgA1 in Indian patients with IgA nephropathy: a case control study, Soumita Bagchi, Intramural grant, 1year, 2017-2018, Rs 500000
3. The association of HLA antigens with primary IgA nephropathy in Indian patients, Soumita Bagchi, Intramural grant, 2 years, 2019-2021, Rs 970000
4. An adaptive seamless randomized, double blind, placebo-controlled, dose ranging study to investigate the efficacy and safety of LNP023 in primary IgA nephropathy patients, Soumita Bagchi, Novartis Ltd, 2 years, 2019-2021, Rs 198000 per patient

**Research projects over past 3 years**

Year	Number of projects
2020-2021	7
2021-2022	10
2022-2023	10

## **Departmental Research**

### ***Ongoing***

1. Clinicopathological correlation of HBV and HCV infection in patients on renal replacement therapy
2. Evaluation of changes in measured GFR, Echocardiography, markers of bone mineral metabolism and carotid intimal medial thickness (CIMT) after renal donation
3. Practice patterns in IgA nephropathy: a questionnaire-based survey
4. Retrospective multi-centric study for evaluating the clinical course and outcome of IgA nephropathy with crescents in the Indian population
5. A prospective multi-centric randomized open label trial to assess efficacy of Hydroxychloroquine (HCQ) in reducing proteinuria in moderately severe primary IgA Nephropathy (EQUALITY study)
6. Health related quality of life in adult patients with primary glomerular diseases in India
7. Clinico-pathologic profile and outcome of C3 glomerulopathy: a retrospective study
8. Risk of contrast-induced nephropathy among diabetic patients undergoing fundus fluorescent angiography – A prospective observational study
9. Effect of Intravitreal Bevacizumab on Renal Function and Proteinuria Among Diabetic Patients: A Prospective Observational Study In North India
10. Clinical profile, clinicopathological correlation and treatment outcomes in lupus nephritis
11. Effect of Calcitriol (active form) on experimental model of Cardiorenal Syndrome in rats: Possible involvement of ACE2/AT 1-7/Mas receptor axis
12. Study of functional renal reserve in prospective kidney donors
13. Study to assess the effectiveness of video assisted teaching regarding renal health on knowledge and behavioral practices among employees at AIIMS, New Delhi
14. Clinical profile, clinicopathological correlation and treatment outcomes in lupus nephritis

### ***Completed***

1. Telenephrology service for patients with kidney disease during the COVID-19 pandemic
2. A randomized control trial to assess the efficacy of renal care bundle on the quality of life among CKD patients at AIIMS, New Delhi
3. Study to assess the effect of audio visual distraction on fistula cannulation pain and biophysiological parameters among patients undergoing hemodialysis at AIIMS, New Delhi
4. Impact of Hepatitis C treatment on long term outcomes of renal allograft recipients in Indian setting
5. A study of proteinuria in kidney transplant recipients in first year post transplant
6. A cohort study to evaluate the changes in exercise tolerance and nutritional status in chronic kidney disease patients on hemodialysis before and after renal transplantation
7. Frailty and nutritional assessment scores in chronic kidney disease patients and their correlation
8. Correlation of serum Immunoglobulin A/complement factor 3(IgA/C3) with the clinical and histologic severity in patients with IgA nephropathy
9. Supportive management of IgA nephropathy-a prospective study
10. Characterization of Chronic Kidney Disease of Unknown Origin in Patients attending Nephrology OPD of AIIMS, New Delhi-A cross-sectional study

## **Collaborative Projects**

### ***Ongoing***

1. Detection and genotyping of Human Cytomegalovirus from Neonates and Renal Transplant Recipients, Microbiology
2. Molecular detection and characterization of Pneumocystis jiroveci in respiratory samples from the patients both immunocompromised as well immunocompetent with suspected interstitial pneumonia and other chronic lung diseases, Microbiology
3. Assessment of Fok I polymorphism of VDR gene, vitamin D and parathyroid hormone levels in stage 4-5 CKD patients, Department of Laboratory Medicine
4. Improving maturation rates of AV fistula hemodialysis access in CKD V patients using autologous adipose tissue derived mesenchymal stem cells: a double blind, randomized placebo-controlled trial, Department of Cardiovascular Radiology & Endovascular Interventions

5. To study the pattern of donor derived cell free-DNA among renal transplant patients and its correlation with the renal transplant acute kidney allograft injury, Surgery
6. Genetic landscape of Alport's syndrome in India with phenotypic correlation, Pathology
7. Improving maturation rates of AV fistula haemodialysis access in CKD V patients using autologous adipose tissue derived mesenchymal stem cells: a double blind, randomised placebo-controlled trial, Department of Cardiovascular Radiology & Endovascular Interventions
8. An Open Label Randomised Controlled Trial to Study the Effect of Psychosocial Intervention on Quality of Life, Adherence and Psychiatric Morbidity in Patients with ESRD Undergoing Hemodialysis, Department of Psychiatry

#### **Completed**

1. Double blind randomised control trial to study the re-pigmentation in non-segmental vitiligo using 0.1% tacrolimus/0.2% tacrolimus/placebo, in combination with excimer lamp, Dermatology
2. Long-term outcome of anti-complement factor H antibody associated atypical hemolytic uremic syndrome (Pediatric and Cardiology) (DM Pediatric Thesis), Pediatric
3. To define intestinal insufficiency in patients with celiac disease (Gastroenterology thesis, started Dec 2018, Dr Govind Makharia Chief Guide), Gastroenterology
4. Impact of intra-operative determinants on graft outcome following live donor renal transplant, Surgery

#### **PUBLICATIONS**

Journals: 19                      Chapters in Book: 6

#### **Publications over past 3 years**

Year	Numbers
2020-2021	16
2021-2022	28
2022-2023	19

#### **PATIENT CARE**

- Nephrology faculty for health Camp of Asoka Mission at Kargil (25 September 2022 to 1 October 2022)
- Dr Arunkumar S has worked as nephrology faculty for Health Camp for Hon'ble MP's (7 December 2021)

#### **Facilities available in the department**

In addition to providing general nephrology care for all nephrology related illnesses, department provides state-of-the-art renal replacement therapy; hemodialysis, CAPD and renal transplant at very low cost to any patient of end-stage renal disease.

S. No.	Area	Sub-heading	2020	2021	2022
1	HD Related	HD New Patients	1304	1089	1125
		Emergency HD Patients	1228	1089	1123
		Total HD	10761	9826	11163
		Plasmapheresis	58	170	192
		Femoral Vein catheterisation	677	511	340
		Jugular/Subclavian catheterisation	152	177	160
		AV Shunts	0	0	0
2	ICU Related	AV Fistula	88	32	99
		Permcath Insertion	17	48	37
		CRRT/SLED	3	109	136
3	Peritoneal Dialysis	Acute PD	16	2	3
		CAPD	6	7	9
4	Indoor Related	Kidney Biopsy	346	434	540
		Liver Biopsy	3	1	2
		Indoor regular admission	573	512	546

		Indoor short admission	1736	2114	3450
		Indoor Death/male	65/40	39/17	26
		Nephrology consultation	4448	2993	3159
		Ultrasound	329	433	578
5	Day Care Treatment	Pulse Methylprednisolone Tt	31	53	95
		IV iron Therapy	34	25	235
		IV Cyclophosphamide Therapy	22	42	28
		Other Miscellaneous Therapies	1649	1994	3916
6	Renal Transplant	Evaluation of LRRT	88	269	307
		Evaluation of Cadaver recipient	46	56	63
		Living RT done	28	62	97
		Cadaver RT done	4	0	12
7	Renal Lab related	Blood sampling	60107	85482	85323
		Biochemistry (Urea, Cr, Na, K)	38469	45548	40067
		Urine osmolality	1140	1187	1794
		24 hr urine testing	7213	10370	19907
		Hemogram for RT Patients	5372	11468	24260
		CO2	11520	14270	25765
		Serum iron	3931	4798	6994
		TIBC	3931	4798	6994
		UIBC	3931	4798	6994
		T Saturation	3931	4798	6994
		Serum Ferritin	1326	2249	3549
		NGAL	0	0	95
		Tac Level	2666	3258	5097
		Vit-D & PTH	0	3876	0
		Urine PO4	0	0	0
8	OPD Related	Renal clinic new patient	3091	337	5907
		Renal clinic old patient	13779	1031	28264
		Renal clinic Total Patients	16870	1368	34171
		RTCC New Cases	101	299	349
		RTCC Old Cases	252	560	2073
		RT new cases	27	62	109
		RT old cases	3323	5261	8180
		RT Clinic Total Patients	3350	5323	8289
	COVID-19 Dialysis		2215	NA	0

Department provides swap transplant and ABO incompatible renal transplant. Department also provides immunosuppressive drug monitoring free of cost. During hemodialysis, ultrapure water is provided to machine so as to absolutely safe hemodialysis can be provided to patients. During COVID period also, hemodialysis facility was never restricted, not only to COVID patients but also to non-COVID infected patients.

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor SK Agarwal** is Editor in Chief of “Seminars in Dialysis”; Subject expert for collaboration strategy between National Tuberculosis Elimination Program and National Organ Transplant Program in India; Subject expert for collaboration strategy between National Tuberculosis Elimination Program and Pradhan Mantri National Dialysis Program in India; Champion in Transplantation from South Asian region by The Transplantation Society of the world; Member of Expert Committee to comprehensively review the National Programme for Prevention & Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke (NPCDCS) 2021 onward; Expert member of National Oversight Committee (NatCom) for Pradhan Mantri National Dialysis Programme (PMNDP); International Society of Nephrology mentor for

ISN mentorship program; Elected as council member for National Academy of Medical Sciences, New Delhi (2021-2024); Member of Technical Working Group (TWG) of Government of India, on infection prevention and control for dialysis centers in health care facilities across various levels in the country; Member of Working Group of government of India for integration of CKD in NPCDCS; Member of National Oversight Committee (NatCom) for Pradhan Mantri National Dialysis Program (PMNDP) 2022 onward; Awarded “Eminent Medical and Health Education Teacher Award” by Delhi Medical Association on teacher’s day, 5 September 2022; Invited to be member of “Health Care Committee” of PhD Chambers of Commerce and Industry since 2022; Conferred Fellowship of International Society of Nephrology during World Congress of Nephrology 2023 at Hongkong.

**Professor Dipankar M Bhowmik** was President of Indian Society of Nephrology North Zone; Governing Body Member of Indian Society of Nephrology; Visiting Professor of Nephrology AIIMS Rishikesh; Deputy Editor of Indian Journal of Nephrology; Nodal Officer for Infection Control (including COVID); CPIO Department of Nephrology; Department Stores Officer; Website Content Provider; Treasurer of Institute Kidney Foundation of Delhi; External expert for faculty selection in: ILBS, New Delhi, NIMS Hyderabad; DM examiner for various national institutes including AIIMS Rishikesh; Trustee of Guru Kripa Trust; Reviewer of several national and international journals; Judge to evaluate abstracts in ISNCON; Tibetan Health Camps 22-24 April 2022 and 11-16 January 2023; Thesis Examiner of various institutes including PGI Chandigarh.

**Professor Sandeep Mahajan** was awarded the Eminent Health & Medical Education Award by the Delhi Medical Association on 4 September 2022; Appointed as Associate Editor of Indian Journal of Nephrology (2023).

**Professor Soumita Bagchi** was Associate Editor, “Seminars in Dialysis”.

**Dr RK Yadav** was Nominated as the referee to evaluate the research work for promotion to the rank of Associate Professor by Permanent Committee for Academic Promotions, Kingdom of Saudi Arabia, Ministry of Education, University of Jeddah, (Secretariat Academic Council’s) on 1 February 2022.

**Dr Arunkumar S** was selected as the Member, Indian Society of Nephrology Youth Committee; Editorial Fellow of the Indian Journal of Organ Transplantation (IJOT); Awarded the Associate Fellowship of the National Academy of Medical Sciences (AFAMS); Expert Committee member of FSSAI; Member/Nodal Officer for various committee’s in AIIMS, New Delhi - Bill Verification committee, Learning Management System, Information Technology Program Management Consultant (ITPMC) facilitation.

## 9.22. Nuclear Magnetic Resonance

### Professor and Head

Rama Jayasundar

### Professors

S Senthil Kumaran

Uma Sharma

Virendra Kumar

### Scientists

Sujeet Kumar Mewar

Pawan Kumar

Dushyant Kumar

### HIGHLIGHTS

The clinical MRI facility functioned  $24 \times 7$  (for One MRI) and more than 12 hours daily for the other two MRI scanners from April 2022 to October 2023. The department has increased the number of clinical diagnostic scans by making two MRI scanners operational  $24 \times 7$  from November 2022. A total of patients 11884 had their MRI scans from April 2022 to March 2023.

### EDUCATION

The faculty and Scientists participated and delivered lectures for courses titled “Course 10: Structural Biology and NMR Technology, Course 11: Bioinformatics” and “Molecular Medicine”, of M. Biotech programme of the Dept of Biotechnology, AIIMS; MBBS Course Third Semester and MD Physiology course.

### WORKSHOP

1. Hands-on Training on MR image Processing Neuro-applications and Hands-on Training on MR image Processing Musculo-skeletal Applications on the 30th Department Day, 22 March 2023, AIIMS, New Delhi.

**Lectures delivered: 25**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
29	31	25

**List of oral papers/posters presented: 24**

**Oral/poster presentations over past 3 years**

2020-2021	2021-2022	2022-2023
15	17	24

### RESEARCH

**Funded projects Year (2022-2023)**

#### **Ongoing**

1. Immunomodulatory effects, protease inhibitory activity and spectroscopic characterisation of select ayurvedic prophylactics and formulations: *In vitro* studies for novel SARS Cov infection, Rama Jayasundar, Ministry of AYUSH, Govt of India, 2.5 years, 2021-2023, Rs 67.69 lakhs
2. Scientific validation of ayurvedic concepts of Guna and Anupana by studying its interplay with NMR phytometabolomics and permeability analyses in intestinal and liver cells, Rama Jayasundar, ICMR, Govt of India, 3 years, 2022-2025, Rs 23 lakhs
3. Identification of prognostic and diagnostic biomarkers in Parkinson’s Disease (with juvenile/young onset) using deep learning methods, S Senthil Kumaran, DHR, 1 year, 2022-2023, Rs 37.40 lakhs
4. Exploring Auditory Perception in House Crows using Functional Magnetic Resonance Imaging and Neuroanatomical Techniques, S Senthil Kumaran, DST, 3 years, 2020-2023, Rs 36.42 lakhs
5. Exploring cognition and numeracy skills in financial decision making in neurodegenerative disorders using MR techniques, and the effect of Transcranial Direct Stimulation (IDCS) on improvement of cognitive functions, S. Senthil Kumaran, DHR, 3 years, 2023-2026, Rs 18.78 lakhs



6. Elucidating the structural, neurobiological changes and identification of non-invasive biomarkers using magnetic resonance imaging and spectroscopy in major depressive disorder. Uma Sharma, Science and Engineering Research Board (SERB), DST, Govt of India, 3 years, 2020-2023, Rs 33.08 lakhs
7. Elucidating pathophysiology of rheumatoid arthritis and identification of biomarkers of response using metabolomics and proteomics, Uma Sharma, ICMR, Govt of India, 3 years, 2021-2024, Rs 44.23 lakhs
8. Identification of Metabolic Biomarkers by using Metabolomics and Metagenomics of Prostate Cancer Associated Microbiome to Distinguish Aggressive Prostate Cancer, Virendra Kumar, Department of Health Research, Govt of India, 3 Years, 2022-2025, Rs 55.5 lakhs
9. Metabolomic fingerprinting to identify serum metabolites in patients with heart valve diseases using <sup>1</sup>HNMR spectroscopy, Pawan Kumar, AIIMS, New Delhi, 2 years, 2022-2024, Rs 8.2 lakhs

#### **Completed**

1. NMR phytometabolomics and studies of chemosensory signature, Rama Jayasundar, Science and Engineering Research Board (SERB), Govt. of India, 4 years, 2017-2021, Rs 74.76 lakhs
2. Elucidating the pathobiology of classical ayurvedic interventions in post stroke recovery using Magnetic Resonance and other techniques based structural, functional and chemical biomarkers, Rama Jayasundar (PI-2), Science and Engineering Research Board (SERB), Govt. of India, 4 years, 2017-2021, Rs 79.00 lakhs
3. Spectroscopic analysis of medicinal plants for standardization and quality assessment, Rama Jayasundar, National Medicinal Plant Board (NMPB), Ministry of AYUSH, Govt. of India, 5 years, 2014-2019, Rs 48.96 lakhs
4. Elucidating the science of yoga as a therapeutic intervention in post stroke recovery study of brain using the technique of Magnetic Resonance, Rama Jayasundar (PI-2), Science and Engineering Research Board (SERB), DST, Govt. of India, 3 years, 2017-2020, Rs 43.23 lakhs
5. Effects of environmental and occupational noise on cognition. S Senthil Kumaran, Life Sciences Research Board (LSRB), DRDO, 3 years 10 months, 2018-2021, Rs 59.25 lakhs
6. Morphological and Neurobiological Changes in Spinocerebellar Ataxia Affected Patients (SCA) through MRI Techniques Using Computer Vision Based Analysis, S. Senthil Kumaran, SERB, Department of Science & Technology (DST), 4 years, 2018-2022, Rs 21.01 lakhs (Total 65.03 lakhs)
7. MR spectroscopy for identification of non-invasive biomarkers in patients with gluten ataxia and celiac disease. Uma Sharma, AIIMS, 2 years, 2019-2021, Rs 4.5 lakhs

#### **Research projects over past 3 years**

<b>Research projects</b>	<b>2020-2021</b>	<b>2021-2022</b>	<b>2022-2023</b>
Total funded projects	8	8	9
Total funding (In Lakhs)	352.25	289.93	324.3

#### **Departmental projects**

##### **Ongoing**

1. NMR metabolomics and pharmacological assays for functional signatures of medicinal plants used in ayurveda
2. Role of Magnetic Resonance in assessing therapeutic efficacy of ayurvedic and yoga interventions in stroke
3. MR and other techniques-based phenotyping and correlation with prakruti type in healthy population
4. Brain functional changes and metabolic alterations in spinocerebellar ataxia
5. Development of neuro-vascular coupled computational modelling in stroke using multimodal imaging
6. Exploring neuroimaging and metabolomic markers associated with opioid dependence and pharmacotherapy
7. Efficacy of repetitive Transcranial Magnetic Stimulation in children and adolescents (5-18 years) with generalized dystonia: A randomized sham-controlled trial
8. Role of multiparametric MRI in detection and localization of prostate cancer.
9. Metabolomic NMR fingerprinting of blood to identify metastases prostate cancer.
10. Development of novel Prognostic Biomarkers for Renal Cancer.
11. Understanding the structural and neurobiological changes in the patients with major depressive disorder using magnetic resonance imaging and spectroscopy
12. A Study of pathophysiology of rheumatoid arthritis and identification of biomarkers of response using Metabolomics and Proteomics

### **Completed**

1. NMR phytometabolomics for chemosensory and pharmacological evaluation for functional signatures of select medicinal plants
2. NMR phytometabolomics and analysis of chemosensory signatures of select ayurvedic medicinal plants
3. NMR spectroscopic analysis and anticancer evaluation of select ayurvedic polyherbal formulations
4. In-bore MRI guided targeted prostate biopsy in patients with prostate cancer.
5. Metabolomics of patients with gluten ataxia
6. Cue Induced Craving and fMRI changes associated with Meditation- Based Intervention in Smokers
7. Analysis of predictors of response to hormonal therapy in children with treatment naïve Wes syndrome with qEEG, serum biomarkers, fMRI and DTI: An observational study

### **Collaborative projects**

#### **Ongoing**

1. Spectroscopic analysis of medicinal plants for standardization and quality assessment, Dept of Ocular pharmacology and pharmacy, AIIMS, New Delhi
2. NMR phytometabolomics and studies of chemosensory signature of ayurvedic medicinal plants, Dept of Ocular pharmacology and pharmacy, AIIMS, New Delhi
3. Elucidating the pathobiology of classical ayurvedic interventions in post stroke recovery using Magnetic Resonance and other technique based structural, functional and chemical, biomarkers, Dept of Neurology, Dept of Neuroradiology, AIIMS, New Delhi
4. Immunomodulatory effects, protease inhibitory activity and spectroscopic characterisation of select ayurvedic prophylactics and formulations: *In vitro* studies for novel SARS Cov infection, Dept of Biochemistry, AIIMS, New Delhi
5. Role of Normobaric Oxygen Therapy, Fluoxetine and Transcranial Direct Current Stimulation (rTDCS) in Hypoxic Ischemic Brain Injury - HIBI Initiative, Dept of Neurology, AIIMS, New Delhi
6. CARE - Neuroassistive technologies in Stroke Recovery, Dept of Neurology, AIIMS, New Delhi
7. Material characterization of brain tissue and development of tissue-device interaction based neurosurgical simulation tool, Dept of Neuro-surgery, AIIMS, New Delhi
8. Study of Cognition and QOL in chronic intractable epilepsy using Functional magnetic resonance imaging (fMRI). Dept of Neurology, AIIMS, New Delhi
9. Cue Induced Craving in Adolescent Inhalant Users: A functional magnetic resonance imaging (fMRI) study, Dept of Psychiatry, AIIMS, New Delhi
10. Providing insights into the mechanism of modified Constraint Induced Movement Therapy in children with hemiparetic cerebral palsy - a Functional Magnetic Resonance Imaging based study. Dept of Pediatrics, AIIMS, New Delhi
11. Cortical reorganisation in complete spinal cord injured rats: Effect of superparamagnetic nanoparticles and low intensity magnetic field exposure. Dept of Physiology, AIIMS, New Delhi
12. Role of mediodorsal thalamic nuclei in sleep, Dept of Physiology, AIIMS, New Delhi
13. Robotic hand assisted Transcranial Magnetic Stimulation therapy for post stroke Neuro-Rehabilitation, CBME IIT New Delhi, AIIMS, New Delhi
14. Efficacy of comparative Magnetoencephalography vs Electroencephalography Source Localization and Propagation of interictal epileptic discharges in patients with drug resistant epilepsy. Dept of Neurosurgery, AIIMS and NBRC, Manesar
15. Neurocognitive correlates of emotion and cognition among Yoga practitioners, physically active and sedentary lifestyle individuals: An fMRI and neuropsychological study, CIMR, AIIMS, New Delhi
16. To evaluate the role of donor and recipient blood metabolomics in the monitoring and prognostication of paediatric patients undergoing hematopoietic stem cell transplantation, Dept of Paediatrics, AIIMS, New Delhi
17. EEG cortical sources and connectivity of working memory and language processing in attention deficit hyperactivity disorder, Dept of Physiology, AIIMS, New Delhi
18. Role of advanced ultrasound and advanced MRI in evaluation of prostate cancer, Dept of Radiodiagnosis, AIIMS, New Delhi
19. Role of advanced MRI in the prognostication of urinary bladder cancer. Dept of Radiodiagnosis, AIIMS, New Delhi

20. Breast cancer stratification and biomarker discovery. Dept of Computer Science and Engg, University of Delhi
21. Gene Expression Profiling by RNA Seq and Metabolomic Signatures in post-Covid Pulmonary Fibrosis, Dept of Physiology, AIIMS, New Delhi
22. Serum Metabolomics Profiling and Identification of Potential Biomarkers in Periodontitis by Nuclear Magnetic Resonance Spectroscopy, Center for Dental Education and Research (CDER), AIIMS, New Delhi
23. Quantitative analysis of MR images for Characterization and Diagnostic Assessment of Prostate cancer, Biomedical Engg, IIT Delhi
24. Serum and Saliva Metabolomic Profiling and Identification of Potential Biomarkers in Periodontitis by Nuclear Magnetic Resonance Spectroscopy. Center for Dental Education and Research (CDER), AIIMS, New Delhi
25. Metabolomic fingerprinting to identify serum metabolites in patients with heart valve diseases using <sup>1</sup>H-NMR spectroscopy, Cardiology (Sujjet)
26. A comparative study of neurochemical alteration on <sup>1</sup>H MRS in schizophrenia, obsessive compulsive disorder and schizophrenia with obsessive compulsive symptoms, Dept of Psychiatry, AIIMS, New Delhi
27. Analysis of anti-neurotoxicity of amyloid beta in Alzheimers (AD) disease pathology targeting lipooxygenases, Dept of Biophysics, AIIMS, New Delhi
28. Study of vaginal microbiome and metabolome in women with bacterial vaginosis (BV) and healthy controls, Dept of Dermatology, AIIMS, New Delhi
29. Evaluation of the effect of safinamide on microglial polarization shift in permanent and transient models of acute ischemic stroke in rats, Dept of Pharmacology, AIIMS, New Delhi
30. Assessment of neuroprotective potential of safinamide treatment in animal model of Ischemic stroke, Dept of Pharmacology, AIIMS, New Delhi
31. Modulation of AMPA receptor: Effect on post-stroke damage after focal cerebral ischemia reperfusion injury in rats, Dept of Pharmacology, AIIMS, New Delhi
32. Evaluation of decanoic acid in ischemia reperfusion injury in middle cerebral artery occlusion model of stroke in rats. Dept of Pharmacology, AIIMS, New Delhi
33. Scientific validation of Ayurvedic concept of Guna and Anupana by studying its interplay with NMR Phytometabolomics and permeability analysis in intestinal and liver cells, Dept of Biochemistry, AIIMS, New Delhi

#### **Completed**

1. Role of advanced ultrasound and advanced MRI in evaluation of prostate cancer. Radiodiagnosis
2. Metabolomic profile of healthy neonates, Dept of Paediatrics, AIIMS, New Delhi
3. Evaluation of neuroprotective potential of Tideglusib in Rat Model of Ischemic Stroke, Dept of Dermatology, AIIMS, New Delhi
4. Evaluation of fumaric acid esters (FAEs) in experimental model of stroke in rats, Dept of Pharmacology, AIIMS, New Delhi

#### **PUBLICATIONS**

**Journal: 14                      Chapters in Book: 01**

**Publications ove Past 3 years**

<b>Item</b>	<b>2020-2021</b>	<b>2021-2022</b>	<b>2022-2023</b>
Total			
Journal articles	21	27	14
Abstracts	1	1	0
Chapters in books	0	2	1
Books	0	0	0

#### **PATIENT CARE**

The department has three MRI scanners (two 3.0 Tesla and one 1.5 Tesla scanners) for patient care and research. The department provides continuous patient care MRI (24 × 7) services. The details of the number of patients scanned during the period April 2022 to March 2023 are:

Clinical Diagnostic MRI Scan: 11884 patients

Throughout the COVID-19 pandemic, clinical MRI facilities were available round the clock (24 × 7 × 365), following the protocol for MRI scans

Item	2020-2021	2021-2022	2022-2023
Clinical MRI Diagnostic Scans	3657 Patients	6604 patients	11884 patients

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

The Department has received 2nd prize on its poster titled “State of the Art - NMR and MRI Today & Vision - 2047” on 67th Institute Day exhibition

**Professor Rama Jayasundar** was nominated to be part of the S20 (Science Forum) Engagement Group of G20, Government of India; Honourable President of India’s nominee (Visitor’s nominee) for selection committee at the Department of Biosciences & Bioengineering, IIT Bombay and Department of Biomedical Engineering, IIT, Hyderabad; Member of the Scientific Advisory Committee, International Research Institute of Ayurveda, Government of Kerala and NBRC, Manesar; Adjunct Professor in the Department of Heritage and Technology, IIT, Hyderabad; Member of the Madhya Pradesh Ayurveda Task Force, Government of Madhya Pradesh and National Council of Science Museum, Ministry of Culture, Government of India; Member of Advisory Committee of CSIR-Traditional Knowledge Digital Library, Government of India; Honorary post of Vice-President of the organization Shakti; Governing Body member, National Institute of Technology, Jamshedpur, MHRD, and Society of the Indian Institute of Advanced Study, Shimla, Ministry of Education, Department of Higher Education, Government of India and Forum on Indian Traditional Medicine by Research and Information System for Developing Countries, Ministry of External Affairs, Govt of India; Member of the Academic Council for Annual Refresher Program in Teaching Course in History of Indian Science and Technology, Jawaharlal University; Nominated for Padma Bhushan, Padma Shri Dr PK Warriar Memorial Lecture; Special invitee, Ministry of AYUSH, Government of India at Global AYUSH Investment and Innovation Summit, Ahmedabad; Vice Chancellor, University of Hyderabad’s nominee as an External member, School of Humanities, University of Hyderabad; Institute’s International Yoga Day Oral presentation award, AIIMS, New Delhi; Reviewer for (i) J Medical Physics, (ii) J BioSciences, (iii) Current Science, (iv) Food Biophysics, (v) Biomed J, (vi) J Ayu Integ Med, (vii) Adv Nutr Food Sci, (viii) Annals Ay Med, (ix) Anc Sci Life, (x) Evidence based CAM, (xi) Ind J Med Ethics, (xii) J Comp Med Res, (xiii) PLOS one; 13 invited, keynote and plenary lectures.

**Professor S Senthil Kumaran** is Vice President, ISMRM Indian Chapter; Vice President, National Magnetic Resonance Society, India; Visiting Faculty, Centre for Brain Research, IISc, Bangalore.

**Professor Uma Sharma** received AIIMS Excellence Research Award 2020; Associate Editor for Frontiers in Oncology, Editorial Board panel of Current Metabolomics and Systems Biology, Bentham Science and World Journal of Gastroenterology; Reviewer for Journals: Scientific Reports, Journal for Magn Reson Imaging, Frontiers in Neurosciences, Biochemistry and Biophysics Report, NMR in Biomedicine, PLOS One, Frontiers in Neurology; Thesis examiner for Delhi University.

**Professor Virendra Kumar** is Program Committee Member, The 6th Mediterranean Conference on Pattern Recognition and Artificial Intelligence, Las Palmas de Gran Canaria, Spain, 25-27 November 2022; External Expert, Board of Studies, Department of Bio-Science, Manipal University, Jaipur; PhD Thesis Examiner, University of Delhi; Reviewer for Journals: Scientific Reports, Cancer Imaging, Medicine, Wolters Kluwer, IEEE Access, IEEE, BMC Medicine.

## 9.23. Nuclear Medicine

### Professor and Head

CS Bal

### Professors

Rakesh Kumar  
Madhavi Tripathi

Chetan D Patel (CNC)  
Anil K Pandey (Medical Physics)

### Additional Professors

Nishikant A Damle

Shamim A Shamim

### Assistant Professor

Khangemam Bangkim Chandra

Abhinav Singhal (NCI)

Kalpa Jyoti Das (NCI)

### HIGHLIGHTS

The year 2022-23 was an eventful year for the department. It created history for Nuclear Medicine in India, for the first time in 70 years, the Society of Nuclear Medicine and Molecular Imaging, USA, nominated Indian research work from AIIMS, New Delhi as “Dr Henry Wagner Jr. Best Research Paper of the Year 2022”. Secondly, Journal of Nuclear Medicine & Molecular Imaging (JNMMI), the Official journal of the Society of Nuclear Medicine, USA, published our work as Featured article and put it on the cover page too. Last but not the least, the Department hosted the 54th Annual Conference of Indian SNM at AIIMS from 8 to 11 December 2022, with 21 international faculty participating in our conference. The department has published 103 full papers in peer-reviewed National & International journals along with 53 published abstracts. On the research front, the department has 10 extramural research fundings from various organizations/funding agencies.

### EDUCATION

No. of Postgraduate students: 54 (24 MD Nuclear Medicine students & 26 MSc. Nuclear Medicine Technology students).

No. of DM (NM Therapy) - 6, PhD student - 1.

### Lectures delivered: 35

#### Lectures delivered over past 3 years

2020-2021	2021-2022	2022-2023
22	24	35

### List of oral papers/posters presented: 61

#### Oral/poster presentations over past 3 years

2020-2021	2021-2022	2022-2023
39	29	61

### RESEARCH

#### Funded projects

##### Ongoing

1. Comparison of Alpha Emitting  $^{225}\text{Ac}$ -DOTATATE Versus Beta Emitting  $^{177}\text{Lu}$ -DOTATATE Therapy in Advanced End-stage Gastroenteropancreatic Neuroendocrine Tumor (GEP-NET) Patients, Chandrasekhar Bal, ICMR-ICRC, 5 years, 2019-24, Rs 49,00,000/- per year
2. A Prospective, Randomized, Controlled, Open-label, Multicenter Trial to Evaluate Efficacy, Safety and Patient-reported Outcomes of Peptide Receptor Radionuclide Therapy (PRRT) with Lutetium ( $^{177}\text{Lu}$ ) Edotreotide compared to Best Standard of Care in Patients with Well-differentiated Aggressive Grade 2 and Grade 3, Somatostatin Receptor-positive (SSTR+), Neuroendocrine Tumors of Gastro-Enteric or Pancreatic Origin (COMPOSE), Chandrasekhar Bal, ITM, 5 years, December 2021 to Ongoing, Rs 30,00,000/- per year
3. A randomized, double-blinded, placebo-controlled phase III study to evaluate the efficacy and safety of dabrafenib plus trametinib in previously treated patients with locally advanced or metastatic, radioactive iodine refractory

BRAFV600E mutation-positive differentiated thyroid cancer, Chandrasekhar Bal, NOVARTIS, 5 years, 2022 to ongoing, Rs 25,00,000/- per year

4. Efficacy of low dose lenvatinib as adjuvant therapy to radioiodine in advanced metastatic differentiated thyroid cancer: A randomized control trial, Chandrasekhar Bal, Intramural (AIIMS), 1 + 1 year, 2022 to ongoing, Rs 10,00,000
5. Diagnostic Accuracy of 68GaPSMA-11 PET/CT and Conventional Imaging for Initial Staging of Intermediate and High-risk Prostate Cancer Patients (the PROCA Study) funded by the '(2022-2025), Dr Rakesh Kumar, International Atomic Energy Agency (IAEA), Vienna, Austria, 4 years, 2022-2025, 6000 Euros per year
6. International study on imaging in Cardio-Oncology Study (iCOS), Dr Chetan D Patel, International Atomic Energy Agency (IAEA), 5 years, September 2019 -ongoing, 25,000 Euros
7. Utility of Radiolabelled Antibiotics as Imaging Agents in Establishment of a Decision Support Algorithm in Patients with Pyrexia of Unknown Origin (PUO) Caused by Infection and its Impact on Short Term and Long Term Clinical Outcomes, Dr Nishikant A Damle, ICMR, 2019-2023, 4 years, Rs 33 lakhs
8. Role of <sup>177</sup>Lu-PSMA therapy in patients with Adenoid Cystic Carcinoma, Dr Shamim A. Shamim, Intramural Funding, 1+1 years, 2021-2023, Rs 10,00,000
9. Comparison of Re-188-HDD Lipiodol Transarterial Radionuclide Therapy (TART) with Re-188-DEDC Lipiodol TART in the Management of advanced Hepatocellular Carcinoma: A Randomized control trial, Dr Shamim A Shamim, ICMR, 3 years, 2019-2023, Rs 47,56,910
10. IAEA Transthyretin Amyloid Cardiomyopathy Study (iTAC study), Dr Khangembam Bangkim Chandra, International Atomic Energy Agency (IAEA), Vienna, Austria, 4 years, 2022-2025, 20,000 Euros

### **Completed**

1. Mutation spectrum of BRAF gene among patients with Papillary Thyroid Carcinoma: A patho-genetic study in Indian population, Dr Chandrasekhar Bal, ICMR, 4 years, 2018-22, Rs 35,00,000 per year
2. Prospective Single Arm Post Marketing Phase IV Study to Assess the Safety and Efficacy of Lenvatinib in Subjects with Locally Recurrent or Metastatic, Progressive, Radioiodine Refractory Differentiated Thyroid Cancer". PHASE IV FDA TRIAL, Dr Chandrasekhar Bal, CLIANTHA RESEARCH LTD, until all patient attain an event, 2018- 22, No funds for manpower Funds directly to patients
3. Use of PET-CT with Gallium-68 Labeled Prostrate Specific Membrane Antigen in the Diagnosis and Follow-up of Patients with Prostate Cancer", Dr Rakesh Kumar, International Atomic Energy Agency (IAEA), Vienna, Austria, 5 years, 2017-2022, 5000 Euros per year
4. Gastric Emptying Scintigraphy using a Standard Vegetarian Meal: Establishment of Reference Values in Post-Sleeve Gastrectomy Patients on Mid-Term Follow-Up, Dr Khangembam Bangkim Chandra, AIIMS, New Delhi, 2 years, 2021-2023, Rs 2.0 lakhs

### **Departmental projects**

#### **Ongoing**

1. Role of SPECT/CT Bone scan in evaluation of vertebral lesions and its advantage over planar bone scintigraphy
2. Normal database for 18F FDG-PET /CT for Age group 20-40 years
3. Mesial Temporal SUVR on Tau PET in AD, non-AD dementias & Control groups
4. Validation of Dynamic Stochastic Resonance For converting a low-count nuclear medicine image into a high-count image: a phantom study
5. Role of 18F FDG PET/CT in assessment of treatment response to neoadjuvant chemotherapy in primary extraocular retinoblastoma
6. Role of 68Ga DOTANOC PET/CT for Initial Staging of Small Cell Lung Cancer
7. Assessment of Disease Extent and Tumor Burden via Metabolic Indices of 68Ga-DOTANOC PET/CT in Pediatric Patients with Neuroblastoma-Role of 68Ga-DOTANOC PET/CT in Comparison to 131I-mIBG SPECT/CT
8. Role of 99m Tc-Ethambutol scintigraphy in diagnosis and treatment response assessment of pulmonary and extrapulmonary tuberculosis
9. Role of 99mTc-Ubiquicidin scintigraphy in differentiation on infective and non-infective lesions.
10. Evaluation of 99mTechnetium labelled Ethambutol scintigraphy in diagnosis and monitoring of tuberculosis with bone involvement.
11. An ambispective study of risk factors, potential diagnostic clues, course and outcome of the cases of pyrexia with prolonged duration admitted in the medicine ward.

12. Immune microenvironment of Anaplastic Thyroid Carcinoma PhD thesis
13. To study the Clinical profile, Investigations and Outcome of Patients undergoing Parathyroidectomy: A retrospective and Prospective Experience.
14. Comparison of diagnostic accuracy of CEUS with Sestamibi/SPECT for localization in PHPT: A pilot study
15. Estimation of whole body radiation exposure to the radiopharmacist synthesizing <sup>68</sup>Ga- NOTA- Ubiquitin
16. Assessment of correlation between 2hr Radioactive Iodine uptake and <sup>99m</sup>Tc-pertechnetate uptake in patients with thyrotoxicosis
17. Role of F-18 FDG PET CT in the management of Chordoma
18. Texture-Based analysis for characterization of Ca. Prostate based on <sup>68</sup>Ga-PSMA PET/CT
19. Assessment of labelling efficiency, dosimetry and safety profile of <sup>188</sup>Re-N-DEDC/lipiodol Trans-arterial radionuclide therapy in hepatocellular carcinoma
20. Texture-Based analysis for characterization of Renal Cell Carcinoma in FDG PET/CT
21. Role of F-18 Fluoride PET/CT in diagnosis and assessment of response to radiofrequency ablation in Osteoid Osteomas
22. Design and methods of the YOGICAD study- A probe trial to evaluate the efficacy of yoga based cardiac rehabilitation in Post PCI patients
23. Study of prevalence of concomitant Transthyretin Amyloidosis in elderly patients with severe aortic stenosis by PYP scan
24. Role of PET-CT in assessment of treatment response to neo adjuvant chemotherapy in primary extraocular retinoblastoma
25. Role of <sup>99m</sup>Tc-Pyrophosphate Imaging in detection of transthyretin cardiac amyloidosis (ATTR-cardiac amyloidosis) in high risk population
26. A Machine learning approach to classify skeletal metastasis in bone scintigraphy
27. Radionomics for prostate cancer risk stratification: a machine learning approach
28. Hepatobiliary scintigraphy evaluation of gall bladder ejection fraction using fatty meal protocol: establishment of reference values in the Indian population
29. Dynamic salivary scintigraphy: normal pattern and reference values in Indian Population
30. Role of SPECT-CT bone scan in evaluation of vertebral lesions and its advantages over planar bone scintigraphy
31. Incremental value of CT over planar and SPECT alone in evaluation of solitary lesion on bone scintigraphy
32. PSMA PET Radiomics for prostate cancer risk stratification: a machine learning approach
33. Hepatobiliary scintigraphic evaluation of gallbladder ejection fraction using a fatty meal protocol: establishment of reference values in the Indian population
34. A comparison of modulating effect of cTBS and low frequency rTMS on cortical excitability in children and adolescents aged 5-14 years with Lesional Drug refractory Epilepsy (Focal epilepsy or electrical status epilepticus in sleep): An open label randomized non-inferiority crossover study

### **Completed**

1. Nuclear Medicine Image compression Using Discrete Cosine Transform
2. Image Restoration using Blind Deconvolution Analysis
3. Optimization of CT acquisition protocol for thorax, abdomen and pelvis in SPECT/CT with an intent to reduce patient radiation dose without losing diagnostic information: Phantom study
4. CT Radiation Dose Optimization during PET/CT scan
5. Compression of scintigraphic images using Singular Value Decomposition
6. Scintigraphic image contrast enhancement using Fuzzy Logic
7. Evaluation of F-18-FDG PET Brain studies in Progressive Supranuclear Palsy using cortex ID and SPM
8. Scenium and SPM analysis of FDG PET Studies in Autoimmune Encephalitis
9. Treatment response evaluation using texture analysis on <sup>18</sup>F-FDG PET/CT in patients with locally advanced breast cancer
10. Treatment response evaluation of non-Hodgkins lymphoma using texture analysis on <sup>18</sup>F-FDG PET/CT Study
11. A study to evaluate the heterogeneity of estrogen receptor (ER) expression in breast cancer using F-18 Fluoroestradiol (FES) & F-18 FDG PET/CT

12. Prospective study evaluating the role of F-18 Fluorodeoxyglucose Positron Emission Tomography in Autoimmune Encephalitis.
13. Synthesis, yield and biodistribution of <sup>18</sup>F-fluoroestradiol (FES)
14. Metabolic patterns in PSP: Cortex id and SPM evaluation of F-18 FDG PET Brain studies
15. Metabolic pattern in Autoimmune encephalitis: SPM and Scenium evaluation of F-18 FDG PET Brain studies
16. Role of Integrated <sup>18</sup>F-Fluorocholine PET/4DCT in the localization of culprit lesions in patients with primary hyperparathyroidism
17. Comparison of 68 Ga- NOTA-Ubiquicidin PET and 99mTc- Ubiquicidin Scintigraphy as infection imaging techniques
18. Utility of 99m Tc- Ubiquicidin scintigraphy in diagnosis of SinonasalMucormycosis
19. Establishing the ideal time point for imaging of tubercular lesions using 99m Tc-Ethambutol scintigraphy
20. Comparison between kit based and in-house preparation of 99mTc labelled Ubiquicidin
21. Diagnostic performance of CRH stimulated BIPSS in patients with ACTH dependent Cushing's syndrome
22. Etiological and clinical profile of non-diabetic hypoglycemia: an ambispective study
23. Evaluating the spectrum of cardiac involvement in sarcoidosis.
24. Clinical profile and outcome of patients with suspected OR confirmed granulomatous myocarditis
25. Role of F-18 FDG in mapping COVID-19 functional sequelae in COVID-19 survivors
26. Role of PET-CT in initial staging of small cell lung cancer
27. Radiolabeling efficiency of a standard vegetarian Indian meal for gastric emptying scintigraphy
28. Assessment of small bowel transit on routine gastric emptying scintigraphy: establishment of reference values
29. Whole gut transit: establishment of reference values
30. Compression of Nuclear Medicine Images Using Discrete Cosine Transform
31. Texture analysis in Breast Cancer
32. Texture Analysis in Lymphoma Patients
33. Edge aware contrast enhancement (EACE) of Nuclear medicine images
34. Contrast enhancement of F-18-FDG PET images of Liver scan
35. <sup>68</sup>Ga-PSMA PET/CT in Metastatic Renal Cell Carcinoma
36. Whole body radiation exposure to nuclear medicine personnel during the manual synthesis of <sup>188</sup>Re-labelled radiopharmaceuticals
37. Quality control of routinely used therapeutic radiopharmaceuticals
38. Whole body PET/CT using low activity F18-FDG in lymphoma patients
39. Synthesis, yield and biodistribution of <sup>18</sup>F-FES
40. A study to evaluate heterogeneity of estrogen receptor (ER)expression in Breast cancer using <sup>18</sup>F-FES PET and <sup>18</sup>F-FDG PET/CT
41. Whole gut transit scintigraphy: establishment of reference values

### **Collaborative projects**

#### ***Ongoing***

1. Minimally invasive nano enabled targeted technology for Sentinel Lymph Node SLN detection, Department of ENT
2. A Phase III, Open-label, Multicenter, Randomized study evaluating the safety and efficacy of PolatuzumabVedotin in combination with Rituximab plus Gemcitabine plus Oxaliplatin (R-GEMOX) versus R-GEMOX alone in patients with relapsed/refractory diffuse large B-cell lymphoma, Medical Oncology
3. Aortic & lung Inflammation following COVID: a marker of cardiac event an Indo-Australian joint project, Cardiology
4. Comparison of <sup>68</sup>Ga PSMA PET/CT scan with Multiparametric MRI of the prostate for loco-regional staging in patients with intermediate to high risk prostate cancer, Urology
5. The role <sup>68</sup>Ga PSMA PET/CT scan as a single staging modality in prostate cancer, Urology
6. Efficacy of yoga based cardiac rehabilitation in Post-PCI patients: A prospective randomized, open-label, blinded end-point trial- funded by Ministry of AYUSH, CIMR, Cardiology



7. Gastric Emptying Scintigraphy using a Standard Vegetarian Meal: Establishment of Reference Values in Post-Sleeve Gastrectomy Patients on Mid-Term Follow-up, Surgery
8. A study to determine the prognosis of patients with cardiac involvement with sarcoid: development of diagnostic and treatment algorithms, Cardiology, Cardiac Radiology
9. Inflammatory Cardiomyopathy: A study using Artificial Intelligence to validate a diagnostic algorithm combining novel proteomic biomarkers, non-contrast MRI and somatostatin receptor based PET/CT, Cardiology, Cardiac Radiology

#### Completed

1. Evaluation of Multimodality Imaging in the Assessment and Diagnosis of early Stage Alzheimers Disease with and without co-morbidities, Neurology
2. Value of Gated-SPECT MPI for Ischemia-Guided PCI of non-culprit vessels in STEMI Patients with Multivessel Disease after primary PCI- funded by International Atomic Energy Agency, Cardiology
3. Use of PET-CT with Gallium-68 labelled PSMA in diagnosis and follow-up of patients with Prostate Cancer, Urology

#### Research projects over past 3 years

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	12	11	10
Total funding	2.75 crore + 18,000 euro + 20,000 US dollars	187 lac + 35,000 Euro	620 lac + 69000 euro

#### PUBLICATIONS

Journal: 97

Abstract: 51

#### Last 3 years Publications

Item	2020-2021	2021-2022	2022-2023
Total	136	152	148
Journal articles	112	120	97
Abstracts	22	28	51
Chapters in books	2	4	0
Books	-	-	-

#### Diagnostic Scans and Radionuclide Therapies Administered in the Department of Nuclear Medicine and PET from April 2021 to March-2022

PATIENT CARE	2022-23
<b>Therapeutics</b>	
I-131 Therapy	719
<sup>131</sup> I-Therapy for Hyperthyroidism	257
<sup>177</sup> Lu – DOTA TATE therapy	120
<sup>177</sup> Lu- PSMA-61 therapy	152
<sup>177</sup> Lu--FAPI therapy	70
<sup>225</sup> Ac-DOTA-TATE therapy	30
<sup>225</sup> Ac- PSMA-617 therapy	10
<sup>225</sup> Ac-DOTA-GA-FAPI therapy	10
<sup>131</sup> I-MIBG-Therapy	13
<b>Diagnostics</b>	
F-18 FDG-PET	6778
F-18 TAU	52
F-18 FES	25
F-18 FCH PET	442

F-18 FDOPA PET	10
Ga-68 DOTANOC PET	689
Ga-68 PSMA PET	410
Ga-68 FAPI PET	123
Plain CT-Scans	658
GFR	2006
RAIU	427
Blood pool studies	27
DMSA Scan	1391
DRCG	106
ECD-SPECT	600
GER	200
GET	176
GHA SPECT	4
HIDA	308
Lymphoscintigraphy	272
MDP Bone scans	1391
MIBG-Diagnostic	211
Meckel's Scan	73
PTH SPECT	297
Renal Dynamic scans	3668
Sentinal Lymphoscintigraphy	12
Thyroid Scan	434
Tc-99m TRODAT	357
Myocardial perfusion studies	1608
RNV study	572
CARDIAC PET	219
Perfusion studies (V/Q scan, 1st pass)	91
Tc99m-PYP scans	41

#### Patient care

Item	2020-2021	2021-2022	2022-2023
OPD consultations	4908	8148	10771
Total inpatient admissions	329	322	446

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor CS Bal** received Dr Henry Wagner Jr Award as “International Best Research Abstract of the Year 2022 in the Society of Nuclear Medicine and Molecular Imaging Annual Meeting at Vancouver, Canada June 2022; also received “Hal Oscar Anger Oration” Award in the 7th Annual Conference of Nuclear Medicine Physicists’ Association of India (NMPAI) from 4-5 February 2023 at BHU, Varanasi; received 5th time the AIIMS Research Excellence award under Clinical Category since its inception in 2012; My PhD student, Madhav Prasad Yadav received prestigious “The ICPO Maurits W Geerlings Next Generation Award 2022 for outstanding research and contributions to Actinium-225 radiopharmaceuticals, 6th Theranostics World Congress, Wiesbaden, Germany, 2022”; Editor, Indian Journal of Nuclear Medicine (Official Journal of Society of Nuclear Medicine, India); Reviewer of 60+ national and international academic journals

**Professor Rakesh Kumar** became Editor, Indian Journal of Nuclear Medicine (Official Journal of Society of Nuclear Medicine, India); Reviewer for national and international Nuclear Medicine journals; External examiner for PhD. (Nuclear Medicine) Viva-voce examination at PGIMER, Chandigarh on 20 February 2023; External examiner for MD Nuclear Medicine examination at JIPMER, Puducherry on 28 November 2022.

**Professor Chetan D Patel** became Executive Member, Nuclear Cardiological Society of India; External examiner for MD Nuclear Medicine examination at Amrita Institute of Medical Sciences, Kochi on 13 May 2022; External examiner for Work based Clinical Assessment for Formative Assessment 2022, National Board of Examination in the discipline of Nuclear Medicine at Sir Gangaram Hospital, Delhi on 30 April 2022; Evaluated thesis for National Board of Examination of DNB Nuclear medicine students; External examiner for MD Nuclear Medicine examination at AIIMS, Raipur on 23 July 2022; Subject expert for faculty interview for AIIMS, Jodhpur held on 28 July 2022; External examiner for MD Nuclear Medicine examination at Amrita Institute of Medical Sciences, Kochi on 20 October 2022; Member Store Purchase Committee of Center for Integrative Medicine & Research (CIMR); Chairman, Selection Committee for recruitment of core staff at CIMR under COE Scheme, AYUSH

**Dr Madhavi Tripathi** was Organising Secretary of SNMICON 2022 held at AIIMS, New Delhi; Member Project Review and Steering Group (PRSG) meeting for the project “Artificial Intelligence for Early Predictive Diagnosis of Alzheimer’s Disease using Multi-Modal Imaging Data” being supported by Ministry of Electronics and IT, GOI, New Delhi for the implementation at National Brain Research Centre (NBRC) Manesar”.

**Dr Nishikant A Damle** exploring the clinical ambit of  $^{99m}\text{Tc}$  Ubiquicidin scintigraphy was selected in the category “best posters on infection and inflammation at EANM 2022, Barcelona, Spain; Comparison of  $^{68}\text{Ga}$ -NOTA Ubiquicidin PET and  $^{99m}\text{Tc}$ -Ubiquicidin Scintigraphy as infection imaging techniques won the first prize at SNMICON 2022, New Delhi for best research poster presentation.

**Dr Shamim A Shamim** received Smt Shakuntala Krishnamurthy Award for second best paper in Nuclear Hepatology, SNMICON 2022.

## 9.24 Obstetrics and Gynaecology

### Professor and Head

Neerja Bhatla

### Professors

KK Roy (till 14 September 2022)	Neena Malhotra	Vatsla Dadhwal
JB Sharma	Neeta Singh Reeta Mahey	K Aparna Sharma

### Additional Professors

Vidushi Kulshrestha	Seema Singhal	Rajesh Kumari	Jyoti Meena
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### Associate Professor

Juhi Bharti

### Assistant Professors

Nilanchali Singh Rinchen Zangmo (till 4 March 2023)	Richa Vatsa Anju Singh	Deepali Garg Neha Varun	Archana Kumari Soniya Dhiman
Anubhuti Rana	Nimisha Agrawal (till 29 December 2022)	Swati Tomar (w.e.f. 29.11.2022)	
Sarita Kumari (Contract 18 January 2022 to 1 July 2022)	Saloni Kamboj (Contract w.e.f. 08.06.2022)	Rakhi Kumari (Contract w.e.f. 18.01.22 - 09.02.2023)	Anjali Chandra (Contract w.e.f. 01.07.2022)
Preeti Deedwania (Contract w.e.f. 04.07.2022)	Pallavi Gupta (Contract w.e.f. 04.07.2022)	Neelam Meena (Contract w.e.f. 06.07.2022)	

### Scientists - I

Arun Kumar (w.e.f. 01.09.2022)	Monika Saini
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## HIGHLIGHTS

The Department is committed to providing the highest quality of patient care in the field of women's health, strengthening research and innovations in teaching. With the transition of services to the Mother and Child Block in 2022-23, the scope of services has increased in all aspects including state-of-art reproductive medicine, oncology, fetal medicine, maternity, and urogynaecology. Yoga and birth planning clinics have been introduced. Non-scalpel vasectomy and contraceptive implant are new family planning initiatives. The Department was awarded "Forerunner in RMC cascading" for achievement of "LaQshya" and second rank for Caesarean Audit by Directorate of Family Welfare, Govt NCT of Delhi. Several CME and skill-upgradation programmes were organized with national and international faculty and delegates (*vide infra*). Fetal medicine faculty and interventional cardiologists successfully performed a challenging in-utero procedure for balloon dilatation of the fetal aortic valve.

In addition to the already designated WHO Collaborating Centre for Research in Human Reproduction, the Department was recognized for WHO Collaborating Centre for Cervical Cancer Prevention and Research. Representatives from WHO and MOHFW participated in the second anniversary celebration of the Global Call-to-action for Cervical Cancer Elimination.

Professor Ranjit Manchanda, University College of London, visited the department for 4 weeks as Infosys Oncology Chair. This gave great impetus to Gynae Oncology training, Familial Cancer Clinic and research in the department.

HRH Crown Princess Mary of Denmark, patron of Maternity Foundation, visited the department. She participated in a skills training session, and use of the Safe Delivery app for midwifery training was demonstrated.

The Department provided regular obstetrics and gynaecology services at CRHSP, Ballabhgarh and OPD services at Jhajjar. Gynae Oncology OPD and OT services were provided at NCI Jhajjar. The Department also provided services of medical board for termination of pregnancy for women with lethal fetal anomalies at more than 24 weeks period of gestation.

## **EDUCATION**

### **Undergraduate Teaching**

Undergraduates are posted in the department for clinical postings from 4th semester onwards. Didactic lectures are taken for 6th and 8th semester students. The list of didactic lectures is as follows:

**Total UG lectures - 36**

### **Postgraduate teaching**

**Total PG seminars - 37**

### **Changes in teaching schedule and innovations in teaching**

1. Skill lab and simulation training activities have been augmented for undergraduate and postgraduate students to ensure adequate skills for increased batch size
2. New classes have been added to teaching schedule to enhance practical and surgical skills
3. Weekly classes for students of sub-specialties in the department (Reproductive Medicine/Gynae Oncology/Urogynaecology/Minimally Invasive Gynaecology/Fetal Medicine)
4. Morning 8-9 am journal clubs initiated to discuss landmark trials in the field of Obstetrics and Gynaecology
5. Regular audit of gynaecological procedures in addition to perinatal and caesarean audit
6. Interns were posted in specific area such as labour room, wards, OPD and OT for clinical exposure and to enhance their skills. Competency based training in comprehensive abortion care was also organized for the interns.
7. Orientation program for junior, senior residents and staff nurses was introduced at the beginning of monthly labour room posting to enhance their skills related to intrapartum care, obstetric emergencies and respectful maternity care
8. Classes on basics of ultrasound in obstetrics and gynaecology for better understanding and enhancing the skills in ultrasound
9. Small group discussions for respectful abortion care involving faculty, senior and junior residents and staff nurses

### **CMEs, Workshops, Symposia, National and International conferences**

The following programmes were organized by Departmental faculty members:

1. Virtual Workshop on Training of Trainers for Comprehensive Abortion Care Competency-based tool in First Trimester Abortion, 19-20 July 2022, New Delhi
2. National Conference of Reproductive Endocrinology 2022: Harmony with Hormones, 30-31 July 2022, Pune
3. Shobha Seth Wenger CME series in Gynaecologic Oncology, 11 September 2022, New Delhi
4. Accelerating Action for Cervical Cancer Mukh Bharat, Expert Group Meeting of FOGSI – FIGO – AOGIN-India – ISCCP – AGOI, 10 October 2022, New Delhi
5. Data Verification Meeting for WHO funded multicentric activity – Review of facility-based data and Provider Capacity Building for gender-based Violence Study during COVID-19, 11 October 2022, Shillong
6. National Workshop on Cervical Cancer Elimination, 17 November 2022, New Delhi
7. Masterclass and Live Surgical Workshop in Gynae Oncology, 26-27 February 2023, New Delhi
8. Live Endoscopic operative preconference workshop on Endoscopy: Rejuvenating young minds.” at 44th Annual Conference of Association of Obstetricians & Gynecologists, 10 November 2022, New Delhi
9. Fetal Cardiac USG workshop, Fetal Cardiocon (Part of conference -Fetal Cardiocon), 26 August 2022, New Delhi
10. Live Demo:11-14 weeks scan Fetal Cardiocon, 26 August 2022, New Delhi
11. NARCHI Pre-congress Workshop on Respectful Abortion Care, WHO-SAVER Module, 23 September 2022, New Delhi
12. Workshop on PPH with AOGD QI committee and DGF NW, 8 October 2022, New Delhi

13. Training of trainer workshop on Respectful Maternity Care, organized by AOGD, QI Committee, Pronto International, WHO, India, 7-6 December 2022, New Delhi
14. Training of Trainer workshop of the district hospitals of Delhi under the aegis of AOGD, QI committee, 10 December 2022, LHMC, New Delhi
15. Workshop on Respectful Maternity Care, organized by AOGD, QI Committee, 8 February 2023, BSA Hospital, New Delhi
16. Workshop on Respectful Maternity Care, organized by AOGD, QI Committee, 4 March 2023, LHMC Hospital, New Delhi
17. Workshop on Respectful Maternity Care, organized by AOGD, QI Committee, 11 March 2023, DDU Hospital, New Delhi
18. Workshop: WHO Safe Abortion Values, Evidence and Rights/Respect, 17 March 2023, Lucknow

### Short- & Long-Term Training

The Department offers on-demand short- and long-term training in various subspecialty subjects like maternal fetal medicine, gynae oncology, reproductive medicine, urogynaecology and minimally invasive surgery.

### Observership

1. Dr Neha Sahay, Army Hospital, 16 March 2021 to 14 March 2023 (Long Term), Maternal Fetal Medicine
2. Dr Shree Prasad Adhikari, SARC Country, 1 March 2023 to 31 March 2023 (Short Term), Reproductive Medicine
3. Dr Manu Goyal, AIIMS, Jodhpur, 7-30 November 2022 (Short Term), Reproductive Medicine
4. Dr Anjana Adhikari, Indiana National Academy of Medical Sciences, Bir Hospital, Kathmandu, 05.01.2023-31.01.2023 (Short Term), Urogynecology
5. Dr Hema Kumari Pradhan, Indiana National Academy of Medical Sciences, Bir Hospital, Kathmandu, 1-28 February 2023 (Short Term), Reproductive Medicine
6. Dr Maryada Malla, Indiana National Academy of Medical Sciences, Bir Hospital, Kathmandu, Nepal, 1-28 February 2023 (Short Term), Urogynecology
7. Dr Beema Sakya, Indiana National Academy of Medical Sciences, Bir Hospital, Kathmandu, Nepal, 15 January 2023 to 14 February 2023 (Short Term), Gynae Oncology
8. Dr Sapna Amatya Vaidya, Indiana National Academy of Medical Sciences, Bir Hospital, Kathmandu, Nepal, 15 January 2023 to 14 February 2023 (Short Term), Gynae Oncology
9. Dr Shree Prasad Adhikari, Indiana National Academy of Medical Sciences, Bir Hospital, Kathmandu, Nepal, 1-31 March 2023 (Short term), Reproductive Medicine

### Sub-specialty courses (MCh, DM, Fellowships)

1. Dr Suday Halder, West Bengal Health Services, 24 January 2022 to 23 January 2025, Gynae oncology
2. Dr Dipanwita Banerjee, CNCI, Kolkata, 4 February 2021 to 3 February 2024, Gynae oncology
3. Dr Shweta Prasad, GTB Hospital, Delhi, 12 December 2020 to 11 December 2023, Reproductive Medicine
4. Dr Juhi Bharti, AIIMS, New Delhi, 1 August 2021 to 31 July 2024, Reproductive Medicine

**Lectures delivered: 200**

**Lectures delivered over past 3 years**

2022-23	2021-22	2020-21
200	266	259

**Oral/posters presentations: 142**

**Oral/posters presentations over past 3 years**

2022-23	2021-22	2020-21
142	106	53

## RESEARCH

### Funded projects

#### Ongoing

1. Effectiveness and safety of 2 vs 3 doses of HPV vaccine in preventing cervical cancer: An Indian Multi-centre randomized trial, Prof Neerja Bhatla, WHO-IARC, 17 years, 2009-2026, Rs 2,73,92,897
2. Rapid point of Care Detection of HPV-Associated Malignancies, Prof Neerja Bhatla, NCI, USA through Arizona State University, USA, 5 years, 2017-2023, Rs 2,76,25,239
3. A Phase-II/III, Partially Double-blind, Randomized, Active-controlled, Multicentric Study to Assess the Immunogenicity and Safety of SIPL's qHPV Vaccine Administered Intramuscularly in Healthy Volunteers According to a Two-dose Schedule to Cohort 1 (Girls and Boys Aged 9-14 years) and a Three-dose Schedule to Cohort 2 (Women and Men Aged 15-26 years) as Compared to Merck's HPV6/11/16/18 vaccine (Gardasil®), Prof Neerja Bhatla, Serum Institute of India Pvt Ltd, Pune, 5 years, 2018-2023, Rs 1,01,08,596
4. Study of Effects and Safety of Gold IUD Copper T375 Au, Prof Neerja Bhatla, SMB, Mumbai, 5 years, 2021-2026, Rs 2,00,000
5. Landscape of somatic mutational profile in Epithelial Ovarian Cancer, Prof Neerja Bhatla, Shobha Seth Wenger Distinguished Professor in Gynae Oncology, 1 year, 2023-2024, Rs 12,00,000
6. (Published in JMIR RESEARCH PROTOCOLS) Evaluation of prevalence, regional phenotypic variation, comorbidities, risk factors and the variations in response to different therapeutic modalities among Indian women with polycystic ovary syndrome (PCOS): A Multicenter study across India, Prof Neena Malhotra, ICMR, 4 years, 2018 to May 2023, Rs 1,26,00,000
7. Ovarian tissue cryopreservation for fertility preservation in young cancer survivors - Comparison of slow freezing and vitrification, Prof Neena Malhotra, Funded by ICMR, 4 years, 2020-2023, Rs 87,70,133
8. Characterization of the uterine microbiota from women with unexplained infertility and recurrent implantation failure planned for in-vitro-fertilization (IVF)- a pilot study", Prof Neena Malhotra, AIIMS Research Grant, 2 years, 2022-2024, Rs 10,00,000
9. Effectiveness of an individualized lifestyle intervention in PCOS women who wish to conceive- A multicentred randomized controlled trial, Prof Neena Malhotra, ICMR, 5 years, 2023-2028, Rs 8,10,17,350
10. Role of autologous stem cells and platelet rich plasma therapy for regenerating endometrium in women with Asherman's syndrome, Prof Neena Malhotra, ICMR, 3 years, 2023-2026, Rs 74,14,260
11. Women's Health and Domestic Violence against Women during COVID-19 pandemic in India, Prof Vatsla Dadhwal, WHO, 2021-2023, Rs 18,00,000
12. Development and Validation of phone-based App, Swasth Garbh, for improving antenatal care (ameliorating maternal and fetal health), Prof Vatsla Dadhwal, ICMR, 3 years, 2022-2025, Rs 12,81,000
13. Evaluation of newer molecular methods and antigen based diagnostic modalities against RNTCP recommended methods in EARLY DIAGNOSIS of Female Genital Tuberculosis, Prof JB Sharma, Ministry of Health and Family welfare, 3 years, 2021-2025, Rs 67,10,938
14. Effect Of Yoga On Maternal And Perinatal Outcome On Pregnancy, Prof JB Sharma, Ministry of Ayush, SATYAM Department of Science and Technology, 3 years, 2019-2023, Rs 37,15,212
15. A Randomized Controlled Trial of a Study Comparing Autologous Rectus Fascia Pubovaginal Sling Versus Mid-Urethral Sling Versus Burch Colposuspension Procedure in Women with Stress Urinary Incontinence, Prof JB Sharma, ICMR New Delhi, 3 years, 2019-2023, Rs 65,80,595
16. Assessing & creating fertility awareness among youth in premier Indian Technical Institutions, Prof Neeta Singh, Milinda & Gates Foundation, 4 years, 2020 (started in 2021 due to Covid), 2024, Rs 5,00,000
17. Implementation of WHO ANC Model using web based application in primary, secondary and tertiary health care levels by trained health care providers, semi-skilled healthcare providers and community health workers, Dr K Aparna Sharma, DST, 3 years, 2022-2025, Rs 66,69,320
18. Validation of Preeclampsia Congo Red Detection kit (Point-of-Care test) : Multicentric trial, Dr K Aparna Sharma, Perkin -Elmers, 2 years, 2019-2023, Rs 6,00,000
19. Longitudinal follow up of pregnant women and their infants after COVID-19 exposure in pregnancy, Dr K Aparna Sharma, AIIMS-UCL, 1 year, 2021-2023, Rs 5,00,000
20. A prospective, open-label, single-center, single arm, post-marketing study to evaluate the efficacy and safety of D-chiro inositol and myo- inositol combination on ovarian function and metabolic factors in women with polycystic ovarian syndrome (PCOS), Dr Garima Kachhawa, Ambrosia Life Sciences Pvt Ltd, 3 years 8 months, November 2019 to August 2023, Rs 17,96,900

21. Assessment of markers of Preeclampsia after delivery and correlation with future risk factors of cardio vascular disease in women, Dr Garima Kachhawa, ICMR, 3 years, December 2022 to November 2025, Rs 40,40,092
22. Role of Endocrine Disrupting Chemicals (EDCs) in Maternal and Child Health, Dr Garima Kachhawa, ICMR, 4 years 6 months, 2018-2023, Rs 45,72,010
23. A Randomized, Multi-Center, Assessor-blind Phase 3 Study to Compare the Efficacy, Safety and Ease of Use of Two FSH-R (by BSV and Gonal-f® by Merck Serono) in Subjects Undergoing COH for ART, Dr Reeta Mahey, Bharat Serum and Vaccines, 2 years, 2022-2024, Rs 20,00,000
24. Phase IV study to assess the safety and effectiveness of Dienogest (Visanne) amongst Indian women with Endometriosis, in real-world clinical practice (VISAGE study), Dr Vidushi Kulshrestha, Bayer Pharmaceuticals, 1 year, 2022-2023, Rs 1,00,000
25. “Development of Augmented Reality (AR)-enabled tool for guidance in Cervical Cancer screening by Visual Inspection method in Single Visit Approach”, Dr Seema Singhal with IIT-D, DST SERB under Core Research Grant Scheme, 3 years, 2020-2024, Rs 38,00,000
26. Diagnostic and Prognostic role of oncometabolites in Endometrial cancer, Dr Seema Singhal, AIIMS Intramural research grant, 2 years, 2021-2023, Rs 10,50,000
27. Diagnostic and prognostic value of cell free DNA (cfDNA) in Epithelial ovarian cancer – A cohort study, Dr Seema Singhal, ICMR-ICRC grant, 3 years, 2023-2025, Rs 78 00 000
28. Serum Visfatin and Serum Adiponectin levels in patients with Carcinoma Endometrium, Dr Jyoti Meena, Intramural, 2 years, October 2020-2022, Rs 2,00,000
29. Circulatory exosomal micro RNA as marker of endometriosis - A Pilot study, Dr Juhi Bharti, Intramural-AIIMS, 5 years, 2019-2023, Rs 10,00,000
30. Counseling of Clients for HPV Self Sampling by ASHAs (Accredited Social Health Activists) and by Physicians: A Randomized, Open-Labelled, Non-inferiority Trial (ASHA-CHAPTER Trial), Dr Nilanchali Singh, SERB, 2 years, January 2023-2025, Rs 19,86,297
31. The TRACK Trial – Role of Telemedicine in the Training of Accredited Social Health Activists (ASHA) in counseling women for HPV Self-Sampling for Cervical Cancer Screening, Conquer Cancer - International Innovation Grant Award, 2021
32. Dr Nilanchali Singh, ASCO, 1 year, 2021, November 2023, 20000 USD
33. A Cross-Sectional Study to Screen for Psycho-sexual Health Disorders and Measure Neurochemical Correlates in Gynecology Cancer Survivors, Dr Nilanchali Singh, AIIMS Intramural, 2 years, 2021-2023, Rs 7,12,000
34. Use of pyruvate kinase M1 and M2 biomarker in predicting coexistent carcinoma endometrium, in cases of atypical endometrial hyperplasia, to facilitate choice of fertility sparing surgery, Dr Richa Vatsa, Early Career Intramural Research Projects grant from AIIMS, 2 years, September 2020 to September 2023, Rs 5,00,000
35. Expression of erbB receptor family and estrogen receptors (ER) in endometrium and ectopic lesion during ovarian endometriosis. (Funded intramural), Dr Deepali Garg, All India Institute of Medical Sciences (Intramural), 2 years, 2021-2023, Rs 5,00,000
36. Smartphone app for management of gestational diabetes mellitus in urban and rural settings in India: A randomized controlled trial, Dr Deepali Garg, ICMR, 3 years, 2022-2025, Rs 9,60,000
37. A randomised controlled trial to study the outcome of ‘Routine episiotomy’ versus ‘No episiotomy’ on perineal injury and pelvic floor
38. dysfunction during normal vaginal delivery among primigravida women: A pilot study, Dr Archana Kumari, AIIMS intramural grant, 2 years, 16 February 2021, Rs 8,80,000
39. Evaluation of stress biomarkers in pregnancy and correlation with maternal and foetal outcomes, Dr Anju Singh, AIIMS Early Career Intramural Project, 2 years, 2020-2022, Rs 5,00,000
40. To study the sequential changes in maternal Corticotropin Releasing Hormone level during the course of pregnancy and correlate with outcome its role as an endocrine mediator of parturition, Dr Neha Varun, AIIMS Early Career Intramural Project, 2 years, 2020-2022, Rs 5,00,000
41. Role of Serum Autotaxin in Intrahepatic Cholestasis of Pregnancy in Indian Women, Dr Soniya Dhiman, Institute Intramural Grant, 2 years, 2021-2023, Rs 5,00,000
42. Evaluation of paternal RhD zygosity and fetal RhD genotype using circulating cell-free fetal DNA from maternal plasma in the antenatal monitoring of alloimmunized pregnant women, Dr Anubhuti Rana, AIIMS, Intramural grant, 2 years, 2020-2023, Rs 9,85,000



### **Completed**

1. Standardizing data collection and cervical cancer screening protocols to improve facility preparedness and capacity building for cervical cancer elimination, Dr Neerja Bhatla, WHO SEARO, 1 year, July 2021, January 2022, December 2021, June 2022, Rs 25,91,890
2. Phase I-II clinical trial on safety immunogenicity and probing efficacy of the recombinant vaccine against human chorionic gonadotropin (hCG), Dr Neerja Bhatla, ICMR, 2 years, 2021-2023, Rs 18,64,617
3. Age specific normograms of Anti-Mullerian Hormone (AMH) and Antral Follicle Counts in infertile and fertile Indian women, Dr Neena Malhotra, CSR funded by RECPDCL, Govt of India, 3 years, December 2016 to November 2022, Rs 50,00,000
4. Review of Facility-based Data and Provider Capacity Building for Gender-Based violence Study during COVID-19. (WHO), Dr Vatsla Dadhwal, WHO, 7 months, 25 August 2022 to 31 March 2023, Rs 1,986,600
5. Development and pilot testing of smart phone-based app for non-invasive detection of anaemia in pregnant women, Dr Vatsla Dadhwal, AIIMS, 1 year 10 months, 2020 to November 2022, Rs 4,85,200
6. Implementation of non-invasive pre-implantation genetic testing for aneuploidies using next-generation sequencing (NGS) on spent culture media, Dr Neeta Singh, DHR, 3 years, 2020- 2023, Rs 30,00,000
7. To investigate the role of natural Killer cells in implantation failure and to study immunomodulatory effect of Intralipids in women with elevated uterine natural Killer (u-NK) cells in fresh non-donor IVF cycles- A randomized Controlled trial, Dr Neeta Singh, ICMR, 3 years, 2019-2022, Rs 40,00,000
8. To Evaluate Combination of Biochemical Endothelial Markers and Arterial Stiffness in Prediction of Preeclampsia, Dr Garima Kachhawa, ICMR (DHR), 4 years, 2018-2022, Rs 83,93,333
9. ICMR-STC proposal titled “Soluble E-selectin level in women with Polycystic Ovarian Disease and its Comparison with JBS-3 Score as a marker of Cardio-Vascular Risk”, Dr Nilanchali Singh, AIIMS Intramural, 1 year, 2022-2023, Rs 5,00,000

### **Departmental projects**

#### **Ongoing**

1. Evaluation of bone-health and menopausal symptoms in gynaecological cancer-survivors
2. Assessment of Cognitive function among Indian women with ovarian, primary peritoneal and fallopian tube cancer: A Pilot Study
3. Efficacy of levonorgestrel intrauterine system in reducing menstrual blood loss in women with haematological disorders
4. Evaluation of insulin resistance during pregnancy and its correlation with maternal and fetal outcome
5. To compare the use of dedicated PPIUCD inserter over conventional technique with Kelly’s forceps for PPIUCD insertion: Randomized controlled trial
6. Evaluation of 18F-FDG PET-specific quantitative tumour parameters and sentinel lymph node mapping by radionuclide injection of Tc -99m Sulphur colloid in the management of endometrial cancer
7. A pilot study to evaluate the role of POTE E gene and machine learning as preoperative diagnostic and prognostic prediction tool for epithelial ovarian cancer
8. Correlation of Serum Visfatin, adiponectin and tissue expression of pyruvate kinase M2 with prognostic factors in Carcinoma endometrium
9. Correlation of haematological parameters with Chemotherapy Response Score (CRS) in Patient of Advanced Stage Epithelial Ovarian Cancer
10. Nutritional assessment of Indian women with gynaecological cancers using GLIM criteria and impact of focused prehabilitation protocol on nutrition and perioperative outcomes in women undergoing interval debulking surgery
11. Clinical outcome and biological characteristics of ovarian cancer patients with positive germline mutations in hereditary ovarian cancer predisposing genes and acceptance of cascade testing in Indian women
12. Efficacy of Cabergoline versus Dienogest on serum pro-inflammatory markers in endometriosis: A pilot study
13. To compare the effect of laparoscopic ovarian drilling versus step up gonadotropin therapy in anovulatory infertile PCOS women undergoing ovulation induction cycles- a randomised controlled trial
14. Evaluation of newly recommended antral follicle count (AFC) cut-off in the diagnosis of various PCOS phenotypes and comparison of low AFC and high AFC groups in terms of clinical, metabolic and endocrine parameters
15. Evaluation of extra-cellular micro-RNA profiles in follicular fluid of women with and without polycystic ovarian syndrome (PCOS) and their correlation with IVF outcomes- A Case Control Study

16. Assessment of fetal cardiac using conventional and speckle tracking echocardiography and its association with neonatal outcome
17. Comparison of modified WHO partograph and labour function in maternal diabetes care guide during labour: A prospective randomized controlled trial
18. Fetal Cardiac Profile in ICP and its association with perinatal outcome
19. A prospective study to develop nomograms of fetal brain structures in the north Indian population and assess these fetal brain structures in growth restricted fetuses using the developed nomograms
20. Azithromycin-Based Extended-Spectrum Prophylaxis for Caesarean Delivery: A Randomized Controlled Trial
21. To study the efficacy of single infiltration of subcutaneous tissue with bupivacaine + adrenaline before skin closure at LSCS in reducing post-operative pain
22. Comparison of risk assessment and surveillance protocol with routine antenatal care for detection of fetal growth restriction and adverse perinatal outcome: A randomized controlled trial
23. Comparison of two dinoprostone regimens (spaced versus conventional) for induction of labour in pregnant women with unfavourable cervix: an open label randomized pilot study
24. Development and Validation of a Predictive Model for Vaginal Birth after Caesarean Section Based on Demographic, Clinical and Ultrasound Based Factors
25. Comparison of efficacy and safety of intravenous ferric carboxymaltose with oral iron therapy in pregnant women with mild to moderate iron deficiency anaemia: an open labelled randomized controlled trial
26. To study the effect of yoga in pregnancy on maternal and perinatal outcome
27. Evaluation of an artificial intelligence based device for screening and management of preinvasive lesions of cervix
28. Feasibility, efficacy and safety of yoga therapy in urinary incontinence in females- A prospective randomized control study
29. A pilot study to assess the correlation of serum AMH for prediction of response to letrozole and or gonadotrophins among infertile women with polycystic ovarian syndrome undergoing ovulation induction cycles
30. Efficacy of extended regimen of letrozole in infertile women with PCOS: a randomized controlled trial
31. Evaluation of role of cardiopography based short term variability in prediction of adverse perinatal outcome in late small for gestational age and appropriately grown fetuses
32. Cardiac function of mono chorionic diamniotic twins complicated by selective fetal growth restriction.
33. Assessment of fetal cardiac morphometry and function in maternal diabetes using conventional and speckle tracking echocardiography and its association with neonatal outcome
34. A Randomized controlled trial on efficacy of single dose of intraoperative dexamethasone in reducing post-operative pain in caesarean section
35. Emotional response and mental health of women undergoing 2nd trimester Medical Termination of Pregnancy for fetal anomalies
36. To Study the Efficacy of Lignocaine in Distension Medium in Improving Pain Score During Office Hysteroscopy: A Double Blind Randomized Controlled Trial
37. Randomised control trial comparing pregnancy outcome using Letrozole versus GnRH agonist HRT for endometrial Preparation during frozen embryo transfer cycles
38. Association of placental volume and vascularisation indices in pregnancy following in vitro fertilization & adverse pregnancy outcome
39. Effect of integrated yoga on ART outcomes and psychological stress in patients undergoing in-vitro fertilization (IVF) cycles: a prospective randomized controlled trial
40. Prediction of ovarian function in reproductive age women with breast cancer undergoing gonadotoxic chemotherapy using ovarian reserve bio-markers- A prospective cohort study
41. Relationship of Middle Cerebral Artery Peak Systolic Velocity and Perinatal Outcome in Growth Restricted Foetuses
42. Prevalence of mental health problems (anxiety, depression and stress reactions) in mothers of preterm infants admitted to NICU: A Cross Sectional Study
43. Comparison of Quality of Antenatal Care delivered using a Web Based mobile Application as compared to the standard care protocol: A Pilot Study
44. Evaluation of ovarian reserve after ovarian cystectomy for endometriosis between 2 different surgical techniques

45. A Prospective randomized controlled trial to study the effect of prenatal yoga on maternal weight gain and psychological stress in pregnancy and its association with pregnancy outcome: A Pilot study
46. Role of Endometriosis fertility index for prediction of pregnancy outcome in women with endometriosis undergoing in vitro fertilization or ICSI cycles: A prospective study
47. Comparison between Intraperitoneal Sodium Bicarbonate and Normal Saline for Peritoneal Irrigation in Reducing Post-Operative Pain in Diagnostic Laparoscopy: A Randomized Controlled Trial
48. A Randomized controlled trial comparing the efficacy of bupivacaine injection in vaginal vault and paracervical region vs vaginal vault infiltration with bupivacaine after Total Laparoscopic Hysterectomy
49. To assess the impact of implementation of systematic Childbirth Education through a birth planning visit on the outcome and experience of Childbirth: a quality improvement project
50. Correlation of serum inflammatory biomarkers with the fetomaternal outcome in cholestasis during pregnancy, a pilot study
51. Profile of vaginal and placental microbial flora in antenatal patients
52. Comparison of sexual outcome after hysterectomy through open versus laparoscopic routes for benign uterine disorders
53. Effect of chronic pancreatitis and recovered acute pancreatitis on women's menstrual and reproductive behavior
54. Effect of preoperative & postoperative counselling on prevalence of depressive symptoms, anxiety and stress in women planned for gynaecological surgeries
55. Psychosocial stress in female infertility and its correlation with cytokine levels.
56. Role of Bisphenol A in pathogenesis of PCOS: A case control study
57. Comparison between patient-controlled analgesia with fentanyl and multimodal parenteral analgesia in reducing pain due to second trimester medical termination of pregnancy: A randomized controlled trial.
58. Sub-endometrial instillation of Platelet Rich Plasma in women with thin endometrium undergoing In Vitro Fertilization cycles – A feasibility study
59. To evaluate the rule of serum D-dimer, neutrophil/Lymphocyte Ratio, Platelet/Lymphocyte ratio and CA125 in assessment of ovarian masses
60. Comparison of cervical shear wave elastography, bishop score, and transvaginal cervical length measurement for prediction of successful labor induction: A pilot study
61. Comparison of three techniques for skin closure in caesarean delivery (subcuticular sutures, non-absorbable nylon sutures, surgical staplers): A randomized controlled trial
62. Efficacy and feasibility of Enhanced Recovery After Surgery (ERAS) protocol on functional recovery in women undergoing elective caesarean delivery: A randomized clinical trial
63. Role of serum estradiol levels in letrozole-FET versus HR-FET cycles: A pilot randomized controlled trial
64. Role of intra-ovarian instillation of autologous platelet rich plasma in premature ovarian ageing: A prospective pilot study
65. Exploring male factors in recurrent pregnancy losses: A multiomics approach
66. A plausible role of semen proteins in idiopathic recurrent pregnancy losses: A proteomic approach
67. Soluble E-selection level in women with Polycystic Ovarian Syndrome and its Comparison with QRISK-3 Score as a marker of Cardio-Vascular Risk
68. A double prospective randomized controlled trial comparing pregnancy rates between conventional benchtop incubator v/s time lapse imaging in women undergoing IVF/ICSI non-donor cycles
69. Reference semen parameters for fertile males in India: A multicentric cross-sectional study
70. To Compare the Role of Ethanol Sclerotherapy versus Simple Aspiration on Ovarian Reserve and Reproductive Outcome in Women with Endometrioma: A Pilot Randomized Control Trial
71. Role of transvaginal 3D Power Doppler Ultrasound and Hysteroscopy for Endometrial Evaluation in Patients with Postmenopausal Bleeding
72. To study the incidence of obstetrics anal sphincter injuries (OASIS) in postpartum women using introital ultrasound
73. Immature platelet parameters in pregnancies identified as screen positive for pre-eclampsia: A Prospective comparative study
74. "A comparative pilot study of oxidised regenerated cellulose and amnion graft in patients undergoing McIndoe vaginoplasty"

75. Incidence and risk factors for Surgical site infection (SSI) in women undergoing obstetric and gynecological surgeries and effect of introducing an evidence-based SSI bundle

#### **Completed**

1. Correlation of visceral Adiposity index (VAI) and lipid accumulation products (LAP) with metabolic and endocrine markers in women with polycystic ovary syndrome (PCOS)
2. Evaluation of renal function parameters during pregnancy and its correlation with maternal and fetal outcome
3. Analysis of molecular biomarkers in serum and tumour tissue of epithelial ovarian cancer
4. Assessment of Response to Neoadjuvant Chemotherapy in Women with Advanced Stage Epithelial Ovarian Cancer by F18-Fluorodeoxyglucose Positron Emission Tomography
5. Evaluation of feasibility and perioperative outcome of HIPEC at the time of interval debulking surgery in Stage IIIC/IV epithelial ovarian, fallopian tube and primary peritoneal carcinoma: A Pilot Study
6. Evaluation of an Artificial Intelligence based device for screening and management of Preinvasive Lesions of Cervix
7. Comparison between barbed suture and 1-0 vicryl in total laparoscopic hysterectomy- a randomized controlled trial
8. Implementing birth companion Practice in labour room: a quality Improvement study in a tertiary care center of Uttarakhand
9. Evaluation of knowledge, attitude, perception and concerns regarding COVID-19 vaccine among pregnant and lactating women
10. Feasibility and Outcome of Minilaparotomy Assisted Laparoscopic Myomectomy for Large Myomas
11. Pulmonary vein pulsatility index cardiac remodelling (global sphericity index) and function (myocardial performance index) in growth restricted and normally grown fetuses
12. Evaluation of diagnostic potential of hysteroscopy, histopathology and molecular microbiology in chronic endometritis in women with tubal and unexplained infertility undergoing IVF – A prospective cohort study.
13. Factors affecting pregnancy and neonatal outcome after Frozen Embryo Transfer (FET) cycles – A retrospective analysis/audit
14. Implementation of non-invasive pre-implantation genetic testing for aneuploidies using next-generation sequencing (NGS) on spent culture media.
15. To evaluate the IVF outcome in low prognosis women according to POSEIDON (Patient Oriented Strategies Encompassing Individualized Oocyte Number) stratification and to evaluate the possible etiologies of decreased ovarian reserve (DOR) in Indian women.
16. Comparison of dual versus single trigger in antagonist cycles in non-donor in vitro fertilization: A randomized controlled trial.
17. Retrospective observational study to see the pathological feature and obstetric outcome of pregnancy with adnexal mass undergoing surgical management
18. Pregnancy outcomes in women with complete heart block: Experience from a tertiary care hospital
19. Trend of Aspartate Aminotransferase to Platelet Ratio Index (APRI) Score and Immature Platelet fraction (IPF) in preeclampsia: A Case-control Study.

#### **Collaborative Projects**

##### **Ongoing**

1. A population based prospective cohort study to unravel the causes of stroke and cognitive decline: A cross cultural perspective (Indo-Netherlands Project), Neurology
2. To evaluate the right test and frequency of testing for developing a strategy for postpartum follow up of women with history of gestational diabetes mellitus: formulating women centric approach after incorporating their views, Endocrinology & Metabolism
3. To establish mother-offspring-spouse cohort of women with history of gestational diabetes mellitus to study the vertical and horizontal influence on cardiovascular risk factors, Endocrinology & Metabolism
4. To evaluate the effectiveness of lifestyle intervention program in overweight/obese women [within 2 years of last child birth when delivered to them along with their spouse as compared to them alone: Two arm parallel Randomized Control Trial, Endocrinology & Metabolism
5. To generate normative data using continuous glucose monitoring system for glycemia in pregnancy at 24 to 32 weeks of gestation in women defined as normal by IADPSG (International Association of Diabetes and Pregnancy Study Groups) Criteria, Endocrinology & Metabolism

6. Status of hydrogen sulphide producing enzymes, matrix metalloproteinases and miR-22 in preeclampsia and their role in modulating trophoblast invasion, Anatomy
7. SMARCE 1 mediated mechanisms of transcriptional modulation in trophoblast cell invasion during placentation and their status in preeclampsia, Anatomy
8. Detection of HPV circulating tumour DNA in cervical cancer patients before and after chemoradiotherapy by droplet digital PCR, Preventive Oncology, IRCH
9. Molecular characterization of Endometrial Cancer and correlation with Clinicopathological features, Pathology
10. To investigate metabolic perturbations in Endometrial Cancer by targeted transcriptomics approach in Indian Cohort, Pathology
11. Exploring the potential of Exosomes derived from Endothelial Colony Forming Cells (ECFCs) primed with Mesenchymal Stromal Cells (MSCs) as a cell-free therapy for Cardio-Vascular Diseases (CVDs), Cardiac Biochemistry
12. Artificial Intelligence in Oncology: Harnessing big data and advanced computing to provide personalized diagnosis and treatment for Cancer patients, Biochemistry
13. A Phase 3, Double Blind Placebo-Controlled, Multicenter Clinical Study comparing Chemo-Immunotherapy (Paclitaxel-Carboplatin-Oregovomab) versus Chemotherapy (Paclitaxel-Carboplatin-Placebo) in Patients with Advanced Epithelial Ovarian, Fallopian Tube or Peritoneal Carcinoma (FLORA 5), Dr BRAIRCH
14. Characterization of Parasite ligand host receptor interactions in Plasmodium vivax infections, Molecular Parasitology Lab Department of Biotechnology, Peroid
15. Psychosocial dynamics of pregnancy loss: development of a multidimensional scale & development efficacy (Randomized Control Trial) – ICMR, Psychiatry
16. Postural impact on gastric ultrasound assessment in pregnancy – non-funded, Anaesthesia
17. Generation of Molecular Tools for functional Characterization of Silent Genetic Variants of Endothelin Receptor Genes, Biochemistry
18. Exploring proteomic and genomic factors associated with idiopathic recurrent pregnancy losses in male partner of affected couples, Biophysics
19. Molecular mechanisms involved in the development of insulin by the environmental exposure of phthalates, Ocular Pharmacology
20. To compare the opioid sparing effects of combination of dexamethasone, paracetamol and ketorolac (DexPak) VS paracetamol, ketorolac (PaK) in patients undergoing total laparoscopic hysterectomy: A prospective double blind randomized controlled trial.
21. Anaesthesiology, Pain Medicine & Critical Care
22. Abnormal metabolism and gonadotropin-imbalance: Exosomal metabolomic profiles in Granulosa cells and follicular fluid of polycystic ovary syndrome patients with and without insulin resistance, Zoology, University of Delhi.
23. Exploring male factor in recurrent pregnancy losses: A genomic & proteomic based approach, Bio-Physics
24. Role of Bisphenol A in pathogenesis of PCOS: A case control study, Ocular Pharmacology
25. To study anti-factor Xa levels in pregnant patients on anticoagulation with LMWH, Cardiology
26. To evaluate combination of biochemical and biophysical marker in prediction of preeclampsia, Physiology
27. Effect of Human Sperm Vitrification on Phospholipase C Zeta Expression, Reproductive Biology
28. Every Woman Study in Low- and Middle-Income Countries, KoLGO TRG
29. A prospective cohort study to assess the breast-feeding rate and analyse the predictors of low milk volume among mothers of preterm admitted in a tertiary care facility, College of Nursing
30. Identifying Dysregulation of miRNAs and their targets in Idiopathic Recurrent Pregnancy Loss. (ICMR Funded), Department of Biophysics
31. Anaemia: Exploring the role of Vitamin D, essential elements, lifestyle in Indian Population, Physiology
32. Oncological and obstetric outcomes of pregnancy in cancer patients and survivors: Experience from a tertiary care centre, Medical Oncology
33. Role of spalt-like transcription factor 4 (SALL4) in cervical oncogenesis and its correlation with clinicopathological parameters, NICPR, Noida

## Collaborative Projects

### Completed

1. To evaluate the effectiveness of lifestyle intervention programme in women with history of gestational diabetes mellitus when delivered to them along with their spouse as compared to them alone: Two arm parallel randomized control trial, Endocrinology & Metabolism
2. Role of Hydrogen sulphide as a pharmacological modulator in adverse pregnancy outcomes like pre-eclampsia, Anatomy
3. STAT3 regulation via miRNAs in ovarian cancer stem cells: A therapeutic approach, Reproductive Biology
4. Status of hydrogen sulphide producing enzymes, matrix metalloproteinases and miR-22 in preeclampsia and their role in modulating trophoblast invasion, Anatomy
5. Bio-markers for prediction of successful pregnancy in women undergoing IVF: using the proteomics approach in a North Indian population: hospital-based prospective cohort study
6. Clinical Epidemiology Unit, Role of aptamer technology for detection of sialidases of Bacterial Vaginosis (BV) associated bacteria, Microbiology
7. Assessment of workload and musculoskeletal symptoms among minimal access surgeons- A Prospective Study, Surgery
8. Study of vaginal microbiome and metabolome in women with bacterial vaginosis (B/V) and healthy controls, Dermatology and Venereology
9. Evaluation of menstrual pattern, fertility, pregnancy outcomes and its modulation by gluten-free diet in females with Celiac disease, Gastroenterology
10. Role of l carnitine in oocyte activation, Reproductive Biology, Psychological Trauma in Pregnancy Loss: Development of a Multidimensional Assessment Tool and a Group Intervention Module”, Psychiatry
11. Standardize reporting of COVID-19 and pregnancy (SCOPE) being done at AIIMS, New Delhi, WHO collaborating centres (WHO-CC)

### Research projects over past 3 years

2022-2023	2021-22	2020-21
40	42	44
32	34	26
76	90	41

## PUBLICATIONS

Journal: 68

Abstract: 20

Chapters in Book: 7

Books & Monographs: 1

### Publications over past 3 years

	Year 2022-23	Year 2021-22	Year 2020-21
Journal Articles	68	133	90
Abstracts	20	16	3
Chapters in books	7	20	11
Books/Monographs	1	5	7

## PATIENT CARE

In addition to services at AIIMS Main Hospital, Gynae Cancer Clinics are running at IRCH twice weekly. The department provides round-the-clock obstetrics and gynaecology services to patients at CRHSP, Ballabgarh. The complete range of gynecological oncology services is being provided at NCI, Jhajjar.

### a. Facilities available in the department (including special clinics and/or special laboratory facilities)

- Antenatal clinic
- High risk pregnancy clinic
- Postnatal clinic
- Family Planning clinic
- IVF Clinic
- Gynae Cancer Clinic (at IRCH)
- Preventive Oncology services

- Gynae endocrinology clinic
- Menopause clinic
- Urogynaecology clinic
- Yoga for antenatal women

**b. Community Services/Camps**

- No-Scalpel Vasectomy (NSV) Camp was organized by the Family Planning Unit from 18-21 July and 2-6 December 2022. A total of 9 (26) NSVs were done.
- Training course on No-Scalpel Vasectomy (NSV) 25-29 July 2022, organized by the Family Planning Unit & Department of Surgery, AIIMS, New Delhi.
- Celebrated “POSHAN PAKHWARA” 20 March to 4 April 2023 “Health talk Importance of Millet in diet during Pregnancy and Lactation Period”.
- International Yoga Day 21 June 2022 was celebrated in the department.
- Implementation done U-win portal (MoHFW) which would include the aspects of registration & vaccination of each pregnant woman, birth dose of new-born and subsequent vaccination events with the features of individualized tracking of beneficiaries for vaccination status.
- Prenatal Meditation - Yoga classes every Monday/Wednesday/Friday (2.00 PM - 4.00 PM) Mother & Child Block, New Delhi.
- On the occasion of World Population Day, 11 July 2022, patient education and awareness related poster displays were held in patient care areas along with the family planning unit.
- Display Information Education Communication (IEC) material, promoting reproductive health and reducing maternal, infant and child mortality and morbidity, organize time to time Nukkad Natak (Family Planning, NSV, Anemia Mukht Bharat etc.)
- **Neerja Bhatla:**
  - Panel Discussion: **Doctor–Patient Relationship ‘A Bond of Trust’**. Association of Obstetricians and Gynaecologists of Delhi (AOGD), Public Forum on Doctors Day, 1 July 2022, Virtual.
  - Live Hello Doctor Programme, Uterus Tumour Symptoms & Prevention, DD Urdu, 22 December 2022.
  - Live Hello Doctor Programme, Cervical Cancer Prevention and Adolescent Health, 26 January 2023
  - Talk on **Prevention of Cervical Cancer**. TEDx at AIIMS, New Delhi, AIIMS Student Association 2022-23, 15 January 2023.
  - Talk on **Prevention of Cervical Cancer**, World Cancer Day, 4 February 2023.
  - Talk on **Importance of health and well-being for achieving excellence in sports for women**. International Women’s Day celebration: Clean Sports Through Gender Lens, National Anti-Doping Agency, 6 March 2023, Virtual.
  - **Guest of Honour and Interactive session**. International Women’s Day, Punjab National Bank Headquarters, New Delhi, 6 March 2023.
  - Talk on **Health issues of women**. International Women’s Day, ICMR Headquarters, New Delhi, 7 March 2023.

**Details of procedures carried out during 2022-23**

	2022-2023	2021-2022	2020-2021
Gynaecological Cancer Surgeries (Total)	314	207	207
Carcinoma Uterus	11	47	35
Carcinoma Ovary	262	149	153
Carcinoma Cervix	32	3	15
<b>Carcinoma Vulva</b>	9	8	4
Benign Gynecological Surgeries			
Hysterectomy	509	412	194
Laparoscopic (TLH)	184	175	88
Abdominal	246	201	80
Vaginal	79	36	26

Ovarian Cystectomy/Oophorectomy (including dermoid and endometriosis)	129	<b>162</b>	91
Open	20	5	12
Laparoscopic	87	159	57
Oophorectomy	22	8	22
Ectopic pregnancy	48	24	27
Open	19	17	-
Laparoscopic	29	7	-
Cervical cerclage	23	18	41
Abdominal	2	2	5
Vaginal	20	16	36
Laparoscopic	1		
Myomectomy/adenomyomectomy	149	92	42
Open	51	20	12
Laparoscopic	56	42	16
Hysteroscopic	36	28	12
Adenomyomectomy	6	2	2
Vaginoplasty	57	13	9
Mc-Indoe vaginoplasty	18	6	9
Laparoscopic (Davydov's) vaginoplasty	39	7	-
<b>Day Care Surgeries</b>			
Diagnostic Laparoscopy + Hysteroscopy +/- CT	317	244	49
Hysteroscopy (Diagnostic)	690	397	90
Hysteroscopic Polypectomy	144	93	24
Hysteroscopic Septal Resection	47	44	5
Hysteroscopic Adhesiolysis	30	24	10
Hysteroscopic IUCD Removal	20	19	9
Hysteroscopy + Mock ET	43	9	-
Hysteroscopic Placenta Removal	2	1	-
Laparoscopy + Hysteroscopic Cannulation	3	2	7
Laparoscopic Salpingectomy/Clipping	75	98	37
Laparoscopic Ovarian Drilling	13	19	-
Laparoscopic Rudimentary Horn Excision	11	6	-
Laparoscopic Gonadectomy/gonadopexy	10	5	-
LNG-IUS Insertion	130	7	-
<b>Other Vaginal surgeries</b>			
CPT repair	29	5	
TVT-O	6	5	
Sacrospinous fixation	10	5	
Manchester repair	9	4	
Vesicovaginal fistula repair	12	3	
Rectovaginal fistula repair	4	1	
Labial mass excision	-	1	
Vaginal cyst excision	6	1	



<b>Fetal Medicine</b>			
Amniocentesis	341	194	110
Chorionic Villus Sampling (CVS)	303	208	148
IUT (Intrauterine Transfusion)	195	100	59
RFA (Radiofrequency Ablation)	32	22	8
Cordocentesis	20	18	5
Selective fetal reduction	16	13	5
Amnioreduction	12	7	-
Pleural fluid aspiration/shunt	-	4	1
Pericardiocentesis	-	2	1
Laser	5	2	-
Vesicocentesis	-	1	-
Fetal cyst aspiration	3	-	-
Cephalocentesis	1	-	-
<b>Minor Procedures</b>			
Bartholin cyst excision	20	13	
Excision of scar endometrioma	17	7	
Examination under anaesthesia	12	5	
Pap Smear	17803	6236	2997
HPV tests	1631	1521	
VIA	284	208	
Cervical biopsy	795	456	298
Colposcopy	523	321	112
Thermal ablation	18	25	8
LEEP	24	10	3
Cryotherapy	-	-	-
Vulval biopsy	33	13	
Vaginal biopsy	7	7	
Labial cyst excision/labial biopsy	3	7	
Pyometra/hematometra drainage	33	26	
Mould change	41	28	
EA + ECC	3789	888	
VA-CC	133	49	
HSG	673	196	
<b>Obstetrics</b>			
Total No. of deliveries	2833	1931	1622
Total Vaginal delivery	1411	921	679
Total Caesarean sections	1422	1010	943

#### Family planning services:

Family planning programme is one of the important National programmes in India with the objectives of achieving population stabilization, promoting reproductive health and reducing maternal, infant and child mortality and morbidity.

The department continued uninterrupted Family planning OPD 6 days a week to provide the following services:

- Postpartum/interval ligation
- Postabortion ligation
- Medical Termination of Pregnancy
- Contraceptive methods- IUCD, Implant, LNG-IUS insertions

- Follow-up of patients for monitoring/managing the complications due to IUCD and postpartum IUCD
- Counselling and referring male patients for Non-Scalpel Vasectomy (NSV)
- Regular post-natal clinics along with antenatal clinics

Various contraceptives available free of cost, with newly introduced contraceptives: Injectable Contraceptive, MPA (Medroxyprogesterone acetate) under Antara program and Chhaya (earlier marketed as Saheli) also available. Spacing methods like IUCD and postpartum IUCD (PPIUCD) were emphasised and following family planning services were provided during the COVID-19 pandemic. Implanon insertion training was imparted to department members. Implanon procurement process has started.

#### Number of family planning procedures done in 2022-23

Method	Numbers (2022-2023)	Numbers (2021-2022)	Numbers (2020-2021)
MTP	633	418	159
Oral contraception (pkt)	2643	2031	122
DMPA	264	76	24
Interval Cu-T	360	240	47
PPIUCD	682	356	225
Post-abortion IUCD	95	58	28
Tubal ligation	418	457	71
Vasectomy	26	14	-
Implanon	35	-	-

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

The Department was recognized for WHO Collaborating Centre for Cervical Cancer Prevention and Research. Prof Neerja Bhatla has been appointed as Head of the Centre.

**Professor Neerja Bhatla** was felicitated by Indian College of Obstetrics and Gynaecology (ICOG) for Convenor of “ICOG online course for everyday practice in Gynaecologic Oncology” (8 modules), June 2022; FOGSI-DHEERA Award for exceptional contribution to Women’s Health, Sept. 2022; Awarded Shobha Seth Wenger Distinguished Chair in Gynaecologic Oncology 2022-24, Second Annual Research Day, AIIMS, October 2022; Fellow of the National Academy of Sciences, India (NASI), Prayagraj, November 2022; Life Time Achievement Award, 11th National Conference of AOGIN India, Coimbatore, November 2022; Women Achievers Award 2023; Certificate of Achievement, Zee DNA, Noida, March 2023. Orations include Dr Sudhir Chandra Bose Memorial Oration on Management of adnexal masses – A medical conundrum, Bengal Obstetric & Gynaecological Society, August 2022; 31st Prof PK Devi Oration on HPV Vaccination for Cervical Cancer Elimination Current Status and Scope of Implementation, ICMR-NIRRH, Mumbai, November 2022; AOGS AICOG 2017 Oration on Empowering gynaecologists to achieve cervical cancer control in this decade: together we can!, Ahmedabad Obstetrics & Gynaecological Society, March 2023. Professional appointments include Head, WHO Collaborating Centre for Cervical Cancer Prevention and Research, AIIMS, New Delhi; Council Member of National Academy of Medical Sciences (NAMS), 2022-2024; Member, North India Gynaecologist Forum (NIGF) March, 2023; Member, PCPNDT Cell of FOGSI, 2021-2024; Vice President Elect, FOGSI North Zone (2024); Pre-Scientific Advisory Committee, HPV dossier development program, Grand Challenges India at Biotechnology Industry Research Assistance Council (BIRAC), New Delhi, May, 2022; Member, Technical Advisory Group (TAG) of the India Cancer Research Consortium (ICRC), ICMR, New Delhi, July, 2022; Member, Governing Body, National Health Systems Resource Centre (NHSRC), MOHFW, 2022-24; Chairperson, Scientific Advisory Committee Meeting, ICMR-National Institute for Research in Reproductive and Child Health, Mumbai, 2021-23; Member, Expert Group, “National Agenda on Cancer Research” ICMR, Feb 2023. Expert in Regional WHO Meetings: Strengthen National Plans for Surveillance and Prevention of Birth Defects and Stillbirths towards Accelerating Reduction in Newborn Mortality conducted by WHO-SEARO; HPV Therapeutic Vaccine Modeling Meeting, Nairobi, Kenya, Virtual, Nov. 2022; WHO National Workshop on Cervical Cancer Elimination, New Delhi, 17 November 2022; Guideline Development Group for Living Recommendations and Systematic Reviews for WHO Screen-and-Treat Recommendations, Geneva, Switzerland, Virtual, December 2022. Faculty selections: Subject Expert for recruitment of faculty (group A), AIIMS Bilaspur, April 2022; Assistant Professor (OBG) Department of Medical Education, Himachal Pradesh Public Service Commission, Shimla, April 2022; Scientist – II (NM), ICMR, New Delhi, May 2022; faculty posts, AIIMS Kalyani, October 2022; Assistant Professor (Obst & Gynae) for PGI Satellite Centre, Sangrur, Punjab, March 2023. Chaired sessions: Oncology, AICOG-2022, Indore, April 2022; Webinar on Research Methodology, AOGD & Journal Committee of Mid-life Health, IMS, June 2022; HPV Epidemiology & AOGIN-India Oration, 11th AOGIN-India Conference, Coimbatore, November 2022; APOCP11 Conference on Cancer Prevention, Kolkata, Dec, 2022; Plenary Session, International Conference

on Kaleidoscopic Insights into Reproductive and Child Health and Dr Shanta S Rao Centenary Celebrations, ICMR-NIRRH, Mumbai, January 2023.

**Professor Neena Malhotra** was awarded the Eminent Scientist as Fellow (FAMS) of National Academy of Medical Sciences at Jaipur on 12 November 2022 organised by NAMS; Selected for Short Term ICMR-DHR International Fellowship for Senior Indian Biomedical Scientists 2022-23, the fellowship for a period of 3 months with Prof Michael Grynberg, Hospital Antoine Beclere 157, France; Took over as Senior Vice President of Indian Fertility Society in April 2022-2024, amid the pandemic. Have been proactive in organizing conferences, CME, webinar and journal clubs on virtual mode for the IFS state chapters and special interest groups (SIG). Conducted 105 such online activities in this academic year for IFS, some of the salient ones include; was Examiner and Subject Expert for Faculty Interviews that include Expert for conduct of interview for the post of Lecturer Gynaecology & Obstetrics in Government Medical College Jammu/Srinagar in the Health & Education Department on 13-15 July 2022 at Jammu & Kashmir Public Service Commission office Solina Srinagar; Assisted the Commission in the Personality Test (PT) Board for Combined Medical Services Examination 2021 from 8 and 10-12 August 2022 at UPSC, Dholpur House, New Delhi; Reviewed the ongoing Ad-hoc projects in the area of basis Reproductive Biology, Fertility Regulation, on 12 September 2022 at 11:00 AM meeting at ICMR; Finalized and strategized to publish the protocol of new task force entitled “Effectiveness of an individualized lifestyle intervention in infertile PCOS: A Multi-Centered Randomized controlled trial” a meeting at ICMR, committee Room, 2nd floor New Delhi on 13 September 2022.

**Professor Vatsla Dadhwal** was invited by NBEMS (National Board of Examinations in Medical Sciences) as an assessor to undertake the physical assessment of the facilities and infrastructure of a hospital in New Delhi, Delhi for accreditation in Obstetrics and Gynaecology specialty on 30 August 2022; Invitation to assist the Commission in the PERSONALITY TEST (PT) BOARD FOR COMBINED MEDICAL SERVICES EXAMINATION 2021 from 19 to 23 September 2022 (Monday to Friday); was invited as expert for the Doordarshan live programme “Hello Doctor” on “Breast Feeding” on 4 August 2022; invited as expert for the Brainstorming Session conducted by ICMR. The meeting held on 31 August 2022 (Wednesday) at ICMR HQs, New Delhi; invitation for the meeting of Standing selection committee for faculty recruitment AIIMS Rishikesh on 20 August 2022 (Saturday) – Virtual mode. Meetings and Patient Care Program include Meeting of MBBS Curriculum Committee for Phase-II/III; Committees for the Skills, E-learning and Tele-medicine (SET) Facility at AIIMS; Reviewer for IJGO, BJOG, EJGRB, WHO-SEAIPH, JFM, IJMR; Providing state of art care in fetal medicine, interventions and therapy, did first case of ablation of feeding artery by RFA in a case of bronchopulmonary sequestration in 29 weeks fetus; Meeting with Mr. Mark Suzman, CEO of the Bill & Melinda Gates Foundation on 8 June 2022 in Dr Ramalingaswami Board Room; Recruitment to the posts of Senior Residents/Senior Demonstrators for the tenure period (3 years) as per Govt. of India’s Residency Scheme for the session JULY 2022 at the AIIMS, New Delhi, which is scheduled to be held from 27-29 June 2022; OT users committee meeting on Thursday 20 October 2022 at 03:30 pm in the Ramalingaswami Board room; Special Recruitment drive by way of ‘Walk-in Interviews’ for vacant UR/SC/ST/OBC posts of Senior Residents/Senior Demonstrators on adhoc basis as per Govt of India’s Residency Scheme for the session July, 2022 for a period upto 31 December 2022 at AIIMS, New Delhi, Meeting of the Selection Committee on 9 November 2022 in the Dean’s Committee Room, Dean Office; An Inspection Committee Meeting on 29 March 2023 at 10:00 am to inspect the various equipments received in donation through CSR-reg.

**Professor J B Sharma** achieved “Dr Pran Nath Chhuttani Academic Oration (2023)”. Academic achievement in recognition of outstanding contribution in the field of Obstetrics & Gynaecology; Centre Health, Bakersfield, California, USA. Visiting professor from 20-26 February 2023; FOGSI Late Professor D Kutty Annual Lifetime Achievement Award 2022; Dr CL Jhaveri Best Paper Award in Miscellaneous Category for Laparoscopic findings in Female Genital Tuberculosis in AICOG Kolkata on 8 January 2023.

**Professor Neeta Singh** conferred with the prestigious ‘ISAR Distinguished Service Award 2023 in appreciation of selfless contribution in the field of reproductive medicine in India’. (Award presented by the Indian Society for Assisted Reproduction - ISAR); was appointed as Expert Member of National ART & Surrogacy Board, Ministry of Health & Family Welfare, Govt. of India in August 2022; appointed as the Member of the Advisory Board set up by the Ministry of Health, Dept. Of Health Research & ICMR for formulating the national guidelines for ART & Surrogacy in India; Secretary of Fertility Preservation Society of India (FPSI) 2021-2023; Active Member of the Asia Pacific Initiative on Reproduction (ASPIRE)–2022-23; attended the UPSC Meetings in June 2022; acted as External Expert for interview for the recruitment of Super Specialist in the department of Reproductive Medicine & Surgery (IVF) at ESI-PGIMS, Basaidarapur, Delhi in July 2022; acted as external expert for Combined Medical Services Examination (Conducted by UPSC Personality Test Board) at UPSC, New Delhi from 10-14 October 2022.

**Professor K Aparna Sharma** completed the 2022 Inaugural India Cohort of the Women Lift Health Leadership Journey, supported by the Stanford University and the Bill and Melinda Gates Foundation; completed the International Masters in Maternal Fetal Medicine Program under the FETAL I+D Education Barcelona, In Collaboration with the Institute

Of Continuing Education (IL3), University of Barcelona; completed the Advanced Training in the field of Medical Science & Management for AIIMS and relevant Institutes & Medical Device Development and Social Implementation from Osaka University, Japan; Antenatal care app developed under the DST project has been identified as a potential technology that can be utilised at the COVID CARE RESILIENCE centres across the country supported by DST; successfully completed the five-day training program and cleared the external assessor course for National Quality Assurance Standards conducted by National Health Systems Resource Centre and presently a certified external assessor for facilities across the country. National Secretary, Society of Fetal Medicine, India, 2022-2024; North Zone Coordinator, Safe Motherhood Committee, FOGSI, 2021-2023; Chairperson, AOGD QI Committee, 2021-2023; Deputy Editor, Journal of Fetal Medicine; Member, Executive Committee, National Neonatology Forum, India; Section Editor (Early Pregnancy/ Ultrasound), Journal of Fertility Science Research, MOHFW: Expert group meeting for Updation of India adapted MEC wheel for inclusion of Centchroman, MOHFW and WHO, India, 30.5.22, New Delhi; MOHFW; Expert group member for drafting the MOHFW document on “Scheme for Optimizing Postnatal Care”; MOHFW: Technical Expert Group (TEG) to develop training modules on Critical Care in Obstetrics (CCOB) for Obstetric HDUs and ICUs by Ministry of Health and Family Welfare; ICMR expert member for the Project screening and steering committee (PSC) for “Epidemiology in Still Birth”; ICMR expert group member to review Maternal Health (Ad-hoc and Task Force Study) projects; Expert Group Member for Joint Meeting of the Influenza Working Group and SWG-IVRCB, National Technical Advisory Group on Immunization (NTAGI); Expert group member for drafting Self-Assessment tool for Patient safety, by NHSRC (SaQushal).

**Professor Garima Kachhawa** in UG Mentorship, received Third prize (poster) at Second Annual Research Day (MBBS category) (Dr Arunangshu Bhattacharya); First prize (UN-SGD Category) for poster at Second Annual Research Day. (Dr Apoorva Challa); Second Prize (PhD Category) for oral presentation at Second Annual Research Day (Ms Apoorva Challa); Dr V Govindhan Nair Memorial Award (Silver Medal) was awarded to the PhD work under my guidance to Ms Apoorva Challa; “Machine learning model for microbiome-based diagnosis of bacterial vaginosis in Indian women” at 46th National Conference of IASSTD & AIDS (ASTICON), Telangana on September 9 November 2022. Has been Visiting Scientist to attend WHO meeting “The Regional workshop on preventing & Responding to sexual exploitation abuse & harassment (PPSEAH) on 6-7 December 2022 at Hotel Lemon Tree Valley-1 Sector 29 Gurugram Haryana; Member of a team of experts from AIIMS, New Delhi to visit Base Hospital, Kotdwar to evaluate/assess their existing facility, strengthening the same also exploring use of telemedicine to improve the services from 4-5 March 2023.

**Professor Reeta Mahey** has been working as Co-convenor of SIG-Fertility Preservation (SIG-FP) group, organized by Indian Fertility Society 2022-2024; Nominated as member of ASGO-Special task Force on Fertility Preservation in Asian countries in September 2022.

**Dr Vidushi Kulshrestha** received JOGI-Springer Award for the year 2022-2023 for Best Case Report published in Journal of Obstetrics and Gynaecology of India; Trained as Master Trainer for contraceptive implants for conducting national ToT, in workshop conducted by Family Planning Association of India (FPAI), Jhpiego and WHO, 21-22 March 2023, New Delhi.

**Dr Seema Singhal** was nominated as Treasurer AOGIN India (2022-24); nominated as member Oncology committee of AOGD (Association of Obstetricians and Gynaecologists of Delhi): 2023-24; elected as Executive member AGOI (Association of Gynae Oncologists of India) 2022-24; nominated as member of ASGO (Asian Society of Gynae Oncology) task force on Personalized medicine; nominated by MOHFW as member of the Technical Expert group (TEG) on the introduction of the HPV vaccine; Editorial board member for Journal of Colposcopy and Lower Genital Tract Pathology, an Official Journal of ISCCP; received ONCOCARE legend award 2022 by Delhi Medical Association (DMA); Subject Expert committee member: nominated as a Subject expert committee member by ministry of health and family welfare (SND) CDSCO (HQ) for the evaluation of various categories of applications of clinical trials, new drugs and new medical devices; Guest Editor for the book ICOG campus issue titled “Gynecological Cancers: Recent Developments and Current Practice” June 2022, number 3; received FOGSI-FIGO grant for “Augmenting Cervical Cancer Elimination Effectively in a Region utilizing Affordable TEchnology (ACCELERATE)” to enhance cervical cancer screening services for achieving WHO Target goals in the North-East Region of India; received DMA Medical Education Excellence Award on 26 March 2023; National Co-Ordinator DNB Gynae Oncology weekly virtual classes for Gynae Oncology super specialty students, conducted by National Board of Examinations; Organizing Secretary: Shobha Seth Wenger CME Series “Hereditary Gynaecological Cancers: From Research to Practice” at AIIMS New Delhi on 11 September 2022; Organizing Secretary for Pre Congress workshop for ASHA workers (Strengthening Linkages-Bridging Gaps on Basic Obstetric Care, Cervical & Breast Cancer Screening) on 23 September 2022. Took lectures and hands-on training of ASHA workers to teach them the skills of cervical screening using the model created by us under AIIMS research project; Joint Organizing Secretary NARCHI World Congress: NARCHICON 2022; Organizing Secretary “Accelerate the Cervical Cancer Elimination: Cervical Cancer Mukh Bharat” conducted on 10 October 2022, Attended by President, Secretary General FOGSI, ICOG and other eminent faculty from ICOG and FOGSI. The event

was a landmark event and a white paper was issued and sent to Ministry to start cervical cancer elimination activities including HPV vaccination at a larger scale. I was invited by FOGSI to be a part of the expert group for drafting the white paper; Organizing Secretary Masterclass and Live Surgical Workshop Gynae Oncology organized by Department of Obstetrics and Gynaecology AIIMS, New Delhi 26-17 February 2023.

**Dr Rajesh Kumari** received Fellowship- FICMCH, NARCHI- FICMCH NARCHI 24-25 September 2022.

**Dr Jyoti Meena** was Member of Education Committee of ASGO and was invited as a discussant in 32nd webinar of ASGO; received Fellowship of Indian College of Maternal and Child Health (FICMCH); received Fellowship of Indian College of Obstetricians and Gynaecologists (FICOG); Reviewer of BMJ case reports, Cureus Journal.

**Dr Juhi Bharti** was awarded with MRCOG degree, UK Currently pursuing DM Reproductive Medicine course at AIIMS, New Delhi as in-house sponsored candidate.

**Dr Nilanchali Singh received** International Cancer Foundation (ICF) Registration Scholarship, 2022 to attend ESMO Immuno-Oncology Congress 2022 online in December 2022; was awarded the Gynecologic Oncology Group- Young Investigator Award for the year, 2022-2026. The award comprised 1600 USD each to be granted to attend the biannual GOG meetings. The first meeting was held in Chicago, in July 2022; Dheera training honorariums for Trainees who successfully completed the training in April/May 2022 (OBGYN TOT); was awarded the Chandravati Devi Jagannath Singh Prize in Oncology, FOGSI, 2022 at AICOG Conference, April 2022 at Indore; awarded the prestigious Kamini Rao Oration, FOGSI, 2021 to be delivered at Yuva FOGSI, Ludhiyana, 2022 and Annual FOGSI Conference, Calcutta, 2023; Second prize for paper presentation in category- Surakshit Nari hai Hamari Zimmedari. Topic: Quality Improvement Initiative - Audit on Colposcopy service in a tertiary care center. (Authors: Maninder Kaur Ghotra, Nilanchali Singh, Jyoti Meena) delivered at Yuva FOGSI, Ludhiyana, 2022; ISCCP Colposcopy Trainers- "Train the Trainer Program" on 28 August 2022; Completed Master Training for Dheera Project in the month of April/ May 2022 (OBGYN TOT).

**Dr Archana Kumari** was awarded Second prize in Urogynaecology category at RECOGYN 2022; awarded FICMCH at NARCHICON 2022.

**Dr Neha Varun** was awarded Kamini Rao Oration Award in October 2022 and delivered oration in Varanasi on 25 February 2023 in North Zone Yuva FOGSI conference; awarded with FICOG in AICOG conference on 7 January 2023; awarded with FICMCH in NARCHI conference in September 2022; participated as a chairperson in CME on "Post-Partum Hemorrhage" organized by Hamdard institute in association with NARCHI, September 2022; participated as a resource faculty in RECOGYN conference, August 2023; participated in slogan competition in NARCHI conference, September 2023; Judge poster session in AOGD conference, November 2023; Part of organizing committee of AOGD conference, November 2023.

**Dr Anubhuti Rana** was part of a team for pilot training of interns for comprehensive abortion care competency-based training across 10 medical colleges in India in November 2022 as a part of WHO-CC activity; participated in the regional meeting on "Comprehensive Abortion Care and Family Planning to Accelerate the reduction in Maternal Mortality" in Dilli, Timor Leste as part of WHO SEARO team; was awarded "Best poster award" for oral poster in Fetal Neuroimaging Conference for "Intraventricular Haemorrhage in Fetus: An Antenatal Manifestation of Multisystem Inflammatory Syndrome of Neonates.

**Dr Swati Tomar** received Dr Satya Paul Award for Best Original Study by Indian Obstetrics and Gynaecology.

#### Visiting scientists and Dignitaries in the department

Date	Visitor Name	Affiliation	Purpose
2 April 2022	Mrs. Arju Rana Deuba	W/o Hon'ble PM of Nepal	To review Mother and Child Block for development of maternal and women healthcare services in Nepal in collaboration with AIIMS, New Delhi
21 April 2022	Dr Partha Basu	International Agency for Research of Cancer, Lyon, France	Lecture "Single dose HPV vaccination"
19 May 2022	Dr Karen Anderson	Arizona State University, Mayo Clinic Arizona, USA	New molecular technologies in carcinoma cervix

28 April 2022	Dr Roopina Sangha	John Peter Smith Hospital, Texas, USA	Updates on robotic gynecologic surgery in the US: The past, the present, and the future
16 November 2022	Dr Nivedita Bajekal	Consultant Gynaecology, London, UK	Lecture “Regain your Hormonal Health- PCOS”
16 December 2022	Dr Hardeep Singh Puri	Houston, USA	Lecture “Towards Care Excellence- Translating Multidisciplinary Patient Safety Research to Policy and Practice”
27 February 2023	Prof Dr Somashekhar SP	Chairman MAB, Aster International Institute of Oncology	Operating Faculty in Gynae Oncology Workshop
27 February 2023	Dr K Raju	Senior Consultant, Surgical Oncology, Smt BIACH& RI, Hyderabad	Operating Faculty in Gynae Oncology Workshop
14 September 2022	Prof Ranjit Manchanda	Wolfson Institute of Population Health, Queen Mary University of London, Barts Health NHS Trust, London, UK	Operating Faculty in Gynae Oncology Workshop
10 November 2022	Prof Alka Kriplani	Paras Hospitals, Gurugram	Operating faculty in Endoscopy Operative Workshop
10 November 2022	Dr Renu Misra	Sita Ram Bhartia Hospital, New Delhi	Operating faculty in Endoscopy Operative Workshop
10 November 2022	Dr Dinesh Kansal	BLK Hospital, New Delhi	Operating faculty in Endoscopy Operative Workshop
10 November 2022	Dr BB Dash	Rejoice Hospital	Operating faculty in Endoscopy Operative Workshop
10 November 2022	Dr Subash Mallaya	Baby Memorial Hospital, Calicut	Operating faculty in Endoscopy Operative Workshop
10 November 2022	Dr Punita Bhardwaj	Gangaram Hospital, New Delhi	Operating faculty in Endoscopy Operative Workshop
10 November 2022	Dr Malvika Sabharwal	Jeewan Mala Hospital, New Delhi	Operating faculty in Endoscopy Operative Workshop
28 February 2023	Mary Elizabeth Donaldson	Crown Princess of Denmark	Patron of Maternity Foundation. To see an Indian hospital with maternity capacity.

## 9.25 Orthopaedics

### Professor and Head

Rajesh Malhotra

### Professors

Hira Lal Nag

Ravi Mittal

Shah Alam Khan

Vijay Kumar

### Additional Professors

Bhavuk Garg

Mohd Tahir Ansari

### Assistant Professors

Vijay Kumar Digge

Vikrant Manhas

Vivek Shankar

Venkatesan Sampath Kumar

## HIGHLIGHTS

The Department of Orthopaedics in AIIMS has doctors with specializations in the field of joint replacement, sports medicine, hand surgery, musculoskeletal oncology, paediatric orthopaedics, spine surgery and treatment of complex trauma. The recent innovations in orthopaedics surgery such as minimally invasive joint replacement, surface replacement arthroplasty, revision hip and knee replacements, minimally invasive spine surgery, vascularised grafting for non-unions, limb reimplantation, arthroscopic PCL and shoulder surgery are all being practiced here. The department also has dedicated research labs namely 3D printing lab, Genetic lab, Gait lab, which provided them both national and international recognition. ICMR and CSIR funded research projects are also being carried out. The department has organized 9 International and national conferences in last year.

## EDUCATION

- Full term post-graduate residency program of MS (Ortho) for three years.
- A total of 6 senior residents and 26 junior residents are there in the Department of Orthopaedics
- There are 7 non-academic senior residents and 4 non-academic junior residents
- Fellowship in arthroplasty
- Fellowship in arthroscopy
- Fellowship in spine surgery
- Fellowship in Tumour surgery
- Fellowship in pelvic and acetabular surgery

Short & long-term training programs are also being conducted in the department regularly

## CMEs/Workshops/Symposia/National and International Conferences

1. Dialogues in Health and Wellness: Workshop in relation to Balance and Fall Prevention, 9 April 2022, Delhi
2. 1st AIIMS International Spine Deformity Course, 14-15 April 2022, Delhi
3. Delhi Orthopaedics Association MIDCON 2022, 3 July 2022, Delhi
4. Soft Tissue Balancing in THA – Guest Lecture, 5 August 2022, Delhi
5. National Webinar on Low Back Pain, 1 October, Delhi
6. Current Concepts in Arthroplasty, 15-16 October, Delhi
7. New Developments in value based care in the care of spine patients – Guest Lecture, 24 November 2022, Delhi
8. Struggling with ACL Reconstruction over the years, 30 December 2022, Delhi
9. Introductory Course on Non-Technical Skills for Surgeons (NOTSS) of the Royal College of Surgeons of Edinburgh, 13 February 2023, Delhi
10. 2nd AIIMS International Spine Deformity Course, 30 March to 1 April 2023, Delhi

**Lectures delivered: 149**

**Lectures delivered over past 3 years**

2020–2021	2021–2022	2022–2023
55	37	149

**List of oral papers/posters presented: 28**

**Oral/poster presentations over past 3 years**

Presentation	2020–2021	2021–2022	2022–2023
Oral/poster	1	6	28

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. Prospective, Multi-centre Outcomes Study of Persona Knee System in Total Knee Arthroplasty, Study Protocol # CSA2014-02K, Prof Rajesh Malhotra, Zimmer, 9 years, March 2015 to March 2024, Rs 24 lakhs
2. Biomechanical study on the efficacy of rehabilitation for subjects with trauma-induced gait impairment, Prof Rajesh Malhotra, DRDO, 2 years, September 2022 to September 2024, Rs 280.45 lakhs
3. Understanding the causes and patterns of ACL injuries in Indian population: Impact on symptoms, associated injuries, treatment options and their outcome, Dr HL Nag, ICMR, 3 years, Rs 83.74 lakhs
4. Development of wireless imaging system and wireless light source for arthroscopy, Prof R Mittal, IIT Delhi, 1 year, 16-December 2022, Rs 5 lakhs
5. Musculoskeletal and Rheumatological Disease in Post COVID-19 Patients: A Cross Sectional Hospital Based Study, Prof Shah Alam Khan, AIIMS, 2 years, 2021-2023, Rs 5 lakhs
6. To develop low cost Indigenous Magnetic Growth Rod for Early onset Scoliosis patients, Dr Bhavuk Garg, ICMR, 3 years, 2021-2024, Rs 80 lakhs
7. Comparative evaluation of genetic and cytokines profile in age-matched North Indian subjects with and without knee Osteoarthritis: A follow up study, Dr Bhavuk Garg, ICMR, 3 years, 2021-2024, Rs 124.3 lakhs
8. Integration and application of artificial intelligence in care of patients with scoliosis, Dr Bhavuk Garg, ICMR, 3 years, 2021-2024, Rs 84.6 lakhs
9. A comparative study between pentoxifyline and Teriparatide for the treatment of postmenopausal osteoporosis: A randomized controlled Trial, Dr Bhavuk Garg, ICMR, 3 years, 2022-2025, Rs 44.50 lakhs (1st Year)
10. Prospective Randomized controlled trial to assess the effectiveness of Yoga vs Standard Physiotherapy and to validate Yoga as a standard rehabilitation program in anterior cruciate ligament reconstruction patients, Dr Vijay Kumar D, DST, 3 years, 2022-2025, Rs 23.52 lakhs
11. Evaluation of Immune Checkpoints in tumour micro-environment of Osteosarcomas, Venkatesan Sampath Kumar, AIIMS, 2 years, 2020-2022, Rs 5 lakhs
12. Role of biomarkers in patients undergoing major musculoskeletal tumor surgery and its correlation with different anesthetic techniques and peri-operative outcomes, Venkatesan Sampath Kumar & Prof Lokesh Kashyap, AIIMS, 2 years, 2021-2023, Rs 10 lakhs
13. Intra-articular injection of Autologous adipose tissue-derived stromal vascular fraction (SVF) or Hyaluronic acid for the treatment of symptomatic knee osteoarthritis: A randomised control trial, Vikrant Manhas, AIIMS, New Delhi, 2 years, 2019-2021, Rs 4.5 lakhs
14. Investigate the Immunoporotic role of Bisphosphonates in treating postmenopausal osteoporosis, Vikrant Manhas, AIIMS, NEW Delhi, 2 years, 2022-2024, Rs 5 lakhs
15. Skeletal muscle regeneration following total knee arthroplasty: limitations of the intrinsic stem cell pool, Vikrant Manhas, AIIMS, NEW Delhi, 2 years, 2022-2024, Rs 10 lakhs
16. Gait pattern analysis of children with bilateral genu valgum deformity of lower limbs, Vikrant Manhas, AIIMS, NEW Delhi, 2 years, 2023-2025, Rs 4 lakhs
17. A comparative study to evaluate the Immunoporotic effect of first-line therapies (Bisphosphonates, Teriparatide & Denosumab) in Osteoporosis, Vikrant Manhas, AIIMS, NEW Delhi, 2 years, 2023-2025, Rs 10 lakhs



### ***Completed***

1. A prospective randomized study to compare the systemic emboli in computer assisted navigation Vs conventional surgical technique of knee replacement, Prof Rajesh Malhotra, ICMR, 3 years, November 2018 to November 2021, Rs 50 lakhs
2. Comparative Evaluation of Genetic and Biochemical profile in postmenopausal osteoporotic and age matched healthy women, Prof Rajesh Malhotra, ICMR, 3 years, June 2019 to June 2022, Rs 139.04 lakhs
3. Treatment response evaluation in extra spinal musculoskeletal tuberculosis using molecular imaging (PET-CT), Prof Shah Alam Khan, ICMR, 3 years, 2018-2022, Rs 80,000.
4. Surveillance in Paediatric Bone Sarcomas, Prof Shah Alam Khan, Jiv Daya Foundation, USA, 7 years, 2016-2022, USD 80,000.
5. Assessment of bone health in Transgender population of India, Dr Bhavuk Garg, ICMR, 3 years, 2018-2021, Rs 72 lakhs
6. To investigate the regulatory potential of Estrogen in modulating differentiation and function of regulatory B cells: Implications in bone remodelling, Dr Bhavuk Garg, AIIMS, 2 years, 2021-2023, Rs 10 lakhs
7. To investigate the long-term impact of COVID-19 on bone health, Dr Bhavuk Garg, AIIMS, 2 years, 2021-2023, Rs 10 lakhs
8. Designing of patient specific Total Elbow Replacement prosthesis for Indian Population, Dr Bhavuk Garg, ICMR, 30 July 2019 to 29 July 2022, Rs 130 lakhs
9. Study of osteogenic humoral factors on fracture healing in patients with head injury: Decoding the mystery, Dr Vijay Kumar D, DST, 3 years, 2018-2021, Rs 46.38 lakhs

### **Departmental projects**

#### ***Ongoing***

1. Co-Guide in Prospective Observational study of Transfusion Practices in Severely injured Trauma Patients in Emergency department at Level 1 Trauma Centre
2. Co-Guide in Delay in Surgery after Hip Fracture: Reasons and Impacts on Outcomes
3. Chief Guide “To compare the Forgotten Joint Score, Clinical, Radiological outcomes and Gait parameters in patients undergoing Total Knee Arthroplasty with Ultracongruent Bearing versus Cruciate Retaining Bearing: A Randomized Control Study”, Dr Kushagra Pathak (assigned on April 2021)
4. Co-Guide in Clinico Radiological Outcomes of Revision Joint Replacement Surgery in Prosthetic Joint Infections- An Ambispective Study
5. Co-guide in M.S. Thesis “Randomized Controlled Trial Evaluating the Efficacy of Trans-Cather Genicular Arterial Embolization in Patients with Knee Pain in Kellgren Lawrence grade II /III Osteoarthritis Refractory to Optimal Non-Surgical Management”.
6. Co-guide in Cost Effective Analysis in Scoliosis Surgeries between Adolescent Idiopathic Scoliosis vs Congenital Scoliosis
7. Chief-Guide in Comparative evaluation of Spinopelvic and lower limb morphological parameters in patients with knee osteoarthritis and age matched normal population using low dose biplane radiography
8. Assessment of CSF cytokines level in patients with confirmed meningitis/ meningoendoapthsis
9. Gait analysis of anterior tibiofibular ligament injured patients managed conservatively or surgically: A prospective cohort study
10. Comparison of superior brachial trunk block and pericapsular nerve group block of shoulder joint in arthroscopic shoulder surgery: A randomized non-inferior trial
11. The comparison of efficacy of manipulation of shoulder under inter scalene brachial plexus block followed by physiotherapy versus physiotherapy alone in treatment of primary adhesive capsulitis: A randomized clinical trial
12. Ambispective study on epidemiology and functional outcome of ACL reconstruction
13. Comparison of MRI and Synovial Fluid Analysis with Histological Correlation in detecting Joint involvement by extremity Sarcomas
14. Evaluation of Function and Viability of the Medial Gastrocnemius Flap in Proximal Tibial Endoprosthesis for Bone Tumors
15. Clinical, Radiological and Molecular Profiling of Uncharacterized Skeletal Dysplasias
16. Clinical and radiological outcomes of revision joint replacement surgery in periprosthetic joint infections: An ambispective study

17. Transdermal Buprenorphine patch versus Ketoprofen patch for postoperative pain management after total knee and hip arthroplasty: a randomised control trial
18. An Ambispective study evaluating the Clinical and functional patient-related Outcomes following arthroscopic Anterior cruciate ligament Reconstruction using five stranded technique
19. Evaluation of Outcomes following sequential Bilateral TKA done at Short interval
20. Triple Randomised Controlled Trial Comparing The Accuracy And Safety Between Free Hand, O-Arm Navigated And Robot-Assisted Pedicle screw Placement In Thoracolumbar Spine
21. Comparative Study between arthroscopic assisted bone graft and non-vascularised bone graft for nonunion of scaphoid
22. A randomised control trial to compare the radiological and functional outcomes of comminuted distal radius fractures 2r3c3.1 and 2r3c3.2 treated with only volar plating versus combined volar and dorsal plating
23. Evaluation of function and viability of the medial gastrocnemius flap in Proximal tibial endoprosthesis for bone tumors
24. Correlation of instrumented gait analysis in patients with primary osteoarthritis of knee with functional outcome scores and radiographic grades in Indian population
25. Preoperative MDCT evaluation of bipolar bone loss in recurrent anterior instability of shoulder joint
26. Comparison of MRI and Synovial fluid analysis with Histopathological Correlation in detecting Joint involvement by Extremity Sarcomas
27. Co-Guide in Ambispective study on functional outcomes and Epidemiology in ACL reconstruction patients in a tertiary care centre
28. To compare the Forgotten Joint score, clinical, radiological outcomes and gait parameters in patients undergoing total knee arthroplasty with ultra-congruent bearing versus cruciate-retaining bearing: A Randomized control trial
29. The comparison of clinical and radiological outcomes of total hip arthroplasty with direct anterior approach versus posterior approach – A randomized control trial
30. Unicompartmental knee arthroplasty for AMOA in young patients- A Randomized control trial

#### ***Completed***

1. Co-Guide in Retrospective analysis of factor and blood product requirement in patients with bleeding disorders (BDs) who underwent different surgical interventions at AIIMS, New Delhi.
2. Co-Guide in Advanced MRI & Radiological Interventions in Patients of Osteoarthritis of Knee.
3. Co-guide in PhD Thesis. “Study of the Serum compliment C3 and C4 levels in patients undergoing intramedullary nailing for fracture shaft femur”
4. Correlation of instrumented gait analysis in patients of primary osteoarthritis of knee with functional and outcome score and radiograph grade in Indian population
5. Biomechanical Investigation of Extracorporeal Irradiation Therapy in Malignant Bone Tumors
6. Retrospective outcome analysis for THA in acetabular protrusion
7. An ambispective study determining the prevalence of menstrual irregularities and related disorders in female patients of scoliosis and assessment of their obstetrical and reproductive health
8. An ambispective study on the clinical, functional and radiological assessment of scoliotic patients preoperatively and postoperatively
9. Randomized Control Trial comparing manipulation of shoulder under inter scalene brachial plexus block followed by surgeon guided physiotherapy versus surgeon guided physiotherapy alone in treatment of primary adhesive capsulitis
10. An ambispective analysis of the effect of introduction of WALANT in a tertiary care center
11. Correlation of instrumented gait analysis in patients with primary osteoarthritis of knee with functional outcome scores and radiographic grades in Indian population.
12. Gait analysis of anterior talofibular ligament (ATFL) injured patients managed conservatively or surgically: A prospective cohort study
13. Preoperative MDCT evaluation of bipolar bone loss in recurrent anterior instability of shoulder joint.
14. Comparative evaluation of spinopelvic and lower limb morphological parameters in patients with knee osteoarthritis and age-matched normal population using low dose biplanar radiography

## **Collaborative projects**

### ***Ongoing***

1. Biomechanical study on the efficacy of rehabilitation for subjects with trauma-induced gait impairment, IIT
2. Fluorosis mitigation in scheduled caste community in Bihar through intervention and counselling, Dept of Anatomy, AIIMS Delhi
3. Effect of nicotine replacement therapy on peri-operative opioid requirement in abstinent tobacco smokers undergoing spinal fusion, a double blind randomized controlled trial, ICMR
4. Clinical Research to assess efficacy of repetitive transcranial magnetic stimulation along with neurotrophic coated nanoparticles in complete spinal cord injury patients, DBT
5. Evaluation of outcomes following fingertip injuries, Plastic Surgery
6. Analgesic efficacy and safety of Clonidine as an additive to 0.25% Ropivacaine for Stellate Ganglion block for the treatment of complex regional pain syndrome. A prospective randomized single blind study, Anaesthesia
7. Lu-177 tin colloid radiosynovectomy in small and medium sized joints with chronic inflammatory arthritis, Nuclear Medicine
8. Pattern of Metacarpal Fractures in Patients presenting to a Tertiary Care Centre in North India, Plastic Surgery
9. Role of biomarkers in patients undergoing major musculoskeletal tumor surgery and its correlation with different anesthetic techniques and peri-operative outcomes, Department of Anesthesiology, Pain Medicine & Critical Care, AIIMS New Delhi
10. Multi-Centric Clinical Trials of Indigenous TKP 2.4 Implant and Pilot Production of TKP 2.4, Non-Ferrous Technology Development Centre, Hyderabad, India
11. Skeletal muscle regeneration following total knee arthroplasty: limitations of the intrinsic stem cell pool, University College of London
12. A comparative study to evaluate the Immunoporotic effect of first-line therapies (Bisphosphonates, Teriparatide & Denosumab) in Osteoporosis, Department of Biotechnology, AIIMS, New Delhi
13. Investigate the Immunoporotic role of Bisphosphonates in treating postmenopausal osteoporosis, Department of Biotechnology, AIIMS, New Delhi
14. Outcome prediction and optimization of telerehabilitation program using patient-generated data with wearable sensors after total joint arthroplasty, IIT, DELHI
15. Femoral Alignment Guide System “AlignAssure” In Total Knee Arthroplasty, IIT, Delhi
16. Fractographic study on in vivo implant failure (Intramural grant AIIMS-IIT), IIT, Delhi
17. Randomized Controlled Trial Evaluating the Efficacy of Transcatheter Arterial Embolization in Moderate Medial Knee Pain Refractory to Optimal Non-Surgical Management - A Pilot Study, Dept of Cardiac Radiology, AIIMS, New Delhi
18. Trans-arterial Embolization for Clinical Improvement in Adhesive Capsulitis, Dept. of Cardiac Radiology, AIIMS, New Delhi
19. Establishing the Ideal time point for imaging of tuberculous lesions using <sup>99m</sup>Tc- Ethambutol scintigraphy, Dept. of Nuclear Medicine, AIIMS, New Delhi
20. Role of <sup>99m</sup>Tc Ethambutol in the diagnosis of pulmonary and extrapulmonary TB, Dept of Nuclear Medicine, AIIMS, New Delhi

### ***Completed***

1. Biomechanical Design Evaluation of Knee Implants for Indian Population, IIT
2. Computer based surgical planning for patients with fused hip and spino-pelvic deformities, IIT
3. Comparison between kit-based and in-house preparation of <sup>99m</sup>Tc labeled Ubiquitin, Nuclear Medicine
4. Evaluation of immune checkpoints in Osteosarcoma, Department of Pathology, AIIMS, New Delhi
5. Long term effects of COVID-19 on the musculoskeletal system, Department of Rheumatology, AIIMS, New Delhi
6. Effectiveness of Ultrasound-guided interventions for soft tissue pain in the foot and ankle, Dept. of Radiology, AIIMS, New Delhi
7. Impact of upper body exercise on body composition and weight in obese patients with knee osteoarthritis, Dept. of Medicine, AIIMS, New Delhi

**Research projects over past 3 years**

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	8	7	28
Total funding (Lakhs)	Rs 372	Rs 295	Rs 1172.1

**PUBLICATIONS****Journal: 74****Chapters in Book: 9****Publications over past 3 years**

Item	2020-21	2021-22	2022-23
Total	62	39	83
Journal Article	58	37	74
Abstracts	0	1	0
Chapters in Book	4	1	9
Books	0	0	0

**PATIENT CARE**

Item	2020-2021	2021-2022	2022-2023
OPD consultations			2,23,498
Special clinic consultations			3063
Patients provided rehabilitation services			
Total inpatient admissions	1905	5312	8869

Clinic Name	New	Follow up
Hand Clinic	523	586
SPINE CLINIC ORTHO	0	3
Fragility Fracture Clinic	3	41
Sports Injury Clinic	39	26
TB Clinic Ortho	23	225
Bone and Soft Tissue Sarcoma Clinic	1	11
SCOLIOSIS CLINIC	459	871
Disability Clinic Unit I	1	0
CTEV Clinic	251	0
Orthopedics	67012	156486

**AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Rajesh Malhotra** was part of Golden Jubilee Oration of IOA on “Alternating Layers of Morcellised Allograft and Injectable Ceramic Bone Graft Substitute in Acetabular Reconstruction – A Novel ‘Sandwich’ Technique” during the 67th Annual conference of Indian Orthopaedic Association (IOACON 2022) on 29 November to 3 December 2022; Dr NS Narasimman Oration on “Change is the Only Constant in Life-My Journey of Four decades in Hip Arthroplasty” in TNOACON 2023 at Chennai on 10-12 February 2023; Prof Narsimha Reddy Oration on “Complications in Arthroplasty-Anticipate, Ascertain, Analyse& Address” in OSSAPCON 2023 at Guntur on 24-26 February 2023; received Best Paper of the year Award for publication – “Timings of Surgery following SARS CoV-2 Infection: an International Prospective Cohort Study” COVID Surg Collaborative. GlobalSurg Collaborative. Anaesthesia 2021 76; 748–758. DOI:https://doi.org/10.1111/anae.15458. The paper was also mentioned in *World Guinness Book of Records* in 2021; also received Best Paper Award for the paper entitled: “Hip Spine Relationship in Patients undergoing Total Hip Arthroplasty” in the category of Best Paper in Arthroplasty Free Paper Session during NZOACON Annual Conference on 6-8 May 2022 at Chandigarh; “Delhi NCR Leading Health Care Provider Award” for JPN Apex Trauma Centre AIIMS by Delhi Medical Association on 28 August 2022; Capital Foundation National Award for remarkable contribution in the field of Orthopaedics and providing Covid Facilities, presented by Chief Justice of India Mr NV Ramana 4 September 2022; won First Prize for Annual Hindi Dictation 2021-2022 during Hindi Pakhwara at AIIMS, New Delhi on 15 September 2022; was awarded Rashtriya Gaurav Samman 2022 for Outstanding Achievement & Extra-Ordinary Contribution to the Society in the area of Health Sector felicitated by Aaj Ka Prahari at Constitution Club of India

on 8 November 2022 at New Delhi; Member, Executive Board of Indian Society of Hip & Knee Surgeons 2021-22; Chairman, Technical Specification & Evaluation Committee for the procurement of Cautery Machine, AIIMS; Member, Academic Council for the term of two years w.e.f. 01.07.2021 to 30.06.2023, at Baba Farid University of Health Sciences, Faridkot; Founding Member, Asia Pacific Osteoporosis and Fragility Fracture Society (APOFFS), New Section of APOA; President-Elect, Asia Pacific Osteoporosis & Fragility Fracture Society (APOFFS) 2021-2022; Member, Screening Committee for screening the “Various Faculty Posts at AIIMS” constituted on 20 May 2022; Chairman, Committee to introduce M.Sc. Nursing in Trauma and Emergency Nursing as a Speciality for MSc Nursing Program at College of Nursing on 14 June 2022; was invited as a speaker for the Inauguration Ceremony of “Maa Narmada Rahat Clinic” on 2 October 2022; Co-Chairman, Research Committee of Indian Society of Hip & Knee Surgeons (ISHKS) 2021-23; Co-Chairman of the technical committee for the operationalization of Bone Bank at NOTTO (National Organ & Tissue Transplant Organization); Member, Committee to start of the services of liver transplant with living donor at AIIMS, New Delhi on 9 March 2023; Member, Second Meeting of Task Force for Research Resource Service Facility Platform (RRSFP) under DBT-BUILDER Programme (2020-21) on 25-26 April 2022; Member, Third Meeting of the Task Force on Research Resource Service Facility Platforms (RRSFP) (Under DBT SAHAJ-Infrastructure Program) on 7 November 2022; Member, Task Force Committee on Proposal for pre-fabricated, self contained, container based mobile hospital for Amarnath Yatra by Ministry of Health & Family Welfare; Chairman for “Developing Emergency and Critical Care training Curriculum for Medical Officers” constituted by Ministry of Health & Family Welfare on 13 May 2022; Member, Meeting by JS(P) to discuss the proposed Operational & Technical Guideline for Emergency services at District Hospitals by Ministry of Health & Family Welfare on 7 June 2022; Member, Meeting of National Emergency Medical Team (NEMT) Initiative launched by Ministry of Health & Family Welfare in technical collaboration with WHO India on 25 January 2023. Appeared in Live TV Show Ayushman Bhava on “Knee Pain” on Sansad TV at 01:00 pm on 30.07.2022; Live TV Show Hello Doctor on “Spinal Cord Injuries” on DD Urdu Channel at 04:00 pm on 11.08.2022 and TV Show on “Osteoporosis- Karaan aur Upchaar” on DD Kisan Channel at 06:00-07:30 pm on 28 January 2023. He also took part in Radio Programs--“RADIO DOCTOR” a special live Phone -in programme on Knee Pain & Replacement on All India Radio, FM Rainbow Channel of AIR (102.6 MHz) at 3pm-4pm on Tuesday 10 May, 2022; “RADIO DOCTOR” a special live Phone -in programme on Joint Pain & Replacement on All India Radio, FM Rainbow Channel at 3pm-4pm on Tuesday 7 June 2022; “RADIO DOCTOR” a special live Phone -in programme on “Coping with Fracture in different age groups” on All India Radio, FM Rainbow Channel at 3 pm-4 pm on Tuesday 19 July 2022; “RADIO DOCTOR” a special live Phone -in programme on “Bone Tumours” on All India Radio, FM Rainbow Channel at 3pm-4pm on Tuesday 6th September, 2022; “RADIO DOCTOR” a special live Phone -in programme on “Accident and Trauma Care” on All India Radio, FM Rainbow Channel at 3pm-4pm on Monday 17th October, 2022; “Road Accidents-Reason & Prevention”-Live Phone in program on All India Radio Prasar Bharti at 03:30-04:00 pm on 29 October 2022; “Ek Kadam Aur Bujurgon Ke Liye” a special live Phone -in programme on “Bone and Joint Problems in Elderly” on All India Radio, FM Gold Channel at 09:30-10:00 pm on Sunday 11 December 2022; “RADIO DOCTOR” a special Phone-in programme on “Bone Donation and Bone Banking” on All India Radio, FM Rainbow Channel at 3pm-4pm on Thursday 22 December 2022; “Bone TB -Diagnosis & Treatment”-Live Phone in program on Prasar Bharti at 03:30-04:00 pm on 24 March, 2023.

**Professor HL Nag** is Editorial board member, Journal of arthroscopy and sports medicine, official journal of IAS; Expert Member, Human Rights Committee; Honorary consultant for Sports Authority of India (SAI); External Examiner for Internal Assessment of FNB Students, Sports Injury Center, Safdarjung Hospital; Vice President, Orthopaedic Research Society, AIIMS; External Expert, Standing Selection Committee for selection of Faculty, Department of Orthopaedics RIMS, Ranchi; Internal Expert, Fellowship in Arthroscopy, AIIMS; Member, Medical equipment committee for SIC (expansion), Safdarjung; Expert Member, Indian Standard Beuro for Orthopaedic Implants; TV program – at Total Health on Rheumatoid Arthritis; participated in TV program – at Arogya Bharat on Effects of Covid on musculoskeletal system.

**Professor Ravi Mittal** was awarded Best paper at the annual conference of Indian Orthopedic Association, “Do we have the hard evidence for the duration of anti-tuberculosis treatment (ATT)” held at Amritsar on 1 December 2022; was nominated as Member, as a member of core team of centralized athlete injury management system at Sports Authority of India.

**Professor Shah Alam Khan** was awarded Best paper at Indian Musculo-Skeletal Oncology Society Conference 2023, “Kapoor L, Kumar VS, Majeed A, Khan SA Factors affecting the incorporation of extracorporeally irradiated autograft for the treatment of bone tumors-a retrospective analysis from a tertiary referral cente, held from 3 to 5 March 2023; was awarded Best paper at Indian Musculo-Skeletal Oncology Society Conference 2023, “Gautam R, Kapoor L, Kumar VS Khan SA, Zoledronic acid given as neo-adjuvant therapy for GCTB reduces post-operative recurrence rate, “ held in Chennai from 3 to 5 March 2023; was nominated as Member, Skeletal Dysplasia Committee of the Rare Disease Consortium of the ICMR, New Delhi.

**Professor Bhavuk Garg** received NASI-Reliance 2022 award platinum jubilee award in Biological Sciences 2022, AOSYS SICOT India Award, Sitaram Jaipuria Award for Emerging Young Leader in Medicine for the year 2022, SICOT Basic Sciences Award 2022, ASSI Basic Sciences Award 2022 and DMA-Distinguished Medical Services award in the field of Orthopaedics 2023.

**Professor Mohd Tahir Ansari** got MRCS renewed; is Section editor of Hand section for Indian Journal of Orthopaedics; Reviewers board for Journal of Hand Surgery (Asia Pacific); joined as a member of Asia Pacific Wrist Association; has been included in the research committee of Indian society of surgery of hand.

**Dr Vijay Digge** received EMEQ Award from DST, Govt of India; Fellowship in Hip Arthroscopy & Sports Surgery at Wakamtsu Hospital, Japan; Evaluated MS Thesis from AIIMS, Jodhpur and Moderator of Various National Conferences (IASCON, CCA).

**Dr Venkatesan Sampath Kumar** received Fellowship in Musculoskeletal Oncology at Memorial Sloan Kettering Cancer Centre, USA and is recipient of Fellow CME Scholarship by OMeGA Medical Grants Association for the year 2022.

**Dr Vivek Shankar** chaired Session for free papers in DOACON 2022 held at Delhi on 4-6 November; is Member of curriculum committee –UPSC 2022; chaired Session on Imaging on bone tumor during 10th annual conference of MSS (Musculoskeletal Society) held at AIIMS New Delhi – 19-21 August 2022; participated in 6 day Medical Camp in Leh, 24-30 April 2022; joined Live TV Show Total Health on “Bone Health” on DD News – 25 June 2022, Live TV Show Total Health on “Safe Spine Surgery” on DD News – 7 August 2022 and Live TV Show Health Show on Doordarshan on “Safe Spine Surgery”–11 February 2023

#### **VISITING SCIENTISTS**

1. Dr Ralph Vialle, France
2. Dr Rajiv Sethi, USA

## 9.26 Otorhinolaryngology

### Professor and Head

Alok Thakar

### Professors

Rakesh Kumar

Kapil Sikka

Chirom Amit Singh

### Additional Professors

Rajeev Kumar

Prem Sagar

Arvind Kumar Kairo

Shuchita Singh Pachaury

Hitesh Verma

### Assistant Professors

Poonam Sagar

Anup Singh

Smriti Panda (NCI)

Neha Shakrawal (NCI)

### Assistant Professor (Contract)

Samuel Rajan

## HIGHLIGHTS

The department was committed to providing quality education to its own residents, students, fellows, and other delegates both online and offline. The department conducted various conferences and meetings including cochlear implant workshop and International Head and Neck cadaveric hands on workshop. Endoscopic oropharyngeal surgery 3-D workshop was the first of its kind and was widely attended and well appreciated. The department also conducted annual conference on Neuro-Otology and Equilibriometricsociety. The first SK Kacker Oration was delivered by Prof Naresh K Panda, Head, department of ENT at PGIMER, Chandigarh. The oration was well attended by various ENT specialists from India and abroad and many students of Prof SK Kacker.

## EDUCATION

The formal lecture schedule for the MBBS students is included in the 6th and 8th semesters and consists of 1-hour lectures. The undergraduate students are posted in the ENT department (OPD and Ward) for a total period of 2 months on rotation basis. Here they learn the basic ENT examination, become familiarized with diagnosing the common ENT diseases and learning the elementary management, including communication skills.

The clinical training consists of:

1. Two classes on introduction to the clinical aspects of ENT including proper Ear, Nose and throat examination
2. Bedside teaching and case discussion on common ENT conditions like CSOM, Deviated Nasal septum, Nasal polyps, Cancer larynx etc.
3. They are also exposed to common ENT procedures

For postgraduates, major goals are patient care, teaching, research ability, and teamwork.

PG students have to do presentation of seminar/paper, research writing, and acquire Clinical decision-making ability & management expertise. Postgraduate students perform major and minor surgical procedures under supervision of a faculty member/a senior resident. They are trained to perform major and minor operations independently. During training, they are posted for exposure to Audiology Section and Vestibular Laboratory, learn bedside history taking in ward, OT exposures, casualty, ICU requirement and their visit to related disciplines such as Neurosurgery/Anaesthesia. They are involved in care of indoor (Medical; preoperative and postoperative) patients, attend operation theatre and emergency operations, assist in ward rounds and visit other wards with senior colleagues to attend call/consultations from other departments. They also participate in the teaching sessions in ward for bedside clinical aspect, in specialty clinics in the afternoon in seminar/journal clubs and do emergency duty as per the Roster of the department. Postgraduate students also have to do thesis under guidance of faculty.

The department also runs the MCh Head and Neck Surgery super specialty course and fellowship in Skull Base surgery. The MCh residents have been allocated duties in the respective specialties in OPD, OT and also attend academic activities jointly with departments of radiation oncology, medical oncology, pathology, neurosurgery etc. MCh residents and Skull

Base Fellows also are encouraged to participate in research projects jointly with faculty members. They present Seminars and Journal clubs by rotation. MCh residents are also posted in NCI Jhajjar for clinical and academic duties. This year, residents and faculty were also posted in COVID care areas.

The department also organizes workshops and conferences for benefits of national and international delegates from time to time on various recent topics of interest. The department also welcomes delegates for observership from India and abroad and hosts them to observe departmental activities, specialty clinics, seminars and operative procedures.

**Elective training:**

- Elective posting of Interns of AIIMS, New Delhi
- Department had observers and rotation postings from Departments of Emergency Medicine, Radiation Oncology and Dr RP Centre.
- Internship observership posting of students of Bachelors in Audiology and Speech Language Pathology (BASLP), AYJNISHD, Regional Centre, Noida

**CMEs/Workshops/Symposia/National and International Conferences\***

1. Temporal Bone Course (29-30 April 2022), AIIMS, New Delhi
2. NESCON - 2022 (12-14 August 2022), IHC, Delhi
3. Cochlear Implant Course for surgeons, (17-18 November 2022), AIIMS, Delhi
4. AIIMS-UCMS-UCHICAGO 2022 (22-24 December 2022), AIIMS, Delhi
5. 1st 3D Endoscopic cadaver course (27-28 March 2023), JPNA Trauma Centre, AIIMS, Delhi
6. International Head Neck Dissection Course (30 March to 1 April 2023), JPNA Trauma Centre, AIIMS, Delhi

**Lectures delivered: 147**

**Lectures delivered over past 3 years**

2020-21	2021-22	2022-23
67	95	154

**List of Oral papers/posters presented: 36**

**Oral papers/poster presentations over past 3 years**

2020-21	2021-22	2022-23
4	1	36

**RESEARCH**

**Funded projects**

**Ongoing**

1. Centre for Medical Innovation and Entrepreneurship, Alok Thakar, (AIIMS BioNEST), 3 years, Ongoing, Rs 4.75 lakhs
2. Re-engineering high end audiometric devices for robust and affordable audiological testing (Sound 4 All) Phase 2, Dr Kapil Sikka, IGSTC (Indo German Science and Technology Centre), 3 years, 2016-Ongoing, Rs 36 lakhs
3. “Effect of Cochlear Implantation on Middle Ear and Saccular Function”, Dr Kapil Sikka, AIISH (Collaborative), 3 years, (2022-Ongoing), Funded one staff
4. Evaluation of unknown head and neck primaries metastatic to cervical lymph nodes, Dr Chirom Amit Singh, AIIMS, 3 years, 2018-Ongoing, Rs 5 lakhs
5. Evaluation of morphologic structure of external auditory canal from 3D reconstructed models of temporal bone, Dr Chirom Amit Singh, AIIMS, 3 years, 2018-Ongoing, Non-Funded
6. Development of single-cell derived clonal spheroids as a tool for drug discovery in cancer research with focus on Head and Neck Cancer, Hitesh Verma/ Dr RP Singh (JNU), DST under DPRP scheme, 4 years, 2019-23, Rs 3 lakhs
7. Exome sequencing and molecular characterization in juvenile nasopharyngeal angiofibroma, Hitesh Verma, AIIMS, 2 years, 2021-23, Rs 20 lakhs



8. ACE-2 receptor expression in sino-nasal mucosa in patients with COVID 19 associated mucormycosis, Hitesh Verma, AIIMS, 1 year, 2021-22, Rs 3.7 lakhs
9. An evaluation of HLA, phagocytic function and trace elements in cases of sinusitis, invasive fungal sinusitis and non-invasive fungal sinusitis, Hitesh Verma, AIIMS, 3 years, 2019-23, Rs 10 lakhs
10. Phased pilot study to assess baseline serum level of Prestin in healthy individuals and in patients of definite Meniere's disease and ototoxicity as a biomarker of cochlear outer hair cell functional status, Dr Prem Sagar, AIIMS, New Delhi, Intramural project, A-832, 3 years, 2020-23, Rs 4.5 lakhs
11. Prevention of Radiotherapy Induced Xerostomia by intraductal administration of N- Acetyl, Dr Arvind Kumar Kairo, ICMR, 3 Years, 2020- 2023, Rs 36 lakhs
12. Local application of specific Unani drug for medical management of oral submucosal fibrosis (OSF) a randomized clinical control trial, Dr Arvind Kumar Kairo, CCRUM, 1 year, 2023-24, Rs 35 lakhs
13. Prospective study to evaluate the role of systemic bevacizumab therapy in patients with aggressive and complex laryngotracheal and pulmonary recurrent respiratory papillomatosis, Dr Rajeev Kumar, AIIMS Intramural Collaborative Research Project, 2 years, 2021-23, Rs 20 lakhs
14. Study to determine the role of mTOR pathway in the pathogenesis of juvenile nasopharyngeal angiofibroma, Dr Rajeev Kumar, AIIMS Intramural Research Project, 1 Year, 2021-23, Rs 5 lakhs
15. Clinical validation of the effectiveness of automated speech therapy for stuttering delivered by digital means, Shuchita Singh Pachaury, BIRAC, 2 years 3 months, 2020-22, Rs 10 lakhs
16. To evaluate nasal mucosal miRNAs as potential diagnostic, prognostic and predictive bio-markers in vitamin D deficient allergic rhinitis, Shuchita Singh Pachaury, AIIMS, New Delhi, 2 years, 2022-24, Rs 10 lakhs

#### ***Completed***

1. Evaluation of factors impacting outcomes of cochlear implants in pediatric population, Dr Kapil Sikka, ICMR, 3.5 years, 2019-2023, Rs 35.3 lakhs
2. The clinicopathological evaluation of cholesteatoma aggressiveness, Dr Kapil Sikka, AIIMS, 2 Years, (2018-Ongoing, 6.5 lakhs,
3. Evaluation of level of Vascular Endothelial Growth Factor' - in cases of Recurrent Respiratory Papillomatosis, Hitesh Verma, AIIMS, 2 years, 2016-2018, Rs 4.7 lakhs
4. Efficacy and safety of indigenously developed Indian sravan cochlear implant DRDO, Alok Thakar, SBMT (Society for Biomedical Technology), DRDO, 2 years, 2020-22, Rs 10 lakhs
5. Minimally invasive nano enabled targeted technology for sentinel lymph node Department of Biotechnology, Alok Thakar, BIRAC -DBT, 2 years, 2020-2022, Rs 45 lakhs
6. Salivary micro-RNA: Their utility as bio-marker during molecular changes in tobacco users vs. tobacco non-users, Shuchita Singh, AIIMS, 2 years, 2016-2018, Rs 10 lakhs

#### **Departmental projects**

##### ***Ongoing***

1. A comparative study to evaluate functional outcomes following tongue reconstruction with radial artery forearm free flap and infrahyoid myocutaneous flap
2. A prospective study of bony versus soft tissue reconstruction for posterior mandibular defects
3. A prospective study to measure the objective, subjective and aesthetic outcomes in patients undergoing Septorhinoplasty
4. ACE-2 receptor expression in sino-nasal mucosa in patients with COVID-19-associated mucormycosis
5. Adversity and QOL post treatment of laryngeal and hypopharyngeal cancer and impact of Novel AIIMS-IIT TEP in its mitigation
6. Ambispective study to evaluate the utility of Supraclavicular artery island flap [SCAIF] reconstruction in Head and Neck Cancers
7. An Ambispective Study to Assess Various Primary Tumour and Ipsilateral Nodal Factors Associated with Contralateral Nodal Metastasis in Patients with OCSCC
8. An evaluation of HLA, phagocytic function and trace elements in cases of sinusitis, invasive fungal sinusitis and non-invasive fungal sinusitis
9. Assessment of pre-cervical (perimarginal and lingual) lymph nodes as first echelon for squamous cell carcinoma of oral cavity

10. Clinicoradiological correlation in ascertaining the endpoint of treatment of Invasive Fungal Sinusitis
11. Comparison of suction versus microdissection method for harvesting supporting cell from inner ear
12. Development of single-cell derived clonal spheroids as a tool for drug discovery in cancer research with focus on Head and Neck Cancer
13. Evaluating effectiveness of Barbed suture versus Vicryl suture for pharyngeal closure after TL in PCF reduction
14. Evaluation of factors impacting prognosis in Skull base osteomyelitis
15. Evaluation of respiratory and voice outcomes in patients with unilateral vocal cord palsy post injection laryngoplasty
16. Evaluation of short term and long-term effects of cochlear implantation on vestibular function
17. Exome sequencing and molecular characterization in juvenile nasopharyngeal angiofibroma
18. Exploration of Vitamin D and WNT/beta catenin signalling pathway in Juvenile Angiofibroma
19. Observational study to correlate site of obstruction in OSA with eustachian tube dysfunction and reflux disorder
20. Prospective analysis of predictive factors for tracheal stomal stenosis after total laryngectomy for laryngeal and hypopharyngeal malignancies (2021-2023, Non funded study)
21. Prospective Study to Evaluate the efficacy of Nasal Douches in the treatment of Vitamin D deficient Allergic Rhinitis
22. Role of ultrasound in predicting the depth of tumour invasion and lymph node metastasis in early tongue carcinoma (2017-till date, Non-Funded Study)
23. Short term & long term effects of cochlear implant on vestibular apparatus
24. Study evaluating the effectiveness of Barbed suture versus Vicryl suture for pharyngeal closure after total laryngectomy in PCF reduction

#### ***Completed***

1. A pilot study to assess the effect of intraductal N acetyl cysteine on swallowing and voice outcomes of patients with oropharyngeal cancer undergoing radiotherapy
2. A prospective pilot study to evaluate the effect of Supraglottoplasty on Tracheomalacia in pediatric patients with Congenital Laryngotracheomalacia
3. A prospective study to determine early predictive factors of hypocalcemia in patient undergoing total or completion thyroidectomy
4. A Prospective study to evaluate the impact of histological staging of oral submucous fibrosis on occult and overt lymph nodal metastases in gingivobuccal complex squamous cell carcinoma of oral cavity (T1-T4)
5. Ambispective study to calculate the incidence of covid 19 infection in children less than 18 yrs and underwent Adenoidectomy and Adenotonsillectomy
6. An ambispective cohort control study to evaluate the incidence of SARS CoV-2 infection in post Adenoidectomy/ Adenotonsillectomy patients
7. An ambispective study for evaluation of factors impacting prognosis in Skull base osteomyelitis
8. Analysis of voice outcomes after radiation or chemo radiation in carcinoma larynx and the effect of N acetyl cysteine on voice parameters
9. Association of hearing loss in geriatric patients with cognitive Impairment
10. Detection of extra-nodal extension in node positive oral cavity squamous cell carcinoma
11. Detection of oncogenic viruses HPV and EBV by immunohistochemistry in secondary cervical lymph nodes from primary of oropharynx, nasopharynx and unknown primary
12. Effect of Itraconazole in Allergic Fungal Rhinosinusitis: A clinico-radiological correlation.
13. Evaluation of level of Vascular Endothelial Growth Factor' - in cases of Recurrent Respiratory Papillomatosis
14. Functional evaluation of spinal accessory nerve after selective neck dissection
15. Outcomes of Cochlear Implant in older prelingual SNHL patients
16. Prospective pilot study to assess the effectiveness of novel Forehead Knuckle Tapping method in localisation of better or worse hearing ear as compared to conventional tuning fork testing

17. Prospective study to determine incidence of intragranular, periparotid, occult, overt cervical lymphnode metastasis in primary parotid malignancy
18. Prospective study to evaluate the utility of infra-hyoid myocutaneous flap in reconstruction following resection of oral tongue carcinoma
19. The study impact of cochlear implant on school and educational performance in pre-lingual deafened children
20. To assess the prevalence of lingual lymph nodes and pattern of lymph nodal spread in squamous cell carcinoma of the tongue
21. To compare different Cochlear Implantation outcome scores with auditory cortical activity seen on functional near infrared spectroscopy in prelingual profound SNHL patients after Cochlear Implantation
22. To study the role of PET in surgical management of Oral cavity squamous cell carcinoma
23. Usage of topical lignocaine to decrease the gag reflex while sampling for COVID-19: Does it affect the yield of the specimen

### **Collaborative projects**

#### ***Ongoing***

1. A Phase II trial of Pentoxifylline and alpha tocopherol (PAT) in prevention of radiation induced dysphagia in head and neck squamous cell carcinoma, Radio-therapy
2. A Phase IIb/III study to determine efficacy of Curcumin and Metformin to reduce the incidence of second primary tumors of aero-digestive tract in patients with history of head and neck squamous cell carcinoma, SPT Trial funded by NCG; Multi-centric
3. A Phase III prospective randomised trial comparing dysphagia-aspiration related structures & submandibular gland sparing Intensity modulated radiotherapy (SWOAR-IMRT) versus standard IMRT (s-IMRT) paring in locally advanced oropharyngeal and laryngeal carcinomas, Radio-therapy
4. A randomised, sham controlled, double blind study to evaluate the efficacy of and safety of intra-thecal OAV101 in patients with later onset type-2 spinal muscular atrophy who are  $\geq 2$  to  $< 18$  years of age, treatment naive, sitting, and never ambulatory, A phase 3 Clinical trial (STEER) by Novartis Pharmaceuticals. ClinicalTrials.gov Identifier: NCT05089656
5. A study on the effect of genetic manipulation on mammalian inner ear cells, Department of Biochemistry AIIMS, New Delhi
6. Covid-19 variants of concern related to mucormycosis and hyperglycemia, IGIB-AIIMS
7. Development of nanomaterials based point of care device for head-neck cancer biomarkers detection, JNU-AIIMS
8. Development of single-cell derived clonal spheroids as a tool for drug discovery in cancer research with focus on Head and Neck Cancer, SCSM, JNU
9. Evaluation of specific molecular alterations and tumor immune microenvironment for detection of clinically actionable targets in high grade salivary gland carcinomas, ICMR Funded, Department of Pathology
10. Exome sequencing and molecular characterization in juvenile nasopharyngeal angiofibroma, Biotechnology
11. Molecular characterization of olfactory neuroblastomas for classification into prognostically and therapeutically relevant subgroups (ICMR Funded, Department of Pathology), Department of Pathology
12. Prevalence and pattern of traumatic dental injury in children and adolescents with severe to profound hearing impairment reporting to a tertiary care centre in North India, Pediatric Dentistry, CDER, AIIMS, New Delhi
13. The SWOAR trial: A phase III trial evaluating dysphagia-aspiration related structures & submandibular gland sparing Intensity modulated radiotherapy (SWOAR-IMRT) versus standard IMRT in Head and neck squamous cell carcinoma, Department of Radiotherapy
14. Ultrasonographic assessment of tonsillar volume in children undergoing tonsillectomy: a predictor of post operative morbidity, Anaesthesiology

#### ***Completed***

1. A cohort study to assess the feasibility of WHO ICOPE approach in tertiary health centres, Department of Geriatrics, AIIMS, New Delhi
2. Fabrication of a Biocompatible Low-Pressure, Adjustable Length, Indwelling Long Stay, Valved Tracheoesophageal Voice Button, AIIMS- IIT Delhi Joint Collaborative Funding

3. Evaluation of genetic profile of olfactory neuroblastoma, Department of Pathology
4. Comparison between kit based and in-house preparation of Tc -99m Ubiquicidin, Department of Nuclear Medicine
5. Utility of 99m Tc- Ubiquicidin scintigraphy in diagnosis of sinonasalmucormycosis, Department of Nuclear Medicine
6. Utility of Ga - 68 - NOTA- UBI in infectious and non-infectious lesions, Department of Nuclear Medicine
7. A phase II study of EMF (Erlotinib+ Methotrexate+ Celecoxib) in platinum refractory recurrent /metastatic head neck squamous cell carcinoma, Department of Medical Oncology
8. Assessment of Oral Microbiome and its significance in upper aerodigestive tract cancers, Department of Medical Oncology
9. A longitudinal Survey to assess Patient Satisfaction for Nurse Initiated Follow Up Tele-Consultation among patients discharged from a selected tertiary care hospital, Nursing department
10. An OMR sheet based feedback survey on in-patient satisfaction regarding various hospital services in a selected tertiary care hospital, Nursing department

#### Research projects over past 3 years

Research project	2020-21	2021-22	2022-23
Total funded projects	16	20	16
Total funding	6.0 crores	14.86 crores	10.2 crores

#### PUBLICATIONS

**Journals: 50**

**Abstracts: 07**

**Chapters in Book: 09**

#### Publications over past 3 years

Item	2020-21	2021-22	2022-23
Total	98	128	66
Journal articles	86	107	50
Abstracts	1	4	07
Chapters in books	11	16	09
Books	-	1	-

#### PATIENT CARE

Apart from OPD, Operation theatre and minor OT services, the department runs a rehabilitation unit of audiology and speech pathology and specialty clinics in Audiology and skull base with cochlear implant, rhinology, vertigo, voice and swallowing, and twice-a-week Head and neck cancer clinic. Department also provides rural services at CRHSP Ballabgarh and Outreach OPD, Jhajjar. The statistics are as follows:

Ward Admissions: D4 Ward: 1810\*

\*Long admissions: 1600

\*Short Admissions: 210

Number of patients operated

Main OT: \*Major cases- 2744 \*Minor Cases- 431

Total -3175

Minor OT: OPD procedures - 31797

Number of patients seen in OPD

New patients - 38364 Old registration - 58133

Total - 96497

Total Number of Patients seen in RUAS: 6513

New Patients: 2872 Old Registrations: 3641

Total audiological tests done (PTA + Tympanometry + FFA + BERA + OAE + ASSR): **22212**

### Teleconsultation Services

Total number of RUAS teleconsultation: 984

### UDID (Unique Disability ID)

Total number of certificates Issued: 160

### No. of Cases in Specialty Clinics

S. No.	Clinic	New cases	Old cases	Total
1.	Vertigo	155	187	342
2.	Otology and Skull Base	120	37	157
3.	Cochlear Implant	169	252	421
4.	Voice	260	85	345
5.	Rhinology	153	58	211
6.	Head and Neck Cancer	927	3450	4377
7.	HNRC (Head and Neck Rehabilitation Clinic)	215	146	361
8.	Radiology Conference	1057	-	1057
9.	Neonatal Hearing Screening	2836	227	3063
10.	Mucar Clinic	27	18	45

### NCI (Jhajjar)

Number of patients seen in OPD

New patients - 1253                      Old registration - 5863

Number of patients operated

Major cases - 427

### Community service clinics

Twice weekly clinics in community hospital in Ballabhgarh with once-a-week operating facilities

Weekly clinics in primary health center in Gurgaon

Weekly clinics in community hospital in IIT Delhi

The department is providing daily OPD services at Outreach OPD Jhajjar. And thrice a week OT Services

Item	2020-21	2021-22	2022-23
OPD consultations	15754	40733	96497
Special clinic consultations	579	5345	10379
Patient provided rehabilitation services	891	2059	6513
Total inpatient admissions	1551	4030	1810

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Alok Thakar** is Centre for Medical Innovation & Entrepreneurship (CMIE)- Project In-charge; National Health Authority- Lead Expert for ENT; Consultant (ENT) to the Honorable Vice President of India; National Program for Prevention and Control of Deafness- Expert Review Committee; Subcommittee for Medical Devices, Standing National Committee on Medicines- CoChairperson; Asia-Pacific Society of Thyroid Surgery (APTS) - Council Member; Global Healthy Hearing Ears- Advisory Board member; WHO Regional Expert Group on Hearing Care for South-East Asia Region-Member; American Head-Neck Society- International Advisory Committee Member for 11th AHNS Meeting; National Board of Examinations -Head-Neck Oncology Specialty Board-Member; Visiting Professor - Department of Otolaryngology, AIIMS Rishikesh; Dr B Kumar Memorial Oration-Rejuvenation of the paralysed face- the art and the science- Uttarakhand State Association of ENT Surgeons (USAES 2022)- Annual Meeting, Dehradun 16 April 2022; Professor S Sukumaran Oration- The Pathophysiological approach to Vertigo- Kerala ENT Conference (KENTCON) 2022, 16-18 September 2022; Professor SuryaNarayan Rao Oration- Reanimation of the paralysed face- the Science and the Art - South Zone AOI Conference, Manipal, 5 October 2022; VLA Oration- Exiting from CHAOS. Annual Conference of the Laryngology & Voice Association, 19 November 2022; Mentored Cochlear Implant Program under ADIP Scheme Cochlear Implant Program under ADIP Scheme at GMC Srinagar, 13-14 December 2022 Srinagar, Jammu and Kashmir

**Professor Rakesh Kumar** is Chairperson of MHD-4 of BIS for looking after standards of ENT surgical instruments in India; Honorary Vice President, Otorhinolaryngologic Research Society of AIIMS (ORSA); Honorary Consultant at Department of Otorhinolaryngology and HNS, IGIMS Patna; Honorary Visiting Consultant at Department of Otorhinolaryngology and HNS, AIIMS, Rishikesh; Member of the studies of the Department of Otorhinolaryngology, Faculty of Medicine of Aligarh Muslim University; Starting new facilities at other places in India (a) Cochlear implant programme at various Govt Medical college Hospitals in India; Starting and supervising cochlear program and Rhinoplasty/Facial plastics at AIIMS, Bhopal; \*Co-Director for 3rd AIIMS Hands on FESS cadaveric workshop from 18 to 19 September at ACSST JPNTC, AIIMS; \*\*Co-Chairperson- Temporal dissection course at AIIMS, New Delhi from 9-10 October 2021; Invited guest faculty at various National clinical meetings and presented papers and participated in panels

**Professor Kapil Sikka** was awarded the fellowship, American College of Surgeons, FACS, in 2022; Reviewer, Indian J Otolaryngology, Indian J Otorhinolaryngology, Head and Neck Surgery, Indian J Pediatrics, Indian J Cancer, Laryngoscope Investigative Otolaryngology, Indian J Neurology; Joint Secretary, Association of Otolaryngologists of India, Delhi State Branch; Hony Treasurer, Otorhinolaryngologic Research Society of AIIMS (ORSA), 2017-Member Medical Board, AIIMS; Member, editorial team for research directory, AIIMS; Internal examiner, AIIMS, MS, Otolaryngology; External Examiner, DNB, National Board of examinations, ENT; Member, Executive Committee, AOI Delhi State Branch; Member, Advisory board for implementation of ADIP Cochlear Implant Program; Empanelled faculty for academic activities of National Board of examinations; Reviewer BMJ innovations; Assistant Editor, Indian Journal of Otolaryngology; Nodal Officer, AIIMS, National program for prevention and control of deafness.

**Professor Chirom Amit Singh** is National medical council representative in Mizoram State Medical Council; Technical expert group member of the Ministry of Health and Family Welfare.

**Dr Rajeev Kumar** was awarded first prize in video presentation for presenting “OPHL Type II” during 44th annual conference of AOI, Delhi branch (AOICON-2022) held on 26-28 August 2022 at MAMC, Delhi; Co-Organizing secretary of 40th National Annual conference of Neuro-otology and Equilibriometric Society of India (NESCON) 2022 in AIIMS, New Delhi and India Habitat Center on 12-14 August 2022; Organizing Secretary of “1st 3D Endoscopic Inside-Out Head Neck Anatomy” cadaveric dissection course held on 27-28 March 2023 in ACSST, JPNATC AIIMS New Delhi; Organizing Secretary of “International Head & Neck Dissection Course” held on 30 March to 3 April 2023 in ACSST, JPNATC AIIMS New Delhi; Member of the following National and International Scientific Bodies and Associations

- a) Indian Society of Otolaryngology (ISO/LM/1134)
- b) The Association of Otolaryngologists of India (LM - 4070)
- c) Foundation for Head and Neck Oncology (LM-280)
- d) Neuro-Otological&Equilibriometric Society of India
- e) All India Rhinology Society
- f) AOI Delhi State Branch
- g) Delhi Medical Council (41154)
- h) European Head Neck Society (EHNS)
- i) Asia Pacific Thyroid Society (APTS)
- j) National Academy of Medical Sciences (MNAMS);

Executive editor in Clinical Key Now, ENT subspecialty, Elsevier (App based); Reviewer in:

- a) Reviewer for official publication of Association of Otolaryngologists of India - Indian Journal of Otorhinolaryngology and Head & Neck Surgery w.e.f 21/2/2013.
- b) Reviewer for Journal of Medical Case Reports
- c) Reviewer for “Indian Journal of Radiology and Imaging”
- d) Reviewer for “Clinical Otolaryngology”
- e) Reviewer for “World Journal of Paediatric Surgery”
- f) Reviewer for “BMJ Case reports”
- g) Cureus

**Dr Prem Sagar** is Member of Expert group for review of Health Benefit Packages for ENT under AB-PMJAY, Ministry of Health and Family Welfare, Govt of India; Specialist in the Medical Cell of National Health Authority under the

project/task on standard treatment guidelines, Health Benefit Packages, Quality Assurance, Govt. of India; Member of Expert group for Standard Treatment Workflows (STWs) for ENT by Ministry of Health and Family Welfare, Govt of India; Co-opt Member of the panel on ENT Sectional Committee looking after and setting up the standard of ENT Surgery Instruments, MHD 04 by Bureau of Indian Standards; Member of National Academy of Medical Sciences (MNAMS); Executive body member of Neuro-Equilibriometric Society (NES) - India, 2022-23; Organizing secretary of 40th National Annual conference of Neuro-otology and Equilibriometric Society of India (NESCON) 2022 in AIIMS, New Delhi and India Habitat Center on 12-14 August 2022; Member of the following National and International Scientific Bodies and Associations:

- a. Foundation for Head and Neck Oncology (LM-281)
- b. Neuro-Otological and Equilibriometric Society of India (LM-617)
- c. All India Rhinology Society (LM-749)
- d. Facial Reconstructive & Cosmetic Surgery Trust (India) – LM 55
- e. Indian Society of Otolaryngology (ISO/LM/1603)
- f. Association of Otolaryngologists of India, Delhi State Branch (LM 577)
- g. Cochlear Implant Group of India
- h. Society of Ear Nose and Throat Advancement in Children, Philadelphia, USA (SENTAC);

Executive editor in ClinicalKey Now, ENT subspecialty, Elsevier (App based); Reviewer in:

- a. ORL, Karger publishers
- b. Annals of Otolaryngology, Rhinology & Laryngology, Sage Journals
- c. Indian Paediatrics Journal, official publication of the Indian Academy of Paediatrics (IAP), Springer Nature  
Reviewer in International Archives of Otorhinolaryngology
- d. Developmental Medicine & Child Neurology, a Mac Keith Press publication and official journal of the American Academy for Cerebral Palsy and Developmental Medicine (AAPDM) and the British Paediatric Neurology Association (BPNA).
- e. International Archives of Otorhinolaryngology (IAO), Thieme publication
- f. Allergy & Rhinology, Sage Journals
- g. Trends in Anaesthesia and Critical Care, Elsevier Inc.
- h. Journal of International Medical Research, SAGE Journals
- i. BMJ Innovations, BMJ Journals
- j. BMJ Case Reports
- k. Frontiers in Surgery, section Otorhinolaryngology & Head Neck Surgery
- l. Cureus Journal of Medical Science
- m. LIFE journal
- n. Indian Journal of Medical Research
- o. Journal of Clinical Medicine, Otolaryngology section
- p. Children

**Dr Arvind Kumar Kairo** received Best paper award-Dr BM Abrol Junior Consultant Award session.

**Dr Shuchita Singh Pachauri** has been invited to be a global partner in the collaborative effort of UCLA Global Health Seed Grant Program concerning HPV-related cancers to assess physician, trainee, and medical student knowledge and attitudes regarding HPV and HPV vaccination, as well as creation of educational activities and follow-up of HPV related malignancies; Have been involved as a Co-investigator in a nation-wide oral screening project by Atom 360, an Indian Artificial Intelligence Startup and winners of Elevate 2018 by Govt of Karnataka. The project title is “Analysis of Image Based Diagnosis using Artificial Intelligence and Pathological Correlation”.

**Dr Hitesh Verma** received Best Publication. An evaluation of serum otolin-1 & vitamin-D in benign paroxysmal positional vertigo. AOI Delhi Branch, Delhi AOI 26-28 August 2022.

**Dr Smriti Panda** was Nominated for Most Outstanding Work- ICHNO, Seoul, 4-5 November 2022; Travel Grant Winner- ICHNO, Seoul, 4-5 November 2022.

**Dr Anup Singh** received First prize in BalanceCon-2022 for award paper presentation (Serum Otolin-1 levels in Meniere's Disease patients in Remission) held at Goa on 14-16 May 2022.

#### **VISITING SCIENTISTS**

1. Prof Terence M Jones, Professor of Head and Neck Surgery, Director Liverpool Head & Neck Centre, Liverpool University Hospitals NHS Foundation Trust visited the Department from 3-10 December 2022 and 26 March 2023 to 1 April 2023 who was awarded the Infosys Chair in Oncology under AIIMS Endowment Fund
2. Interns (Audiology and Speech Therapy) from Deptt of TNMC & BYL Nair Ch Hospital, Mumbai visited the Rehabilitation Unit of Audiology & Speech Therapy, ENT Department on 20 February 2023



## 9.27 Pediatrics

### Professor and Head

Dr Arvind Bagga  
(Pediatric Nephrology Division)

### Professors

Sushil Kumar Kabra (Pediatric Pulmonology and Intensive Care Division)	Madhulika Kabra (Genetics Division)	Pankaj Hari (Pediatric Nephrology Division)
Sheffali Gulati (Pediatric Neurology Division)		Rakesh Lodha (Pediatric Pulmonology and Intensive Care Division)
Ramesh Aggarwal (Neonatology Division)	Rachna Seth (Pediatric Oncology Division)	Vandana Jain (Pediatric Endocrinology Division)

### Additional Professors

Aditi Sinha (Pediatric Nephrology Division)	Neerja Gupta (Genetics Division)	M Jeeva Sankar (Neonatology Division)
Jhuma Sankar (Pediatric Pulmonology and Intensive Care Division)		Kana Ram Jat (Pediatric Pulmonology and Intensive Care Division)
Biswaroop Chakrabarty (Pediatric Neurology Division)	Rajni Sharma (Pediatric Endocrinology Division)	Anu Sachdeva (Neonatology Division)
Rohan Malik (Pediatric Gastroenterology Division)	Prashant Kumar Jauhari (Pediatric Neurology Division)	Narender Kr Bagri (Pediatric Rheumatology Division)
	Jagdish Prasad Meena (Pediatric Oncology Division)	

### Associate Professor

Aditiya Kumar Gupta (Pediatric Oncology Division)

### Assistant Professor

Ankit Verma (Neonatology Division)

### Scientists

Madhumita Roy Choudhary Amita	Kajal Jain	Rashmi Shukla Lata Singh
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### HIGHLIGHTS

The Department shifted to Mother and Child Block in January 2023, where it is providing comprehensive clinical and daycare services.

The department of Pediatrics offers multidisciplinary and comprehensive clinical care to a large number of patients through its outpatient and specialty clinics, and inpatient and outreach services.

### Centers of excellence

The Division of Neonatology has recently been redesignated as the WHO Collaborating Centre (WHO-CC) for Training and Research for the next four years, from 2023 to 2027 for the eighth consecutive time. The Division of Genetics is the WHO Collaborating Center for Training in Clinical and Laboratory Genetics for developing countries. Three Divisions continue to contribute as Centres of Advanced Research in Pediatric Nephrology, Pulmonology, and Childhood Neurodevelopmental Disorders.

## **Education**

The department is directly involved in undergraduate training for medical and nursing students. It continues to have one of the best postgraduate (MD) programs in the country, and manages 6 DM programs (Endocrinology, Neonatology, Neurology, Nephrology, Pulmonology & Intensive Care, Clinical Genetics, and Oncology).

## **Research**

Faculty members continue to attract considerable extramural and intramural funding for multidisciplinary research projects. Work from the department is recognized, and well-cited by national and international agencies.

## **Clinical**

The first bone marrow transplant for pediatric very early onset IBD in AIIMS was successfully done. Newer therapies (gene therapy, exon skipping and antisense oligonucleotides) for DMD and SMA as part of global compassionate access programmes are being provided to patients. A child with IL-10 receptor defect, an extremely rare disease, was treated with matched unrelated HSCT (a rare event in India). Complex procedures like half-matched and unrelated donor HSCT for pediatric patients with malignant and non-malignant disorders were performed.

## **Future action plan**

The department would endeavor to maintain its leadership in the country as well as regionally, through focused attention on issues pertaining to clinical service, education and promoting prospective research.

## **EDUCATION**

For the MBBS teaching program, the Department has contributed to the development of skill modules for undergraduate medical students, including pulse oximeter, chest compression and pediatric resuscitation, neonatal orogastric feeding, and lumbar puncture for the SET facility.

The Nephrology Division organised online weekly webinar series as part of Pediatric Nephrology Core Curriculum titled, 'Nephrology Education from a Pediatric Residents Outlook (NEfPRO)' led by the Division faculty as part of activities of the Indian Society of Pediatric Nephrology (ISPN). The online series included 32 weekly webinars during March-October 2023, and is led by nationwide experts in pediatric nephrology and attended by ~200 postgraduate students in pediatrics across India. The first nationwide quiz on Pediatric Nephrology for postgraduates was conducted in college, divisional, zonal and national rounds during July-December 2022, and was enabled by enthusiastic participation from 129 medical colleges or institutes, and over a hundred faculty members, nationwide.

The Neonatology Division is currently using e-learning to disseminate evidence-based practices on newborn health for healthcare professionals. The website ([www.ontop-in.org](http://www.ontop-in.org)) offers three e-learning courses on sick newborn care, newborn nursing, and CPAP. This year, 20th sick newborn and 10th essential newborn care courses have been completed. The Preterm Baby Care Package, which provides evidence-based management of preterm infants, is also available online and has been completed by 5000 healthcare professionals ([www.pretermcare-eliminatingrop.org](http://www.pretermcare-eliminatingrop.org)). The division has also organized four breastfeeding workshops for nursing professionals working in various wards and departments, including D3, C3, AB6, all private wards, MCU, OPD and AB5 ward. These workshops were held on World Prematurity Day, Children's Day, Breastfeeding Week, and Newborn Week, and trained over 75 nursing professionals and ten residents through hands-on training. In terms of cross-cutting contributions in education for in-service and pre-service education, the WHO-CC AIIMS New Delhi has created a new set of webinars on different components of essential newborn care and sick newborn care based on current evidence. The division has also contributed to the development of different workflows for DHR-ICMR on all common newborn conditions. The division also organized a Neonatal Resuscitation Program workshop for hands-on skill training of undergraduate students in different batches to equip them with basic skills in resuscitation of newborns.

The Pulmonology Division organizes Telemedicine based academic sessions with PGIMER Chandigarh, AIIMS Jodhpur and AIIMS Bhubaneswar.

Regular joint academic sessions with Pediatric Endocrinology fellows and faculty at the University of Michigan, Ann Arbor and PGI Chandigarh were initiated by the Division of Pediatric Endocrinology in Oct 2022. Postgraduate masterclass in Pediatric Endocrinology (a series of 7 lectures and PG Quiz sessions) was started for the postgraduates in the Department of Pediatrics on 18th March 2023.

## **Trainees**

### **1. Long Term**

- Dr Shivani Jaiswal, Professor, Dept. of Biochemistry, Govt. Medical College & Hospital, Chandigarh, April 2022-October 2022, Six months, Cytogenetics, DBT UMMID Program
- Dr Parul Goyal, Professor, Dept of Biochemistry, RML Hospital, New Delhi, June 2022 to December 2023, Six months, Molecular genetics, DBT UMMID Program
- Dr Sufia Nasreen, 16 January 2023 to 15 July 2023, Six Months, Molecular Genetics, DBT UMMID program
- Dr Jamil Mohammad, Assistant Professor, Department of Biochemistry, RNT Medical College, Udaipur, Rajasthan, 16 November to 15 May 2023, Six months, Molecular & Biochemical Genetics, DBT UMMID Program

### **2. Short term**

- Dr Shruti Gupta (MD Bio-chemistry student), 23 February 2023 to 14 March 2023, 20 days, for PG Teaching and Academic activities, Prof Subrata Sinha, HOD, Deptt. of Biochemistry, AIIMS, New Delhi
- Dr Shaikh Abdul Mubeen (MD Bio-chemistry student), 23 February 2023 to 14 March 2023, 20 days, for PG Teaching and Academic activities, Prof Subrata Sinha, HOD, Deptt of Biochemistry, AIIMS, New Delhi
- Dr Sachin S Desh (MD Bio-chemistry student), 23 February 2023 to 14 March 2023, 20 days, for PG Teaching and Academic activities, Prof Subrata Sinha, HOD, Deptt of Biochemistry, AIIMS, New Delhi
- Dr Khushboo Sharma (MD Bio-chemistry student), 23 February 2023 to 14 March 2023, 20 days, for PG Teaching and Academic activities, Prof Subrata Sinha, HOD, Deptt of Biochemistry, AIIMS, New Delhi
- Mithilesh Chandra Malviya, 10 January 2023 to 9 March 2023, 2 months Joined on 16 February 2023 (Total 22 days), Genetic Clinic, OPD, Molecular Lab, Super Specialty Hospital, NSCB Medical College, 218E, Swastik Grand, Dhanvantri Nagar, Jabalpur, Madhya Pradesh
- Dr Priyanka, 1-31 August 2022, 1 month, Neonatology Division, ESIC Medical College and Hospital, Faridabad

## **CMEs/Workshops/Symposia/National and International Conferences**

- Nephrology Division organized the Junior Master Class and Training Course in Pediatric Nephrology on 26-27 November 2022 at New Delhi.
- A two-day teaching session on the occasion of World Kidney Day, on 11-12 March 2023 was organized by the Nephrology Division in New Delhi.
- Genetics division organized an Expert Meeting on Management of Rare Diseases under the aegis of Directorate General of Health Services (DGHS), MOHFW and in collaboration with CHEB on 3-4 November 2022
- Oncology Division organized the Pediatric Hematology -Oncology Conference (PHOCON2022) of PHO chapter of IAP at AIIMS New Delhi and India habitat center on 18-20 November 2022.
- The Neonatology Division organized a one-day training workshop in Quality Improvement on 17 October 2022 in New Delhi and on 14 January 2023 at AIIMS Kalyani.
- The Division of Pulmonology organised the following
  - a) IJP Annual function and 15th Dr KC Chaudhuri orat 10th Dr IC Verma excellence in research award, best original research award and competitive clinical grand round, at AIIMS, Board room on 9 October 2022
  - b) AIIMS Pediatric Pulmonology and Intensive Care course Module 11, on 23-24 April 2022 at AIIMS, New Delhi.
  - c) AIIMS Pediatric Pulmonology and Intensive Care course Module 1 for Nurses 28-29 May 2022 at AIIMS, New Delhi.
  - d) AIIMS Pediatric Pulmonology and Intensive Care course Module 12, on 29-30 October 2022 at AIIMS, New Delhi.
  - e) AIIMS Pediatric Pulmonology and Intensive Care Course for Advance Nursing care of Respiratory Diseases. Module 2, on 26-27 November 2022 at AIIMS, New Delhi.
  - f) Pediatric Respiratory Society (PRS) bimonthly meeting at AIIMS on 28 January 2023 at AIIMS, New Delhi.

## **Lectures delivered at CMEs/Workshops/Symposia/National and International Conferences**

1. Anti-factor H associated HUS, 19th Congress of the International Pediatric Nephrology Association, 11 September 2022, Calgary TELUS Convention Centre, Calgary, Canada

2. Steroid resistant nephrotic syndrome: Consensus guidelines, IPNA-AsPNA Junior Master Class and Training Course in Pediatric Nephrology, 27 November 2022, AIIMS, New Delhi
3. CNI resistant FSGS: Are there newer therapies? 34th Annual Conference of the Indian Society of Pediatric Nephrology, 4 December 2022, Jio World Centre, Mumbai
4. Nephrotic syndrome: An update on management, 2nd Annual Pediatric Kidney Meet: IPNA Endorsed Pediatric Nephrology Workshop cum CME, 29 January 2023, AIIMS, Jodhpur
5. Anti-FH autoantibodies: Pathophysiology & clinical relevance, India EMBO Lecture Course: Complement in kidney diseases, 1 February 2023, National Centre for Cell Science, Pune
6. Nephrotic syndrome: An update on management, Fifth Annual Pediatric Nephrology Conclave, 11 March 2023, AIIMS, Bhopal, Bhopal
7. Fluid therapy in nephrotic syndrome, WBAP Online Academics: Online CME on Fluids & Electrolytes, 17 March 2023, Virtual (West Bengal), Kolkata

**Lectures delivered: 319**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
236	339	319

**List of oral papers/posters presented: 121**

**Oral papers/presentations over past 3 years**

Year	Number of oral presentations
2020-21	49
2021-22	47
2022-23	120

## **RESEARCH**

**Funded projects**

***Ongoing***

1. Proposal for ICMR Advanced Centre for Research in Pediatric Kidney Diseases, Arvind Bagga, Pankaj Hari, Aditi Sinha, ICMR, 6.5 years, 2017-2023, Rs 16,095,653/-
2. Setting up registry and targeted exome sequencing in children with renal tubular disorders, Arvind Bagga, ICMR, 3 years, 2021-2024, Rs 6,00,000
3. Infectious and genetic triggers in children with hemolytic uremic syndrome, Arvind Bagga, ICMR, 3 years, 2021-2024, Rs 82,00,000
4. Center for advance research in Pediatric Respiratory Diseases. Indian Council of Medical Research, 5 years, 2018-2023, Funds 6.2 Crores Projects as follows ((NI 1032)
  - a. Capacity building for management of chronic respiratory disorders in children
  - b. Cystic Fibrosis in India: Prevalence, Mutation Profile and Development of Registry
  - c. Interstitial lung disease in children
  - d. Point of care testing for Primary Ciliary Dyskinesia in Children.
  - e. Respiratory Complications of Primary and Acquired Immunodeficiency Disorders in children, SK Kabra, Rakesh Lodha, Kanaram Jat, Jhuma Sankar, ICMR, 5 years, 2018-2023, Rs 60000000
5. ICMR Registry for Rare and other inherited disorders, Madhulika Kabra, Neerja Gupta, ICMR, 5 years, 2019-2025, Rs 1.09 crores
6. Training of Clinicians cum Creation of Genetic Diagnostic unit' in Human Genetics with an Aspirational District component under Unique Methods of Management and Treatment of Inherited Disorders (UMMID) initiative, Madhulika Kabra Neerja Gupta DBT, 3 years, 2019-2022, 4 crores
7. Capacity Building and Quality Assurance for Birth Defects in the SEAR Evaluation of outcomes and Strengthening of the NBBB surveillance system Madhulika Kabra Neerja Gupta, WHO, 1 year, 2022-2023, Rs 12 lakhs
8. A Multicenter, Safety and Efficacy Study of Taliglucerase Alfa in Subjects with Type 3 Gaucher Disease Madhulika Kabra, Shaare Zedek Medical center Israel, 2 years, 2021-2023, Rs 27.67 lakhs

9. Efficacy of low dose, short course prednisolone regimen for relapse of steroid sensitive nephrotic syndrome in children: A multicenter, randomized, placebo-controlled trial, Pankaj Hari, DHR, 3 years, 2022-2025, Rs 1,45,67,233
10. A Phase 3, Randomised, Double blind, Placebo-controlled efficacy and safety study of Ataluren in patients with non-sense mutation Duchenne Muscular Dystrophy and Open label extension, Sheffali Gulati (Site PI), PTC Therapeutics, USA, 2 years, 2019-2021 (under extension), Rs 50 lakhs
11. Center of Excellence & Advanced Research on Childhood Neurodevelopmental disorders with its projects in 5 thrust areas, Sheffali Gulati (PI), AIIMS GIA (supported by MOHFW) and IIFCL (as part of its CSR), 5 years, 2017-2022 (under extension), Rs 11.3 crores
12. To evaluate the efficacy of oral probiotic supplementation in children with autism spectrum disorders (Asds): A randomized double blind, placebo-controlled Trial, Sheffali Gulati (Site PI), ICMR, 3 years, 2019-2022 (under extension), Rs 33,32,868
13. Mobile app-based Augmentative, and Alternative Communication based intervention in Children with ASD, Sheffali Gulati (Mentor), AIIMS UG Research mentorship Scheme, 2 years, 2019-2021 (under extension), Rs 2,00,000
14. To determine the clinical and neuroimaging characteristics and outcomes of Febrile Infection-Related Epilepsy Syndrome (FIRES) in children, Dr Sheffali Gulati (AIIMS) Prof J Helen Cross (UCL PI), AIIMS-UCL collaboration, 1 year, 2020-2021 (under extension), Rs 5 lakhs to AIIMS
15. Protocol H8H-MC-LAHW (a) – A Phase 3, 12-Month, Open Label Study of Lasmiditan in Pediatric Patients with Migraine-PIONEER-PEDS2, DrSheffali Gulati Site PICO-PI-Dr Biswaroop, Eli-Lilly & Company Private Limited, 4 years, 2021-2025, Rs 12,17,200
16. Protocol H8h-MC-LAHV (a) Pediatrics Options for Migrane Relief: A Randomized, Double-Blind, Placebo-Controlled Study of Lasmiditan for Acute Treatment of Migraine:PIONEER PEDS1, Dr Sheffali Site PICO-PI-Dr Biswaroop, Eli-Lilly & Company Private Limited, 3 years, 2021-2024, Rs 16,90,880
17. Protocol 15Q-MC-CGAS(f)-A Randomized, Double-Blind, Placebo-Controlled Study of Galcanezumab in Patient 6 to 17 Years of Age with Episodic Migraine- the REBUILD-1 Study, Site PI Dr Sheffali CO-PI-Dr Biswaroop, Eli-Lilly & Company Private Limited, 4 years, 2021-2025, Rs 21,39,160
18. A Double Blind, Placebo-Controlled, Multicentre Study with an Open-Label Extension to Evaluate the Efficacy and Safety of 2'O Methyl Antisense Oligonucleotide in Patients with Duchenne Muscular Dystrophy, (PI) Dr Sheffali Gulati, Dystrophy Annihilation Research Trust, 3 years, 2021-2024, Rs 20,00,000
19. A randomized, sham-Controlled, double-blind study to evaluate the efficacy and safety of intrathecal (IT) OAV101 in patients with later onset Type 2 spinal muscular atrophy (SMA) who are > 2 to <18 years of age, treatment naïve, sitting, and never ambulatory, (PI) Dr Sheffali Gulati, Novartis Healthcare Private Limited, 5 years, 2021-2026, Rs 17,00,000
20. Neuromodulation of cortical excitability and plasticity by low frequency repetitive Transcranial magnetic stimulation in infantile hemiplegic cerebral palsy patients. (CoPI), (CoPI) Dr Sheffali Gulati, ICMR, 3 years, 2019-2022, Rs 46,53,130
21. Neurodevelopmental outcomes in infants undergoing surgery for congenital heart defects-A prospective multicenter cohort study, (CoPI), Dr Sheffali Gulati, ICMR, 3.9 years, 2021-2025, Rs 228505
22. Role of Artificial Intelligence (AI) In Autism Spectrum Disorder, (PI) Dr Sheffali Gulati, DBT, 2 years, 2023-2025, Rs 40 Lakh
23. To explore the association of Molecular, Genetic and Environmental markers in autism spectrum disorder and other Neurodevelopmental Disorders including ADHD and Cerebral Palsy: A Cross sectional study, Dr Sheffali Gulati (PI), ICMR, 3 years, 2021-2024, Rs 1.38 crores
24. Exploring the effect of incentive spirometry on pulmonary function and quality of life in 5- to 18-year-old patients of Duchenne Muscular Dystrophy on oral steroids for at least 6 months, Mentor, AIIMS, 1 year, 2021-2022 (under extension), Rs 2 Lakh
25. A Brain Machine Interface enabled Biomedical Assistive Communication System for severely motor disabled, PI Dr Sheffali Gulati, Ministry of electronic, 3 years, 2022-2025, Rs 53.72 lakhs
26. A Randomized, Double-Blind, Dose Finding and Comparison Study of the Safety and Efficacy of a High Dose of Eteplirsen, Preceded by an Open-label Dose Escalation, in Patients with Duchenne Muscular Dystrophy with Deletion Mutations Amenable to Exon 51 Skipping, PI Dr Sheffali Gulati, SAREPTA, 4 years, 2022-2026, Rs 17,07,509/per year
27. A randomized, sham-controlled, double-blind study to evaluate the efficacy and safety of intrathecal (IT) OAV101 in patients with later onset Type 2 spinal muscular atrophy (SMA) who are  $\geq 2$  to < 18 years of age, treatment naive, sitting, and never ambulatory, PI Dr Sheffali Gulati, Novartis, 2 years, 2022-2024, Rs 1797417

28. Developmental screening of children in primary health care settings and establishing referral pathways to early intervention services, PI Dr Sheffali Gulati, WHO, 1 year, 2022-2023, Rs 19,97,940
29. Holding hand in magical years – Early childhood development & neurorehabilitation center, PI Dr Sheffali Gulati, HANS Foundation, 3 years, 2023-2026, Rs 2,31,53,428
30. Clinical efficacy of addition of Agastya Haritaki avaleha [Classical Ayurvedic formulation] and Yoga to standard treatment care in the management of Bronchial Asthma in Children and Adolescents. A randomized controlled trial, Dr Rakesh Lodha, ICMR, 3 years, 2021-2024, Rs 40 lakhs
31. Translation Research Consortium for establishing platform Technologies to support Prophylactic and Therapeutic Strategies for Dengue Discovery to Proof-of-Concept, Dr Rakesh Lodha, BIRAC, 4 years, 2019-2023, Rs 1,61,00,000
32. Regional Learning Platform for Improving Quality of Care, Ramesh Agarwal, WHO SEARO, 1 year, 2022-2023, Rs 18,34,000
33. Clinico-pathological significance of tumor biomarkers in serum, aqueous humor and tumor tissue of intraocular retinoblastoma patients, Dr Rachna Seth, AIIMS Interdepartmental project, 2 years, 2022-2024, Rs 10,00,000
34. Partnership in cancer survivorship optimization (PICASSO), Dr Rachna Seth, Indian Cancer Society, 3 years, 2021-2024, Rs 12,60,000.00
35. Improving Nutrition In Children With Cancer, Dr Rachna Seth, Cuddles foundation, 3 years, 2020-2023, Rs 11,20,000.00
36. Use of Biomarkers and Imaging for early detection and treatment of chemotherapy induced cardio toxicity in newly diagnosed children of acute leukemia, Dr Rachna Seth, ICMR, 3.5 years, 2019-2023, Rs 70,68,462.00
37. “Chemo to Cure (C TO C)” study of cancer survivorship, Dr Rachna Seth, Cankids/Kidscan, 15 years, 2011-2026, Rs 1,20,00,000.00
38. Integrated molecular biology of biological markers: Role of copy number alterations of genes in Indian Childhood B Lineage Acute Lymphoblastic Leukemia, Dr Rachna Seth mentor for Dr Nivedita Pathak, UGC women Scientist Fellowship, 5 years, 2018-2023, Rs 40 lakhs
39. The differential gain of fat and lean mass during first six months of life in healthy preterm infants: Determinants and impact on subsequent health, Vandana Jain, ICMR, 3 years, 2021-2024, Rs 27.4 lakhs
40. Programming effect of relative weight gain, fat and fat-free mass gain in infancy on body composition and insulin sensitivity in mid-childhood: Follow-up of a birth cohort”, Vandana Jain, ICMR, 3 years, 2023-2026, Rs 25 lakhs
41. Efficacy of IV rituximab versus oral mycophenolate mofetil in sustaining remission in steroid-resistant nephrotic syndrome maintained on calcineurin inhibitors for more than two years: An open-label randomized controlled trial, Aditi Sinha, DHR, 3 years, 2023-2026, Rs 1,52,43,910
42. Evaluation of geno-phenome of Indian patients with skeletal dysplasia using comprehensive genomic evaluation and translational bioinformatics Neerja Gupta, ICMR, 3 years, 2019-2022 (under extension), Rs 57 lakhs
43. Mission Program on Pediatric Rare Genetic Disorders Neerja Gupta, DBT, 5 years, 2022-2027, Rs 1.01 crores
44. Sepsis-related mortality in neonates in India: A multi-disciplinary, multi-institutional research program for context-specific solutions (DBT, Govt. of India; 46.5 crores), M. Jeeva Sankar, Department of Biotechnology (DBT), Government of India, 5 years, 2021-2026, Rs 45.5 crores
45. Burden of multidrug-resistant neonatal sepsis in district hospitals in India, M Jeeva Sankar, Bill & Melinda Gates Foundation (BMGF), 4 years, 2019-2023, Rs 9.25 crores
46. Sequencing of Klebsiella, E coli, Acinetobacter, and S aureus isolates in neonates with sepsis, M. Jeeva Sankar, Bill & Melinda Gates Foundation (BMGF), 1 year, 2023-2024, Rs 1.9 crores
47. Assessing the microcirculation and its response to different fluid volumes in children with septic shock, Jhuma Sankar, ICMR, 3 years, 2022- 2025, Rs 1.5 crores
48. Comparison of Acetate-based, Lactate-based and Multiple Electrolyte Solution versus saline (MeSLAc trial) in pediatric septic shock- A multicenter randomized controlled trial, Jhuma Sankar, SERB, 3 years, 2023-2026, Rs 30 lakhs
49. Vitamin C versus Placebo in septic shock, Jhuma Sankar, AIIMS, 2 years, 2021-2023, Rs 10 lakhs
50. Prospective study to evaluate the role of Systemic Bevacizumab therapy in patients with aggressive and complex laryngotracheal and pulmonary recurrent respiratory papillomatosis, Kana Ram Jat and Rajeev Kumar, Institute Research Grant, 2 years, 2021-2023, Rs 20 lakhs

51. Differentiating monophasic and recurrent acquired demyelinating disorders of childhood and adolescence: an HLA typing, serum and CSF inflammatory biomarkers based longitudinal observational study, Dr Biswaroop Chakrabarty, AIIMS-IRG, 2 years, 2020-2022 (under extension), Rs 10,00,000
52. Association of serum antiseizure medication levels with behaviour and cognition in children and adolescents aged 6-17 years with pharmaco-responsive non-lesional epilepsy: An observational study, Mentor (Dr Biswaroop Chakrabarty), AIIMS UG Mentorship, 1 year, 2021-2022 (under extension), 2 lakhs INR
53. Developing models based on biomarker signature and clinico-electroencephalographic parameters to predict severity and outcome in pediatric status epilepticus: a longitudinal observational study, Dr Biswaroop Chakrabarty, DHR, 3 years, 2021-2024, 53.9 lakhs INR
54. The effect of low glycemic index diet in the form of traditional Indian millets in obese children: a randomized controlled trial, Dr Rajni Sharma, ICMR, 3 years, 2021-2024, Rs 34 lakhs
55. Whole exome sequencing in pediatric IBD to detect monogenic forms of IBD, Rohan Malik, ICMR, 3 years, 2022-2025, Rs 45,00,000
56. To compare efficacy and safety of Melatonin and Triclofos in inducing sleep in children posted for sleep deprived sleep EEG: A double blind, parallel design, randomised clinical trial, Dr Prashant Jauhari, AIIMS-UG Mentorship scheme, 1 year, 2019-2020 (under extension), Rs 2,00,000
57. A multimodality assessment of brain metabolism, microstructural organization and neuroinflammation in Subacute Sclerosing Panencephalitis: a cross-sectional observational study, Dr Prashant Jauhari, AIIMS UG Mentorship Grant, 1 year, 2021-2022 (under extension), Rs 2,00,000
58. Multimodal evaluation of neural network and neuroinflammatory nexus of Electrical status epilepticus in sleep (ESES) in children, PI (Dr Prashant Jauhari), Interdisciplinary IRG funding, AIIMS, New Delhi, 2 years, 2021-2023, Rs 10 lakhs
59. Host inflammatory response and its correlation with paradoxical worsening in childhood tubercular meningitis, PI (Dr Prashant Jauhari), Intramural Research Grant, AIIMS, New Delhi, 2 years, 2021-2023, Rs 8.75 lakhs
60. Intermediate and long term therapeutic efficacy of r TMS in drug refractory focal epilepsy of childhood: A randomised double blind sham controlled study, PI (Dr Prashant Jauhari), ICMR, 3 years, 2023-2026, Rs 48 lakhs
61. To explore the role of synovial fluid proteomics in predicting the disease course and subtypes of juvenile idiopathic arthritis, Narendra Kumar Bagri, ICMR, 4 years, 2019-2023, Rs 4212984
62. Implications of PD-1/PD-L1 Pathway: A New Immunological Paradigm for Juvenile Idiopathic Arthritis, Narendra Kumar Bagri (Co-PI), Science and Engineering research board (SERB), India, 2 years, 2022-2024, Rs 3200000
63. Diagnostic Utility of T-cell phenotype in Hemophagocytic Lymphohistiocytosis (HLH), Dr Jagdish Meena, AIIMS, 2 years, 2022-2024, Rs 10,00,000
64. Genomics and Clinical Outcome of Pediatric Acute Myeloid Leukemia (AML) Relapse, Dr Jagdish Meena, ICMR, 3 years, 2021-2024, Rs 45,15,354
65. Genomic Landscape of Pediatric Acute Myeloid Leukemia, Dr Jagdish Meena, AIIMS, 2 years, 2021-2023, Rs 10,00,000
66. Pro-Adrenomedullin as a Novel Biomarker for Predicting Infections and Response to Antimicrobial Therapy in Febrile Neutropenic Children with Cancer and its Comparison to Procalcitonin, Dr Jagdish Meena, SERB (DST), 3 years, 2020-2023, Rs 42,18,500
67. Mapping the genomic landscape of Pediatric Juvenile myelomonocytic leukemia patients by whole expme sequencing, Dr Aditya Kumar Gupta, ICMR, 3 years, 2021-2024, Rs 44,65,550
68. Role of micro-RNA in Pediatric Neuroblastoma, Dr Aditya Kumar Gupta, AIIMS, 2 years, 2021-2023, Rs 10,00,000
69. Contribution of Copy Number and Sequence Variants in Cilia and Sonic Hedgehog Pathway Genes in the Formation of AVSD in Down Syndrome, Rashmi Shukla, ICMR, 3 years, 2019-2022, Rs 65 lakhs
70. Functional Characterisation and Antisense Oligonucleotide (AON) Mediated Correction of Novel ATM Variants, Rashmi Shukla, ICMR, 3 years, 2021-2024, Rs 50 lakhs
71. Evaluation of read through compounds for nonsense suppression of ATM mutations in Indian patients, Rashmi Shukla, ICMR, 3 years, 2019-2022, Rs 45 lakhs
72. Breakpoint Mapping of Apparently Balanced Chromosome Rearrangements Associated with Clinical Phenotypes, Rashmi Shukla, AIIMS Intramural Grant, 2 years, 2020-2022, Rs 10 lakhs
73. Ex vivo Correction of ATM Splice Variants Using Antisense Oligonucleotides, Rashmi Shukla (SRF Fellowship awarded to Ms Akhila Sankar), ICMR, 3 years, 2019-2023, Rs 16 lakhs

74. Deciphering the complexities of apparently balanced chromosomal rearrangements associated with clinical phenotype by whole genome sequencing, Rashmi Shukla, ICMR, 3 years, 2023-2026, Rs 65 lakhs
75. Exploring presence of SMN hybrid genes in molecular diagnosed SMA patients, Amita, AIIMS Intramural Grant, 2 years, 2022-2024, Rs 10 lakhs
76. Identification of potential pathogen(s) among neonates with 'culture-negative sepsis', Kajal Jain, DBT, GoI, 4 years, 2021-2025, Rs 2.41 crores
77. Role of Ferroptosis: A new emerging therapeutic approach for Retinoblastoma, Dr Lata Singh, Intramural Research Grant (IRG-AIIMS), 2 years, 2021-2023, Rs 10 lakhs
78. Implications of PD-1/PD-L1 Pathway: A New Immunological Paradigm for Juvenile Idiopathic Arthritis, Dr Lata Singh, DST-SERB, 2 years, 2021-2023, Rs 32 lakhs
79. Clinical Relevance of Mitochondrial-mediated Ferroptosis in Intraocular Childhood Malignancies, Dr Lata Singh, ICMR-Extramural Funding, 3 years, 2022-2025, Rs 50 lakhs

#### Research projects over past 3 years

Year	Number of funded projects	Funds
2020-21	86	116,28,34,616 INR
2021-22	95	108,20,17,697 INR
2022-23	80	111,87,63,683 INR

#### Completed

1. Pediatric Renal Biology Program: Research on nephrotic syndrome, Arvind Bagga, DBT, 5 years, 2016-2022, Rs 800,00,000
2. Systematic Pulmonary Tuberculosis Case finding among severely malnourished children admitted to nutritional rehabilitation centres". (I 1031), SK Kabra, ICMR, 4 years, 2018-2022, Rs 1420900
3. Development of a high throughput genome editing pipeline based on based on an orthologous CRISPER/Cas9 system (FnCas9) and its application in the generation of 3D organoides for disease modelling and correction" In collaboration with IGIB, Madhulika Kabra, DBT, 3 years, 2019 -2022, Rs 1.2 crores
4. Biomarkers of Acute Gastrointestinal Injury in Critically ill Children, Dr Rakesh Lodha, ICMR, 2.5 years, 2019-2022, Rs 55,84,488
5. Efficacy of Metformin in reduction of hepatic fat fraction and insulin resistance in overweight adolescents with NAFLD: an RCT, Vandana Jain, ICMR, 4 years, 2018-2022, Rs 59.2 lakhs
6. Low cost and Painless Transdermal Smart Insulin Delivery Device, Vandana Jain, AIIMS-IIT Kharagpur grant, 2 years (extended for 1 year), 2020-2023, Rs 20 lakhs
7. The genetic basis of cystic kidney diseases in children, Aditi Sinha, AIIMS (intramural grant), 2 years, 2020-2022, Rs 10,00,000
8. Clinical and genomic characterization of Indian patients with Arthrogyroptosis Multiplex Congenita (AMC) using Next Generation Sequencing, Neerja Gupta, ICMR, 3 years, 2019-2022, Rs 4500,000
9. Procalcitonin guided antibiotic therapy in children, Jhuma Sankar, ICMR, 3 years, 2019-2021, Rs 81 lakhs
10. Signs of shock in children, Jhuma Sankar, DST, 3 years, 2019-2021, Rs 35 lakhs
11. Gut microbiota and GI dysfunction in critically ill children, Jhuma Sankar, AIIMS, 1 year, 2021-2022 (completed), Rs 10 lakhs
12. Comparison of dried blood spots and plasma samples for the quantification of amino acid using HPLC method among inborn error of amino acid metabolism patients, Pallavi Mishra, AIIMS Intramural Grant, 1 year, 2020-2022, Rs 10 lakhs

#### Departmental projects

##### Ongoing

1. Efficacy of prolonged release tacrolimus, administered once daily, in maintaining remission of calcineurin inhibitor dependent steroid sensitive nephrotic syndrome in children
2. Efficacy and safety of oral desidustat in children with anemia of chronic kidney disease
3. Short term efficacy & safety of sucroferric oxyhydroxide in non dialysis dependent pediatric chronic kidney disease with hyperphosphatemia



4. Comparison of low dose and standard dose albumin for inducing diuresis in children with nephrotic syndrome and severe edema: a randomized controlled trial
5. Efficacy and safety of oral dapagliflozin in reducing proteinuria in children with proteinuric chronic kidney diseases
6. Systematic review and meta-analysis: Accuracy of equations for estimating glomerular filtration rate in children with chronic kidney disease
7. Systematic review and meta-analysis: Efficacy and safety of cyclophosphamide in preventing relapses in children with steroid sensitive nephrotic syndrome
8. To estimate the prevalence of abnormal lung function in children with juvenile idiopathic arthritis: a cross sectional study
9. A prospective pilot study to evaluate the effect of Supraglottoplasty on Tracheomalacia in pediatric patients with Congenital Laryngotracheomalacia
10. Utility of an indigenous method of assessing function of human nasal epithelial cilia for diagnosis of Primary Ciliary Dyskinesia in children
11. Mobile direct observation Physiotherapy in children with cystic fibrosis: A randomized controlled trial
12. Ketamine vs fentanyl-midazolam combination as induction agents for tracheal intubation in critically ill children: a pilot open label, randomized control trial
13. Correlation of ciliary function and structure with specific mutation in patients of primary ciliary dyskinesia.
14. Prevalence of autoantibodies for common autoimmune disorders and their correlation with PTPN11 variants in patients with Noonan Syndrome (DM thesis)
15. miRNA 132 expression in serum of children with Down syndrome : A potential marker of severity of Developmental delay (DM thesis)
16. Utility of rapid trio whole exome sequencing in critically ill children in the Intensive care unit (DM thesis)
17. Clinical, radiological and molecular profiling of uncharacterized skeletal dysplasias (DM thesis)
18. Prevalence of Metabolic syndrome in children with Down syndrome
19. Genetic modifiers in Spinal muscular atrophy: A genotype-phenotype correlation study
20. Diagnostic and treatment gap in Neurodevelopmental Disorders in children aged 1 month to 18 years: An observational study
21. Early antiseizure medication tapering in children and adolescents aged 2-18 years with single granular or calcified parenchymal neurocysticercosis in a low-risk subgroup identified by risk assessment: a single arm intervention study
22. Diagnostic agreement of initial presentation with latest follow up and evaluation of neurobehavioral outcome in pediatric onset CNS acquired demyelination syndrome: an ambispective observational study
23. Prevalence of disorders of sodium homeostasis and its association with short term outcome in children with tuberculous meningitis: a hospital based longitudinal study
24. A comparison of modulating effect of cTBS and low frequency rTMS on cortical excitability in children aged 5-14 years with Lesional Drug refractory Epilepsy (Focal epilepsy or ESES): An open label randomized non-inferiority crossover study
25. Efficacy of repetitive transcranial magnetic stimulation in children and adolescents age 5-18 years with generalised dystonia: A randomised sham control trial
26. Role of nerve ultrasound as a diagnostic and prognostic modality in children with Guillain Barre syndrome (age 2-18 years)
27. Comparison of efficacy of ketogenic diet and ACTH therapy among children with West syndrome: A Pilot Randomized control trial
28. Development of a questionnaire based tool to measure patient reported outcome in children with epileptic encephalopathy
29. Efficacy of rTMS as an adjunct to AI enabled remedial intervention in school going children (aged 6-18 years) having specific learning disorder with dyslexia
30. Correlation of sleep architecture with cognition, behaviour and executive function in children and adolescents aged 5–18 years with pharmaco-responsive non-lesional epilepsy: An observational study
31. Azithromycin as an immunomodulator in children with acute respiratory distress syndrome – randomized double blinded placebo controlled trial
32. Prevalence of immune-paralysis in children with sepsis

33. Host and environmental factors in the acute exacerbations of childhood interstitial lung disease
34. Effect of ambient air pollution on asthma control and quality of life of asthmatic children of Delhi: a prospective study
35. Effect of prophylactic long-term azithromycin therapy on non-cystic fibrosis bronchiectasis in children
36. Validation of BPD prediction models in Indian Preterm infants: An ambispective cohort study
37. Comparison of two methods of estimation of length of umbilical arterial and venous catheter insertion: A randomized trial
38. Comparing safety of two drug regimens for pupillary dilatation for retinopathy of prematurity screening in preterm neonates: A randomized cross over trial
39. Hematological and iron status in infants with Rh isoimmunization: a prospective cohort study
40. Effect of Structured Oromotor Stimulation by Mother of Preterm Neonates ( $\leq 32$  weeks) on Time to Reach Full Katori Spoon Feeds - A Randomized Controlled Trial
41. Comparison of risk factors plus sepsis screen based approach (AIIMS NICU Protocol) and National Neonatology Forum - Clinical Practice Guidelines (NNF-CPG) recommendations for management of asymptomatic neonates with risk factors of early onset sepsis: An ambispective observational study
42. Changes in selective echocardiographic parameters in preterm neonates  $< 34$  weeks gestation with fluid refractory shock after initiation of epinephrine infusion: A prospective study
43. Evaluation of genomic trajectory of pediatric acute myeloid leukemia from diagnosis to relapse.
44. Effect of oral levofloxacin prophylaxis in decreasing the incidence of febrile neutropenia (FN) in children receiving intensive chemotherapy for acute leukemia: A randomized, single-blind, placebo-controlled trial
45. Efficacy of cryotherapy in the prevention of oral mucositis in children with acute lymphoblastic leukemia receiving methotrexate-based chemotherapy: A Randomized Trial
46. Evaluating the role of probiotics in prevention of febrile neutropenia in children receiving intensive chemotherapy: A double blind randomized control trial
47. Prevalence of Hypoalbuminemia and its Association with Outcome of Childhood Cancers
48. Vincristine and Topotecan versus Carboplatin, Etoposide and Vincristine based chemotherapy for ocular salvage in Group D Intraocular Retinoblastoma: A randomised, open label trial
49. Feasibility of an oral hydration regimen during high dose methotrexate administration in children with hematolymphoid malignancies – A single arm interventional pilot study
50. Efficacy and safety of zinc in the prevention of oral mucositis in children with cancer receiving intensified chemotherapy: A Randomized Double-Blind Placebo-Controlled Trial
51. Neurocognitive assessment in long term acute lymphoblastic leukemia survivors
52. Effect of online education programme on carbohydrate counting on glycemic control in adolescents with type 1 diabetes mellitus: a pilot
53. Diagnostic utility of serum Inhibin B and Anti-Mullerian Hormone in 46, XY disorder of sex development (DSD)
54. Fat gain trajectory from birth to 6 months in healthy infants, and its effect on serum insulin, IGF-1 and adiponectin at 2 years of age
55. Effect of birth weight and change in body mass index Z-score between birth to mid- childhood on metabolic profile and exercise capacity in mid-childhood: a longitudinal cohort study
56. The differential gain of fat and lean mass during first six months of life in healthy preterm infants: Determinants and impact on subsequent health
57. Assessing the setting up of a multidisciplinary care model for management of children with Disorders of Sex Development, and its impact on the perceived quality of care: An implementation research
58. Transbulbar ultrasound of Optic Nerve Sheath Diameter in critically ill children with and without raised ICP
59. Bone mineral density in children with inflammatory bowel disease
60. Prevalence and risk factors of low bone mineral density in children with juvenile idiopathic arthritis

### **Completed**

1. Efficacy and safety of abbreviated protocol of plasma exchange in anti-factor H associated atypical HUS
2. Prevalence of anti-tissue transglutaminase (tTG) antibodies in patients with idiopathic steroid sensitive nephrotic syndrome: A cross-sectional observational study
3. Prevalence of anti-neutrophil cytoplasmic antibodies in children with nephrotic syndrome receiving levamisole

4. Comparison of renal function between children with primary vesicoureteric reflux grade 3-4 and mild renal scarring and no scarring
5. Assessment of the agreement between OCM-derived Kt/V and equilibrated Kt/V (eKt/V), measured conventionally using urea reduction ratio in children on maintenance hemodialysis
6. Systematic review and meta-analysis: Diagnostic accuracy of urine dipstick and microscopy in children with urinary tract infection: a systematic review and meta-analysis
7. Depression and coping strategies used among adolescents with cystic fibrosis: an exploratory survey
8. To evaluate infant Pulmonary Function Test (Tidal Breathing Flow Volume Loop and Raised Volume Rapid Thoracic Compression) in children <18 months with suspected airway malacia and to correlate it with bronchoscopic findings
9. A combination therapy of Norepinephrine PLUS Dobutamine as a first line agent in fluid refractory pediatric septic shock
10. Azithromycin for Poorly Controlled Asthma in Children: A Randomized Controlled Trial
11. Comparison of protocol based continuous and intermittent tube feeding in mechanically ventilated critically ill children - an open label randomized control trial
12. Prevalence of Pneumocystis Jirovecii in Induced Sputum and Broncho-Alveolar Lavage Fluid of Adults and Children with Bronchiectasis by Polymerase Chain Reaction and 1 → 3 Beta D Glucan Assay
13. Evaluation of HIV-1 subtype C Envelop in infected children
14. Study of Bacterial Infections in a Cohort of Patients Clinically Diagnosed of Pneumocystis Jirovecii Pneumonia (Pjp)/Pneumocystis Pneumonia (Pcp) and its Impact on Outcome of the Disease
15. A pilot study on the causal relationship of gastro-esophageal reflux and obstructive adenoid or adeno-tonsillar hypertrophy in paediatric population
16. Functional outcomes of children with severe sepsis
17. To develop algorithm for diagnosis of cystic fibrosis in resource limited setting using clinical features, lab tests and aquagenic wrinkling of palms
18. Efficacy of Pulse Dexamethasone in addition to standard therapy versus standard therapy alone in children with Juvenile Idiopathic Arthritis: A double blind randomized controlled trial
19. Development and Validation of a Weight Estimation Tool for Acutely Ill Children Who Cannot be weighed
20. Pulmonary dysfunction in Hodgkin Lymphoma survivors
21. Evaluation of diet- based interventions in Hepatic Glycogenesis using Continuous Glucose Monitoring
22. Evaluation of trisaccharide BM-652 as a potential biomarker in serum of ERT naive patients with MPS I and MPS II aged 6 months-18 years
23. Clinical and Molecular Characterization of Congenital Limb Defects Using Genomic Approaches
24. Five Days Versus Fourteen Days Oral Dexamethasone in Children and Adolescents (aged 5-18 years) with Parenchymal Neurocysticercosis (up to 5 lesions): An Open Labelled Clustered Randomized Superiority Trial
25. Neural correlates of Primary Monosymptomatic Nocturnal Enuresis: an autonomic function testing and polysomnography-based study
26. Evaluation of Theta Burst Transcranial Magnetic Stimulation as an adjunct to standard therapy in improving core function deficits in children 5–15-year age with Autism Spectrum Disorder -a randomized, double blind, sham controlled trial
27. Analysis of predictors of response to hormonal therapy in children with treatment naive West Syndrome with qEEG, serum biomarkers, fMRI and DTI: An observational study
28. Single arm intervention study of low frequency repetitive transcranial magnetic stimulation (rTMS) therapy in steroid resistance/relapsed ESES in children aged 5-12 years
29. Sleep related breathing disorders in children with dystrophinopathy aged 5-18 years on oral steroids for at least 6 months: A cross sectional study
30. Burden of Invasive Fungal infections in critically ill children
31. Magnitude of coagulation dysfunction assessed by thromboelastography (TEG) in critically ill children with severe sepsis
32. Randomized controlled trial of Bhramari Pranayama and Om chanting in children with moderate to severe bronchial Asthma
33. Incidence of respiratory syncytial virus (RSV) infection until first 6 months of corrected age in preterm infants (<32 weeks' gestation) with bronchopulmonary dysplasia: A prospective cohort study

34. Development and validation of a prediction model based on machine learning for early recognition of multi-drug resistance in newborns with sepsis admitted in a tertiary health centre
35. Antiseptic efficacy and plasma Chlorhexidine following two different methods of application of 1% aqueous chlorhexidine gluconate for skin disinfection in preterm newborns: A blinded parallel randomized trial
36. Incidence of vertical transmission of COVID-19 infection in a tertiary hospital in India: A prospective study
37. Umbilical Cord Blood Culture Positivity in Preterm and Term Neonates: Prospective Cohort Study
38. Risk Factors for Failure of Caffeine Therapy in Very Preterm Neonates: An Ambispective Cohort Study
39. Effect of SMOF lipid versus Intralipid on time to regain birth weight in preterm neonates ort Studyqueous chlorhexidine gluconate
40. Post-procedure pain in preterm neonates undergoing retinopathy of prematurity (ROP) screening: A prospective cohort study
41. Safety and feasibility of early transition of care of ‘stable preterm neonates’ of 28 to 33 weeks of gestation from ‘largely provider driven’ to ‘largely mother driven’ setup (step-down NICU to the postnatal ward): a single-arm study”
42. Long-acting filgrastim versus conventional filgrastim as primary prophylaxis following pediatric dose-intensive chemotherapy: a randomized superiority trial
43. Clinical Utility of Serum Survivin Levels in Retinoblastoma
44. Significance of End of Treatment FDG-PET/CT in Newly diagnosed Hodgkin Lymphoma-A Prospective Observational Study
45. Effect of addition of Buffy Coat derived irradiated Granulocyte Transfusion to the standard of care in post chemotherapy high-risk febrile neutropenia in reducing mortality: an open label randomized controlled trial
46. Psychological impact on parents of children born with atypical genitalia in India
47. Validity of Predicted Adult Height Estimation Methods in Indian Children with Idiopathic Short Stature
48. Physical activity during Covid-19 pandemic and its impact on glycemic control in children with type 1 diabetes mellitus
49. Smartphone applications-based intervention to reduce body mass index and improve health related behavior among school children with overweight/obesity: A clinical trial
50. Prevalence and Risk factors of Cystic fibrosis Related Diabetes in children with cystic fibrosis- a cross sectional study
51. Developing a noninvasive model for predicting significant esophageal varices in children
52. Validating the IMPACT III QOL instrument in PIBD in India
53. To estimate the prevalence of articular and extra-articular damage in children with JIA: a cross-sectional study
54. To estimate the prevalence of abnormal lung function tests in children with JIA: a cross sectional study

## **Collaborative projects**

### ***Ongoing***

1. Evaluation of Artificial neural network for differentiating Iron deficiency anemia and  $\beta$ -Thalassemia trait in comparison to the conventional methods, Laboratory medicine, AIIMS, Delhi
2. Impact of advanced paternal age and poor lifestyle on sperm epigenome: Possible etiology in autism spectrum disorder, Department of Anatomy, AIIMS, New Delhi
3. Community based assessment of disability among adult population in Delhi using WHO International Classification of Functioning, Dept. of Community Ophthalmology, AIIMS, New Delhi
4. Use of ‘My Whole Child; Child Health and Development Interactive System’, a web-based platform for holistic evaluation and management of Indian children and adolescents upto 18 years of age; a tertiary centre pilot study, Chadis, USA
5. A Multi-center, Open labelled Trial to evaluate the sensitivity and specificity of DSM IV TR and DSM 5 in diagnosis of autism spectrum disorder, 5 sites across India
6. Study of cerebral edema, neuroinflammation and blood brain barrier disruption in paediatric traumatic brain injuries, Neurosurgery
7. Clinico-Sero-Pathological classification and pathogenesis of Idiopathic inflammatory myopathies, Pathology
8. Neuro developmental outcomes in infants undergoing surgery for congenital heart defects – A prospective multi-center cohort study. ICMR study 2020 onwards, Pediatric Cardiology

9. A study to compare the anxiety, depression and quality of life (QOL) among caregivers of children with cerebral palsy and those with typically developing children attending Paediatric Neuro OPD at AIIMS, New Delhi, MSc Nursing
10. A study on development of “Epilepsy care App” and assess its utility and satisfaction among parents of children with Epilepsy reporting at AIIMS, New Delhi”, Nursing College
11. Community based assessment of disability among adult population in Delhi using WHO International Classification of Functioning, Community Ophthalmology
12. A Multicentric Cross-sectional Study of Leukodystrophies in India: A Pilot Project, PGI, Chandigarh
13. COMPASS: Communication-focused parent-mediated treatment for Autism Spectrum Disorder in South Asia trial, University of Manchester and Sangath
14. Scalable Transdiagnostic Early Assessment of Mental Health (STREAM), University of Manchester and Sangath
15. Development of therapeutic broadly neutralizing monoclonal antibodies against circulating HIV-1 clade C in children and adults, Biochemistry
16. Advancing biomedical interventions for prevention of RSV disease in under-5 children. India Case study, CCM
17. Generation and characterization of pseudoviruses from perinatally infected children, Biochemistry
18. Isolation and characterization of human neutralizing monoclonal antibodies generated during natural HIV-1 infection, Biochemistry
19. Characterization of B cell receptor repertory of HIV-1 subtype C infected individuals and generation of anti HIV-1 monoclonal antibodies, Biochemistry
20. Establishment of a genomic facility to develop, test and validate an informative, cost-effective and efficient panel of genetic markers for chronic pancreatitis, Department of Gastroenterology, AIIMS, New Delhi
21. National registry on COVID-19 infection among pregnant women and their neonates- A three year ICMR study, Department of Obstetrics and Gynaecology, AIIMS, New Delhi; Multicentric study at ICMR network of human reproduction centers (HRRCs)
22. Treatment outcomes of extraocular Retinoblastoma following multimodal therapy-a prospective study, Ophthalmology
23. Caregiver Burden And Quality Of Life Of Parents Of Children With Cancer In A Tertiary Care Centre In India- A Cross Sectional Study, Onco anaesthesia and
24. Comparison of Whole-Body MRI with 18F-FDG PET/CT in Pediatric Lympho-Histiocytic Neoplasms, Radiodiagnosis
25. Role of PET-CT in staging and evaluation of treatment response after 3 cycles of chemotherapy in locally advanced retinoblastoma, Nuclear Medicine
26. Role of PET CT in retinoblastoma, Ophthalmology
27. A collaborative, multicenter, national study for newly diagnosed patients with acute lymphoblastic leukaemia (ICiCle), National Cancer Grid & ICMR
28. Effectiveness of a structured paediatric to adult management transition intervention to improve adherence to diabetes care and clinical outcomes among Type 1 Diabetes Mellitus (T1DM) patients in India” – PATHWAY trial, Endocrinology
29. ICMR Young Diabetes registry, Endocrinology
30. A molecular understanding of pediatric onset inflammatory bowel disease using whole exome sequencing and animal models, Indian Institute of Science, Bangalore
31. KIWI study: Comparison of Kobayashi and Kawanet IVIG resistance scores in a multi-centric European and North Indian cohort of Kawasaki disease, Pediatric Rheumatology European Society
32. Multicentric collaborative study of the national registry for rare disorders in India, ICMR
33. Spectrum of adenosine deaminase 2 deficiency (DADA2) in Indian children: a multycentric study, CMC Vellore and other centers
34. Whole body magnetic resonance imaging in assessment of disease activity and damage in children with JIA, Radiodiagnosis and Interventional Radiology, AIIMS, New Delhi
35. Role of Hypoxia Mediated Cell Metabolism in Pediatric Ocular Malignancy, Department of Ocular Pathology, Dr RP Centre for Ophthalmic Sciences, AIIMS, New Delhi
36. Evaluation of neutrophil CD64 and Myeloperoxidase as early diagnostic marker and predictor of mortality in patients with sepsis in the intensive care unit, Department of Anaesthesiology, Pain Medicine and Critical Care, AIIMS, New Delhi

37. Effect of regional anaesthesia on inflammatory biomarkers levels in patients undergoing surgery for giant cell tumor of bone and its correlation with perioperative bleeding and outcomes, Department of Anaesthesiology, Pain Medicine and Critical Care, AIIMS, New Delhi
38. Molecular Mechanism of Melanogenesis pathway in Uveal Melanoma, Department of Ocular Pathology, Dr RP Centre for Ophthalmic Sciences, AIIMS, New Delhi
39. Hippo Signaling Pathway and its biological function in Uveal Melanoma, Department of Ocular Pathology, Dr RP Centre for Ophthalmic Sciences, AIIMS, New Delhi
40. Oxygen Sensing mechanism in Retinoblastoma, Department of Ocular Pathology, Dr RP Centre for Ophthalmic Sciences, AIIMS, New Delhi

### **Completed**

1. Development of a high throughput genome editing pipeline based on an orthologous CRISPER/Cas9 system (FnCas9) and its application in the generation of 3D organoides for disease modelling and correction”, IGIB, New Delhi
2. Standardizing of data collection and protocol for improving the Quality of evidence on clinical characteristics and outcomes of COVID-19 and Pregnancy (SCOPE - Standardization of COvid in PrEgnancy), Department of Obstetrics and Gynaecology, AIIMS, New Delhi
3. WHO India, (WHO CC- AIIMS New Delhi, PGI Chandigarh, MGIMS Sewagram, KLE Belagavi Karnataka and their respective satellite centers)
4. Cortical sources and connectivity in autism spectrum disorder: A QEEG study, Department of Physiology, AIIMS, New Delhi
5. A phase 2 double arm randomized trial comparing conventional radiotherapy alone Vs hypofractionated radiotherapy with concurrent and adjuvant temozolomide in patients with diffuse intrinsic pontine glioma, Department of Radiotherapy, AIIMS, New Delhi
6. Efficacy, safety and tolerability of Modified Atkins Diet in Adolescents and Adults with Drug Resistance Epilepsy: A Randomized Controlled Trial, Department of Neurology, AIIMS, New Delhi
7. Neurodevelopmental outcomes in children with cyanotic congenital heart disease following open heart surgery, Pediatric Cardiology
8. Emotion Recognition Ability and Social Adaptive Behaviour in children with autism spectrum disorder (ASD): A Study of Behavioural and Phenotypic linkage, PhD IIT Kanpur
9. Multi center randomized double blind placebo-controlled trial to evaluate the effects of intra erythrocyte dexamethasone sodium phosphate on neurological symptoms in patients with Ataxia Telangiectasia, EryDel, S.p.A, Italy
10. Developing reinforcement-based AI model for improvising the predictive skills of individuals with autism, AIIMS – IIT Delhi, Collaborative Research Project
11. To evaluate the feasibility of multigene panel for diagnosis and management of autism spectrum disorder in early neonatal period (< 7 days), ICMR
12. Enhanced, personalized versus routine antenatal care in the amelioration of anemia in pregnancy in rural LMIC settings- the Comprehensive Anemia Program and Personalised Therapies (CAPPT) project, Gynecology and Obstetrics
13. A randomized controlled trial comparing the effects of multiple micronutrient supplement (including iron) with oral iron and folic acid, for iron deficiency anemia prophylaxis in pregnant women in rural Haryana, CCM
14. Effect of various therapeutic options on the outcome in Indian children with multisystem inflammatory syndrome related to SARS-CoV-2 (MISC), 17 centers across India

### **PUBLICATIONS**

**Journal: 171**

**Abstract: 15**

**Chapters in Book: 70**

**Books & Monographs: 6**

**Publications over past 3 years**

Year	Journal	Abstracts	Chapters	Books and Monographs
2020-21	189	38	4	1
2021-22	206	37	91	5
2022-23	171	15	70	4

**PATIENT CARE**

- Celebrated Gaucher Disease Day on 1st October to bring the families and other stakeholders together.
- MoHFW organized Rare Disease Day Celebration event in collaboration with CHEB, AIIMS New Delhi and MAMC at AIIMS, New Delhi on 28th Feb 2023
- Organized Race for 7 in support of families with rare diseases at AIIMS New Delhi on 12.3.23 to increase awareness about rare disease
- Weekly diabetes education group classes are organized.

**2020-2021**

Name of Service	New Cases	Old Cases	Teleconsultation	Total Attendance
Paediatric General OPD	7670	16565	19540	43775
Pediatric Neurology Clinic (PNC)	57	124	33	214
Paediatric Neuromuscular disease	32	42	3	77
Pediatric Gastroenterology Hepatology and Nutrition (PGC)	26	58	7	91
Paediatric Well Baby Clinic	13	2	2	17
Paediatric High Risk Neonatology Clinic (HRC)	53	76	10	139
Pediatric Renal Nephrology Clinic (RMC)	10	79	13	102
Paediatric Chest Clinic (PCC)	32	198	3	233
Paediatric Tuberculosis Clinic	28	48	2	78
Paediatric Rheumatology Clinic (PRC)	48	108	15	171
Paediatric Genetics and Birth Defects Clinic	11	3		14
Paediatric Genetic Antenatal cases	10	10	2	22
Paediatric Oncology Clinic	42	60	1	103
Pediatric Cancer Survivors' Clinic (PCSC)	32	78	3	113
Pediatric Endocrine and Metabolism Clinic(PEC)	3	32	2	37
Child Development Clinic (CDC)		2	4	6
Neurocysticercosis clinic (NCC)			6	6
Autism Clinic			5	5
Pediatric Psychology Clinic	22	14		36
<b>Grand Total</b>	<b>8089</b>	<b>17499</b>	<b>19651</b>	<b>45239</b>

**2021-22**

Name of Service	New Cases	Old Cases	Total Attendance
Paediatric General OPD	15369	32157	47526
Pediatric Neurology Clinic (PNC)	212	513	725
Paediatric Neuromuscular disease	115	206	321
Pediatric Gastroenterology Hepatology and Nutrition (PGC)	88	334	412
Paediatric Well Baby Clinic	174	28	202
Paediatric High Risk Neonatology Clinic (HRC)	121	226	347
Pediatric Renal Nephrology Clinic (RMC)	86	195	281
Paediatric Chest Clinic (PCC)	124	680	804
Paediatric Tuberculosis Clinic	85	309	394
Paediatric Rheumatology Clinic (PRC)	76	381	457

Paediatric Genetics Clinic	811	1274	2085
Paediatric Oncology Clinic	171	240	411
Pediatric Cancer Survivors' Clinic (PCSC)	95	499	594
Pediatric Endocrine and Metabolism Clinic (PEC)	32	198	230
Child Development Clinic (CDC)	116	236	352
Neurocysticercosis clinic (NCC)	28	158	186
Autism Clinic	267	217	484
<b>Grand Total</b>	<b>17970</b>	<b>37851</b>	<b>55821</b>

## 2022-23

Name of Service	New Cases	Old Cases	Total Attendance
Paediatric General OPD	35338	79501	114839
Pediatric Neurology Clinic (PNC)	621	2429	3050
Paediatric Neuromuscular disorder clinic	541	1194	1735
Pediatric Gastroenterology Clinic (PGC)	2791	1090	1369
Paediatric Well Baby Clinic	816	499	1315
Paediatric High Risk Neonatology Clinic (HRC)	342	1326	1668
Pediatric Renal Metabolic Clinic (RMC)	216	994	1210
Paediatric Chest Clinic (PCC)	409	2148	2557
Paediatric Tuberculosis Clinic	183	1062	1245
Paediatric Rheumatology Clinic (PRC)	155	1259	1414
Paediatric Genetics and Birth Defects Clinic	5275	1965	7240
Pediatric Cancer Survivors' Clinic (PCSC)	242	1298	1540
Pediatric Endocrinology Clinic (PEC)	132	672	804
Child Development Clinic (CDC)	518	1039	1557
Neurocysticercosis clinic (NCC)	76	4261	502
Autism Clinic	714	935	1649
Pediatric Oncology Clinic	300	1336	1636
<b>Grand Total</b>			<b>145330</b>

**Physiotherapy Services** were provided to the patients in various clinics (Neurology, Myopathy, Genetics, High risk, Endocrinology, Development, Chest, Rheumatology) and seeking general OPD services.

### Total Physiotherapy sessions

2020-21: 1434

2021-22: 2347

2022-23: 3223

### Total Dietetic consultations

2020-21: 1032 in the outpatients and 1742 in the wards

2021-22: 1102 in the outpatients and 1742 in the wards

2022-23: 1832 in the outpatients and 1789 in the wards

### Indoor services

- Indoor services include admission facilities in general wards, day care facility, neonatal units (NICUs A and B), Kangaroo Mother Care unit and Pediatric Intensive care facility.
- The Department continues to have an 8-bedded High Dependency Unit in children ward to cater to child patients with life-support and other special needs.
- Children requiring short procedures or interventions are admitted for a day in the Day Care Unit situated in the C5 ward followed by Day care facility in the Mother and Child Block post shifting there.



- The Comprehensive Lactation Management Center collected 213.2 liters of milk from 113 mothers, with 168.7 liters being pasteurized and 143.2 liters dispensed to 172 neonates.
- New facility of Multidisciplinary clinic for DSD patients has been started in collaboration with Departments of Pediatric Surgery and Psychiatry this year.

<b>Total indoor admissions</b>	<b>2022-23</b>	<b>2021-22</b>	<b>2020-21</b>
Long admissions in Paediatric wards:	2802	1548	2219
Admission in day care facility:	14652	13054	10
Admissions in NICU A + B:	761	1029	612

### **Specialised Tests and Services**

#### ***Pediatric Endocrinology***

##### **2020-21**

1. Body composition analysis by PEAPOD: 487
2. ECLIA tests: 977
  - a) Human Growth Hormone: 277
  - b) Insulin: 100
  - c) Procalcitonin: 600

##### **2021-22**

1. Hormonal assays (Growth Hormone, 25 Hydroxy-vitamin D, PTH, Free T3, Free T4, Cortisol and Insulin): 206
2. Body composition analysis (PEAPOD:200 and BODYPOD:60)

##### **2022-23**

1. Hormonal assays (Growth Hormone, 25 Hydroxy-vitamin D, PTH, Free T3, Free T4, Cortisol and Insulin): 590
2. Body composition analysis (PEAPOD:367 and BODYPOD:70)

#### ***Pediatric Gastroenterology***

##### **Endoscopic procedures**

<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>
500	500	1502

#### ***Genetics***

##### **2020-21**

##### ***Laboratory Tests***

##### ***Cytogenetics Lab***

1. Peripheral blood and Cord blood culture 303
2. Amniotic fluid culture 116
3. Chorionic villi culture 23
4. QF-PCR 255

##### ***Molecular Lab***

Routine tests carried out

1. Beta Thalassemia ( $\beta$  Thal) mutation analysis - 34 cases  
Prenatal diagnosis for  $\beta$  Thal- 33 families
2. Spinal Muscular atrophy (SMA) mutation analysis - 47 cases  
Prenatal diagnosis for SMA- 11 families
3. Duchene Muscular dystrophy (DMD) mutation analysis - 110 families  
Prenatal diagnosis for DMD- 10 families
5. Fragile X screening- 59 families
6. Cystic fibrosis molecular analysis- 50 cases

Prenatal diagnosis for Cystic fibrosis - 03 families

7. Achondroplasia mutation analysis– 06 cases
8. Non-syndromic hearing loss (Connexin 26) screening–11 cases
9. Sex Chromatin related abnormalities in – 08 cases
10. RETT Syndrome analysis carried out in – 06 cases

Prenatal diagnosis for RETT syndrome - 03 families

11. APERT Syndrome molecular analysis carried out in- 05 cases
12. Molecular analysis for LSD (Gaucher Syndrome) carried out in- 08 cases

Prenatal diagnosis for Gaucher Syndrome offered to - 01 family

13. Molecular analysis for Von Hippel–Lindau syndrome carried out in- 06 cases
14. Molecular analysis for Multiple endocrine neoplasias type 2 carried out in- 02 cases

Tests carried out on Research basis

1. Prenatal diagnosis for BLAU Syndrome - 01 family
2. Prenatal diagnosis for Mitochondrial mutation analysis–01 case
3. Prenatal diagnosis for MPS (MPS-I) - 02 families
4. Prenatal diagnosis for Krabbes Disease - 01 family
5. Prenatal diagnosis for Gaucher disease - 01 family
6. Prenatal diagnosis for MPS IV - 01 Family
7. Prenatal diagnosis for MLD- 01 family
8. Prenatal Diagnosis for SRD5A2 gene - 01

### ***Biochemical Genetics Lab***

Antenatal Screening: 411

- 1) Triple Marker - 40
- 2) Dual Marker - 371

Enzyme Assays for Inborn Error of Metabolism: 310 (including Chitotriosidase)

- 1) Gaucher Disease- 29
- 2) Neimenn pick disease- 29
- 3) Hurler ( MPS-I)- 08
- 4) Hunter (MPS-II)- 07
- 5) Sanfilippo (MPS III B,C,D)- 09
- 6) Morquio A (MPS-IVA)- 07
- 7) Morquio B (MPS-IV B)- 05
- 8) GM1 Gangliosidosis- 19
- 9) Metachromatic leukodystrophy -11
- 10) MPS-VI- 02
- 11) Maroteaux- Lamy Syndrome (MPS VII)- 02
- 12) Tay-Sachs- 12
- 13) Sandoff disease- 04
- 14) Krabbes -12
- 15) Neuronal Ceroid Lipofuscinosis- 15
- 16) Pompe- 14
- 17) Biotinidase Deficiency- 30
- 18) Galactosemia- 42
- 19) Fabry- 03

Biomarkers for LSDs

- 1) Chitotriosidase- 45
- 2) Urinary GAGs- 37

Prenatal Diagnosis of Lysosomal storage disorders

- 1) Non-Immune Hydrops – 04
- 2) MLD-02
- 3) Others – 6 (GM1, MPS1, GAUCHER, MPSIVA, MPSII, MPSIIIB)

Small Molecule Inborn Errors of Metabolism

- 1) Blood Ammonia- 265
- 2) TLC- 41
- 3) HPLC - 92

Urine Chemical tests

- 1) Small Molecules – 29
- 2) Large Molecule (MPS, Oligosaccharide) - 8

**2021-22**

**Cytogenetics Laboratory**

Peripheral blood and Cord blood culture	472
Amniotic fluid culture	206
Chorionic villi culture	24
Rapid aneuploidy testing by QF-PCR	614

**Molecular Laboratory**

	Prenatal diagnosis	Mutation testing (N)
Beta thalassemia	54	129
Spinal Muscular atrophy	15	42
Duchene Muscular dystrophy	9	109
Fragile X screening	-	124
Cystic fibrosis	11	41
Achondroplasia hot spot	-	-
Non-syndromic hearing loss (Connexin 26) hot spot	-	18
Rett Syndrome analysis	1	28
Metachromatic leukodystrophy (MLD)	1	1
Von Hippel-Lindau syndrome (VHL)	-	6
Mucopolysaccharidosis type I (MPS I)	2	5
Mucopolysaccharidosis type II (MPS II)	2	5
Mucopolysaccharidosis type III (MPS IIIB)	-	1
Multiple endocrine neoplasia type 2 (MEN2)	-	3
Prader Willi Syndrome	1	5
Angelman syndrome	2	11
Beckwith Wiedemann syndrome	-	9
Silver Russel syndrome	-	6
Apert syndrome	-	8
Biotinidase deficiency	-	1
Ectodermal dysplasia	-	3
Fibrodysplasia ossificans progressive (FOP)	-	3
Glycogen storage disorder type III	1	3
Glycogen storage disorder type I	-	1

Krabbe disease	-	1
Gaucher disease	3	7
Pompe disease	1	1
Galactosemia	1	2
Incontinentia Pigmenti	-	2

**Enzyme Assays for Inborn Error of Metabolism:**

**Total no. of Patients for Enzyme Assays:**

Sl. No.	Enzyme Assay	Disorder	No. of Pts.	Deficient
1.	$\beta$ – Glucosidase	Gaucher Disease	63	12
2.	Sphingomyelinase	Neimenn pick disease	53	05
3.	Chitotriosidase (Plasma)	Chitotriosidase (Plasma)	101	40
4.	MPS-I	Hurler ( MPS-I)	21	06
5.	MPS-II	Hunter (MPS-II)	14	09
6.	$\alpha$ -N-Acetylglucosaminidase	Sanfilippo B (MPS III B)	07	03
		Sanfilippo C (MPS III C)	06	01
7.	Acetyl-CoA: $\alpha$ -Glucosaminide N-Acetyltransferase	Sanfilippo D (MPS III D)	-	-
8.	Galactose-6- Sulphate Sulphatase	Morque A (MPS-IVA)	08	05
9.	Gangliosidosis	GM1 Gangliosidosis & MoMorque B (MPS-IV B) (MP	21	07
10.	Arylsulfate A	Met Metachromatic-leukodystrophy	28	08
11.	Arylsulphatase-B	MPS-VI	04	-
12.	$\beta$ - Glucuronidase	Maroteaux- Lamy Syndrome (MPS VII)	03	-
13.	Hexosaminidase A	Tay-Sach's	18	14
	Total Hexosaminidase	Sandoff disease	01	-
14.	Plasma Hex-A	Mucopolipidosis	05	02
15.	Plasma – ASA	Mucopolipidosis	05	02
16.	$\beta$ -Galactocerebrosidase (Krabbes)	Krabbe's	23	02
17.	Palmiloyl-protein-thioesterase (INCL)	INCL-1	11	01
18.	Tripeptidyl-peptidase-I	NCL-2	05	01
19.	$\alpha$ - Glucosidase	Pompe	27	06
20.	Fabry		06	01
21.	Biotinidase	Biotinidase	48	
22.	GALT	Galactosemia	41	
23.	fucosidase		03	02

	Total CVS PND		
1.	CVS(NIH)	Non- immune Hydrops	10
2.	CVS(ASA)	Metachromatic- leukodystrophy	01
4.	CVS(MPS-I)		02
5.	CVS(MPSII)		03
6.	CVS(Gaucher)		02
7.	CVS (Krabbes)		01
8.	Cord Blood (Galt)		01

9.	Cord blood (NIH)		02
10.	Cord blood (NIH) POMPE		01
11.	CVS(pompe)		01

**2022-23**

**Patient Care (Cytogenetics Laboratory)**

Peripheral blood and Cord blood cultures	668
Amniotic fluid culture	308
Chorionic villi culture	36
Rapid aneuploidy testing by QF-PCR	405

**Molecular Lab:**

Patient care (Molecular Laboratory)

	Prenatal diagnosis	Mutation testing (N)
Beta thalassemia	65	180
Spinal Muscular atrophy	10	109
Duchene Muscular dystrophy	23	193
Fragile X screening	2	323
Cystic fibrosis	14	67
Achondroplasia hot spot		26
Non-syndromic hearing loss (Connexin 26) hot spot	-	36
Rett Syndrome analysis	2	57
Metachromatic leukodystrophy (MLD)		3
Von Hippel-Lindau syndrome (VHL)		29
Mucopolysaccharidosis type I (MPS I)	1	
Mucopolysaccharidosis type II (MPS II)	2	2
Mucopolysaccharidosis type III (MPS IIIB)		1
Mucopolysaccharidosis type MPS IVA	2	2
Multiple Endocrine Neoplasia type 2 (MEN2)		36
Prader Willi Syndrome		23
Angelman Syndrome		12
Beckwith Wiedemann Syndrome		9
Silver Russel Syndrome		7
Apert Syndrome		3
Biotinidase Deficiency		1
Ectodermal Dysplasia		12
Fibrodysplasia ossificans progressive (FOP)		3
Glycogen storage disorder - I		1
Krabbe disease		4
Gaucher disease (L444P hotspot mutation)	3	12
Galactosemia		2
IncontinentiaPigmenti	1	2
HoxD13		5
Steroid 5-alpha reductase 2 Deficiency (SRD5A2)	1	19
Limb Defect		8
Radial Ray Defect		4
Blau Syndrome		6
Noonan Syndrome		1
Gilbert Syndrome (UGT1A1)		6

Skeletal Dysplasia	1	2
Congenital Adrenal Hyperplasia	2	1

### Biochemical Genetics Lab

1. Antenatal Screening: 492

### Dual Marker - 492

2. Enzyme Assays & Biomarker studies for Inborn Error of Metabolism: 618

Enzyme assay	Disorder	Total Pt	Deficient
Beta glucosidase	Gaucher Disease	55	21
Sphingomyelinase	Neimempick disease	53	09
Chitotriosidase	Biomarker	89	62
MPS1	Hurler	19	12
MPSII	Hunter	32	13
Alpha-N-Acetylglucosaminide	MPSIIIB	15	04
	MPSIIIC	14	01
Galactose 6-sulfate sulfatase	MPSIV A	22	18
Gangliosidosis	GM1/MPSIVB	37	14
Arylsulfatase A	MLD	39	06
Arylsulfatase B	MPSVI	08	04
Beta Glucorinadse	MPSVII	01	
Hxosaminidase	Tay-Sach	26	04
Total Hexosaminidase	Sandoff disease	05	02
Plasma HEXA	Mucopolipidosis	10	04
Plasma ASA	Mucopolipidosis	12	06
Beta Galactocerebrosidase	Krabbes	31	02
Palmitoyl protein thioesterase	INCL 1	20	03
Tripeptidyl peptidase I	NCL2	18	05
Alpha glucosidase	Pompe	17	05
Fabry		07	03
Biotinidase		33	16
GALT		49	05
Fucosidase		02	02
Manosidase		04	03

3. Urine metabolic screening

Urinary GAGs - 96

Urine MPS spot test - 04

HCU test - 02

Urine reducing substances - 37

DNPH - 40

FeCl<sub>3</sub> - 20

Sulfite oxidase -12

TLC for Oligosaccharides - 29

TLC for UAAG - 24

4. Prenatal Diagnosis of Lysosomal storage disorders – 19 (affected 3)

5. Small Molecule Inborn Errors of Metabolism

1. Blood Ammonia - 1714

2. HPLC - 191

**Neonatology****2020-21**

Invasive blood pressure monitoring: 110	Targeted neonatal echocardiography: 145
Targeted neonatal ultrasonography:140	High frequency ventilation: 34
Inhaled nitric oxide: 14	Total parenteral nutrition: 94
AABR: 180	Therapeutic hypothermia:7
Arterial blood gas analysis: 350	Point of care glucose estimation: 800
Hematocrit: 400	Total serum bilirubin: 300
Gram staining: 300	ROP examinations: 390
Laser therapy: 5	Transcutaneous Bilirubin: 600
Intravitreal Bevacizumab: 3	

**2021-22**

Invasive blood pressure monitoring: 126	Targeted neonatal echocardiography: 178
Targeted neonatal ultrasonography:195	High frequency ventilation: 32
Inhaled nitric oxide: 12	Total parenteral nutrition: 102
AABR: 234	Therapeutic hypothermia:8
ROP examinations: 162	Laser therapy: 20
Transcutaneous Bilirubin: 1300	Intravitreal Bevacizumab: 1

**2022-23**

Invasive blood pressure monitoring: 115	Targeted neonatal echocardiography: 175
Targeted neonatal ultrasonography:130	High frequency ventilation: 28
Inhaled nitric oxide: 21	Total parenteral nutrition: 105
AABR: 225	Therapeutic hypothermia:12
Arterial blood gas analysis: 380	Point of care glucose estimation: 850
Hematocrit: 410	ROP examinations:145
Laser therapy:13	Transcutaneous Bilirubin:-- 1400
Intravitreal Bevacizumab:2	

**Nephrology****2020-21**

Kidney transplants in children: 2	Hemodialysis: 1066
Acute or chronic peritoneal dialysis (including automated): 91	Plasmapheresis sessions: 252
Continuous renal replacement therapy; Sustained low efficiency dialysis: 1; 6	Temporary hemodialysis catheter placement (internal jugular, femoral): 32
Renal biopsies : 114	Ambulatory blood pressure monitoring: 52
Monitored infusions (albumin, cyclophosphamide, rituximab): 500	ELISA for antibodies to complement factor H; B: 336; 409
Surface CD46 expression: 22	

**2021-22**

Kidney transplants in children: 5	Hemodialysis* : 1091
Acute or chronic peritoneal dialysis (including automated): 69	Plasmapheresis sessions (membrane/centrifugation based)*: 335 (288/47)
Continuous renal replacement therapy; Sustained low efficiency dialysis: 5; 15	Temporary hemodialysis catheter placement (internal jugular, femoral): 67
Renal biopsies: 210	Ambulatory blood pressure monitoring: 150

Monitored infusions (albumin, cyclophosphamide, rituximab): 665	ELISA for antibodies to complement factor H: 390
Surface CD46 expression: 10	

\* Includes 142 extracorporeal procedures performed outside of pediatric medicine wards and 13 procedures performed in COVID areas.

## 2022-23

Kidney transplantation <sup>1</sup> : 16	Hemodialysis <sup>2</sup> : 1320
Sustained low efficiency dialysis: 12	Hemodiafiltration <sup>2</sup> : 3
Acute or chronic peritoneal dialysis (including automated): 396	Plasmapheresis sessions (membrane/centrifugation based): 314 (291/23)
Continuous renal replacement therapy; Sustained low efficiency dialysis: 17; 34	Temporary hemodialysis catheter placement (internal jugular, femoral): 65
Placement of peritoneal dialysis catheter: 78	Renal biopsies: 170
Ambulatory blood pressure monitoring: 360	Monitored infusions (albumin, cyclophosphamide, rituximab): 1183
ELISA for antibodies to complement factor H: 420	

1. Includes five cadaveric transplantations and three ABO incompatible transplants.
2. For the first time, hemodialysis was performed in a neonate with acute kidney injury for 3 days, hemodialysis was performed using regional citrate anticoagulation in two children, hemodiafiltration was performed for myoglobinuria and acute kidney injury, and maintenance hemodialysis was performed in an infant for five months.

## Neurology

### 2020-21

- 1) EEG –105, Video EEG –112, Ambulatory EEG 132 – (Total EEG –349)
- 2) NCS and EMG -21
- 3) Diagnostic TMS- 27, Therapeutic TMS- 1
- 4) RNST - 04
- 5) PSG – 06
- 6) Day Care Procedures: Lumbar Puncture – 30, Skin biopsy – 02, Nerve biopsy – 2, Muscle biopsy – 15
- 7) Spinraza treatment to spinal muscular atrophy patients under SIPHAP (SPINRAZA INDIVIDUAL PATIENT HUMANITARIAN ACCESS PROGRAM)

Loading dose (4 doses fortnightly) given to SMA patients: 12 patients

Psychological and Developmental test	
VSMS for SQ (for SQ, Cochlear Implant)	180 (64)
Developmental Profile 3	95
Childhood Behavior Checklist	160
Malin's Intelligence Scale for Indian Children	245
Wechsler Intelligence scale for children	07
House Tree Person test	75
Developmental scale for Indian Infants (DASII)	214
Sensory Profile 2	00
DSM-5 for Autism Spectrum Disorder	155
Childhood Autism Rating Scale	06
INCLLEN tool for ASD	85
ISAA tool for ASD	85
DSM-5 for Attention Deficit Hyperactivity disorder	25



CONNER's Rating Scale for ADHD	21
Grade Level Assessment Device	44
NIMHANS battery for learning disorder	52
<b>Intervention and Counseling</b>	
<b>Total Psychological intervention</b>	
Early stimulation therapy	260
Behavioral Intervention	240
Psychological & personality assessment using HTP (Functional)	85
Psychological counseling for Nocturnal Enuresis	18
Counseling for Tic disorder	04
Cognitive Behavior Therapy	130
Parent's Counseling in Ward	62
Parent's Counseling in Emergency	12
<b>Certification</b>	
<b>Disability Certification</b>	
Patients evaluated for certification	<b>116</b>

#### 2021-22

- 1) EEG –1591, Video EEG – 780, Ambulatory EEG-49 – (Total EEG –2420)
- 2) NCS and EMG -174
- 3) Diagnostic TMS- 64, Therapeutic TMS- 138
- 4) RNST - 14
- 5) PSG – 82
- 6) Day Care Procedures: Lumbar Puncture – 81, Skin biopsy –11, Nerve biopsy –1, Muscle biopsy – 24
- 7) Spinraza treatment to spinal muscular atrophy patients under SIPHAP (SPINRAZA INDIVIDUAL PATIENT HUMANITARIAN ACCESS program given to SMA patients as per protocol: 47 (12 old + 35 new) patients
- 8) Gene therapy Intravenous infusion-10 patients (admitted in private ward a day prior)
- 9) Risdiplam 5 patients have been selected for humanitarian access program, 2 have arranged from crowd funding and 6 are receiving the drug

The toll-free 24 × 7 Child Neurology tele-helpline addressed to issues for 7830 calls (average daily 21) from 1 April 2021 to 31 March 2022

<b>Psychological and Developmental test</b>	
VSMS for SQ (for SQ, Cochlear Implant)	559
Developmental Profile 3	512
Childhood Behavior Checklist	813
Malin's Intelligence Scale for Indian Children	630
Wechsler Intelligence scale for children	07
House Tree Person test	272
Developmental Scale for Indian Infants (DASII)	636
Sensory Profile 2	63
DSM-5 for Autism Spectrum Disorder	987
Childhood Autism Rating Scale	457
INCLLEN tool for ASD	59
ISAA tool for ASD	55
DSM-5 for Attention Deficit Hyperactivity disorder	35
DSM-5 for Social Communication Disorder	5

Comprehensive Test of Phonological Processing	31
Child Sleep Habit Questionnaire	79
Quality of life for children	66
Gassel drawing Test	55
CONNER's Rating Scale for ADHD	33
Grade Level Assessment Device	87
NIMHANS battery for learning disorder	79
<b>Total Patients = 5,520 Including ward and Emergency Patients.</b>	
<b>Intervention and Counseling</b>	
<b>Total Psychological intervention</b>	
Early stimulation therapy	761
Behavioral Intervention	818
Psychological & personality assessment using HTP (Functional)	117
Psychological counseling for Nocturnal Enuresis	51
Counseling for Tic disorder	14
Cognitive Behavior Therapy	417
Parent's counseling in Ward	66
Parent's Counseling in Emergency	18
Tele-Consultation	88
<b>Disability Certification</b>	
Patients evaluated for certification/UDID	<b>Assessment done for 265 patients 29 UDID Certificate issued</b>

## 2022-23

Total number of procedures done

- 1) EEG –2090, Video EEG –1839, Ambulatory EEG-76 – (Total EEG –4005)
- 2) NCS – 336 EMG – 62
- 3) Diagnostic TMS- 48, Therapeutic TMS- 45 RNST –37
- 4) PSG –78
- 5) Day Care Procedures: Lumbar Puncture –258, Skin biopsy –30, Nerve biopsy –2, Muscle biopsy – 75, Muscle biopsy (under Sarepta trial)- 12
- 6) Spinraza treatment to spinal muscular atrophy patients under SIPHAP (SPINRAZA INDIVIDUAL PATIENT HUMANITARIAN ACCESS program given to SMA patients as per protocol: 47 (12 old + 35 new) patients.
- 7) Gene therapy Intravenous infusion-10 patients (admitted in private ward a day prior)
- 8) Risdiplam 5 patients have been selected for humanitarian access program, 2 have arranged from crowd funding and 6 are receiving the drug. Till 28 March 2023.

<b>Psychological and Developmental test</b>	
VSMS for SQ (for SQ, Cochlear Implant)	545
Developmental Profile 3	440
Childhood Behavior Checklist	715
Malin's Intelligence Scale for Indian Children	632
Wechsler Intelligence scale for children	10
House Tree Person test	387

Developmental scale for Indian Infants (DASII)	698
Sensory Profile 2	60
DSM-5 for Autism Spectrum Disorder	770
Childhood Autism Rating Scale	480
INCLLEN tool for ASD	354
ISAA tool for ASD	354
DSM-5 for Attention Deficit Hyperactivity disorder	256
DSM-5 for Social Communication Disorder	12
Comprehensive Test of Phonological Processing	24
Child Sleep Habit Questionnaire	175
Quality of life for children	175
Gassel drawing Test	165
CONNER's rating Scale for ADHD	165
Grade Level Assessment Device	200
NIMHANS battery for learning disorder	202
<b>Intervention and Counseling</b>	
Total Psychological intervention	
Early stimulation therapy	600
Behavioral Intervention	750
Psychological & personality assessment using HTP (Functional)	400
Psychological counseling for Nocturnal Enuresis	70
Counseling for Tic disorder	55
Cognitive Behavior Therapy	385
Parent's counseling in Ward	100
Parent's Counseling in Emergency	25
Tele-Consultation	125
Disability Certification	
Patients evaluated for certification/UDID	<b>Assessment done for 450 patients 342 UDID Certificate issued</b>

**Oncology**  
2020-21

Sl. No	Tests	Numbers
1.	Pro BNP	175
3.	Uric Acid	144
4.	SGOT	84
5.	SGPT	84
6.	Phosphate	24
7.	Magnesium	144
8.	Bilirubin (Direct)	60
9.	Bilirubin (Total)	60
10.	Troponin-I	175
11.	Total Protein	24
12.	Albumin	24
13.	Creatinine	24
14.	Urea	24

15.	Potassium	24
16.	Flowcytometry & MRD estimation for acute lymphoblastic leukemia	100
17.	Hemogram I critical care lab	4000
18.	Bone marrow	700
19.	CSF/ITM	1100
20.	Biopsy	600
21.	PRP/PRBC transfusion	1200

**2021-22**

Sl. No.	Tests	Numbers
1.	Pro BNP	547
2.	TROPONIN-I	547
3.	Uric Acid	20
4.	SGOT	12
5.	SGPT	12
6.	MAGNESIUM	20
7.	FLOWCYTOMETRY & MRD	100
8.	Bone Marrow cultures	25
9.	Hemogram Critical care Lab	4000
10.	CSF/ITM	1500
11.	BM aspirations	750
12.	BIOPSY/FNAC	300
13.	PRP/PRBC TRANSFUSION	2000

**2022-23**

Sl. No.	Tests	Numbers
1.	Pro BNP	672
2.	TROPONIN-I	587
3.	FLOWCYTOMETRY & MRD	123
4.	CSF/ITM	1622
5.	BM aspirations	793
6.	BIOPSY/FNAC	345

***Pulmonology, Intensive Care, Tuberculosis***

**2020-21**

1. High Speed Video Microscopy:	10
2. Transmission Electron Microscopy from nasal brush:	15
3. Mutations for PCD	10
4. Sweat chloride estimation:	120
5. Pediatric Flexible Bronchoscopy	102
6. EBUS (Endobronchial ultrasound)	10
7. Spirometry	340
8. Infant PFT	120
9. Plethysmography	2
10. Impulse Oscillometry (IOS)	200
11. Fractional excretion of Nitric Oxide (FeNO)	65
12. Nasal Nitric Oxide (NO)	43
13. Total and specific IgE	43

14. Specific IgE against Aspergillus	30
15. Specific IgG against Aspergillus	30
16. Specific IgG against Lentil	6
17. Specific IgG against avian antigen	6
18. Exercise testing	5
19. 24 hours esophageal pH study	2
20. Cryo lung biopsy	1
<b>2021-22</b>	
1. High Speed Video Microscopy:	167
2. Transmission Electron Microscopy from nasal brush:	10
3. Mutations for PCD	25
4. Sweat chloride estimation:	498
5. Pediatric flexible Bronchoscopy	259
6. EBUS (Endobronchial ultrasound)	13
7. Spirometry	650
8. Impulse Oscillometry (IOS)	600
9. Fractional excretion of Nitric Oxide (FeNO):	231
10. Nasal Nitric Oxide (NO):	89
11. Total and specific IgE	152
12. Specific IgE against Aspergillus	30
13. Scific IgG against Aspergillus	30
14. Specific IgG against Lentil	5
15. Specific IgG against avian antigen	6
16. Exercise testing	26
17. 24-hour esophageal pH study	5
18. Cryo lung biopsy	2
<b>2022-23</b>	
1. High Speed Video Microscopy:	320
2. Transmission Electron Microscopy from nasal brush:	107
3. Mutations for PCD	30
4. Sweat chloride estimation:	650
5. Pediatric flexible bronchoscopy	200
6. EBUS (Endobronchial ultrasound)	8
7. Spirometry	820
8. Impulse Oscillometry (IOS)	754
9. Fractional excretion of Nitric Oxide (FeNO):	540
10. Nasal Nitric Oxide (NO):	93
11. Total and specific IgE	203
12. Specific IgE against Aspergillus	102
13. Scific IgG against aspergillus	30
14. Specific IgG against Lentil	8
15. Specific IgG against avian antigen	15
16. Exercise testing	6
17. 24-hour esophageal pH study	2
18. Cryo lung biopsy	2

**Rheumatology****2020-21**

Transitional care services in collaboration with Department of Rheumatology (transferred to adult care): 01  
 Intra-articular steroid (IACS) administrations & USG-guided IACS: 120  
 Joints injected: 279  
 USG guided IACS injections: 14  
 Diagnostic arthrocentesis: 06  
 Diagnostic Skin biopsy: 03  
 Administration of Biological agents for various rheumatic disorder: 55

**2021-22**

Transitional care services in collaboration with Department of Rheumatology (transferred to adult care): 02  
 Intra-articular steroid (IACS) administrations & USG-guided IACS: 143  
 Diagnostic arthrocentesis: 06  
 Diagnostic skin biopsy: 7  
 Nail fold capillaroscopy: 25  
 Collaboration with Jiv Daya Foundation to help poor patients in getting biological agents

**2022-23**

IACS (Intra-articular corticosteroids) joint injections: 319  
 Nail fold capillaroscopy: 33  
 Other procedures ( arthrocentesis/skin biopsies etc.): 11  
 Administration of Biologicals and other DMARDs through day care: 183

**D Yadav (MSSO)****Funds procured through various schemes for patient welfare and benefit****2020-21**

Chief Minister Relief Fund (CMRF)	6,00,000
Hospital Poor Fund (HPF)	58 750
RAN UMBRELA SCHEME	1,69,07,202
Prime Minister Relief Fund (PMRF)	900000
ESI	10,00,000
Other Sources	60,000
<b>TOTAL AMOUNT</b>	<b>Rs 1,95,25,952</b>

**2021-22**

Chief Minister Relief Fund (CMRF)	73,62,000
Hospital Poor Fund (HPF)	2,33,000
RAN UMBRELA SCHEME	42,00,000
Prime Minister Relief Fund (PMRF)	52,00,000
ESI	35,05,000
Other Sources	10,00,000
<b>TOTAL AMOUNT</b>	<b>Rs 2,15,00,000</b>

**2022-23**

Rashtriya Aarogya Nidhi (RAN)	96,00,000
Health Minister Discretionary Grant (HMDG)	12,00,000
Delhi Aarogya Kosh (DAK)	1,02,77,624

Prime Minister National Relief Fund (PMNRF)	25,36,000
Chief Minister Relief Fund (CMRF)	5,08,14,016
AIIMS Poor Fund	1,91,800
Pediatric Kidney Foundation (PKF)	70,501
ESI	39,95,700
Total	<b>7,86,85,641</b>

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Arvind Bagga** was Secretary General, Asian Pediatric Nephrology Association; Assistant Secretary, International Pediatric Nephrology Association (IPNA); Editor of Pediatric Nephrology, Textbook of the IPNA, Essential Pediatrics, Asian Journal of Pediatric Nephrology and Frontiers Pediatrics; Part of Editorial Board of Pediatric Nephrology, Indian Journal of Pediatrics, Pediatrics & Child Health, World J Pediatrics.

**Professor SK Kabra** was Member WHO Group for Developing Guidelines (GDG) Living Recommendation on Pharmacotherapy of Covid-19 infection; Member WHO Group for Developing Guidelines (GDG) GDG Clinical Management Group; was appointed as expert group member NTEP Program Central TB Division, Government of India; appointed as Member of Committee for Pulmonology Fellowship. Indian Academy of Pediatrics; First IAP Hadoti Society oration on “Evidence based practical approach in Pediatric pulmonology with special reference to respiratory infections” organized by IAP Hadoti branch at Kota on 4 December 2022.

**Professor M Kabra** was nominated as member of Technical Expert Committee (TEC) on “Human Genetics, Genome Engineering & Nanotechnology Applications in Healthcare”; Non-Official Member of Governing Body (GB) of National Institute of Family Welfare; an eminent Geneticist for UT state ART and surrogacy board; a Chairperson of the PSC (Project screening and steering committee) on the Diagnosis and Prevention of Stillbirth and as a member of Taskforce on prevention of neural tube defect under the auspices of National Academy of Medical Sciences, New Delhi.

**Professor Pankaj Hari** was Council Member, International Pediatric Nephrology Association; Vice Chair, Best Practices & Standards Committee, International Pediatric Nephrology Association; Member, European Rare Kidney Disease Reference Network (ERKNET) Expert Panel on ERN guidelines; Member, Editorial Board: Asian Journal of Pediatric Nephrology, Indian J of Trauma Emergency Pediatrics, Journal of Pediatric Urol, International Journal of Nephrology and Urology; Reviewer: Clinical Journal of American Society of Nephrology, British Medical J, Pediatric Nephrology, Nephron, Kidney and Blood Pressure Research, Acta Paediatrica, Renal failure, Indian Pediatrics.

**Professor Sheffali Gulati** was National Women Bioscientist (Senior Category) Award, DBT, GOI for lifetime contributions performing excellent research in the country with potential benefit for students and society 2021-22; *AIIMS Excellence Research Award- 2020*; Elected as fellow of Royal College of Paediatrics and Child Health; UK.; Part of International consortium on dietary therapies (core KDT), UK; President, Association of Child Neurology (AOCN), India, 2023-2025; Founder Member AOCN (2002; INSAR (International Society for Autism Research) Global Senior Leader for India; Editor of Autism, Sage journals (Impact factor 6:684, 5-year impact factor 7.525); Vice-Chairperson, Technology Governance Steering committee for Healthcare, All India Council for Robotics and Automation (AICRA); Member, Advisory board ICNTN, Coordinator for Neurodevelopmental disorders module ICNTN (ICNA: International Child Neurology Association); Founder President, Academy of Pediatric Neurology (AOPN), Delhi; Past Chairperson (2021), National Guidelines Coordinator (Developed National epilepsy guidelines 2022; epilepsy module- > 15000 views), Academy of Pediatric Neurology, IAP; Co-Convenor, Pediatric Epilepsy Subsection; Executive Board Member, Indian Epilepsy Society; Chairperson for subcommittee for formulating guidelines for neurodevelopmental disorders; Co-Chairperson National Consortium for Research and Development on Therapeutics for Rare Disease in India: neuromuscular diseases, ICMR; Coordinator of the committee formulating guidelines for DMD and SMA by MOHFW; Site Lead for Clinical and Research in area of Autism Spectrum Disorder as part of Indo-Canadian Autism Network (ICAN); Member, Global Research on Developmental Disabilities Collaborators; Centre of Excellence and Advanced Research for Childhood Neurodevelopmental Disorders has been working towards research, academics and empowerment of professionals and parents. The toll-free 24 × 7 Child Neurology tele-helpline addressed to issues for 20 to 30 calls daily; Expert Group Member for reviewing projects for Medical Research Council, UK; Expert Project Monitoring Committee Member (PMC) for Grand Challenges India (GCI) initiative, Rehabilitation Council of India; for various schemes of ICMR, DBT, Birac, National Institute for Empowerment of Persons with Multiple Disabilities, MOSJE; Collaborator, mentor for MeiTy project, Government of India on “Neurocomputing and cognitive intelligence” of IIT Delhi, NIT Durgapur to develop smart AI-powered vest for ASD and multimodal interface to predict epilepsy; National Coordinator for training Master Trainers in diagnosing and certifying children with Autism (National Trust), developing an online training course; Member of various expert committees of Government of India, MCI, UGC, CBSE, NCERT,

Scientific Advisory Committee member for various Universities/institutes (Kerala University of Health Sciences, Sree Chitra Tirunal Institute of Medical Sciences and Technology and others), National List of Essential Medicines (NLEM), AB PM-JAY health benefit packages, Indian pharmacopeia mission- National Formulary of India (NFI), Signal Review Panel, Pharmacovigilance Programme of India; Chairperson, Board for disability assessment and certification. Department of Pediatrics AIIMS; actively contributed to Public health awareness in the following domains by delivering talks on Autism Awareness on 2 April 2022, in Radio City, FM Rainbow and DD Kisan, and on 3 April 2022 in DD News and on Brain Day in DD Kisan on 23 July 2022. Had participated in a live show “Just Junior” in Doordarshan on 16 March 2023 focussing on Autism.

**Professor Rakesh Lodha** was Editor of Indian Journal of Pediatrics; Associate Editor of Indian Pediatrics, Associate Editor of NMJI; Member of Technical Resource Group for Pediatric Antiretroviral Therapy of MoHFW; Member of multiple technical and project advisory groups and Taskforce of ICMR; Member of Global Burden of Diseases group. Member of Guideline Development groups of WHO for Pharmacotherapy of COVID-19; Prevention and management of pneumonia and diarrhoea in children 1 month to 9 years of age; Fluid management of sick infants/children; COVID Clinical Management; Panelist for the WHOPaediatric Drug Optimization (PADO) meeting for COVID-19 therapeutics; Member of the HPV Working Group of NTAGI; Special invitee for the COVID working group of NTAGI; Member of the RSV Working Group of NTAGI; Member of the vaccine data analytics committee (VDAC), and committees for COVID-19 vaccination tracker; Breakthrough infections analytics; and COVID Vaccine Efficacy analysis of the ICMR; Member of ‘Clinical Working Group’ of Dengue Alliance; Member of the Pediatric Sepsis Definition Taskforce of the Society of Critical Care Medicine, US.

**Professor Ramesh Agarwal** served as a member of Task Force for Reducing MMR, IMR and malnutrition in the state of Madhya Pradesh, Member of Steering Committee for the neonatal sepsis drug development trials of GARD/P-an international consortium of governments, academia and non-governmental partners.

**Professor Rachna Seth** was nominated by the Pediatric Oncology division as a few of the participating centers in the South-East Asia Regional Childhood Cancer Network (SEAR CCN); nominated to represent AIIMS, New Delhi in co-developing the Curing Safely South-East Asia Regional Resource Guide, by Curing Safely Working Group. WHO; as expert to formulate national guidelines for non-communicable diseases(NCDs): Ministry of Health & family welfare; as expert central Indian Academy of Pediatrics to formulate disease-specific guidelines for transition of care (TOC)for chronic diseases in India; Expert for faculty selection.

**Professor Vandana Jain** was invited to deliver the headline presentation on Developmental Origins of Health at the Lancet Summit on Childhood obesity held in March 2023, organized by Lancet, UN and WHO and as expert for consultation on Need for India Specific Growth Charts by ICMR and WHO in June 2022; member of the Technical advisory group (TAG) by ICMR and MoHFW for Development of growth references for 0-18 year old healthy Indian children and adolescents; nominated as the coordinator for the 2nd edition of the prestigious Asia Pacific Pediatric Endocrine Society Fellows School to be held in Delhi NCR in 2023 and as SAC Expert Committee Member in the area of Child Health and Nutrition of ICMR-NIN; was external examiner for DM Pediatric Endocrinology at PGI Chandigarh in May 2022 and for BCPS-II exam at Dhaka, January 2023; served as member of ICMR Taskforce on Non-alcoholic Fatty Liver Disease, Youth Onset Diabetes Registry, and Polycystic Ovary Syndrome (PCOS); appointed as Associate Editor for Frontiers in Pediatrics (IF 3.56) and Frontiers in Endocrinology (IF: 5.6) in 2022.

**Dr Aditi Sinha** was Secretary and Treasurer, Indian Society of Pediatric Nephrology; Associate Editor, Asian Journal of Pediatric Nephrology; Section Editor (Nephrology): Indian Journal of Pediatrics; Member, Editorial Board: Pediatric Nephrology, Frontiers in Pediatric Nephrology; Reviewer: Indian Pediatrics, Clinical Journal of American Society of Nephrology, Kidney International, Indian Journal of Nephrology, Indian Journal of Transplantation, Pediatric Research.

**Dr Neerja Gupta** was Nodal officer for centre of excellence under National Rare disease policy at AIIMS, New Delhi 2022; a member of Storage disorders expert group under ICMR “National Consortium for Research and Development on Therapeutics for Rare Diseases” March 2022; a member of Technical working group on burden of birth defects by World Health Organization August 2022.

**Dr M Jeeva Sankar** featured in the top 2% of the recently compiled global database of the 150,000 most-cited authors across all scientific fields based on their ranking of a composite indicator using the data for citations in a single calendar year, 2021; Member of the Guideline Development Group (GDG) of the World Health Organization (WHO), Geneva, in ‘Maternal and Perinatal Health’; Member of the ‘Technical Advisory Group (TAG)’ of the WHO ACTION-III trial on the use of low-dose antenatal steroids in women with preterm labor (funded by the Bill & Melinda Gates Foundation); Expert and Member of the Project Monitoring Committee (PMC) of the BIRAC-DBT-BMGF Grand Challenges India for reviewing the progress of research projects; Global and national collaborator to the ‘Global Burden of Diseases, Injuries,



and Risk Factors Study (GBD)' – the largest effort to measure epidemiological levels and trends of disease burden worldwide – for Health Metrics and Evaluation (IHME) at the University of Washington; Member of the Editorial Group of 'NNF – Clinical Practice Guidelines'; involved in hand-holding neonatologists across the country to help develop evidence-based guidelines; Member of the Working Committee of the 'Clinical Research Unit (CRU),' AIIMS, New Delhi, which provides resources and services to advance clinical research in the institute; Member of the Technical Group overseeing the conduct of the 'Fellowship in Clinical Research Methodology and Evidence-Based Medicine' course at AIIMS, New Delhi; Member of the Expert Consultation Group on the 'STG Development Manual' that facilitates the development of Standard Treatment Guidelines for the MoHFW, Government of India; Faculty of the Master of Science (M.Sc.) in Clinical Research program conducted by the Translational Health Science and Technology Institute, Faridabad.

**Dr Jhuma Sankar** won 2nd prize in AIIMS Excellence in Research Award (2021-2022) for research paper on roll on antibiotic administration in septic shock; received ICMR Kshanika Oration Award 2020 (Received in 2022); received Fellowship of Indian Society of Critical Care Medicine 2021 (received in 2022); Thesis Student got 2nd place in IJP best MD thesis for the year 2022; students received 1st prize and 2nd prize in Awaed papers in Respicon 2022; conducted IAP-BLS and ALS course for postgraduates, DM students and nurses in September 2022; helped in conducting AIIMS Pediatric pulmonology and Intensive Care module for nurses in November 2022.

**Dr Kanaram Jat** did Thesis evaluation: MD Pediatrics, AIIMS, Jodhpur; MD Pediatrics GMCH, sector -32, Chandigarh.

**Dr Biswaroop Chakrabarty** won the AIIMS Research Excellence Award for the year 2020 received in 2022; Association of Child Neurology (AOCN) All Presidents' Young Investigator Award, 2023; Part of the National Expert Group for Management of Pediatric Wilson Disease; External examiner for BCPS-II exam at Dhaka and MBBS exam at MAMC, New Delhi; PhD external examiner at PGIMER, Chandigarh; Core member of Education Vertical of AOCN, India; DM Pediatric Neurology thesis evaluator for Trivandrum Medical College.

**Dr Rajni Sharma** was Managing Editor of Journal of Pediatric Endocrinology and Diabetes (official journal of the Indian Society for Pediatric and Adolescent Diabetes) 2021-2023; evaluated MD Pediatrics thesis of the following Institutes (Lady Hardinge Medical College: 3, PGIMER, Chandigarh: 1); was on the advisory committee of Central Adoption Resource Agency, New Delhi and Central Bureau of Investigations, New Delhi.

**Dr Anu Thukral** was part of Advisory Group (TAG) of the Care for Small or Sick Newborns Course training materials; Member Every Newborn Action Plan (ENAP-C) Technical Working Group; Member of technical advisory group for implementation guidance on WHO universal screening recommendation for SEARO; Member of Neonatology group for development of STW for common newborn conditions by ICMR and Department of Health Research, Ministry of Health and Family Welfare, Government of India; released on 12 July 2022; received Certificate of appreciation and recognition for contribution for activities of SET facility for the year 2022 by Director, AIIMS; Member of the clinical practice group for development of guidelines on "Screening, prevention and management of hyperbilirubinemia" for National Neonatology Forum, India was awarded Fellowship of National Neonatology Forum (FNNF) for continued and noticeable contributions towards the cause of Newborn health and care over the years.

**Dr Rohan Malik** was invited as a speaker at the 6th International Symposium on Pediatric Inflammatory bowel disease held in Edinburgh, UK in September 2022.

**Dr Prashant Jauhari** was elected as Treasurer of the national child neurology body "Association of Child Neurology, India" for 2023-2025 session; Internal Examiner for MBBS; Member of the departmental Antibiotic Stewardship program. Contributed to development and revision of Departmental Antibiotic Policy and antibiotic surveillance; Technical Specification & Evaluation Committee (TSEC) member for procurement of equipments for Mother and Child Block, AIIMS, New Delhi.

**Dr Narendra Bagri** successfully completed fellowship in Pediatric Rheumatology at Bristol Royal Children Hospital, University of Bristol and Weston, Bristol, UK; was Convenor for formulating Indian Academy of Pediatrics parenting guidelines for Pediatric Rheumatic disorders.

**Dr JP Meena** was External examiner for the Final MBBS at SMS Medical College, thesis evaluation and MD Pediatrics at SMS Medical College Jaipur and JLN Medical College Ajmer; Thesis evaluator of MD Pediatrics at AIIMS, Jodhpur; Chaired a session on "Myeloid Neoplasm" at the 25th PHOCON (Pediatric Haematology-oncology Conference) held in November 2022 at India Habitat Center, New Delhi; Chairperson in the 21st RGCON ("Curing Cancer in Children and Adolescents-A Journey of Excellence") organized by Rajiv Gandhi Cancer Hospital, New Delhi, on 26 February 2023; Chaired a session in National Hematology Update-XII held at AIIMS, New Delhi, on 3 March 2023 on "Neonatal thrombocytopenia"; Internal examiner for Pediatrics and Community Medicine (Pediatrics)

for the Final MBBS Professional Examination, AIIMS, New Delhi; Reviewer of The Lancet Regional Health-Southeast Asia, Pediatric blood & cancer, Frontiers in Pediatrics, Therapeutic Advances in Infectious Disease; Nodal officer for the MR (Measles-Rubella) vaccination campaign at AIIMS, New Delhi; Updated the Departmental website (November 2022).

**Dr Aditya Gupta** compiled HSCT guidelines and presented them at the expert group meeting for HSCT in rare disorders; was Organising Secretary of the 25th Annual Pediatric Hematology Oncology Conference -2022 at New Delhi.

**Dr Ankit Verma** was Member of Technical Advisory Group (TAG) of national action plan on heat related illnesses, National Center of Disease Control, MOHFW, GOI.

**Dr Rashmi Shukla** was nominated as expert Member (Life Science Professional) National Commission for Allied and Health Care Professions, Ministry of Health and Family Welfare, New Delhi; Member Curriculum Standardization Committee of the Commission for Allied and Health Care Professionals, Ministry of Health and Family Welfare, New Delhi.

**Dr Kajal Jain** was Committee member to review the intramural project proposals submitted by faculty members and scientists of THSTI.

**Dr Lata Singh** was honored with AIIMS Excellence Research Award on 18.10.2022 in Basic Sciences category on paper entitled 'Prognostic significance of PD-1/PD-L1 expression in uveal melanoma: correlation with tumor-infiltrating lymphocytes and clinicopathological parameters' for the year 2020.

#### **Visiting Scientist**

- Dr Scot Howard, Professor, University of Tennessee Health Sciences Center (UTHSC.edu)CEO, Resonance (ResonanceHealth.org), St Jude's Children Hospital, Memphis, visited the Pediatric Oncology unit and delivered a talk and had an interactive discussion with residents on pharmacokinetics of Methotrexate toxicity and drug level monitoring.

## 9.28. Paediatric Surgery

### Professor and Head

Minu Bajpai

### Professors

Sandeep Agarwala

M Srinivas

### Additional Professors

Vishesh Jain

Prabudh Goel

Anjan Kr Dhua

Devendra Kumar Yadav

### Assistant Professors

Ajay Verma

Sachit Anand

Divya Gali

### HIGHLIGHTS

The department organized two international meetings focusing on pediatric urology. Both the meetings were Joint Meeting of the Asian Society of Pediatric Urology (ASPU) and the Indian Society of Pediatric Urology (ISPU) under the aegis of the World Federation of Societies for Pediatric Urology (WOFSPU). Symposium on Differences in Sex Development was conducted as a virtual meet on 17 September 2022. Global Plenum of Paediatric Urology, with a CME on Updates in Pediatric Robotic Urological Surgery, was organized in collaboration with the University of Chicago from 6 to 9 February 2023.

The department is shifted to the Mother & Child block, along with expansion with the faculty, space, and the staff in the upcoming maternal and child health centre at AIIMS, developing all sub-specialties and caring for children with serious malformations, advanced cancers, and others. The changes are happening at a rapid pace under the leadership of the honorable Director.

### EDUCATION

The department is actively involved in teaching and training of MCh Pediatric surgery trainees, postgraduate, undergraduate, nursing students, BSc and MSc nursing students.

A new and innovative idea to develop and improve teaching and academics in our department is the creation of a Google group called "surgery-paedia". Day to day in clinical practice and during seminars various doubts and queries are generated. The doubts and queries are allotted to residents who read about the query and post the answer in the Google group for the benefit of everybody. The platform has been further enhanced by cataloging the communications system-wise for easier and faster search and retrieval.

Case-based templates have been created for virtual case presentations of index cases in the absence of physical patients. Clinical examination videos of index cases have been created and uploaded to a cloud folder, which can be assessed by all residents and faculty. Using this method, all the residents can benefit from a case seen in the OPD. All this data is cataloged in an easy manner in the cloud for easy access to even those who are not tech-savvy.

### CMEs/Workshops/Symposia/National and International Conferences

#### Lectures delivered

**Vishesh Jain: 9**

**Anjan Kr Dhua: 7**

**Prabudh Goel: 16**

**Devendra Yadav: 1**

**Ajay Verma: 1**

**Sandeep Agarwala: 10**

#### Lectures delivered over past 3 years

2020-2021	2021-2022	2022-2023
19	31	44

**Oral papers/posters presented: 32**

**Total number of oral/poster presentations over past 3 years**

Presentation	2020-2021	2021-2022	2022-2023
Oral/poster	107	51	32

**RESEARCH**

**Funded projects**

**Ongoing**

1. Biochemical and enzymatic analysis of bile in choledochal cyst and correlation with histopathological features & expression of immune modulators, Dr Ajay Verma, AIIMS, 2 years, 2020-22, Rs 9,98,800/-
2. Cross-sectional Study to establish a normal reference range (nomogram) for Testosterone and Dihydrotestosterone in boys of age-group 0-14 years, Dr PrabudhGoel, ICMR, 4 years, 2019-24 ~ Rs 1 crore
3. Development of a portable rapidly adjustable camera holding device to minimize image tremor and fatigue of the camera holding assistant during minimally invasive surgery in children, Dr Vishesh Jain, AIIMS- IIT Delhi, 2 years (extended), 2020-23, Rs 10,00,000
4. Development of Technology based Doctor-Patient interface to Facilitate Patient Care and Health Research in Paediatric Urology, Dr Prabudh Goel, ICMR, 3 years, 2022-25, ~Rs 1 crore
5. Identification of genetic markers in hypospadias through whole exome sequencing, Dr PrabudhGoel, ICMR, 3 years, 2021, 2024, Rs 1.5 crores
6. Incidence and severity of psychosocial and somatic disorders in survivors of childhood solid malignant tumors, Dr Vishesh Jain, ICMR, 2.5 years, 2021-23, Rs 25,00,000
7. Infrared Signature of Paediatric surgical wound thermographic profiles and Early-stage test-accuracy study to Predict the surgical site infection and Development of deep learning based artificial intelligence technique for automatic image segmentation, Dhua AK, ICMR, 3, 2023-26, Rs 87 lakhs
8. Multi-centric Study for Metabolomic Profiling of Hypospadias: First Study on Indian Cohort to Characterize the Metabolic Derangements and Identify Biomarkers or new Therapeutic Targets in Different (Severity-based) Sub-Types of the Disease, Dr PrabudhGoel, DHR, 3 years, 2022 [Technically approved] to2026, Rs 2.5 crores
9. Patient Specific Three-Dimensional Printed Models of Aberrant Anatomy for Surgical Planning of Anorectal Malformations, Dhua AK, AIIMS- Intramural, 2, 2021-23, Rs 3 lakhs
10. Role of Urinary Prohibition and other urinary biomarkers levels at diagnosis in children with favorable histology Wilms's Tumor in predicting tumor response and risk of recurrence, Dr Vishesh Jain, DHR, 3 years, 2021, 2024, Rs 30 lakhs
11. To evolve Evidence-based Hypospadias Repair Guidelines for Hypospadias Repair in Indian context, Dr PrabudhGoel, ICMR, 3 years, 2021-24, ~Rs 1 crore

**Departmental projects**

1. A comparative study of smooth muscle cell characteristics and myofibroblasts in processus vaginalis of pediatric inguinal
2. A descriptive study of intra-operative and early post-operative complications in paediatric abdominal solid tumor surgery in a tertiary care centre in India
3. A pilot project to evaluate benefits of 3D Virtual Reality exercises to improve eye hand co-ordination in a surgical trainee
4. A study on Novel urinary biomarker in PUJO -PTGRI
5. Assessment of Ureteric Jets as a Supportive Diagnostic Modality in Unilateral PUJO and it's Utility on Follow-up
6. Comparison of Biliary gastritis in children with choledochal cyst after hepaticojejunostomyvshepaticoduodenostomy: A randomised trial
7. Effectiveness of Fluoride Varnish in preventing Dental Caries among paediatric patients undergoing Chemotherapy: A Randomized Controlled Trial
8. Evaluation of Renal Outcomes and compensatory hypertrophy in operated Unilateral Wilms tumor patient
9. Neonatal tumors: Clinical characteristics management and outcomes.

**Ongoing**

1. Pediatric laparoscopic excision of Choledochal cysts and Roux-en-Y hepaticojejunostomy- an audit of surgical management
2. Presentation, treatment and outcomes of children with extra-cranial Malignant Germ Cell Tumour

**Completed**

1. H19 long non-coding RNA (lncRNA) and its association with the clinical outcomes in Indian pediatric patients of Wilms tumor
2. Long term outcomes in BEEC.
3. Long term outcomes in survivors of pediatric Solid tumors
4. Normative values of renal length, parenchymal thickness and renal elastography in Indian Pediatric population
5. To study the temporal relationship between urinary molecular markers (TFF3, NGAL and Microalbumin) and conventional markers of renal injury to elucidate their relative value as a 'Point of care' test during follow-up of patients of bladder exstrophyepispadias complex.

**Collaborative projects****Completed**

1. Impact of an enhanced recovery after surgery (ERAS) protocol on length of stay, perioperative outcomes and complications in paediatric laparoscopic surgeries, Anesthesia, Critical Care and Pain Medicine

**Research over past 3 years**

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	10	11	11
Total funding	2,448,28,000	5,85,98,000	Rs 74,98,900

**PUBLICATIONS****Journals: 33****Abstracts: 10****Chapters in Book: 4****Publications over past 3 years**

	2020-21	2021-22	2022-23
<b>Publications</b>			
<i>Journal Articles</i>	73	70	33
<i>Abstracts</i>	38	44	10
<i>Chapters</i>	6	12	4
<i>Books/Monographs</i>	NIL	NIL	NIL

**PATIENT CARE****Out-patient Department.**

Pediatric surgery outpatient department is run every day. In addition, specialty clinics are also run to provide more focused attention to few conditions.

**Various specialty clinics run by the department and faculty:**

- **Monday:** Hydrocephalus Clinic (Afternoon)
- **Tuesday:** Antenatal Diagnosis and Follow-up (Forenoon)
- **Wednesday:** Pediatric Urology Clinic (Afternoon)
- Craniosynostosis Clinic (Afternoon)
- **Thursday:** GI Hepatobiliary (Forenoon)
- Pediatric Urology, Follow-up Clinic (Afternoon)
- IRCH: Pediatric Solid Tumor Clinic (Afternoon)
- Pediatric Solid Tumor Clinic (Main OPD)
- **Friday:** Pediatric Thoracic Surgery Clinic (Forenoon)
- Pediatric Urology Clinic (Afternoon)
- **Saturday:** Pediatric urology, intersex and hypospadias (forenoon)

**Facilities available**

- Intensive care unit for neonatal surgical patients
- High dependency area for Pediatric Surgical patients
- Computer-based Urodynamic and uroflowmetry study
- Computer-based Anorectalmanometry
- Computer-based Esophageal manometry

**Community services**

- Weekly outpatient clinic and operative session at CRHSP, Ballabgarh (Suspended during the last year due to COVID)

**Attendance in OPD and Specialty Clinics over past 3 years**

ATTENDANCE	2020-21	2021-22	2022-23
<b>General OPD</b>	7577	17083	27718
<b>Hydrocephalus clinic</b>	Nil	10	13
<b>Pediatric urology clinic (W/T/F)</b>	22	552	1106
<b>Intersex and urology clinic (DSD+ PISU)</b>	Nil	31	37
<b>Tumor Clinic (main hospital)</b>	5	187	539
<b>Tumor Clinic (IRCH)</b>	716	1404	2076
<b>Craniosynostosis clinic</b>	Nil	Nil	Nil
<b>CRHSP, Ballabgarh</b>	Nil	1297	1673

**Admissions over past 3 years**

ADMISSIONS	2020-21	2021-22	2022-23
AB5 WARD	1095	1586	<b>1393</b>
<i>Long Admissions</i>	890	1233	1077
<i>Short Admissions</i>	205	353	316
6B ward (Mother child block since 13th November 2022)	Not applicable	Not applicable	<b>625</b>
<i>Long admissions</i>	Not applicable	Not applicable	544
<i>Short admission</i>	Not applicable	Not applicable	81
AB5/ICU	68	154	<b>128</b>
<b>Total admissions</b>	<b>1163</b>	<b>1740</b>	<b>2148</b>

**Surgical Procedures over past 3 years**

Surgical Procedures	2020-21	2021-22	2022-23
<b>Main OT</b>			
<i>Major Procedures</i>	401	834	1485
<i>Minor Procedures</i>	108	44	16
<b>Emergency</b>			
<i>Major Procedures</i>	88	327	398
<i>Minor Procedures</i>	5	Nil	1
<b>OPD Procedures</b>			
<i>Total</i>	1011	1648	2367
<i>Biopsies</i>	45	44	66
<b>CRHSP, Ballabgarh</b>			
<i>Major Procedures</i>	Nil	71	163
<i>Minor Procedures</i>	Nil	Nil	6

### Special Investigations over past 3 years

Special Investigations	2020-21	2021-22	2022-23
1. Urodynamic study	32	245	372
2. Uroflowmetry	7	43	681
3. Anorectalmanometry	Nil	64	110

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Dr Vishesh Jain** is lead faculty to conduct a meta-analysis workshop in SPUCON; was awarded the fellowship in advanced laparoscopic surgery (FALS) from IAGES (Indian Association for Gastrointestinal Endoscopic Surgeons); Department nodal officer for COVID pandemic; Specialty Expert in the Medical Cell approved by the National Health Authority; Part of the Expert team to modify and review the Pediatric Surgery packages under the PMJAY scheme.

**Dr Anjan Kumar Dhua** is Operating Faculty in LIVE operative workshop held on 9th Live from Institute of Medical Sciences General Surgery OT BHU Varanasi, 8-10 April 2022 during PESICON 2022; Delivered an oration of the Indian Society of Pediatric Urology; Invited as Expert for selection of Senior Residents for the Department of Paediatric Surgery at Maulana Azad Medical College, New Delhi, on 2 May 2022; Specialist Board member in Paediatric Urology of the National Board of Examinations in Medical Sciences; “Co-opted Executive Member” and “Webmaster” of the North Zone of the Association of Pediatric Surgical Oncology-<https://www.apso-iaps.com/>; “Webmaster” of the Society of Children with Disorders of Sexual Development- <https://www.scdsd.org/>; Conferred fellowship—Fellow Advanced Laparoscopy Surgery (FALS Colorectal) & Fellowship of International College of Robotic Surgeons (FICRS); Question setter for Final MCh Pediatric Surgery Exam November/December 2022 Session; Thesis Examiner for MCh Pediatric Surgery course, AIIMS Jodhpur; Question setter for Post-Doctoral Exit Level (DM/MCh/DrNB), National Board of Examinations in Medical Sciences (NBEMS); Diploma in Transplant Management Procurement (TPM) training course conducted by “Donation and Transplant Institute”, Barcelona, held in AIIMS-17-18 March 2023; Invited Faculty to 7th Annual Conference of Research and Innovation Section of Pediatric Surgical Society held in AIIMS Raipur, 2-3 September 2022; Invited Faculty for Annual Conference of Paediatric Surgeons of Bihar & Jharkhand at Kathmandu on 21-23 August 2022; Invited Faculty for 4th National Conference of the Association of Pediatric Surgical Oncology, APSOCON 2022, held at PGIMER, Chandigarh (10-11 September); Invited as Workshop lead and Faculty for “Hands-on Workshop on Systematic Review and Meta-Analysis” as a pre-conference workshop for SPUCON 2022 held at Jabalpur on 1st December 2022; Invited Faculty to the 13th MAMC Pediatric Surgery update held in MAMC, Delhi, from 11 to 14 March; Co-Organized Paediatric Surgical CME-PHOCON 2022 as a part of the 25 Annual Conference of the Pediatric Hematology Oncology Chapter (PHOCON 2022), 18-20 November 2022, AIIMS & India Habitat Centre, New Delhi.

**Dr Devendra Kr Yadav** delivered an oration of the Indian Society of Pediatric Urology and evaluated thesis of MCh (Pediatric Surgery) from PGIMER, Chandigarh, and MAMC, New Delhi.

### VISITING SCIENTIST

Dr. Rajat Piplani, Faculty Pediatric Surgery, AIIMS Rishikesh, for Observership from 22 March 2022 to 21 April 2022.

## 9.29 Pathology

### Professor and Head

Venkateswaran K Iyer

### Professors

Ruma Ray (Cardioneurosciences centre)	Sandeep R Mathur	
Prasenjit Das	Deepali Jain	Geetika Singh (Dr Brairch)
Sudheer Arava (Cardioneurosciences centre)	Asit Ranjan Mridha	

### Additional Professors

Shipra Aggarwal	Seema Kaushal	Rajni Yadav
Saumya Ranjan Mallick	Adarsh Barwad	

### Associate Professor

Aanchal Kakkar

### Assistant Professors

Kavneet Kaur	Aruna Nambiranjan	Ruchi Rathore
Rimlee Dutta (Surgical disciplines)	Lavleen Singh	Anubhaw Narwal (Surgical disciplines)
Balamurugan T		Sonali Dixit
Rachana Meena		Ridhi Sood

### HIGHLIGHTS

In the year 2022-2023, the Department of Pathology maintained high-level academics and efficient clinical services. The department is engaged in routine diagnostic reporting of Surgical Pathology and Cytopathology and teaching of undergraduate and postgraduate students in addition to performing high-quality research in various areas of pathology. The department provided services to large number of patients by processing approximately 60,000 surgical pathology and ~30,000 cytopathology specimens.

The department is regularly providing advanced molecular tests for routine patient care services related to molecular pathology and cytogenetic work-up, which include *in-situ* hybridization, flow cytometry, tissue microarray, capillary electrophoresis, real-time PCR, etc. The diagnostic and predictive immunohistochemical panel has been expanded and a total of 80,530 slides have been stained and studied during this period.

The Department is regularly providing advanced molecular testing services for routine diagnostics, as well as for prognostic and predictive purposes in all pathology sub-specialties. A few examples include PIK3CA mutations in breast cancers, *EGFR* gene mutations on tissue as well as liquid biopsies, *ALK* and *ROS-1* rearrangements in lung cancer, TCR clonality assay in lymphomas, multiple gene fusions and other molecular alterations in salivary gland tumors as well as soft tissue sarcomas and *MYCN* amplification in pediatric neuroblastomas.

The department organized the annual conference of Indian Association of Pathologists and Microbiologists (IAPM), Delhi chapter, conducted on 31st July 2022 with overwhelming participation.

The Department faculty have received funding for 26 extramural and 15 intramural projects related to pathology and molecular features of a wide spectrum of neoplastic and non-neoplastic diseases. The faculty of the department have presented their research work at various virtual national and international conferences and received awards individually or to their residents. A total of 201 papers have been published in peer-reviewed national and international journals.



Prof Deepali Jain, Dr Adarsh Barwad and Dr Balamurugan T have been awarded Fellowship of Royal College of Pathologists. Prof Sudheer Arava has been involved in the development of Massive online open courses (MOOCS) for the HRD ministry for Swayam Prabha channels. Dr Aruna Nambirajan has been awarded Dr NC Nayak Award for Talented Young Pathologist.

We have many faculty members contributing to World Health Organization (WHO) blue books for the classification of tumors of various systems edited by International Agency for Research on Cancer (IARC), Lyon, France.

## EDUCATION

### Postgraduate

#### 2020-21

MD students: 33      Senior Residents: 21

PhD students: 13

#### 2021-22

MD students: 34      Senior Residents: 20

PhD students: 12

#### 2022-23

MD students: 37      Senior Residents: 25

PhD students: 11

### Short-term training/Long-term training

1. Dr Varun Bajaj has completed Long Term Observership starting from 17 August 2020 to 16 August 2022.
2. Dr (Lt Col) Divya Gupta is currently undergoing Long Term Observership starting from 15 January 2022 to 14 January 2024
3. Ms Shireen has Completed Short term observership starting from 30 January 2023 to 26 March 2023
4. Dr Priti has Completed Short term observership starting from 10 February 2023 to 10 March 2023
5. Dr Sumyra Khursid Qadri has completed Short term observership starting from 13-28 February 2023
6. Dr Sowkat Hossain is currently undergoing Short Term Observership starting from 17 November 2022 to 15 May 2023
7. Dr Senjuti Das Gupta has completed Short term observership starting from 11 July 2022 to 10 August 2022
8. Dr Manas Talukdar has completed Short term observership starting from 11 July 2022 to 10 August 2022
9. Dr Beulah Prisculla Maddirala has completed Short term observership starting from 1 September 2022 to 31 October 2022

### CMEs/Workshops/Symposia/National and International Conferences

1. 35th Annual conference of IAPM, Delhi chapter conducted on 31 July 2022 by Department of Pathology, AIIMS, New Delhi

### Lectures delivered: 91

#### Lectures delivered over past 3 years

2020–2021	2021–2022	2022–2023
46	77	91

### List of oral papers/posters presented: 48

#### Oral/poster presentations over past 3 years

2020–2021	2021–2022	2022–2023
23	88	48

## RESEARCH

### Funded projects

#### Ongoing

1. A multi centre study on determination of prevalence of incidental gall bladder carcinoma in India, Dr P Das (AIIMS), NCDIR-ICMR, Bangalore, 5 years, 2019-2024, Rs 10 lakhs
2. An integrated genomic sequencing approach to define genetic landscape of non-small cell lung carcinoma in Indian Population, DEEPALI JAIN, Indian Council of Medical Research (ICMR), India, 3 years, 2022-2025, Rs 48,00,000
3. Assessment of hypoxia inducible factor-1 alpha pathway activation and its correlation with tumor immune microenvironment and markers of tumor invasiveness in myxopapillary ependymomas, Aruna Nambirajan, AIIMS Intramural, 2 years, 2021-2022, Rs 10,00,000
4. Clinical, Pathological and Genetic Characterization of Neonatal Cholestasis, Rajni Yadav, DHR, 3 years, 2022-2025, Rs 51,57,604, Gene expression Profile of Alk Positive Anaplastic Large Cell, Saumyanjan Mallick, ICMR, 3 years 2020-2023, Rs 35,00,000
5. Clinicopathological correlation and amyloid subtyping in cases of cardiac amyloidosis: AN observational study, Sudheer Arava, DBT-ICMR, 3 years, 2023-2025,
6. Clinicopathological Correlation of PD-L1 With HER 2 And P53 In Uterine Carcinosarcomas, RuchiRathore, Undergraduate Mentorship Scheme, 1 year, 2023-2024, Rs 2 lakhs
7. Comparative analysis of host immune and tissue reaction to mucormycosis between SARS-CoV-2 positive and negative patients on surgical specimens, Kavneet Kaur, AIIMS Intramural, 1 year, 2021-2023, Rs 500,000
8. Comparative analysis of qPCR, mRNA ISH and p16 IHC for detection of high risk HPV on fine needle aspirates and core needle biopsies in patients with metastatic squamous cell carcinoma in cervical lymph nodes, Aanchal Kakkar and Chirom Amit Singh, AIIMS interdisciplinary collaborative intramural grant, 2 years, 2023-2025, 20 lakhs
9. Comparative analysis of the activation of EGFR/MAPK/SHH/NFKB pathways and mutation status of USP8/USP48/BRAF genes in clinically functioning and silent corticotroph pituitary adenomas to identify pharmacological targets for medical management of Cushing's disease, Aruna Nambirajan, ICMR, 3 years, 2021-2023, Rs 27,00,000
10. Correlation of traits of tumour immunemicroenvironment and response to targeted anti-pd-11 and antivegf therapy in hepatocellular carcinoma: a prospective study, Prasenjit Das (Pathology) & Deepak Gautam (Gastroenterology, AIIMS), AIIMS Research Section, 1 year, 2023-2024, Rs 5+5 lakhs
11. Development & Validation of an Explainable Deep Learning Network-based Software for Automated Interpretation & Grading of Duodenal Mucosal Biopsies from patients with Celiac Disease. Proposal ID: 2022-16640, PI Prasenjit Das (AIIMS, Delhi), Mausam (IIT, Delhi)
12. Development and characterization of Enteroids from human intestinal biopsies for ex-vivo studies, Prasenjit Das, DBT Consortium Project on Celiac Disease, 3 years, 2023-2026, 58 lakhs
13. DHR-ICMR Advanced Molecular Oncology Diagnostic Services, Dr Sandeep R Mathur, DHR, 5 years, 2020-2025, 10 lakhs
14. Evaluation for pd11 expression in renal transplant rejection, Dr Adarsh Barwad, AIIMS, 2 years, 2021-2023, Rs 100000
15. Evaluation of novel target antigens in Membranous Nephropathy and their clinical correlation: An attempt to reclassify cases based on target antigens in the Indian population, Geetika Singh, ICMR, 3 years, 2022-2025, Rs 38,00,000
16. Evaluation of specific molecular alterations and tumor immune microenvironment for detection of clinically actionable targets in high grade salivary gland carcinomas, Aanchal Kakkar, ICMR, 3 years, 2023-2026, Approx Rs 32 lakhs
17. Genomic Profile of High grade B cell lymphoma NOS, Saumyanjan Mallick, SERB, 3 years, 2022-2025, Rs 40,00000
18. Histopathological and Molecular Classification of Gastrointestinal Stromal Tumors, Rajni Yadav, AIIMS, 2 years, 2022-2024, Rs 9,98,000
19. Microbiome-metabolome axis in non-small cell lung cancer, DEEPALI JAIN, Lady Tata Memorial Trust, 3 years, 2023-2026, Rs 40,00,000
20. Molecular characterization of Endometrial Cancer and its correlation with Clinicopathological Features, Dr Sandeep R Mathur, AIIMS, 2 years, 2020-2023, Rs 10 lakhs

21. Molecular characterization of olfactory neuroblastomas for classification into prognostically and therapeutically relevant subgroups, Aanchal Kakkar, Science and Engineering Research Board (SERB), 3 years, 2020-2023, Approx Rs 47 lakhs
22. Molecular characterization of salivary gland carcinomas: A comparative study between AIIMS and North-East regions of India, Aanchal Kakkar and Evarisalin Marbaniang, DBT NER, 2 years, 2021-2023, Approx Rs 86 lakhs
23. Molecular mechanisms of resistance to EGFR tyrosine kinase inhibitors in EGFR mutant non-small cell lung carcinoma, ArunaNambirajan, AIIMS intramural collaborative project, 2 years, 2021-2023, Rs 20,00,000
24. Molecular sub-typing of small cell lung carcinoma (SCLC) to unravel the biological heterogeneity in clinical settings: An observational study, DEEPALI JAIN, Indian Council of Medical Research (ICMR), India, 3 years, 2020, 2023, 26 lakhs
25. MUCI pulsed DC-derived exosomes for cancer immunotherapy, Dr Adarsh W Barwad, DBT, 3+1 years, 2020-2023, Rs 6227000
26. Nanotechnological interventions in dental and bone metal implants: Tailoring smart, multifunctional interfaces towards improved osseointegrative and anti-bacterial properties, Dr Adarsh W Barwad, DBT, 3 years, 2021-2023, Rs 6867678
27. Novel Molecular Subtypes of Uterine sarcoma, Ruchi Rathore, AIIMS Intramural Grant, 2 years, 2020-2022, Rs 10,00,000
28. PDL1 and CD47 expression in Primary Diffuse Large B cell Lymphoma, Saumyaranjan Mallick, AIIMS, 1 year, 2022-2023, Rs 200,000
29. Pratosh AP (ISI, Bangaluru), ICMR, 2 years, 2023-2025, Rs 48 lakhs
30. Relook at adult low grade glioneuronal tumors of central nervous system beyond 2016 WHO classification, Kavneet Kaur, AIIMS Intramural, 2 years, 2021-2023, Rs 10,00,000
31. Standardizing technique of detection of anti-goblet cell and anti-enterocyte antibodies by indirect immunofluorescence method in patients having proximal small bowel enteropathies to identify cases of autoimmune enteropathy in a prospective patient cohort, Mentor: Prasenjit Das, AIIMS Undergraduate Mentorship Project, 1 year, 2023-2024, Rs 2 lakhs
32. Study of Inherited Mismatch Repair deficiency and its correlation with tumor mutations burden and immune microenvironment in pediatric and adult gliomas (2020-5232), Kavneet Kaur, ICMR extramural project, 3 years, 2020-2023, Rs 37,00,000
33. Sudden cardiac death in young: An autopsy and molecular study to identify the cause, Sudheer Arava, ICMR, 3 years, 2019-2023, Rs 70 lakhs
34. Sudden unexplained death in young individuals, Sudheer Arava, ICMR, 2 years, 2023-2025, Rs 3 crores
35. The Genetic Landscape of Alport Syndrome in India with Phenotypic Correlation, Geetika Singh, ICMR, 3 years, 2020-2023, Rs 50,50,000
36. The Prevalence of BRCAness Related Somatic Mutations in Uterine Leiomyosarcomas, Ruchi Rathore Sameer Rastogi, AIIMS Intramural Grant, 2 years, 2022-2024, Rs 20 lakhs
37. To evaluate the genetic association in undiagnosed idiopathic cardiomyopathy patients, Sudheer Arava, ICMR, 3 years, 2022-2025, Rs 86 lakhs
38. To evaluate the molecular subtypes of peripheral T cell lymphomas, Saumyaranjan Mallick, AIIMS, 2 years, 2020-2022, Rs 10,00,000
39. To investigate metabolic perturbations in Endometrial Cancer by targeted transcriptomics approach in an Indian cohort”, Dr Sandeep R Mathur, ICMR, 3 years, 2022-2025, 44.5 lakhs
40. Tumor mutation burden in advanced non-small cell lung carcinomas: Implications for planning treatment strategies, DEEPALI JAIN, DST-SERB POWER fellowship, 3 years, 2021-2024, Rs 30,00,000
41. Utility of Artificial Intelligence in differentiating Non-invasive Follicular Thyroid Neoplasm with Papillary like Nuclear Features from other follicular-patterned thyroid benign and malignant lesions, Dr Shipra Agarwal, DBT, 3 years, 2020-2023, Rs 17,54,844

### **Completed**

1. Immunophenotypic profile of tumour infiltrating cells of the immune system & expression of PDL1 in triple negative/Her-2 neu positive breast cancer patients and their correlation with response to neoadjuvant chemotherapy, Funded for 2017-2020, Dr Sandeep R Mathur, DST, 3 years, 2019-2021, Rs 21 lakhs

2. Comparison of various diagnostic modalities for identification of refractory celiac disease in a cohort of patients with celiac disease unresponsive to gluten-free diet, Prasenjit Das, ICMR, 4 years, 2018-2022, Rs 50 lakhs
3. miRNA as disease modifier in HLA-DQ2/DQ8 matched first-degree relatives of patients with celiac disease', Prasenjit Das, DST, India, 3 years, 2018-2022, Rs 45 lakhs
4. Explainable Deep Learning for Automated Evaluation & Grading of Duodenal Biopsies, Prasenjit Das, AIIMS-IIT, D Faculty Interdisciplinary Project, 2 years, 2020-2023, Rs 10+10 lakhs
5. Dissecting the molecular pathogenetic mechanisms of covid-19 by RNA-sequencing of lung tissue from deceased patients, Deepali Jain, Research Section AIIMS, 3 years, 2020-2023, Rs 25,00,000
6. PDL1 Immunohistochemistry in Lung Carcinoma, DEEPALI JAIN, Undergraduate Research Project Research Section AIIMS, 1 year, 2021-2022, Rs 2,00,000
7. Immunomodulators in small cell lung carcinoma, DEEPALI JAIN, Department of Science and Technology-SERB, 3 years, 2019-2022, Rs 36 lakhs
8. Study of HPV association in Sino-nasal epithelial tumors, DEEPALI JAIN, Research Section, AIIMS, New Delhi, 4 years, 2018-2022, Rs 20 lakhs
9. Correlation of Immunologic Milieu and PD-L1 in Non-Small Cell Lung Carcinoma, DEEPALI JAIN, Research Section, AIIMS, New Delhi, 4 years, 2018-2022, 9 lakhs
10. Study of Urinary Exosome as a Predictive biomarker for podocytic injury in childhood idiopathic nephrotic syndrome, Geetika Singh, DBT, 3 years, 2018-2021, Rs 76,17,160
11. Autoantibody associated alternative pathway dysregulation in nephritic syndrome secondary to membranoproliferative glomerulonephritis (Part of Pediatric Renal Biology Research Program On Nephrotic syndrome), Geetika Singh, DBT, 5 years, 2016-2021, Rs 38,00,000
12. Identification of novel molecular subtypes of prostate cancer as potential therapeutic targets for immunotherapy, Seema Kaushal, ICMR, 3 years, 2020-2023, 45 lakhs, To evaluate the role of R2TP Complex as a novel regulator of PI3K/Akt/mTOR and AR signalling pathway in prostate cancer, Seema Kaushal, DHR, 3 years, 2020-2023, 46 lakhs, Evaluation of microsatellite instability (MSI) and PDL1 expression in molecular subtypes of upper and lower tract urothelial carcinoma, Seema Kaushal, AIIMS, 2 years, 2021-2023, Rs 10 lakhs
13. Detection of SARS-CoV-2 nucleocapsid protein and evaluation of histological changes in tissue specimens for insights into COVID-19 pathogenesis, Aanchal Kakkar, AIIMS COVID Intramural project, 1 year, 2020-2021, Rs 10 lakhs
14. Evaluation of Machine Learning Techniques including Deep Learning for Identification of Malignancy in Tissue Samples, Aanchal Kakkar and S Srirangarajan, AIIMS-IITD collaborative research project, 2 years, 2018-2020, 20 lakhs
15. Evaluation of EGFR mutations, HPV status and PD-L1 expression in pathogenesis of sinonasal squamous neoplasms, Aanchal Kakkar, AIIMS Intramural, 2 years, 2019-2022, Rs 10 lakhs
16. Evaluation of ALK, ATRX and MYC immunoexpression in Neuroblastoma and their correlation with prognostic parameters, Aanchal Kakkar, AIIMS UG mentorship program, 1 year, 2021-2022, Rs 2 lakhs

## **Departmental projects**

### ***Ongoing***

1. A prospective study on refractory celiac disease in India
2. A prospective study to assess the role of contrast enhanced mammography in evaluation of multifocal and multicentric breast carcinoma in comparison with conventional imaging modalities and update and analysis of breast cancer Database
3. An ultrastructural evaluation of glomerular and peritubular capillary endothelial injury in T cell mediated rejection
4. Analysis of Molecular Biomarkers in ovarian cancer
5. Assessment of Microsatellite marker expression status in gastric carcinomas
6. Assessment of tumor budding in head and neck squamous cell carcinoma, and its correlation with clinicopathological parameters
7. Circulatory Exosomal Mi RNA as marker of endometriosis a pilot study
8. Clinicopathological and radiological features in cases in interstitial lung disease
9. Clinicopathological correlation and amyloid sub-typing in cases of cardiac amyloidosis: An observational study
10. Comparison of Surrogate Immunohistochemical Markers with Molecular Alterations in Salivary Gland Neoplasms

11. Evaluation of Indocyanine green for Sentinel Lymph Node biopsy in breast cancer: Two arm open Label parallel design non-inferiority Randomised control trial
12. Genetic characterization of right and left colonic Aberrant crypt foci
13. Genetic Landscape of ALK rearranged non-small cell lung cancer (NSCLC)
14. Genomic profiling of Non-small cell lung carcinoma using Liquid Biopsy
15. Immune microenvironment of Anaplastic Thyroid Carcinoma
16. miRNA as a disease modifier in first degree relatives of patients with celiac disease
17. Molecular and immunohistochemical characterization of Endometrial stromal sarcoma and their clinicopathological correlation
18. Molecular characterization of Endometrial Cancer and its correlation with Clinicopathological Features
19. Molecular sub-typing of small cell lung carcinoma (SCLC) to unravel the biological heterogeneity in clinical settings: An observational study
20. MYD88 L265P Mutational Studies in Characterization of Unclassifiable Mature Small B-Cell Lymphoid Neoplasms
21. MYH7 mutations in idiopathic cardiomyopathies
22. Role of PD-L1 in parathyroid carcinoma and its correlation with immune microenvironment
23. Role of Transvaginal 3D Power Doppler Ultrasound and Hysteroscopy for Endometrial Evaluation in Patients with Postmenopausal Bleeding
24. SERB- can surgery be avoided for patients with breast cancer? Role of AI and vacuum-assisted biopsy in selecting patients to de-escalate surgery.
25. Study of Exostosin, NELL1 and Semaphorin 3B in Membranous Nephropathy
26. Study of FGFR3 alterations in molecular subtypes of muscle invasive bladder cancer
27. Study of host tissue reactions in invasive mucormycosis
28. Study of intra-tumoral heterogeneity in surgically resected gall bladder adenocarcinoma
29. Subtyping and study of PI3K/AKT and MAPK signaling pathway in periampullary adenocarcinoma
30. Sudden cardiac death histopathology and molecular study to identify the cause
31. The Genetic Landscape of Alport Syndrome in India with Phenotypic Correlation
32. To evaluate the genetic association in undiagnosed cardiomyopathy patients
33. Understanding Biological & biochemical Role of R2TP complex in cervical Cancer
34. Whole Exome Sequencing based characterization of mutations in the oncogenic pathways of breast cancer among Indian women

### ***Completed***

1. A comparative study of efficacy and composition of various cell populations of extracted hair follicle outer root sheath cell suspension prepared using a single enzyme (trypsin) and multiple enzymes (trypsin, collagenase and dispase) for transplantation in vitiligo
2. A Robust Histological AIIMS-modified Comprehensive Tumor Microenvironment Scoring system for Prognostication in Colorectal Carcinomas
3. A Study to evaluate the heterogeneity of estrogen receptor (ER) expression in breast cancer using “F Fluorestradiol (FES) & F” FDG PET/CT”.
4. An immunohistochemical and ultrastructural study of glomerular capillary endothelial injury in cellular rejection
5. Assessment of Liver Fibrosis
6. Autoantibody associated alternative complement pathway dysregulation in nephrotic syndrome secondary to membranoproliferative glomerulonephritis
7. Basal plasmacytosis, eosinophilia and neutrophilic infiltration to distinguish IBD vs non-IBD: A systematic review and meta-analysis
8. Determining the accuracy of vacuum-assisted biopsy and machine learning model for predicting pathological complete response in breast cancer.
9. Diagnosis of NIFTP using molecular criteria and nuclear characteristics evaluated by artificial intelligence: A Preliminary Study

10. Elucidating the relationship between microsatellite instability, immune cell infiltration and expression of OD-L1 in epithelial ovarian carcinoma subtypes and its correlation with clinic-pathologic features, response to chemotherapy and survival
11. Evaluation of an Artificial Intelligence Based Device for Screening and Management of Preinvasive lesions of cervix
12. Exploring the Expression of Ral B PProtien in Saliva for Noninvasive Detection of Cervical Cancer
13. Histomorphological and clinical study in patients of ENL reactions
14. HTR2B Expression is a Valuable Prognostic marker in TNM stage I and II Colorectal Carcinomas
15. Immunohistochemical characterisation of Sinonasal undifferentiated carcinoma (SNUC) into Idh2 mutant and smarca4 (brg1) deficient Carcinoma
16. Long Term Outcomes in breast cancer patients in terms of overall disease-free survival and locoregional recurrence (2 decades of surgical audit of breast cancer patients)
17. Membranous Nephropathy: A study of immunofluorescence, electron microscopy and PLA2R profile with clinical correlation
18. PDL-1 expression and tumor infiltrating lymphocytes in triple negative breast cancer and its correlation with clinico-pathologic features and response to chemotherapy (MD Thesis)
19. PDL1 and PD1 immunoreactivity in Undifferentiated pleomorphic sarcoma and tumor infiltrating lymphocytes.
20. Pilot study establishing feasibility of silicone tube tip for localization of breast cancer after neoadjuvant chemotherapy within patients with breast cancer
21. Role of Contrast-Enhanced mammography in dense breasts
22. Study of galactose deficient IgA1 in glomerular diseases
23. Study of histopathological characteristics, C-KIT, PDGFRA mutations and SDHB expression in gastrointestinal stromal tumors
24. Study of newer markers for the diagnosis of unclassified, small B-cell lymphomas Study of WNT and Sonic hedgehog signaling pathways in olfactory neuroblastoma
25. Study on the activation of lectin pathway of complement in membranoproliferative glomerulonephritis
26. Validation of No-biopsy Pathway for the Diagnosis of Celiac Disease in Adults: A Multicenter Retrospective Study

### **Collaborative projects**

#### ***Ongoing***

1. Bio statistical Aspects of Prognostic Factors Including Molecular Parameters in Breast Cancer Patients: An Epidemiological Appraisal, BRA-IRCH
2. Role of Shearwave Elastography and Multiparametric MRI in the assessment of endometrial pathology, Radiodiagnosis
3. Assessment of disease severity in patients with epithelial ovarian cancer by EMT related protein expression and micro RNA 200a,b,c”, Gyn & Obs
4. Development of non-invasive diagnostic kit for ovarian cancer: A new walk on old path, Biophysics
5. Biomarkers based early diagnosis and understanding of breast cancer metastasis by infrared imaging, Biophysics
6. FBXO4 as a novel Ubiquitin Ligase that targets cyclin D1 in pathogenesis of breast cancer, Biochemistry
7. Study of PKC $\alpha$  signaling in Ovarian Serous Carcinoma, Med Oncology BRA-IRCH
8. Role of Phosphofruktokinase-P (PFKP) in Breast cancer, Med Oncology BRA-IRCH
9. Correlation of barrel index determined by MRI in early cervical cancer with operability, lymph node status and local extension of disease, Gynecology & Obstetrics
10. A prospective observational study comparing CT scan vs PET CT scan in carcinoma ovary for determining the pre-operative disease burden and resectibility, Surgical Oncology
11. Role of MRI in evaluation of residual tumor burden following neoadjuvant chemotherapy in patients with breast cancer, Radio diagnosis
12. A prospective study to evaluate the accuracy of axillary staging using ultrasound guided fine needle aspiration cytology (fnac) in early breast cancer patients, Surgical Oncology
13. Use of Cancer Testis Antigen POTE-E in preoperative diagnosis of Epithelial Ovarian Tumors: A Pilot Study, Gyn & Obs

14. Study the significance of tumour infiltrating lymphocytes in breast cancer patients, Surgery
15. Role of Serum Visfatin and Adiponectin Levels in Patients with Carcinoma Endometrium, Obs & Gyn
16. Role of Tele-consultation of ASHA Workers in counseling women for Cervical Cancer Screening by Self-Sampling for Human Papilloma Virus, Obs & Gyn
17. Prevalence of BRCA 1/2 germ line mutations in young Indian women (<40 years) with Triple negative breast cancers, Surgery
18. Cervical cancer tumour micro-environment immune-profiling and effect on early response to standard chemoradiotherapy in Indian patients, Radiotherapy
19. Pyruvate kinase M1 and M2 biomarker in atypical endometrial hyperplasia as predictor of coexistent endometrial carcinoma, Obs & Gyn
20. SCOPE - Surveillance of COVID in PrEgnancy Standardizing data collection and protocol for improving the Quality of evidence on clinical characteristics and outcomes of COVID-19 and Pregnancy, Obs & Gyn
21. Feasibility And Outcome Of Minilaparotomy Assisted Laparoscopic Myomectomy for Large Myomas, Obs & Gyn
22. Role of Multiparametric MRI of Nonalcoholic fatty liver disease, Radiology
23. Study on a mice model of NAFLD, Pharmacology, AIIMS
24. IgA anti-TG2 expression analyses and histological analyses of Non celiac gluten sensitivity, Gastroenterology, AIIMS
25. Assessment of NETosis as a marker of disease severity in ulcerative colitis, Gastroenterology, AIIMS
26. Detection of streptococcal bacterial DNA with polymerase chain reaction in excised valvular tissue of RHD patients, Cardiology, AIIMS
27. Study of cardiac markers, gross findings and histopathological Changes in heart in cases of suspected cardiac death, Forensic Medicine, AIIMS
28. Comparative evaluation of MicroRNA profiling and cytokine profiling analysis in patients with Pulmonary Sarcoidosis and Mediastinal tuberculosis, Pulmonary Medicine, AIIMS
29. Development of a new formulation and packaging for reducing adverse effects and injection pain of Mycobacterium vaccine and its clinical trial in recalcitrant anogenital and extra-genital (common) warts, Dermatology, AIIMS
30. Autologous non cultured dermal cell suspension transplantation in treatment of facial volume loss, Dermatology, AIIMS
31. Study of Sesamol in Bleomycin induced pulmonary toxicity in rat, Pharmacology, AIIMS
32. Exploring the phenotypic and functional role of  $\gamma\delta$  T cell subsets along with Pattern recognition receptors (PRRs) in the immunopathogenesis of PemphigusVulgaris”, Pharmacology, AIIMS
33. Study of histomorphological, proteomics and collagen in Rheumatic heart valve specimens, CTVS, New Delhi
34. Electron microscopic and genetic study in primary ciliary dyskinesia, Pediatric pulmonology, AIIMS, New Delhi
35. Histomorphological and clinical study in patients of ENL reactions, Dermatology, AIIMS, New Delhi
36. To the study the etiopathogenesis of Halo nevus, Dermatology, AIIMS, New Delhi
37. Morphometric study of pulmonary blood vessels in cases of tetralogy of fallot, CTVS, AIIMS, New Delhi
38. Clinicopathological evaluation of viral myocarditis, Cardiology. AIIMS, New Delhi
39. Association of LOX L 2 in cardiac fibrosis, Cardiology. AIIMS
40. Estrogen Related Receptor gamma (ERR $\gamma$ ) as a potential biomarker and therapeutic target for thyroid cancer and its correlation with iodine handling genes in thyroid cancer, Department of Medical Oncology Lab, AIIMS, New Delhi
41. Tumor dynamics & immune cell interactions in Anaplastic Thyroid Carcinoma, Department of Biochemistry, AIIMS, New Delhi
42. To investigate the significance of Estrogen Related Receptor Gamma (ERR $\gamma$ ) expression in thyroid cancer and study its potential as a therapeutic target, Department of Medical Oncology, AIIMS, New Delhi
43. Granulomatous skin lesions on the face and their clinical mimics: A descriptive study of clinical, dermoscopic and histopathological patterns in Indian patients, Department of Dermatology and Venereology, AIIMS, New Delhi

44. Prospective evaluation of diagnostic imaging methods and its impact on surgical decision-making algorithm in the management of nodal disease in recurrent differentiated thyroid cancer and audit of the thyroid cancer database for evaluation of clinical and surgical spectrum and outcomes, Department of Surgical Oncology, AIIMS, New Delhi
45. A prospective descriptive study to characterize the cutaneous and histological features in children with Langerhans cell histiocytosis, Department of Dermatology, AIIMS, New Delhi
46. Role of Plasma Cell-Free DNA in predicting disease status in patients with differentiated thyroid cancer, Department of Nuclear Medicine, AIIMS, New Delhi
47. Study of miRNA-182 and miRNA-187 as potential biomarkers in prostate cancer patients and its correlation with serum PSA, Gleason score and staging of prostate cancer, Urology, AIIMS, New Delhi
48. Circulating microRNAs as biomarkers for testicular germ cell tumors: A pilot study, Reproductive Biology, AIIMS, New Delhi
49. Identification of Glucose related protein 78 (GRP78) as a biomarker for tumor behavior in patients of renal cell carcinoma, Urology, AIIMS, New Delhi
50. Human Papillomavirus status in Penile carcinoma in Indian patients: Incidence, type distribution and correlation with Clinico-pathological staging, Urology, AIIMS, New Delhi
51. Retrospective Analysis of Testicular Germ Cell tumours at IRCH, AIIMS, Medical Oncology, AIIMS, New Delhi
52. Evaluation of anti-urolithiatic activity of herbal extracts in animal model, National Innovation Foundation, Ahmedabad
53. Genetic Study on Sertoli Cell Only Syndrome, Reproductive Biology, AIIMS, New Delhi
54. Study of Autophagy associated HMGB-1 and its related molecules in Urothelial Carcinoma of Bladder, Biochemistry, AIIMS, New Delhi
55. Phenotypic and molecular characterization of Th17 and Treg cells in renal cell carcinoma, Biochemistry, AIIMS, New Delhi
56. CT texture analysis of renal masses for prediction of histopathology, Radiology, AIIMS, New Delhi
57. Comparison of standard 12 cores systematic TRUS guided biopsy and MRI-fusion biopsy in the detection of prostate cancer-a prospective randomized study, Urology, AIIMS, New Delhi
58. Role of circulating tumour cells and CXCR1 expression in patients with metastatic RCC, Urology, AIIMS, New Delhi
59. Comparison of cold cup versus bipolar biopsy specimens for bladder carcinoma, Urology, AIIMS, New Delhi
60. Differences in the Microvessel Density and Growth Factors between the inner and outer preputial skin in Distal Hypospadias, Pediatric Surgery, AIIMS, New Delhi
61. Evaluation of Renal Cell Carcinoma with C11-Methionine PET/CT and comparison with 18FFlourodeoxyglucosw PET/CT Nuclear Medicine, AIIMS, New Delhi
62. Utility of Radiolabeled Antibiotics as Imaging Agents in Establishment of a Decision Support Algorithm in Patients with Pyrexia of Unknown Origin (PUO) caused by Infection and its Impact on Short Term and Long Term Clinical Outcomes, Nuclear Medicine, AIIMS, New Delhi
63. Role of PAQosome Complex in the Regulation of Beta Oxidation during Prostate Cancer Progression, Biochemistry, AIIMS, New Delhi
64. The Role of 68Ga-PSMA-PET/CT Scan as a single Staging Modality in Prostate Cancer, Nuclear Medicine, AIIMS, New Delhi
65. Identification of Potential Molecular markers (PRL3 phosphatase, CAV2, LAMA4) in Renal Cell Carcinoma for predicting tumour behaviour, Urology, AIIMS, New Delhi
66. Evaluation of Immune escape mechanism in RCC, Biochemistry, AIIMS, New Delhi
67. Role of B Cells in Urinary Bladder Carcinoma, Biochemistry, AIIMS, New Delhi
68. Study of miRNA profile in Sertoli Only Syndrome (SCOS), Reproductive Biology, AIIMS, New Delhi
69. A prospective comparison of MRI-inbore targeted biopsy with 12-core systematic transrectal ultrasound biopsy in the diagnosis of prostate cancer, Radiology, AIIMS, New Delhi
70. SHG imaging and AI based quantification for fibrosis and steatosis in liver biopsies obtained during bariatric surgery, Surgical Disciplines & Gastroenterology
71. A Study of Immune Pathways in the Pathogenesis of Chronic Pancreatitis, Gastroenterology



72. To identify unique differential signatures for the diagnosis of stage-specific Non- alcoholic fatty liver disease using the multi-omics approach: A pilot study, Gastroenterology
73. Helicobacter pylori and EBV coinfection in patients of gastric carcinoma, Gastroenterology
74. Metabolic associated liver disease (MAFLD) in lean and obese: search for disease and progression biomarkers, Gastroenterology
75. Indian asymptomatic gallstones: Natural course and their predictors, Gastroenterology
76. Role of nuclear hormone receptors in pathogenesis of carcinoma gall bladder, Biochemistry
77. Understanding the impact of gut microbiome dysbiosis and metabolic alterations in the pathogenesis of early and late onset colorectal cancer, Surgical Oncology
78. Histopathologic and immunohistochemical study of the distal rectal pouch in high and low anorectal malformations, Paediatric Surgery
79. Study of spectrum of microbiome at gastrointestinal perforation site by metagenome sequencing, Surgical Disciplines
80. Consortium task force project on non-alcoholic fatty liver disease, Gastroenterology
81. Differential expression of apoptosis related miRNA in diagnosis and Prognosis of Wilms Tumor and Neuroblastoma, Department of Pathology, AIIMS, New Delhi
82. Efficacy of cold atmospheric plasma jet for its antimicrobial activity against drug resistant bacterial and fungal pathogen: An in-vitro and in-vivo study, Department of Microbiology, AIIMS, New Delhi
83. To characterize immune landscape of SCLC in tumor and peripheral blood circulation, Department of Pathology, AIIMS, New Delhi
84. Prevalence of circulating tumour cells (CTC) in patients with periampullary carcinoma and its correlation with recurrence-free and overall survival, Department of GI surgery and Liver Transplant
85. Targeting Nucleolin for Refining Anti-Neoplastic ChemoImmunotherapy and Immunomodulation in B-Cell Lymphoma Collaborative project with Dr Neeraj Jain Central Drug research Institute, Lucknow
86. Exploration of the Vitamin-D and WNT/Beta-catenin signalling pathway in Juvenile Angiofibroma, Otorhinolaryngology and Head Neck Surgery, AIIMS
87. Assessment of Precervical (peri-marginal and lingual) lymph node as the first echelon for squamous cell carcinoma of the oral cavity, Otorhinolaryngology and Head Neck Surgery, AIIMS
88. Ambispective Study To Assess Various Primary Tumour And Ipsilateral Nodal Factors Associated With Contralateral Nodal Metastasis In Patients With OSCC, Otorhinolaryngology and Head Neck Surgery, AIIMS
89. Clinicoradiological Co-relation in ascertaining the end point of treatment of Invasive Fungal Sinusitis, Otorhinolaryngology and Head Neck Surgery, AIIMS
90. An open label Phase II Randomised trial to evaluate the efficacy of oral metronomic chemotherapy (conventional dose methotrexate + celecoxib) followed by surgery vs upfront surgery (Control arm) in patients with operable squamous cell carcinoma of oral cavity in terms of clinical and pathological response and disease-free survival and overall survival, Surgical Oncology, IRCH, AIIMS
91. Role of split-bolus dual energy CT in characterization of neck masses with limited MR and DSA correlation, Radiology, AIIMS
92. To evaluate the role of dynamic contrast enhanced MR perfusion in characterization of sinonasal and skull base masses, Radiology, AIIMS
93. A comparative study of smooth muscle cell characteristics and myofibroblasts in processus vaginalis of pediatric inguinal hernia, hydrocele and undescended testis, Pediatric Surgery, AIIMS
94. Development of a real-time PCR technique using the CotH gene as a target for early diagnosis of Mucormycosis, Microbiology, AIIMS
95. Comparative proteomics analysis to identify potential biomarkers during the transformation of premalignant oral conditions to malignant oral squamous cell carcinoma, Biophysics, AIIMS
96. Hippo signaling pathway and its biological function in uveal melanoma, Division of Ocular Pathology, RPC, AIIMS
97. Imaging BioBank for Cancer, Tata Memorial Hospital and 4 other centres
98. Study to determine the role of mTOR pathway in the pathogenesis of juvenile nasopharyngeal angiofibroma, Otorhinolaryngology and Head Neck Surgery, AIIMS
99. Comparative analysis of host immune and tissue reaction to mucormycosis between SARS-CoV-2 positive and negative patients on surgical specimens, Pathology, AIIMS

- 100.Expression of ACE2 receptor in mucormycosis patients, Otorhinolaryngology and Head Neck Surgery, AIIMS
- 101.Dynamic contrast enhanced MR perfusion in the assessment of angiogenesis in Juvenile Nasopharyngeal Angiofibroma (JNA), Radiology, AIIMS
- 102.Biochemical and enzymatic analysis of bile in choledochal cyst and their correlation with histopathological features and expression of immune modulators, Pediatric surgery, AIIMS
- 103.PSMA nucleotide therapy, Nuclear Medicine, AIIMS

### **Completed**

1. A clinico-histopathological review of cases diagnosed histologically as Sarcoidal tissue reaction: A retrospective descriptive study, Department of Dermatology, AIIMS, New Delhi
2. A Comparative Evaluation of HPV E6/E7 mRNA Assay and High Risk HPV DNA Test for the Diagnosis of High Grade Cervical Intraepithelial Neoplasia, Gynecology& Obstetrics
3. A phase II study to evaluate the efficacy of cisplatin and gemcitabine based neo-adjuvant chemotherapy followed by dysphagia optimized intensity modulated radiotherapy with concomitant cisplatin and correlation of clinical outcome with serial plasma epstein barr virus DNA titre in patients with locally advanced nasopharyngeal carcinoma, Radiation Oncology, IRCH, AIIMS
4. A phase III randomised controlled study comparing xerostomia after tubarial salivary gland sparing IMRT versus standard IMRT in patients with locally advanced oropharyngeal squamous cell carcinoma, Radiation Oncology, IRCH, AIIMS
5. A pilot study to evaluate the role of 68Ga-PSMA -HBED-CC PET/CT in patients with juvenile nasal angiofibroma, Otorhinolaryngology and Head Neck Surgery, AIIMS
6. A Prospective study to determine early predictive factors of hypocalcemia in patients undergoing total or completion thyroidectomy, Department of E.N.T, AIIMS, New Delhi
7. A Prospective study to determine the efficacy of Positron Emission Tomography-Computed Tomography (18F-FDG PET-CT) scan in detecting residual disease in Locally Advanced Head & Neck Squamous Cell Carcinoma managed with primary Chemo-Radiation Therapy and its comparison with CECT, Nuclear Medicine, AIIMS
8. A prospective study to evaluate the impact of oral submucous fibrosis on occult and overt lymph nodal metastasis in gingivo buccal complex carcinoma of oral cavity (T1-T4), Otorhinolaryngology and Head Neck Surgery, AIIMS
9. An ambispective cohort study of clinicopathological characteristics in patients of locally advanced breast cancer Med Oncology, Medical oncology
10. Analysis of triple negative breast cancer, Medical oncology
11. Assessment of host immunological tumour response by histochemistry in cancer oral cavity and its impact on prognosis – Retrospective cohort study, Otorhinolaryngology and Head Neck Surgery, AIIMS
12. Association of HIPEC treatment with expression of T regulatory cells (FOXP3) in epithelial ovarian cancer and its clinical significance”, Surgical Oncology
13. BRCC3 expression as a prognostic marker in Oropharyngeal squamous cell carcinoma patients and its effects on radiotherapy resistance, Otorhinolaryngology and Head Neck Surgery, AIIMS
14. Cellular and Immunomodulatory Functions of Dipeptidylpeptidase III in Esophageal Cancer, Biochemistry
15. Co-relation between aggressiveness of carotid body tumor and production of superoxide anion in mitochondria of tumor cells and assessment of Ki-67 index, Otorhinolaryngology and Head Neck Surgery, AIIMS
16. Coblation assisted endoscopic excision of juvenile nasopharyngeal angiofibroma: a prospective pilot study, Otorhinolaryngology and Head Neck Surgery, AIIMS
17. Comparison of quality of life between patients undergoing endoscopic thyroidectomy and conventional open thyroid Surgery, Department of Surgical disciplines, AIIMS, New Delhi
18. Detection of Extra nodal extension in node positive oral cavity squamous cell carcinoma, Otorhinolaryngology and Head Neck Surgery, AIIMS
19. Detection of oncogenic viruses HPV and EBV by immunohistochemistry in secondary cervical lymph nodes from primary of oropharynx, nasopharynx, and unknown primary, Otorhinolaryngology and Head Neck Surgery, AIIMS
20. Etiological and clinical profile of patients with Ectopic ACTH syndrome: Ambispective study, Department of Endocrinology, Metabolism and Diabetes, AIIMS, New Delhi
21. Evaluation of Coronavirus in tears and conjunctival secretions of patients with SARS COVID19, RP Centre, AIIMS

22. Evaluation of dual dye technique for sentinel Lymph node biopsy in breast cancer: two arm Open label parallel design non-inferiority Randomized controlled trial, Surgery
23. Evaluation of genetic profile of olfactory neuroblastomas, Otorhinolaryngology and Head Neck Surgery, AIIMS
24. Evaluation of split-bolus dual energy CT in staging of carcinoma larynx, Radiology, AIIMS
25. Evaluation of unknown head and neck primaries metastatic to cervical lymph nodes, Otorhinolaryngology and Head Neck Surgery, AIIMS
26. Exploration of first echelon sentinel lymph node drainage of squamous cell carcinoma of the tonsil particularly with reference to the lateral retropharyngeal lymph node of Rouviere, Otorhinolaryngology and Head Neck Surgery, AIIMS
27. Feasibility study of dual technique- blue dye and fluorescence imaging for detection of sentinel node in oral cavity cancer – a prospective validation study, Surgical Oncology, IRCH, AIIMS
28. Molecular and immunological characterization of benign fibro-osseous lesions affecting oral and maxillofacial region, Oral Pathology, CDER
29. Molecular classification of breast cancer using FDG PET CT, MRI and NMR: A pilot study, Surgery
30. Optical Characterization of Breast Cancer, Surgery & Biophysics
31. PCR for EBV DNA in suspected nasopharyngeal carcinoma patients, Microbiology, AIIMS
32. Pilot study to evaluate the role of toluidine blue dye and narrow band imaging for assessment of malignant and potentially malignant disorders in oral cavity and update and analysis of oral cancer database, Surgical Oncology, IRCH, AIIMS
33. Prevalence and characteristics of Multiple endocrine neoplasia in cases with primary hyperparathyroidism admitted in Endocrine ward in the last 5 years: A retrospective study, Department of Endocrinology, Metabolism and Diabetes, AIIMS, New Delhi
34. Prospective pilot study for evaluating incidence of occult lymph node metastasis in patients with olfactory neuroblastoma, Otorhinolaryngology and Head Neck Surgery, AIIMS
35. Prospective study to determine the incidence of intraglandular, peri-parotid, occult and overt cervical lymph node metastasis in patients with primary parotid carcinoma, Otorhinolaryngology and Head Neck Surgery, AIIMS
36. Role of Integrated 18 F-Fluorocholine PET/4DCT in the localization of culprit lesions in patients with primary hyperparathyroidism, Department of Nuclear Medicine, AIIMS, New Delhi
37. Role of micro RNA in identifying benign versus malignant variety of cystic neoplasm of pancreas, Gastroenterology
38. Role of PET in surgical management of Oral cavity Squamous cell carcinoma, Otorhinolaryngology and Head Neck Surgery, AIIMS
39. Role of shear wave elastography and multiparametric MRI in the assessment of endometrial pathology, Radiodiagnosis
40. Role of sono-elastography in the assessment of uterine pathology, Radiodiagnosis
41. SDHx gene mutation in head and neck paragangliomas: a clinicopathological study, Otorhinolaryngology and Head Neck Surgery, AIIMS
42. Severity of obstructive sleep apnoea - evaluation of effect of surgery by inflammatory markers and correlation with anatomical factors, Otorhinolaryngology and Head Neck Surgery, AIIMS
43. Study of heavy metals as etiology for carcinoma of gallbladder, Surgical Oncology
44. Study of microvascular density and cd68 immunopositive tumor associated macrophages in oral squamous cell carcinoma, Otorhinolaryngology and Head Neck Surgery, AIIMS
45. The clinicopathological evaluation of cholesteatoma aggressiveness, Otorhinolaryngology and Head Neck Surgery, AIIMS
46. The Eliminate Trial: A Phase II/III randomised trial evaluating omission of post-operative radiotherapy in pathological proven N0/N1 neck for squamous cell carcinomas of the oral cavity, Radiation Oncology, NCI
47. To Assess the Prevalence of Lingual Lymph Nodes and Pattern of Lymph Nodal Spread in Squamous Cell Carcinoma of the Tongue, Otorhinolaryngology and Head Neck Surgery, AIIMS
48. To determine incidence of paratracheal lymph node metastasis in patients with carcinoma larynx and hypopharynx planned for partial/total laryngectomy, Otorhinolaryngology and Head Neck Surgery, AIIMS
49. To evaluate the role of trans nasal esophageal endoscopy for detection of synchronous esophageal neoplasm in head and neck cancer patients, Otorhinolaryngology and Head Neck Surgery, AIIMS
50. To Study the Clinical Profile, Investigations and Outcome of Patients Undergoing Parathyroidectomy: A Retrospective and Prospective Experience, Department of Surgical Oncology, AIIMS, New Delhi

**Research projects over past 3 years**

Research projects	2020–2021	2021–2022	2022–2023
Total funded projects (Ongoing projects)	55	21	41
Total funding (Ongoing projects) (Lakhs)	Rs 4,91,74,844	Rs 6,87,54,164	Rs 15,94,05,126

**PUBLICATIONS: 188**

Journal: 139

Abstract: 38

Chapters in Book: 10

Books & Monographs: 1

**Publications over past 3 years**

Item	2020–2021	2021–2022	2022–2023
<b>Total</b>	<b>246</b>	<b>234</b>	<b>188</b>
Journal articles	207	191	139
Abstracts	12	19	38
Chapters in books	26	23	10
Books	1	1	1

**PATIENT CARE LABORATORY SERVICES**

Laboratory Services		2020-2021	2021-2022	2022-23
<b>Surgical Pathology Laboratory</b>	Specimens processed	21,747	39,145	60,071
	Special stains	20,200	38,800	37,800
<b>Cytopathology Laboratory</b>	Total specimens	11,007	16285	28,845
	FNAC (out patient)	3210	4319	9060
	Exfoliatives routine	4800	5730	10,005
	Cervical smears (PAP smears)	2997	6236	9780
	Cell blocks	-	-	9000
<b>Autopsies performed</b>		9	-	3
<b>Immunohistochemistry Laboratory</b>	Diagnostic	32,087	50558	80,530
	Research	211	288	-
<b>Neuropathology laboratory</b>	Total Specimens	540	-	-
	Frozen Sections	32	-	-
	Routine IHC	3851	-	-
	Research IHC	2310	-	-
	Muscle IHC	460	-	-
	Total Muscle Received	56	-	-
	Muscle Enzyme-histochemistry	151	-	-
<b>Fluorescence in situ hybridization</b>	Diagnostic	244	256	780
	Research	228	230	118
<b>Electron Microscope Facility</b>	Total samples	310	921	1157
	Muscle sample	56	197	236
	Nerve sample	15	35	7
	Skin Sample	-	30	37
	Tumor Sample	-	70	81
	Paraffin Block	-	5	5
	D2 biopsies	-	10	7
	Heart	-	14	
	Kidney	-	548	791
	Other	-	8	3
	Immunoblot	17	-	-

<b>Research Microtomy and Thesis IHC Lab</b>	Research Blocks	1689	1123	2800
	Thesis Blocks	-	2824	6000
	Autopsy Blocks	-	350	65
	H & E Slides	7618	4000	36000
	U/S (Coated) Slides	2998 + 23976	10000	20000
	Block Embedded		1473	32335
	Frozen Sections	1789	885	1005
<b>Renal pathology services</b>	Urine sediment analysis	911	940	2686
	Immunofluorescence of kidney biopsy	354	610	745
	Electron microscopy of kidney biopsy	350	600	791
<b>Cardiac pathology</b>	Routine specimens	165	1008	396
	Research specimens	196	607	140
	Immunohistochemistry	296	720	276
	H & E stain	383	2020	288
	Special stains	143	2140	1608
	Manual processing of post-transplant biopsies	34	114	114
	Cutting of blocks (unstained sections)	753	1793	776
	Skin biopsy cutting	130 cases	1825 cases	-
	Renal biopsy cutting	200 cases	-	-
	Frozen Section	80 cases	885 cases	-
	DIF	-	805 cases	212
	Coated slides	3000	3300	-

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Prasenjit Das** is Subject Expert in Meeting for Question paper setting, National Board of Examinations, New Delhi, 7 November 2022; Subject expert for Question paper setting ILBS, New Delhi, June 2022; Subject expert for question paper setting AIIMS, Kalyani, 2nd Prof MBBS Exam-10 January 2023; Reviewer of thesis-MD thesis- PGIMER Chandigarh-1 March 2023; Reviewer of thesis-AIIMS Bhubaneswar-4thesis-16 August 2022; External Examiner PDCC Hepatopathology Exit Examination, ILBS, Delhi, 3 June 2022; External Examiner PDCC Hepatopathology Exit Examination, ILBS, Delhi, 21 November 2022; was appointed as Associate Editor of Indian Journal of Gastroenterology.

**Professor Deepali Jain** received Honours: AIIMS Oncology Research Award, Clinical Sciences, Third Prize, 2021; AIIMS Oncology Research Award, Clinical Sciences, Second Prize, 2020; Fellow Royal College of Pathologists by published work 2022; SERB Expert Committee Member of Teachers Associateship For Research Excellence (TARE); SERB Member of the Life Sciences Preliminary Screening Committee of Power Grant; SERB Member of the Program Advisory Committee on Interdisciplinary Biological Sciences. She was Jury, Worldvision Cytopathology Contest. IAC/ASC Next generation cytology conference, Baltimore, USA, 15-20 November 2022; Session chair Benign Thymic Disorders, Virtual ITMIG 2022, 29 September 2022 and Session chair Mini oral (Pathology): Tumour Diagnostics, World Conference on Lung Cancer, Vienna, Austria, 9 August 2022.

**Professor Sudheer Arava** is Nodal officer for the development of undergraduate teaching modules according to the NMS guidelines; Development of Massive online open courses (MOOCS) for the HRD ministry for Swayam prabha channels; Working to develop sudden cardiac death registry in INDIA with collaboration from forensic department; Development of smart undergraduate class room and practical hall of international standards; Organizing secretary of Delhi chapter of IAPM (DAPCON July 2022) at AIIMS, New Delhi; Co-organizing secretary in the APCON 2023 annual pathology conference. AIIMS, New Delhi.

**Professor Geetika Singh** was invited to be part of the Renal Pathology working group, International Society of Nephrology; invited to be part of the South Asia Regional Board (SARB) of the International Society of Nephrology;

invited to be part of the Editorial Board of international journal - Glomerular Diseases; invited to be part of the Editorial Board of Indian Journal of Nephrology; Regular Faculty for GLOMCON Virtual fellowship.

**Dr Shipra Agrawal** evaluated Theses: Two in number, MD, Guru Gobind Singh Indraprastha University.

**Dr Seema Kaushal** was invited author for chapters in WHO Blue Book on Classification of GU Tumors (5th edition) 2022.

**Dr Adarsh Barwad** received Fellowship of Royal College of Pathologists (Histopathology) - April 2022; ICMR-DHR international long-term fellowship 2022-23 at University of Pittsburgh Medical Center, Pittsburgh, PA USA from March 2023-September 2023.

**Dr Aanchal Kakkar** was invited Member of International Collaboration on Cancer Reporting (ICCR) Mucosal Melanomas of the Head and Neck Dataset Authoring Committee (DAC)

**Dr Aruna Nambirajan** received Dr NC Nayak Award for Talented Young Pathologist at the Annual Conference of IAPM Delhi Chapter, 2022-23.

**Dr Balamurugan T** was Fellow of Royal College of Pathologists - December 2022.

**Awards won by students:**

1. Second Prize, Oral presentation, Amber Rathor, Liquid biopsy as reflex testing in lung cancer, NALCCON 2022, AIIMS Jodhpur, January 2023
2. First Prize Poster, NUT Carcinoma in effusion cytology, Dr Urvashi, Cytocon 2022, Siliguri
3. Second Prize, Oral paper-Senior Resident category, Dr Surabhi Jain. EGFR mutation testing from supernatants of pleural effusion specimens, AIIMS, New Delhi, Second Annual Research Day, 2022
4. Developing Nation Award: Amber Rathor, World Lung Cancer Congress 2022, Clinical Application of Liquid Biopsy for assessing Early EGFR mutation detection in Non-Small Cell Lung Carcinoma
5. Second prize to Gaddam P at XXIV IAP Annual CME 2022 for paper presentation entitled "PD-L1 expression by tumor proportion score and combined proportion score are comparable in thyroid carcinomas"
6. Surabhi Jain: Young Investigator award to present work at Society of Hematological Oncology Annual Conference 2022 in Houston, Texas
7. Ishan Gupta: Young Investigator award to present work at Society of Hematological Oncology Annual Conference 2022 in Houston, Texas
8. Surabhi Jain: Best thesis award Mrs Geeta Mittal Medal & Book Prize for Basic Research
9. MBBS student Aditya Jadav was awarded the First Prize for Best Oral Paper Presentation in Undergraduate Students' category at Annual Conference of Indian Association of Pathologists and Microbiologists APCON 2022 for the paper "Analysis of ALK Immunorexpression in Pediatric Neuroblastomas" in December 2022
10. Senior Research Fellow Kirti Srivastava was awarded Silver Medal (Second Prize) for best paper presentation in Basic Sciences at Foundation for Head-Neck Oncology (FHNO) 22nd Annual Meeting for the paper on "Frequent EGFR Mutations in Sinonasal Squamous Neoplasms: Implications for Targeted Therapy" in November 2022
11. Junior Resident Akhila Gopakumar was awarded First Prize for Best Poster Presentation at the 32nd Annual Conference of the Indian Academy of Cytologists for the poster entitled "Fine Needle Aspiration Cytology of SMARCA4 (BRG1) - deficient Sinonasal teratocarcinoma: First Report in the Literature" in November 2022
12. MBBS student Burra Shivani Srivastava was awarded the Second Prize for Best Oral Presentation in MBBS/ BSc students category on AIIMS Research Day 2022 for the paper "Comparative analysis of MYCN immunohistochemistry and MYCN amplification status in pediatric neuroblastomas" in October 2022
13. Dr Hena Khandakar (SR) won H D Tandan award for best poster in annual DC-IAPM held at AIIMS, New Delhi in July 2022

## 9.30 Pharmacology

### Professor and Head

VL Kumar

### Professors

NR Biswas  
(Retired on: 31 May 2022)

DS Arya

Jatinder Katyal

Surender Singh

KH Reeta

Jagriti Bhatia

### Additional Professors

Pooja Gupta

Sudhir Chandra Sarangi

Harlokesh Narayan Yadav

### Scientists

Thomas Kaleekal

Sunder Singh Samuel

Devendra Singh  
(Joined on 13 August 2022)

Madhuri Gupta

Swati Sharma

Ajay Godwin Potnuri  
(Joined on 29 September 2022)

### EDUCATION

The department is engaged in the teaching programmes of BSc Nursing (Hons), BSc OT Technician, MBBS, MSc (Medical Pharmacology), MD, PhD and DM (Clinical Pharmacology) courses.

### CMEs/Workshops/Symposia/National and International Conferences

CME webinar for doctors on principles of diagnosis, management and treatment of accidental agrochemical poisoning, 25 July 2022, Delhi.

### Lectures delivered: 16

#### Lectures delivered over past 3 years

2020-2021	2021-2022	2022-2023
6	3	16

### List of oral papers/posters presented: 20

#### Oral presentations over past 3 years

2020-2021	2021-2022	2022-2023
3	10	20

### Research

#### Funded Projects

##### Ongoing

1. A study to investigate the role of Vitamin D supplementation on seizure control in persons with drug resistant epilepsy and its correlation with biomarkers of epileptogenesis, Sudhir Chandra Sarangi, ICMR SRF, 3 years, 2022-2025, Rs 8,80,000
2. An investigation into metabolomics of prostate cancer patients to identify diagnostic and prognostic biomarkers for disease burden and therapeutic outcome, and development of metabolomics database, DS Arya, AIIMS (Collaborative Research), 2 years, 2022-24, Rs 20,00,000
3. Anemia: Exploring the role of vitamin D, essential elements and lifestyle in Indian Population, Harlokesh Narayan Yadav, ICMR, 3 years, 2022-25, Rs 75,00,000
4. Assessment of awareness, perception and KAP (Knowledge, Attitude & Practices) related to common poisons and development of scientific communication modules for lifestyle modulation & year-round strategy for public awareness towards prevention of poisoning, Swati Sharma, Department of Science and Technology (DST), GoI, 2.5 years, 2021-23, Rs 42,57,000

5. Association of social cognition and behavioral impairment in persons with epilepsy on antiepileptic drug monotherapy: Correlation with neuroimaging findings and trace elements status, Sudhir Chandra Sarangi, DST, 3 years, 2021-24, Rs 29,74,272
6. Chemotherapeutic Effect of a Selected Unani Medicine in Xenograft Mouse Model of Lung Cancer, Pooja Gupta, CCRUM, 3 years, 2023-26, Rs 27,38,694
7. Correlation of antidepressant therapy with orexinergic pathway integrating targeted metabolomics in patients with major depressive disorder: a longitudinal study, KH Reeta, DHR-ICMR, 3 years, 2023-26, Rs 54,48,000
8. Correlation of germline HLA variation by next generation sequencing with immune related adverse events in cancer patients, Pooja Gupta, DST, 3 years, 2022-25, Rs 58,15,260
9. Design and development of nanoscale integrated system along with conformal antenna as capsule prototype for wireless capsule endoscopy, Dr Harlokesh Narayan Yadav, DST, 3 years, 2021-24, Rs 74,00,000
10. Development of reinforced nano dispersed Denture base resin with improved thermo-conductive, biocompatible and radio-opacity, Madhuri Gupta, ICMR, 3 years, 2021-24, Rs 36,15,624
11. Early biomarkers for chemotherapy induced cardiotoxicity in patients with hematological malignancies, Shalini Rawal (Dr Pooja Gupta - Mentor), DST (WOS-B), 3 years, 2019-23, Rs 30,24,561
12. Effect of antidepressants on neurodegeneration and neuroplasticity in patients with depression, Sudhir Chandra Sarangi, ICMR, 3 years, 2020-23, Rs 29,03,670
13. Evaluation of decanoic acid in ischemia reperfusion injury in middle cerebral artery occlusion model of stroke in rats, KH Reeta (Guide) Himanshu Sharma (Senior Research Fellow), ICMR, 2 years, 2021-23, Rs 8,80,000
14. Evaluation of the cardioprotective effect of remote ischaemic preconditioning in acute coronary syndrome patients and its correlation with vitamin D, Harlokesh Narayan Yadav, DHR, 3 years, 2023-26, Rs 82,00,000
15. Evaluation of the effect of safinamide on microglial polarization shift in permanent and transient models of acute ischemic stroke in rats, KH Reeta (Mentor) Himika Wasan (DHR young scientist), DHR (ICMR), 3 years, 2022-25, Rs 49,03,000
16. Genetic expression of monoaminergic neurotransmission related polymorphisms and their association with antidepressant response in Indian patients suffering from depression, Sudhir Chandra Sarangi, ICMR, 3 years, 2022-25, Rs 43,49,520
17. Genomic and Biochemical Correlation of “Prakriti” Stratified Patients diagnosed with Coronary Artery Disease (CAD): An Integrative Approach towards Personalized CAD Management, KH Reeta (Mentor) Pamila Dua (Women Scientist), DST, 3.5 years, 2019-23, Rs 31,21,000
18. ICMR: Product Development Centre, DS Arya, ICMR, 5 years, 2019-24, Rs 71,00,000
19. Identification of potential biomarkers associated with lead toxicity due to occupational exposure using in-silico methods, Swati Sharma, AIIMS, New Delhi (Intramural), 2 years, 2022-24, Rs 10,00,000
20. Modulation of AMPA receptor: Effect on post-stroke damage after focal cerebral ischemia reperfusion injury in rats, KH Reeta, ICMR, 3.5 years, 2019-23, Rs 5,40,000
21. Pharmacological screening of Homeopathic drugs used in rheumatoid arthritis, Surender Singh, Central Council for Research in Homeopathy, Ministry of AYUSH, Govt. of India, 3 years, 2019-22, Rs 37,18,596, Safety studies of Homeopathic drugs
22. Pilot-scale production and evaluation of the hypoglycaemic activity of microalgal bioactive products (*Chlorella minutissima*) in the experimental model of diabetes mellitus in rats, Harlokesh Narayan Yadav, Trinity International, New Delhi, 1 year, 2023-24, Rs 15,00,000
23. Preventive efficacy of berberine nanoparticles in chemotherapy induced cardiotoxicity in animal model, Pooja Gupta, AIIMS, 2 years, 2021-23, Rs 10,00,000
24. Prospective double blind randomized controlled clinical study on Ayurvedic Intervention (Sarp Gandha Mishran) vs Amlodipine in the management of stage-1 Primary Hypertension, DS Arya, CCRAS, 3 years, 2021-24, Rs 61,00,000
25. Randomized double blinded placebo controlled clinical trial for the evaluation of Vitamin K supplementation on bone mineral density in prostate cancer patients, DS Arya, ICMR, 3 years, 2022-25, Rs 57,00,000
26. Role of Fisetin along with Sildenafil in Experimental High caloric diet induced Erectile Dysfunction in Male Wistar Rats, Harlokesh Narayan Yadav, ICMR, 3 years, 2022-25, Rs 16,20,000
27. Surender Singh, Central Council for Research in Homeopathy, Ministry of AYUSH, Govt of India, 2 years, 2022-24, Rs 29,61,840
28. To evaluate the anticancer activity of ivermectin with gefitinib in epidermal growth factor receptor mutated lung cancer cell line and xenograft mouse model, Pooja Gupta, ICMR, 3 years, 2023-26, Rs 20,12,152



29. To study effects of 4-octyl itaconate in different models of cardiac fibrosis and to assess its role in NLRP3 inflammasome pathway, Jagriti Bhatia, DST, 3 years, 2021-24, Rs 27,30,640
30. To study the regulatory mechanism of GSK-3 $\beta$  by ischemic preconditioning against ovariectomized challenged Wistar rats, Harlokesh Narayan Yadav, AIIMS, 2 years, 2021-23, Rs 10,00,000

#### **Completed**

1. Ameliorative potential of Vinpocetine in experimental Diabetic Cardiomyopathy in Wistar rats, Harlokesh Narayan Yadav, ICMR, 3 years, 2019-22, Rs 16,80,000
2. Effect of trans 4-butylcyclohexane carboxylic acid (4-BCCA) upon epileptogenesis and neurodegenerative changes following status epilepticus, Sudhir Chandra Sarangi, AIIMS-UCL Collaborative, 1 year, 2021-22, Rs 4,60,000
3. Evaluation of effect of asiaticoside & medecassoside on pharmacodynamics and pharmacokinetics of azathioprine in rat model of colitis', Thomas Kaleekal, AIIMS, New Delhi, 2 years, 2019-22, Rs 9,45,000
4. ICMR Task force Centre on Rational use of drugs, Pooja Gupta, ICMR, 3 years, 2019-22, Rs 44,75,638
5. Pharmacological and Molecular approaches to investigate the effect of *Adhatodavasica* in experimental models of bleomycin induced pulmonary fibrosis, Jagriti Bhatia, Central Council for Research in Unani Medicine, Department of AYUSH, 4 years, 2018-22, Rs 55,42,932
6. Role of GSK3 $\beta$  in modulating autophagy and apoptosis in permanent and transient model of ischemic stroke in rats, Kh Reeta (Mentor), Devendra Singh (RA), ICMR, 3 years, 2019-22, Rs 21,58,000
7. Study of vitamin D receptor expression and their correlation with seizure control in persons with drug resistant epilepsy after supplementation of vitamin D, Sudhir Chandra Sarangi, AIIMS, New Delhi, 2 years, 2020-22, Rs 10,00,000

#### **Departmental projects**

##### **Ongoing**

1. Evaluation of effect of oral hypoglycemic agents on cognitive function in young and middle-aged type 2 diabetes mellitus patients
2. Utility of electronic hand grip dynamometer for testing muscle endurance in healthy human volunteers
3. Effect of atorvastatin on methotrexate induced liver and kidney toxicity in rats
4. Studies on the effect of vildagliptin in experimental model of pain and inflammation
5. Chemotherapeutic effect of ivermectin and escin in cell lines and xenograft mouse model of lung cancer
6. A pilot study to understand the effect of timing of gefitinib administration on its plasma levels in non-small cell lung cancer patients
7. Fenofibrate as adjuvant therapy in persons with active epilepsy: a double-blind, randomized, placebo-controlled study
8. Tapering pattern of anti-epileptic drugs in persons with epilepsy after a seizure free period in a tertiary care hospital
9. A randomized controlled trial to assess the effect of riboflavin supplementation with antidepressant treatment in persons with major depressive disorder
10. Comparative evaluation of effect of remote ischemic preconditioning on inflammatory markers in STEMI patients undergoing primary PCI and its correlation with serum Vitamin D levels
11. Effect of GKT136901 a selective inhibitor of NOX1/NOX4 alone and combination of sildenafil in Monocrotaline induced Hypertension in rats
12. Effect of benfotiamine as an adjuvant drug on oxidative stress in patients with type 2 diabetes mellitus - a randomized double-blind placebo-controlled clinical trial
13. Pharmacological and molecular characterization of the cardioprotective effect of Teriflunomide in experimental models of myocardial infarction and diabetic IR-injury in rat heart
14. Pharmacological studies to delineate the effect of Nilotinib in experimental models of Non Alcoholic Fatty Liver Disease
15. Study of cardioprotective effect of Redox cycle involving Selenium and Riboflavin on Isoproterenol induced myocardial injury in rats
16. Studies to delineate and characterize the potential cardioprotective effects of some selected plant extracts in an experimental model of myocardial infarction in rats

### Completed

1. Open label placebo versus double-blind placebo treatment for experimentally induced pain in healthy volunteers: a pilot study
2. Studies on the effect of roxithromycin in an experimental model of prostatitis
3. Effect of atorvastatin on methotrexate induced liver and kidney toxicity in rats
4. Hand sanitizer use during COVID-19 pandemic: issues and perspectives based on telephonic queries received at the National Poisons Information Centre, New Delhi, India
5. Randomized placebo controlled crossover study to evaluate the effect of single dose of paracetamol on the psychomotor skills, cognitive and decision making capabilities in healthy volunteers
6. Markers of Ototoxicity in Cervical Cancer Patients Receiving Cisplatin: A Pilot Study
7. Role of PPAR modulators in seizure control and neurobehavioral parameters in status epilepticus model in rats
8. Effect of Vitamin D on monocrotaline induced pulmonary hypertension in rats
9. Effects of calcitriol pre-treatment in the restoration of right ventricular and renal function in an experimental model of cardiorenal syndrome in rats
10. Pharmacological investigations of *Moringaoleifera* leaf extract in isoproterenol induced cardiac hypertrophy in rats
11. Pharmacological investigation of phlorglucinol in isoproterenol induced cardiac hypertrophy in rats

### Collaborative projects

#### Ongoing

1. Prevention of radiotherapy induced xerostomia by intraductal administration of N-acetyl cysteine in patients with oropharyngeal malignancies: a randomized clinical trial, ENT
2. STENOSIS: Longterm single versus dual antiplatelet therapy in patients with ischemic stroke due to intracranial atherosclerotic disease: a randomized trial, Neurology
3. To evaluate the efficacy of oral probiotics supplementation in children with autism spectrum disorders (ASDS): A randomized double blind placebo controlled trial, Pediatrics

#### Completed

1. Efficacy of cold atmospheric plasma jet for its antimicrobial activity against drug resistant bacterial and fungal pathogen: An in-vitro and in-vivo study, Microbiology

### Research projects over past 3 years:

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	23	29	30
Total funding (Lakhs)	6,90,67,356	9,21,52,950	10,69,93,829

### PUBLICATIONS

**Journal: 38    Abstracts: 8    Chapters in Book: 2    Books & Monographs: 1**

#### Publications over past 3 years

Item	2020-2021	2021-2022	2022-2023
Total	39	32	49
Journal articles	35	24	38
Abstracts	3	6	8
Chapters in books	-	-	2
Books	1	2	1

### PATIENT CARE

#### Hospital services

Residents actively participated in discharging hospital related COVID duties as assigned.

### National Poison Information Centre (NPIC)

The National Poisons Information Centre (NPIC) in the Department of Pharmacology plays a vital role in providing information on management of poisonings. Round-the-clock service rendered by NPIC is availed by treating physicians, government agencies, NGOs, and general public from all over the country

### Poisoning calls received by National Poisons Information Centre, Department of Pharmacology (April 2022 - March 2023)

Calls received at NPIC during 2022-23	No.	%
<b>Total no. of calls</b>	7492	100%
Poisoning Calls	7431	99.2
Information Calls	61	0.8%
<b>Gender</b>		
Male	4520	60.8
Female	2888	38.9
<b>Age Groups</b>		
0-6yrs	3349	45.1
>6-12yrs	611	8.2
>12-18yrs	759	10.2
>18-35yrs	1781	24.1
>35-60yrs	765	10.2
>60 yrs	142	1.9
<b>Categories</b>		
Household Products	3202	43.1
Industrial Chemicals	403	5.4
Agricultural Chemicals	1330	19.9
Pharmaceutical products	2065	27.8
Bites & Stings	119	1.6
Plants	143	1.9
Miscellaneous	119	1.6

Item	2020-2021	2021-2022	2022-2023
OPD consultations	NA	NA	NA
Special clinic consultations	NA	NA	NA
Patients provided rehabilitation services	NA	NA	NA
Total inpatient admissions	NA	NA	NA

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor DS Arya** is Chairperson, Subject Expert Committee (SEC) at Central Drugs Standard Control Organization (CDSCO), Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India; Member, CDSCO, Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India; Expert Member, National Anti-Doping Agency (NADA), Ministry of Youth Affairs and Sports, Government of India.

**Professor Surinder Singh** is Panel Adviser, Union Public Service Commission (UPSC), Govt of India; Member, Governing Body, CCRH & CCRUM, Ministry of AYUSH, Govt of India; Certified GLP Inspector, National GLP Compliance Monitoring Authority (NGCMA), Department of Science & Technology, Govt of India, New Delhi; Member, Task Force, Standardization of Homeopathic Drugs, CCRH, Department of AYUSH, Ministry of Health & Family Welfare, Govt of India; Chairman, Animal Ethics Committee, Central Research Institute of Homeopathy (CRIH), Department of AYUSH, Ministry of Health & Family Welfare, Govt of India; Member, Ethics Committee, CCRH, Department of AYUSH, Ministry of Health & Family Welfare, Govt of India.

**Professor KH Reeta** is Fellow, National Academy of Medical Sciences, India (2022); Member, Subject Expert Committee (SEC) at Central Drugs Standard Control Organization (CDSCO), Directorate General of Health Services, Ministry of

Health and Family Welfare, Government of India; Member, National Technical Advisory Committee (NTAC) on Rabies under National Rabies control Programme.

**Dr Pooja Gupta** is Professor-in-Charge, Computer Facility; Member Secretary: Institute Ethics Subcommittee for monitoring of adverse events in clinical trials at AIIMS, New Delhi; Member: Working Committee, Clinical Research Unit at AIIMS, New Delhi; Member, Committee for preparation of National Drugs Database, CDSCO; Expert committee member for revision of Schedule H, CDSCO; Ethics Committee, National Institute of Malaria Research, ICMR; Pulse coordination committee; AIIMS Institute day subcommittee for cultural programme.

**Dr Harlokesh Narayan Yadav** was awarded NS Dhalla Oration for significant contribution in Cardiovascular Research by Indian Pharmacological Society in the 52nd Annual Conference of Indian Pharmacological Society (IPSCON-2023) held at JSS College of Pharmacy, Mysuru from 23-25 February 2023; Granted Diploma by International Society of Cardiovascular Pharmacotherapy in the 27th Annual scientific meeting of the International Society of Cardiovascular Pharmacotherapy held in Bucharest, Romania from 27 to 29 October 2022; Member of editorial board of CV network, an Official Bulletin of the International Academy of Cardiovascular Sciences, Winnipeg, Canada.

## 9.31 Physical Medicine and Rehabilitation

### Professor and Head

Sanjay Wadhwa

### Professors

SL Yadav

Gita Handa

### Additional Professor

Srikumar V

### Associate Professors

Asem Rangita Chanu

Arun Kumar Chaudhary  
(National Centre of Ageing)

### HIGHLIGHTS

Sh Rajesh Aggarwal, IAS, Secretary, Department of Empowerment of Persons with Disabilities (*Divyangjan*), Government of India, along with Prof M Srinivas, Director, AIIMS visited the Prosthetic and Orthotic Workshop, PMR department on 17 January 2023.

The department actively participated in the 51st Annual National Conference of Indian Association of Physical Medicine and Rehabilitation held in Imphal, Manipur from 9-11 February 2023 with the mission Competency Based PMR Education in the future.

The department participated in the 17th Annual Conference of Indraprastha Association of Rehabilitation Medicine on the theme “Let’s Talk Balance” from 12-13 November 2022 at Dharuhera, Delhi NCR, and in IAPMR Mid-Term CME (24-25 September 2022) held in AIIMS, Nagpur.

The department also contributed in fight against the COVID-19 Pandemic, by way of providing services, teaching training in infection prevention and control, early identification, tele-medicine and tele-rehabilitation consultation etc.

The Prosthetic and Orthotic workshop, PMR Department provides valuable Rehabilitation services to Patients with Physical impairments and Permanent disabilities by providing them with Orthotic and Prosthetic aids and appliances for supportive preventive or corrective purposes for neuro-musculoskeletal disorders, or immobilization, provides replacement for amputated parts to restore functional and cosmetic appearance and provide ambulation. It provides patients with a range of the latest lightweight, durable and functional/cosmetic prosthetic orthotic appliances as per the need.

International Day of Persons with Disabilities was observed in the department on 3 December 2022 with awareness raising and distribution of wheelchairs activities. The Dean, Academic Section, AIIMS graced this occasion as the Chief Guest. International Prosthetic Orthotic Day was celebrated in Prosthetic and Orthotic workshop on 5 November 2022.

### EDUCATION

Under-graduate teachings for the VIII Semester and VI Semester were undertaken by the department. Twelve post-graduate students are doing MD (PMR). Postgraduate and Fellowship training for Palliative Care and Onco-Anesthesiology, Pediatric Neurology, and Pain Fellows, was conducted in the department.

**Lectures delivered: 19**

**Oral Papers/posters presented: 10**

## **RESEARCH**

### **Ongoing with PMR Faculty as PI**

1. Real-Time Implementation of Force Myography: Development of Intelligent Prosthetic Leg, Dr Gita Handa, DBT Inspire, 5 years, 2020-25, 1.1 Cr

### **Departmental projects**

#### ***Ongoing***

1. Comparison between intraarticular Platelet Rich Plasma and Adalimumab in improvement of pain, quality of life and activities of daily living in patients with primary osteoarthritis knee: A Randomized Controlled Trial
2. Needs' analysis of CSR at AIIMS, New Delhi
3. Randomized Control Study to compare the effectiveness of Structured Rehabilitation program including exercises in patients with OA knee with that of usual care.
4. A Randomised Control Trial To Compare The Effect Of Platelet Rich Plasma In Combination With Eccentric Exercise Versus Eccentric Exercise Alone On Achilles Tendinopathy
5. Effect of exercise on the functional status and mental well-being in patients with chronic low back pain – a pre-post interventional study
6. To evaluate and associate the content of brief ICF core sets for low back pain with WHODAS 2.0 and ODI and to identify retention of patients' perspective in brief ICF core sets in chronic low back pain
7. The effect of a structured home-based exercise program on the functional outcome in patients with knee osteoarthritis and its predictors for successful outcome
8. Comparison between intraarticular platelet rich plasma and adalimumab in improvement of pain, quality of life and activities of daily living in patients with primary osteoarthritis knee: A randomized controlled trial
9. Clinico-radiological features and disability in Hirayama disease – an observational study
10. Proliferate Trial: A Pilot, Double-blind, Prospective, Randomized, Controlled Trial to Study the Efficacy of Autologous Platelet-Rich Fibrin for Pressure Injury Healing in persons with Spinal Cord Injury
11. A Cross Sectional Study to Assess the Functional Status in Post COVID Infected Persons and Symptoms in Long COVID Patients
12. Effect of Exercise on the Functional Status, Mental Well-Being in Patients with Chronic Low Back Pain Patients: A Pre-Post Interventional Study
13. The Effect of a Structured Home Based Exercise Program on the Functional Outcome in Patients with Knee Osteoarthritis and its Predictors for Successful Outcome

#### ***Completed***

1. Telephonic Screening of COVID-19 Survivors of Severe or Critical Illness to Assess Post Discharge Symptoms and Rehabilitation Needs: A Prospective Cohort Study
2. A Cross Sectional Study to Evaluate the Burden of Care and Quality of Life Among Caregivers of Persons with Traumatic Spinal Cord Injury
3. A cross sectional study to assess dual task interference in postural control in lower limb amputation
4. A cross sectional study to assess the functional status in children with juvenile idiopathic arthritis and its correlation with their quality of life and burden of caregivers
5. A case control study to assess correlation between chronic low back pain and spino-pelvic parameters

### **Collaborative projects**

#### ***Ongoing***

1. Recover study: A cross-sectional observational study to identify rehabilitation need in post-discharge COVID-19 survivors, Department of Critical and Intensive Care and Department of Anaesthesiology, AIIMS, New Delhi
2. Evaluation of adaptability of indigenously developed low-cost light weight polycentric polymeric knee joint (PPKJ) and its effect on quality of life & rehabilitation on post traumatic transfemoral amputees, Surgery, IIT Delhi

3. Effect of Pulmonary Rehabilitation on Dyspnea, Muscle Strength, Inflammatory Markers and Quality of Life in patients of Chronic Obstructive Pulmonary Disease, Pulmonary Medicine, AIIMS, New Delhi
4. Randomized controlled trial to compare the impact of exercise and nutritional interventions on changes in skeletal muscle mass and function in obese patients with sarcopenia, Medicine, AIIMS, New Delhi
5. Effect of fMRI-based neurofeedback guided motor imagery training on cortical excitability and pain status in rheumatoid arthritis, Department of Physiology, AIIMS, New Delhi
6. Effect of yogic intervention on pain status and cortical excitability in fibromyalgia patients, Department of Physiology, New Delhi
7. Effect of yogic intervention on pain and autonomic profile in fibromyalgia patients, Department of Physiology, AIIMS, New Delhi
8. Randomized controlled trial to study the impact of weight bearing and resistance exercise with nutritional interventions on bone and muscle health in obese patients with osteosarcopaenia, Department of Medicine, AIIMS, New Delhi
9. Impact of intraoperative microbreaks on musculoskeletal symptoms and performance of surgical residents during minimal access surgical tasks in a simulated setting, Department of Surgical Disciplines, AIIMS, New Delhi
10. The effect of a structured home-based exercise program on the pain and ultrasonographic skeletal muscle parameters in patients with knee osteoarthritis, Department of Radiodiagnosis and Interventional Radiology and Department of Nuclear Medicine, AIIMS, New Delhi
11. Randomized controlled trial to compare the impact of Resistance band exercises on change in skeletal muscle mass and function in individuals with sarcopenic obesity, Medicine, AIIMS, New Delhi
12. Evaluation of adaptability of indigenously developed low-cost light weight polycentric polymeric knee joint (PPKJ) and its effect on quality of life & rehabilitation on post traumatic transfemoral amputees, Department of Surgical Disciplines, AIIMS, New Delhi
13. ICMR- SIB- IIT - National Centre for Assistive Health Technology (NCAHT) Project, Department of Cardiology, AIIMS, New Delhi
14. A study to investigate neuromodulatory role of intermittent theta burst stimulation in iron oxide nanoparticles implanted complete spinal cord injured patients, Department of Physiology, AIIMS, New Delhi
15. SonoNeuro: A multimodal sonomyography-electromyography based system for biomechatronic control, IIT, Delhi

### **Collaborative projects**

#### ***Completed***

1. Exploring the role of the nervous system for understanding depression in spinal cord injury, IIT Delhi
2. Effect of yoga on pain and corticomotor excitability in chronic low back pain, Department of Physiology, AIIMS, New Delhi
3. Impact of upper body exercise on body composition and weight in obese patients with knee osteoarthritis, Department of Medicine, AIIMS, New Delhi
4. Electrophysiological analysis of cognitive load during locomotion and balancing and to investigate the improvement in gait and balance in lower limb amputees after using tactile feedback, Department of Biomedical Engineering, IIT Delhi
5. Assessment of workload and musculoskeletal symptoms among minimal access surgeons – a prospective study, Department of Surgical Disciplines, AIIMS, New Delhi

#### **Important National-level Documents prepared:**

Dr Sanjay Wadhwa, Professor and Head, PMR, as Convenor of the Group of PMR Experts, prepared and submitted to the NMC:

- 1) Revised MD (PMR) Curriculum
- 2) Revised PG DPMR Curriculum
- 3) Minimum Standards Requirements (MSR) related to MD (PMR)

**PUBLICATIONS****Journal: 15****Chapters in Book: 1****PATIENT CARE****New Patients**

	2020-2021	2021-2022	2022-2023
OPD (Physician Consultations)	3054	6319	21056
OPD visit (P & O Clinic)	392	2080	3859
<b>Total New Cases</b>	<b>3446</b>	<b>8399</b>	<b>24915</b>

**Old Cases**

	2020-2021	2021-2022	2022-2023
OPD (Physician Consultations)	4652 OPD (Physician Consultations) (+1394 Telephonic Consults between 23/03/2020 and 31/07/2020)	10935	12374
OPD visit (P & O Clinic)	898	5241	9168
Disability Evaluation Clinic	20	03	15
Railway Concession Certificates	28	52	149
OPD visits (PT Section)	1639	9015	11896
OPD visit (OT Section)	830	4000	8198
OPD visit (MSW)	1198	2324	NA
Minor OT procedures	63	1123	2368
<b>Total New Cases</b>	<b>10,722</b>	<b>32,693</b>	<b>45,068</b>

**Special Clinics of the department:**

1. Musculoskeletal ultrasound guided interventions
2. Custom molded insoles in Foot Clinic
3. Wheelchair prescription and checkout clinic for customized wheelchair delivery as per WHO guidelines
4. Musculoskeletal laboratory: Computerized evaluation and exercise equipment
5. Foot lab/Clinic
6. Brace Check-Out Clinic: checking prosthetic and orthotic devices made in our workshop before final delivery to the patients
7. Case Conference: Discussion of long-term rehabilitation patients for goal setting and treatment evaluation

**Community Services**

Regular Visits of Resident Doctors to CRHSP, Ballabgarh every week on Thursday

**Minor OT Procedures**

S. No.	Name of Procedures	Total
1.	Injections (Intralesional+Botulinium Toxin+ Intraarticular PRP + prolotherapy + viscosupplementation etc.)	1688
2.	Wound debridement and Dressings	671
3.	Catheterization + CIC	741
4.	PoP Cast (total contact for wound care, PTB walking cast, CTEV and corrective cast etc.)	168
<b>Total</b>		<b>3268</b>

**EXERCISE THERAPY: 11896****Occupational Therapy Unit**

Patients attended for Treatment - 8198  
 Patients attended for ADL guidance - 6254



Cerebral Palsy Patients attended - 4903  
 Patients for demonstration - 8198  
 Patients for assessment - 12

**Prosthetic and Orthotic Workshop**

Item	2020–2021	2021–2022	2022–2023
Prosthetic & Orthotic Total Delivered Jobs	534	3631	6540
Prosthetic & Orthotic New Cases	392	2080	3859
Old cases/Visits	898	5241	9168

**Electrotherapy: 5360**

S.No.	Major heads under which report is sought	2020-21	2021-22	2022-23
1.	<b>Number of students/trainees registered in the department</b>	19	19	18
2.	<b>Number of oral presentations and posters</b>	8	21	10
3.	<b>Number of different sub-types of publications:</b>			
	A. Journal articles	4	10	18
	B. Abstracts published in journals	4	0	0
	C. Chapter in the Book	1	1	1
4.	<b>Total number and amount of funding received for research</b>	1 1000000	1 3500000	1 1.1 Cr
5.	<b>Number of patient-care related activities- speciality clinics</b>			
	1. Foot Clinic			
	2. Disability Clinic*			
	3. Prosthetic and Orthotic Checkout Clinic			
	4. Combined Gymnasium Rounds	5	5	7
	5. Ward Rounds			
	6. MSK ultrasound/interventions			
	7. Wound care clinic			

\* Since June 2021, in compliance of a Govt. of India Gazette Notification, UDID portal has been developed - an online system of submission of request for disability certification, uploading of related documents, formatting, verification of certificates issued earlier, and generation of new Certificates has been in practice.

**AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Sanjay Wadhwa** received the ‘Lifetime Achievement Award’ from the Spinal Cord Society for outstanding contributions over many years. This Award was presented by the Union Minister of Social Justice & Empowerment, Government of India on 3 December 2022 at New Delhi; is Chairman, MHD-09 Sectional Committee under the Bureau of Indian Standards (BIS); Convener, International Standards Organisation Technical Committee 173 Working Group 12; Lead Member of Multi-Disciplinary Core Faculty Team (Special Needs & Health-Care Delivery) under AIIMS Medical Humanities Initiatives; Commissioned ‘AIIMS Millets Canteen’ on 1 March 2023 with blessings of the Director, AIIMS; Organized a highly successful ‘Millets Walkathon’ on 26 March 2023 at AIIMS to raise awareness about the International Year of Millets 2023; Subject Expert for selection of Faculty Members at various Institutions; Participated in multiple Public Awareness Lectures and TV Health Programmes

**Professor SL Yadav** was Reviewer at ICMR, Metabolism Journal; Departmental Nodal Officer for COVID; Subject expert for the recruitment at various AIIMS, RPSC and UPPSC; Chairperson, Civil Services Examination - 2022 Medical Board for Persons with Benchmark Disabilities (Locomotor Disability), Department of Personnel & Training, Ministry of Personnel, Public Grievances and Pensions, GOI.

**Dr Srikumar V** was Panelist - Rehab-surgeon interface during management of acute SCI during the CME on “Management of vertebral fractures and associated orthopaedic trauma in acute spinal cord injury: surgeon and rehab perspective” on 19 March 2023.

**Dr Asem Rangita Chanu** Reviewer, Journal of Medical Society, Journal of Clinical and Diagnostic Research; Chief guide in 1 MD thesis; Chairperson, Civil Services Examination - 2022 Medical Board for Persons with Benchmark Disabilities (Locomotor Disability), Department of Personnel & Training, Ministry of Personnel, Public Grievances and Pensions, GOI; Co-ordinator in Equal Opportunity Cell for implementation of Schemes passed in the WP (C) No. 292/06 titled “Disabled Rights Group and another vs UOI & Others”, AIIMS, New Delhi.

**Dr Raktim Swarnakar** was recipient of ‘Academic and Research Excellence Award’ for ‘*Outstanding Achievement, Academic Excellence, Research Work*’ organized by Resident Doctors Association (RDA, 2022-2023), AIIMS, New Delhi; received Critic’s Award (Second prize) in Senior Resident category on Second Research Day, at AIIMS, New Delhi; received Sanath Kumar Sarkar Memorial Award for poster presentation at IAPMRCON 2023; won Third prize in poster competition by IFNR & IAN on stroke awareness month, First prizes in two painting competitions organized by Dietetics, JPN, Trauma centre, AIIMS, New Delhi and First prize in IFNRCON 2022 (April) for Best poster presentation; received Accommodation and registration grant award from MDSI for AOPMC 2023 and was selected as Social Media Ambassador for Asian and Oceanian Parkinson’s Disease and Movement Disorders Congress (AOPMC) 2023.

**Mr Ajay Babbar** is Member of the Artificial Limbs, Rehabilitation Appliances and Equipment for Disabled Sectional Committee, MHD 09 Bureau of Indian Standards, New Delhi. He attended the HYBRID MEETING (Physical/Virtual) meeting on 20 September 2022.

**Mr Anil Kumar Sharma** is Alternate Member of the Artificial Limbs, Rehabilitation Appliances and Equipment for Disabled Sectional Committee, MHD 09 Bureau of Indian Standards, New Delhi. during the year 2022-23.

## 9.32. Physiology

### Professor and HOD

Kishore Kumar Deepak  
(superannuated on 31 January 2023)

Kanwal Preet Kochhar  
(from 1st February 2023)

### Professors

Ratna Sharma  
Ashok Kumar Jaryal

Nalin Mehta\*  
Raj Kumar Yadav

Suman Jain  
Anjana Talwar

### Additional Professors

Asmita Patil  
Dinu Santha Chandran

Renu Bhatia  
Nasreen Akhtar

Simran Kaur  
Prashant Tulshidas Tayade

### Associate Professors

Akanksha Singh  
Ritesh Kumar Netam

Geetanjali Gokarn Bade

### Assistant Professors

Suriya Prakash Muthukrishnan

Suman Das\*\*

\*on deputation as Director to NEIGRIHMS, Shillong since 10 September 2021

\*\*joined as faculty on 15 December 2022

### HIGHLIGHTS

In the year 2022-2023, the department of Physiology was highly active in research and academics. 20 specialized symposia/workshops were organized by the department at various institutes in India and within AIIMS. In addition, "Techniques in Physiological Sciences" an annual event organized by department was expanded to include delegates from WHO-SEAR nations in 2022-23 and 14 specialized workshops were held over a period of 3 days for 58 delegates. Department also provided short-term training to 14 students/faculty members from other universities. 33 Extramural research projects related to specialized areas of Physiology or multidisciplinary projects in collaboration with other institutes nationally/internationally were undertaken. Under PRAKASHMAY project of MEITY, 168 sessions for 9000 students (6000 medical, 3000 nursing) from all over India were trained for general pandemic and COVID-19 management via online mode. Several awards and honors have been received by faculty members and the postgraduate students of the department in appreciation of their innovative contributions in research and medical education. Biofeedback laboratory was established and inaugurated by the honorable Director of AIIMS, New Delhi in January 2023. Clinical grand round was organized by Physiology department on 'Novel theranostics strategy for spinal cord injury'. In addition, encouraged by research activities of the department several first year MBBS students applied for ICMR STS program and summer fellowship. During the National Medical Laboratory Professional Week, on 22 July 2022, special sessions on NitiYog Kriya and stress management were organized by department for 70 AIIMS laboratory staff.

### EDUCATION

1. **Undergraduate teaching:** Lecture 200 hours & Practical 240 hours, Total number of UG students: 132
2. **Postgraduate teaching:** Total Number of PG students: 65
  - a. MSc students: 18
  - b. MD students: 21
  - c. PhD scholars: 26
3. **Nursing and allied courses:**
  - a. BSc (H) Nursing: 90
  - b. BSc MTR (radiology): 11
  - c. BSc OPH (optometry): 16
  - d. Post-certified nursing students: 46
  - e. BSc Operation Theater technician course: 8
  - f. BSc Dental Operating Room Assistance: 7

- g. MSc Nursing Cardiology 2nd year: 3
  - h. MSc Nursing Neuro Physiology 2nd year students: 3
  - i. MSc Nursing Nephrology: 3
4. **Academic/Research training**
- a. Senior residents: 8
  - b. Young scientists: 2
  - c. Research associates: 4
  - d. Senior and Junior research fellows: 7
  - e. Short-term trainees: 14
5. **Changes in the teaching programs during the year and innovative educational activities**
- a. To accommodate 2 batches of MBBS students simultaneously, temporary alterations were made in the teaching schedule
  - b. IT enabled training for generating skilled HCWs in general pandemic management and COVID-19 management was facilitated under PRAKASHMAY project in collaboration with MEITY
  - c. A scientific session on “Innovations in teaching practical Physiology” was held by video demonstrations during “TIPS- 2022, Techniques in Physiological Sciences for WHO SEAR Nations”, at AIIMS Delhi on 20 January 2023

#### **CMEs/Workshops/Symposia/National and International Conferences**

Department of Physiology organized the following events during the current year:

1. Preconference workshop on “Transcranial Magnetic Stimulation: A Non-invasive Diagnostic and Prognostic Tool for Clinical Physiology” during 67th Annual Conference of Association of Physiology and Pharmacology of India “APPICON 21-22” held at AIIMS Delhi on 13 April 2022
2. Preconference workshop on “Space Physiology: Workshop on countermeasures and simulations” during 67th Annual Conference of Association of Physiology and Pharmacology of India “APPICON 21-22” held at AIIMS Delhi on 13 April 2022
3. Workshop on “Medical Entrepreneurship for Physiologists” during 67th Annual National Conference of Association of Physiologists & Pharmacologists of India, (APPICON 2022), 13 April 2022, ESIC Medical College Faridabad
4. Symposium on “Health augmentation with Yoga-based lifestyle intervention” during APPICON 2021-22 on 15 April 2022, at ESIC Hospital & Medical College, Faridabad
5. Workshop on “Non-invasive Stimulation in Neurodegenerative Diseases” during National workshop on “Non-invasive neuromodulation: Current trends and future directions” held online by Department of Physiotherapy, Swami Vivekananda University, Kolkata on 26 April 2022
6. Workshop on “Magnetotherapy and nanomedicine in health and disease” in a workshop cum symposium on “Yog and naturopathy for good health in pandemic” organized by PRAKASHMAY, AIIMS Medical Humanities Initiative and International Naturopathy Organization - Surya Foundation held at AIIMS Delhi on 23 May 2022
7. Workshop and Symposia on “Yog and Naturopathy for good health in Pandemic” held on 24 May 2022, at AIIMS, New Delhi
8. Live surgical workshop on “Intra Operative Neuro Monitoring in Neuro Surgical Cases” during 28th UP-UK Neurocon 2022 held on 7 October 2022 at Varanasi
9. Preconference workshop on “Lung Oscillometry-Interpretation, Technique and principle” in Annual conference of Association of Physiologists of India (ASSOPICON) held at AIIMS, Nagpur on 13 October 2022
10. “Hands on workshop & Technicians course” during Fourth Congress of Asian Oceanian Society of Intraoperative Neurophysiology and 4th Annual Congress of Indian IONM Users Group held on 14 October 2022 at Chennai
11. Symposium on “Non-invasive Neuroimaging” in Annual conference of Association of Physiologists of India (ASSOPICON) at AIIMS, Nagpur from 14-16 October 2022
12. National Symposium & Workshop on “Advances in Yogic Union of Research and Validation of Evidence Based Developments in Ayurveda: First National Workshop on Novel Approaches and Techniques in Ayurveda for Good Health”, held on Ayurveda Day, 21 October 2022 at AIIMS, New Delhi
13. Workshop on “Evidencing Ayurveda Benefits by Advanced Techniques” during National Symposium & Workshop on “Advances in Yogic Union of Research and Validation of Evidence-Based Developments in Ayurveda”, held at AIIMS Delhi on 21 October 2022

14. Workshop on “Neuromodulation by Transcranial Magnetic Stimulation” during 6th National CME and 3rd Hands-on-Workshop on Neuromodulation held by department of Psychiatry at AIIMS Delhi, from 8-10 December 2022
15. Workshop on “Medical Education with e-Technology”, online on 8th December 2022, at Tripura Medical College [TMC], Agartala
16. Workshop on “Establishment of cognitive function test laboratory without constraints of the laboratory space or expensive equipment”, in the 68th Annual Conference of Association of Physiologists and Pharmacologists of India (APPICON 2022), from 12-15 December 2022 at GMCH and PGIMER, Chandigarh
17. Workshop on ‘Setting up cognitive function test lab: A hands-on approach to design ‘need-based’ objective assessment of cognitive function’ in the 68th Annual Conference of Association of Physiologists and Pharmacologists of India (APPICON 2022), from 12-15 December 2022 at GMCH and PGIMER, Chandigarh
18. Hands on training Preconference workshop on “Transcranial Magnetic Stimulation: A Non-Invasive Electrophysiological Technique for Research, Diagnosis and Therapy” during “APPICON 2022” 68th Annual Conference of Association of Physiology and Pharmacology of India held at GMCH and PCIMER, Chandigarh on 12 December 2022
19. Workshop on “Attention Biasness, Eye Tracking and Ankle-Brachial Pressure Index: Newer Assessment Tools for Yoga Research” during 68th APPICON 2022 at GMCH and PGIMER, Chandigarh on 12 December 2022
20. Pre-conference workshop on “Transcranial magnetic stimulation”, at AIIMS, New Delhi, 12 December 2022, as part of APPICON 2022, GMCH and PGIMER Chandigarh
21. Pre-conference workshop on “Principles of overnight polysomnography”, APPICON 2022, 12 December 2022, GMC Chandigarh
22. Online Workshop on “Empathy training and Humanizing Healthcare: Role of Physiologist” during 68th APPICON, on 12 December 2022
23. Symposium on “Yoga and Medicine: Holism vs reductionism” during 68th Annual Conference of Association of Physiology and Pharmacology of India held on 14 December 2022 at PGIMS, Chandigarh
24. Symposium on ‘Neurophysiological mechanisms of Attention’ in the 68th Annual Conference of Association of Physiologists and Pharmacologists of India (APPICON 2022), from 12-15 December 2022 at GMCH and PGIMER, Chandigarh
25. Symposium on “Translational animal research in basic medical sciences” during “APPICON 2022”, 68th Annual Conference of Association of Physiology and Pharmacology of India held at Chandigarh on 13-15 December 2022
26. “Bioprospecting Natural Products for Human Health and Socio-Economic Developments” held on 9-14 January 2023, at department of Physiology, AIIMS, New Delhi in collaboration with Maharishi Dayanand University, Rohtak
27. Workshop on “Assessment of Cardiovascular Autonomic Function” during “TIPS- 2022, Techniques in Physiological Sciences for WHO SEAR Nations”, at AIIMS Delhi from 18-20 January 2023
28. Workshop on “Cognitive Neurophysiology lab protocols: Bereitschafts potential and fNIRS” during “TIPS- 2022, Techniques in Physiological Sciences for WHO SEAR Nations”, at AIIMS Delhi from 18-20 January 2023
29. Workshop on “Cognitive Function Testing” during “TIPS- 2022, Techniques in Physiological Sciences for WHO SEAR Nations”, at AIIMS Delhi from 18-20 January 2023
30. Workshop on “Quantitative EEG” during “TIPS- 2022, Techniques in Physiological Sciences for WHO SEAR Nations”, at AIIMS Delhi from 18-20 January 2023
31. Workshop on “Methodological basis of expression microarray to functional genomics” during “TIPS- 2022, Techniques in Physiological Sciences for WHO SEAR Nations”, at AIIMS Delhi from 18-20 January 2023
32. Workshop on “Stereotactic, electrophysiological and behavioral techniques in animal models” during “TIPS- 2022, Techniques in Physiological Sciences for WHO SEAR Nations”, at AIIMS Delhi from 18-20 January 2023
33. Workshop on “Pulmonary function testing by spirometry and impulse oscillometry” during “TIPS- 2022, Techniques in Physiological Sciences for WHO SEAR Nations”, at AIIMS Delhi from 18-20 January 2023
34. Workshop on “Whole Night Polysomnography” during “TIPS- 2022, Techniques in Physiological Sciences for WHO SEAR Nations”, at AIIMS Delhi from 18-20 January 2023
35. Workshop on “Assessment of sensory and motor functions in humans using Quantitative Sensory Testing and Transcranial Magnetic Stimulation” during “TIPS- 2022, Techniques in Physiological Sciences for WHO SEAR Nations”, at AIIMS Delhi from 18-20 January 2023
36. Workshop on “Assessment of Vascular function” during “TIPS- 2022, Techniques in Physiological Sciences for WHO SEAR Nations”, at AIIMS Delhi from 18-20 January 2023

37. Workshop on “Yoga-meditation: Objective assessment tools” during “TIPS- 2022, Techniques in Physiological Sciences for WHO SEAR Nations”, at AIIMS Delhi from 18-20 January 2023
38. Workshop on “Eye tracking and wireless physiological monitoring” during “TIPS- 2022, Techniques in Physiological Sciences for WHO SEAR Nations”, at AIIMS Delhi from 18-20 January 2023
39. Workshop on “Assessment of Gastrointestinal motility in humans” during “TIPS- 2022, Techniques in Physiological Sciences for WHO SEAR Nations”, at AIIMS Delhi from 18-20 January 2023
40. Workshop on “Assessment of sleep and cardiovascular parameters in rodents” during “TIPS- 2022, Techniques in Physiological Sciences for WHO SEAR Nations”, at AIIMS Delhi from 18-20 January 2023
41. Symposium on Neurophysiological Mechanism and therapeutic intervention in ADHD in 74th Annual National Conference of Indian Psychiatric Society (ANCIPS 2023) on 4 February 2023, Bhubaneswar, Odisha

**Lectures delivered: 121**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
50	93	121

**List of oral papers/posters presented: 88**

**Oral/poster presentations over past 3 years**

2020-2021	2021-2022	2022-2023
13	24	88

## RESEARCH

**Funded projects**

***Ongoing***

1. Efficacy of Probiotics supplementation on cognition and Motor symptoms in patients with fluctuating Parkinson’s Disease, Dr KP Kochhar, DST, 4 years, 2019-2023, Rs 53, 94,240
2. Facilitating of IT enabled training for generating skilled HCW’s in General Pandemic Management & Covid-19 Management-PRAKASHMAY (Pandemic Related Awareness Knowledge and Sensitization to Healthcare Management Amongst Youth) (MeiTY), Dr KP Kochhar, Ministry of Electronics and information technology, 1.5 years, 2022-2023, Rs 1,99,97,933
3. Microstate signatures and resting EEG sources of meditation and stress, Dr Ratna Sharma, DST, SATYAM, 3 years, 2020-2023, Rs 52,86,000
4. Evaluation of therapeutic efficacy and mechanism of repetitive transcranial magnetic stimulation on the cognitive enhancement in hypobaric hypoxic environment, Dr Suman Jain, LSRB, DRDO, 3 years, 2023-2026, Rs 77,87,010
5. A study of differential protein expression in injured spinal cord tissue of rats to predict biomarkers of recovery following intermittent Theta-Burst stimulation and iron oxide nanoparticles implantation, Dr Suman Jain, DST-SERB POWER Grant, 3 years, 2022-2025, Rs 44,24,640
6. Facilitated recruitment of anterior cingulate cortex as a compensatory circuitry of contextual fear memory in the absence of hippocampus, Dr Suman Jain (Mentor), CSRI, DST (NPDF), 2 years, 2022-2024, Rs 21,99,744
7. Development of complex biomimetic artificial nerve-graft for repairing spinal cord injury, Dr Suman Jain, ICMR, 1 year, 2022-2023, Rs 6,65,660
8. Correlation of neurocognitive and motor function deficit severity with gut physiology in Cerebral palsy children, Dr Suman Jain, ICMR (SRF), 2 years, 2022-2024, Rs 4,61,167
9. Modulation of cortical brain maps by external magnetic field in spinal cord injured rats, Dr Suman Jain, ICMR (RA), 2 years, 2022-2024, Rs 14,72,560
10. To investigate the combined neuromodulatory effects of intermittent theta burst stimulation (iTBS) and probiotics on the gut-brain axis in Parkinson’s disease – a randomized controlled trial, Dr Suman Jain, ICMR (RA), 3 years, 2022-2025, Rs 23,00,280
11. Theranostics exosomes for imaging-directed treatment of brain metastases, Dr Suman Jain, ICMR, 3 years, 2021-2024, Rs 61,26,734
12. Clinical research to assess the efficacy of repetitive transcranial magnetic stimulation along with implantation of neurotrophic coated nanoparticles in complete spinal cord injury patients, Dr Suman Jain, DBT, 3 years, 2020-2024, Rs 88,35,200

13. Neuromodulation of cortical excitability and plasticity by low frequency repetitive transcranial magnetic stimulation in infantile hemiplegic cerebral palsy patients, Dr Suman Jain, ICMR, 3 years, 2019-2023, Rs 51,34,802
14. Efficacy of a yoga-meditation based lifestyle intervention in patients with obesity and major depressive disorder: A randomized controlled trial, Dr Raj Kumar Yadav, DST, 3 years, 2022-2025, Rs 80,00,000
15. Study the effects of exposure to diesel, biodiesel and biodiesel blend fuel-engine exhaust on testicular morphology and spermatogenesis in male wistar rats, Dr Asmita Patil, AIIMS-IIT-Delhi Faculty Interdisciplinary Research Project, 4 years, 2018-2022, Rs10,00,000
16. Transgenerational impact of diesel exhaust exposure on the male reproduction in the rat, Dr Asmita Patil, ICMR, 3 years, 2021-2024, Rs 29,90,490
17. Effect of Functional Magnetic Resonance Imaging Neurofeedback-guided Motor Imagery Training on corticomotor excitability and pain status in Rheumatoid Arthritis, Dr Renu Bhatia, ICMR, 3.5 years, 2019-2023, Rs 26,00,000
18. Effect of yogic intervention on pain status in fibromyalgia patients, Dr Renu Bhatia, DST, 3.5 years, 2020-2023, Rs 59,00,000
19. EEG microstates as a biomarker in addictive disorders, Dr Simran Kaur, Intramural Research Grant: AIIMS, New Delhi, 2 years, 2019-2022, Rs 8,05,500
20. Neural correlates of chemotherapy induced cognitive deficits in non-Metastatic osteosarcoma, Dr Simran Kaur, Indian Association of Supportive Care in Cancer, 2 years, 2021-2023, Rs 3,00,000
21. Structural and functional correlates of visuospatial complexity in language processing in children with developmental dyslexia, Dr Simran Kaur, ICMR SRF project, 3 years, 2022-2025, Rs 16,22,400
22. Impact of facemask on emotion recognition and re-identification in controls and patients of major depressive disorder: A QEEG study, Dr Simran Kaur, ICMR SRF project, 3 years, 2022-2025, Rs 16,22,400
23. Objective assessment of cognitive function in patients with desmoid tumor on Sorafenib, Dr Simran Kaur, UG mentorship, AIIMS, 2 years, 2022-2024, Rs 2,00,000
24. ARTSENS® Age: A multimodal method & system for reliable assessment of vascular ageing associated early health markers in routine clinical practice for early screening & timely intervention, Dr Dinu S Chandran, SERB, 3 years, 2022-2025, Rs 10,63,612
25. Functional and biochemical assessment of cardiovascular sequelae in COVID-19 survivors and its association with imbalance in Renin Angiotensin Aldosterone pathway: an observational study, Dr Dinu S Chandran, ICMR, 3 years, 2022-2025, Rs 48,92,370
26. The Medium and Long-term Impact of COVID-19 on the balance between the components of the Renin-Angiotensin pathway, inflammation, arterial stiffness, and endothelial function”, Dr Dinu S Chandran (Mentor), Young Scientist Program of DHR, 3 years, 2021-2024, Rs 47,88,000
27. A Multidisciplinary Approach to Understanding the Interrelationships Between Sleep Quality, Brain Morphometry and Cognition (a SOLACE study): Comparison Between Indian Individuals Residing in the UK vs India, Dr Nasreen Akhtar, AIIMS-UCL, 1 year, 2022-2023, Rs 9,90,780
28. Efficacy of ‘Common yoga protocol’ by AYUSH for chronic insomnia: An open label, two arm, parallel randomized control trial, Dr Nasreen Akhtar, Department of Science and Technology, SATYAM, 3 years, 2022-2025, Rs 31,97,502
29. Nuclear factor kappa B activation, Hypoxia inducible Factor-1 and inducible Nitric Oxide Synthase expression in human vascular endothelial cells by serum of adults with Obstructive Sleep Apnea, Dr Nasreen Akhtar, ICMR, 3 years, 2022-2025, Rs 29,82,714
30. Correlation between Karolinska Sleepiness Scale, day-time EEG and Psychomotor vigilance task, Dr Nasreen Akhtar, AIIMS, New Delhi, 1 year, 2023-2024, Rs 1,99,900
31. Study of EEG microstates and cortical sources in visuo-spatially complex hindi language, Dr Prashant Tayade, Intramural Research Grant: AIIMS, New Delhi, 1 year, 2021-2022, Rs 4,92,000
32. Effect of repetitive transcranial magnetic stimulation (rTMS) of dorsolateral prefrontal cortex (DLPFC) in patients with phantom limb pain, Dr Akanksha Singh, Intramural Research Grant: AIIMS, New Delhi, 2 years, 2021-2023, Rs 6,75,000
33. Effect of sleep deprivation on glucose sensitive neurons in arcuate nucleus in rats, Dr Ritesh Kumar Netam, AIIMS, New Delhi(intramural), 2 years, 2021-2023, Rs 8,78,000
34. Effect of graded chronic exercise on synaptic dysfunction and amyloid precursor protein processing in sleep-deprived Alzheimer’s disease rat model, Dr Ritesh Kumar Netam (Mentor), Young Scientist Award ICMR-DHR, 3 years, 2023-2026, Rs 50,25,838

35. Effect of long term exercise on synaptic abnormalities in sleep-deprived Alzheimer's disease rat model, Dr Ritesh Kumar Netam, Core Research Grant, Science and Engineering Research Board (SERB), 3 years, 2023-2026, Rs 27,26,520
36. Effect of regular exercise on cognitive and neurochemical disruptions in REM sleep deprived Alzheimer's disease rat model, Dr Ritesh Kumar Netam, ICMR (SRF), 3 years, 2023-2026, Rs 15,90,000
37. Neural mechanism of sleep deprivation induced metabolic changes in rats, Dr Ritesh Kumar Netam, ICMR Adhoc Project Program, 3 years, 2023-2026, Rs 37,63,208
38. Gene expression profiling by RNA seq and metabolomics signatures in post COVID Pulmonary Fibrosis, Dr Geetanjali Gokarn Bade, ICMR, 3 years, 2021-2024, Rs 63,99,035
39. Mapping the effective human brain connectome of visual object recognition, Dr Suriya Prakash M, AIIMS, 2 years, 2020-2022, Rs 4,78,000
40. Wearable soft robotics for Upper Limb Muscle Power Augmentation with BMI interface, Dr Suriya Prakash M, DRDO-IITD 'JATC', 4 years, 2021-2025, Rs 56,34,000

### ***Completed***

1. To investigate the biochemical and functional alterations by novel diagnostic tool GluCEST and prevention of progression of Alzheimer's disease by non-invasive Magnetic field stimulation therapy in streptozotocin (STZ) induced rat model, Dr Suman Jain, ICMR (RA), 3 years, 2019-2022, Rs 21,58,080
2. Functional and morphological study of antigravity muscle in spinal cord transected rats: combinatorial effect of electromagnetic field exposure and Iron Oxide nanoparticle implantation, Dr Suman Jain, ICMR (SRF), 3 years, 2019-2022, Rs 13,20,000
3. Effect of chronic exposure to low intensity magnetic field on streptozotocin induced synaptic dysfunction and amyloid precursor protein processing in rats, Dr Suman Jain, ICMR (SRF), 3 years, 2019-2022, Rs 13,20,000
4. Quantification of systemic inflammatory biomarkers and immunophenotyping of immune cells in post tuberculosis sequelae patients, Dr Geetanjali Gokarn Bade, AIIMS, New Delhi (IRG), 3 years, 2019-2022, Rs 10,00,000

### **Departmental projects**

#### ***Ongoing***

1. Autonomic and vascular responses during cold pressor test at three different temperatures
2. Autonomic function and vascular parameter as predictors of outcome in coronary artery disease patients: An individual patient data meta-analysis
3. Effect of sympatho-inhibitory manoeuvres on resting retrograde shear in brachial artery of middle aged and elderly human subjects
4. Role of baroreflex in lower body negative pressure simulated non-hypotensive hypovolemia
5. Effect of Probiotics and Repetitive Transcranial Magnetic Stimulation on cognitive and motor function in 6-hydroxy Dopamine rat model of Parkinson's Disease
6. AIIMS Medical Humanities Initiative towards development of Centre For Medical Humanities at AIIMS
7. SSB-AIIMS Wellness Centre Project
8. QEEG based neural correlates and microstates of attention and interference in ADHD: An endophenotypic marker
9. EEG cortical sources and connectivity of working memory and language processing in Attention Deficit Hyperactivity Disorder
10. Neural Correlates of Motor Planning for Voluntary Upper Limb Movement with Assistive Exosuit
11. Neural correlates of chemotherapy-induced cognitive deficits in patients with Sarcoma
12. A randomized controlled trial to evaluate the effect of intermittent theta burst stimulation on gait pathomechanics and urinary test dysfunction in incomplete spinal cord injury patients
13. Cerebellar reorganization in complete spinal cord transection rat model: effect of intermittent theta burst stimulation
14. A study of intermittent Theta Burst Stimulation of dorsolateral Prefrontal Cortex on Post-Polio syndrome
15. A study of differential proteome expression following intermittent Theta-Burst stimulation and nanoparticles implantation in Spinal Cord Injured rats
16. A study to investigate the neuromodulatory role of intermittent Theta-Burst stimulation in iron oxide nanoparticles implanted complete spinal cord injured patients



17. A longitudinal study to assess cortico-spinal excitability and plasticity in amyotrophic lateral sclerosis using transcranial magnetic stimulation metrics
18. Genetic and Cellular Changes After 6-Months of Yoga- Based Lifestyle Intervention in Participants with Obesity and Major Depressive Disorder: A Randomized Controlled Trial
19. Evaluation of Yoga-Based Intervention and Transcranial Magnetic Stimulation on Cognition, Neuromodulation and Stress in Obesity: A Randomized Controlled Trial
20. Effects of biofeedback guided pranayama on carotid intima-media thickness and food behavior in obesity: A Randomized Controlled Trial
21. Microstates and cortical sources as a QEEG tool to quantify and classify normal, meditative, stressed and psychiatric brain states
22. Effect of yogic intervention on pain perception and autonomic profile in fibromyalgia patients
23. Effect of Probiotics Supplementation on Cognition and Motor Symptoms in Patients with fluctuating Parkinson's Disease
24. Immunophenotyping and functional characterisation of peripheral T regulatory cells in COPD
25. Effect of exercise on lung volumes and airway impedance in dominant somatotypes of young adults
26. Respiratory Impedance, Lung volumes and exercise capacity in Obstructive Sleep Apnea with and without Metabolic syndrome
27. Gene expression profiling by RNA seq and metabolomics signatures in post COVID Pulmonary Fibrosis
28. To study the effect of high fat diet (HFD) on the structural and functional components of reproductive system and autonomic nervous system changes in male adult Wistar rat
29. Developing animal model for pollution research: cardiovascular, respiratory, brain
30. To study the effect of Filtered diesel exhaust-exposure on capsaicin-induced cardio-pulmonary reflex responses in anesthetized rat models
31. A study on cellular physiology of endometriosis-associated estrogenic action in endometrial stromal cells
32. To study the effect of diesel exhaust exposure on male reproduction in the laboratory rat
33. Study of the effects of exposure to diesel, biodiesel and blend fuel engine exhaust on testicular morphology and spermatogenesis in male wistar rats
34. Effect of Functional Magnetic Resonance Imaging Neurofeed back-guided Motor Imagery Training on corticomotor excitability and pain status in Rheumatoid Arthritis patients
35. Effect of yogic intervention on pain status and cortical excitability in fibromyalgia patients
36. Association between Val158Met polymorphism in catechol-o-methyl transferase and pain perception in rheumatoid arthritis
37. Effect of prolonged theta burst stimulation protocols on corticomotor excitability and pain perception in healthy controls
38. Effect of low frequency repetitive transcranial magnetic stimulation on pain status, joint mobility and cortical excitability in Rheumatoid arthritis
39. Assessment of cardiovascular autonomic functions in COVID-19 survivors
40. Effect of anthracycline-based chemotherapy on central arterial stiffness in breast cancer patients
41. A study on the pressure dependence of aortic pulse wave velocity in human subjects using a hydrostatic pressure gradient model.
42. Non-invasive assessment of carotid artery reactivity to cold pressor test in young and older adults.
43. A Study of Blood Pressure Variability and Sleep Fragmentation in Obstructive Sleep Apnea
44. A study of sleep architecture, brain morphometry and cognition in older adults
45. Recovery of physical activity & sleep disturbances post SARS-CoV-2 infection
46. Effect of repetitive transcranial magnetic stimulation (rTMS) of dorsolateral prefrontal cortex (DLPFC) in patients with phantom limb pain

### ***Completed***

1. The correlation of Body somatotypes with Autonomic, vascular and genomic variables
2. Effect of salient Phytocompounds on behavioral activity and bio markers level in an experimental model of Parkinson's Disease: An In-Silico, In-Vivo study

3. Effect of intermittent theta burst stimulation on neurogenic orthostatic hypotension in patients of Parkinson's disease
4. Effect of Exercise on Skeletal Muscle Properties in Low Thoracic SCI Rat Model
5. Effect of affective words on the retrieval of visual objects in a working memory task
6. Cortical Sources of Listening to North Indian Classical Music: A QEEG Study
7. To study the effect of simulated microgravity on the Baroreflex Sensitivity and carotid artery structure in rats
8. A morphological and functional study on intracerebroventricular streptozotocin-induced rat model of Alzheimer's disease: effect of magnetic field stimulation
9. Muscle regeneration in complete Spinal Cord Injury: Effect of Iron Oxide nanoparticle Implantation along with Magnetic Field exposure in rats
10. Cortical reorganization incomplete spinal cord injured rats: Effect of superparamagnetic nanoparticles and low-intensity magnetic field exposure
11. Effect of rTMS neuromodulation on Left Ventricular structure and cardiovascular variables in complete low thoracic SCI rats.
12. Role of Baroreflex in LBNP Simulated Non- Hypotensive Hypovolemia
13. Correlation between neuropsychological deficits and lesions of white fiber bundle in Pre-frontal lobe
14. Effect of yoga on pain status and corticomotor excitability in chronic low back pain patients
15. A randomized controlled trial to evaluate the efficacy of yoga in modifying gene expression of stress, inflammation and ageing in Indian obese subjects
16. Effect of repetitive transcranial magnetic stimulation on phantom limb pain
17. A study of pain inhibitory neurotransmitters in CSF and blood of women undergoing caesarean section
18. Effect of repetitive Transcranial Magnetic Stimulation on pain status in Post Mastectomy Pain Syndrome patients
19. To investigate the arterial wall mechanics of low flow mediated constriction
20. Brain Morphometric Correlates of Sleep Quality in Older Adults
21. A study of central pain modulation in chronic pancreatitis

### **Collaborative projects**

#### ***Ongoing***

1. Questionnaire based survey of musculoskeletal dysfunction among general surgeons and comparison of muscle activity and fatigue among expert and novice surgeons during laparoscopic surgery using surface electromyography, Surgery
2. MR and other techniques based phenotyping and correlation with prakruti type in healthy population, NMR, AIIMS
3. Heat and thermal regulation of human body, IIT Madras
4. Spatio-temporal photoplethysmography (PPG), IIT Madras
5. Cardiovascular simulation: Valsalva manoeuvre, IIT Madras
6. Assessment of Cognitive function in women with ovarian primary peritoneal of fallopian tube cancer in Indian settings: A Pilot Study, Obstetrics & Gynecology
7. Effect of EEG feedback training on opioid dependent subjects initiated on opioid antagonist treatment, NDDTC
8. Heart Rate variability HRV and autonomic parameters for supplementing clinical assessment of opioid withdrawal, NDDTC
9. Music therapy for rehabilitation in post-stroke non-fluent aphasia: the Indian adaption, Neurology
10. Mind Body & Cognition: Exploring the effect of Breath Regulation on Cognitive functions, PMR
11. To study the change in Bereitschafts potentials (MRCP) in fibromyalgia syndrome, PMR
12. Cognitive and Psycho-Physiological Effects of AIIMS Cognitive Training Toolkit (CTT) and computer Based Cognitive Training (PSS CogRehab) on Children with ADHD aged 6-11 years: A Randomized Control Pilot Study, Psychiatry
13. Wearable soft robotics for Upper Limb Muscle Power Augmentation with BMI interface, IIT Delhi
14. Development of wearable soft sensor for online estimation of joint torque from physiological signals: application towards neuro-muscular control of the powered soft assistive device, IIT Delhi
15. A study of Neurophysiological Predictors of Response to Methylphenidate in Children and Adolescents with Attention Deficit Hyperactivity Disorder, Psychiatry

16. Assessment of cognitive changes due to opioid usage among cancer patients attending the tertiary care centre in India - A cross sectional observational study, Onco-Anaesthesiology and Palliative Medicine
17. A cross-sectional study of patient reported quality of life and cognitive impairment in patients with Gastrointestinal stromal tumor”, Medicine
18. To see the early effect of sorafenib on cognition, cardiovascular and reproductive functions in patients with fibromatosis, Medical Oncology
19. A comparison of modulating effect of cTBS and low-frequency rTMS on cortical excitability in children and adolescents aged 5-14 years with Lesional Drug refractory Epilepsy (Focal epilepsy or electrical status epilepticus in sleep): An open-label randomized non-inferiority crossover study, Pediatric Neurology, AIIMS Delhi
20. Effect of sodium - hydrogen channel (NHE-1) inhibitor in hypoxic cardiac arrest, Emergency Medicine, Trauma Centre
21. Analysis of anti-neurotoxicity of amyloid Beta ( $A\beta$ ) in Alzheimer’s disease (AD) pathology targeting lipoxygenase, Biophysics, AIIMS Delhi
22. Intermediate and long term therapeutic efficacy of r TMS in drug refractory focal epilepsy of childhood: A randomised double blind sham controlled study, Pediatrics Neurology, AIIMS Delhi
23. Cortical excitability in children with electrical status epilepticus in sleep compared to non-epileptic healthy children using Transcranial magnetic stimulation, Pediatrics Neurology, AIIMS Delhi
24. Efficacy of repetitive transcranial magnetic stimulation in children and adolescents age 5-18 years with generalized dystonia: a randomized sham control trial, Pediatric Neurology, AIIMS Delhi
25. Single arm intervention study of low frequency repetitive transcranial magnetic stimulation in steroid resistant /relapsed ESES in children aged 5-12 years, Pediatrics Neurology, AIIMS Delhi
26. Influence of the restoration after pulpotomy on the electrical conductance of the tooth- A preliminary investigation, CDER AIIMS Delhi
27. Effects of Environmental and Occupational Noise on Cognition, NMR AIIMS Delhi
28. To investigate the behavioral and neurobiological alterations in the Decision Making in Affective Disorders by Rodent Iowa Gambling task with underlying sex differences, IIT Delhi
29. Exploring the effect of aging and neurodegeneration on decision making and the underlying mechanisms using Rodent-Iowa gambling task in streptozotocin (STZ) induced AD rat model, IIT Delhi, JNU Delhi
30. Evaluation of the cardioprotective effect of remote ischaemic preconditioning in acute coronary syndrome patients and its correlation with vitamin D, Pharmacology, AIIMS, New Delhi
31. Impact of transcendental meditation (TM) on acute and chronic stress among surgeons: A randomized controlled trial, Dept of Surgical Disciplines, AIIMS, New Delhi
32. Nutritional assessment of Indian women with gynaecological cancers using GLIM criteria and impact of focused rehabilitation protocol on nutrition and perioperative outcomes in women undergoing interval debulking surgery, Obstetrics &Gynecology
33. Effect of remote ischemic postconditioning on inflammatory markers and myocardial injury during thrombolysis in normal and vitamin D deficient patients suffering from acute coronary syndrome, Pharmacology
34. Effect of vitamin D on monocrotaline induced pulmonary artery hypertension in rats, Pharmacology
35. A randomized controlled trial of 6 months yogic exercise vs regular physical activity on body composition, multiple metabolic measures in North India individuals with non-alcoholic fatty liver disease and obesity, Medicine
36. Delhi glaucoma epidemiology study, Dr Rajendra Prasad Centre for Ophthalmic Sciences, AIIMS, New Delhi
37. Effect of yoga-based lifestyle intervention on biomarkers of cellular aging in patients with depression, Dept of Anatomy, AIIMS, New Delhi
38. Role of Yoga based intervention as an adjunct in improving quality of life of glaucoma patients, RPC, AIIMS, New Delhi
39. Impact of supervised diet and lifestyle modifications on weight loss, body fat distribution and insulin resistance in adult Indian obese patients, Dept of Surgical disciplines, AIIMS, New Delhi
40. Efficacy of a family based comprehensive yoga program for weight reduction among overweight children and adolescents, Dept of Pediatrics, AIIMS, New Delhi
41. Pulmonary function Testing in Obstructive Sleep Apnea and Metabolic syndrome, Department of Pulmonary, Critical Care and Sleep Medicine
42. Gene expression profiling by RNA seq and metabolomics signatures in post COVID Pulmonary Fibrosis, Department of Pulmonary, critical care and sleep medicine, NMR and CCRF

43. Quantification of systemic inflammatory biomarkers and immunophenotyping of immune cells in post tuberculosis sequelae patients, Department of Pulmonary, critical care and sleep medicine
44. Effect of Yoga on maternal and perinatal outcome on Pregnancy, Department of Obstetrics and Gynecology, AIIMS, New Delhi
45. Correlation between noradrenaline, serotonin, GABA and glycine in cerebrospinal fluid with labor pain undergoing cesarean section: A preliminary Study, Department of Anaesthesiology, AIIMS, New Delhi
46. Impact of rTMS versus drug therapy on phantom limb pain in lower limb amputation patients: A randomized controlled trial, JPNAT, Trauma Centre, AIIMS, New Delhi
47. A Prospective comparative study to evaluate the restoration of abdominal wall dynamics in patients with incisional hernia following laparoscopic and open repair, Department of Surgery, AIIMS, New Delhi
48. Randomized double-blind, placebo-controlled study of oral gabapentin for prevention of sensory neuropathy in patients receiving paclitaxel, Department of Medical Oncology, Dr BRAIRCH, AIIMS, Delhi
49. An observational study to correlate site of obstruction in obstructive sleep apnea with eustachian tube dysfunction and reflux disorders, Department of Otolaryngology
50. Effect of Ayurvedic oil dripping treatment (Shirodhara) on sleep quality in patients with recent cardiocerebrovascular events: a randomized controlled trial, Department of Cardiology

### **Completed**

1. Assessment of Attentional BIAS to calorogenic versus non-calorogenic food in children, CDER
2. Assessment of Visual Attention and Preferences of Children and Adolescents Related to The Dentist and Dental Operatory - An Eye tracking Analysis, CDER
3. Therapeutic intervention of small molecule based novel activator of Sirtuin on rat model of Alzheimer's disease, Biophysics, AIIMS Delhi
4. Neurobiological basis of early life stress-induced aggressive behavior, Institute of Genomics and Integrative Biology, Delhi
5. A randomized, double-blind, placebo-controlled, split-head trial to study the effects of autologous platelet-rich plasma on hair growth and lesional T-helper and T-regulatory cells expression markers in alopecia areata, Dermatology and Venerology AIIMS Delhi
6. Exploring Graphene functionalized 3D scaffolds for enhanced neuronal differentiation of human Mesenchymal stem cells and use in Rat Parkinson's disease model, Stem Cell facility, IRCH AIIMS Delhi
7. The study of synaptic plasticity in a rat model of chronic post-surgical pain, Anatomy, AIIMS Delhi
8. Role of selective neuropeptides in the spinal cord of morphine treated rats, Anatomy, AIIMS Delhi
9. Evaluation of repetitive Transcranial Magnetic Stimulation as an adjunct to modified Constraint Induced Movement Therapy in improving Upper Limb Function in Children with Hemiparetic Cerebral Palsy aged 5-18 years - A Randomized Controlled Trial, Pediatric Neurology, AIIMS Delhi
10. A randomized sham-controlled trial of targeted low-frequency repetitive transcranial magnetic stimulation therapy in childhood and adolescents with focal onset refractory epilepsy, Pediatric Neurology, AIIMS Delhi
11. Impact of Transcendental Meditation on stress and immunity of healthcare providers involved in COVID-19 patient care at AIIMS, New Delhi, Dept of Surgical disciplines, AIIMS, New Delhi
12. Immunophenotyping and functional characterisation of peripheral and in-vitro induced T regulatory cells: putative role in pathogenesis of COPD, Department of pulmonary, critical care and sleep medicine
13. A randomized controlled trial of adjunctive incremental pregabalin therapy vs placebo for pain management in chronic pancreatitis, Department of Gastroenterology and Human Nutrition, AIIMS, New Delhi
14. Effect of Suryanamaskara practice on Physiological variables: A pilot Study, Department of Centre for integrative medicine and Research, AIIMS, New Delhi
15. Repetitive Transcranial Magnetic Stimulation to the Inferior Parietal Lobule in Task Specific Focal Hand Dystonia: A Randomized Cross over Blinded Outcome Assessment Study, Department of Neurology, AIIMS, New Delhi
16. A prospective study to evaluate the restoration of abdominal wall dynamics in patients with incisional hernia following laparoscopic IPOM plus repair in comparison to healthy controls using surface EMG, Department of Surgery, AIIMS, New Delhi
17. Comparative study of effects of lignocaine vs dexmedetomidine administration on the incidence of Post operative cognitive dysfunction in the elderly, Department of Anaesthesiology, Pain Medicine and Critical Care, AIIMS, New Delhi

18. A Cross Sectional Study to assess the Severity of Chronic Pruritus and its effect on Quality of life using the 12 Item Pruritus Severity Scale and the 5-D Itch Scale, Department of Dermatology and Venereology, AIIMS, New Delhi
19. Evaluation of immediate and occlusal pattern changes and their influence on electromyographic activity of jaw muscles in growing patients treated with rapid maxillary expansion for posterior crossbite- A prospective clinical study, Department of orthodontics and dentofacial deformities (CDER), AIIMS, New Delhi
20. Longitudinal changes in EMG activity of masseter and temporalis muscles of patients undergoing temporomandibular joint replacement, Department of oral & maxillofacial surgery (CDER), AIIMS, New Delhi
21. Unique aspects of idiopathic hypoparathyroidism, Dept. of Endocrinology and Metabolism, AIIMS Delhi
22. Effect of '365 breathing technique' on intraocular pressure and autonomic functions in glaucoma patients: A randomized control trial, Dr Rajendra Prasad Centre for Ophthalmic Sciences, AIIMS Delhi
23. Yoga in Coronary artery disease and quality of sleep (YOGA-CADETS), Department of Cardiology

#### Research projects over past 3 years

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	42	47	44
Total funding (lakhs)	Rs 958.61	Rs 1340.89	Rs 1467.01

#### PUBLICATIONS

**Journal: 52**

**Abstract: 14**

**Chapters in Book: 1**

**Books & Monographs: 2**

#### Publications over past 3 years

Item	2020-2021	2021-2022	2022-2023
<b>Total</b>	<b>70</b>	<b>50</b>	<b>69</b>
Journal articles	51	46	55
Abstracts	11	2	14
Chapters in books	8	2	1
Books	0	0	2

#### PATIENT CARE

**Autonomic and Vascular function lab** provide diagnostic facility for referred patients. The labs provide routine test of autonomic reactivity along with autonomic tone quantification. A total number of 821 patients have been tested for autonomic function.

**Intraoperative Neurophysiology:** Intraoperative monitoring provided support for ~390 surgeries in the Departments of Neurosurgery and Department of Orthopaedics.

**Integral Health & Wellness Clinic (IHC):** As a de-stressor facility, the IHC is a supportive facility to de-stress AIIMS employees including faculty, students, residents and staff. A total of 329 participants were registered and trained at IHC during 2022-23. Each participant remains at IHC for about 1 hour daily for 2 weeks and each fibromyalgia patient remains here at IHC for 4 to 6 weeks, daily approximately 1 hour.

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Kishore Kumar Deepak** established Biofeedback Clinic in the Dept of Physiology (room no. 2050) and the same was inaugurated by the Director of AIIMS, New Delhi on 30 January 2023; BK Anand Award for best research in Neurophysiology was received by PhD student for the work on Autonomic studies in Cerebellar ataxia. Dec 2022; Sushila Thaker Prakruthi Mandir Award for best research work in the field of Yoga was received by PhD student in December 2022; Prof Murugappan Award by World Congress of Asian Psychiatry; Young scholarship awarded by the World Psychiatric Association award to the poster paper, Indian Journal of Psychiatry, Volume 65, Supplement 1, 2023; Chairman, Committee to consider Medical Cases under Prime Minister's National Relief Fund (PMNRF), PMO Office, GoI, 2022; Dean (Examination) AIIMS Delhi; Council member and officers of FAOPS (for the term of 2023-2027); Executive Editor, Indian Journal of Physiology and Pharmacology of India (IJPP, Member, Institute Research Cell (IRC), AIIMS, Raipur, MP, 2022; Member curriculum committee AIIMS Bilaspur; Member, Screening committee, Centre for Medical Innovation and Entrepreneurship (CMIE), DBT-AIIMS Incubation cell, AIIMS, New Delhi, 2022. AIIMS, New Delhi; Member, Chairman, Ethics committee, National Institute of Fashion Technology (NIFT), New Delhi; Chairman,

Ethics committee ESIC Medical College Faridabad 2022; Expert, NRDC Expert screening committee, National Research development Council (NRDC), ND; Professor In-charge (for Faculty Development of & Basic Sciences), CMET, AIIMS, ND; MD examiner, Institute of Medical Sciences BHU, Varanasi & SN Medical College, Agra; Dept coordinator for all Covid activities and participated in combined morning meetings; Expert for research committee for IIT Delhi PhD students for the title “Virtual Reality Applications for Stroke Rehabilitation”; Member of NRDC national innovation awards, national societal innovation awards & national budding innovators awards; Member, Biomedical device and technology development (BDTD) Expert advisory group (EAG), DST; Member of the advisory panel at national academy of medical sciences (NAMS); Chairman, Teaching schedule committee for the (Phase-I) ; Member PhD board, ESIC Medical College, Faridabad. Member of Yoga-CaRe HF Intervention under ICMR taskforce project (Committee (Under the chairmanship of Prof SC Manchanda); Awarded SK Manchanda FIPS oration for 2022. Ex-officio-member of Counseling committee, AIIMS, New Delhi; 1st of March 2023, appointed as full time Visiting Professor in the Center for Biomedical Engineering at IIT Delhi and Biomedical Engineering Unit of AIIMS, New Delhi; Filed patent on “O” Endurimeter (Rat exerciser), along with Syed Shariq Naeem, Waseem Rizvi, Yassar Rafat, Temp/E-119085/2022-DEL, 2022.

**Professor Kanwal Preet Kochhar** PhD student received People’s choice award during IBRO- APRC, Gut Microbiota and the gut brain connection : There is science in gut feeling after all; First prize critics award under PhD Category during 2nd Annual Research Day, AIIMS, New Delhi.

**Professor Ratna Sharma** received “BK Anand Award” by APPICON for Best research paper in Physiology.

**Professor Suman Jain** organized Clinical Grand Round on “Transcranial Magnetic Stimulation and Nanotechnology based Novel Theranostics in Spinal Cord Injury” at AIIMS Delhi on 7 March 2023; Received best oral presentation award during “International Neuromodulation Society Interim meeting” held at Mumbai from 11 to 13 November 2022; Senior research fellow received “Tulsabhai Somany Award for best oral presentation” during Annual conference of Indian Academy of Neurosciences held at Shillong; Senior research fellow received “People’ Choice Award” during 2nd Annual research Day held by AIIMS Delhi; Ex PhD student received “Dev Raj Bajaj Award” for Best Research paper on development of newer techniques in Physiology/Pharmacology/Allied Sciences in January 2023 by Association of Physiology and Pharmacology of India; External subject expert for faculty recruitment and APS at AIIMS Gorakhpur, AIIMS Madurai and HIMSR; Invited as an External examiner by University of Malaysia to evaluate and conduct PhD examination; Member and Reviewer of Funding Research Committee, North American Spine Society; Vice President, Indian Academy of Neurosciences; Secretary of Delhi-NCR Chapter of Indian Academy of Neurosciences; Member of IUPS-IUPHAR committee of INSA; Committee member for counseling of Non Academic Junior residents, AIIMS Delhi; Faculty mentor of e-Student Welfare Cooking Club, AIIMS Delhi; Chairperson, Scientific Committee, TIPS 2022, AIIMS Delhi; Chaired a session on “Translational animal research in basic medical sciences” during “APPICON 2022” 68th Annual Conference of Association of Physiology and Pharmacology of India held at Chandigarh on 13-15 December 2022.

**Professor Ashok K Jaryal** received Best Poster Award of Association of Physiologists and Pharmacologists of India during 67th APPICON, ESIC Faridabad; 15 April 2022; Best Oral presentation by a postgraduate (R. Srinivasan Award of Association of Physiologists and Pharmacologists of India). 67th APPICON, ESIC Faridabad; 15 April 2022; External Expert for Project Monitoring and Review Committee for XIII Five-year plan projects and Tasks. Defence Institute of Physiology and Allied Sciences (DIPAS); Member, Fifth Advisory Body, NEET (UG) 2023. National Testing Agency (NTA); Member, Examination Ethics Committee, National Board of Examinations in Medical Sciences (NBEMS); General Secretary, Society for Intra-Operative Neurophysiology (SION).

**Professor Rajkumar Yadav** is Associate editor: Frontiers in Psychology (published by Frontiers Media); Editor: International Journal of Clinical and Experimental Physiology; Editorial board: Annals of Yoga and Physical Therapy; Deputy Hostel Superintendent, AIIMS, New Delhi; Vice President (North zone): Association of Physiologists of India (ASSOPI); Secretary, Faculty Club, AIIMS, New Delhi; Secretary, Association of Physiologists & Pharmacologists of India (APPI), *Delhi chapter*; Finance Secretary, TIPS 2022, Techniques in Physiological Sciences for WHO SEAR nations, AIIMS, New Delhi, 18-20 January 2023; Chairman: Selection committee for appointment of consultant/fellows/computer programmer etc in research projects at AIIMS (Research section), New Delhi; Chairman: Committee for evaluation of tenders on QCBS basis (AIIMS Hostels); Chairman: Inspection committee for AIIMS hostel goods; Chairman: Technical specification & evaluation committee for purchase through GeM portal (AIIMS Hostels); Chairman: Committee for bicycles availability within AIIMS campus for ‘Green AIIMS Clean AIIMS’ since March 2023; Central Public Information Officer (CPIO), Hostel Section, AIIMS, New Delhi, under Right to Information (RTI) act; Best research paper award (as Chief Guide) in ‘Natural health, Naturopathy and Yoga’ (instituted in the name of ShushilaThakerPrakrithiMandir) by APPI (Association of Physiologists & Pharmacologists of India) 2021-22 on 16 April 2022 at ESIC, Faridabad; Best research paper award (as Chief Guide) in ‘Yoga and Naturopathy’ (instituted

in the name of Shri Ram Murti Smarak Award) by ASSOPI (Association of Physiologists of India) 2021-22 on 15 October 2022, during 8th ASSOPICON 2022 at AIIMS, Nagpur; Best Research Paper (as co-author) award, as oral presentation on 21 June 2022 at AIIMS, New Delhi, during 8th International Day of Yoga celebrations, 'Research in Yoga at AIIMS, New Delhi'; Professional consultancy: External Expert for Faculty recruitment/APS interview at AIIMS Bathinda ;Professional consultancy: Technical cum Experts Committee member, Indian Council of Medical Research (ICMR), New Delhi ;Professional consultancy: External Expert for screening/selection of Nursing staff, Superintendent, managers etc. at Institute of Liver & Biliary Sciences (ILBS), New Delhi ;Chaired a scientific session, 'Beyond Surgery' on 5 September 2022 at AIIMS, New Delhi during 'Annual day & CME 2022', organized by Dept of Surgical Disciplines, AIIMS, New Delhi, 3-5 September 2022; Nodal officer, Hostels, AIIMS: for infection control amongst hostelers/residents during Covid 19 pandemic; Member, AIIMS Students Benevolent Fund Committee for UG students; External Expert for DRDO Lab Awards and Cash awards 2021, DIPAS, Ministry of Defence, Govt of India, New Delhi, September 2022.

**Dr Renu Bhatia** is Member AIIMS UG Curriculum organizing group, AIIMS New Delhi; Nodal Officer, e-content for Learning Management System AIIMS New Delhi.

**Dr Simran Kaur** received Dev Raj Bajaj Award (Best Research Paper in Relation to Development of Newer Techniques/Instrumentation in Physiology/Pharmacology or Allied Sciences); Departmental Nodal officer: National Medical College Network; Member, Committee on compilation of information and coordination with various agencies for awards; Subject expert for question banking at National Board of Examinations for MBBS and Postgraduate course.

**Dr Dinu S Chandran** is the executive editor of the Indian Journal of Physiology and Pharmacology and nominated as the member of the board of the general assembly International Union of Physiological Sciences (IUPS) for a term of 3 years (2022-2025).

**Dr Nasreen Akhtar** is Associate editor of the journal 'Sleep and Vigilance', reviewer for journals Scientific Reports, Indian Journal of Physiology and Pharmacology; Dr BK Anand Award for Best research paper published in Physiology to PhD student Mr Binney Sharma, by Association of Physiologists and Pharmacologists of India, December 2022; Third prize in oral paper presentation to MBBS student Ishan Gupta, during INSIGHT 2022, a Medical and Scientific Fest organised by The Scientific Society, AIIMS, New Delhi on 15 April 2022; Examiner for PhD thesis in Physiology of Delhi University (South Campus); Faculty incharge MBBS teaching.

**Dr Akanksha Singh** served as departmental COVID nodal officer during this period for coordinating COVID preventive training and activities with the institute COVID nodal team; 3rd prize Critics choice award (MSc Category) was received for the research work during AIIMS 2nd Annual Research Day, 18 October 2022.

**Dr Suriya Prakash** has Editorial Role: Topic Editor, Frontiers in Human Neuroscience (Impact Factor: 3.473); Event Coordinator, Techniques in Physiological Sciences Workshop 2022 (TIPS 2022) for WHO South-East Asian Region (SEAR) nations, AIIMS, Delhi; Member, Committee for MBBS Curricular Reforms, AIIMS, New Delhi.

#### Social outreach program:

Sl. No.	Media/venue	Program details	Date	Time
1.	TV: DD NEWS	As a medical expert, Dr Raj Kumar Yadav, in the live show 'Total Health' discussed, 'Cycling and health'	5 June 2022	8.30 to 9.30 am
2.	Radio: FM Rainbow 102.6 MHz	As a medical expert, Dr Raj Kumar Yadav, in the live show 'Radio Doctor' (Phone-In); Topic: Yoga for general wellness	9 June 2022	3 to 3.45 pm
3.	TV: DD INDIA/DD Bharti	As a medical expert, Dr Raj Kumar Yadav, in the live show, 'International Day of Yoga celebrations', Yoga, health & diseases, across the globe	21 June 2022	4.30 to 5.30 am
4.	JL Auditorium, AIIMS, New Delhi	Brief Public lecture, as a part of 'International Yoga Day' celebrations	21 June 2022	6 to 6.30 am
5.	NEWSX, an ITV news channel	As a medical expert, Dr Raj Kumar Yadav, in the live show (online mode), 'Yoga in diseases'	21 June 2022	8.30 to 9 am

6.	TV: DD Kisan	As medical experts Dr Raj Kumar Yadav with Dr SK Sharma and Dr Rajeev Narang discussed 'Winter, diseases and its prevention' in the live show	24 December 2022	6 to 6.55 pm
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#### VISITING SCIENTIST

**Professor Yori Gidron**, Professor of Medical Psychology, department of Nursing, Faculty of Welfare and Health Sciences, Haifa University, Israel delivered a talk on “Biofeedback interventions” on 30 January 2023 at AIIMS Delhi.

**Dr Ratna Sircar**, Professor of Psychology (Clinical), and Director of the laboratory for Neuropsychopharmacology, New York City College, New York, USA received Kamala BK Anand Oration Award and delivered oration on “The Adolescent Brain: Work in progress” on 9 March 2023 at Ramalingaswami Board room.



## 9.33 Plastic, Reconstructive and Burns Surgery

### Professor and Head

Maneesh Singhal

### Associate Professors

Raja Tiwari

Shashank Chauhan

Raj Kumar Manas

### Assistant Professor

Shivangi Saha

### HIGHLIGHTS

The Department of Plastic, Reconstructive, and Burns Surgery at AIIMS, New Delhi, is now into its 8th year of existence and is operational in the newly constructed Burns and Plastic Surgery Block. The block has fully opened all of its services in the last year, including a dedicated, state-of-the-art Burns ICU with round-the-clock critical care. The monthly inflow into our outpatient department, as well as admissions, has consistently climbed, with a total patient footfall of 26348 in the year 2022. Every day, approximately 140 patients visit the OPD, with an average of 13 patients admitted indoors. Ten major surgeries and five minor surgeries per day occur. The department continues to work in collaboration with various other specialties, such as neurosurgery, cardiac surgery, and orthopaedics. Surgery, etc., and independently, it caters to almost all emergency burns and trauma.

We offer the following super-specialization services:

- Burns reconstruction
- Complex multidisciplinary trauma reconstruction
- Hand and microvascular surgeries
- Complex craniomaxillofacial reconstruction
- Lymphatic reconstruction
- Onco-reconstruction
- Congenital defect reconstruction
- Gender reassignment surgeries
- Aesthetic surgeries, body contouring surgeries etc.

With a facility for 100 indoor beds, a dedicated burns emergency and ICU, equipped with modern state-of-the-art care facilities, and managed by highly trained faculty, dedicated residents, and health care staff, the block is expected to become a standalone facility for the care of burns and a multitude of reconstruction care in coming times. Besides the formal training of MCh residents, the department has taken a lead in capacity building for the nation, enhance and share the experience through various collaborations. It is in the process of establishing the country's first national centre of excellence for gender affirmative care with support from NACO, the Ministry of Social Justice and Empowerment, and the World Professional Association for Transgender Health.

### EDUCATION

#### Academic Activities for Undergraduates

Wound Healing and burns - 6th Sem UG lecture

#### Academic Activities for Postgraduates

1. PG Teaching:
2. Skin grafts and Flaps in General Surgery - MS (General Surgery) Seminar
3. Free Flap Reconstruction in Head and Neck Reconstruction - MCh (Surgical Oncology) seminar
4. Paramedical Teaching: Wound Healing and Burns: BSc Nursing lecture

#### CMEs/Workshops/Symposia/National and International Conferences

1. Mid Term CME – NABI (National Academy for Burns, India), 18-19 January 2023, BPS Block, AIIMS, New Delhi

2. Advanced Emergency Burn Management Course for Doctors, 11-13 January 2023, BPS Block, AIIMS, New Delhi
3. Advanced Emergency Burn Management Course for Doctors, 8-10 February 2023, BPS Block, AIIMS, New Delhi
4. Advanced Emergency Burn Management Course for Nurses, 18-20 January 2023, BPS Block, AIIMS, New Delhi
5. Advanced Emergency Burn Management Course for Nurses, 15-17 February 2023, BPS Block, AIIMS, New Delhi
6. Advanced Emergency Burn Management Course for Dressers, 1-3 February 2023, BPS Block, AIIMS, New Delhi
7. Advanced Emergency Burn Management Course for Dressers, 22-24 February 2023, BPS Block, AIIMS, New Delhi

**Lectures delivered at CMEs, National and International Conferences**

**Lectures delivered: 46**

**Maneesh Singhal: 11 Raja Tiwari: 11 Shashank Chauhan: 4 Raj Kumar Manas: 9 Shivangi Saha: 11**

**Number of lectures delivered over past 2 years**

2021-2022	2022-2023
56	35

**List of oral papers/posters presented: 13**

**Number of oral/poster presentations over past 2 years**

Presentation	2021-2022	2022-2023
Oral/ Poster	32	14

**RESEARCH**

***Ongoing***

1. Artificial skin (Bio-inspired bi-layer polymeric hybrid scaffold) for burn injuries and trauma care, Rs Maneesh Singhal, DST IMPRINT, 1 year, 2021-22, Rs 44,96,600
2. Development of training model for delineation of vascular supply relevant to reconstructive surgical procedures of face and hand: A novel method of cadaver processing, Rs Maneesh Singhal, ICMR, 2 years, 2022-24, Rs 81,82,320
3. Pilot Study on utility of Robotic surgery for Brachial plexus reconstruction, Dr Raja Tiwari, ICMR, 2 years, 2021, Ongoing, Rs 29,50,000
4. Pilot Study on Vascular labelling of extra-cranial head and neck vessels using silicone dye injection: Avoiding danger zones during interventions, Dr Raja Tiwari, AIIMS Intramural, 1 year, 2022, Ongoing, Rs 4,95,300
5. Evaluation of outcome of three-dimensional printing model and simulation program for post-traumatic nasal deformities correction, Rs Rajkumar Manas, AIIMS Intramural, 2 years, 2021-23, Rs 5,00,000
6. Post Burn Scars and Contractures: A hospital-based study of the burden of disease, socioeconomic and clinical factors affecting the outcome, and steps to mitigate them, Rs Shashank Chauhan, ICMR, 2 years, 2022-24, Rs 68,28,678
7. Comparative Analysis of skin grafts on Post Traumatic wounds with portable Negative Pressure Therapy device vs conventional dressing. An open labelled, parallel arm-cohort, Rs Shashank Chauhan, Triage Meditech Pvt Ltd, 6 Months, May 2020, ongoing, Rs 7,26,264

***Completed***

Controlled Clinical trial to assess the effectiveness of topical application of C1 herbal oil on superficial external wounds. (Phase II), Rs Maneesh Singhal, Ministry of AYUSH, Govt. of India, 01 years, 2018- 2020, INR 16,72,800, Controlled Clinical trial to assess the effectiveness of topical application of C1 herbal oil on superficial external wounds. (Phase II), Situational Analysis of Burns in India, Rs Maneesh Singhal, Ministry of Health & Family Welfare, Govt of India, 04 years, 2015-2020, INR 38,50,000, Situational Analysis of Burns in India,

**Departmental projects**

**Ongoing**

1. Evaluation of Sensory Outcomes Following Management of Traumatic Fingertip Amputations
2. A comparison of Smartphone Thermography and clinical methods of Postoperative Monitoring of Tissue perfusion in Free Microvascular Tissue Transfer- A Prospective Cohort Study
3. To assess the knowledge about replantation in patients with Traumatic amputations attending AIIMS Emergency department
4. Pattern of metacarpal fractures in a patient presenting to a tertiary care Centre in north India
5. Epidemiology of Congenital Upper limb anomalies in single centre- An ambispective study
6. A prospective study to compare the outcomes after micro-needling with or without PRP infiltration on the maturation of hypertrophic scars
7. FLIR vs. Doppler accuracy in detecting ALT perforator pre-operatively and comparing it with intraoperatively
8. Development of Training Model for Delineation of Vascular Supply Relevant to Reconstructive Surgical Procedures of Upper Limb: A Novel Method of Cadaver Processing
9. A prospective observational study to assess the utility of Davinci xi robotic system for brachial plexus exploration and reconstruction

**Completed**

1. Surgical Approach and Challenges in Operative Management of Fibroadipose Vascular Anomaly (Fava)
2. Outcomes following management of post-traumatic thumb defects: a retrospective study.
3. A Concordance Study to Compare Smartphone thermography with intraoperative visualisation in detection of perforators in anterolateral thigh flap - A prospective cohort Study
4. Epidemiology of hand injuries in single centre (JPNATC AIIMS) - A prospective and retrospective study

**Collaborative projects**

**Ongoing**

Development and Evaluation of the device for monitoring vascular perfusion on a transplanted tissue” under Indo-Japan Collaborative Science Program (IJCSP) - (Indian Side), Hiroshima University, Kasumi, Minami-ku, Hiroshima, Japan

Surgical Innovation Laboratory (SIL) for advancing Patient care, Education and Research, JPNATC, AIIMS - funded by ICMR

Intraarticular injection of Autologous adipose derived stromal vascular fraction or hyaluronic acid for treatment of symptomatic knee osteoarthritis: A Randomised controlled trial, Department of Orthopedics/AIIMS, New Delhi

**Research projects over past 3 years**

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	6	8	9
Total funding	Rs 1,41,95,664	Rs 2,28,73,284	Rs 2,50,61,582

**PUBLICATIONS**

**Journals: 13**

**Abstracts: 05**

**Chapters in Books: 01**

Total	38	18
Journal articles	37	13
Abstracts	0	5
Chapters in books	1	0
Books	0	0

## **PATIENT CARE**

### **Patient care**

<b>Item</b>	<b>2022-2023</b>
OPD consultations	27592
Special clinic consultations	
Patients provided rehabilitation services	7842
Total inpatient admissions	3337

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

Won 3rd Prize for Poster presentation on Plastic Surgery: Past, Present, and Vision - 2047 on Institute day

**Rs Shivangi Saha** received Indian Society of Reconstructive Microsurgery Travelling Fellowship 2022-23 and Vasudhan Arjin Laser Surgery fellowship - 2023 by the Association of Plastic Surgeons of India.

## 9.34 Psychiatry

### Professor and Head

Rakesh Kumar Chadda

### Professors

Pratap Sharan                      Rajesh Sagar                      Nand Kumar  
Mamta Sood                      Raman Deep  
Sujata Satapathy (Clinical Psychology)

### Additional Professors

Koushik Sinha Deb                      Rohit Verma                      Bichitra Nanda Patra

### Associate Professor

Gagan Hans

### Assistant Professors

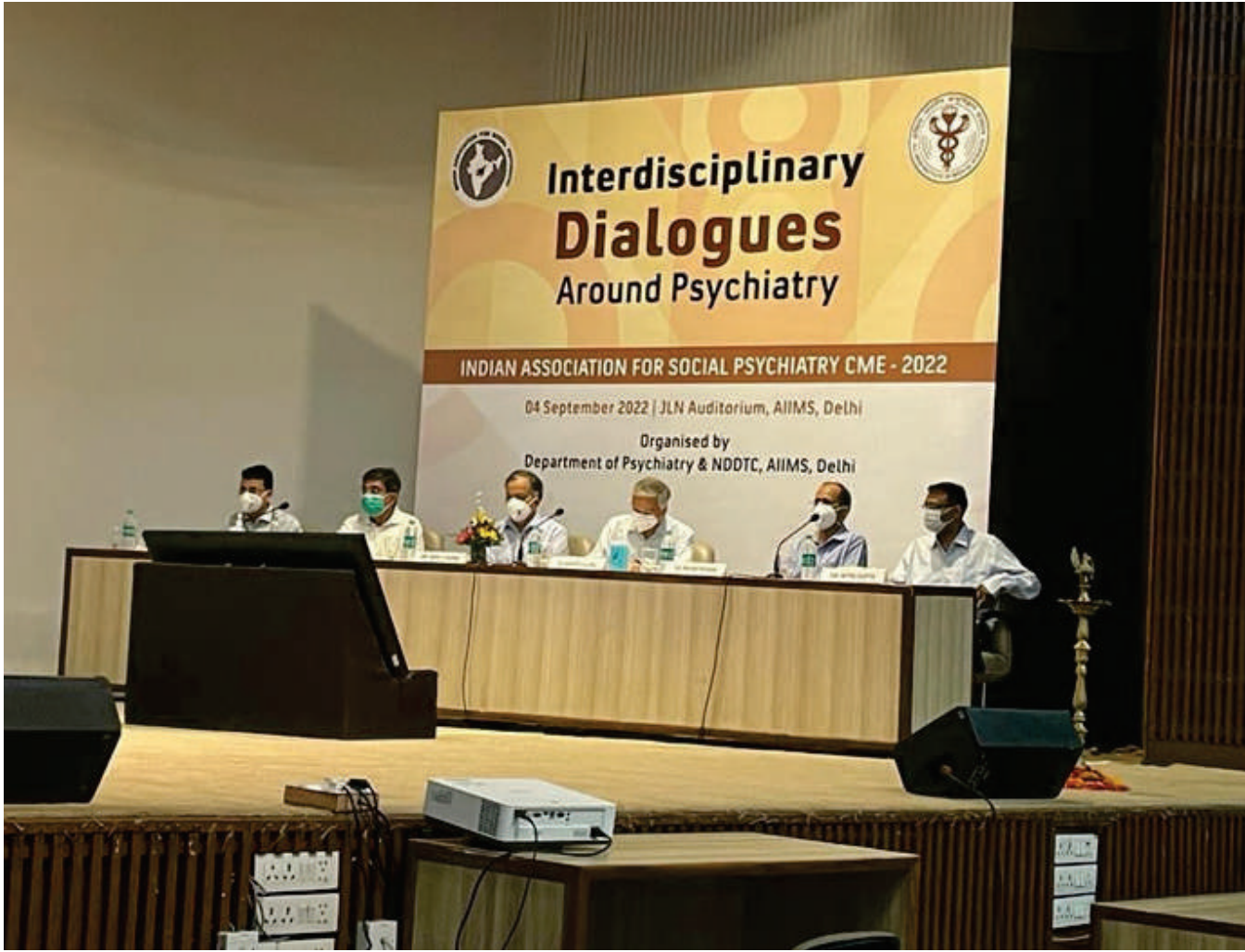
Barre Vijay Prasad                      Vaibhav Patil  
(Clinical Psychology)                      (Neuropsychiatry, Neuroscience Centre)  
Swati Kedia Gupta                      Preethy K  
(Clinical Psychology, National Center for Ageing)                      (National Center for Ageing)  
Nishtha Chawla  
(JPNATC)

### Child Psychologist

Renu Sharma

### HIGHLIGHTS

The Department of Psychiatry has been at the forefront of imparting quality training for MD (Psychiatry), PhD (Psychology) and MBBS students and also actively participates in the training programmes for BSc/MSc nursing as well as residents from the departments of Medicine, Geriatric Medicine, Emergency Medicine, Palliative Medicine, and DM Neurology. The Department of Psychiatry has a rich tradition of research and is currently executing several key funded research projects in collaboration with Department of Science and Technology, India (DST) and ICMR. The Department successfully organized several key events in the year including the 3rd National CME of the Indian Association for Social Psychiatry on 'Interdisciplinary Dialogues Around Social Psychiatry', on 4 September 2022 and 6th National CME & 3rd Hands-on-training Workshop on Repetitive Transcranial Magnetic Stimulation from 8 to 10 December 2022 besides some other key events like public lectures and Residents Wellness Workshops. The Department runs daily walk-in and follow-up clinics in addition to weekly specialty clinics. The Department also provides community outreach services 6 days a week at the CRHSP, Ballabgarh and primary health centers, and once-a-week service at the National Cancer Institute, Jhajjar. The Department provided out-patient consultation services at AIIMS, New Delhi to a total of 17,113 new cases and 59,065 follow-up cases in 2022-23 with in-patient management for 345 patients. Consultation Liaison psychiatry services were provided to 2129 patients. The department provided services to 1500 patients in the hospital emergency, mECT to 752 patients, HD-tDCS to 631 patients and rTMS to 150 patients.



Visit of team from the National Institute of Health Research (NIHR), UK to the Department, 31 January 2023

## EDUCATION

### Undergraduates

<i>Theory lectures</i>	6th Semester - 20 hours
<i>Clinical teaching/posting</i>	3rd Semester - 7 hours
	4th-5th Semester - 25 days
	6th-8th Semester - 40 days
<i>Teaching in community at CRHSP, Ballabgarh</i>	
7th Semester - 12 hours (Community Psychiatry)	

### BSc Nursing

<i>Theory lectures</i>	
First year (Psychology) for 15 hours	
Third year (Psychiatry) for 8 hours	
<i>Clinical posting</i>	
Third year in Psychiatry ward for 2 months	

### MSc Nursing

<i>Theory lectures</i>	
First year for 8 hours	
<i>Clinical posting</i>	
First year – 8 months in psychiatry ward and one month in psychiatry OPD	
Second year – 3-4 months in psychiatry ward	
<i>Thesis work</i>	
Conduct their thesis work in psychiatry OPD and ward	

Training of Junior Residents posted from other departments.

Junior residents from Departments of Medicine, Geriatric Medicine, Emergency Medicine and Palliative Medicine, and DM trainees in Neurology are posted to the Department of Psychiatry for a period of 2-4 weeks for training in psychiatry.

### MD (Psychiatry) & PhD Teaching

- Seminar once a week
- Case conference once a week
- Journal discussion once a week
- Thesis protocol and midterm presentation once a week
- Tutorials once a week
- Psychotherapy supervision for postgraduate psychiatry and doctoral level clinical psychology students
- Supervision of Consultation-Liaison training for junior residents in psychiatry

### Organized the following conferences/workshops

- The **3rd National CME of the Indian Association for Social Psychiatry** on ‘Interdisciplinary Dialogues Around Social Psychiatry’ 4 September 2022, AIIMS, New Delhi
- Make Mental Health & well Being for All a Global Priority, **Public Lecture and Panel Discussion** on World Mental Health Day 2022, 10 October 2022, AIIMS, New Delhi
- **Residents Wellness Workshop (SWC)**, 20-21 October 2022, AIIMS, New Delhi
- **Self-Enrichment Workshop (Orientation Program)** of New Joining B.Sc. Nursing Students (College of Nursing and Students’ Wellness Centre), 20-21 October 2022, AIIMS, New Delhi
- **Self-Enrichment Workshop for MBBS students** (Academic Section & SWC), 4-10 November 2022, AIIMS, New Delhi
- **Teacher Mentor Program** for Faculty Mentors (Academic Section & SWC), 11 November 2022, AIIMS, New Delhi
- **6th National CME & 3rd Hands-on-training Workshop on Repetitive Transcranial Magnetic Stimulation**, 8-10 December 2022, AIIMS, New Delhi

**Lectures delivered: 140**

**Lectures delivered over past 3 years**

2021-21	2021-22	2022-23
106	149	140

**List of oral papers/posters presented: 33**

**Oral/poster presentations over past 3 years**

2020-2021	2021-2022	2022-2023
20	25	33

## **Research**

### **Funded projects**

#### **Ongoing**

1. Development of panic and anxiety Indian questionnaire (PANIQ), Prof Pratap Sharan, Indian Council of Medical Research, 4 years, 2018-2022, Rs 180,00,000
2. Immune system network in palliative care patients with depression, Prof Pratap Sharan, Department of Health Research, 3 years, 2023-2026, Rs 51,00,000
3. Comparative mapping of common mental disorders (CMD) over lifespan, Prof Pratap Sharan, Department of Biotechnology, 3 years, 2019-2022, Rs 5,60,00,000
4. CARE, Prof Nand Kumar, ICMR, 5 years, 2019-2024, Rs 4,50,00,000
5. A comprehensive genomic approach to predict responder's vs non- responders against common anti-depressant therapy, Prof Nand Kumar, ICMR, 2 years, 2022-2025, Rs 87,09,763
6. Diffuse optical tomography based cortical analysis for evaluating auditory semantic and prosodic content, language acquisition and facial identification as determinants of emotion recognition in schizophrenia, Dr Rohit Verma, DST CSRI Research Grant, 4 years, 2018-2023, Rs 51,98,660
7. Effects of additional Yoga intervention in Children and Adolescents with Major Depressive Disorder: A Randomised Controlled Trial, Dr Bichitra Nanda Patra, Department of Science & Technology, Govt of India, 3 years, 2022-2025, Rs 38,29,560
8. Effect of transcranial direct current stimulation tDCS on cognitive function, symptoms and functioning in Children and Adolescents with Attention Deficit Hyperactivity Disorder ADHD A Randomised Controlled Study. Dr Bichitra Nanda Patra, Department of Science & Technology, Govt of India, 3 years, 2023-2026, Rs 50,85,170
9. Magnetic Resonance Spectroscopy in depressed subjects treated with Electroconvulsive Therapy, Dr Gagan Hans, ICMR, 3 years, 2023-2026, Rs 26,04,132
10. Peripheral inflammatory cytokines in Generalized Anxiety Disorder: A Case-controlled study, Dr Gagan Hans, AIIMS Intramural, 2 years, 2021-2023, Rs 9,36,000
11. H1-MR Spectroscopy based evaluation of metabolic abnormalities in anterior cingulate cortex, hippocampus, and amygdala in treatment naïve patients with unipolar and bipolar depression and its relationship with peripheral glutaminase, Dr Gagan Hans, AIIMS Intramural, 2 years, 2020-2022, 3,60,000
12. Development of a Bi-lingual Mobile App based Neuro-cognitive screening tool for early identification of children aged 3-11 years with Autism and ASD Co-morbid with ADHD, Prof Sujata Satapathy, ICMR, 3 years, 2023-2026, Rs 27,74,506
13. Early detection and rehabilitation of Neuro-cognitive and Psycho-behavioral deficits in Children with Cancers: Development of a Screening Scale and a Double blind Randomized Control Study, Prof Sujata Satapathy, ICMR, 3 years, 2023-2026, Rs 67,75,544
14. Impact of Post-Partum Depression And Anxiety On Infant Growth And Development: A Community Cohort Study, Prof Rajesh Sagar, Self (extension of previous project), 3 years, 2016-2023, Rs 8,57,940
15. Psychiatric morbidity and its early antecedents in the New Delhi Birth Cohort, Prof Rajesh Sagar, QED and WHO-SEARO, 3 years, 2018-2023, Rs 8,67,850
16. Burden and magnitude of COVID-19 vaccine anxiety, hesitancy and its correlates in India, Prof Rajesh Sagar, Indian Council of Medical Research, 3 years, 2022-2025, Rs 49,74,554



### **Completed**

1. To develop audio-visual and digital content on Bio-Psycho and Socio-cultural model for students of VI to VIII to improve their resilience, Mental Health and overall health, Prof Nand Kumar, AAI, 2 years, 2019-2021, Rs 98,00,000
2. A study of acute and longitudinal effects of brain stimulation in treatment of depression and schizophrenia, Dr Rohit Verma, AIIMS Intramural Grant, 3 years, 2018-2022, Rs 10,00,000
3. Deliberate self-harm in adolescents: A school-based study, Dr Bichitra Nanda Patra, ICMR, 2 years, 2019-2022, Rs 26,25,015
4. Assessment of emotional and behavioral problems and quality of life among children and adolescents with cleft lip and palate, Prof Rajesh Sagar, Indian Council of Medical Research, 3 years, 2020-2023, Rs 39,89,890
5. Developing background papers incl. policy papers by undertaking desk review for Strengthening comprehensive mental health and psycho-social impact of people affected by leprosy, Prof Rajesh Sagar, WHO-India, 6 months, 2022-2023, Rs 1,50,000
6. Assessment of Clinical profile, mitochondrial DNA 10398, peripheral glucose utilization and inflammation (TNF- $\alpha$ ) in Matrilineal Bipolar Disorder, Prof Raman Deep, AIIMS Intramural, 2 years with extension, 2019-2023, Rs 3,90,000

### **Departmental projects**

#### **Ongoing**

1. Exploratory study on problematic use of cybererotica
2. Exploratory study on premenstrual dysphoric disorder in bipolar disorder patients
3. Group cognitive behavioural therapy for obsessive compulsive disorder: development and feasibility study
4. Preliminary Assessment of the therapeutic efficacy of intermitted theta-burst magnetic stimulation (iTBS) in treatment resistant depression: A double-blind sham-controlled study”
5. Repetitive transcranial magnetic stimulation in medication non-responsive obsessive-compulsive disorder: a randomized double blind parallel group sham-controlled trial to compare different sites of stimulation
6. Effectiveness of Nurse Led Intervention Self Care Behaviour, Psychological Symptoms and Quality of Life Among Kindly Transplant Recipients in a Selected Tertiary Care Hospital of New Delhi
7. CDAC: Technology mediated Delivery of Courses in Medical Science Education for NER Medical colleges
8. Psychological Trauma Resilience in Children and Adolescents: Development and Psychometric Properties of a Multidimensional Scale
9. Assessment of cortical activation and connectivity using fNIRS
10. A pilot randomized controlled trial of targeted prefrontal cortex modulation with anodal transcranial direct current stimulation (tDCS) for examining task dependent effect on executive functioning
11. A randomized controlled single blind trial of ketamine versus modified electroconvulsive therapy to improve neuropsychological and clinical outcomes in treatment resistant depression
12. A randomized double-blind sham-controlled trial for evaluating effectiveness and tolerability of high-definition transcranial direct current stimulation (HD-tDCS) in depression
13. A study of neurophysiological predictors of response to methylphenidate in children and adolescents with ADHD
14. Elucidating the structural, neurobiological changes and identification of non-invasive biomarkers using magnetic resonance imaging and spectroscopy in major depressive disorder
15. Peripheral Inflammatory Markers in 1st Episode Untreated Depression- A Case Control Study
16. Correlation of core motivations in OCD with neurocognitive functioning and prefrontal cortical hemodynamic activity
17. A case control study of change in cognitive functioning after Deep Brain Stimulation of the Subthalamic Nucleus in Parkinson’s Disease
18. Effect of transcranial direct current stimulation on cognitive functioning in patients with moderate Traumatic brain injury (TBI)
19. Assessment for the chronotypes and its Correlates in remitted subjects with bipolar disorders
20. Pathways to care and barriers in treatment seeking for patients of Dissociative disorder
21. Effectiveness of Transcranial Direct Current Stimulation (tDCS) combined with Digital Cognitive Emotional Training for Treatment of Major Depression
22. Assessment of clinical factors associated with chronotype in patients with bipolar disorder in remission

23. Pre-conception Integrated Health Care for Women: Development of a Perceived Preconception Health Risk Assessment Tool and Community-based Health Risk – Reduction Sensitized Program
24. Early Prediction of Depression Treatment Response Through Smartphone App – a prospective, cohort study
25. A study on associative stigma and its relationships with stress and burden among parents of children and adolescents with psychiatric disorder
26. Impact of COVID-19 pandemic on mental health among healthcare workers in a tertiary care centre of India
27. A Multigroup Correlation study on Mental Health Correlates and Uncertainty during COVID-19 pandemic
28. An exploratory study to assess the magnitude of in-patient restraint and seclusion practices in India through the development of a framework for uniform restraint reporting across the country
29. Development of a Bi-Lingual Mobile-App based Neuro-cognitive screening tool for early identification of children aged 3-11 years with Autism and ASD Co-morbid with ADHD
30. A Study to Examine Psycho-Social & Behavioural Domains among School going Adolescents during Covid-19 Pandemic: Mixed Study Design
31. Study of Behaviour, Psychiatric morbidity and cognitive functioning in post-COVID children and adolescents
32. Acute effect of Methylphenidate on prefrontal cortical activation in children and adolescents with ADHD using fNIRS during saccadic movements: A Randomised control trial

### ***Completed***

1. Adaptation of brief cognitive behaviour therapy for suicide prevention
2. Cognitive and Psycho-Physiological Effects of AIIMS Cognitive Training Toolkit (CTT) and Computer Based Cognitive Training (PSS CogRehab) on Children with ADHD aged 6-11 years: A Randomized Control Pilot Study
3. Psycho-behavioural and Cognitive Functioning of Children with Acute Lymphoblastic Leukaemia: Development and Feasibility of Composite Psychological Intervention Module
4. Proposition and Validation of a Self-rated Questionnaire to Measure the User Experience in a Passive Immersive Virtual Reality Environment
5. A study of saccades and smooth pursuit movements in patients with psychosis after a single dose of antipsychotic medication
6. A cross sectional comparative study of saccades and pursuit eye movements in depression and psychosis
7. A retrospective chart review of the consultation-liaison psychiatry services referral pattern in a tertiary care COVID-19 hospital in India
8. Assessment of psychological distress and factors associated with it among people receiving COVID-19 vaccination
9. Development and validation of an android-based trail making test application (TMT App) for cognitive assessment
10. Assessment of echogenicity, volume and functions of thyroid gland in patients with bipolar disorder on long-term therapy
11. Psychosocial Dynamics of Pregnancy Loss: Development of a Multidimensional Scale & Development and Efficacy (a Randomized Control Trial) of a Group Psychological Intervention Module
12. Validation and Standardization of Indicators/Markers of Penetrative CSA in Children's Draw-A-Person-Test (DAPT)
13. Deliberate self harm in adolescents: A school-based study
14. Group cognitive behavior therapy for obsessive compulsive disorder; development and feasibility study-intramural fund
15. Association Between Screen Time & Mental, Behavioural and Social Aspects among School going Adolescents
16. Study on Psychiatric Aspects, Psycho-Social and Cognitive Functioning in Adolescents with Hemophilia
17. Psychological Trauma Resilience: Development and Psychometric Properties of a Multidimensional Scale
18. Early Diagnosis and intervention of Neuro-cognitive and Behavioural deficits in children with cancers: A Double-blind Randomized Control Study
19. The direct and indirect protection derived by vaccinating children against covid-19: An ambispective cohort study
20. Effects of Vipassana and Transcendental Meditation Training on Cognitive Functions.
21. Structural and functional correlates of visuospatial complexity in language processing in children with development dyslexia.

22. Early Detection and Rehabilitation of Neuro-cognitive and Behavioural Deficits in Children with Cancers: Development of Screening Scale and A Double-blind Randomized Control Study
23. A randomized controlled study to compare antidepressants in mild to moderate depression in person with epilepsy (PWE)
24. Prospective Double blind Randomized controlled clinical study on Ayurvedic intervention (SarpghandhaMishran) vs Amlodipine for the management of stage-I Primary Hypertension.
25. Effects of Additional Yoga intervention in Children and adolescents with Major Depressive Disorder: A Randomized Controlled Trial.

### **Collaborative projects**

#### ***Ongoing***

1. International sex survey, University of Montreal, Canada
2. Elucidating the structural, neurobiological changes and identification of non-invasive biomarkers using magnetic resonance imaging and spectroscopy in major depressive disorder, Department of Nuclear Magnetic Resonance
3. Internal consistency and divergent validity of the Hindi version of the Addiction Severity Index-Lite among individuals with alcohol and opioid, National Drug Dependence Treatment Centre (NDDTC)
4. Effect of antidepressant drug (Escitalopram) on testicular and adrenal functions, Department of Reproductive Biology
5. Understanding the structural and neurobiological changes in the patients with major depressive disorder using magnetic resonance imaging and spectroscopy, Department of Nuclear Magnetic Resonance
6. A randomized controlled trial comparing the efficacy of cognitive behavioral therapy vs yoga nidra in persons with psychogenic nonepileptic seizures, Department of Neurology
7. Hindi translation and psychometric validation of Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES), NDDTC
8. A comparative study of anxiety and depression in low-risk vs high-risk pregnant women in Indian settings, Department of Obstetrics & Gynecology
9. Diagnostic validation of first episode and chronic neurobehavioral outcome in pediatric onset central nervous system acquired demyelination syndrome: an ambispective observational study, Department of Pediatric Neurology
10. Correlation of sleep architecture with cognition, behaviour and executive function in children and adolescents aged 5 – 18 years with pharmaco-responsive non-lesional epilepsy, Department of Pediatric Neurology
11. Center for Advance Research & Excellence (CARE) in Neuro assistive technologies in stroke recovery, IIT, New Delhi
12. Testing how mind-wandering affects action-inhibition, IIT, New Delhi
13. Clinical research to assess efficacy of repetitive transcranial magnetic stimulation along with implantation of neurotrophic coated nanoparticles in complete spinal cord injury patients, Department of Physiology
14. Facilitating IT enabled Trainings for generating skilled HCW's in General Pandemic Management & Covid 19 Management – PRAKSHMAY Training, Dept of Physiology
15. Validation of PROMIS: Tool for Cancer Survivors, Department of Medical Oncology
16. Qualitative Study on Perception of Treatment Response in Vitiligo Patients, Department of Dermatology
17. A prospective cohort study of the effect of cosmetic camouflage on quality of life and patient perceived stigma in patients with vitiligo, Dept of Dermatology
18. Quality of life, Sleep, Sexual functioning and Distress among infertile females with Polycystic Ovary Syndrome (PCOS): Hindi translation and validation of Psychometric Tools, Dept of Obstetrics & Gynecology
19. Comparative study of cortical activation using fMRI and fNIRS across cognitive tasks in patients with depression, Department of NMR
20. Neuropsychological Basis of Decision Making: Testing Lateralization of Cognitive Function in Medial Temporal Lobe Epilepsy, Department of Neurology, Neurosciences Centre, All India Institute of Medical Sciences, New Delhi & Department of Psychology. Indian Institute of Technology, Delhi
21. To test effects of breath-focus on lateralized cognitive and affective processing in Generalized Anxiety Disorder (GAD) patients, Department of Physiology, All India Institute of Medical Sciences, New Delhi & Department of Psychology, Indian Institute of Technology, Delhi
22. Comparative assessment of functional near-infrared spectroscopy in children for detecting emergence delirium with sevoflurane vs total intravenous anesthesia: a prospective observational study, Department of Anaesthesiology

23. To evaluate cognitive impairment in patients of glaucoma, Department of Ophthalmology, Dr Rajendra Prasad Centre for Ophthalmic Sciences
24. Examining Stress, and Cognitive-Affective Processing in Emotion Disorders, Department of Psychology, Indian Institute of Technology, Delhi
25. Comparison of effect of antidepressants on neurodegeneration in patients with depression, Department of Pharmacology
26. Autopsy findings and psychological profiling in suicidal hanging in adolescents, Department of Forensic Medicine & Toxicology
27. Genetic association of cytokines with suicidal behavior in Indian population, Department of Forensic Medicine & Toxicology
28. A randomized controlled trial to assess the effect of riboflavin supplementation with antidepressant treatment in persons with major depressive disorder, Department of Pharmacology
29. Genome wide DNA methylation profiling to study role of epigenetic modification in suicide completers in Indian population, Department of Forensic Medicine & Toxicology
30. Development and evaluation of artificial intelligence-based methods for prediction of self-harm and suicide attempts amongst the patients of depression, Department of Anatomy
31. Incidence and Severity of Psycho-social and somatic disorders in survivors of childhood solid malignant tumors, Pediatric-Oncology
32. A pilot study to assess the items for the anxiety related events among blood donors and establish their face and content validity at a tertiary care academic, Transfusion Medicine
33. Role of Celecoxib in reducing cognitive impairment in patients receiving definitive chemo radiation for head and neck carcinoma: A phase II randomized placebo-controlled trial, Medical Oncology
34. Experience of Take-home Buprenorphine in Punjab opioid substitution therapy centres, Department of Psychiatry, AIIMS Jodhpur
35. Effectiveness of community re-entry program on global functioning, medication adherence, relapse rate among bipolar affective disorder at AIIMS Jodhpur, Department of Psychiatry, AIIMS Jodhpur
36. To compare the effect of Isokinetic training with Conventional exercises in patients with above knee amputation following trauma in relation to Prosthesis adaptability and Gait: A Randomized Controlled Trial, Department Of Trauma Surgery
37. Comparison of pain status in patients undergoing Targeted Muscle reinnervation versus Conventional stump preparation following post traumatic above knee amputation: A Randomized control trial, Department Of Trauma Surgery
38. A Randomized Controlled Trial to study the effect of immediate post operative prosthesis (IPOP) vs Conventional prosthesis on Balance, QOL, & Psychological status in below knee amputation patients following trauma, Department Of Trauma Surgery
39. Neuropsychiatric and cognitive dysfunction in hypoparathyroidism its natural course after 10 years of follow up in patients with idiopathic hypoparathyroidism on conventional therapy and effect of these dysfunctions on their calcemic control, Department of Endocrinology
40. Effect of 'Common yoga protocol' by AYUSH for chronic insomnia: An open label, two arm, parallel randomized controlled clinical trial - a protocol, Department of Physiology
41. Long-COVID and its association with select health conditions in an urban resettlement colony of New Delhi: a community-based, cross-sectional study, Centre for Community Medicine
42. To study the impact of yoga-based lifestyle intervention on childhood depression, Department of Anatomy
43. Efficacy of a Yoga- Meditation-based Lifestyle Intervention in Patients with Obesity and Major Depressive Disorder: A Randomized Controlled Trial, Department of Physiology
44. Development of Comprehensive Assessment Battery for Specific Learning Disorder (CABSLED), Department of Psychiatry
45. Women's Health and Domestic Violence against Women during COVID-19 Pandemic in India: a cross-sectional study-funded by WHO & MoHFW, Department of Obstetrics and Gynecology
46. Developing a Digital Health-enabled Intervention to tackle Multimorbidity in Primary Care in India, Public Health Foundation of India (PHFI)
47. A Translational randomized trial of yoga-based lifestyle intervention for major depressive disorder (MDD) management in India and analyzing biomarkers of cellular aging associated with it, Department of Anatomy

48. Multicentric prospective cohort study evaluating risk factors, comorbidities and impact of various interventions among adolescent and reproductive age women with PCOS ICMR PCOS Task force study-phase 2, Department of OBG
49. Systematic Medical Appraisal, Referral and Treatment (SMART) Mental Health Programme for Wellcome Trust-DBT Alliance Fellowship, George Institute of Global Health, New Delhi
50. Yoga as a therapy for tobacco cessation: A Probe Trial, Department of CIMR
51. The feasibility and efficacy of yoga on Quality of Life and psychophysiological parameters among adolescents and adult patients treated for Cynotic Congenital Heart Disease (CCHD) more than a year ago: A randomized controlled trial. Department of Cardiology
52. Genetic expression of monoaminergic neurotransmission related polymorphisms and their association with antidepressant response in Indian patients suffering from depression, Department of Pharmacology
53. Adolescents' Resilience and Treatment Needs for Mental health in Indian Slums (ARTEMIS), George Institute of Global Health, New Delhi
54. Effect of antidepressants on neurodegeneration and neuroplasticity in patients with depression, Department of Pharmacology
55. QEEG based neural correlates and microstates of attention and interference in ADHD: An endophenotypic marker, Department of Physiology
56. EEG cortical sources and connectivity of working memory and language processing in Attention Deficit Hyperactivity Disorder, Department of Physiology
57. Altered microRNA expression in peripheral blood and brain following severe traumatic brain injury, Department of Lab Medicine, JPNATC
58. Financing of expenditure on mental illness-a case study of NCR, IGNOU, Delhi
59. To study the impact of yoga based lifestyle intervention on childhood depression. —as Research Associate fellowship, Department Of Anatomy
60. Effect of Structured Yoga Program on Stress on Frontline Workers during Covid Pandemic, Department of Community Medicine
61. Study of Common Mental Disorders in adolescent living with HIV (ALHIV) attending the paediatric HIV services at AIIMS, New Delhi: A Case–Control Study, Department of Community Medicine
62. Impact of Psychosocial Intervention on Quality of Life in Patients with Post Traumatic Limb/s Amputation: - A Randomized Controlled Trial, Department of Trauma Surgery, JPNATC
63. Efficacy of a yoga-meditation based lifestyle intervention vs repetitive transcranial stimulus (rTMS) in patients with obesity and major depressive disorder: a randomized controlled trial (RCT), Department of Physiology
64. National Mental Health Survey-phase 2 megacity survey, NIMHANS, Bangalore
65. Depression and Anxiety among Transgender persons who are enrolled with targeted intervention sites in Delhi. Centre for Community Medicine
66. Impact of rTMS versus drug therapy on phantom limb pain in lower limb amputation patients: A Randomized control trial, Department Of Trauma Surgery, JPNATC
67. Impact of Psychosocial Intervention on Quality of Life and Stress Biomarkers in Patients with Traumatic Limb Amputation/s: A Randomized Controlled Trial, Department Of Trauma Surgery, JPNATC
68. To study the effect of Immediate Post Operative Prosthesis in relation to postsurgical outcome, balance and quality of life in AboveKnee Amputation patients (post-traumatic): A Pilot Randomized Controlled Trial, Department Of Trauma Surgery, JPNATC
69. Assessing the implementation of multidisciplinary clinic and board for management of children with Disorders of Sex Development, and its impact on quality of care DM, Department of pediatric endocrinology
70. Asian Bipolar Genetics Network (A-BIG-NET) – funding National Institute of Mental Health (NIMH), USA, NIMHANS, Bangalore
71. Anemia: Exploring the role of vitamin D, essential elements and lifestyle in Indian population, Department of Pharmacology

### **Completed**

1. A cross sectional questionnaire-based study to assess anxiety among healthcare professionals in India due to COVID-19, NDDTC
2. Effect of paravertebral anaesthesia on quality-of-life scores and circulating tumour cells in breast cancer patients, Department of Anaesthesia

3. Surgery for corrosive pharyngoesophageal stricture: Assessment of quality of life, Department of Gastrointestinal Surgery
4. To develop a technology driven intervention of Psychological First Aid (PFA) model for Mental Health Challenges, Mental Health Foundation (India)
5. Effect of 30 minutes of YOGA and Meditation and Life Style Modification in comparison to standard treatment on person with mild to moderate depressive disorders, Mental Health Foundation (India)
6. Psychosocial, functional, sexual, educational and vocational outcomes in extremity bone sarcoma survivors, Department of Medical Oncology
7. A Prospective study on the effect of prenatal and postnatal yoga on weight gain in pregnancy and postpartum period, psychological stress, quality of life, pulmonary functions in pregnancy and its association with pregnancy outcome, Department of Obstetrics and Gynecology
8. A comparative study of psychosocial risk factors and personality-behavioural dimensions between suicide note writers and non-suicide note writers in completed suicides. case Psychological autopsy, Dept of Forensic Sciences and Toxicology
9. Association between Pre-operative frailty and Post-Operative Delirium and Cognitive dysfunction in elderly patients undergoing spinal surgery under general anaesthesia: A Prospective Observational Study, Department of Anaesthesiology
10. Effect of transcranial direct current stimulation on left dorsolateral prefrontal cortex on cognitive insight and working memory deficits in schizophrenia – single blind randomised sham-controlled study, Department of Psychiatry, All India Institute of Medical Sciences, Rishikesh
11. A cross-sectional study to assess the impact of social media on body image, social competency, quality of sleep and self-esteem among undergraduate nursing students of AIIMS, New Delhi, College of Nursing
12. A study to assess the effectiveness of mobile app-based psychoeducation program on activities of daily living, medicine adherence and the severity of disease among people with Depression, attending outpatient Psychiatry Department, College of Nursing
13. A retrospective chart review of the pattern of mental health co-morbidities in post-COVID follow up patients, Department of Pulmonology
14. Evaluation of visual cortex activity using fNIRS in primary glaucoma, Department of Ophthalmology, Dr Rajendra Prasad Centre for Ophthalmic Sciences
15. To compare different cochlear implantation outcome scores with auditory cortical activity seen on functional near infrared spectroscopy in prelingual profound sensorineural hearing loss patients at least 3 years after cochlear implantation, Department of Otorhinolaryngology
16. Evaluation of effect of ketofol and ketodex on duration of seizure activity, hemodynamic profile, recovery times and cortical activity (using fNIRS) in patients undergoing electroconvulsive therapy for depression, Department of Anaesthesiology
17. The effect of adjunctive transcranial direct current stimulation over left dorsolateral prefrontal cortex on craving in alcohol dependent subjects, Department of Psychiatry, All India Institute of Medical Sciences, Rishikesh
18. Effect of integrated Yoga on Psychological stress and Ovarian Reserve Markers in patients undergoing In-Vitro-Fertilization (IVF) cycles: A Prospective Randomized Controlled Trial, Department of Gynaecology & Obstetrics
19. Prevalence and determinants of selected chronic conditions among adolescents aged 10-19 years in a rural community in North India, Centre of Community Medicine, AIIMS
20. Mental health needs of the survivors of North East Delhi communal riots of Feb 2020, Bal Umang Drishya Sanstha (BUDS)
21. Assessment of Emotional and Behavioral Problems and Quality of Life among Children with Cleft lip and palate, Dental
22. Psychological impact on parents of children born with atypical genitalia in India, Department Of Pediatrics
23. Evaluation of brain behaviour relationship associated with cognitive deficit in early-onset schizophrenia (EOS) using multi-model MRI-funded by DBT Mental Health Risk Factors among Older Adolescents living in Urban SluMs: An InTervention to Improve Resilience (ANUMATI), Department of NMR George Institute of Global Health, New Delhi
24. Mental health needs of the survivors of North East Delhi Communal Riots of February 2020, Bal Umang Drishya Sanstha (BUDS)

25. A Randomized Control Trial to study the impact of Yoga Intervention in lower limb amputees following trauma in relation to postsurgical outcome, behavior and quality of life at Level – I -funded by Department of Science & Technology (DST), Deptt. Of Trauma Surgery-JPNATC
26. Two Arm Parallel Open-Label Randomized Controlled Add on trial to investigate the efficacy of Shirodhara (Ayurvedic Oil-Dropping Treatment) in the subjects with Chronic Insomnia Disorder-funded by AYUSH, Department of CIMR
27. Effects of add-on integrative approach to yoga therapy on adults with clinical depression: A randomized controlled trial, Department of CIMR
28. Psychological distress among health care workers in India during COVID-19 outbreak: A Nationwide Survey, Department of CIMR
29. Long term outcome of patients with walled off necrosis/pseudocyst of pancreas in terms of recurrence of pancreatitis, fluid collection and functional consequences following internal drainage by laparoscopic or endoscopic method-funding by AIIMS, Department of Surgical Disciplines
30. Mapping functional and biochemical correlates in brain of Parkinson's Patient with Mild Cognitive Impairment, Department of NMR
31. Effect of yoga therapy on QoL in laparoscopic Incisional hernia repair, Department of Surgical Disciplines
32. To study the prevalence and the risk factors of psychiatric morbidity and sleep problems in pediatric Acute Lymphoblastic Leukemia survivors, Department of Pediatrics
33. To study effects of antidepressant drugs in mild and moderate depression in patients with epilepsy - A randomized controlled trial-DM, Department of Neurology
34. Effect of yoga therapy on Quality of life in patients undergoing laparoscopic incisional hernia and ventral hernia repair- a randomized control trial, Department of Surgical Disciplines
35. A prospective study to evaluate the restoration of abdominal wall dynamics in patients with incisional hernia following laparoscopic IPOM plus repair in comparison to healthy controls using surface energy EMG, Department of Surgical Disciplines
36. An Exploratory Study to Evaluate Surgical Outcome and Financial Burden in Patients Treated with 3D Printing Technology Assisted Surgery versus Conventional Surgery for Facial Fractures at Level 1 Trauma Centre, AIIMS, New Delhi -PhD, Department Of Trauma Surgery, JPNATC
37. Effect of structured yoga program on stress, well-being and the selected biomarkers at the community level in an urban resettlement colony of Delhi - funded by DST, Department of Community Medicine
38. Short-term and long-term outcomes Following laparoscopic donor nephrectomy and open donor Nephrectomy: an ambispective comparative study, Department of Surgical disciplines
39. A Randomized Control Trial to Study the effect of immediate versus Delayed Application of Prosthesis in below knee Amputation patient in relation, Department Of Trauma Surgery, JPNATC
40. Development of Comprehensive Assessment Battery for Specific Learning Disorder (CABSLD), Department of Psychiatry
41. Association of social cognition and behavioral impairment in persons with epilepsy on antiepileptic drug monotherapy: Correlation with neuroimaging findings and trace elements status-Funded by DST-CSRI, Department of Pharmacology

#### Research projects over past 3 years

Research Projects	2020-21	2021-22	2022-23
Total funded projects	19	18	16
Total funding (INR)	Rs 210,950,586	Rs 209,335,657	Rs 168,009,679

#### PUBLICATIONS

**Journals: 108**

**Abstract: 12**

**Chapters in Book: 29**

**Books & Monographs: 2**

#### Publications over past 3 years

Item	2020-21	2021-22	2022-23
<b>Total</b>	<b>147</b>	<b>170</b>	<b>151</b>
Journal articles	114	130	108
Abstracts	6	8	12
Chapters in books	22	24	29
Books	5	8	2

## **PATIENT CARE**

### **SPECIAL CLINICS**

Psychosomatic Clinic: Once in a week  
Common Mental Disorders Clinic: Once in a week  
Child and Adolescent Psychiatric specialty services  
Severe Mental Disorders Clinic: Once in a week  
Brain Stimulation/TMS clinic on Thursday once a week  
Neuropsychiatry OPD in C N Centre on Tuesday. Once a week  
Psychiatry services at CRHSP, Ballabgarh  
Dual Diagnosis Clinic: Once in a week

### **Facilities available in Department (Special Clinics/Special Labs/Special Therapy)**

1. Non-invasive Brain stimulation clinic (TMS clinic) once in a week. 10-12 patients per week
2. **Upgradation of Brain Mapping Lab facility** – added digital cognitive testing to the existing fNIRS, QEEG & eye tracking system for development of a state-of-the-art facility for brain mapping
3. **Upgradation of MECT facility** – Improved data collection/digitalization in functioning of ECT; Added computerized cognitive testing; Added utility of Ketamine, Ketofol & Etomidate use with dexmedetomidine for increasing ECT effectiveness
4. **Ketamine Therapy** – Utilize ketamine as an anti-depressive agent for research use in at-risk suicidal patients and treatment resistant depressive individuals
5. **Initiated High-definition Transcranial Electrical Stimulation** – Developed the HD-tDCS as a neuromodulation facility combined with utility of computerized cognitive testing & simultaneous EEG
6. **Advanced signal analysis of Electroencephalography** – In collaboration with Department of Computer Sciences, IIT, Delhi & IIIT, Delhi

### **Community services**

- **Wellness Centre Project for Community Welfare (SSB Personnel):**
  - Analysis of the On-site psychological evaluation of Jawans and Group discussions with medical officers of Sashastra Seema Bal (SSB) at peripheral Battalion outposts
- **Mobile App Development for Community benefit:**
  - Developed and tested an Android application for mobile/tablet based cognitive test (Trail Making Test – TMT App)
  - Developed a mobile based digital format of System Usability Scale (SUS)

Mobile app for psychoeducation of Depression in Hindi & English language

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Rakesh Kumar Chadda** was Secretary General (2019-2022), World Association of Social Psychiatry; President-Elect (2022-2025), World Association of Social Psychiatry; Associate Editor, British Journal of Psychiatry; Handling Editor, BJ Psych International, another Journal of the Royal College of Psychiatrists of the UK; Vice President, Addiction Psychiatry Society of India; Member, Executive Council of the National Academy of Medical Sciences (India) 2021-2023; Nominated Honorary interim Treasurer in Jan 2023; Convenor, PG curriculum committee of the National Medical Commission of India; Convenor, Specialty Board in Psychiatry, National Board of Examinations; Chairperson, Awards Committee, Indian Association for Social Psychiatry; Dean, Indian Psychiatric Society Academy for Education and Research, 2023-26; Chairperson, CME, Indian Psychiatric Society, North Zone, 2021-23; Nominated Member, Institute of Eminence, University of Delhi; Nominated Member, Governing Body, Ramanujan College, University of Delhi; Member, Deans Committee, AIIMS; Member, Working Group on ‘National Working Group for Prevention & Treatment of Substance Use in Prison Settings’, Ministry of Social Justice & Empowerment; Represented the country in Global Consultation with Professional Associations and Academia on Implementation of The Global Alcohol Action Plan (GAAP) 2022-2030 at the WHO HQ, Geneva, 18-20 January 2023; Coordinating the starting of mental health helpline for BSF personnel at AIIMS; Was Chair, NAMS Task Force on Alcohol, Substance Use Disorders, and Behavioral Addictions, and developed the recommendations of the Task Force in consultation with the members of the Task Force; Has been on selection committees of a number of institutes including AIIMS, Guwahati, AIIMS, Jodhpur, SGPGI, Lucknow, AIIMS, AIIMS, Jammu, Haryana Public Service Commission and others.



**Professor Pratap Sharan** is Professor-in-Charge of Student Welfare at AIIMS; I am the chief coordinator for the Committee for MBBS curricular reforms at AIIMS; member of the International Advisory Group for Training and Implementation for ICD-11 Mental, Behavioural and Neurodevelopmental Disorders the Group for Developing Structured Clinical Interview for ICD-11 and Flyer Interview Version of ICD-11; member of the WHO's mhGAP Guideline Update External Review Group, WHO's Topic Expert Group for Pre-service Training in Mental Health and WHO SEARO's Expert Group on MBBS Curriculum Review; also a member of the Technical Working Group (Mental Health) of the Countdown Global Mental Health 2030, an initiative led by WHO and UNICEF; member of the ICMR Expert Group for prioritizing topics for mental health research in India; served as the President of the Indian Association for Social Psychiatry (2021-22) and delivered the presidential address titled 'Ethical challenges in clinical care of suicidal patients' at the 29th National Conference of the IASP (Agra, 18-20 November 2022); member of the Award Committee for the World Association of Social Psychiatry (WASP) Yves Pelicier Award 2022; chairperson of the Psychotherapy Section of the Indian Psychiatric Society and am leading the development of clinical practice guidelines for borderline personality disorders for the society; Ombudsman for the Indian Journal of Social Psychiatry; serve as a Senior Editor of Journal for Eating Disorders; Associate Editor of the National Medical Journal of India; and member of the Editorial Board of Indian Journal of Social Psychiatry and Journal of Indian Association for Child and Adolescent Mental Health; serve as a member of the Research Advisory Committee of the George Institute for Global Health; National Expert for Mental Health Capacity Building Programme of the Public Health Foundation of India; In-Charge Examination Cell of the Indian Association for Child and Adolescent Mental Health Academy; served as the lead for the Ministry of Home Affairs Committee to select screening tools for mental health assessment of police officers; reviewer for ICMR and AIIMS research projects; and an expert for faculty selections for Jammu & Kashmir Public Service Commission and AIIMS Rishikesh; served as an examiner for PhD at Jawahar Lal Nehru University; for DM Addiction Psychiatry at AIIMS; MD Psychiatry at AIIMS Patna and AIIMS Jodhpur; and MD thesis at PGIMER, Chandigarh; served as a peer reviewer for BMC Medicine, World Social Psychiatry, BMC Psychology, SSM – Mental Health, International Journal of Mental Health Systems, Journal of Eating Disorders, Primary Care Companion for CNS Disorders, Indian Journal of Medical Research, National Medical Journal of India, Indian Journal of Psychiatry, and Indian Journal of Social Psychiatry; chaired various symposia and lectures at the 29th Conference of IASP (Agra, 18-20 November 2022); the 74th Conference of IPS (Bhubaneswar, 2-5 February 2023); and the 1st Conference of Society for Addiction Psychology (Ghaziabad, 10-11 March 2023).

**Professor Rajesh Sagar** is Expert member of recently constituted Department-related Parliamentary Standing Committee (DRPSC) on Health & Family Welfare for examination of the subject "Mental Health in contemporary times" and meeting with various Hon'ble members of Parliament in Parliament House Annexe, New Delhi; Selected and nominated as Member Central Mental Health Authority (CMHA), Regulatory body under Mental Healthcare Act, 2017, Ministry of Health and Family Welfare, Government of India, and duly mentioned in The Gazette of India Notification, 11 November 2022; Nominated by Hon'ble HFM as a Member of the Newly reconstituted Scientific Advisory Board (SAB) of the Indian Council of Medical Research (ICMR); Received All India Children's Champion Award at the national level from Delhi Commission for Protection of Child Rights (DCPCR) for the contribution to improve mental health and well-being among children and adolescents, with cash prize of 75000/-, certificate and plaque. The only one selected at individual level in the category of "Health & Nutrition" by the eminent Jury; Nominated as Co-Chairperson, Journal-Sub Committee by Indian Psychiatric Society; Name listed in the World's Top 2% Scientists ranking by the Stanford University publication for the year 2021; Member of the Board of Governor (BoG) of LGB Regional Institute of Mental Health, Tezpur, Assam (under the Ministry of Health & Family Welfare, Govt of India), & attended its 9th meeting chaired by the hon'ble Union minister of health & family welfare on 9th May 2022; Received Vocational Excellence Award from Rotary Club of Delhi for unparalleled contributions and distinguished service in the field of Mental Health, 2 June 2022; Member of the Technical Advisory Committee (TAC) for the development of a training and communication package for youth on mental health and life skills by the Executive Director, State Innovation in Family Planning Services Project Agency (SIFPSA)/Mission Director, National Health Mission (NHM) supported by WHO (India) & attended several meetings; Received Plaque of Appreciation & delivered a guest lecture on the "Living Legends of Medicine" series from NIMS University Rajasthan, Jaipur, October 2022; Received Felicitations by the Delhi Police for the developing mental health care plan, January 2023; Honorary visiting Professor, University of Leicester, UK; Member, UKRI International Development Peer Review College, UK; Member, North East England South Asia Mental Health Alliance (NEESAMA)- supported by Newcastle University, British Council & NTW NHS Trust, UK; Fellowship of Royal College of Physicians of Edinburgh, FRCP (Edin.) 2019-contd; Chair of the Global Disease Burden (GBD) India of Mental Health Expert Group for India State-Level Disease Burden Initiative by ICMR, PHFI, IHME(USA)-contd; Honorary Advisor for mental health to Directorate General of Health Services, Ministry of Health & Family Welfare, Govt of India, 2013 and continuing; Expert Member of Project Review Committee for woman health and mental health of ICMR, DBT; Honorary Senior Technical Advisor – Mental Health for World Health Partners; Member, in newly constituted National Technical Advisory Group (NTAG) and Sub\_committee- Mental Health Service Delivery domain in respect of National Tele Mental Health Programme by the Ministry of Health & Family Welfare; Nominated as convener of Referral Committee for reviewing draft of Modified Minimum Standard

Requirements (MSR) from the President, Under-Graduate Medical Education Board (UGMEB), National Medical Commission, Delhi.

**Professor Nand Kumar** was nominated as a Chairperson, Parliamentary Affairs- Sub Committee. (2023-2024) in Indian Psychiatry Society.

**Professor Mamta Sood** is Vice President, Indian Association for Social Psychiatry (2022-2024); President-Elect Cum Vice President, Indian Psychiatric Society North Zone (2022-2023).

**Professor Raman Deep** is Convenor, Research and Training Foundation Sub-Committee (2023-24), Indian Psychiatric Society (IPS); Hon General Secretary, SPREMH (Society for Promotion of Research and Education in Mental Health and Substance Use) constituted by the Department of Psychiatry & NDDTC with an objective of promoting research and education in mental and behavioural disorders.

**Professor Sujata Satapathy** delivered Best Paper - Trauma Psychology.

**Dr Rohit Verma** is Assistant Editor of the Journal – Asian Journal of Cognitive Neurology; Secretary General & Founder Member of Neuromodulation Society (India); Executive Committee Member of Indian Association of Social Psychiatry (IASP); Ethical Committee Member of the University Institutional Ethical Committee (IEC), SRM University, Delhi-NCR, Sonapat, Haryana; Technical Expert – for Eye Tracking at AIIMS, Raipur; Certificate of Completion – Good Clinical Practice (GCP) Training Program organized by the Clinical Development Services Agency (CDSA), a center of Translational Health Science & Technology Institute (THSTI), an autonomous institute under DBT in collaboration with All India Institute of Medical Science (AIIMS), New Delhi; External Supervisor for University of Queensland - IIT Delhi Academy of Research (UQIDAR) - AIIMS joint PhD program; Honorary Advisor – to an Indian start-up company (StimVeda Neurosciences Pvt Ltd.) for developing make-in-India tDCS device for managing depression and cognitive deficits; Doctoral Committee Member for PhD – Effect of Probiotics and Repetitive Transcranial Magnetic Stimulation on cognitive and motor function in 6-hydroxy Dopamine rat Model of Parkinson's Disease; Department of Physiology, AIIMS, New Delhi; Thesis evaluation – MD Thesis, AIIMS Rishikesh; External Supervisor for MD Psychiatry at Sardar Patel Medical College, Bikaner, Rajasthan; UG Medical/Nursing Teaching Lecture – Schizophrenia; Technical Expert – for Eye Tracking at AIIMS, Raipur.

**Dr Gagan Hans** is Joint Organizing Secretary of Indian Association of Social Psychiatry (IASP) CME on “Interdisciplinary Dialogues around Psychiatry”, 4 September 2022; Received extramural grant for ICMR Adhoc Project program as Principal Investigator for the year 2023-2026; Working on 2 AIIMS Intramural Research Grants as Principal Investigator for the year 2021-2023; Faculty in charge of development, teaching and training curriculum for medical undergraduate students at CRHSP, Ballabgarh; Five peer-reviewed papers and chapters have been published in various international and national journals of repute and books with leading publishers; Served as Peer Reviewer for the Journal of Mental Health and Human Behaviour and Indian Journal of Social Psychiatry; Served as expert on Clinical Practice Guidelines for assessment and management of patients with borderline personality disorder under the aegis of Indian Psychiatric Society

**Dr Barre Vijay Prasad** is Subject expert team to develop a project Report on “Potential Measures for Addressing Suicides and Fratricide among CISF Personnel- New Delhi” dated 27 May 2022; Chaired a scientific session at an International Conference on “Psychosocial Implication in Health and Wellbeing: Looking Beyond the Boundaries”. Organized by the Faculty of Behavioural Sciences, Shree Guru Govind Singh Tricentenary University (SGT), Gurugram, India on 2 November 2022; Received a Fellow Membership on 4 September 2022 from Indian Association of Clinical Psychologist (IACP); Received a Membership on 29 September 2022, from American Society of Clinical Oncology (ASCO), Association for Clinical Oncology 2318 Mill Road, Suite 800 Alexandria, VA 22314 USA 571-483-1300. ASCO.org; Received a Membership on 21 February 2023 from European Society for Medical Oncology (ESMO), ESMO Head Office, Via Ginevra, 46900 Lugano, Switzerland; Chaired two scientific sessions at a National Annual Conference of Indian Association of Clinical Psychologist (49th NACIACP 2023) on “Recent Challenges in Psychotherapy and supervision”. Organized by the Faculty of Behavioural Sciences, Shree Guru Govind Singh Tricentenary University (SGT), Gurugram, India on 10-12 January 2023; Invited Resource person/Expert in a five days tools review and Finalization workshop under the study entitled “Efficacy of Reasonable Accommodations for Children with Disabilities in Schools: A study “organized by GEGSN, NCERT, New Delhi from 20-24 February 2023 at the Centre for Special Needs, DEGSN, NCERT- Campus - New Delhi.

**Dr Renu Sharma** is Member of Medical Board for Autism Spectrum Disorder in Department of Psychiatry, AIIMS, New Delhi in accordance with Ministry of Social Justice and Empowerment; Providing lectures to MBBS, BSc Nursing Students and Northeast Region Medical Colleges.

**Dr Preethy K** is Member, Early Career Network, International Psychogeriatric Association; Chairperson, Website Committee, Indian Association of Child and Adolescent Mental Health; Chief Co-ordinator for organization of NAVIGATE-Medico CME, National Academy of Medical Sciences.

**Dr Nishtha Chawla** received Bhagwat Award presented at ANCIPS 2023 (paper presented in ANCIPS 2022); Initiated weekly Trauma Psychiatry Clinic in JPNATC OPD for follow-up of patients admitted in JPNATC requiring psychiatric consultation/intervention with effect from 3 February 2023.

## 9.35 Pulmonary Critical Care and Sleep Medicine

### Professor and Head

Anant Mohan

### Additional Professors

Karan Madan

Vijay Hadda

### Assistant Professors

Saurabh Mittal

Pawan Tiwari

Irfan Shekh

### Scientist I

A Surendranath

### HIGHLIGHTS

On 6 May 2022, the first bilateral lung transplantation was performed at AIIMS, New Delhi in collaboration with CTVS, Cardiac Anesthesia, Cardiology, Surgery and other departments. Two lung transplants have been performed this year. With this, AIIMS, New Delhi became the only public sector hospital in the country to offer lung transplantation services.

The Department organized the international conference PULMOCRIT 2023 from 2-5 February 2023. This included a two-day workshop on Spirometry in collaboration with the European Respiratory Society. Endobronchial ultrasound guidelines, formulated under the leadership of the department, were finalized, and accepted for publication.

### EDUCATION

The department is actively involved in undergraduate, postgraduate, and paramedical teaching, including lectures, demonstrations, symposia and bedside teaching. There are 13 DM trainees, 2 non-DM senior residents and three PhD scholars currently in the department.

### CMEs/Workshops/Symposia/National and International Conferences

1. Expert committee meeting for the Development of Endobronchial Ultrasound (EBUS) Guidelines, 16-17 April 2022, New Delhi
2. Lung Cancer Connect: AIIMS 2022, 20 August 2022, New Delhi
3. Workshop on diagnosis and management of Interstitial Lung Diseases, 9 September 2022, New Delhi
4. Sleep Workshop: How to conduct Sleep Study, 19 November 2022, New Delhi
5. PULMOCRIT 2023, 2-5 February 2023, New Delhi

**Lectures delivered: 74**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
56	45	74

**List of oral papers/posters presented: 3**

**Oral/poster presentations over past 3 years**

2020-2021	2021-2022	2022-2023
5	0	3

### RESEARCH

**Funded projects**

**Ongoing**

1. Centre for Advanced Research and Excellence in Exhaled Breathing Condensate, Dr Anant Mohan, ICMR, 5 years, 1 March 2019 to 29 February 2024, Rs 5 crores

2. Development and Validation of Artificial Intelligence Tool For Screening/detection of Pulmonary TB and other lung diseases using Chest X-rays, Dr Anant Mohan, ICMR, 1 year, 30 March 2022 to 29 March 2023, Rs 41,46015
3. Randomized double blind placebo controlled clinical study of Ayurvedic coded drug “Ayush –A” in the management of Bronchial Asthma (TamakaShwasa)-A collaborative study, Dr Anant Mohan, Ayush, 5 years, 16 July 2018 to 5 July 2023, Rs 60.4 lakhs
4. Evaluating the role of MicroRNAs as Biomarkers for Early Diagnosis and prognosis of Lung Cancer: A comparative study using Exhaled Breath Condensate, sputum, blood and bronchial brushing, Dr Anant Mohan, ICMR, 2 years, 1 January 2023 to 31 December 2025, Rs 37 lakhs
5. A longitudinal multisystem and genetic assessment of incidence and risk factors for chronic sequelae following Covid-19 infection, Dr Anant Mohan, ICMR, 3 years, 25 March 2022 to 24 March 2025, Rs 9.7 crores
6. Evaluation of the magnitude, kinetics and longevity of humoral and cellular immune responses to SARS-Cov-2 variants in vaccinated and naturally infected individuals, Dr Anant Mohan, ICMR, 2 years, 1 February 2022 to 31 January 2024, Rs 1.4 crores
7. Longitudinal effects of Air Pollution exposures on lung growth and development of biomarkers of lung function deficit in urban children, Dr Anant Mohan, DBT, 5 years, 1 October 2020 to 30 September 2025, Rs 1.37 crores
8. National Health Profile- PMU, Dr Anant Mohan, Health Ministry, 6 years, 15 October 2018 to 14 March 2024, Rs 16.6 lakhs
9. A Phase III, Randomized, Double-blind, Three arm Placebo controlled Trial to Evaluate the Efficacy and Safety of two vaccines VPM1002 and Immuvac(Mw) in Preventing Tuberculosis (TB) in Healthy Household Contacts of Newly Diagnosed Sputum Positive Pulmonary TB Patients, Dr Anant Mohan, ICMR, 5 years, 20 March 2019 to 22 April 2023, Rs 3,74,51,974
10. Preventing Adverse Cardiac Events (PACE) in Chronic Obstructive Pulmonary Disease (COPD), Dr Anant Mohan, George Institute for Global Health, Australia, 3 years, 2 February 2022 to 1 February 2025
11. Investigating and translating genomic evidence for public health response to SARS-CoV-2 (INSIDE SARS-CoV-2), Dr Anant Mohan, Indo-Italy, 3 years, 21 December 2022 to 20 December 2025, Rs 2,01,76,334
12. National Environmental Health Profile study in 20 Cities, Dr Vijay Hadda, MEFCC, 5 years, 2019-2024, Rs 62.67 lakhs
13. A Comparative Proteomics And Metabolomics study of Idiopathic Pulmonary Fibrosis (IPF) And Post-Covid Pulmonary Fibrosis (pepf) To Identify New Pathological And Therapeutic pathways, Dr Vijay Hadda, ICMR, 2 years, 2022-2024, Rs 86.60 lakhs
14. ICMR’S Network of Pulmonary Fibrosis (INPF) [4 March 2022 to 3 March 2025], Dr Vijay Hadda, ICMR, 3 years, 2022-2025, Rs 82.70 lakhs
15. Delineating the mitochondrial alternations in immune cells during post COVID-19 Pulmonary Fibrosis, Dr Vijay Hadda, AIIMS, 2 years, 2022-2024, Rs 10 lakhs
16. Role of heavy metals and toxic elements in the etiology, severity and progression of non-idiopathic pulmonary fibrosis diffuse parenchymal lung diseases, Dr Vijay Hadda, AIIMS, 2 years, 2022-2024, Rs 10 lakhs
17. A Postmarketing, Phase 4, Multicentre, Prospective, Single-arm Study to Assess the Safety of Fasentra® (Benralizumab) in Adult Patients of Severe Asthma with Eosinophilic Phenotype in India, Dr Saurabh Mittal, AstraZeneca Private Limited, 1 year, 2022-2023, Rs 11 lakhs

## **Departmental projects**

### ***Ongoing***

1. Evaluating the role of MicroRNAs as Biomarkers for Early Diagnosis and prognosis of Lung Cancer: A comparative study using Exhaled Breath Condensate and Bronchial brushing
2. The feasibility of weekly paclitaxel in improving performance status of advanced NSCLC patients with poor performance status: A single-arm phase two trial
3. Host and Environmental factors in the acute exacerbations of childhood interstitial lung disease”
4. Performance of Aspergillus PCR on mini Bronchoalveolar Lavage Fluid for the Diagnosis of Invasive Pulmonary Aspergillosis using BM AspICU criteria: A cross sectional Diagnostic test validation study”
5. Microbiological follow-up and genotypic investigation of house hold contacts of MDR-TB patients. (PhD microbiology)

6. Determination of serum levels of anti-tubercular drugs as predictor of treatment outcomes in extra-pulmonary tuberculosis (DM Pulmonary)
7. Evaluation of subjects for lung transplant at a tertiary level health facility (DM Pulmonary)
8. Prevalence of Heart Failure with Preserved Ejection Fraction in Cardiac Patients (DM Cardiology)
9. To study the effect of oral morphine prescribed for dyspnoea in cancer patients presenting to the Departments of Onco-Anaesthesia and Palliative Medicine and Pulmonary Medicine and Sleep Disorders in a tertiary care hospital in India: A prospective observational study (MD Palliative Medicine)
10. Update and a gentle reminder regarding online PhD viva-voce (Microbiology)
11. A Longitudinal Study to evaluate visual functions and OCT parameters in ethambutol induced optic nerve toxicity (Dr RP Centre for Ophthalmic Sciences)
12. Comparison between <sup>18</sup>f fdg pet/ct and <sup>68</sup>ga dotanoc pet/ct in patients of small cell carcinoma lung (Department of Nuclear Medicine)
13. Evaluation of Lung Function and Lung Volumes in Indian Patients with Obesity and Diabetes (Department of Medicine)
14. Subtyping of small cell lung carcinoma: An immunohistochemical study (Department of Pathology)

#### **Completed**

1. Short versus long spontaneous breathing trial among patients with initial failure (SL-SBT trial)
2. Study of asthma phenotypes and endotypes in patients with difficult to treat asthma and assessment for guideline based add on therapy in severe asthma subset
3. Utility of exhaled breath analysis using electronic nose as a diagnostic and prognostic tool for lung cancer

#### **Collaborative projects**

##### **Ongoing**

1. Microbiological follow-up and genotypic investigation of household contacts of MDR-TB patients, Microbiology
2. Prevalence of Heart Failure with Preserved Ejection Fraction in Cardiac Patients, Cardiology
3. To study the effect of oral morphine prescribed for dyspnoea in cancer patients presenting to the Departments of Onco-Anaesthesia and Palliative Medicine and Pulmonary Medicine and Sleep Disorders in a tertiary care hospital in India: A prospective observational study, Palliative Medicine
4. A Longitudinal Study to evaluate visual functions and OCT parameters in ethambutol induced optic nerve toxicity, Dr RP Centre for Ophthalmic Sciences
5. Comparison between <sup>18</sup>f fdg pet/ct and <sup>68</sup>ga dotanoc pet/ct in patients of small cell carcinoma lung, Nuclear Medicine
6. Evaluation of Lung Function and Lung Volumes In Indian Patients With Obesity and Diabetes, Medicine
7. Subtyping of small cell lung carcinoma: An immunohistochemical study, Pathology

#### **Research projects over past 3 years**

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	25	15	17
Total funding (Crores)	16.49 Crores	11.69 Crores	11.68 Crores

#### **PUBLICATIONS**

**Journal: 69**

#### **Publications over past 3 years**

Item	2020-2021	2021-2022	2022-2023
Total			
Journal articles	79	168	69
Abstracts	5	3	0
Chapters in books	-	-	0
Books	-	-	0

**Patient care over past 3 years**

Item	2020-2021	2021-2022	2022-2023
OPD consultations	6836	13625	32965
Special clinic consultations	411	2460	3872
Patients provided rehabilitation services	978	2558	3172
Total inpatient admissions	3345	4452	5077

- **Pulmonary Medicine OPD (Mon / Thursday)**
  - New Cases 9569
  - Old Cases 23396
- **Lung Cancer Clinic (Wednesday, 2.00 PM)**
  - New Cases 380
  - Old Cases 864
- **Combined Pulmonary Surgery Clinic (Wednesday, 2.00 PM)**
  - New Cases 261
  - Old Cases 488
- **Sleep Disorder Clinic (Friday, 2.00 PM)**
  - New Cases 155
  - Old Cases 281
- **ILD/ PAH Clinic (Friday, 2.00 PM)**
  - New Cases 341
  - Old Cases 1102
- **LABORATORIES**
  - **(A) Respiratory laboratory**
    - PFT + BDR 11488
    - DLCO 2813
    - Body Plethysmography (Body Box) 218
    - IOS 115
  - **(B) Bronchoscopy Laboratory**
    - Fiberoptic bronchoscopy procedures 1571
    - Radial EBUS 103
    - Endobronchial Ultrasound (EBUS) 663
    - Thoracoscopy 18
    - Cryotherapy 18
    - Stenting 32
    - Electrocautery 22
    - Rigid bronchoscopy 90
    - BalloonDilatation 67
    - Spigot 01
    - APC 11
  - **(C) Sleep laboratory**
    - Polysomnography studies 440
    - Actigraphy 09
    - Watch PAT 57
    - MSLT 03

- **(D) Allergy Testing Lab**

Total IgE Level	6030
Specific Aspergillus IgE Level	4350
Specific Aspergillus IgG Level	3980
Skin Prick Test	29
ADA Level	158
CPET	116
- **(E) Rehabilitation Lab**

Six minute Walk Tests	3096
Inhaler Technique	76
- **(F) DOTS Centre**

Total Referral Patients	2023
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- **(G) Indoor Outdoor Patients**

ICU/Ward	163
Day Care	3126
- **(H) Chemotherapy Procedure**

Total Procedure	1788
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#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

PCCSM was the primary initiating department along with Dept of Transplant Immunology to align into a joint MoU between AIIMS and the University of California-Davis (UCD) in July 2022.

Professor Anant Mohan was awarded the Visiting Professorship for one month in Lung Transplant Division, Temple University Hospitals, Philadelphia from 1-31 July 2022.

Professor Anant Mohan was designated as Member of various important bodies i.e., Expert panel of Air Quality Management in National Capital Region and Adjoining Areas, Joint Monitoring Group for Emerging Infections, Ministry of Health, Govt of India, Delhi State Organ Transplant Cell and Subject Expert Committee in Central Drugs Standards Control Organization. Dr Karan Madan was appointed as Assistant Editor of Lung India, the official journal of the Indian Chest Society.



## 9.36 Radiodiagnosis

### Professors and Head

Raju Sharma  
(1 March 2023 onwards)

Deep N Srivastava  
(1 April 2022 till 28 February 2023)

### Professors

Sanjay Thulkar (IRCH)	Sanjay Sharma (RPC)	Ashu Seith Bhalla
Smriti Hari	Shivanand Gamanagatti (Trauma Center)	Atin Kumar (Trauma Center)
Chandan J Das	Madhusudhan KS	Surabhi Vyas
Manisha Jana	Devasenathipathy Kandasamy	Chandrashekhara SH (IRCH)

### Additional Professors

Smita Manchanda	Ankur Goyal	Priyanka Naranje
Mukesh Yadav (IRCH)	Ekta Dhamija (IRCH)	

### Assistant Professors

Krithika Rangarajan (IRCH)	Amarinder Singh Malhi (Surgical block Joined on 29 November 2022)
Ankita Aggarwal (Surgical block Joined on 13 December 2022)	Rajendra Behera (National Center for Ageing Joined on 18 January 2023)
Richa Yadav (Contract - Trauma center) (1 April 2022 to 27 March 2023)	Amit Gupta (Contract - Surgical block Joined on 7 June 2022)
	Stanzin Spalkit (Contract 31 January 2022 to 31 March 2023 FN), Main AIIMS Joined on 31 March 2023 AN)

### Scientist-IV

Shashi B Paul (Retired on 31 July 2022)

## HIGHLIGHTS

The department grew in size in terms of the number of faculty, with the joining of 4 new Assistant Professors. The radiology services in the new RAK OPD, Outreach OPD Jhajjar, Surgical Block, National Center for Aging (NCA), NPW-3 and Mother & Child Block (MCH) were set up and run/managed by the Main Radiology department during this period. Reporting of all investigations is currently electronic and done on workstations. The organization and enhancement of services in the new RAK OPD resulted in significant reduction in waiting time for radiology services. Same day investigation could be achieved for some of these, such as radiographs; with no waiting time. The department has also started 24x7 round-the-clock services for OPD patients for CT scan. The departmental faculty continued to be actively engaged in patient care, education and research. Faculty members delivered over 181 lectures in various CMEs, national and international conferences. Faculty members were actively involved in research and published over 200 papers in various indexed national and international journals and contributed 2 chapters to textbooks of Radiology. A total of 61 posters and oral papers were presented in various conferences out of which 9 received awards in different forums. The department faculty members were principal investigators in 3 funded projects. Besides, they were involved in 33 departmental projects and around 39 collaborative projects with other clinical departments.

## EDUCATION

### *Undergraduate:*

The department faculty was actively involved in teaching undergraduate students. There were a total of 40 lectures taken by the faculty for them in this period.

**Postgraduate:**

There were a total of 39 junior residents in the department during this period, including 23 new residents who joined the department. The department had six fellows pursuing their fellowships during this period. Academic activities for postgraduate students were regularly conducted in online mode and included around 31 journal clubs, 28 seminars, 28 case discussions, 98 interesting film sessions and 20 didactic lectures. Both online and offline platforms were utilized for the academic sessions.

**B.Sc. (Hons) Medical Technology in Radiography (MTR/BMRIT):**

The duration and structure of this course has been updated. The name has been changed from BSc (H) Medical Technology in Radiography (MTR) course to Bachelor of Medical Radiology and Imaging Technology (BMRIT); and the duration will henceforth be four years including one year Internship. A total of 34 students are currently pursuing this course.

**CMEs/Workshops/Symposia/National and International conferences:**

- The department held the *2nd Anoop Memorial Lecture* on 17 October 22 in online mode, on the topic of *Academia, entrepreneurship and the pursuit of excellence in Radiology*
- The Department organized *the 10th ANNUAL CONFERENCE OF MUSCULOSKELETAL SOCIETY OF INDIA* along with *Musculoskeletal Society (MSS)* on 19-21 August 2022 at AIIMS, New Delhi

**Lectures delivered: 179**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
130	151	179

**List of oral papers/posters presented: 61**

**Total number of oral/poster presentations**

Presentation	2020-2021	2021-2022	2022-2023
Oral Presentations + Posters	36	22	61

**RESEARCH**

**Funded projects**

**Ongoing**

1. Dynamic contrast enhanced MR perfusion in the assessment of angiogenesis in Juvenile Nasopharyngeal Angiofibroma (JNA), Dr Smita Manchanda, AIIMS Intramural Grant, 3 years, 2020-2023, Rs 7,65,000
2. Development of Atlas of Standard Chest Radiographic Images of Tuberculosis, Dr Ashu Seith Bhalla, Delhi State National Tuberculosis Elimination Programme (NTEP), 2 years, 2021-2023, Rs 2,00,000
3. Developing artificial intelligence-based model for detection of malignant potential of pulmonary nodules in sarcoma using computed tomographic imaging and its prospective validation, Dr Devasenathipathy Kandasamy, AIIMS-IITD grant 2022, 2 years, 2022-2024, Rs 10,00,000

**Departmental projects**

**Ongoing**

1. Role of dual energy CT in acute pancreatitis
2. Utility of Preprocedural CT Angiography in the classification of Pulmonary artery pseudoaneurysms and to evaluate the efficacy of Interventional radiology techniques in its management
3. Role of split bolus dual energy CT in characterization of neck masses with limited MR and DSA correlation
4. Artificial intelligence integrated workflow for mammography reporting and resident training
5. To study the role and impact of Contrast Enhanced Mammography on management of Breast Malignancies
6. Role of Contrast-Enhanced Mammography in dense breasts
7. Deep learning radiology in evaluation of urinary bladder cancer
8. Role of Contrast ultrasound in retinoblastoma

9. Spectral dual energy CT in assessing response to neoadjuvant molecular targeted therapy in metastatic renal cell carcinoma
10. Role of DECT in evaluation of early arthritis of small joints of hands: Correlation with ultrasound and MRI
11. Multimodality imaging of parotid and submandibular glands in primary Sjogren's syndrome
12. Early Response Assessment of Hepatocellular Carcinoma to Transarterial Chemoembolization Therapy using m-RECIST Criteria on Magnetic Resonance Imaging
13. Preoperative MDCT Evaluation of Bipolar Bone Loss in Patient with Recurrent Anterior Stability of Shoulder Joint
14. To describe MRI patterns in various subtypes of Pediatric Acquired Demyelinating Syndrome at onset and follow up
15. To evaluate the role of Dynamic contrast enhanced MR perfusion in the characterization of sinonasal and skull base masses
16. Development of Atlas of Standard Chest Radiographic Images of Tuberculosis
17. Abbreviated MR Enterography in evaluation of Crohn's disease
18. Role of Advanced MR Techniques in Non-alcoholic fatty liver disease
19. MR Elastography of Non-alcoholic fatty liver disease
20. To evaluate role of CTBA in identifying factors responsible for recurrence of hemoptysis and to analyze outcomes post repeat BAE procedure

### ***Completed***

1. Role of split bolus dual energy multiphase CT in biliary malignancies
2. Artificial intelligence integrated workflow for mammography reporting and resident training
3. Role of advanced MRI in Rectal carcinoma
4. Tumors and cysts of jaw: Evaluation by Dual energy CT with limited MRI correlation
5. Characterization of Renal Cell Carcinoma with Dual Energy Computed Tomography and Multiparametric Magnetic Resonance Imaging and Correlation with Histopathology
6. Evaluation of outcome of oral sildenafil in orbital lymphangioma
7. Evaluate the role of topical timolol for treatment of periocular capillary haemangioma as compared to oral propranolol
8. Neoadjuvant chemotherapy in sebaceous gland carcinoma of eyelid
9. Feasibility and role of newer MRI sequences in evaluation of pulmonary parenchymal diseases
10. Evaluation and development of machine learning (ML) models for the automated detection, localisation and characterisation of traumatic rib fractures on CT scans
11. Effectiveness of ultrasound-guided interventions for soft-tissue pain in foot and ankle
12. Role of MRI in Response Assessment of Thoracic Tuberculosis in children

### **Collaborative projects**

#### ***Ongoing***

1. Diagnostic performance of IOTA-simple rules, IOTA- ADNEX, GI-RADS and O-RADS USG reporting system in evaluation of adnexal masses, Obstetrics and Gynaecology
2. Study to assess the prevalence of metabolically healthy obesity (MHO) and metabolically unhealthy obesity (MUO) among obese patients, Internal Medicine
3. Exploration of the Vitamin-D and WNT/Beta-catenin signaling pathway in Juvenile Angiofibroma, Otorhinolaryngology- Head and neck surgery
4. An ambispective study to assess various primary tumour and Ipsilateral Nodal Factors associated with contralateral nodal metastasis in patients with OCSCC, Otorhinolaryngology- Head and neck surgery
5. Evaluation of newly recommended antral follicle count (AFC) cut-off in the diagnosis of various PCOS phenotypes and comparison of their endocrine and metabolic profiles, Obstetrics and Gynaecology
6. Ambispective study to evaluate the utility of Supraclavicular artery island flap [SCAIF] reconstruction in Head and Neck Cancers, Otorhinolaryngology- Head and neck surgery
7. Study of prevalence and Clinico-metabolic profile of osteosarcopenic obese adults, Internal Medicine

8. Imaging Biobank for cancer, Pathology
9. An ambispective cohort study on evaluation of swallowing, cough and speech function in patients with lower cranial nerve palsies secondary to lateral skull base lesions, Otorhinolaryngology- Head and neck surgery
10. Evaluation of Indocyanine green for sentinel lymph node biopsy in breast cancer: Two arm open label parallel design non-inferiority randomized controlled trial, General Surgery
11. A Prospective study to measure the objective, subjective and aesthetic Outcomes in Patients undergoing Septorhinoplasty, Otorhinolaryngology- Head and neck surgery
12. To study the incidence of obstetric anal sphincter injuries (OASIS) in postpartum women using introital ultrasound, Obstetrics and Gynaecology
13. Role of IETA Ultrasound Criteria and Hysteroscopy in Assessment of Endometrial Lesions in Women with Abnormal Uterine Bleeding, Obstetrics and Gynaecology
14. A comparative study to evaluate functional outcomes following tongue reconstruction with Radial artery forearm free flap and Infrahyoid myocutaneous flap, Otorhinolaryngology- Head and neck surgery
15. Wearable electronics for swallow-graphy in stroke patients, Neurology
16. A prospective observational study to assess the accuracy of preoperative and post-operative transcutaneous laryngeal ultrasonography (TLUSG) in evaluating the vocal cord mobility in patients undergoing thyroid surgeries (Dr Ankita Agarwal and Dr Amarinder Singh Malhi), Surgery
17. Utility of 68Ga-NOTA-Ubiquitin in differentiation of infective and non-infective lesions, Nuclear Medicine
18. Clinical applicability of whole-body low dose CT scan for detecting bone metastasis in breast cancer: a prospective cohort study, Surgery
19. Comparison of 3D-CT volumetry and routine spirometry for prediction of post-operative pulmonary function in benign lung diseases -Prospective observational cohort study, Surgery
20. Comparative study between Arthroscopic bone grafting to nonvascularized bone grafting for non-union of the scaphoid fracture: A Randomized Control Trial, Orthopedics
21. Role of 18F FDG PET/CT in assessment of treatment response to neoadjuvant chemotherapy in primary extra-ocular retinoblastoma, Nuclear Medicine
22. To evaluate the role of intralesional bleomycin in periorbital capillary hemangiomas unresponsive to oral propranolol, RPC

#### **Completed**

1. A Comparative Study Between Recist 1.1 Using Mri And Percist 1.0 Using Pet/Ct To Evaluate The Response In Patients Of Carcinoma Breast Receiving Neoadjuvant Chemotherapy, Surgical disciplines
2. A study of fluorescein spectrometry, indocyanine green imaging, Raman spectrometry and Doppler flowmetry analysis comparing malignant and benign lesions of breast”, Surgical disciplines
3. Evaluation of Hormonal and Metabolic Parameters in Adolescent and Young Indian Girls with Menstrual dysfunction, Obstetrics and Gynaecology
4. A Prospective Study to evaluate the impact of Oral Submucous Fibrosis (OSMF) on occult and overt lymph nodal metastases in Gingivo-buccal complex carcinomas (GBCC) (T1-T4) of Oral cavity, Otorhinolaryngology- Head and neck surgery
5. Comparison of articular disc position following non-surgical treatment and open reduction in condylar fracture of mandible – MRI study, Oral and Maxillofacial surgery
6. Prospective study to determine the incidence of intraglandular, periparotid, occult and overt cervical lymph node metastasis in patients with primary parotid carcinomas, Otorhinolaryngology- Head and neck surgery
7. Detection of oncogenic viruses HPV and EBV by immunohistochemistry in secondary cervical lymph nodes from primary of oropharynx, nasopharynx, and unknown primary, Otorhinolaryngology- Head and neck surgery
8. To evaluate osseous changes on the non-operated temporomandibular joint after unilateral total joint replacement, Oral and Maxillofacial surgery
9. A randomized clinical trial comparing the efficacy of arthrocentesis with mandibular manipulation and anterior repositioning splint versus arthrocentesis and mandibular manipulation in the management of temporomandibular joint disc displacement without reduction, Oral and Maxillofacial surgery
10. A randomized controlled trial to evaluate the outcomes of subcondylar fracture of the mandible treated using operative and non-operative methods, Oral and Maxillofacial surgery
11. Role of transvaginal 3D Power Doppler Ultrasound and hysteroscopy for endometrial evaluation in patients with postmenopausal bleeding, Obstetrics and Gynaecology

12. Prospective study to evaluate the utility of infra-hyoid myocutaneous flap in reconstruction following resection of oral tongue carcinoma, Otorhinolaryngology- Head and neck surgery
13. A prospective study to determine early predictive factors of hypocalcemia in patients undergoing total or complete thyroidectomy, Otorhinolaryngology- Head and neck surgery
14. Detection of extra-nodal extension (ENE) in node positive oral cavity squamous cell carcinoma (OSCC), Otorhinolaryngology- Head and neck surgery
15. An ambispective study determining the prevalence of menstrual irregularities and related disorders in female patients of scoliosis and assessment of their obstetrical and reproductive health, Orthopedics
16. A cross sectional descriptive study of dermoscopic features in congenital and acquired vascular lesions in children, Dermatology

#### Research Projects over past 3 years

Research Projects	2020-2021	2021-2022	2022-2023
Total funded projects	5	4	3
Total Funding	19,58,000 INR + 10,000 USD	10,65,000 INR +10,000 USD	19,65,000 INR

#### PUBLICATIONS

Journal: 183

Abstracts: 1

Chapters in Book: 5

#### Publications over past 3 years

Item	2020-2021	2021-2022	2022-2023
Total	215	219	189
Journal Articles	189	202	183
Abstracts	0	0	1
Chapters in books	26	16	5
Books	0	1	0

#### Detail of Investigations for the period of 1 April 2022 to 31 March 2023

S. No.	Name of Investigations/Special procedures	Total no. of Investigation
1	<b>Routine X-rays</b>	
	• OPD	252829
	• Indoor	29483
	• Casualty	53154
	• Portable	57447
2	<b>Special Investigations</b>	
	• arium Studies	1567
	• Intravenous pyelography	1386
	• Micturating cystourethrography	2115
	• Hysterosalpingography	654
	• Operation Theater Studies	52
	• Others contrast studies	486
3	<b>Mammography</b>	3927
4	<b>Dexa Scan</b>	930
5	<b>Ultrasound</b>	
	• Routine	56761
	• Emergency	24767

	• Doppler (Routine + Casualty)	5675
6	<b>CT</b>	
	• Body	25750
	• Head	9412
7	<b>MRI (Main + NMR)</b>	9744
8	<b>Interventional Procedures</b>	
	• Interventional Vascular Studies	3141
	<b>Interventional Non-Vascular studies</b>	
	• CT Guided	609
	• Ultrasound Guided	6242
	• Fluoroscopy Guided	3167
	• Mammography Guided	26
	<b>Grand Total</b>	<b>549324</b>

#### Patient care

Item	2020-2021	2021-2022	2022-2023
Total imaging investigations	185522	343675	549324

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Ashu Seith Bhalla** received Chairman Appreciation Award by Indian College of Radiology and Imaging, Annual Conference of IRIA on 3 February 2023; Serving as President Society of Chest Imaging and Interventions SCII (2019-22); Associate Editor Indian Journal of Radiology and Imaging (IJRI).

**Professor Madhusudhan KS** got Editors Award for reviewer of IJRI 2022. By Indian Radiological and Imaging Association; AIIMS Excellence Research Award 2021: Certificate of commendation. For publication. Awarded in 2022; "JCIR Best Reviewer Award 2019" (for Journal of Clinical Interventional Radiology) presented by the Indian Society of Vascular and Interventional Radiology, at the annual conference, Goa, 31 March to 3 April 2022.

**Professor Chandan J Das** received AIIMS excellence research award 2021: Certificate of commendation. For the publication "Role of diffusion tensor imaging in the evaluation of ulnar nerve involvement in leprosy. Br J Radiol. 2022 Jan 1;95(1129):20210290". Awarded in 2022; Invited as "Visiting Professor" by University of Chicago to visit Department of Radiology, University of Chicago, USA and to present grand round on "Status of Prostate research in India" and a grand round on "Imaging of Tuberculosis" in between 15-30 June 2023.

**Professor Shivanand Gamanagatti** received JVIR 2021 Editor's Award for Outstanding Clinical Study at SIR 2022 Annual Scientific Meeting in Boston, Massachusetts, 14 June 2022.

**Professor Atin Kumar** is Member of Research Committee of American Society of Emergency Radiology 2023; Sub-speciality chapter head (Emergency Radiology) of Indian Radiology and Imaging Association (IRIA); Editorial board member of Indian Journal of Radiology and Imaging (IJRI); Elected as Vice President of Society for Emergency Radiology; Silver medal in Tennis (doubles) and bronze medal in Tennis (singles) in IRIA olympics - annual sports event at Annual conference of IRIA at Amritsar, 1-5 March 2023.

**Professor Sanjay Sharma** received 'Best publication award' at the 23rd Annual Conference of ISVIR 2023 at Hyderabad, 9-12 February 2023; AIIMS excellence in research award 2021: Certificate of commendation. For paper publication (Awarded in 2022); Elected as President, Delhi-NCR Chapter of the Indian Society of Vascular and Interventional Radiology, w.e.f. 2022-2024.

**Professor Surabhi Vyas** received Biomedical excellence award 2022, Women in leadership conclave 2022, on 27 August 2022 at New Delhi.

**Dr Smita Manchanda** received Appreciation Award (Certificate of Recognition) for the best Joint Secretary (2022) by the Society of Chest Imaging and Interventions at "SCIICON 2022".

**Dr Ankur Goyal** was awarded ISVIR Young Investigator Award 2022 at 23rd Annual National Conference of Indian Society of Vascular & Interventional Radiology (ISVIR), Hyderabad 9-12 February 2023; Recipient Dr Kishor Taori Gold medal for best competitive paper in ultrasound 2023 at 75th Annual conference of IRIA held at Amritsar from 2-5 February 2023; Secretary Delhi State Chapter of IRIA 2023-2024, Treasurer Delhi State Chapter of IRIA 2021-2022; Organizing Secretary in 10th Annual Conference of Musculoskeletal Society (MSS 2022) held at AIIMS New Delhi (19-21 August 2022).

## 9.37. Reproductive Biology

### Professor and Head

Ashutosh Halder

### Professor and Officer In-charge, CRIA facility

Pradeep Kumar Chaturvedi

### Additional Professors

Surabhi Gupta

Mona Sharma

### Scientists II

Deepak Pandey

Neeraj Kumar

### Scientist I

Manish Jain

### HIGHLIGHTS

The department is mainly involved in teaching, training and research works besides diagnostic services (reproductive hormones & cancer biomarkers; semen analysis; FISH & QF PCR for various genetic disorders) and reproductive genetic counseling. Most of reproductive genetic counseling was self-referral. Most of the cases were with reproductive disorders, malformation, cancer, infertility, etc. CRIA facility provides tests for more than 56 parameters including cancer markers, reproductive hormones, COVID-19 IgG antibody, etc. The Department has started online reporting for CRIA tests. CRIA facility has done 2,65,857 tests this year. Andrology laboratory provides detailed semen analysis whereas molecular laboratory of the department provides various genetic tests using FISH, QF PCR, etc. technologies. Training and teaching are provided to our own PhD students, MSc students and various trainees of the department besides other departments of AIIMS. This year the department organized a 6-day National Workshop on Molecular Cytogenetics which was attended by 22 participants in two batches from AIIMS and other institutes. Faculty members of the department were invited by several national academics for different academic contributions (NABL/QCI, ICMR, MCI/NMC, NIHFW, DBT, NIRRH, etc.). Dr Halder was awarded as Fellow of Indian Academy of Biomedical Sciences







this year. Prof K.R.Laumas memorial oration of the department for 2022-23 was awarded to Dr Surinder Sharma, Professor of Pediatrics, Center of Excellence for Reproductive Health, Women and Infants Hospital and The Warren Alpert Medical School, Brown University, RI, USA.

#### EDUCATION

PhD Student (Registered/Ongoing):	13
MSc Students	12
JRF/SRF/RA/RO	06
Weekly seminars and weekly journal club	
Biweekly laboratory data presentation	
Day to day case wise/laboratory work discussion	
Postgraduate- MD Laboratory Medicine Students (Laboratory training for 15 days)	
MD Biochemistry Students (Laboratory training for 15 days)	
DM Reproductive Medicine Students (Laboratory training for 60 days)	

#### CMEs/Workshops/Symposia/National and International Conferences

National Workshop on Molecular Cytogenetics (9-14 January 2023), AIIMS, New Delhi

#### Lectures Delivered at CMEs, National and International Conferences:

**Ashutosh Halder: 12**                      **Mona Sharma: 3**

#### Lectures delivered over past 3 years

2020-2021	2021-2022	2022-2023
8	17	15

#### Oral Papers/Posters Presented: 19

#### Oral/poster presented over past 3 years

Presentation	2020-2021	2021-2022	2022-2023
Oral papers/poster	4	5	19

## RESEARCH

### Funded projects

#### *Ongoing*

1. Integrative analysis of ovarian cancer transcriptome to identify potential therapeutic targets & biomarker discovery, Ashutosh Halder, ICMR, 3 years, 2020-23, 54 lakhs
2. An investigation on underlying mechanism of PCOS in association with endocrine disrupting chemicals (Bisphenol A and Advanced Glycation End products), Ashutosh Halder, DBT, 3 years, 2022-25, 69 lakhs
3. An investigation on the role of genes of steroid biosynthesis pathway in PCOS patients with mildly high basal 17-OH-progesterone levels, Ashutosh Halder, ICMR, 3 years, Fund to be released (yet to start), 67 lakhs
4. Quality control for hCG kits, PKChaturvedi, HLL Lifecare Limited/Ministry of Health, Yearly, 9 lakhs/year
5. To study the effect of Endocrine Disrupting Substance BisPhenol A on Steroidogenesis and apoptosis in Leydig Cells mediated by MicroRNA, PKChaturvedi, ICMR, 3 years, 2021-23, 76 lakhs
6. To study the effect of Selective Serotonin Reuptake Inhibitors (SSRIs) on testicular functions, PKChaturvedi, ICMR, 3 years, 2022-25, 78 lakhs
7. Therapeutic targeting of ER Chaperones exploiting Small Molecules: A Virtual Screening Approach to alleviate ER stress in Preeclampsia, Surabhi Gupta, Department of Biotechnology (DBT), 3 years 8 months, 2019-23, 55.52 lakhs
8. Development of diagnostics and experimental therapeutics using CRISPR-based technologies, Surabhi Gupta, Department of Biotechnology (DBT), 3 years 6 months, 2020-23, 288.34 lakhs
9. To Study the Mechanisms Underlying the Pathogenesis of Pre-eclampsia, Surabhi Gupta, Indian Council of Medical Research (ICMR), 3 years, 2021-24, 76.12 lakhs
10. Role of Mitochondrial Fatty Acid Shuttle System in Premature Ovarian Failure, Mona Sharma, ICMR, 3 years, 2021-24, 44 lakhs
11. Study of semen cryopreservation and its effects on sperm parameters in male cancer patients, Mona Sharma, AIIMS, 2 years, 2021-23, 10 lakhs
12. Effect of Semen Cryopreservation on Sperm Telomere Biology and Fertilization Potential, Mona Sharma, ICMR, 3 years, 2022-25, 58 lakhs
13. To Decipher the Functional Interaction of Reproductive Longevity Regulating Transcriptional Targets induced by TGF- $\beta$  and Insulin Signalling in Gonads, Neeraj Kumar, ICMR, 3 years, 2020-23, 50 lakhs
14. To elucidate the impact of micronutrients and vitamins on sex-steroid mediated stromal-epithelial interaction in prostate cells: role in maintenance of normal prostate physiology, Deepak Pandey, ICMR, 3 years, 2021-24, 41.56 lakhs
15. To delineate the impact of selective estrogen receptor modulators (SERMs) on hormone mediated stromal-epithelial interaction in prostate cells, Deepak Pandey, AIIMS, New Delhi, 2 years, 2021-23, 9.7 lakhs
16. Idiopathic Sertoli Cell Only Syndrome (SCOS): An Investigation to find out Epigenomic Etiologies, Manish Jain, ICMR, New Delhi, 3 years, 2021-23, 45 lakhs
17. MicroRNA expression profiles in Sertoli cell only syndrome (SCOS) cases, Manish Jain, AIIMS, New Delhi, 2 years, 2023-25, 10 lakhs

#### *Completed*

1. Effects of Non-ionizing Electro Magnetic Field (EMF) on Human Health (referral center), PK Chaturvedi, ICMR, 5 years, 2017-22, 32.7 lakhs/year
2. In vitro evaluation of effects of electromagnetic field(EMF) on male reproductive health, PK Chaturvedi, ICMR, 5 years, 2019-23, 58 lakhs
3. Evaluation of Non-invasive Biomarker potential of Circulating Endometrial Cells in Peripheral Blood of Women with Endometriosis, Neeraj Kumar, AIIMS, New Delhi, 2 years, 2021-23, 10 lakhs

## DEPARTMENTAL PROJECTS

#### *Ongoing*

1. An investigation of the etiological factors associated with polycystic ovary syndrome
2. Genetic determinants of idiopathic premature ovarian failure
3. An investigation on epigenetic mechanism of PCOS in association with Endocrine Disrupting Chemicals

4. Delineating the Role of Insulin/insulin-like Growth Factor Signaling (IIS) in Caenorhabditiselegans Reproductive Aging
5. Analysis of anti-cancer activity of herbal extracts on prostate cancer cell lines
6. Effect of antidepressant drug (Escitalopram) on testicular and adrenal functions
7. Role of placenta derived exosomes in decidualization in Recurrent pregnancy loss patients.
8. Characterization of testis-enriched proteins with potential role in mammalian fertilization.
9. Effect of mitochondrial fatty acid shuttle mediated endoplasmic reticulum stress on follicular dynamics in premature ovarian insufficiency
10. Age dependent dynamics of sperm telomere and inter-relation with DNA damage response
11. Role of micronutrients and flavonoids in modulation of prostate stromal-epithelial interaction
12. HDAC inhibitor(s) mediated genome-wide transcriptional networks in reproduction and longevity using Caenorhabditiselegans as model system
13. An Investigation to Determine Etiological Factors in Apparent Idiopathic Hypospermatogenesis
14. Evaluation of cell surface markers potential to enrich circulating endometrial cells from peripheral blood of endometriotic women
15. Effect of Antidepressant on Placental Endocrine Function
16. Comparison of Exosomes Isolated from Normal Pregnant Women & Women with Recurrent Pregnancy Loss
17. Effect of mitochondrial transferase mediated endoplasmic reticulum stress on oocyte activation
18. Effects of increasing ratio of Estrogen: Androgen on Primary mouse Prostate cells
19. DNA methylation study in testicular FNAC samples of apparent idiopathic Sertoli Cell Only Syndrome (SCOS) cases

#### **Completed**

1. *Sero-prevalence and/or persistence* of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) IgG antibody among SARS-CoV-2 positive cases, untested healthcare workers and non-healthcare workers
2. Epigenetic changes during epithelial to mesenchymal transition in trophoblast cells under physiological and pathological conditions
3. Isolation of Circulating Endometrial Cells from Peripheral Blood of Women with Endometriosis
4. Effect of sperm vitrification on its telomere length in testicular cancer patients
5. Effects of Catechins on Hormone Mediated Stromal Epithelial Interaction in Prostate Cells
6. Effect of Circulating Exosomes Isolated from Normal Pregnant and RPL Women on Trophoblast Cells
7. MicroRNA expression profiles in testicular FNAC samples of apparent idiopathic Sertoli cell only syndrome (SCOS) cases
8. Investigation of potential biomarkers for the differential diagnosis of Non-Obstructive Azoospermia (NOA)
9. To evaluate the potential of circulating microRNAs as biomarkers for endometriosis in the Indian population
10. Study of oxidative stress on sperm shelterin expression and chromatin function in infertile males
11. Study of oxidative stress on sperm TERRA expression and chromatin function in infertile males
12. Analysis of anti-cancer activity of novel benzoxazole derivatives on prostate cancer cells
13. Role of DNA methylation in modulating Trophoblast functions

#### **Collaborative projects**

##### **Ongoing**

1. Molecular Genetic Evaluation of Unexplained Stillbirths, Genetics Unit, Pediatrics, AIIMS
2. Unique aspects of idiopathic hypoparathyroidism, Endocrinology, AIIMS
3. Impact of Checkpoint inhibitors on Suppressed State of Immunity in Tuberculosis, Transplantation Immunology and Immunogenetics, AIIMS
4. Feasibility and efficacy of lung water estimation on Cardiac Magnetic Resonance Imaging (MRI) in predicting adverse cardio-vascular events in patients with heart failure, Department of Cardiac Radiology, AIIMS
5. Association of small intestinal bacterial overgrowth and gastrointestinal symptoms in patients with non alcoholic fatty liver disease, Department of Medicine, AIIMS

6. An ambispective cohort control study to evaluate the effect of SARS-Cov-2 infection post adenoidectomy patients, Department of Otorhinolaryngology, AIIMS
7. Assessment of adreno-cortical function and its clinico-metabolic implications in PLHIV population, Department of Medicine, AIIMS
8. Study of prevalence, risk factors and metabolic profile of sarcopenia in Indian adults', Department of Medicine, AIIMS
9. A comparative study of melatonin, gabapentin and alprazolam in reducing preoperative anxiety, Department of Anaesthesiology, AIIMS
10. To study the long term effects of disease and its treatment in survivors of pediatric solid tumours, Department of Pediatric Surgery, AIIMS
11. Fetal cardiac profile in intrahepatic cholestasis of pregnancy and its association with perinatal outcome, Department of Obstetrics and Gynaecology, AIIMS
12. Correlation of bio inflammatory markers with the fetomaternal outcome in IHCP of pregnancy, Department of Obstetrics and Gynaecology, AIIMS
13. Anemia: Exploring the role of Vitamin D, essential elements and lifestyle in Indian Population, Department of Pharmacology & Department of Hematology
14. To compare slow freezing and vitrification techniques in ovarian tissue cryopreservation for fertility preservation in cancer survivors, Department of Obstetrics and Gynaecology, AIIMS
15. Clinico-genetic prognostic signatures for development of metastatic Castration Resistant Prostate Cancer, Department of Urology, AIIMS, New Delhi

#### **Completed**

1. A multicentric Novel Corona Virus population based Age stratified Sero epidemiological study, WHO Center for Community Medicine
2. Establishment of a normal reference range (nomogram) for Testosterone and Dihydrotestosterone in boys of age group 0-14 years, Department of Pediatric Surgery, AIIMS
3. Antibody response among health care workers recovered from Covid-19, Department of Medicine, AIIMS

#### **Research projects over past 3 years**

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	20	23	22
Total funding (Rs)	<b>747.16 lakhs</b>	<b>1126.14 lakhs</b>	<b>1141.94 lakhs</b>

#### **PUBLICATIONS**

**Journals: 14**

**Abstracts: 01**

**Chapters in Book: 04**

#### **Publications over past 3 years**

Item	2020-2021	2021-2022	2022-2023
<b>Total</b>	<b>17</b>	<b>18</b>	<b>19</b>
Journal articles	13	17	14
Abstracts	1	-	01
Chapters in books	2	1	4
Books	1	-	-

#### **PATIENT CARE**

##### **Patient care in outpatient service: Not part of standard outpatient service**

Over 100 cases were referred to Dr Halder, mainly from other hospitals of Delhi or self-referral for Counseling/Planning of Management/Advice and related to Reproductive Genetics in particular Male Primary Hypogonadism, Recurrent Abortion, Recurrent IVF failure, Genetic Disorders and Malformation Syndromes.

**Workload in the form of laboratory service**

Standardized additional molecular cytogenetic technique (in addition to ongoing fluorescent in situ hybridization services) using STR/microsatellite markers and used for patient care

**Special laboratory facilities in Department of Reproductive Biology (Molecular Cytogenetics lab), AIIMS****Microdeletion FISH on blood (Interphase/Metaphase cell), buccal cell, urine cell, solid tissue etc.**

Total 300 patients have been recruited which all are suspected microdeletion syndrome. We have done FISH & QF-PCR of all cases in our Molecular Cytogenetics lab and given report of all the patients. The department has standardized Methyl Specific PCR for PWS cases and started facility of Methyl Specific PCR in our lab. The department is going to start the facility of microarray of all microdeletion syndromes in our department as soon as possible (tender already uploaded).

**List of Microdeletion Syndrome:**

- Digeorge syndrome (22q11.2)
- William syndrome (7q11.23)
- Prader-Willi syndrome (15q11.13)
- Retinoblastoma (13q)
- Miller Decker syndrome (17p13.3)
- Langer Giedionssyndrome (8q24.11)
- 1p36.13
- Wolff Hirschhorn (4p16.3)

**Prenatal FISH (Amniotic fluid cells/chorionic tissue)**

- Trisomy 21 (Down syndrome)
- Trisomy 18 (Edward Syndrome)
- Trisomy 13 (Patau Syndrome)
- Any autosomal aneuploidies (on request)

**Karyotyping** (only research use)**Sex Chromosome FISH** (X, Y, SRY: only research & infertility)**YqMicrodeletion PCR** (Cover app. 20 primer)**PRINS** (Chromosome 13, 18, 21, X, Y)**QF-PCR** (DG, WS, PWS, RB, MD, Langer-Giedions, Trisomy 13, 18, 21, etc.)**Methyl Specific PCR** (PWS)**DNA Microarray** for Microdeletion Syndrome/Primary Testicular Failure**CRIA Facility:**

Routine assays of 56 parameters in the blood samples of admitted and OPD patients were carried out in the facility. In the Covid-19 pandemic, the department has started new test SARS CoV-2 IgG test and done SARS CoV-2 IgG test for health care workers and Staff.

<b>Total No. of Investigation for the Year 2022-23</b>		
<b>S. No.</b>	<b>Name of Investigation</b>	<b>Total no. of Investigation</b>
1.	17-OH Progesterone	600
2.	ACTH	556
3.	Active B12	19330
4.	AFP	3163
5.	AMH	6128
6.	Anti-CCP	6790
7.	Anti-Tg	441
8.	Anti-TPO	3089
9.	Beta hCG	2358
10.	BNP	3186
11.	CA 125	4093
12.	CA15.3	3
13.	CA19.9	6133

14.	CEA	5820
15.	CKMB	53
16.	CMV IgG	27
17.	CMV IgM	28
18.	Cortisol	1845
19.	C Peptide	255
20.	CRP	242
21.	Cyclosporin	1336
22.	DHEAS	1488
23.	DHT	243
24.	Estradiol	1736
25.	Ferritin	8040
26.	Folate	13362
27.	Free PSA	253
28.	Free T3	4452
29.	Free T4	5789
30.	FSH	9988
31.	GH	637
32.	HBA1C	3809
33.	HE4	16
34.	Homocysteine	222
35.	Inhibin-B	630
36.	Insulin	1167
37.	Intact PTH	7274
38.	LH	9169
39.	MTX	402
40.	PCT	11798
41.	P4	503
42.	PRL	8761
43.	PSA	3606
44.	RubellaIgG	23
45.	Rubella IgM	22
46.	SARS Cov-2 IgG	70
47.	SHBG	560
48.	Testosterone	3671
49.	ThyroidProfile	9386
50.	T3	12159
51.	T4	13963
52.	TOXO IgG	10
53.	TOXO IgM	11
54.	Troponin-I	1306
55.	TSH	37454
56.	VIT-D	28401
	Total No. of Tests Done	<b>265857</b>

No. of test done forJSSK	No test done for BPL	No test done forAB-PMJAY
1699	5360	716

In addition, more than **2280** tests were done for various research project studies.

**Andrology Lab**

Andrology Laboratory provided semen analysis services to 995 patients.

**AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Ashutosh Halder** was awarded as Fellow of Indian Academy of Biomedical Sciences. He is Task Force member of Human Developmental and Disease Biology - Maternal and Child Health Program of DBT; Advisory panel- expert member(Genetics) of NAMS; Member of Program Advisory Committee (PAC) and Institutional Review Board (IRB) of NIHF; Accreditation Committee Member of NABL on Genetics &Cytogenetics; SAC/PAC committee member, ICMR HQ, NIRRH. He chaired a session on Precision Medicine: Are we there yet? 7th Annual National Conference of the Society for Indian Academy of Medical Genetics, December 2022, SGPGI, Lucknow, and chaired a session on Hysteroscopic surgery in uterine anomaly at 27th Annual Conference of Indian Society for Assisted Reproduction. February, 2023 ISAR, MP Chapter Bhopal.

**Professor PK Chaturvedi** is Member of ethic committee for PG, AIIMS, Examiner for PhD and MSc for IMTech Chandigarh, Guwahati University, Calcutta University, NDRI Karnal, Reviewer of projects of Department of Biotechnology (DBT), Member Selection Committee ICMR), Member expert committee ICMR for review projects on Centre for Advance Research and also Ad-hoc projects, Reviewer Journal of Andrologia.

**Dr Surabhi Gupta**, Poster presented at 2nd AIIMS Research Day, won the 3rd Best Poster Award (MSc category).

**Dr Mona Sharmawas** invited as external examiner for “Diploma Clinical Embryology” during Exit Exam on 6-7 September 2022.

Awarded 3rd Best Paper Prize in AIIMS research excellence award on 18th October, 2nd research day, 2022.

Contributed 4 microteaching lectures for e-learning modules (NMCN).

## 9.38 Rheumatology

### Professor and Head

Uma Kumar

### Associate Professors

Danveer Bhadu

Ranjan Gupta

### Assistant Professor

Rudra Prosad Goswami

### HIGHLIGHTS

Department of Rheumatology was created and notified in August 2015. This department is providing state-of-the-art patient care services and is also instrumental in building resources, which are required to deal with huge load of patients with acute and chronic rheumatic ailments. Its 6-bed Rheumatology Day Care service, which was started in 2012, is first of its kind in India and is continuing to cater to the needs of patients requiring various interventions, treatments and procedures in a cost-effective manner. Various educational activities to increase awareness about arthritis and related disorders amongst the public and medical professionals are regular features. The department has been on the forefront in research also; it has research grant of INR 4,73,90,780 and many collaborative projects are also running. Department faculty had numerous publications in reputed scientific journals. Collaborative research activities have led to filing of three patents (in pipeline). The departmental Clinical Immunology lab caters to the whole hospital in terms of performing various immunological investigations.

### Activities/steps taken to improve patient care services, education and research:

1. Realising the need for trained Rheumatology specialists, short-term training to medical specialists from various Government organizations is being provided on a regular basis.
2. All efforts are made to provide specialized immunological investigation results as early as possible without compromising on the quality.
3. New specialized tests are added to the list like nail fold capillaroscopy, musculoskeletal ultrasound, and Schirmer's test, which are being done free of cost.
4. Services are initiated to reduce patient's hospital visits and stay as far as possible like giving intra-articular injections in OPD itself, doing tests like 6MWT, nail fold capillaroscopy, musculoskeletal USG, Schirmer's test and biopsies (whichever possible) same day as far as possible.

**Action Plan:** The department has active teaching programme and it is trying to start super-specialty course 'DM' in Rheumatology once in-patients are started.

### EDUCATION

#### Undergraduates

1. Rheumatoid arthritis and Spondyloarthritis
2. Systemic lupus erythematosus
3. Primary necrotizing vasculitis
4. Approach to patients with pain in joints & soft tissue
5. Approach to Polyarthritis
6. Idiopathic inflammatory myopathies
7. Management of rheumatoid arthritis
8. Approach to autoimmunity



**Postgraduate:** Seminars, bedside teaching, mortalities reviews, journal scan and journal club and case discussions every week

**Nursing lectures:** Lecture series on rheumatologic disorders for various cadres of nursing staff

**Number of short-term/long-term trainees:** Six non-academic Senior Residents

**CMEs/Workshops/Symposia/National and International Conferences (Organized by the Department):**

1. Rheumatology Update under the aegis of Delhi Rheumatology Association was organized on 1 May 2023
2. Workshops on 30 April 2023 a. Intra-articular injections b. Nail-fold capillaroscopy c. Disease activity assessment in RA & SpA

**Lectures delivered:**

**Uma Kumar: 20                      Ranjan Gupta: 3**  
**Danveer Bhadu: 3                      Rudra Prosad Goswami: 7**

**Lectures delivered over past 3 years**

2020-21	2021-22	2022-23
19	19	33

**List of oral papers/posters presented: 18**

**Oral presentations over past 3 years**

2020-21	2021-22	2022-23
8	0	2

## RESEARCH

**Funded projects**

**Ongoing**

1. Popularizing science and technology for alleviating occupational health hazards among women studying or working in schools, colleges and IT sector, Uma Kumar, DST, 3 years, 2020-2023, Rs 3019680
2. An Indian initiative to study Granulomatosis with Polyangiitis through clinical and genomics approach, Uma Kumar, ICMR, 3 years, 2020-2023, Rs 1868532
3. A randomized, controlled trial to evaluate the efficacy of multimodal Ayurveda intervention interventions in JananuSandhigatavata (Primary Knee osteoarthritis), Uma Kumar, AYUSH, 3 years, 2022-2024, Rs 6242900
4. An open-label, multi-center protocol for patients who have completed a previous Novartis sponsored Secukinumab study and are judged by the investigator to benefit from continued Secukinumab treatment. CAIN457A02001B, Uma Kumar, Novartis, 3 years, 2022-2025, Rs 454385
5. GS-US-417-0304 Protocol Title: "A Multicenter, Double-blind, long term extension study to assess the Safety and Efficacy of Filgotinib in subjects with Rheumatoid Arthritis", Uma Kumar, Galapagos, 5 years, 2019- 2024, Rs 3412404
6. Macrophage Migration Inhibitory Factor (MIF) and CD74/CD44 system as a biomarker of treatment response in Rheumatoid Arthritis, Ranjan Gupta, Institutional Intramural Grant, 2 years, 2020-2023, Rs 1000000
7. Assessment of the beliefs, knowledge and perception of the patients and health care providers about rheumatoid arthritis and effect of the information course, Ranjan Gupta, Pfizer Inc., 1 year, 2021-2023, Rs 1386000
8. Assessment of the Knowledge Gaps of Primary Care Physicians in the Diagnosis and Management of Rheumatoid Arthritis and Impact of a Short-Term Training Course, Ranjan Gupta, Pfizer Inc., 2 years, 2021-2023, USD 46111
9. Comparison of Metabolomics Profiles Between Patients with Proliferative and Membranous Lupus Nephritis in London and New Delhi, Ranjan Gupta, AIIMS Intramural AIIMS-UCL grant, 1 year, 2021-2023, Rs 500000
10. Magnitude, characteristics and endurance of Immune Response to COVID-19 Vaccination in patients with Systemic Lupus Erythematosus: A multicentric cohort study, Ranjan Gupta, ICMR, 3 years, 2022-2025, Rs 7459320
11. Foot Pressure Distribution Assessment Using Wearable Pressure Insole for Foot Arthritis Diagnosis and Treatment Monitoring in Rheumatoid Arthritis, Ranjan Gupta, Delhi Rheumatology Association, 1 year, 2022-2023, Rs 500000

12. Foot-pressure distribution method for detection and localization of foot joint arthritis: A comparison with conventional radiographs, Ranjan Gupta, AIIMS UG grant, 1 year, 2022-2023, Rs 200000
13. Multi-institutional Network Program on Systemic lupus Erythematosus: Understanding the diversity of SLE, Ranjan Gupta, DBT, 5 years, 2018-2023, Rs 9985000
14. Musculoskeletal and Rheumatological disease in post COVID-19 patients: A cross sectional study, DanveerBhadu, Institutional Interdisciplinary Collaborative Intramural Grant, 2 years, 2021- 2023, Rs 1000000

**Research projects over past 3years:**

Research projects	2020-21	2021-22	2022-23
Total funded projects	16	17	15
Total funding (Lakhs)	Rs 3,09,49,000	Rs 4,21,22,541	Rs 4,73,90,780

**Funded projects**

**Completed**

1. A randomized, double-blind, placebo-controlled, parallel group, phase III multicenter study of intravenous secukinumab to compare efficacy at 16 weeks with placebo and to assess safety and tolerability up to 52 weeks in subjects with active Ankylosing Spondylitis or non-radiographic axial SpondyloArthritis, Uma Kumar, Novartis Pharmaceuticals, 1 year 6 months, 2020-2022, Rs 624600
2. A randomized, double-blind, placebo-controlled, parallel group, phase III multicenter study of intravenous secukinumab to compare efficacy at 16 weeks with placebo and to assess safety and tolerability up to 52 weeks in subjects with active Psoriatic Arthritis”, Uma Kumar, Novartis Pharmaceuticals, 1 year 6 months, 2020- 2022, Rs 156150
3. Phase IV, open label, non-comparative, multicentre study to evaluate safety and efficacy of subcutaneous tocilizumab in subjects with Giant cell arteritis (GCA), Danveer Bhadu, CBCC contracted by Cipla Ltd, 1 year, 2021-2022, Rs 55,000/patient
4. Role of TLR-4 in Acute Gouty Arthritis, Danveer Bhadu, Institutional Intramural Grant, 2 years, 2020 (New Start Date)-2022, Rs 2,30,000

**Departmental project**

**Ongoing:** Safety and efficacy of Tofacitinib in Spondyloarthritis

**Collaborative project**

**Ongoing**

1. Clinical and Genetic Characterization of Patients presenting with Renal Tubular Acidosis in Primary Sjögren’s syndrome, Department of Rheumatology/St Stephen Hospital
2. Comparison of efficacy of tofacitinib and adalimumab in axial spondylarthritis: A retrospective cohort study, Department of rheumatology, Institute of Neurosciences-Kolkata, Kolkata, West Bengal, India
3. Correlation of Tear inflammatory Mediators and serum autoantibodies in patients with systemic autoimmune disorders, RP Centre, AIIMS, New Delhi
4. Effect of motor imagery on corticomotor excitability and pain status in Rheumatoid arthritis patients, Physiology, AIIMS, New Delhi
5. Effect of MRI based neurofeedback guided motor imagery training on cortical excitability and pain status in rheumatoid arthritis, Physiology, AIIMS, New Delhi
6. Effect of yogic intervention on pain and autonomic profile in Fibromyalgia patients, Physiology, AIIMS, New Delhi
7. Effect of yogic intervention on pain status and cortical excitability in fibromyalgia patients, Physiology, AIIMS, New Delhi
8. Epidemiological studies and registry development of rheumatic diseases across, Indian Rheumatology Association
9. Evaluation of immunomodulatory activities of toll like receptor signalling inhibitors in lupus peripheral blood mononuclear cells, Biotechnology AIIMS, New Delhi
10. Genomic approach to stratify responder’s vs non responders to Cyclophosphamide/Hydroxychloroquine/ Mycophenolate mofetil and Rituximab to identify novel class of miRNA to predict flare episode in Systemic Lupus Erythematosus, Biochemistry, AIIMS, New Delhi

11. Studies on anti inflammatory activities of TLR antagonist in mononuclear cells of Rheumatoid arthritis patients, Biotechnology, AIIMS, New Delhi
12. Toll like receptors in inactive systemic lupus erythematosus, Biotechnology AIIMS, New Delhi

## PUBLICATIONS

**Journals: 12                      Abstracts: 10                      Chapters in Book: 06**

### Publications over past 3 years

Faculty	2020-21	2021-22	2022-23
Total	35	17	28
Journal articles	28	16	12
Abstracts	4	0	10
Chapters in Books	2	1	6
Books	1	0	0

## PATIENT CARE

**OPD: Total: 40,718**

New patients: 6232

Follow up patients: 34486

Rheumatology Clinic: 2918

### Patient care over past 3 years

Item	2020-21	2021-22	2022-23
OPD consultations	6768	13550	40718
Special Clinic consultations	1189	1890	2918
Patients provided rehabilitation services	1311	3376	7041
Day Care procedures	3424	4077	5765
Total number of lab tests performed	18889	37300	53277

### Day Care Facility: Total: 5765

Biologics/immunosuppressive drug infusions: 1596

Intra-articular injection: 791

SC/IM injections (biologic, steroids, etc.): 629

Biopsies: 121

Ultrasound: 1229

Case discussions: 1382

Others: 17

### Clinical Immunology Lab:

Total number of tests performed: 53277    Total number of patients tested: 21764

Number of tests performed:

RF: 7348

ANA: 16533

Ant-dsDNA antibody: 4606

ENA profile: 4721

ANCA: 6179

Anti LKM1 antibody: 4218

ASMA: 4348

ACL Ig M: 2498

ACL IgG: 2498

Cryoglobulin/cryofibrinogen: 127

Polarised microscopy: 201

### Community service/Camps:

Organized several public/patient rheumatological disease awareness programs

### Uma Kumar: Ergonomics health awareness camps

1. Adeptia Software D74, Sector 63, Noida, Uttar Pradesh, 25 July 2022

2. Daulat Ram College, Delhi University, Delhi, 4 August 2022
3. Shaheed Rajguru College of Applied Sciences, New Delhi, 24 August 2022
4. Saraswati Bal Mandir, Lajpat Nagar, New Delhi, 1 September 2022
5. GLT Saraswati Bal Mandir Senior Secondary School, Nehru Nagar, New Delhi, 12 October 2022

**Rudra Prosad Goswami:** Free Medical Camp, Tibetan Colony, Hubli, Karnataka, 10-16 January 2023

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Uma Kumar** received Dr KK Agarwal Swasth Bharat UtkrishtChikitsak Samman 2022 for health advocacy by Swasth Bharat Nyas; Vachaspati Award 2022 for contribution towards Atmanirbhar Bharat Bhagidariby Summit India; was nominated member of steering/advisory committee for 5 years constituted under the Chairmanship of honourable Chief Minister of Puducherry to set up Medical & Allied Sciences University.

**Dr Ranjan Gupta** received Best Paper Award (Corresponding Author): Clinical Rheumatology Conference, Hyderabad, 2022.

**Dr DanveerBhadu** received Travel support Award by Japanese College of Rheumatology to attend 67th annual conference of JCR-2023, Fukuoka, Japan. He is Executive member of Delhi Rheumatology Association 2022.

## 9.39 Surgical Disciplines

### Professor and Head

Sunil Chumber

### Professors

Rajinder Parshad  
Sandeep Aggarwal  
Anita Dhar

V Seenu  
Virinder Kumar Bansal  
Hemanga K Bhattacharjee

### Additional Professors

Asuri Krishna  
Mohit Joshi

Piyush Ranjan  
Kamal Kataria  
Yashwant Rathore

Manjunath Maruti Pol  
Suhani

### Associate Professor

Om Prakash

### Assistant Professors

Ankita Singh  
Aditya Kumar  
Devender Singh  
Sushant Soren  
Geeta Prasad

Sanjeet Kumar Rai  
Uttam Kumar Thakur  
Brijesh Kumar Singh  
Nelson T  
Washim Firoz Khan (NCA)

## HIGHLIGHTS

The Department expanded its services and became fully operational in the Surgery Block with the initiation of radiology and blood bank services as well. The Department is involved in Minimal access, Thoracic, Vascular, and Renal transplant, Breast, Endocrine, Gastrointestinal, Bariatric, colorectal and general Surgery. The department runs specialized breast cancer, bariatric, renal transplant, and follow-up clinics. The previous year saw the department conducting the youngest renal transplant in the country. The team from our department also participated in the first lung transplant at AIIMS New Delhi. The department won the fourth consecutive rolling trophy for conducting the best monthly meet of the Delhi state chapter of Association of Surgeons of India. The department conducted multiple courses in the skill lab and wet lab for providing simulation-based training on open and laparoscopic procedures as the hands-on training to undergraduate, postgraduate and M.Ch residents. The department has organized various CME, workshops, and conferences at regional and national level. Our residents and faculty have been regularly presenting research work at various national and international fora and have received awards as well as appreciation for the same. The department has actively participated in public awareness activities for diseases such as breast cancer, peripheral vascular diseases, and obesity.

## EDUCATION

1. Postgraduate Seminar: Weekly
2. MCh seminar: Twice weekly
3. Renal transplant fellowship seminar: once weekly
4. Mortality and mortality discussions by Junior/Senior Resident once a week in each unit.
5. Lectures, Teaching Schedule in OPD/Ward for MBBS students.
6. Internal Assessment for Junior and MCh Residents (06 monthly), MBBS students
7. Lectures for Nursing students
8. Lectures for BSc OT technicians

9. CCRs presented by the Department:
  - (a) Jaw dropping tumour and primary hyperparathyroidism on 11 April 2023 (Unit I)
  - (b) Nowhere, nowhere, everywhere on 13 September 2022 (Unit I)
  - (c) The Menacing MC4R - Beating the Odds on 15 March 2022
  - (d) Youngest En - Bloc Kidney Transplant in India on 29 November 2022 (Unit II)
  - (e) An Uncommon Cause of a Common Surgical Condition on 8 February 2022 (Unit III)
  - (f) Don't bite more than you can chew on 25 October 2022 (Unit III)
  - (g) Two in One on 16 August 2022 (Unit IV)
10. CGRs by the Department:
  - (a) Evolving Trends in the Management of Achalasia Cardia: An experience of two decades on 15 February 2022 (Unit III)
  - (b) The Little Big Bone Breakers on 4 October 2022 (Unit I)

#### **CMEs/Workshops/Symposia/National and International Conferences**

1. Bariatric Surgery Patient Support Group meeting on 2 April 2022
2. Workshop on VATS lobectomy in 3D lung model on 15 July 2022
3. Camp on Non-Scalpel Vasectomy on 26 July 2022
4. Basic Laparoscopic Course on 27 August 2022
5. Annual Day & CME in Surgery 2022 from 3-5 September 2022
6. Orientation workshop for 1st year MS (Surgery) students on 23 September 2022
7. Skill course on Intestinal & Vascular anastomosis on 24 September 2022
8. Organized Hands-on Training Workshop on Cadavers on Bariatric Surgery and trained the Participants for All Three Procedures - Laparoscopic Sleeve Gastrectomy, Roux-En-Y Gastric Bypass, and Omega Loop Gastric Bypass in AIIMS BARICON 2022 on 28 September 2022 to 1 October 2022
9. Breast Health and Breast Cancer Awareness Program on 11 October 2022
10. Thesis Writing Workshop on 14 October 2022
11. Learning from survivors and caretakers: lesser-known ordeals on 18 October 2022
12. Protocol writing Writing Workshop on 21 October 2022
13. Breast Awareness Series Campaign-survivors meet followed by a cycle rally on 27 October 2022
14. Bariatric Surgery Patient Support Group meeting on 10 November 2022
15. Webinar on Re-thinking in chronic wound care on 10 December 2022
16. Acute Critical Care Course, 44th Provider course, 14th instructor course- 30-31 January 2023
17. Camp on Hair Donation for Cancer Survivors on 4 February 2023
18. Hereditary Breast Cancer Symposium on 24-26 February 2023
19. Symposium of Thoracic Surgery on 24-26 March 2023

#### **Lectures delivered:**

**Sunil Chumber: 4**

**Sandeep Aggarwal: 24**

**Hemanga K Bhattacharjee: 8**

**Manjunath Maruti Pol: 11**

**Suhani: 19**

**Ankita Singh: 4**

**Devender Singh: 4**

**Rajinder Parshad: 11**

**Virinder Kumar Bansal: 13**

**Asuri Krishna: 3**

**Mohit Joshi: 20**

**Yashwant Rathore: 7**

**Sanjeet Kumar Rai: 1**

**Brijesh Kumar Singh: 1**

**V Seenu: 5**

**Anita Dhar: 1**

**Piyush Ranjan: 6**

**Kamal Kataria: 4**

**Om Prakash: 4**

**Aditya Kumar: 2**

**Nelson T: 1**

#### **Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
69	102	154

**List of oral papers/posters presented: 103**

**Oral/poster presentations over past 3 years**

2020-2021	2021-2022	2022-2023
63	41	103

**RESEARCH**

**Funded projects**

**Ongoing**

1. Identification of factors predictive for weight loss after Bariatric Surgery: Building a Model for improving outcomes and maintaining weight loss, Prof Sandeep Aggarwal, ICMR, 3 years, 2022-2024, Rs 71 lakhs
2. An observational study to evaluate the role of impaired NAD + biosynthesis in calf skeletal muscle dysfunction in people with peripheral arterial disease, Prof Anita Dhar, ICMR, 4 years, 2022-2026, Rs 40 lakhs
3. Study of effectiveness of Maharishi Amrit Kalash on Breast cancer as adjunct therapy along with Neo Adjunct Chemotherapy: An open Randomized controlled cl, Prof Anita Dhar, Maharishi AyurvedaCorporation Ltd, 4 years, 2019-2023, Exempted
4. VR assisted 3D endoscope for minimal access (laparoscopic) surgery, Prof Hemanga K. Bhattacharjee, AIIMS-IITDelhi inter-institutional collaborative research grant, 1 year, 2022-2023, Rs 10,0000
5. Study to evaluate the presence of SARS-Cov-2 in different body fluids inSARSCOV- 2 positive/suspect patients undergoing laparoscopic, open surgery and endoscopic procedures, Dr Asuri Krishna, AIIMS intramural research grant, 2 years, 2020-2022, Rs 1 lakh
6. Study of Gut Microbiome in patients with gall bladder carcinoma - IntramuralProject under AIIMS research grant, Dr Asuri Krishna, AIIMS intramural research grant, 2 years, 2020-2022, Rs 10 lakhs
7. RNA-seq based case-control study to identify alternatively spliced events in colorectal adenocarcinoma - Bioinformatics and genomics based study [2021-12417], Dr Manjunath Maruti Pol, ICMR- Extra-mural funds granted, 2 years, 2023-2025, Rs 88,01,820
8. Metabolic resuscitation using early administration of ascorbic acid, thiamine and hydrocortisone in perioperative management of surgical patients with septic shock: A Randomized Controlled trial, Dr Manjunath Maruti Pol, AIIMS intramural research grant, 2 years, 2021-2023, Rs 10,00,000
9. Evaluation of adaptability of an indigenously developed low-cost light weight polycentric polymeric knee joint (PPKJ) and its effect on quality of life and rehabilitation on post traumatic transfemoral amputees, Dr Mohit Kumar Joshi, AIIMS-IIT, Delhi, 2 years, 2022, continuing, Rs 10 lakhs
10. Development of TIRF based microscopic system with smartphone camera as a detector for autofluorescence dependent intraoperative identification of parathyroid tissue (AIIMS-IIT Collaborative project), Dr Kamal Kataria, AIIMS intramural research grant, 2 years, 2022-2024, Rs 20 lakhs
11. Development of aptamer-based assay for the diagnosis of breast tuberculosis (Breast TB), (AIIMS-THSTI collaborative project), Dr Kamal Kataria, Research Section, AIIMS and THSTI Faridabad, 2 years, 2020-2022, Rs 20 lakhs
12. “Study of heavy metals and trace elements (Arsenic, cadmium, chromium, and nickel, selenium, zinc, copper, lead, mercury, lead, cobalt) in gall bladder cancer and cholelithiasis patients”, Dr Kamal Kataria, AIIMS intramural research grant, 2 years, 2020-2022, Rs 10 lakhs
13. “Study of heavy metals and trace elements (Arsenic, cadmium, chromium, and nickel, selenium, zinc, copper, lead, mercury, lead, cobalt) in Breast cancer and Benign breast disease patients”, Dr Kamal Kataria, AIIMS intramural research grant, 2 years, 2021-2023, Rs 10 lakhs
14. Clinical significance of Proteomics in liquid biopsy for Indian breast cancer women: An Exploratory stud, Dr Suhani, AIIMS Collaborative project, 2 years, 2021-2023, Rs 10 lakhs
15. To study the role of inflammatory markers in low pressure vs standard pressure laparoscopic cholecystectomy. RCT, Dr Yashwant Singh Rathore, AIIMS intramural research grant, 2 years, 2021-2023, Rs 5 lakhs
16. Role of heavy metals in breast cancer, Dr Kamal Kataria, AIIMS intramural research grant, 2 years, 2021-2023, Rs 10 lakhs
17. Long Term Outcome of Patients with Walled off Necrosis/Pseudocyst of Pancreas in terms of Recurrence of Acute Pancreatitis, Fluid Collection and Functional Consequences following Internal Drainage by Laparoscopic or Endoscopic method, Dr Om Prakash, AIIMS intramural research grant, 2 years, 2019-2022, Rs 10 lakhs

18. Prevalence of BRCA1/2 germ line mutation in young Indian Women with triple negative breast cancer, Dr Om Prakash, AIIMS intramural research grant, 2 years, 2022-2024, Rs 10 lakhs
19. “Solid Tumor Targeting Using Homing Peptides and plasmonic photothermal Technique”, Dr Piyush Ranjan, DBT, 3 years, 2018-2022, Rs 2.72 crores
20. To study the epidemiology of drowning, address the need, developing IEC material and imparting the related training to at-risk school students of schools in the vicinity of the Yamuna river at Delhi - Prospective, non-randomized, interventional study, Dr Piyush Ranjan, ICMR, 3 years, 2023-2025, Rs 65 lakhs

### **Completed**

1. A Label Extension, Single Arm Multicentric Phase III Study to Assess The Efficacy And Safety of Approved Product Stempeucel® in Patients With Critical Limb Ischemia Due to Buerger’s Disease, Prof Anita Dhar, Stempeutics Pvt Ltd, 4 years, 2019-2022, Rs 33,075
2. Transcendental meditation (TM) to reduce stress and enhance immunity of health care workers during COVID-19 pandemic: a randomized trial (TURMERIC trial), Dr Hemanga K. Bhattacharjee, SATYAM, DST, Government of India, 1 year 6 months, 2020-2022, Rs 14,70182.00

### **Departmental projects**

#### **Ongoing**

1. Optimal timing (Early vs Delayed) of Laparoscopic Cholecystectomy after endoscopic retrograde Endoscopic Retrograde Cholangiopancreatography for Choledocholithiasis: A Randomized Control Trial
2. To study the effectiveness of laparoscopically delivered transversus-abdominis plane block for postoperative pain control in laparoscopic ventral hernia repair - a placebo controlled randomized study
3. To determine the best non-invasive marker or a combination of them correlate the most with liver biopsy in extent of fibrosis in morbidly obese patients with non-alcoholic fatty liver disease undergoing bariatric surgery.
4. Investigation of the involvement of plasma membrane ATP binding transporter A1 (ABCA1) mediated insulin resistance
5. Molecular characterization of transfer RNA derived RNA fragments and Expression of Mitochondrial fusion proteins in Non-Alcoholic fatty liver disease
6. Functional analysis of long human non-coding RNA (lncRNA) and their association with spatial genome organization in breast cancer
7. Impact of Concomitant Hiatal Hernia Repair on Gerd Q Score in Patients Undergoing Laparoscopic Sleeve Gastrectomy for Obesity: A Prospective Observational Study
8. Omega loop gastric bypass (mini gastric bypass) versus Roux-en-Y gastric bypass for resolution of type-II diabetes Mellitus in obese subjects: A Prospective Randomized controlled trial
9. Compare the standard vs low pressure laparoscopic cholecystectomy under deep neuromuscular block: RCT
10. To Study the clinical profile, investigations and outcome of patients undergoing parathyroidectomy: A retrospective and prospective experience.
11. To study the outcomes in patients with cholelithiasis following subtotal cholecystectomy
12. Correlation of pre and post operative surgical findings with clinical course in patients undergoing early laparoscopic cholecystectomy for asymptomatic gall stone disease
13. Use of prophylactic steroid to prevent hypocalcemia in patients undergoing thyroidectomy
14. Fast track emergency lap cholecystectomy vs emergency laparoscopic cholecystectomy in index cases of acute calculus cholecystitis patients presenting to emergency department - RCT
15. Utility of pre-operative shear wave elastography of the abdominal wall and muscles in detecting weak areas near hernia along with predicting successful repair of ventral abdominal hernia a prospective comparative interventional study
16. Comparison of perioperative outcomes of preoperative splenic artery embolization vs laparoscopic splenectomy alone in patients with moderate and massive splenomegaly undergoing elective laparoscopic splenectomy: an open label exploratory RCT
17. A randomized controlled trial to compare the quality of life between axillo-breast approach and bilateral axillo-breast approach for endoscopic thyroidectomy in patients with benign thyroid swellings
18. A Prospective Observational Study to assess the accuracy of preoperative and post-operative transcutaneous laryngeal ultrasonography (TLUSG) in evaluating the vocal cord mobility in patients undergoing thyroid surgeries



19. Study of heavy metals and trace elements (Arsenic, cadmium, chromium, and nickel, selenium, zinc, copper, lead, mercury, lead, cobalt) in gall bladder cancer and cholelithiasis patients
20. To record the longterm outcome of patients suffering from benign breast disease: an ambispective study
21. Comparison of 3D-CT volumetry and routine spirometry for prediction of post resection pulmonary function in benign lung diseases
22. Clinical applicability of whole body Low dose CT scan for detecting bone metastasis in breast cancer patients - a cross sectional study
23. Evaluation of indocyanine green for sentinel lymph node in breast cancer: Two arm open label parallel design non-inferiority randomized control trail
24. The anatomic basis of the deep inferior epigastric artery perforator flap and the internal mammary artery perforator flap:A CT angiographic and cadaveric study
25. Impart of intra operative microbreaks on musculoskeletal symptoms and performance of surgical residents during minimal access surgical tasks in simulated setting
26. A randomized control trial in laparoscopic cholecystectomy to compare pain relief in standard pressure pneumoperitoneum with port site infiltration versus low pressure pneumoperitoneum with laparoscopically guided transversus abdominis plane block and standard pressure pneumoperitoneum with laparoscopically guided transversus abdominis plane block
27. Laparoscopic Appendectomy vs non-Operative Management in Acute Appendicitis. A Randomized Control Trial
28. Surgical audit of parathyroidectomy data of a decade in single surgical unit
29. Lap CAPD insertion with omentectomy vs open CAPD
30. A study to quantify the burden of insulin resistance in breast cancer women and its relation with other known prognostic and predictive factors of breast cancer
31. Long term outcomes in breast cancer patients in terms of overall disease-free survival and locoregional recurrence (2 decades of surgical audit of breast cancer patients)
32. Surgical audit of Renal transplantation data of a single surgical unit over the last decade.
33. The Anatomical basis of Thoracodorsal artery perforator flap and Lateral intercostal artery perforator flap and anterior intercostal artery perforator flap: CT angiographic and cadaveric study
34. Outcomes of difficult laparoscopic cholecystectomy - a prospective observational study
35. Role of residual cancer burden in predicting long term outcomes of breast cancer after neo-adjuvant chemotherapy followed by surgery : An Ambispective study
36. A Study to assess the effectiveness of enhanced recovery advanced protocol (ERAS) in patients undergoing renal transplant
37. A prospective comparative study to evaluate the restoration of abdominal wall dynamics in patients with incisional hernia following laparoscopic and open repair
38. Outcome of abdominal wall closure using poly 4 hydroxy butyrate suture in emergency midline laparotomy: An ambispective study
39. Assessment of transferability of skills acquired on 3D HD and 4K HD endovision system to 2D HD endovision system: An ex-vivo study
40. Learning Pattern of Laparoscopic Transabdominal Pre-Peritoneal(TAPP) Repair of Groin Hernia Using 3d Endovision System
41. Comparison of the Clavien-DindoClassification (CDC) and Comprehensive Complication Index (CCI) for grading of post-operative complications following thoracic surgery-A prospective observational study
42. Early Versus Delayed Laparoscopic Cholecystectomy in Moderate and Severe Acute Biliary Pancreatitis: A Randomised Controlled trial (ELCAP trial)
43. Questionnaire Based Survey of Musculoskeletal Dysfunction among General Surgeons and Comparison of Muscle Activity and Fatigue among Expert and Novice Surgeons during Laparoscopic Surgery using Surface Electromyography
44. Comparison of Early outcomes of Interrupted Double 'X' suture vs Continuous Near Far-Far Near method for closure of abdominal wall incisions: A Double Blinded Randomised Control Trial
45. To study the usefulness of pre-operative USG guided FNAC in avoiding radical surgery in patients with gallbladder wall thickness or polyp associated with gall stone disease
46. Effect of yoga therapy on quality of life in patients undergoing laparoscopic incisional and ventral hernia repair - A randomised control trial

47. Short term and long term outcomes following laparoscopic and open donor nephrectomy : An ambispective comparative study
48. Study to Evaluate The Predictors of Outcome in High Grade Blunt Liver Trauma
49. To study the correlation between pre-operative pain threshold measured using Quantitative Sensory Testing with post-operative pain scores using Visual Analogue Score in patients with laparoscopic groin hernia repair - A case control study
50. A prospective study to evaluate the restoration of abdominal wall dynamics in patients with incisional hernia following laparoscopic IPOM plus repair in comparison to healthy controls using surface EMG
51. Study to develop an objective scoring system to grade the difficulty of laparoscopic cholecystectomy
52. Assessment of liver fibrosis with non-invasive tests and scoring systems in correlation with liver biopsy in morbidly obese patients before and after bariatric surgery
53. To Study the Efficacy of Laparoscopically Delivered Transversus Abdominis Plane Block for Postoperative Pain Control in Laparoscopic Ventral Hernia Repair - A Placebo Controlled Randomized Study
54. Study the effect of 24 hour Versus Standard 7 Day Prophylactic Antibiotic Regimen in Renal Transplant Recipients: A Prospective Randomized Controlled Trial
55. Identification of factors predicting weight loss after Bariatric Surgery
56. Psychosocial factors affecting post bariatric surgery weight loss - A prospective observational study
57. Knowledge, Attitude and Concerns regarding Bariatric Surgeries among morbidly obese population
58. Long term outcomes of Bariatric Surgery: A single center retrospective analysis
59. A randomised controlled trial to standardize port site local anaesthesia infiltration in patients undergoing laparoscopic cholecystectomy
60. Randomized Trial Comparing Penicillin and Standard of Care vs Standard of Care Alone in Achieving Complete Healing of Leg Ulcers in Patients with Chronic Venous Hypertension.
61. A randomized control trial to evaluate the safety and efficacy of 1cm Versus 2cm resection margin in Phyllodes tumours
62. "Comparison of outcomes of Trans-oral vestibular and Axillo-breast approach for endoscopic hemithyroidectomy in patients with benign and indeterminate thyroid lesions- A randomized controlled trial."
63. Comparison of outcomes in patients with intraductal papilloma undergoing duct excision with 2.5 cm versus 5 cm length: A randomised controlled exploratory study
64. Role of indocyanine green in predicting limb perfusion in comparison to standard methods incases of chronic limb threatening ischemia in correlation with clinical progression
65. Use of Florescence and hematoma guided excision of the impalpable breast tumours
66. An Ambispective study to evaluate the outcomes of living kidney donors left with multiple renal arteries
67. A Randomized trial- To compare the catheter malfunction in Laparoscopic CAPD insertion with omentectomy versus Open CAPD insertion.
68. A Study to Understand the Association of fecal and/or Bile Microbiome Dysbiosis in Gall Stone Disease (asymptomatic and symptomatic) with those of Gallbladder Cancer Patients
69. The Anatomic basis of the Deep Inferior Epigastric Artery Perforator Flap and the Internal Mammary Artery Perforator Flap: A CT c and Cadaveric Study
70. Telecommunication: An effective tool for early operative follow us during the COVID-19 pandemic.
71. Illness- wellness scale: A new grading system to assess the performance status of COVID or Non-COVID surgical patients during the global pandemic
72. Role of Shear wave elastography in the evaluation of ventral hernia: Prospective Interventional study.
73. The role of opioid-sparing anesthesia in post operative cognitive dysfunction among elderly frail patients undergoing laparoscopic surgery, a double blinded randomized control study
74. Effect of preoperative preparation in Neuroendocrine tumors of the adrenal medulla and neural crest cells on perioperative outcomes- An ambispective cohort study
75. A randomised trial comparing pain threshold using quantitative sensory testing in patients with primary groin hernia following laparoscopic hernia repair and Lichtenstein open mesh repair
76. A multicentric randomized controlled trial to compare the efficacy of "Ksharsutra" therapy vs conventional surgical treatment in clinical outcomes of patients with fistula-in-ano

### **Completed**

1. A RCT to study the assess the efficacy of using uniform umbilical hygiene preoperatively to reduce incidence of umbilical port site complications in patients undergoing laparoscopic cholecystectomy
2. To study etiology, clinical presentation, and outcomes of patients with gastroduodenal perforation
3. Analysis of patterns of neck trauma and its outcomes at level 1 trauma center: an ambispective observational study
4. Extent of lateral thermal spread and resultant tissue damage associated with the use of various electrosurgical devices
5. Assessing effectiveness of a video-based intervention administered across virtual platform on the existing knowledge, attitude and practices of breast cancer awareness and breast self examination among literate women in metropolitan city of Delhi: a quasi-experimental community based interventional study
6. Comparative analysis between different stage cancer patients to discover novel blood-based biomarkers for detection of early stage breast cancer- a pilot study
7. Functional outcome of patients undergoing thoracic surgery for benign pulmonary and pleural diseases: an ambispective cohort study
8. A study to explore the role gamma synuclein as a potential biomarker in breast cancer
9. Assessment of workload and musculoskeletal Symptoms among minimal access surgeons - a Prospective study
10. Patient reported outcome measures and objective assessment of achalasia cardia following laparoscopic heller's myotomy and angle of his accentuation
11. Incidence of Postoperative and Long Term Hypocalcemia after Indocyanine Green Fluorescence Guided V/S Conventional Assessment of Parathyroid Function Following Total Thyroidectomy - A randomised control trial
12. Mesh fixation with penetrating fixation device versus fibrin sealant during laparoscopic repair of ventral hernia: A double blind randomised control trial
13. Optical characterization of breast cancer
14. Neoadjuvant chemotherapy with short course radiotherapy for locally advanced rectal cancer: a pilot study
15. Indocyanin green fluorescence imaging for identifying and assessing the perfusion of parathyroid glands during thyroid surgery - a pilot study
16. IL10 and micro RNA 106a correlation with survival in patients with carcinoma breast
17. Outcome of early mesh laprotomy in patients with abdominal trauma at Level I trauma centre
18. Follow up study to evaluate correlation of imaging and operative findings with clinical and biochemical outcome in patients with primary hyperparathyroidism.
19. Impact of laparoscopic ultrasound on laparoscopic management of hepatobiliary diseases (benign and malignant), a prospective observational study
20. Comparison of different rates of intraoperative fluid therapy on early graft function during live related renal transplantation.
21. OAGB vs RYGB for the remission of Type II Diabetes Mellitus in Obese Subjects: A Randomized Controlled Trial
22. Comparison Of Gastroesophageal Reflux after Antral Preserving and Antral Resecting Laparoscopic Sleeve Gastrectomy in People With Severe Obesity: An Ambispective Study
23. Comparison of Quality of Life, cosmesis and oncological outcomes of Skin Sparing Mastectomy with total breast reconstruction using autologous fat grafting versus skin sparing mastectomy with silicone implant reconstruction versus Breast Conservative Therapy among patients with Early Breast Cancer: A Randomized controlled trial
24. From RECIST to PERCIST: evolving considerations for PET response criteria in carcinoma breast
25. Validation of clinical examination with Doppler studies in the management of patients presenting with vascular disease: A Prospective study
26. Evaluation of role of platelet rich plasma in healing of chronic diabetic and peripheral arterial disease ulcers as compared to standard medical care: a randomized controlled trial
27. Identification of Sentinel Lymph node in Breast cancer by dual method both by Florescence and methylene blue
28. RCT comparing quality of life following single stage LCBDE+LC vs two stage ERCP and LC for management of concomitant gall stones with CBD stones
29. Surgical audit of parathyroidectomy data of single surgical unit from January 2010

## Collaborative projects

### Ongoing

1. Utility of Artificial Intelligence in differentiating Non-invasive Follicular Thyroid Neoplasm with Papillary like Nuclear Features from other follicular-patterned thyroid benign and malignant lesions. (Extramural Project, DBT), Pathology, AIIMS
2. A single center randomized control trial to compare the efficacy of radiofrequency ablation with that of ultrasound guided foam sclerotherapy (polidocanol) for incompetent perforators in patients with varicose vein, Cardiac Radiology, AIIMS
3. Double Blinded Randomized Controlled Trial evaluating the feasibility, safety and efficacy of Obturator Nerve combined with Femoral Nerve Block for analgesia in patients with varicose veins being treated by Endovenous Laser Ablation of Great Saphenous Vein, Cardiac Radiology, AIIMS
4. A Randomized, Multiple-dose, Multicenter, Comparative, Parallel Study to Evaluate the Efficacy, Safety and Pharmacokinetic Characteristics of Intravenous Infusion of Trastuzumab (Test, Hetero) and Reference Medicinal Product (Reference, Roche) in combination with standard chemotherapy in patients of HER2-positive Metastatic breast cancer (TRUMAB Study), Radiation Oncology
5. A pilot study to compare interstitial multicatheter brachytherapy (IMB) versus volumetric modulated arc therapy (VMAT) for accelerated partial breast irradiation in early breast cancer: An adaptation, toxicity, and cosmesis-comparison, Radiation Oncology
6. Analysis of MEG3 Induced Genome-Wide DNA Methylation Patterns in Breast Cancer Cells, National Institute of Pathology (ICMR)
7. Study on screening of MAGEC1- Exon-4 genetic alterations and its functional role in breast carcinogenesis, Department of Health Research (DHR)
8. Development of labyrinth based mechanical and fast isolation technique for identifying circulating tumour cells of colorectal carcinomas for metastatic evaluation, Department of Pathology
9. A molecular and immunohistochemical study of human colorectal carcinomas to classify them according to the consensus molecular subtypes and to evaluate its prognostic and therapeutic relevance, Department of Pathology
10. To study the role of regulatory T cells in immune suppression in patient with colorectal cancer, Department of Transplant Immunology and Immunogenetics
11. Exosome Based Immune Profiling in Living Donor Renal Transplant Recipients: Relevance Acute Graft Dysfunction, Nephrology
12. "A prospective study of changes in the human gut microbiota and its association with insulin sensitivity in obese individuals undergoing bariatric surgery, Microbiology
13. Prospective Open Label clinical trial for evaluating the feasibility, safety and efficacy of left gastric artery embolization for reduction of the weight in class I obesity, Cardiac Radiology
14. To study the role of nuclear receptors in pathogenesis of gallbladder cancer, Biochemistry
15. Role of T Regulatory cells in Obesity and their clinical correlation in obesity induced inflammation in type 2 diabetes and chronic kidney disease (CKD), Nephrology
16. Study of Visceral Adipose Tissue (VAT) derived factors as modulators of co-morbidities in obesity, Biochemistry
17. To elucidate the role of ECM-Adipocyte communication in obesity induced adipose tissue dysfunctions, Biochemistry
18. Assessment of Amphiregulin and CRISPLD1 as visceral Adipose Tissue derived modulators of cardiovascular Health in obesity, Biochemistry
19. Investigation of the involvement of plasma membrane ATP binding cassette transporter A1 (ABCA1) in adipose tissue mediated insulin resistance, Biochemistry
20. Effect of Paravertebral Anaesthesia on Quality-of-Life Scores and Circulating Tumour Cells in Breast Cancer Patients (with Anaesthesia dept), Department of Anaesthesiology and critical care, AIIMS, New Delhi
21. A phase 3, Randomized, open-label, Multicenter trial of ARV-471 (PF-07850327) vs Fulvestrant in participants with estrogen receptor-positive, HER2-negative advanced breast cancer whose disease progressed after prior endocrine based treatment for advanced disease (Veritac-2), Protocol no: C4891001, Department of Radiation oncology, AIIMS, New Delhi
22. Project entitled 'Generation of 3D Breast Tumor Organoids as an in vitro Drug Screening Study Model', Department of Stem cell Facility, AIIMS, New Delhi
23. Fast track emergency lap cholecystectomy vs emergency laparoscopic cholecystectomy in index cases of acute calculus cholecystitis patients presenting to emergency department - RCT, Department of Emergency Medicine

24. Study on screening of MAGEC1- Exon-4 genetic alterations and its functional role in breast carcinogenesis, ICMR National Institute of Pathology
25. Analysis of MEG3 Induced Genome-Wide DNA Methylation Patterns in Breast Cancer Cells, ICMR National Institute of Pathology
26. Identification of Hereditary Breast and Ovarian Cancer (HBOC) syndrome families with breast cancer and their BRCA1 & BRCA2” gene mutation profiling in NER population”, NCDIR, ICMR

#### **Completed**

1. Extracellular Matrix Remodelling in Obesity Induced Adipose Tissue Dysfunctions and Insulin Resistance, Biochemistry
2. Study of Vascular Endothelial Growth Factor (VEGF) and its Isoforms in Obesity associated Adipose Tissue dysfunctions, Biochemistry
3. A prospective study of changes in human Gut Microbiota (GM) and its association with insulin sensitivity in obese individuals undergoing Bariatric Surgery, Biochemistry
4. Study of the expression of vascular endothelial growth factor (VEGF-A) and its isoforms, in Obesity and their association with insulin sensitivity, Biochemistry
5. Extracellular Matrix remodeling in adipose tissue dysfunction of obese individuals, Biochemistry
6. Anaerobic infections in postoperative abdominal wounds (ICMR), Microbiology

#### **Research projects over past 3 years**

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects (Ongoing)	14	21	20
Total funded projects (Completed)	1	2	2
Total funding (Ongoing)	Rs 4,33,82,075	Rs 3,13,09,895	Rs 5,75,00,000
Total funding (Completed)	Rs 22,050	Rs 45,000	Rs 15,03,257

#### **PUBLICATIONS**

**Journals: 55    Abstracts: 13                      Chapters in Book: 05**

#### **Publications over past 3 years**

Item	2020-2021	2021-2022	2022-2023
Total	133	135	73
Journal articles	106	112	55
Abstracts	22	18	13
Chapters in books	5	5	5
Books	0	0	0

#### **PATIENT CARE**

The department is providing regular services in various sub-speciality areas including multidisciplinary treatment for breast cancer patients, minimally invasive surgery, renal transplantation, Hepatobiliary and pancreatic surgery, thoracic and thoracoscopic surgery, endocrine surgery, metabolic and bariatric surgery, vascular surgery including surgery for vascular access in end stage renal disease patients and cancer surgery. The department runs the following special clinic besides regular General surgery OPD:

- Bariatric Clinic
- Breast Cancer clinic
- Combined pulmonary surgery clinic
- Follow up Clinics
- Renal Transplant clinic
- Vascular services including a Vascular laboratory
- Geriatric surgery clinic at the National Centre of Ageing

The faculty members of the department have been involved in community outreach programs for various ailments like breast cancer, chronic kidney diseases, kidney transplant, bariatric surgery. The department organized breast cancer awareness and survivorship programs, bariatric support group meetings, Health Promotional Workshop (Healthy Legs Part-II) for Security Guard and No Scalpel vasectomy camps.

**Patient care (other items may be added/removed as per activity of department)**

Item	2020-2021	2021-2022	2022-2023
OPDconsultations	1781	19085	93537
Specialclinicconsultations	128	2143	13275
Patientsprovidedrehabilitationservices	-	-	-
Totalinpatientadmissions	2057	4584	7459

**AWARDS, HONOURS AND SIGNIFICANT EVENTS**

The department won the rolling trophy for conducting the best monthly meet of the Delhi state chapter of the Association of Surgeons of India (ASI). Paediatric Kidney transplant for the youngest recipient in India and initiation of Lung transplant services were done. Dr Rajashekar Ro M (Junior resident) and Dr Gopal Puri (Senior resident) won the Asian Society of Mastology Travelling fellowship. Dr Mehul Gupta, Junior Resident, was awarded the prestigious President's Medal by Delhi State Chapter of Association of Surgeons of India at SURGICON 2022. Dr Joyner Abraham was awarded International Travel grant from SERB and CSIR to make research presentations abroad. Dr Joyner Abraham and Dr Sonali Mittal are awarded the EAES Travelling fellowship for 2023.

**Professor Sunil Chumber** delivered the PC Dubey Oration - Surgery in the Impossible at the 110th Foundation Day, Department of Surgery KGMU 2022; 2nd April 2022; was External expert for selections of Faculty in Department of Surgery in IGIMS, Patna, AIIMS Kalyani and AIIMS Jammu and Expert for Selection of medical personnel and teachers - Kendriya Vidyalaya, Sadiq Nagar, New Delhi.

**Professor Rajinder Parshad** is Organizing Chairmen: Symposium on hereditary breast cancer organized on 25-26 February 2023; Organizing Chairmen: Symposium on thoracic surgery organized on 25-26 March 2023; Fellowship CICOPS Scholarship-2020 at the University of Pavia, Italy from 12 September to 7 November 2022.

**Professor V Seenu** participated in various Live Talk Shows on DD Doordarshan National Channel on Breast Cancer, Varicose veins and surgical specialties; delivered the Dr H Lal Mohan Singh Memorial Oration in ASIMANICON-22 at Manipur held from 7 to 9 October 2022; delivered the Dr SK Sen Memorial Oration in Delhi Chapter, ASI on 13 November 2022 in Delhi.

**Professor Sandeep Aggarwal** was appointed Associate Editor of Journal of Bariatric Surgery, Official Journal of Obesity and Metabolic Surgery Society of India and Editor of Journal of Minimal Access Surgery (JMAS).

**Professor Anita Dhar** is Chairperson at Symposium on Hereditary Breast Cancer, Department of Surgical Disciplines, AIIMS, New Delhi on 25 February 2023; Faculty expert and moderator on Gurukul SCRUBS 2023 (Surgical Clinics & Residents Update Beyond Scalpel) for the Vascular session on 18 February 2023; Faculty ASI - TYSA Zone-6, 20 September 2022 (virtual).

**Professor VK Bansal** is Member Apex Technical Committee - Kidney of National Organ and Tissue Transplant Organization 2020-2023; Co-Chairman Surgery Group for Standard Treatment Workflow and National Health; Authority, Ayushmann Bharat at ICMR New Delhi 2019 and Ayushman Bharat of MOHFM; Member, Specialist Board in the discipline of minimal access surgery of National Board of Examinations, 2021-2026; Member, Institute Body, and Governing Body, AIIMS, Rishikesh, May 2020 till May 2025; Chairman, Standing Selection Committee, AIIMS Rishikesh, May 2020 till May 2025; Member, Standing Academic Committee, AIIMS, Rishikesh and JIPMER, Puducherry; Member Standing Finance Committee, AIIMS, Rishikesh May 2020 till May 2025; Member, Hospital Affairs Committee, JIPMER, Puducherry May 2019 till May 2024; Member, Institute Body, JIPMER, Puducherry May 2019 till May 2024.

**Professor Hemanga K Bhattacharjee** received the ICMR-DHR International Fellowship for Senior Indian Bio-Medical Scientists 2022-23, at the Department of Thoracic Surgery, Medical University of Vienna, Austria; received Empanelment Certificate for NSV Sterilisation on 20 June 2022; initiated sacral nerve neuromodulation therapy for faecal incontinence and transanal total mesorectal excision (TaTME) for rectal cancer in our Department; Nodal officer for establishing an All-India Institute of Medical Sciences (AIIMS) affiliated national center for medical device development, validation and skill training for medical professionals, engineers, and technicians.

**Dr Piyush Ranjan** has been Examiner DNB EXAM- surgery - December 2022; Organizing secretary-ANNUAL DAY&CME September 2022; Breast awareness - World Cancer Day and October 2022; Organised lymphedema symposium - 25 January 2023; Cancer screening camps with Rotary Club at various places in NCR; First Responder

Training for Layperson and Medical Officers; was appointed Head quarter secretary - Asian Society of Mastology; Member of expert committee for drafting Guidelines for schools after re-opening of schools in CBSE on online; Medical officers in Delhi Medical Council in New Delhi; Expert group meeting in drowning in DGHS at New Delhi; Medical camp in Leh Laddakh; On-site Training Workshop in JICA & Osaka University at JAPAN; NMC Inspection at Bhopal; NMC Inspection at Raipur; Judging poster presentation in Surgicon 2023 at New Delhi; Judging paper presentation in Thoracic symposium 2023 at New Delhi; Judging competitive papers in ASOMACON 2020 at Jaipur.

**Dr Manjunath Maruti Pol** received ICMR-DHR International Fellowships 2022 Award to travel to Royal Australian Hospital, Government of South Australia and avail training in Kidney-Pancreas transplantation surgery.

**Dr Mohit Joshi** received 'Eminent Medical & Health Education Teacher Award' by Delhi Medical Association on Teacher's Day at Maulana Azad Medical College on 4 September 2022; was appointed as member of 'State Quality Assurance Committee' for male and female sterilization services; was recognized as 'state level trainer' for non-scalpel vasectomy; invited as speaker to highlight the 'Wet Lab activities' on the occasion of Digital India Week on 4 July 2022; was Organizing Secretary, Symposium on thoracic surgery-2023; was selected as a member of delegation to visit Japan for Advanced Training in the field of Medical Science & Management for AIIMS and relevant Institutes- Medical Device Development and Social Implementation, February 2022; appointed as member of Subcommittee for e-learning at SET facility, AIIMS, New Delhi; appointed as member of Committee to suggest reforms in the teaching, training and evaluation of final year MBBS students; Evaluated thesis for Adesh University, Bathinda and Delhi University.

**Dr Kamal Kataria** was Organising Secretary for Workshop on core biopsy of breast lesions (25 March 2023); Organising Secretary for CME on Management of chronic wound i.e. "Rethinking in chronic wound care" (10 December 2022) and Moderator for Debate on "Routine use of Intraoperative nerve monitoring" in IAESCON 2022 at CMC Vellore (15-17 September 2022).

**Dr Suhani** was Organizing secretary: Cancer genetics workshop and Symposium on hereditary breast cancer: 24-26 February 2023; Organized Breast cancer awareness program for EHS beneficiary and Breast cancer survivorship program in October 2022; Organized a live Twitter space in October 2022 from official AIIMS Twitter handle as part of public awareness for breast cancer in October 2022; Core member for developing surgical safety under the National Patient Safety Implementation Framework (MOHFW); Member of the core committee of skill lab at SET facility.

**Dr Yashwant Rathore** was Panelist in Technique and Fixation of Mesh in TEP repair in MISCON Kochi, 27 May 2022; Judge in competitive paper assessment in Hereditary Breast cancer conference organized in AIIMS, New Delhi on 25 February 2023; Chairperson Symposium on Thoracic surgery organized in AIIMS, New Delhi on 23 March 2023; Organized CME on management of chronic wounds in the department on 10 December 2022.

**Dr Ankita Singh** co-organized Acute Critical Care Course (ACCC) 44th Provider course, 14th instructor course at Surgery Block, AIIMS, Delhi for surgery residents (30-31 January 2023); Chairperson – e-poster presentation, Symposium on Hereditary Breast Cancer (25 February 2023).

**Dr Devender Singh** organized ACCC course (Acute critical care course for post-graduate residents).

**Dr Nelson T** judged a session of e-Poster on hereditary breast cancer conference held at AIIMS, ND; Completed Basic Course in Biomedical Research with a score of 82% in proctored examination conducted by ICMR/NIE; Completed Basic Course Workshop on Medical Education Technologies held at ESIC Medical College, Chennai.

**Dr Washim Firoz Khan** was Organizing a guest lecture by eminent Japanese Professor Taichi Ino and Dr Mohsin Kukar, Buffalo, NY.

#### VISITING SCIENTISTS

1. Guest lecture by Professor Nicolas Padoy, professor of computer science, University of Strasbourg, Scientific Director at IHU Strasbourg, Director of CS and AI Research for future collaboration in the field of Artificial Intelligence and surgical training (1 February 2023)
2. Guest lecture by Dr Mohsin Kukar, Buffalo, NY on 22 February 2022. Topic: Contemporary management of gastro-esophageal junction cancer: present and future
3. Guest lecture by Prof Taichi Ono, from Tokyo, Japan on "Ageing Society, Social System and Care for Elderly: Implication from the Experience of Japan" on 21 February 2023

## 9.40 Transfusion Medicine

### Medical Superintendent and Head

DK Sharma

### Associate Professors

Hem Chandra Pandey

Gopal Kumar Patidar

Rahul Chaurasia

### Assistant Professor

Bharat Singh

### Group A Officer

Poonam Coshic

### HIGHLIGHTS

The department is dedicated to delivering high-quality and secure blood components to patients and has made it a priority to provide the “Right blood to right patient at the right time.” Despite the challenges of the pandemic, the department has ensured that services remain uninterrupted and has maintained a sufficient inventory of blood products. During the year 2022-2023, the department collected over 54,000 blood units and conducted around 100 blood donation camps. In August 2022, a week-long “Raktdaan Amrit Mahotsav” was held, and over 2400 units were collected during the campaign. (Pictures attached)

The department’s emphasis on blood safety and quality is at the core of its operations. All units were tested using a fully automated chemiluminescence analyzer and NAT. Patient care activities have been fully automated, from the time a patient’s sample is received until blood components are issued, utilizing interfaced automated equipment and blood bank management software. In addition to these efforts, the department has increased its patient care activities by expanding facilities for therapeutic plasma exchanges, PBSC collection, and introducing granulocyte collection. The department also maintains a partial inventory of extended phenotyped red cells to ensure that even patients with alloantibodies receive blood on time.

Moreover, the department provides support to hemato-oncological patients, renal transplant patients, and liver transplant patients. A Flow Cytometry machine was also procured to increase the patient care services and quality control of blood components. Laboratory services ensured that all the patients receive blood after antibody screen and complete cross match. Academic activities have been a priority, with departmental faculty participating in various national and international programs. Regular teaching activities and an MD program are also conducted.

**Picture 1: Celebration of RaktdaanAmritMahotsav on National Voluntary Blood Donation Day (1 October 2022)**





Picture 2: Cyclothon on “HarGharTiranga, HarGharRaktdata: AzadiKaAmritMahotsav”



**EDUCATION**

1. Regular orientation and training programmes for AIIMS nursing students.
2. MD Transfusion Medicine: Presently seven students are pursuing this programme.
3. Teaching of Postgraduate students from Deptt. of Pathology, Lab. Medicine and Hematology is being done during their posting.

**Lectures delivered at CMEs, National and International Conferences**

**Lectures delivered:**

**Hem Chandra Pandey: 11**

**Gopal Kumar Patidar: 11**

**Rahul Chaurasia: 4**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
6	16	26

**List of oral papers/posters presented: 4**

**Oral/poster presented over past 3 years**

Presentations	2020-2021	2021-2022	2022-2023
Oral/Poster	8	4	4

**RESEARCH**

**Ongoing**

1. Peripheral inflammatory cytokines in Generalized Anxiety Disorder: A Case-controlled study, Hem Chandra Pandey, AIIMS (Collaborative intramural), 2 years, 2021-23, 10 lakhs
2. Diagnostic accuracy of using cell free fetal DNA isolated from mother’s plasma for determination of fetal Rh D status during antenatal period as compared to determination of D status using serological tests in cord blood, Hem Chandra Pandey, AIIMS (Intramural), 2 years, 2019-21, 10 lakhs
3. A randomized control trial for evaluation of effects of leukoreduced blood transfusion on infection risk in severely injured trauma patients, Rahul Chaurasia, AIIMS, 2 years, 2019-22, 10 lakhs

**Completed**

1. Epidemiology of SARS-CoV-2 antibodies in healthy blood donors and its implication in transfusion safety, Rahul Chaurasia, AIIMS, 1 year, 2020-22, 10 lakhs
2. A randomized control trial for evaluation of transfusion related immuno-modulation in patients with meningioma, Gopal Kumar Patidar, AIIMS (Intramural), 3 years, 2019-22, 10 lakhs

## **Departmental projects**

### ***Ongoing***

1. A randomized control trial to determine the efficacy and schedule of oral calcium supplementation for prevention of adverse citrate reaction in plateletpheresis donors
2. A pilot study to assess the items for the anxiety related events among blood donors and establish their face and content validity at a tertiary care academic institute in North India
3. Randomized controlled trial to determine the comparing effectiveness of Acute Normovolemic Haemodilution (ANH) for perioperative blood management in patients undergoing scoliosis surgery
4. Investigation of immunological compatibility of Bombay H serum with enzyme converted red blood cells
5. Bulk transfer of blood: A way forward for inventory management in blood centre
6. Assessment of appropriateness of donor selection criteria regarding pre-donation haemoglobin value and inter-donation interval
7. A prospective review of transfusion practices in pediatric trauma patients at level I trauma centre
8. Transfusion of platelet concentrates in paediatric patients undergoing cardiac surgery: A retrospective analysis
9. A prospective observational study to make an estimate of blood and blood products requirement in corrective congenital cyanotic heart surgeries
10. Incidence of adverse transfusion reactions and analysis of factors associated with these reactions: A four-year experience from a tertiary care hospital from India

### ***Completed***

1. Prospective observational study to assess the prevalence of platelet refractoriness and its reasons in patients receiving multiple platelet transfusion
2. Analysis of current Transfusion Practices in neonatal patients of  $\leq 28$  Days of Age
3. Incidence of delayed adverse events in blood donors following whole blood donation in Indian setting
4. Analysis of quality parameters for platelet concentrates prepared whole blood stored overnight at ambient temperature
5. Effect of whole blood donor parameters (age, gender and BMI) on outcome of patients undergoing cardiac surgery
6. Multi-centre Cross-sectional Questionnaire Survey on Effectiveness of Haemovigilance Programme of India
7. Validation of donor adverse reaction severity grading tool by National Donor Vigilance Programme of India
8. How to meet blood and CCP demand (including matching demand to supply using MODELLING/ artificial intelligence)
9. How to organize outpatient pre-hospitalized patients with regard to receiving convalescent plasma.
10. Comparisons of various screening technologies for transfusion-transmitted infectious diseases
11. Critical appraisal of the KAP studies for blood donation in India
12. One year experience with massive haemorrhage protocol at an urban level-1 trauma center
13. Retrospective review of the transfusion practices in hospitalized COVID-19 patients
14. Characterization of initially reactive discordant results tested by chemiluminescence (CLIA) and nucleic acid testing (NAT) during blood donor screening for hepatitis-B and hepatitis-C

## **Collaborative projects**

### ***Ongoing***

1. H1-MR Spectroscopy based evaluation of metabolic abnormalities in anterior cingulate cortex, hippocampus and amygdala in treatment naïve patients with unipolar and bipolar depression and its relationship with peripheral glutaminase, Department of Psychiatry
2. Studies on anti-inflammatory activity of TLR antagonists in mononuclear cells of rheumatoid arthritis patients, Department of Biotechnology
3. Effect of pyrazole based small molecule on interleukin-1 beta response in healthy PBMC, Department of Biotechnology
4. Evaluation of immunomodulatory activities of Toll-like receptor signaling inhibitors in lupus peripheral blood mononuclear cells, Department of Biotechnology

5. Evaluation of the potential impact of determination of paternal RhD zygosity and non-invasive fetal RhD genotyping using circulating cell-free fetal DNA from maternal plasma in the antenatal monitoring of alloimmunized pregnant women: A pilot study on cost-benefit analysis, Department of Obstetrics and Gynaecology
6. Determination of reference ranges for healthy individuals for new red blood cell and reticulocyte parameters in Indian population, Department of Laboratory Medicine
7. Sub-endometrial instillation of Platelet Rich Plasma in women with thin endometrium undergoing In Vitro Fertilization cycles, Department of Obstetrics and Gynaecology

#### Research projects over past 3 years

Research projects	2020-2021	2021-2022	2022-2023
Total Funded projects	4	4	3
Total Funding	40 lakhs	40 lakhs	30 lakhs

#### PUBLICATIONS

**Journals: 12                      Abstracts: 04**

#### Publications over past 3 years

Items	2020-2021	2021-2022	2022-2023
<b>Total</b>	<b>25</b>	<b>16</b>	<b>16</b>
Journal articles	14	15	12
Abstracts	10	0	4
Chapters in books	1	1	0
Books	0	0	0

#### PATIENT CARE

(a) Facilities available in the department (including special clinics and/or special laboratory facilities):

- Autologous blood donation
- Voluntary blood donation camp facility
- Apheresis procedures (Plateletpheresis, Granulocytapheresis, Therapeutic plasma exchange, PBSC collection)
- Automated blood grouping and serology
- Automated infectious markers testing
- ID-NAT testing
- 100% blood component preparation.
- Antibody screening and identification
- Antibody titers (ABO and alloantibodies)
- Rh (D, C, c, E, e) and K phenotypes inventory of red cells
- Leucodepleted blood/components
- Irradiation facility

(b) Blood collection

1.	Total blood units collected <ul style="list-style-type: none"> <li>• Voluntary Donors</li> <li>• Replacement donors</li> <li>• Apheresis components</li> </ul>	54093 12562 41531 2617
2.	Voluntary donation camps organized	100
3.	Therapeutic plasma exchanges	344
4.	Peripheral blood stem cell collection	44
5.	Granulocyte collection	14

(c) Blood component preparation

1.	Packed red blood cells	52673
2.	Whole blood derived platelet conc	46027
3.	Fresh Frozen plasma	28823
4.	Fresh Plasma	22569
5.	Cryoprecipitate	506
6.	Component Quality control	432

(d) Routine and emergency laboratory activities including issue of blood components

1.	Blood Grouping (Patient + Donor)	120391
2.	Antibody screening (Patient + Donor)	112608
3.	Extended phenotype of red cells (Donor)	4946
4.	Total patient requests received	65104
5.	Cross match (routine + emergency)	57779
6.	Total blood (PRBC + LD-PRBC) issued	47716
7.	PRBC issued to other blood centres/hospitals	1934
8.	Weak R (D) testing of donor	3178
9.	Surplus plasma issued to fractionators	31351

(e) Immunohematology laboratory

1.	Indirect Coombs test	2268
2.	Direct Coombs test	3999
3.	Antibody titre (ABO + Alloantibody)	1050
4.	Phenotype for minor blood group	2255
5.	Resolution of crossmatch incompatibility	1057
6.	Resolution of Blood group discrepancy	79
7.	Antibody identification (Patient + donor)	1661
8.	Work-up of Transfusion Reaction	51
9.	Quality control of reagents	19
10.	EQAS	4

(f) Infectious disease screening laboratory

i. Screening for transfusion transmissible infectious diseases = 270465

Infectious disease markers	Number of tests
HIV 1 & 2	54093
HBV	54093
HCV	54093
Syphilis	54093
Malaria	54093

ii. NAT screening of collected units = 82814

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Dr Gopal Kumar Patidar** was elected as secretary ISBT Hemovigilance working party; Elected as Co-Chair ISBT Wikipedia working party; Elected as secretary ISBT Haemoglobinopathy working party; and member of reviewing and analysis of reports of donor reaction submitted in Donor-Vigil software under National Blood Donor Hemovigilance Programme, India and was invited as an expert for blood donor motivational program at national centre for disease control, New Delhi

**Hem Chandra Pandey** is Member of Doctoral Committee for four PhD students.

## 9.41. Transplant Immunology and Immunogenetics

### Professor and Head

DK Mitra

### Associate Professor

Uma Kanga

Rakesh Kumar Deepak

### Scientist II

Sunil Kumar

Lata Kumari

### Scientist I

Sanjeev Goswami

Prabin Kumar

### HIGHLIGHTS

**Activities/Steps taken to improve patient care:** Introduced Prenatal diagnosis for Primary Immune Deficiencies using Flowcytometry based immunophenotyping. Primary Immunodeficiencies (PID) are a heterogeneous group of inherited diseases of the immune system. Using flowcytometry we can rapidly evaluate specific cell populations and subpopulations, cell surface, intracellular and intranuclear proteins, biologic effects associated with specific immune defects, and certain functional immune characteristics. This would allow for early diagnosis and subsequent counseling if a primary immunodeficiency is found in the first trimester of pregnancy.

**Future Action Plan:** To introduce Next Generation Sequencing (NGS) based HLA typing for HSCT recipients and donors at AIIMS.

### EDUCATION

During the year 2022-2023, our department trained 15 students/doctors from various hospitals and institutions of India and abroad. These candidates received training on laboratory techniques in Transplant Immunology, Immunogenetics-HLA testing, post-transplant monitoring and other immunological investigations for immune deficiency.

#### Short-term training - AIIMS (1-2 weeks) over past 3 years

The Department provided short-term training to the following Residents/Students:

Department/Specialty	2022-23	2021-22	2020-21
Junior Residents Haemato-Pathology	02	04	00
Pathology	00	00	05
Laboratory Medicine	03	03	03
Haematology	02	03	06
Biochemistry	02	01	03
Transfusion Medicine	03	04	03
Nephrology (Senior Residents-Transplant)	00	00	01
Pediatric Nephrology	00	01	00
Pediatrics			02
Junior Residents (Acad.)	01	04	00
Junior Residents Lab Medicine	02	02	00
Medical Oncology	00	00	03

### Continuing Medical Education (CME)

During the year, the faculty and scientists of the department participated and delivered several lectures in National and International conferences. Our department regularly provides training on various cell culture assays, including flowcytometry based assays to students and visiting trainees. Our department coordinates a national level Quality Control exercise for DNA based typing of HLA genes for assessment of Quality of testing by other HLA laboratories in India. The Faculty also delivered special lectures in departments of Biotechnology and Pathology, AIIMS as part of the academic curriculum of these departments. Faculty/Scientists delivered lectures to MD/DM residents from Pediatrics, Hematology, Anatomy, Nephrology, Biochemistry, Medical Oncology, Pathology and Laboratory Medicine. Several lectures on Transplant Immunology were also delivered to College of Nursing students of our institute.

#### Lectures Delivered: 17

DK Mitra: 3

Uma Kanga (National): 9

Uma Kanga (International): 5

#### Lectures delivered over past 3 years

Name of Faculty	2020-2021	2021-2022	2022-2023
Prof DK Mitra	4	10	17

### RESEARCH

#### Funded Ongoing Projects

1. In Silico Trial for Tuberculosis Vaccine Development (STriTuVaD) European Commission Horizon 2020, Prof DK Mitra, DBT, 4 years, 2020-24, Rs 398.36 lakhs
2. Exosomes based immune profiling of Multi Drug Resistant (MDR) Tuberculosis”, Prof DK Mitra, ICMR, 3 years, 2021-24, Rs 70 lakhs
3. “Efficacy of  $\alpha$  PD-1 as an Adjunct Immunotherapy in Tuberculosis Patients”, Prof DK Mitra, Azure Software Pvt Ltd, 3 years, 2021-24, Rs 140.20 lakhs
4. Immunogenetic variants HLA- KIR repertoire and their functional relevance in Haematopoietic Stem cell transplantation outcome, Dr Uma Kanga, DST, 3 years, 2022-25, Rs 28.3 lakhs
5. Translational potential of Mesenchymal Stem Cells in generation of immune tolerance during Solid Organ Transplantation, Dr Uma Kanga, AIIMS-Intra Departmental, 2 years, 2023-25, Rs 20 lakhs
6. Islet-antibody negative type 1 diabetes (type 1B) in north Indians: clinical implications and pathogenesis, Dr Uma Kanga, ICMR, 3 years, 2019-22, Rs 56 lakhs
7. Study of HLA allele, T-cell epitope recognition & virus variations in COVID-19: Bioinformatics & Immunoinformatic approach, Dr Uma Kanga, Serum Institute of India (SII)-ICMR, 1 year, 2021-22, Rs 23.2 lakhs
8. Clinical utility of liquid biopsy in cardiac allograft rejection, Dr Rakesh Deepak, ICMR, 3 years, 2022-25, Rs 101.65 lakhs
9. Profiling of immune checkpoint inhibitors (Tim-3, LAG-3, TIGIT, PD-1 & CTLA-4) in gallbladder cancer, Dr Lata Kumari, AIIMS Intramural, 2 years, 2022-24, Rs 10.00 lakhs
10. Interrogation of human leukocyte antigen genetic variants in clinically, serologically and histologically defined subgroups of idiopathic inflammatory myopathies (IIMs), Dr Rakesh Deepak, AIIMS Intramural, 3 years, 2020-23, Rs 20.00 lakhs
11. Evaluation of panel reactive antibodies (PRA), major histocompatibility complex (MHC) and donor specific antibodies in the outcome of post heart transplant rejection status: Clinicopathological study, Dr Rakesh Deepak, AIIMS Intramural, 3 years, 2019-22, Rs 10.00 lakhs
12. Identification of the parabens modulated cellular signaling pathways in neutrophils, Dr Rakesh Deepak, AIIMS Intramural, 3 years, 2019-22, Rs 10.00 lakhs

#### Completed Projects

1. Studies to delineate the Immunoregulatory role of PD-L1/PD-1 pathway and exploring it as a potential tool for vaccination strategies against Visceral Leishmaniasis”, Prof DK Mitra, DST, 3 years, 2018-21, Rs 70.00 lakhs
2. “NKT cell subsets: Impact on Mycobacterium tuberculosis specific effectors T cell responses”, Prof DK Mitra, DBT, 3 years, 2018-21, Rs 70.00 lakhs
3. “NKT cell subsets: Impact on Mycobacterium tuberculosis specific effectors T cell responses”, Prof DK Mitra, DBT, 3 years, 2018-21, Rs 70 lakhs

4. Genome wide transcription analyses in DR Mtb: Identification and Immunomodulation of novel targets. Prof DK Mitra, DBT, 3 years + 1 year Extn, 2018-21, Rs 148 lakhs
5. Development of a model healthcare network based on Integrated Medical devices for screening of prognosis continuity of care and machine learning based predictive modeling on Non-Communicable Diseases, Prof DK Mitra, IMPRINT(HRD + ICMR), 2 years, 2021-23, Rs 25 lakhs
6. Study of HLA allele, T-cell epitope recognition & virus variations in COVID-19: Bioinformatics & Immunoinformatic approach, Dr Uma Kanga, Serum Institute of India + ICMR, 1 year, 2021-22, Rs 23.2 lakhs
7. Islet-antibody negative type 1 diabetes (type 1B) in north Indians: clinical implications and pathogenesis, Dr Uma Kanga (Co-PI), ICMR, 3 years, 2019-22, Rs 56 lakhs
8. Reliability of seminal sample after BMT in forensic situations, Dr Uma Kanga (Co-PI), AIIMS Intramural, 2 years, 2020-22, Rs 10.00 lakhs
9. HLA related Genetic propensity for manifestation of Oral Sub mucous Fibrosis among North Indians, Dr Uma Kanga (Co-PI), AIIMS Intramural, 2 years, 2020-22, Rs 10.00 lakhs
10. HLA associated genetic predisposition for hypersensitivity to antiepileptic drugs in North Indians: A case control study, Dr Uma Kanga (Co-PI), AIIMS Intramural, 2 years, 2020-22, Rs 10.00 lakhs
11. Evaluation of panel reactive antibodies (PRA), major histocompatibility complex (MHC) and donor specific antibodies in the outcome of post heart transplant rejection status: Clinicopathological study, Dr Rakesh Deepak, AIIMS Intramural, 3 years, 2019-22, Rs 10.00 lakhs
12. Identification of the parabens modulated cellular signaling pathways in neutrophils, Dr Rakesh Deepak, AIIMS Intramural, 3 years, 2019-22, Rs 10.00 lakhs

## **Departmental projects**

### ***Ongoing***

1. NKT Cells in Tuberculosis: Impact on Protective T cell response
2. Impact of checkpoint inhibitors on suppressed state of immunity in tuberculosis
3. "Immune reconstitution following haploidentical Hematopoietic stem cell transplantation"
4. Inhibiting Check Point Molecules in Tuberculosis: Impact on Efflux Pump in Mycobacterium tuberculosis"
5. "Exosome based immune profiling in renal transplant Patients: relevance in acute graft dysfunction"
6. Inhibiting PD-1 in tuberculosis: impact on immunological and clinical outcome in drug resistant and drug sensitive patients
7. Identification of Signatures for predicting rejection in Renal Transplantation
8. In-phase polymorphism analysis of HLA genes in North East Indian tribal populations
9. Establishment of heterogeneity in genetic markers: potential use in transplant monitoring
10. Development of cost-effective in-house assays for HLA diagnostic services
11. Clinico-sero-pathological classification and pathogenesis of Idiopathic inflammatory myopathies (IIMs)
12. Effect of anesthetic technique on anti-tumor immunity and its markers in patients undergoing surgery for Gall Bladder Cancer: A prospective randomized comparative study
13. Association of HLA class II DR/DQ alleles in children and adolescents with rheumatic heart disease from a tertiary care centre in north India

## **Collaborative Projects**

### ***Ongoing***

1. Development of a Remote Healthcare Delivery System: Early Diagnosis, Therapy, follow-up and Preventive Care for NCDs (cardio-pulmonary), ICMR, IIT-Kharagpur, IIT-Mumbai & AIIMS, New Delhi
2. Functionalization and Validation of a Cloud based Integrated Medical Device (IMD): Delivery of Specialized diagnostic, therapeutic & follow up care to the remote underserved population, AIIMS, New Delhi and Azure Software Pvt Ltd
3. Multivalent Leishmania vaccine development, BIRAC, Dept. of Biotechnology, GoI, and Zydus Cadila
4. A Phase III, Randomized, Double-blind, Three arm Placebo controlled Trial to Evaluate the Efficacy and Safety of two vaccines VPM1002 and Immuvac (Mw) in Preventing Tuberculosis (TB) in Healthy Household Contacts



of Newly Diagnosed Sputum Positive Pulmonary TB Patients, Department of Centre for Community Medicine, AIIMS, New Delhi

5. Efficacy of Energy Dense Nutritional Supplement (EDNS) as adjunct to standard DOTS therapy in improving treatment outcomes in malnourished newly diagnosed sputum positive pulmonary tuberculosis adult patients, Department of Centre for Community Medicine, AIIMS, New Delhi
6. Study to evaluate effectiveness of BCG Vaccine in reducing morbidity and mortality in Elderly individuals in COVID-19 Hotspots in India, Department of Pulmonary, Critical Care & Sleep Medicine, AIIMS, New Delhi
7. The Role of HLA antigens in primary IgAN in Indian patients: a case control study, Department of Nephrology, AIIMS, New Delhi
8. Evaluation of novel forensic exhibits and informativity of Y-STR markers in chimerism situation, Department of Forensic Medicine, AIIMS, New Delhi
9. Genetic Propensity to Nasopharyngeal Carcinoma in Nagas from North East India, Naga Hospital and Authority, Nagaland
10. Study of HLA allele, T-cell epitope recognition & virus variations in COVID-19: Bioinformatics & Immunoinformatic approach, Savitribai Phule University, Pune and National AIDS Research Institute (ICMR), Pune
11. Genetic Diversity among the Indian Gorkhas from Darjeeling Himalaya: Next Generation Sequencing (NGS) based In Phase Polymorphism Analysis of HLA Minigenome, Sikkim University
12. To study the prevalence and clinical characteristics of Pediatric Multisystem Inflammatory Syndrome associated with COVID-19, Department of Pediatrics, AIIMS, New Delhi
13. Identification of metabolic markers in Rheumatic Heart Disease (RHD) with Atrial Fibrillation using untargeted LC/MS based Metabolic Approach, Department of Pathology, Safdarjung Hospital, New Delhi
14. An evaluation of HLA, phagocytic function and trace elements in cases of sinusitis, invasive fungal sinusitis and non-invasive fungal sinusitis, Department of ENT, AIIMS, New Delhi
15. Association between immunological characteristics and clinical outcomes in COVID-19 patients, Department of Medicine, AIIMS, New Delhi
16. To study the prevalence and types of refractory celiac disease, as well as to work out the best possible cost-effective diagnostic panels, in a cohort of non-responsive patients with celiac disease, Department of Pathology, AIIMS, New Delhi
17. Reliability of seminal sample after BMT in forensic situations, Department of Forensic Medicine, AIIMS, New Delhi
18. Utility of Lipoarabinomannan antigen detection in urine and CSF for the diagnosis of tuberculous meningitis, Department of Microbiology, AIIMS, New Delhi

#### Research projects over past 3 years

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	12	16	10
Total funding	1017.56 Lakhs	1107.41 Lakhs	808.51 Lakhs

#### Publications

**Journals: 12                      Abstracts: 05**

#### Publications over past 3 years

Item	2020-2021	2021-2022	2022-2023
<b>Total</b>	<b>35</b>	<b>11</b>	<b>17</b>
Journal articles	35	11	12
Abstracts	0	0	5
Chapters in books	0	0	0
Books	0	0	0

**PATIENT CARE**

Statistical data of patient care/lab services (numbers of various studies/ tests)

**ORGAN TRANSPLANTATION**

Nephrology, Cardiology, Pulmonary Medicine AIIMS &amp; other referrals

Organ Transplant Service (Kidney, Lung, Heart)	2020-21	2021-22	2022-23
HLA - Live Related/Unrelated & Deceased Donor Transplants	234	461	668
Cross Match Test - CDC (Serology)	141	832	868
Cross Match Test - (Flowcytometry)	112	213	291
Luminex PRA	147	301	418
Luminex SAB (DSA monitoring)	128	247	302

**Bone Marrow/Hematopoietic Stem Cell Transplantation**

Hematology, AIIMS &amp; Other Referrals

Diagnosis	2020-21	2021-22	2022-23
Aplastic Anemia	184	279	537
Acute Leukemia (AML+ALL)	191	200	329
Thalassemia	32	133	213
Chronic Leukemia (CML+JMML)	28	50	64
Others	71	142	243
<b>Total</b>	<b>506</b>	<b>804</b>	<b>1396</b>

Sl. No.	Diagnosis		2020-21	2021-22	2022-23
<b>A</b>	<b>Low Resolution HLA Typing</b> (PCR-SSP or PCR-SSO Luminex based)				
1.	HLA-A locus		506	883	1541
2.	HLA-B locus		506	941	1541
3.	HLA-C locus		300	890	1541
4.	HLA-DRB1 locus		126	170	422
5.	HLA-DRB3/4/5 loci		5	80	35
<b>B</b>	<b>High Resolution HLA Typing</b> (Sequence Based Typing (SBT)/Next Generation Sequencing (NGS)/SSO Luminex)				
6.	HLA-A locus		15	35	38
7.	HLA-B locus		18	35	38
8.	HLA-C locus		15	35	38
9.	HLA-DRB1		15	35	38
10.	HLA-DQB1		15	35	38
11.	HLA-DQA1		15	35	38

<b>C</b>	<b>Donor Specific Antibody (DSA) Monitoring - Luminex</b>				
11.	Mixed Screen (HLA class I & II)		29+29	23+23	50
12.	HLA class I (SAB)		8	20	36
13.	HLA class II (SAB)		8	15	34
<b>D</b>	<b>Chimerism studies in BMT</b>				
14.	Post HSCT recipients		12	36	113
15.	Pre HSCT recipients		10	31	49
16.	HSCT Donors		10	48	59
	<b>TOTAL TESTS</b>		<b>1528</b>	<b>3347</b>	6493
<b>E</b>	<b>Unrelated Donor searches for BMT</b>		<b>5*</b>	<b>6*</b>	<b>6*</b>
	* During the year requests received by Asian Indian Donor Marrow Registry for HLA matched donors				

## II. Disease Association HLA Screening tests

	<b>Diseases</b>	<b>HLA Test</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>
1.	Ankylosing Spondylitis & other Spondyloarthropathy	HLA- B-27	208	281	520
2.	Coeliac Disease	HLA-DQA1	2	6	6
3.	Coeliac Disease	HLA-DQB1	2	6	6
4.	Narcolepsy/Cataplexy	HLA-DQB1	1	2	2
5.	Behcets' Disease	HLA-B*51	31	44	76
6.	Drug hypersensitivity screening	HLA-B*57:01, B*15:02	3	4	2
	<b>Total</b>		<b>247</b>	<b>343</b>	<b>606</b>

<b>All Patient care services</b>	<b>2022-23</b>	<b>2021-22</b>	<b>2020-21</b>
HSCT related & Quality Assurance Program	6505	3368	1528
Disease association screening	606	343	247
<b>Total</b>	<b>7111</b>	<b>3711</b>	<b>1775</b>

## Bone Marrow Transplantation-IRCH, AIIMS Referrals

<b>Diagnosis</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>
Acute Leukemia- ALL	28	31	38
Acute leukemia- AML	57	42	75
Chronic Leukemia – (CML + JMML)	09	5	12
Others	07	5	27
<b>Donors</b>	279	83	463
<b>Total</b>	<b>380</b>	<b>116</b>	<b>615</b>

Sl. No.	Diagnosis	No. of Tests 2020-21	No. of Tests 2021-22	No. of Tests 2022-23
<b>A</b>		<b>Low Resolution HLA typing (PCR-SSP or PCR-SSO Luminex based)</b>		
1.	HLA-A locus	426	322	696
2.	HLA-B locus	424	324	690
3.	HLA-C locus	25	121	687
4.	HLA-DRB1 locus	72	62	130
5.	HLA-DQB1 locus	NA	NA	130
<b>B</b>		<b>High Resolution HLA typing (Sequence Based Typing (SBT)/SSO Luminex)</b>		
6.	HLA-A locus	08	10	06
7.	HLA-B locus	08	12	06
8.	HLA-C locus	08	11	06
9.	HLA-DRB1	08	8	06
10.	HLA-DQB1	08	6	06
11.	HLA-DQA1	08	4	06
<b>C</b>		<b>Donor Specific Antibody (DSA) Monitoring Luminex based assays</b>		
12.	HLA class I (SAB)	04	03	35
13.	HLA class II (SAB)	04	03	35
<b>D</b>	<b>Chimerism Study in BMT</b>			
14.	Post HSCT recipients	01	01	31
15.	Pre HSCT recipients	01	01	31
16.	HSCT Donors	01	01	31
	<b>TOTAL TESTS</b>	<b>1006</b>	<b>889</b>	<b>2532</b>

#### Disease Association HLA Screening tests

Sl. No.	Diseases	HLA test	No. of Tests 2020-21	No. of Tests 2021-22	No. of Tests 2022-23
17.	Ankylosing Spondylitis & other Spondyloarthropathies	HLA- B-27	85	127	270
18.	Coeliac Disease	HLA-DQA1	02	3	00
	Coeliac Disease	HLA-DQB1	02	3	00
19.	Behcet's Disease	HLA-B*51	15	9	46
	<b>TOTAL</b>		<b>104</b>	<b>142</b>	<b>316</b>

#### Primary Immunodiagnostics

Diagnosics	2020-21	2021-22	2022-23
<b>Immune Deficiency Disorders</b> *No. of Tests per annum	<b>6237</b>	<b>5664</b>	<b>5266</b>

### Free of cost service provided for Primary and Secondary Immunodeficiency Diseases

Sl. No.	Diagnosis	Markers/Assays	2020-21	2021-22	2022-23
1.	T Cell Frequency	CD3 <sup>+</sup> /CD4 <sup>+</sup> /CD8 <sup>+</sup>	1052	1132	764
2.	B Cell Frequency	CD19 <sup>+</sup> /CD20 <sup>+</sup>	1321	1251	853
3.	NK Cell Frequency	CD3 <sup>-</sup> /CD16 <sup>+</sup> /CD56 <sup>+</sup>	631	571	463
4.	NK Cell Activity	CD3 <sup>-</sup> /CD56 <sup>dim</sup> /Perforin <sup>+</sup>	329	228	241
5.	NK Cell Activity	Soluble IL2R	18	12	15
6.	ALPS	CD3 <sup>+</sup> /CD4/8/TCRαβ <sup>+</sup>	52	11	32
7.	Leukocytes Adhesion Deficiency	CD18 <sup>+</sup> /CD11a <sup>+</sup> /CD11b <sup>+</sup>	251	183	383
8.	Chronic Granulomatous Disease	DHR	1123	1085	1263
9.	Hyper IgM	CD3 <sup>+</sup> /CD8 <sup>-</sup> /CD69 <sup>+</sup> /CD154 <sup>+</sup>	15	2	16
10.	T cell function (IFN-g)	CD3 <sup>+</sup> /CD4 <sup>+</sup> /IFN-γ <sup>+</sup> /IL-2 <sup>+</sup>	125	68	68
11.	Class Switch Memory	CD19 <sup>+</sup> /CD27 <sup>+</sup> /IgD <sup>-</sup>	59	13	17
12.	Degranulation Assay	CD3 <sup>-</sup> /CD56 <sup>dim</sup> /CD107a <sup>+</sup>	9	17	32
13.	IL-12 Assay	CD14 <sup>+</sup> /IL-12 <sup>+</sup>	13	6	37
14.	Memory T cell	CD3 <sup>+</sup> /CD45RA <sup>+</sup> /CD45RO <sup>+</sup>	16	3	245
15.	Serum IgA		325	245	302
16.	Serum IgM		362	302	359
17.	Serum IgG		351	359	148
18.	Serum IgE		156	148	28
19.	Serum IgG Subclasses		29	28	32
<b>Total</b>			<b>6237</b>	<b>5266</b>	<b>5664</b>

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Dr Uma Kanga** was elected as Council member of the International HLA and Immunogenetics Workshop and Council (IHIWC) (2022 onwards); was nominated as Chair of the “International Committee” of the American Society of Histocompatibility and Immunogenetics (ASHI) (2022-2024); served as Vice-Chair of the “International Committee” of the American Society of Histocompatibility and Immunogenetics (ASHI) (2020-2022); was nominated as member of the ‘General Assembly’ of the International Union of Immunological Societies (IUIS) to represent the Indian Immunology Society (2022-25); was conferred the title of Fellow of the European Board of Surgery (FEBS) in Transplant Immunology (2021 onwards); served as “Asia Pacific Region- Councillor” (2020-2022) and as Vice President of the Asia Pacific Histocompatibility and Immunogenetics Association (APHIA) (2021-2022); served as Treasurer of Indian Immunology Society (IIS) –(2018-2020) (2020-2022); and was nominated as an Executive Committee member of the Indian Society for Heart and Lung Transplantation (INSHLT) (2022-24). She has been nominated as a faculty for academic program-Heart Transplant Fellowship of the Indian Society for Heart and Lung Transplantation (INSHLT) and she served as PhD thesis reviewer and PhD viva examiner for candidates from the (i) Banaras Hindu University (BHU), Varanasi and (ii) PGIMER, Chandigarh.

## 9.42 Urology

### Professor and Head

Dr Amlesh Seth

### Professors

Dr Rajeev Kumar

Dr Prabhjot Singh

(On Long leave since Aug 2022)

### Additional Professors

Dr Rishi Nayyar

Dr Brusabhanu Nayak

### Associate Professor

Dr Siddharth Jain

Dr Manoj Kumar

Dr Sanjay Kumar

### Assistant Professor

Dr Sridhar P

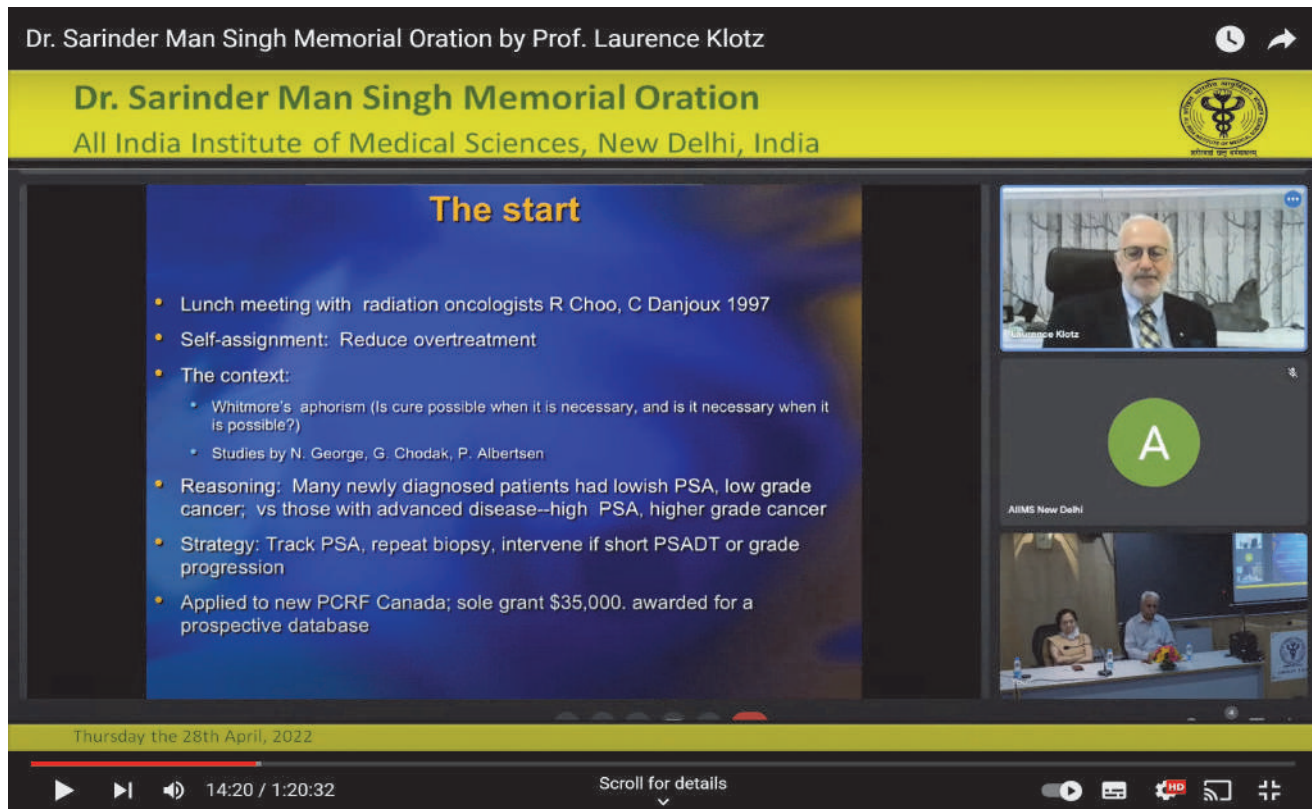
(Joined Nov 2022)

## HIGHLIGHTS

- A) Dr James Eastham, MSKCC, USA visited the Department for clinical rounds on 16 April 2022
- B) The 6th Sarinder Man Singh Memorial Oration in Urology was delivered by Dr Lawrence Klotz (Professor, Department of Surgery, University of Toronto; Chief, Division of Urology, Sunnybrook Health Sciences Center; Chair, Canadian Uro-Oncology Group and NCIC GU Site Group; Editor in Chief (founding), Canadian Journal of Urology; Chair, Global GU Oncology Group), Canada on the topic of “Active Surveillance in Cancer Prostate - from Bench to Bedside” on 28 April 2022 at AIIMS, New Delhi (Online)
- C) Dr Jean de la Rossette (General Secretary, SIU; Amsterdam UMC University Hospital, Amsterdam, Netherlands and Istanbul Medipol University, Istanbul, Turkey) and Dr Reynaldo Gomez (President, SIU; Hospital del Trabajador, Santiago, Chile) visited the Department on 11 August 2022
- D) Department started stone analysis laboratory in OPD, 1 September 2022
- E) Dr Rajeev Kumar was appointed President-Elect, Société Internationale d’Urologie, October 2022
- F) Dr Rishi Nayyar was elected as Honorary Secretary elect of NZUSI for 2 year term (2023-25), October 2022
- G) DNB Urology Final practical exam on 26-27 November 2022
- H) Dr Rishi Nayyar was appointed as Associate Editor of Indian Journal of Urology, January 2023-27
- I) Dr Amlesh Seth was elected as Council Member - North Zone representative at USI, 2023-25, February 2023
- J) The department doubled its Operation Theatre services, March 2023



Dr James Eastham, MSKCC, USA on ward rounds in the department, 16 April 2022



The 6th Sarinder Man Singh Memorial Oration in Urology was delivered by Dr Lawrence Klotz (Professor, Department of Surgery, University of Toronto) on 28 April 2022



Dr Jean de la Rossette (Amsterdam UMC University Hospital, Amsterdam, Netherlands) and Dr Reynaldo Gomez (Hospital del Trabajador, Santiago, Chile) visited the Department on 11 August 2022



Dr SK Singh, Dr NP Gupta and Dr Rajender Singh Sinam during Inauguration of Stone Lab in OPD, 1 September 2022, DNB Final practical exam on 26 & 27 November 2022

## EDUCATION

The faculties of the department participated and delivered lectures in continuing medical education programs, symposia, national and international conferences during the year. The senior faculty members are examiners for NBE and M.Ch. Urology in various universities. The faculty of the department took active part in restructuring and reframing the curriculum for M.Ch. and DNB training courses in Urology of other upcoming institutes. The faculty of the department is actively engaged in development of various Indian guidelines under aegis of Urological Society of India.



The Department imparted lectures for the undergraduates and nursing students (BSc and MSc). The faculty is actively involved in curriculum revision for undergraduates. The department trains 11 postgraduates for the degree of MCh in Urology over a three-year period. Post M.Ch. Fellowship training is available for sub-specialties including minimally invasive urology, uro-oncology, reconstructive urology and urogynecology (two seats each). The department also recruited 2 non-academic residents for the year. MS (Gen Surg) residents also rotated for urological training as per their curriculum.

Faculties of the department have actively taken part in the development of various modules of skill sets for students, which is a step forward towards e-learning. Faculty also took lectures for the SET facility towards their faculty development program. Training on Skill Simulators (URO/PERC Mentor) is a part of regular curriculum of resident's training.

**CMEs/Workshops/Symposia/National and International Conferences**

The department organized the following webinars/conferences.

- 6th Sarinder Man Singh Memorial Oration on 28 April 2022 (Online)

**Lectures delivered at CMEs, National and International conferences: 121**

**Lectures delivered over past 3 years**

2020-21	2021-22	2022-23
116	70	121

**List of oral papers/posters presented: 35**

**Oral/poster presentations over past 3 years**

Presentation	2020-21	2021-22	2022-23
Oral/ Poster	11	23	35

**RESEARCH**

**Funded projects**

**Ongoing**

1. Clinico-genetic prognostic signatures for development of metastatic Castration Resistant Prostate Cancer, Prabhjot Singh, ICMR, 3 years, 2019-2022, Rs 100,00,000
2. Molecular analysis to explore resistance against receptor tyrosine kinase inhibitors (TKI) in Renal Cell Carcinoma (RCC) and the prognostic role of Circulating tumor cells (CTC) in patients with metastatic RCC (mRCC), Brusabhanu Nayak, ICMR, 3 years, 2021-2024, Rs 59,00,000
3. Real time Contrast Enhanced Ultrasound and Shear Wave Elastography in the evaluation of patients with Anterior Urethral stricture, Manoj Kumar, AIIMS Intramural, 1 year, 2023-2024, Rs 4,87,000
4. To evaluate the role of seminal miRNA's and inflammatory markers in cases of suspected prostate cancer and correlate with mpMRI and Biopsy findings, Siddharth Jain, AIIMS, 2 years, 2019-2021, Rs 5,00,000
5. The Role of 68Ga-PSMA-PET/CT Scan as a Staging Modality in Prostate Cancer, Sanjay Kumar, ICMR, 3 years +1 year extension, 2019-2023, Rs 48,85,740
6. The Role of Trace Elements in Renal Stone Disease, Sanjay Kumar, ICMR, 3 years, 2021-2024, Rs 97,61,605

**Completed**

1. A novel therapeutic approach of anti-B7H4 therapy in Urinary bladder cancer, Prabhjot Singh, AIIMS Intramural, 2 years, 2019-2021, Rs 10,00,000
2. Environmental exposure of heavy metals, toxic elements and its impact on renal cell carcinoma induction and progression, Brusabhanu Nayak, ICMR, 3 years, 2019-2022 (Completed July 2022), Rs 43,05,000
3. Identification of Potential Molecular markers (PRL3 phosphatase, CAV2, LAMA4, and GRP78) in Renal Cell Carcinoma (RCC): Predicting tumor behavior, Manoj Kumar, AIIMS, Intramural, 2 years, 2020-2022, Rs 10,00,000

**Departmental**

**Ongoing**

1. Negative predictive value of magnetic resonance imaging for significant prostate cancer in Indian men: an ambispective study
2. Cranio-caudal Bull's eye (CCB) technique for superior calyceal access during PCNL: Assessment of efficacy and complications

3. Pheochromocytoma surgery: clinical outcomes
4. Effect of Androgen Deprivation Therapy on Cardiovascular Function in Patients with Advanced Carcinoma Prostate: A Prospective Cohort Study
5. Lymphorrhoea after lymphatic ligation with titanium clips versus ultrasonic dissector during radical cystectomy: A prospective, double-blinded, randomized trial
6. Outcomes of patients of locally advanced Ca Urinary Bladder patients presenting with obstructive uropathy with Acute kidney injury
7. Immediate second resection versus re-stage transurethral resection of bladder tumor: a randomized, non-inferiority, pilot trial
8. Duration of Medication Therapy and Outcomes after Transurethral Prostate Resection for Patients with Benign Prostatic Hyperplasia
9. Correlation of surgical complexity and outcome with preoperative geometric parameters in MRI in pelvic fracture-related urethral injury: A prospective cohort study
10. Role of urethral povidone-iodine instillation before catheterization in routine urological surgery
11. PCNL concept of puncture zone
12. A 3-arm randomized control trial to compare the efficacy of recirculant hyperthermic intravesical chemotherapy versus intravesical BCG versus conventional intravesical mitomycin C therapy for intermediate risk NMIBC
13. The Role of 68Ga PSMA PET Scan in the evaluation of Renal Cell Carcinoma
14. Smart Phone-based Home Monitoring of the patients with Benign Prostatic Hyperplasia: Emerging Telemedicine Tool in COVID-19 Era
15. Prospective evaluation of Tc99m Sesta MIBI scan to differentiate benign solid renal mass from more aggressive malignant RCC
16. Ultrasound Guided Pudendal nerve block with intravenous Dexmedetomidine as an alternative to neuraxial anaesthesia for Male Urethral reconstructive surgery
17. MicroRNA expression profiles in testicular FNAC samples of apparent idiopathic Sertoli cell-only syndrome (SCOS) cases
18. Idiopathic Sertoli Cell Only Syndrome (SCOS): An Investigation to find out Epigenomic Etiologies
19. An Investigation to find out Genomic and Epigenomic Etiologies in Hypospermatogenesis (HP)
20. A study to assess the Quality of life and Sexual Dysfunction among Urology patients after DJ Stenting
21. Prevalence of Yq Micro-Deletions in Random Population
22. A Case Control Study to examine the impact of Serum Vitamin-D levels on the composition and risk of Renal Stone formation.

#### ***Completed***

1. Unilateral versus bilateral vasoepididymal anastomosis: prospective randomized trial
2. Clinical outcome of patients with prostate biopsy negative for cancer
3. Comparative study for cold cup biopsy vs loop biopsy for restage TURBT
4. Randomized trial on single dose perioperative instillation of intravesical gemcitabine versus mitomycin –C following complete resection of non-muscle invasive bladder cancer: Evaluation of efficacy and tolerance

#### **Collaborative projects**

##### ***Ongoing***

1. To study gene expression, epigenetic alterations, oxidative DNA damage in infertile men after yoga intervention and to analyse effect of their serum on cancer cell lines, Anatomy, AIIMS
2. Telomere status and DNA repair mechanisms in idiopathic male infertility, Anatomy, AIIMS
3. Molecular profiling and phenotype-genotype correlation of patients with Pheochromocytoma/Paraganglioma: Deciphering implications in management and prognostication, Pathology, AIIMS
4. Hemodynamic profile in the perioperative period in patients undergoing pheochromocytoma and paraganglioma surgery with and without low dose diltiazem infusion, Anesthesia, AIIMS
5. Analgesic Efficacy of Ultrasound-Guided Triple-Level Erector Spinae Plane Block Versus Triple-Level Costotransverse Foramen Block in Patients Undergoing Percutaneous Nephrolithotomy Surgery: A randomized parallel-group double-blind non-inferiority trial, Anesthesia, AIIMS

6. Prospective observational study to assess the utility of da Vinci™ robotic system for brachial plexus exploration and reconstruction, Burns & Plastic surgery, AIIMS
7. Contemporary Outcomes of Surgery for Primary and Recurrent Genitourinary Fistulae and assessing quality of life, Obst and Gynae, AIIMS
8. Characterization of Renal Cell Carcinoma with Dual Energy Computed Tomography and Multiparametric Magnetic Resonance Imaging and Correlation with Histopathology, Radiology, AIIMS
9. Carboplatin in patients with metastatic castrate resistant prostate cancer harboring somatic or germ line homologous recombination repair gene mutations: A phase II single arm trial, Medical Oncology, AIIMS
10. Prevalence of mutations influencing prostate cancer risk and progression, Medical Oncology, AIIMS University hospital network, Toronto
11. A phase III double blind randomized placebo-controlled study of Capivasertib + Abiraterone versus Placebo + Abiraterone as treatment for de novo metastatic hormone sensitive prostate cancer characterized by PTEN deficiency (CAPItello-281), Medical Oncology, AIIMS
12. Metabolic profile and quality of life assessment in patients with metastatic carcinoma prostate receiving androgen deprivation therapy, Medical Oncology, AIIMS
13. A randomized, double blind, placebo-controlled phase 3 study of darolutamide in addition to androgen deprivation therapy (ADT) vs placebo + ADT in men with metastatic hormone sensitive prostate cancer (ARANOTE), Radiation Oncology, AIIMS International collaboration
14. Evaluation of PDL1 expression and tumor mutational burden (TMB) in subtypes of muscle invasive bladder cancer (MIBC), Pathology, AIIMS
15. Evaluation of DNA damage response (DDR) pathways in prostate cancer, Pathology, AIIMS
16. Dual energy computed tomography (DECT) in assessing response to tyrosine kinase inhibitors (TKI) in metastatic renal cell carcinoma, Radiology, AIIMS
17. A single arm, open label phase 4 study of Darolutamide in addition to standard androgen deprivation therapy for participants in India with high risk non metastatic prostate cancer, Radiation Oncology, AIIMS
18. Molecular characterization and antimicrobial resistance profile of Uropathogenic Escherichia Coli (UPEC) from patients with UTI in India: A cross sectional study, Microbiology, AIIMS
19. Studying the effects of miRNAs on RASSF1A modulation in Urothelial Carcinoma of Bladder, Biochemistry, AIIMS
20. An Investigation into metabolomics of prostate cancer patients to identify diagnostic and Prognostic biomarkers for disease burden and therapeutic outcome and development of metabolomics database, Pharmacology, AIIMS
21. Gait Kinematics and neurogenic bladder in incomplete spinal cord injury patients following transcranial magnetic stimulation: a randomized controlled trial, Physiology, AIIMS

**Completed**

1. 68 Gallium PSMA PET/CT in metastatic renal cell cancer, Nuclear Medicine, AIIMS
2. Feasibility, Safety and Efficacy of Prostate Artery Embolization in Patients with Catheter Dependent Bladder Outlet Obstruction Induced by Advanced Prostate Cancer, Cardiac-radiology, AIIMS
3. Incidence of various uro-gynecological problems in post-partum patients and its relation to the mode of delivery, Obst and Gynae/AIIMS
4. A study to assess the effectiveness of video-assisted teaching program for Kegel's exercise on severity of urinary incontinence symptoms and quality of life among women visiting Urology OPD, Nursing College, AIIMS
5. Randomized double blinded placebo controlled clinical trial for the evaluation of effect of vitamin K supplementation on bone mineral density in prostate cancer patients, Pharmacology/AIIMS
6. Use of PET-CT with Gallium-68 Labeled Prostate Specific Membrane Antigen in the Diagnosis and Follow-up of Patients with Prostate Cancer, Nuclear Medicine,/AIIMS

**Research projects over past 3 years**

	2020-21	2021-22	2022-23
Total funded research projects	8	6	6
Total amount of extramural/intramural funding (Rs)	3,17,52,345	3,81,52,345	3,15,34,345

**PUBLICATIONS****Journal: 27****Abstract: 09****Chapters in Book: 03****Publications over past 3 years**

Item	2020-21	2021-22	2022-23
<b>Total</b>	<b>54</b>	<b>44</b>	<b>39</b>
Journal articles	41	33	27
Abstracts	05	06	9
Chapters in books	07	05	3
Books	01	-	-

**PATIENT CARE****(a) Facilities available in the department (including special clinics and/or special laboratory facilities)***Total number of patient-related work in a tabular form*

	2020-21	2021-22	2022-23
Main OPD new cases	3715	7688	20051
Main OPD old cases (Teleconsultations)	6640 + 1526	14075	37392
BRAIRCH Uro-malignancy clinic new cases	270	437	581
BRAIRCH Uro-malignancy clinic old cases	2519	5155	7740
Andrology and Infertility clinic new cases	59	323	861
Andrology and Infertility clinic old cases	48	277	1014
Long Admissions	834	1051	1437
Short Admissions	365	513	649
Discharges	1199	1367	2081
NCI Jhajjar OPD, New Cases	-	-	328
NCI Jhajjar OPD, Old cases	-	-	630
Main OT surgical procedures – open	139	269	368
Main OT surgical procedures – endourology	435	675	782
Main OT surgical procedures – laparoscopic	26	65	149
Main OT surgical procedures – robotic	33	105	130
Main OT surgical procedures – microsurgery	3	11	20
Main OT surgical procedures – local anesthesia	-	-	495
Minor OT	3928	9363	15982
ESWL	151	390	682
Ultrasound guided procedures	55	366	650
NCI Jhajjar, OT Surgical procedures	-	185	412
Trauma center, OT Surgical procedures	-	-	72

**Details of Main OT Surgical Procedures: 1426****Open surgery: 368**

Radical cystectomy	33	Radical or cytoreductive nephrectomy	33
Radical cystectomy with nephroureterectomy	8	Radical nephrectomy with IVC thrombectomy	13
End To End Urethroplasty	13	Simple nephrectomy	33
Anterior lay open	5	Partial nephrectomy	15
Progressive perineal urethroplasty	12	Heminephrectomy	1
Augmentation Cystoplasty	8	Graft urethroplasty	27
Adrenalectomy	11	Second stage closure	18
VVF repair	48	Pyeloplasty	12
AUS implantation/Penile prosthesis	4	Ureterolithotomy/Cystolithotomy	1
Perineal urethrostomy	18	Pyelolithotomy	1
		Others	54

**Endourology: 782**

Upper tract: 489		Lower tract: 293					
PCNL	247	TURP/TUIP/TUEB	91	CLT/PCCLT	17	DJS/DJR	13
URS	168	TURBT	126	PVP	0	Clot evacuation	0
RIRS	54	TUR fulguration	5	HOLEP	0	OIU/BNI/ Endodilatation	8
Endopyelotomy	6	Endoevaluation/RGP	-	Ureterocele incision	7	Others	26
Others	14	TURED	4				

**Laparoscopic: 149**

Radical or cytoreductivenephrectomy	16	Partial nephrectomy	11
Simple nephrectomy	53	Adrenalectomy	38
Pyeloplasty	4	Ureterolithotomy	5
Ureteric reimplant	3	Diagnostic lap/orchiopexy	6
		Others	13

**Robotic: 130**

Radical prostatectomy	40	Pyeloplasty	41
Inguinal lymph node dissection	5	Ureteric reimplant	4
Partial nephrectomy	34	Others	6

**Microsurgery: 16**

VEA	8	VVA	4	MVL	4
Scrotal exploration	0	TESE	0		

**Local anesthesia procedures: 495**

DJS/DJR	226	Cystolithotripsy	30
B/L Orchiectomy	70	Circumcision	52
Frenuloplasty	20	Sclerotherapy	9
Retrograde pyelography	39	Cystoscopy	27
Dorsal Slit	6	Nephrostogram	7
Partial Penectomy	4	High inguinal orchiectomy	5

**Minor OT: 15982**

Endoscopic	2628
Open	35
Minor cases	6544
Uroflowmetry	6401
Urodynamic Study	374

**ESWL: 682**

New cases	264	Old cases	418
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**Ultrasound Room Procedures: 650**

Prostate TRUS biopsy	200	SPC	0	PUC	15
MRI- TRUS Fusion biopsy	60	PCN	0	HIVEC	365
In Bore biopsy	0	USG	10		

**NCI Jhajjar OT Surgical Procedures: 412****Open surgery: 50**

Radical cystectomy	23	Radical or cytoreductive nephrectomy	1
Radical cystectomy with nephroureterectomy	4	Radical nephrectomy with IVC thrombectomy	0
Salvage cystectomy	0	Radical Nephroureterectomy	0
Ilioinguinal lymph node dissection	1	RPLND	1
High Inguinal Orchiectomy	5	Total penectomy	3
Malignant VVF repair	1	Partial Penectomy	8
Bilateral orchidectomy	3	Others	0

**Laparoscopic: 21**

Radical nephrectomy	20
Radical nephroureterectomy	1

**Endourology: 336**

TURBT	312
Channel TURP	2
CPE + Clot evacuation	3
DJ stenting	18
DJ removal	1

**USG guided procedures: 5**

PCN insertion	4
Retained Foley catheter removal	1

**Trauma centre OT Surgical Procedures: 72****Open Surgeries: 35**

Perineal Urethroplasty	23	TranspubicUrethroplasty	2
End to end Urethroplasty	1	Rectourethral fistula repair	1
Simple Nephrectomy	1	Bladder Repair	4
Ureteric Injury Repair	1	Genital Injury	2

### **Endourology: 37**

Cystoscopy	3
Cystolithotripsy	3
Endodilatation± OIU	7
RGP + DJS	22
Others	4

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Amlesh Seth** was elected as Council Member (North Zone representative) of USI, February 2023; Member-Subject Expert Committee on Urology and Reproduction under DCGI.

**Professor Rajeev Kumar** was elected member of the American Association of Genitourinary Surgeons (AAGUS). This is a 137-year-old urological association with peer-elected membership, less than 50 international members, and only 2 from India; Appointed President-Elect, Société Internationale 'Urologie; Appointed Adjunct Secretary General, Urological Association of Asia; Appointed International jury member for Vattikuti Robotic Surgery Awards, Miami, USA; Contributed a chapter to Bailey and Love's Short Textbook of Surgery (28th Edition).

**Professor Prabhjot Singh** got Urology physician position (Visiting) in Penn State Health Community Medical Group, Pennsylvania, USA since August 2022.

**Dr Rishi Nayyar** was Member- Subject Expert Committee on Urology and Reproduction under DCGI; Started Robotic RPLND for post-chemo residual mass in Ca testis, April 2022; Re-established Robotic Veil for ilio-inguinal lymph node dissection in Ca penis, August 2022; Felicitated as an Eminent Teacher at the Delhi Urological Society meet on Teacher's Day, September 2022; Scientific review committee, SIU; Elected as Honorary Secretary-Elect (NZUSI), October 2022; Founding Committee member to start 'Gender Affirmation Clinic' facility at AIIMS, New Delhi, December 2022; Appointed as Associate Editor, Indian Journal of Urology, January 2023; 'Faculty of Eminence' award by ISU-USI for contributions to teaching activities and skill training in India, February 2023; MIUC International travel fellowship award by USI, March 2023.

**Dr Brusabhanu Nayak** received AIIMS International travel fellowship award by AIIMS Research Section; Second prize for Best Oncology Research Award by AIIMS, Research Section; DUSCON Gold medal for best basic research by North Zone USI, November 2022; MIUC National 2000 travel award by North Zone USI, November 2022; Received MIUC International travel fellowship award by USI February 2023; USI Best paper award, USICON, 2-5 February 2023.

**Dr Manoj Kumar** received Young Urologist's Fellowship Award -2022, 19th UAA Congress, Sydney, Australia, 5-8 October 2022.

## 10.1 Cardiothoracic Centre

### Cardiology

#### Chief CT Centre & Professor and Head

Balram Bhargava

#### Professors

R Narang	S Seth	N Naik	Rakesh Yadav
S Singh	G Karthikeyan		Gautam Sharma
Ambuj Roy	S Ramakrishnan		Saurabh K Gupta

#### Associate Professor

Neeraj Parakh

#### Assistant Professors

Deepti Siddharthan	Satyavir Yadav	Nirmal G
Nitin Parashar	Zia Abdullah	Sourabh Agstam
Raghavendra Rao K		Aseem Basha

### Cardiac Anaesthesia and Critical Care

#### Professor and Head

Sandeep Chauhan

#### Professors

Neeti Makhija	Poonam Malhotra	Minati Choudhury
Sambhunath Das	Parag Gharde	Vishwas Malik

(Demise on 9th August 2022)

#### Additional Professor

Suruchi Hasija	Arindum Choudhury
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### Department of Cardiac Biochemistry

#### Professor and Head

Lakshmy Ramakrishnan

#### Scientist

Manoj Kumar Tembhre	Ransi Ann Abraham
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### Department of Cardio-Thoracic and Vascular Surgery

#### Professor and Head

SK Choudhary

#### Professors

AK Bisoi	V Devagourou	Milind P Hote
Sachin Talwar	P Rajashekar	Manoj Kumar Sahu
	UK Chowdhury	

(On Contract till October 2022)

#### Additional Professors

Sarvesh Pal Singh	Ramesh P Menon
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**Assistant Professors**

Pradeep Ramakrishnan  
Ranjith S  
Sushma Gayatri

Ummed Singh Dhatteval  
Amitabh Satsangi

Mayank Yadav  
Navnita Kisku

Bharath HV

(On Contract upto - 22 July 2022):

Prior to appointment as regular faculty

**Department of Cardiovascular Radiology & Endovascular Interventions**

**Professor and Head**

Priya Jagia

**Additional Professor**

Sanjeev Kumar

**Assistant Professors**

Niraj Nirmal Pandey

**Nuclear Medicine Department**

**Professor**

Chetan D Patel

**Stem Cell Facility**

**Professor and Head**

Sujata Mohanty

**Blood Transfusion Services**

**Chief Medical Officer**

Anjali Hazarika

**Associate Professor**

Gopal Patidar

**HIGHLIGHTS**

**Blood Transfusion Service**

The Blood Transfusion services of CN Centre caters to round-the-clock transfusion needs of patients admitted in CN Centre of AIIMS by collecting, processing and providing safe and quality blood and blood components. The activities include both inhouse and outdoor blood collection, blood donor motivation and pre-donation and post-donation counseling, blood component preparation, various serological tests and special procedures like apheresis and therapeutic phlebotomy.

**Components** like packed red cells, plasma, fresh frozen plasma, platelet rich plasma, platelet concentrate, cryoprecipitate, leucodepleted red cells and platelets are available in adequate nos. at all times. Facility for Apheresis procedures and autologous donation is available. Surplus plasma is being sent for plasma product fractionation. Blood components are subjected to irradiation for heart transplant patients.

**Serological tests** performed in the BTS include tests for blood grouping, screening for irregular antibodies, compatibility tests using latest technology like column agglutination and SPRCA assay. Every unit of blood collected is tested for transfusion transmissible infections like Hepatitis B, Hepatitis C, HIV-1 and 2, syphilis, and Malaria. Automation is used in most of the laboratories in the department for better output and quality. Donor blood samples are also being subjected to NAT (Nucleic Acid Amplification test) screening as an additional screening test to detect HIV/HCV/HBV and thus improve blood safety.

**Quality management system** is in place for its products like blood and blood components, equipments, processes, and services. The BTS also participates in External Quality Assessment Scheme by SDMH Jaipur and IRCS Mumbai, for its various Lab Tests.

**Haemovigilance**, the department participates in the Haemovigilance Programme of India (HvPI) for both recipient as well as donor haemovigilance on a regular basis.

**Pneumatic Tube System** is available for transporting Patient blood samples and forms.

**Computerisation** of the Blood Bank procedures through e-blood bank software module by NIC, for real-time data generation and integration with the HIS is in place.

### **Cardiology**

In the year 2022-2023, the Department of Cardiology catered to nearly 1,00,000 outpatient visits even during the pandemic, and a substantial number of teleconsultations. More than 6500 patients underwent interventional procedures including angioplasty, pacemakers, device implantations, and balloon valvoplasties.

During this period, the Department participated in several research projects studying patients across a wide spectrum of cardiac diseases. Important publications relating to Vitamin K antagonists in RHD, STEMI, hypertension, heart failure, and congenital heart disease were published in high-impact scientific journals. The faculties of the department are part of major cardiology journals including the Indian Heart Journal, Annals of pediatric cardiology, and JPCVS. Various faculty members were part of important committees.

In addition to patient care, research, and teaching, the Department was involved in a major way in furthering the academic discourse in cardiology in the country. Faculty members from the Department have been elected to executive positions in the national and regional cardiology bodies and have helped refocus on the academic agenda.

### **Cardiac Anaesthesia and Critical Care**

- The Faculty and the Resident doctors from the department of Cardiac Anaesthesia were awarded in National and International Conferences.
- All Professors and Additional Professors had been examiners for various DM Cardiac Anaesthesia, MD Anesthesia and DNB anaesthesia course all over India.
- The department has been a pioneer in starting a fellowship in Pediatric Cardiac Anaesthesia and approval sanctioned to start fellowship in vascular Anaesthesia soon.
- All the faculties in the department are the Editors, Editorial board/Review members of various national and international Cardiac Anaesthesia, Anaesthesia and Echocardiography journals.
- Dr Neeti Makhija was an External practical examiner for DM exit exam as Teacher of NBE Cardiac Anaesthesia courses.
- She was a judge in competitive paper presentation session on “Interesting ECHO Images” at 26th Annual Conference of Indian Association of Cardiovascular and Thoracic Anaesthesiologist from 17-19 February 2023 at Jodhpur.
- She Chaired a session that included the following lectures (i) TEE for imaging the Aorta (ii) TEE in OP CABG/Unexpected Finding (PFO, MR, Atheroma etc.) (iii) Epicardial Echocardiography (iv) FATE Protocol and (v) Tricuspid Regurgitation in the 16th National & 7th International TEE workshop & CME from 24-28 August 2022 held at NH-Narayana Health City, Bangalore. Also mentored the porcine heart dissection (Wet lab).
- She Chaired a session on “Physiology Of ECMO” for online CME on ECMO SIMULATION in June 2022 by the South West Asia and Africa Chapter of Extracorporeal Life Support Organization (SWAAC ELSO).
- Dr Poonam Malhotra Kapoor is Continuing as Guest Editor of JAPI – an International journal in Medicine and Healthcare.
- Nominated as President of South West Asia and Africa Chapter of the. Extracorporeal Life Support Organization (SWACELSO) for the year 2022-23.
- Re-nominated as “Fellow of International Society of Cardiovascular Ultrasound: 2022-23” by the International Society of Cardiovascular Ultrasound (ISCU) Society, Alabama USA, for my contribution to Echocardiography.
- Continuing as the President of SCA-Delhi and NCR Branch (non-elected).
- Continuing as Founding Secretary and Chairman Academics of “The Simulation Society”.

- She is Academic content provider for online Fellowship in Cardiac critical care (FICCC), Fellowship in Advanced Echocardiography (FIAE) and Fellowship in Basic Echocardiography (FIBE) online Examination, conducted by The Simulation Society (TSS) and Journal of Cardiac Critical Care (JCCC).
- She was International Examiner of DM Critical Care at Tribhuvan University, Nepal on 23 February 2023.
- Editor-In-Chief. Journal of Cardiac Critical Care, 6.1, 6.2, 6.3, 7.1 issues of JCCC.
- She is Principal Editor of the Book entitled “Advances in Clot Treatment: Textbook of Cardiology” Edited by Dr HK Chopra and published by Jaypee Publishers, 2023.
- Dr Minati Choudhury was invited as a faculty by Royal University Hospital Liverpool, UK to deliver lectures [on-line].
- She was selected as the editor of the Journal of Perioperative transesophageal echocardiography.
- She was invited as external expert in several meetings of Indian College of Anaesthesiologists.
- Her work titled “Anesthetic management of neonate with heart disease and genetic syndrome” received the best paper award at the first Neonatal Anaesthesia conference (LHMC, New Delhi, 31 July 2022).
- She was one of the Judges in competitive section in ICACON 2022, November (Chandigarh), IACTACON 2023 February (Jodhpur) and TEEPGI 2023 March (PGIMER, Chandigarh).
- Dr Suruchi Hasija was nominated as Member of the Editorial Board of the Journal of Cardiovascular Anesthesia since February 2023.
- 45 papers by the Department of Cardiac Anaesthesia were published in various national and international journals.
- The faculties of the Department attended several international conferences and presented papers/delivered lectures.

Under the Stalwart leadership of Prof Sandeep Chauhan, Head, Cardiac Anaesthesia and Critical Care, now the Chief of CT Centre, AIIMS, New Delhi, the faculties and residents of the department in both Phase II and Phase III of COVID-19 Pandemic, rendered round-the-clock ICU and ward management services of COVID-19 patients with PPE and all universal precautions. Morbidity, ventilatory management, ICU positioning and all allied critical care and administrative issues were managed in an exemplary manner along with the Department of Medicine and other allied departments of AIIMS. It was a great learning experience.

#### **Department of Cardiac Biochemistry**

The faculty and scientists of the department have 8 extramural grants and 2 intramural grants as Chief Investigators. Three students are currently pursuing PhD and the faculty from cardiac biochemistry is involved in 10 other PhD theses as co-guide. Faculty of the department is member of project review committee for ICMR in the area of cardiovascular diseases and also in the area of endocrinology. The faculty of the department is a member of research area panel in the area of diabetes for NCDIR, Bangalore. The faculty and scientists in the department have published eight papers in peer-reviewed journals and have contributed for 4 chapters in books. The department started several tests which include testing of BNP, tacrolimus, cyclosporine, procalcitonin, HbA1c, troponin I, CK-MB mass, digoxin and catecholamines for patient care in 2023.

#### **Department of Cardio-Thoracic & Vascular Surgery**

After 2021, when the COVID-19 pandemic subsided, the clinical work at entire AIIMS started limping back towards normalcy. In keeping with these trends, during the period between 1 April 2022 to 31 March 2023, the Department of CTVS was actively involved in pursuing the goals of patient care, teaching, and research in the subspecialty of Cardiothoracic and Vascular surgery. Close to 3000 patients underwent various cardiac surgical procedures. These encompassed the entire spectrum of Cardiothoracic and Vascular surgery. More than 1250 of these were below five years of age with critical cardiac illnesses since birth. An important highlight was that with the active support from the JSSK scheme of the Govt of India, the number of patients below 1 year of age (n = 363) undergoing surgery increased. Using a multidisciplinary team approach, the department actively pursued the transplant program; six patients underwent cardiac transplantation. The first successful lung transplant was performed at AIIMS which is also the first one to be performed at a public hospital; the number of these now stands at two. The protocols of the latter have evolved in the last year. Protocols for conduct of ECMO have allowed surgical management of more complex cardiac defects.

In collaboration with the Department of Cardiology, 4330 patients were treated on an in-patient basis that including 1146 patients who were below 5 years of age. Close to 85,000 patients were attended to in the outpatient services.

The departmental faculty participated actively in webinars and physically attended and delivered invited lectures as and when feasible and paper presentations were exclusively online as per part of webinars. The departmental faculty

delivered 115 invited lectures and papers at various conferences and had more than 25 publications in peer-reviewed national and international journals of repute.

**Steps taken to improve patient care activities:**

The department has steadily been seeing an increasing number of patients in the weekly held “Anticoagulation Clinic” on Sunday that facilitates the follow-up of patients of Valvular heart surgery who are mostly from underprivileged sections of Society. This not only provides all the desired amenities in a single visit, but it also prevents financial losses to patients. It is first of its kind initiative in India which provides all the required services to follow up patients on walk-in basis. A dedicated aortic clinic is held to facilitate protocol-based management of patients with diseases of the aorta and the vascular tree.

**Action Plan for 2023-24**

Besides all the current activities, the Department plans to undertake the following three initiatives:

1. To strengthen the lung transplant program
2. To attempt to establish the heart-lung transplant program
3. To actively increase the number of percutaneous valvular heart replacements and endovascular interventions in collaboration with the Department of Cardiology and the Department of Cardiac Radiology and Endovascular Interventions to initiate hybrid aortic interventions in CTVS OT
4. Develop Minimally Invasive Cardiac Surgery

**Department of Cardiovascular Radiology & Endovascular Interventions**

**Education:**

- The faculty of the department delivered lectures at various National and International Scientific Meetings
- The department hosted observers from various places in India and Abroad. They were/are receiving training in various aspects of cardiovascular imaging and endovascular interventions. The faculties are members of Editorial Boards and Reviewers for numerous Scientific Journals

**Research:**

- The departmental faculty members have been running research projects and thesis. They published research papers in various peer-reviewed international journals. Papers were presented at an international meeting. In addition, Chapters were published in books.

**Clinical care:**

- The department continues to provide Cardiovascular Imaging and Vascular Interventional treatment services to patients referred from various specialty departments in the hospital.

**Nuclear Medicine Department**

Nuclear Medicine in Cardiothoracic Centre (CTC) performs diagnostic nuclear cardiology procedures and is equipped with a Dual Head SPECT-CT Gamma Camera. SPECT imaging for assessment of myocardial perfusion and PET studies for evaluation of myocardial viability and infective/inflammatory cardiomyopathies are routinely performed. The unit is also actively involved in teaching and research work. Postgraduate students pursuing MD degree in Nuclear Medicine and MSc, Nuclear Medicine Technology are posted on rotational basis and are trained in reporting and understanding technical aspects of nuclear cardiology studies, respectively. The department is also involved in thesis or research paper work of 26 DM, MD, PhD and MSc (Nuclear Medicine Technology) students. We have standardized the use of non-FDG tracer like Gallium-68 DOTANOC for cardiac sarcoidosis and inflammatory pathologies. We are participating in a multinational project titled “*Transthyretin Amyloid Cardiomyopathy study (iTAC study)*” which will evaluate the role of Tc99m-PYP in diagnosis of cardiac amyloidosis. The project is funded by International Atomic Energy Agency, Austria. The department head is also Chief Investigator in international multi-center research project titled “*International study on imaging in Cardio-Oncology Study (iCOS)*”, funded by International Atomic Energy Agency, Austria.

**Stem Cell Facility**

Stem Cell Facility (SCF) is committed to rendering excellent patient care services with an integral part dedicated towards basic, preclinical, and clinical research in Stem Cell & Regenerative Medicine, during the past financial year, 2022-2023. Department of Biotechnology (DBT), Govt of India has extended its financial support in Phase II from July 2017 to December 2022, towards developing this Facility as Centre of Excellence in Stem Cell Research. Overall, the Facility is currently engaged in 13 ongoing projects in collaboration with other departments of AIIMS and funded by DBT, ICMR, DST, IUSSTF, AIIMS etc. In terms of ad-hoc manpower, a dedicated team of 07 PhD research scholars,

05 MD&DM students, and 05 trainees are registered for degree, along with a team of 04 Scientists currently recruited in Govt funded projects at the Facility. In the current year, the Facility has successfully published a total of 18 research publications in high impact peer reviewed journals. Dr Sujata Mohanty has presented her research findings at various national (15 nos.) and international (01 no.) scientific forums. She is part of editorial board committees of reputed international scientific journals, namely, Scientific Reports (Nature publishing group), Translational Surgery, Current Trends in Stem cells and Regenerative Medicine, Insights in Stem Cells, etc. She is also an active member of various International & National scientific bodies like International Society for Cellular Therapy (ISCT), International Society for Stem Cell Research (ISSCR), International Society of Biological Chemists (ISBC), The Indian Science Congress (TISC), The Indian Immunological Society (TIIS), and Indian Society of Extracellular Vesicles (ISEV). During this financial year, the Facility has initiated scientific collaborations with six international universities (University of Michigan, USA; Bridgeport University, USA; Indiana University, USA; Purdue University, USA; Iran University of Medical Sciences, Iran; and University College of London, UK)

**Activities/steps taken to improve patient care services, education and research:**

SCF is providing amniotic membrane grafts to the trauma center, RPC for patient care services at AIIMS and to hospitals outside AIIMS. We are also isolating limbal stem cells from patients for the corneal regeneration in collaboration with RPC. Recently we have initiated provision of stromal vascular fraction-based osteoarthritis treatment in collaboration with the Department of Orthopedics, AIIMS. Regarding research, we are collaborating with various national and international institutes for knowledge transfer.

**EDUCATION**

**Cardiology**

The Department of Cardiology is involved in educating and training undergraduate and postgraduates. The daily online academic activities include journal club, mortality meeting, cath conferences, short and long seminars, debates, clinical case discussions, and spotters by faculty.

**Cardiac Anaesthesia and Critical Care**

- 6 DM candidates including 1 sponsored and 4 other MD-Junior resident doctors from Main Anesthesia department have undergone super specialty training in Cardiac-Thoracic-Anesthesia.
- 11 Candidates are pursuing DM in the department
- 2 Non-DM candidates
- 1 candidate is pursuing Fellowship in Paediatric Cardiac Anaesthesia

**Department of Cardiac Biochemistry**

- The department has an active PhD program and 3 students are currently pursuing PhD in the department
- One MD student is pursuing thesis in the department
- Guiding 10 students as co-guides
- Also involved in undergraduate teaching

**Department of Cardio-Thoracic & Vascular Surgery**

The department was actively involved in the teaching of undergraduates, postgraduates, MCh students, BSc, and MSc Nursing students. These academic activities included regular classroom and online teaching activities comprising journal club presentations, mortality meetings, seminars, debates, clinical case discussions. The departmental faculty was actively involved in examiner panels of reputed universities.

Currently, 25 students are pursuing MCh in CTVS, and 4 are pursuing DM in cardiac surgical intensive care. 10 students have completed and passed in MCh in CTVS. Three have passed DM in cardiac surgical intensive care. During the period, from 1 April 2022 to 31 March 2023, 8 qualified post-MCh Senior Residents have actively contributed towards clinical and educational activities of the department at various stages. The department has been actively training postgraduates from the department of general surgery, department of cardiology and physiotherapists.

**Seminar**

1. Workshop on “Airway Management in ICU patients” was conducted in seminar Room, CT Centre, AIIMS, New Delhi was conducted on 21 August 2022
2. Workshop on “IABP management” was conducted in Seminar Room, CT Centre, AIIMS, New Delhi on 16 October 2022

**Department of Cardiovascular Radiology & Endovascular Interventions**

**Teaching:**

*Extra-departmental*

- **Undergraduates:** Lectures on the basics of Cardiovascular Imaging and Vascular Interventions
- **Postgraduates:** Cardiac Radiology Quiz, Moderating Seminars in departments of allied specialties viz. Medicine Surgery, Gastroenterology, Cardiology and Cardiothoracic Surgery Clinico-radiology meetings with the Department of Cardiology and CTVS Participation in Clinical Combined Rounds and Clinical Grand Rounds with Allied specialties

*Intra-departmental*

- Daily case presentations
- Weekly Journal Clubs and Seminars

**Training:**

- Training of Junior and Senior Radiology Residents, Senior Residents in Cardiology, CTVS and Cardiac Anaesthesia, and External observers in Techniques of Cardiovascular Imaging and Vascular Interventions

**Nuclear Medicine Department**

Number of lectures for undergraduates allotted & delivered: 1

No. of Postgraduate students: 66 (29 MD Nuclear Medicine students & 37 MSc Nuclear Medicine Technology students on rotational basis in Nuclear Cardiology)

No. of Thesis/research papers completed: 14

Moderator in Journal Club/Seminars/Intra-department lectures: 8

No. of new thesis started: 7

‘On site’ teaching of MD students while reporting clinical studies

**STEM CELL FACILITY**

S. No.	Program	Number of Students
1.	MSc	NA
2.	PhD	07
3.	DM & MD	05
4.	<b>Training:</b>	
	Short term	05
	Long term	NA

**CMES/WORKSHOPS/SYMPOSIA/NATIONAL AND INTERNATIONAL CONFERENCES**

**Cardiology**

CSI- Delhi branch meeting, 26-27 March 2023, New Delhi

**Cardiac Anaesthesia and Critical Care**

1. 5th TSS Dr KK Malhotra oration at the ECMO workshop 19 June 2022, AIIMS, New Delhi
2. Hands-on TEE CME workshop on ECMO simulators, 4 December 2022, New Delhi
3. Organized 6 seminars, 5 Webinars and 5 workshops under TSS and SCA-Delhi & NCR Branch as academic administrative in-charge, 2022-2023, New Delhi
4. Transthoracic Echocardiography workshop as course director at NIEGREMS, ISACON, 22-26 November 2022, Meghalaya, ISACON
5. Lung ultrasound workshop as course director at NIEGREMS, 22-26 November 2022, Meghalaya, ISACON
6. Lung ultrasound and diaphragmatic as course director at National conference CCILBS, New Delhi 2023 March, March 2023, New Delhi
7. Course director for PBLD, Narayana Hridayalaya, Bengaluru, 13th National TEE workshop, 20-26 August 2022, Bengaluru

8. Hands-on workshop(s) on Anticoagulation on ECMO, Types of cannulas and hybrid cannulation, Chattering on Simulator, Oxygenator changeover in ECMO in troubleshooting, Hands-on CME ECMO Simulation, 19 June 2022, SET Facility, AIIMS, New Delhi

#### **Stem Cell Facility**

1. Hands-on workshop on 3D Bioprinting for Tissue Engineering, 21-22 March 2023, New Delhi
2. ExoTECH-2022, Workshop & Hands-on-training on Exosomes: A platform for novel therapy & diagnostics, 10-12 October 2022, New Delhi

**Lectures delivered: 308**

**List of oral papers/posters presented: 23**

#### **RESEARCH**

##### **Blood Transfusion Services**

##### **Departmental projects**

###### *Ongoing*

1. A randomized control trial to determine the efficacy and schedule of oral calcium supplementation for prevention of adverse citrate reaction in plateletpheresis donors
2. A pilot study to assess the items for the anxiety related events among blood donors and establish their face and content validity at a tertiary care academic institute in North India
3. Randomized controlled trial to determine the comparing effectiveness of Acute Normovolemic Haemodilution (ANH) for perioperative blood management in patients undergoing scoliosis surgery
4. Investigation of immunological compatibility of Bombay H serum with enzyme converted red blood cells
5. Bulk transfer of blood: A way forward for inventory management in blood centre
6. Assessment of appropriateness of donor selection criteria regarding pre-donation haemoglobin value and inter-donation interval

###### *Completed*

1. Prospective observational study to assess the prevalence of platelet refractoriness and its reasons in patients receiving multiple platelet transfusion
2. Analysis of current Transfusion Practices in neonatal patients of  $\leq 28$  Days of Age
3. Incidence of delayed adverse events in blood donors following whole blood donation in Indian setting
4. Analysis of quality parameters for platelet concentrates prepared using different component preparation techniques
5. Effect of whole blood donor parameters (age, gender and BMI) on outcome of patients undergoing cardiac surgery
6. Multi-centre Cross-sectional Questionnaire Survey on effectiveness of Haemovigilance Programme of India
7. Validation of donor adverse reaction severity grading tool by National Donor Vigilance Programme of India
8. How to meet blood and CCP demand (including matching demand to supply using MODELLING/artificial intelligence)
9. How to organize outpatient pre-hospitalized patients with regard to receiving convalescent plasma
10. Comparisons of various screening technologies for transfusion-transmitted infectious diseases

##### **Collaborative projects**

###### *Ongoing*

1. Defining the Fc receptor based immune landscape in Rheumatoid Heart Disease, Dept of Cardiac-Biochemistry, CNC, AIIMS
2. Exploring the potential of Extracellular vesicles derived from Endothelial Colony forming Cells (ECFCs) primed with Mesenchymal Stromal Cells (MSCs) as a cell free therapy for Cardio vascular Diseases (CVDs), Dept of Cardiac-Biochemistry, CNC, AIIMS
3. To study the immunomodulatory effect of tumour-derived exosomes on  $\gamma\delta$  T-cells, Dept of Biochemistry, AIIMS
4. A study of immune responses in the pathophysiology of human Chronic Pancreatitis, Dept of Biochemistry, AIIMS

5. Evaluation of Mesenchymal Stem Cell derived exosomes on neutrophil-induced tissue damage in the animal models of liver and heart disease, Stem cell Facility, AIIMS
6. Effect of Hyperglycaemia on Macrophage Function in Pathophysiology of Pulmonary TB, Dept of Biochemistry, AIIMS
7. Comparing the Vascularising potential of MSCs and MAPCs in monoculture and coculture systems with human OECs under normoxia and hypoxia, Stem cell Facility, AIIMS
8. Study the Potential Role of HLA-G mediated Immunomodulation by Tissue Specific Human Mesenchymal Stem Cells, Stem cell Facility, AIIMS
9. Regulation of HIV Reservoirs through Autophagy, Dept of Biochemistry, AIIMS
10. Targeting Telomerase Reverse Transcriptase (TERT) gene to immortalize Peripheral Blood Mononuclear Cells of patients with coronary artery disease, Stem cell Facility, AIIMS
11. Complement factor H (CFH)-related protein 1 (CFHR1) and its role in maintenance of immunological tolerance”, Regional Centre for Biotechnology, Fbd
12. Development of Diagnostics and experimental therapeutics using CRISPR-based technologies, Dept of Biochemistry, AIIMS

## **Cardiology**

### **Funded projects**

#### **Ongoing**

1. National Medical College Network, Dr Ambuj Roy, Ministry of Health and Family Welfare, Govt of India, 3 years, 2022-2026, Rs 2,00,000,000/annum
2. Developing and testing a Collaborative Quality Improvement initiative for prevention of cardiovascular disease in India (C-QIP study), Dr Ambuj Roy, National Institute of Health, 5 years, 2019-2024, Rs 10,05,040
3. A global registry to study the demographics, socioeconomic and clinical factors, etiologies, pathophysiology, management, barriers to outcomes of heart failure patients. (G-CHF), Dr Ambuj Roy, Population Health Research Institute, Canada, 7 years, 2016-2023, Rs 98,00,000
4. Establishing a repository of biological samples for Coronary Artery Disease on a cohort of patients undergoing angiography at a Tertiary Hospital, Dr Ambuj Roy, ICMR, 3 years, 2023-2026, Rs 87,12,580
5. “Impact of Indian Adaptation of Mediterranean Diet versus Low fat diet on Dietary Inflammatory Index in patients with Coronary Artery Disease”, Dr Ambuj Roy, ICMR, 3 years, 2023-2026, Rs 38,50, 000
6. Effectiveness of Yoga based Cardiac Rehabilitation (Yoga-CaRe) in Heart Failure: A Randomized Controlled Clinical Trial, Dr Ambuj Roy, ICMR, 3 years, 2023-2026, Rs 30,00,000
7. Treatment optimization for Blood Pressure with Single-Pill combination in India (TOPSPIN), Dr Ambuj Roy, Imperial College of London, 2 years, 2022-2024, Rs 10,00,000
8. Identification and functional validation of candidate microRNA biomarkers in coronary artery disease: An exploratory study, Dr Ambuj Roy, ICMR, 3 years, 2022-2025, Rs 23,00,000
9. Semaglutide effects on cardiovascular outcomes in people with overweight or obesity. (SELECT), Dr Ambuj Roy, Novo Nordisk, 5 years, 2019-2024, Rs 38,00,000
10. Clinical efficacy of Arjuna ksheerpaka [A traditional Ayurvedic formulation of stem bark of Terminalia Arjuna (Roxb. ex DC.) Wight & Arn.] to standard treatment care in post CABG patients. A double blind, randomized placebo controlled pilot study, Dr Gautam Sharma, Dabur India Ltd, 3 years, 2019-2023, Rs 17, 18,640
11. Effect of Yoga-based intervention on VPC burden, quality of life and LV functions in patients with Ventricular premature complexes (VPC): A Randomized Controlled Trial, Dr Gautam Sharma, DST-SATYAM, 3 years, 2021-2024, Rs 3,11,6064
12. Neurodevelopmental outcomes in infants undergoing surgery for congenital heart defects – a prospective multicentre cohort study, Saurabh K Gupta, ICMR, 4 years, 2021-2023, Rs 22.85 lakhs
13. AI-based 3D visualization of computed tomographic datasets, Saurabh K Gupta, SERB, PI (Clinical site), August 2021, Rs 15 lakhs
14. Contribution of copy number and sequence variants in cilia and Sonic Hedgehog pathway genes in the formation of AVSD in Down syndrome, Saurabh K Gupta, ICMR, Co-PI, September 2019, Rs 65 lakhs
15. Material characterization of brain tissue and development of tissue-device interaction based neurosurgical simulation tool, Saurabh K Gupta, ICMR, Co-PI, 2019, Ongoing



### **Completed**

1. National Heart Failure Registry (NHF), Dr Ambuj Roy, Indian Council of Medical Research, 3 years, 2018-2021, Rs 24,00,000
2. A randomized controlled trial of influenza vaccine to prevent adverse vascular events (IVVE), Dr Ambuj Roy, MRC(UK)/McMaster University, 4 years, 2016-2020, Rs 2,16,00,000
3. Childhood and young adult predictors of myocardial structure and function at age 45 years in the New Delhi and Vellore Birth Cohorts, India, Dr Ambuj Roy, British Heart Foundation, 4 years, 2016-2020, Rs 20,00,000
4. Development of guidelines for management of common cardiac emergencies and related complications at district hospital intensive care units under NPCDS, Dr Ambuj Roy, World health organization, 7 Months, May 2019 to December 2019, Rs 6,15,000
5. Population Prevalence of Vitamin D deficiency in Urban and Rural Delhi and its Association with Cardiovascular Disease risk factors, Dr Ambuj Roy, Department of Health and Research, 3 years, 2016-2019, Rs 28,00,000
6. Effects of a yoga-based cardiac rehabilitation programme (Yoga-CaRe) on cardiovascular health: a clinical trial (India) and mechanistic study (UK), Dr Ambuj Roy, ICMR-MRC (UK), 4 years, 2014-2018, Rs 24,00,000
7. Assessment of HDL quality in Healthy Adult Indians and Impact of High Altitude, Dr Ambuj Roy, The Defence Institute of Physiology & Allied Sciences (DIPAS), 2 years, 2017-2019, Rs 49,00,000
8. INTER-CHF was a prospective, international, multicenter registry of approximately 5000 patients with heart failure in Africa, Asia and South America, Dr Ambuj Roy, Educational Grant from Novartis, Rs 4,00,000
9. The UMPIRE Trial – an international, multi-centric trial that aims to investigate the use of fixed dose combination medication polypill compared with usual care in people at high risk of cardiovascular disease, Dr Ambuj Roy, European Commission, Brussels, Belgium, Rs 10,00,000
10. Estimating the cost function of Hospital and the welfare Economics of Medical Care: The case of AIIMS, Dr Ambuj Roy, 2016
11. Txt2Heart pilot study: An international study to develop and pilot tailored text message to improve adherence to medications in cardiovascular secondary prevention”, Dr Ambuj Roy, Medical Research council UK, 1 year, 2017-2018, Rs 21,00,000
12. Aortic & Lung inflammation following COVID: A marker of cardiac events, Dr Ambuj Roy, Department of Science & Technology, 1.5 years, 2022-2023, Rs 17,00,000
13. Multicenter, open-label, study to evaluate safety, tolerability, pharmacokinetics and, pharmacodynamics of LCZ696 followed by a 52-week randomized, double-blind, parallel group, active-controlled study to evaluate the efficacy and safety of LCZ696 compared with enalapril in pediatric patients from 1 month to < 18 years of age with heart failure due to systemic left ventricle systolic dysfunction, Dr S Ramakrishnan, Novartis Healthcare Pvt Ltd, 3 years, 2019, Rs 11,38,720
14. A multicenter study to evaluate long-term safety and tolerability of open label sacubitril/valsartan in pediatric patients with heart failure due to systemic left ventricle systolic dysfunction who have completed study CLCZ696B2319, Dr S Ramakrishnan, Novartis Healthcare Pvt Ltd, 2 years, 2020, Rs 14,38,200
15. Role of virtual dissection in clarifying morphology of double outlet right ventricle (DORV), Saurabh K Gupta, AIIMS, Delhi, 2 years, 2021-2023, Rs 5 lakhs

### **Departmental projects**

#### **Ongoing**

1. Metoprolol in Eisenmenger syndrome – A double-blind placebo-controlled trial
2. A PROBE trial to evaluate the efficacy of yoga-based cardiac rehabilitation in Post-Percutaneous Coronary Intervention patients
3. Prevalence of HFpEF among admitted patients in medicine wards
4. Dapa in children with heart failure
5. Echocardiographic features of rheumatic mitral valve disease
6. Cardiac MRI in acute rheumatic fever
7. Correlation of Imaging and other characteristics with clinical features in Ebstein’s anomaly
8. Characterization of atrial functional mitral regurgitation
9. Lung ultrasound pre and post PDA device closure

#### **Completed**

1. Yoga in coronary artery disease and quality of sleep. YOGA-CADETS

2. Imaging characteristics of CCTGA
3. Utility of CT in PHVT

### **Collaborative projects**

#### ***Ongoing***

1. The Integrated Tracking, Referral, and Electronic Decision Support, and Care Coordination (I-TREC) Platform (Co-PI), Dept of Endocrinology, AIIMS, New Delhi, Emory University, Atlanta, USA
2. Identification of delays and barriers to acute cardiac care in NCR. (Co-PI), Dept of Community medicine, AIIMS, New Delhi
3. Evaluation of a liposome-based cholesterol efflux assay against a macrophage-based efflux assay for measurement of reverse cholesterol transport capacity of HDL (Co-I), Dept of Biochemistry, AIIMS, New Delhi
4. Mission Delhi, Department of Emergency medicine & ICMR
5. STEMI ACT, Department of Emergency medicine & ICMR

### **Cardiac Anaesthesia and Critical Care**

#### **Funded projects**

#### ***Ongoing***

1. Efficacy of SUPAR and FIBTEM in CABG patients, Poonam Malhotra Kapoor, JCCC-TSS research Grant, 1 year, 2022-2023, Rs 2 lakhs
2. Comparison of del nido cardioplegia solution and Microplegia in paediatric patients undergoing elective Repair of tetralogy of fallot - a prospective, Randomized clinical trial, Jaydeep Malakar, PI: Sachin Talwar Co-PI: Poonam Malhotra Kapoor, JCCC-TSS research Grant, 2022-2024, Rs 2 lakhs
3. A prospective observational study to make an estimate of blood and blood products requirement in corrective congenital Cyanotic heart surgeries, Sandeep Chakraborty PI: p. Rajshekar, Co-PI: Poonam Malhotra Kapoor, AIIMS, 2022-2024, Rs 2 lakhs

#### ***Completed***

1. Efficacy of SUPAR in cardiovascular Disease, Poonam Malhotra Kapoor, JCCC-TSS research Grant, 1 year, 2021-2022, 2 lakhs

### **Departmental projects**

#### ***Ongoing***

1. Left atrial strain as a predictor of postoperative atrial fibrillation after mitral valve replacement for mitral stenosis - A prospective observational study
2. Comparison of thoracic fluid content in off pump and on pump coronary artery bypass graft surgery by impedance cardiometry
3. Comparison of TEE derived pulmonary venous flow deceleration time, tissue Doppler and diastolic strain indices for estimation of left ventricular end-diastolic pressure in patients undergoing CABG
4. A comparison of Multiple injection costo-transverse block (MICB) and Erector spinae plane block (ESPB) for post-sternotomy pain relief in paediatric patients undergoing cardiac surgery- A prospective, randomized, comparative study
5. Outcomes in Low flow ECMO – perfusion based project
6. Comparison of induction time with intravenous thiopentone in patients with and without valvular heart disease

#### ***Completed***

1. Role of Echocardiography derived right ventricular function parameters as compared to PRV/LV ratio for evaluation of perioperative right ventricular function in children undergoing intracardiac repair for tetralogy of fallot
2. Comparative evaluation of the three point-of-care testing devices; Thromboelastograph (TEG), Rotational thromboelastometer (ROTEM) and Sonoclot analyzer in cyanotic congenital cardiac surgery: a correlation with routine laboratory tests and postoperative bleeding
3. FLEV & FIBTEM A5 as Point of Care Testing in Cyanotic cardiac children
4. BNP measurements for on pump and off pump BD Glenn – Mch Thesis
5. Del Nido cardioplegia based BD Glenn surgery with inflammatory markers IL6, IL-18 and TNF  $\alpha$

6. A prospective observational study to make An estimate of blood and blood products Requirement in corrective congenital Cyanotic heart surgeries
7. FLEV & FIBTEM A5 as Point of Care Testing in Cyanotic cardiac children – DM thesis
8. Comparison of thoracic fluid content in off pump and on pump coronary artery bypass graft surgery by impedance cardiometry

## **Department of Cardiac Biochemistry**

### **Funded projects**

#### ***Ongoing***

1. Effect of augmentation of intracellular BH4 levels, by GTPCH-1 gene transfer, on nitric oxide synthase activity, protein levels and dimerization in ECFCs from CAD patients and its effect on ECFC functionality, R.Lakshmy, ICMR, 2 years, 2023-2025, Rs 43,83,288
2. To study the association of circulating Endothelial Progenitor Cells (EPC) with Intrinsic Capacity (IC) in older adults, R Lakshmy, ICMR, 2 years, 2023-2025, Rs 63,40,005
3. External quality assurance (EQA) for testing of blood samples for Diabetes National Model Study NCDIR, R Lakshmy, NCDIR, 3 years, 2023-2026, Rs 15,00,000
4. Exploring the potential of Exosomes derived from Endothelial Colony Forming Cells (ECFCs) primed with Mesenchymal Stromal Cells (MSCs) for Cardio-Vascular Diseases (CVDs) as a cell-free therapy funded by ICMR, R Lakshmy, ICMR, 3 years, 2021-2024, Rs 49,00,000
5. Effect of a probiotic formulation on iron absorption in iron deficient women of reproductive age: a double-blind, randomized placebo-controlled trial, R.Lakshmy, UNIQUE BIOTECH, 2 years, 2021-2023, Rs 45,00,000
6. Defining the whole exome sequencing based genetic determinants in Indian patients with congenital heart diseases, Dr Manoj K Tembhe, DHR (ICMR), Project approved in February 2023, Approved, Rs 50 lakhs
7. “Deciphering the impact of Fcγ receptors on Neutrophil extra-cellular trap (NETs) formation potential of neutrophils in active psoriasis and its psoriasis and its correlation with diseases severity”, Dr Manoj K Tembhe, ICMR, New Delhi (extramural grant), 3 years, 2023-2025, Rs 50 lakhs
8. Elucidating the role of TNIP1, IL2B and NFkBIA and their target micro RNA in regulating the inflammation and skin homeostasis in psoriasis. (ICMR-1125) as PI\*, Dr Manoj K Tembhe, ICMR, New Delhi (extramural grant), 3 years, 2019-2022, Rs 45 lakhs
9. Elucidating the role of alarmins in triggering the Neutrophil Extracellular Trap (NETs): Implication in immune regulation and skin homeostasis in psoriasis, Dr Manoj K Tembhe, AIIMS Intramural grant, 2 years, 2021-2023, Rs 10 lakhs
10. Analyzing the expression profile of angiogenesis-related proteins to understand the effect of aging on angiogenesis in geriatric population, Dr Ransi Ann Abraham, AIIMS Intramural Grant, 2 years, 2022-2024, INR 10,00,000

#### ***Completed***

1. Endothelial colony forming cells (ECFC) functionality in adults born small for gestational age as compared to those born appropriate for gestational age in the New Delhi Birth Cohort: A possible mechanism linking fetal growth restriction with adult chronic diseases, R Lakshmy, ICMR, 2.5 years, 2020-2022, Rs 40 lakhs
2. Defining the role of Neutrophil Extracellular Traps (NETs) in immune regulation and inflammation, Dr Manoj K Tembhe, AIIMS, New Delhi (Intramural grant), 2 years, 2017-2019, Rs 10 lakhs
3. Deciphering the mechanism of alarmin induced necroptosis and its role in immune homeostasis and inflammation in atherosclerosis, Dr Manoj K Tembhe, DST-SERB (Early career research grant award-Extramural), 3 years, 2018-2021, Rs 50 lakhs

### **Departmental projects**

#### ***Ongoing***

1. Exploring the potential of Exosomes derived from Endothelial Colony Forming Cells (ECFCs) primed with Mesenchymal Stromal Cells (MSCs) for Cardio-Vascular Diseases (CVDs) as a cell-free therapy
2. “Elucidating the intricate network of alarmins-autophagy-necroptosis in driving inflammation, immune regulation and cardiac homeostasis in cardiomyopathy”
3. “Defining the Fcγ receptor based immune landscape in Rheumatoid Heart Disease

## Collaborative projects

### Ongoing

1. Predictors of low milk volume among mothers of preterm admitted in a tertiary care facility, Nursing College
2. Establishing a repository of biological samples for Coronary Artery Disease on a cohort of patients undergoing angiography at a Tertiary Hospital, Cardiology
3. Development of longitudinal growth reference and assessment of growth velocity cardio metabolic measures and its correlation among children in India A prospective study, Biostatistics
4. Impact of Indian Adaptation of Mediterranean Diet versus Low fat diet on Dietary Inflammatory Index in patients with Coronary Artery Disease, Cardiology
5. Th2/Th17 inflammation modulating filaggrin expression and disease severity in children with moderate atopic dermatitis, Dermatology & Venereology, AIIMS, New Delhi (L'Oreal funded IADVL project)
6. Clinical and immunological factors predicting relapse in patients with pemphigus treated with Rituximab: A prospective cohort study (Ref. No. IEC-738/07.02.2020, RP-46/2020, Dermatology & Venereology, AIIMS, New Delhi (AIIMS Intramural project)

### Completed

1. A single blinded randomized control study to evaluate the effect of Rajyoga meditation on biochemical and cognitive correlates of cardiac rehabilitation in patients of surgical repair for congenital heart disease, Cardiac Anesthesia
2. Evaluation of a liposome based cholesterol efflux assay against macrophage based reflex assay for measurement of reverse cholesterol transport capacity of HDL, Biochemistry
3. Defining miRNA signatures in vitiligo and skin pigmentation (as Co-Investigator), (L'Oreal funded IADVL project)
4. Defining the role of genetic, epigenetic and immunological components involved in the pathogenesis of Alopecia areata (as Co-Investigator), ICMR, New Delhi
5. A Randomized Control Trial to assess the effectiveness of Nurse-Led Structured Telephonic Heart Failure Management Programme on selected health related outcome variables at 3 months, College of Nursing, AIIMS, New Delhi

## Research projects over past 3 years

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	4	5	10
Total funding (Lakhs)	Rs 3,23,00,000	Rs 1,55,00,000	Rs 3,51,23,293

## Department of Cardio-Thoracic & Vascular Surgery

### Funded Projects

#### Ongoing

1. Dafodil-1: A prospective, multicenter, single arm clinical study to evaluate safety and performance of the Dafodil pericardial bioprosthesis in patients who require replacement of their natural or prosthetic aortic or mitral valve, Dr SK Choudhary, Meril Life Sciences Pvt Ltd, Survey No 135/139, Bilakhia House, Muktanand Marg, Chala, Vapi-396191, 5 years, 2019-2024, Rs 30 lakhs

#### Completed

1. Randomized control study to evaluate the efficacy of Ayush Card tea Raj Yoga meditation versus conventional treatment on clinical recovery and post-operative outcomes following mitral valve open heart surgery, Dr S K Choudhary, Ministry of AYUSH, AYUSH Bhawan, INA, New Delhi-23, 3 years, 2019-2022, Rs 55 lakhs
2. KAP study on the scientific awareness & health practices regarding ergonomics in school children and its effect on musculoskeletal and respiratory system, Dr S K Choudhary, Department of Science & Technology, Government of India, 3 years, 2019-2022, Rs 48.2 lakhs

## Departmental projects

### Completed

1. Cardiac anatomy in patients undergoing Fontan operation

2. Correlation of Age, LV Mass Index, thickness of Interventricular septum, direction of movement of Interventricular septum and LV strain pattern with Early Recovery, Morbidity & Mortality in Arterial Switch Operation in Transposition of the Great Arteries with Intact Interventricular septum”
3. Plasmalyte-A based del Nido Cardioplegia versus Plain Ringer based del Nido Cardioplegia: Double blind randomized trial
4. Bidirectional Glenn anastomosis: A comparison of outcomes of patients up to 6 months versus more than 6 months to one year age
5. Comparison of Del Nido Cardioplegia Solution and Microplegia in Pediatric Patients Undergoing Elective Repair of Tetralogy of Fallot – A Prospective Randomised Clinical Trial
6. Early outcomes of isolated aortic valve reconstruction using glutaraldehyde fixed autologous pericardium – ozaki procedure
7. Predictive value of metabolomic profiling in diagnosis and prognosis of rheumatic valvular heart disease
8. Comparison of recovery of pulmonary function in patients with lv dysfunction undergoing CABG on pump vs off pump
9. Long term result following arterial switch operation for transposition of great arteries with intact ventricular septum operated at age more than or equal to 2 months of age
10. Results of bio prosthetic valves - 20 yrs
11. Serum Vitamin D levels in patients undergoing CABG and its effect on sterna healing
12. Comparison of pulmonary function tests in patients undergoing On pump vs Off pump CABG

### ***Ongoing***

1. Effect of peri-operative use of Vasopressin on pleural effusion after Fontan operation: Prospective trial
2. A Meta-analysis of published studies in which Total cavopulmonary connection was performed with or without extracorporeal circulation
3. Palliative Atrial switch procedure leaving the ventricular septal defect open in patients with d-Transposition of great arteries, Ventricular septal defects and severe pulmonary arterial hypertension
4. Oral Sildenafil Administration In Patients Undergoing Extracardiac Fontan Procedure – A Double Blind Randomized Study
5. Discordant Atrioventricular with Concordant Ventriculoarterial connections in Normally Related and Anatomically corrected Malposition of Great Arteries
6. Role of Neutrophil Lymphocyte Ratio (NLR) and Lymphocyte Monocyte Ratio (LMR) in Prediction of Outcomes in Children Undergoing Elective Repair of Tetralogy of Fallot
7. Anatomy and Hemodynamics in Patients Undergoing the Extracardiac Fontan Operation – Comparison of Echocardiography, Computed Tomography and Cardiac Magnetic Resonance Imaging: A Prospective Observational Study
8. Analysis of immediate and short-term outcomes of pulmonary root transfer surgery- a Retrospective
9. Efficacy of dexmedetomidine and amiodarone in conversion of junctional ectopic tachycardia to sinus rhythm or to control heart rate in postoperative cardiac surgery patients
10. Comparison of early and mid term outcomes of mechanical versus bioprosthetic valve in pulmonary position in tot patients -primary surgery and redo surgery (corrected tot)
11. Comparison of del-nido cardioplegia solution and microplegia in paediatric patients undergoing elective repair of tetralogy of fallot – a prospective randomized clinical trial
12. Preoperative use of febuxostat in cardiac surgery - a double blind prospective randomised phase ii trial
13. Comparison of left ventricular myocardial interstitial fibrosis in 2 group of patients with rheumatic mitral valve stenosis (Wilkins score < 8 vs > 10) and their early postoperative outcome
14. Comparing Copeptin and BNP levels as biomarkers for heart failure in patients 6 months after aortic valve replacement procedure and its correlation with myocardial fibrosis
15. Clinical utility of liquid biopsy in cardiac allograft rejection
16. Comparative effect of levosimendan and milrinone on pulmonary artery pressure in pediatric patients undergoing corrective surgeries for congenital heart disease with pulmonary artery hypertension: A randomized double blinded clinical trial
17. Measurement of change in thoracic fluid content by impedance cardiometry in infants with congenital heart disease undergoing BT shunts surgeries: a prospective longitudinal observational study

18. Serum vitamin D levels in patients undergoing CABG: correlation with sternal healing after 2 months
19. Impact of age, lv mass index, thickness of ivs, direction of movement of ivs on early recovery: morbidity and mortality in aso in TGA
20. Outcome of ventilator-associated pneumonia in children after cardiac surgery – a prospective observational study
21. Bnp as a predictor of atrial fibrillation in patients undergoing off-pump CABG patients - a prospective observational study
22. Detection of silent cardiac allograft vasculopathy with speckle tracking echocardiography in heart transplant recipients: a comparative study with conventional endomyocardial biopsy
23. Clinical course and outcomes of heart transplant patients with covid infection
24. The outcomes of tracheostomy in pediatric cardiac surgical patients
25. Pathological comparison of degenerative changes in pulmonary trunk and ascending aorta in patients of bicuspid aortic valve and tricuspid aortic valve
26. Early outcomes of isolated aortic valve reconstruction using glutaraldehyde fixed autologous pericardium – ozaki procedure
27. An assessment of neurodevelopmental outcomes in children with transposition of great arteries with intact ventricular septum who underwent primary arterial switch operation in infancy with integrated ECMO support compared to children who underwent surgery without integrated ECMO support.
28. A study of presentation surgical management and outcomes of paediatric mitral valve diseases
29. Predictive value of metabolomic profiling in diagnosis and prognosis of rheumatic valvular heart disease
30. Bidirectional superior cavopulmonary anastomosis: a comparison of outcomes of patients upto 6 months versus more than 6 months to one year age
31. Long term result following arterial switch operation for transposition of great arteries with intact ventricular septum operated at age more than or equal to 2 months of age
32. Results of bio prosthetic valves - 20 yrs. Study.
33. Comparison of recovery of pulmonary function in patients with lv dysfunction undergoing CABG on pump vs off pump
34. Outcomes of surgical correction of coarctation of aorta in adults-retrospective study.
35. Comparison of early and mid term outcomes of mechanical versus bioprosthetic valve in pulmonary position in tof patients -primary surgery and redo surgery (corrected tof).
36. Analysis of immediate and short-term outcomes of pulmonary root transfer surgery - a retrospective
37. Efficacy of dexmedetomidine and amiodarone in conversion of junctional ectopic tachycardia to sinus rhythm or to control heart rate in postoperative cardiac surgery patients.

## **Department of Cardiovascular Radiology & Endovascular Interventions**

### **Funded projects**

#### ***Ongoing***

1. Measuring and treating iron overload in thalassemia patients in India to improve the survival, Dr Priya Jagia, AIIMS – UCL Grant, 2 years, 2022-2024, Rs 5 lakhs
2. Precision Cardiovascular Disease Phenotyping and Pathophysiological Pathways in the CARRS cohort (Precision-CARRS), Dr Nikhil Tandon (Dr Priya Jagia as one of investigator), National Institute of Health, USA
3. Evaluation of therapeutic angiogenesis induced by intramuscular autologous platelet rich plasma in non revascularisable critical limb ischemia due to peripheral artery disease, Dr Sanjeev Kumar, AIIMS-Intramural, 2 years with extension, 2019-2022, Rs 4.9 lakhs

### **Departmental Projects**

#### ***Ongoing***

1. Role of 4D Flow MRI parameters (Wall shear stress and pulse wave velocity change) in assessing disease activity and detection of diseased vascular segments in Takayasu's arteritis
2. Evaluation of routability of interventricular communication/VSD in patients of DORV using virtual dissection of multidetector CT angiography images
3. Evaluation of prognostic value of quantitative and qualitative coronary plaques analysis in predicting major adverse cardiovascular events in patients of coronary artery disease

4. Assessment of aortic flow patterns and wall shear stress maps by 4D-flow cardiovascular magnetic resonance in patients with bicuspid aortic valve
5. Role of Cardiac magnetic resonance strain analysis in myocardial iron overload
6. Transarterial Embolization For Clinical Improvement In Adhesive Capsulitis
7. Dose reduction at coronary artery calcium scoring using low tube voltage and tin filtration with advanced calcium-aware image reconstruction technique
8. Correlation of intrathoracic fat parameters and extra coronary calcium with the presence and severity of coronary artery disease and major adverse cardiovascular events
9. Evaluation of left Ventricular Myocardial involvement in Rheumatic Heart Disease (Progressive & Asymptomatic Severe Compensated Valvular Heart Disease) Using Cardiac Magnetic Resonance Imaging
10. Evaluation of left ventricular outflow tract and direct quantification of mitral regurgitation in hypertrophic cardiomyopathy using four-dimensional phase contrast MRI
11. Double Blinded Randomized Controlled Trial evaluating the feasibility, safety and efficacy of Obturator Nerve combined with femoral nerve block for analgesia in patients with varicose veins being treated by Endovenous Laser Ablation of Great Saphenous Vein
12. Superior Rectal artery embolization for grade II/III hemorrhoids - a pilot study
13. Comparison of 4D flow and 2D Phase contrast MRI in the evaluation for pulmonary hypertension in patients with ventricular septal defect
14. Correlation of different myocardial scar quantification method by cardiac MRI for prognostication of patients with hypertrophic cardiomyopathy
15. Supplementary role of CT Coronary Angiography in the assessment of cardiac diastolic function
16. Comparison of Image quality, radiation dose and diagnostic accuracy of Retrospective gated CTVS gated flash in the evaluation of coronary arteries in older children with CHD

#### ***Completed***

1. Test bolus techniques in Fontan circulation on Computed Tomography: An assessment of image quality, contrast dose and radiation dose (DLP)
2. Comparison of blood flow measurements between 2D and 4D phase contrast CMR in repaired TOF patients
3. Comparison of self navigated free breathing 3D coronary MR angiography with coronary CT angiography for the assessment of coronary arteries in Congenital heart disease
4. Diagnosis accuracy and Radiation Dose Reduction at Coronary Artery Calcium Scoring by Using a Low Tube Current and Low kilovoltage peak with Advanced Hybrid Iterative Reconstruction
5. Assessment of presence and outcomes of myocardial injury in COVID-19 survivors: A Cardiovascular magnetic resonance study
6. Randomized control trial of great saphenous vein endovenous laser ablation using high and low energy 1940 nanometer radial fibre in patients with symptomatic varicose vein and saphenofemoral junction incompetence
7. Analysis of right ventricular volume and function: comparison between cardiovascular magnetic resonance in axial, short axis and four chamber view and echocardiography

#### **Collaborative projects**

##### ***Ongoing***

1. Applied novel statistical learning and modeling techniques on CT imaging features for prediction of growth of Stanford Type B Aortic Dissection and real options financial assessment of such health care technology, AIIMS-IIT Project
2. Impact of bariatric surgery in reduction of cardiovascular risk in morbid obesity, Surgery
3. Preparation and study of radiochromic film as radiation dosimeter for medical applications, Radiation Physics
4. DE-CMR compared with FDG-PET for assessment of viability and prediction of functional improvement in patients with CAD and LV dysfunction, Cardiology
5. Role of 68 Ga-DOTANOC PET/CT in cardiac sarcoidosis; comparison with cardiac MR, Nuclear Medicine

##### ***Completed***

1. Role of cardiac magnetic resonance imaging in identification of myocardial fibrosis and wall morphology in patients of nonischemic dilated cardiomyopathy, Cardiology

## **Nuclear Medicine Department**

### **Funded projects**

#### ***Ongoing***

1. International study on imaging in Cardio-Oncology Study (iCOS), Dr Chetan D Patel, International Atomic Energy Agency (IAEA), 5 years, September 2019-ongoing, 25,000 Euros
2. Transthyretin Amyloid Cardiomyopathy study (iTAC study), Dr Bangkim Chandra (PI) & Dr Chetan D Patel (co-PI), International Atomic Energy Agency (IAEA), 5 years, 2021-ongoing, 25,000 Euros

### **Department projects**

#### ***Ongoing***

1. Design and methods of the YOGICAD study - A probe trial to evaluate the efficacy of yoga-based cardiac rehabilitation in Post PCI patients
2. Study of prevalence of concomitant Transthyretin Amyloidosis in elderly patients with severe aortic stenosis by PYP scan
3. Role of PET-CT in assessment of treatment response to neo adjuvant chemotherapy in primary extraocular retinoblastoma
4. Role of <sup>99m</sup>Tc-Pyrophosphate Imaging in detection of transthyretin cardiac amyloidosis (ATTR-cardiac amyloidosis) in high risk population
5. A Machine learning approach to classify skeletal metastasis in bone scintigraphy
6. Radionomics for prostate cancer risk stratification: a machine learning approach
7. Hepatobiliary scintigraphy evaluation of gall bladder ejection fraction using fatty meal protocol: establishment of reference values in the Indian population
8. Dynamic salivary scintigraphy: normal pattern and reference values in Indian Population
9. Role of SPECT-CT bone scan in evaluation of vertebral lesions and its advantages over planar bone scintigraphy
10. Incremental value of CT over planar and SPECT alone in evaluation of solitary lesion on bone scintigraphy
11. Validation of Dynamic stochastic resonance for converting a low count nuclear medicine image into a high count image: a phantom study

#### ***Completed***

1. Evaluating the spectrum of cardiac involvement in sarcoidosis.
2. Clinical profile and outcome of patients with suspected OR confirmed granulomatous myocarditis
3. Role of F-18 FDG in mapping Covid-19 functional sequelae in COVID-19 survivors
4. Role of PET-CT in initial staging of small cell lung cancer
5. Radiolabeling efficiency of a standard vegetarian Indian meal for gastric emptying scintigraphy
6. Assessment of small bowel transit on routine gastric emptying scintigraphy: establishment of reference values
7. Whole gut transit: establishment of reference values
8. Compression of scintigraphic images using Singular Value Decomposition
9. Scintigraphic image contrast enhancement using Fuzzy Logic
10. Compression of Nuclear Medicine Images Using Discrete Cosine Transform
11. Image Restoration using Blind Deconvolution Analysis
12. Texture analysis in Breast Cancer
13. Texture Analysis in Lymphoma Patients
14. Edge aware contrast enhancement (EACE) of Nuclear medicine images
15. Contrast enhancement of F-18-FDG PET images of Liver scan

### **Collaborative projects**

#### ***Ongoing***

1. Aortic and lung inflammation following COVID: a marker of cardiac event an Indo-Australian joint project-funded by Department of Science & Technology, Cardiology
2. Efficacy of yoga-based cardiac rehabilitation in Post-PCI patients: A prospective randomized, open-label, blinded end-point trial - funded by Ministry of AYUSH, CIMR, Cardiology



3. Gastric Emptying Scintigraphy using a Standard Vegetarian Meal: Establishment of Reference Values in Post-Sleeve Gastrectomy Patients on Mid-Term Follow-up, Surgery
4. A study to determine the prognosis of patients with cardiac involvement with sarcoid: development of diagnostic and treatment algorithms, Cardiology, Cardiac Radiology
5. Inflammatory Cardiomyopathy: A study using Artificial Intelligence to validate a diagnostic algorithm combining novel proteomic biomarkers, non-contrast MRI and somatostatin receptor based PET/CT, Cardiology, Cardiac Radiology
6. Diagnostic Accuracy of 68Ga PSMA-11 PET-CT and conventional Imaging for Initial staging of Intermediate and High Risk Prostate cancer Patients (PROCA study), Urology

**Completed: Two**

1. Value of Gated-SPECT MPI for Ischemia-Guided PCI of non-culprit vessels in STEMI Patients with Multivessel Disease after primary PCI - funded by International Atomic Energy Agency, Cardiology
2. Use of PET-CT with Gallium-68 labelled PSMA in diagnosis and follow-up of patients with Prostate Cancer, Urology

**Research projects over past 3 years**

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	1	1	2
Total funding			
Project 1 - 25,000 Euros	5000 euros/year	5000 euros/year	5000 euros/year
Project 2 - 25,000 Euros	-	-	5000 euros/year

**Stem Cell Facility**

**Funded projects**

**Ongoing**

1. Development of Amniotic Membrane and Nano-Fiber Composite Scaffold for Tissue Regeneration, Dr Sujata Mohanty, DBT, 2 years, 2022-2024, Rs 82 lakhs
2. To investigate the role of human mesenchymal stem cell derived exosome as a cell free therapy approach for amelioration of symptoms of autism spectrum disorders, Dr Sujata Mohanty, DBT, 3 years, 2022-2025, Rs 73 lakhs
3. To Investigate the Role of human Mesenchymal Stem Cell Derived Exosomes as a Cell Free Therapeutic Approach for amelioration of symptoms of autism spectrum disorders, Dr Sujata Mohanty, DBT, 3 years, 2022-2025, Rs 75 lakhs
4. Development of exosome based off the shelf product for wound healing, Dr Sujata Mohanty, DBT-BIRAC, 2 years, 2020-2022, Rs 50 lakhs
5. Indo-US joint center: "Cellular reprogramming in Regenerative Medicine" with University of Indiana, Dr Sujata Mohanty, IUSSTF, 3 years, 2019-2022, Rs 38 lakhs
6. Centre Of Excellence for Stem Cell Research: Basic and Translational (Phase-II), Dr Sujata Mohanty, DBT, 5 years, 2017-2022, Rs 292 lakhs
7. Strategies to enhance stem cell delivery to the retina using iron oxide nanoparticle, Dr Sujata Mohanty, DBT, 4 years, 2019-2023, Rs 85 lakhs
8. Intra-articular injection of autologous tissue-derived stromal vascular fraction or Hyaluronic acid for the treatment of symptomatic knee OA: a randomized control trial, Dr Sujata Mohanty, AIIMS, 1 year, 2020-2021, Rs 5 lakhs
9. Autologous ex-vivo cultivated limbal epithelial transplantation for the treatment of unilateral limbal stem cell deficiency due to ocular burns: a multi-centre randomized control trial, Dr Radhika Tandon (PI) Dr Sujata Mohanty (Co-PI), DHR, 3 years, 2022-2025, Rs 90 lakhs
10. A comparative analysis of secretome of mesenchymal stem cells derived from different sources, with a focus on immunosuppressive potential in acute GvHD, Dr Ranjit Sahoo (PI) Dr Sujata Mohanty (Co-PI), ICMR, 3 years, 2022-2025, Rs 61 lakhs

## Departmental projects

### Ongoing

1. Elucidating the regenerative capabilities of exosomes derived from tissue specific mesenchymal stem cells in skin injury model
2. Development of Bioengineered extracellular vesicles derived from human mesenchymal stem cells as a therapeutic intervention for liver disease
3. Development of human amniotic membrane and silk-based 3D printed scaffolds for stem cells and regenerative medicine

### Completed

1. Evaluation of immunomodulatory properties of human mesenchymal stem cells
2. Hepatic regenerative potential of exosomes derived from human mesenchymal stem cells in liver fibrosis model

## Collaborative projects

### Completed

1. 3D printed tracheal grafts for regenerative applications
2. Immunomodulatory properties of mesenchymal stem cells in graft-versus-host-disease
3. Understanding the role of platelet-neutrophil interaction in dengue pathogenesis
4. Synthesis and characterization of the carbon-based nanostructures from bio-wastes for stem cell differentiation

## Details of the Project of 2020-2021, 2021-2022 And 2022-2023

Year	2020-2021	2021-2022	2022-2023
Total number of funded projects	17	08	11
Total amount of extramural/intramural funding (Lakhs)	Rs 66,800,000	Rs 64,500,000	Rs 85,110,797

## PUBLICATIONS

### Blood Transfusion Services

Journal: 2

### Cardiology

Journal: 96

Chapters in Book: 1

### Cardiac Anaesthesia and Critical Care

Journal: 43

Chapters in Book: 34

Books and Monographs: 1

### Department of Cardiac Biochemistry

Journal: 8

Abstract: 2

## Publications over past 3 years

Item	2020-2021	2021-2022	2022-2023
<b>Total</b>			
Journal articles	16	10	8
Abstracts	-	-	2
Chapters in books	3	2	-
Books	-	-	-

## Department of Cardio-Thoracic & Vascular Surgery

Journal: 22

## Department of Cardiovascular Radiology & Endovascular Interventions

Journal: 104

Abstract: 1

Chapters in Book: 1

**Publications over past 3 years**

Item	2020-2021	2021-2022	2022-2023
Total	63	62	106
Journal Articles	62	61	104
Abstracts	0	1	1
Chapters in books	1	1	1
Books	0	0	0

**Nuclear Medicine Department****Journal: 10                      Abstract: 15****Publications over past 3 years**

Item	2020-2021	2021-2022	2022-2023
<b>Total</b>			
Journal articles	13	14	10
Abstracts	3	5	15
Chapters in books	-	-	-
Books	-	-	-

**Stem Cell Facility****Journal: 17                      Chapters in Book: 5****Patents:**

1. Single-step method for synthesizing biocompatible fluorescent magnetic nanoparticle for biomedical application and biomaterial labelled therewith. Date of filing: 30 June2022, Application number: 202211037664, O/Ref: SUJA002INP
2. A Bio composite, composition thereof and method of preparation therefor. Date of filing: 8 July 2022, Application number: 202211039429, O/Ref: SUJA003INP
3. Dual-pore scaffold and method for preparation thereof. Date of filing: 11 March 2023, Application number: 202311026724, O/Ref: SUJA004INP

**Publications over past 3 years**

Year	2020-2021	2021-2022	2022-2023
Total number of publications	38	27	22
Total number of Journal articles	33	25	17
Total number of Abstracts	NIL	NIL	NIL
Total numbers of chapters in book	05	02	05

**Patient Care****Blood Transfusion Services**

<b>BLOOD UNITS COLLECTED</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>
Replacement donors	3939	9090	12318
Voluntary donors in the department	175	241	399
Voluntary through blood mobiles	458	683	693
Family Voluntary Donors	3598	5995	5865
Blood received from Hosp. Blood Bank, AIIMS	224	63	94
Blood received from JPNATC, AIIMS	74	29	41
Blood received from other hospital	188	68	87
<b>Total No. of Blood units collected</b>	<b>8795</b>	<b>16169</b>	<b>19544</b>
<b>BLOOD UNITS ISSUED</b>			
Blood units issued to CTVS/NS	9199	16832	20471

Blood issued to Hosp. Blood Bank, AIIMS	153	308	396
Blood issued to JPNATC	98	215	469
Blood issued to other hospitals	743	910	1974
HIV/HBsAg/HCV reactive units discard	243	504	696
<b>Total No. of blood units issued</b>	<b>10193</b>	<b>18265</b>	<b>23310</b>
<b>LAB PROCEDURES</b>			
Total no. of Blood grouping(ABO)	26836	66142	89425
Total no. of Blood grouping(Rh)	26836	66142	89425
Total no. of Cross matching done	51325	97981	127806
<b>INFECTIOUS MARKERS</b>			
HIV Testing	11233	19437	22316
HBV Testing	11254	18521	21655
HCV Testing	11319	18491	21539
Syphilis Testing	10232	18637	21244
MP testing	10258	17300	20800
<b>Total TTI Tests</b>	<b>54296</b>	<b>92386</b>	<b>107554</b>
<b>NO. OF BLOOD COMPONENTS ISSUED</b>			
Fresh Frozen Plasma (FFP)	7513	15858	20158
Platelet Concentrate	5655	9907	10663
Cryoprecipitate	566	1326	1798
Packed Red Cells	10193	18265	23310
Single Donor Plateletpheresis	17	55	47
<b>Total</b>	<b>23944</b>	<b>45411</b>	<b>55976</b>

### Cardiology

#### Total numbers

New OPD cases	32,012	Old Cardiology Cases	77,411
Patient Services		• TMT	1180
• Holter	2840	• Echocardiography	35,491
• ECG	19,286	• ABP	51
• TEE	168	• HUTT	140

#### Cath Lab Services

CART	1363	Cath	731
Balloon Dilatation	56	PTMC	289
PDA Device	92	ASD Device	86
VSD Device	05	PTCA	1055
Pacemakers	165	ICD	51
CRT	35	RFA	189
CARTO	19	DSA	100
Coil embolization	80	BAS	77
EM Biopsy	35		

### Cardiac Anaesthesia and Critical Care

1. Advanced monitoring facilities (TEE, TTE, NIRS, NICO monitoring) for management of routine, emergency and high risk cardiac surgical patients belongs to all spectrum
2. Specialized cognitive rehabilitation programme for heart failure, heart transplant and LVAD patients
3. Routine stress management programme both for pre and post operative patients

4. Different community programme by the faculties.
5. Special involvement with anesthesia for complex congenital heart surgery
6. Team member of heart failure treatment like heart transplant & LVAD
7. Transesophageal Echocardiography
8. Community Service - Charitable health camps and health education
9. Special involvement with anesthesia for complex congenital heart surgery and OPCAB
10. Team member of heart failure treatment like heart transplant & LVAD
11. Transesophageal Echocardiography
12. Community Service - Charitable health camps and health education

#### **Department of Cardiac Biochemistry**

The Cardiac Biochemistry laboratory offers state-of-the-art diagnostic test facilities in patient care services and the test facilities are catering to patients of CN Centre as well as to other departments of the Institutes and also for outside patients. The Lab operates as combined centralized laboratory for CN Centre and offers blood biochemistry (Blood sugar (fasting, PP, Random), LFT, KFT), hematology (hemogram, PT/INR, ESR), lipid profile, hormone (T3, T4, TSH, Testosterone, FSH, LH, Prolactin, Renin, Aldosterone) and vitamin profile (Vitamin D, B12, folate), drug testing (Cyclosporin, Tacrolimus, anti-epileptic drug testing (valproic acid, Carbamazepine, phenytoin, Phenobarbital, digoxin)), and various other specialized tests (HbA1c, Iron profile (serum iron, UIBC, TIBC, ferritin, catecholamine)) in the centralized lab (presently operating in coordination with Smart Lab). The division of Cardiac Biochemistry is providing the diagnostic test facilities for wide range of cardiac markers (Troponin t, NT-pro-BNP etc.) in CNC Lab including sepsis markers procalcitonin, IL-6 etc. We are in the process of starting in-house lab testing of routine clinical chemistry and Hematology for ward patients.

#### **Total No. of Samples Handled/Analyzed in 2022-2023**

Sl. No.	Name of the test	Sample collected/Analysed (Annual)
1.	OPD blood collection	51,840
2.	Ward collection	47,000
3.	PT	45,500
4.	APTT	12,500
5.	HbA1c	16,640
6.	NT-pro BNP	1572
7.	Procalcitonin	1644
8.	CK-MB	132
9.	Tacrolimus	600
10.	Trop-T	60
11.	Il-6	30
12.	Myoglobin	20
13.	Catecholamines	100

#### **Department of Cardio-Thoracic & Vascular Surgery**

A total of 2824 patients underwent various cardiac surgical cardiac procedures. These consisted of those who underwent coronary artery bypass grafting, surgery for valvular heart disease, of the aorta and vascular tree. 1251 of the total surgeries were in patients below 5 years of age including 363 neonates and infants and comprised of critically ill neonates to patients into infancy and adults with severe forms of neglected congenital heart disease. Of note was that six patients underwent heart transplantation and two underwent lung transplantation. The first of the lung transplant was the first one at AIIMS, besides being the first one at a public hospital.

In collaboration with the Department of Cardiology, more than 6500 patients were treated on an in-patient basis and close to 85281 patients were attended to in the outpatient services; these, more than 5500 patients were seen in special clinics. 4330 patients were treated on an in-patient basis that includes 1146 patients who were below 5 years of age. An unlimited number of patients were provided teleconsultation on dedicated telephone numbers. The department has steadily been seeing an increasing number of patients in the weekly "Anticoagulation Clinic" on Sunday that facilitates the follow-up of patients of valvular heart surgery who are mostly from the underprivileged section of society. This not only provides all the desired amenities in a single visit, but it also prevents loss of

wages. It is first of its kind initiative in India which provides all the required services to follow up patients on walk-in basis. A dedicated aortic clinic is held to facilitate protocol based management of patients with diseases of the aorta and the vascular tree.

#### *Facilities and infrastructure*

**Operating Rooms (ORs):** There are 8 fully functional operating rooms in the Department of CTVS. Each one of these is equipped with all the necessary equipment required for performing the entire range of adult, aortic and paediatric cardiac surgery. These include state-of-the-art monitoring system and anesthesia station, NIRS, BIS, EEG, 3-D echocardiography, cell saver, CPB machines, vacuum assisted venous drainage, centrifugal pump, bronchoscope, and intra-operative neuromonitoring.

**ICU Beds:** The Department has 4 ICUs (54 beds) fully equipped with all advanced facilities for postoperative cardiovascular surgical care.

ICU-A: 16 Beds ICU – B: 18 Beds      Neonatal ICU: 8 Beds      CT-5 ICU: 12 Beds

All beds are fully equipped and all facilities for cardiac intensive care are available.

**General Beds:** The bed strength in the wards is as follows:

CT-4 Ward:            42 Beds + 2 Isolation beds  
 CT-5 Ward:            24 Beds (In addition, 12 beds in CT5 ICU as above) + 2 Isolation beds  
 CT-6 Ward:            12 Beds

**CN Tower (Private Ward):** Thirty-two (32) beds in private/paying ward, shared with Department of Cardiology Homograft Valve Bank: The Department runs the most successful valve bank of the country. This ensures adequate supply of homografts to manage complex paediatric cardiac surgical problems.

**Supportive services:** Five cardiac catheterization labs including, advanced CT scan, MRI, nuclear medicine, ultra-sound, and echocardiography lab, state-of-the-art blood bank, and laboratory services.

#### **Department of Cardiovascular Radiology & Endovascular Interventions**

Item	2020-2021	2021-2022	2022-2023
MRI	391	819	1105
CT	1734	4597	6564
DSA/venogram	174	713	1275
Doppler and Ultrasound	1493	4027	6830

#### **Nuclear Medicine Department**

The department performed diagnostic nuclear cardiological procedures of which myocardial perfusion SPECT imaging is an integral investigation in the diagnosis and management of patients with coronary artery disease. We also performed cardiac PET imaging for both ischemic and non-ischemic causes of Cardiomyopathy. F-18 FDG for assessment of myocardial viability, infective endocarditis and Gallium-68 DOTANOC for inflammatory cardiomyopathies was performed routinely. Technetium-PYP scans were also performed for patients referred for cardiac Amyloidosis. The department performed radionuclide ventriculography for assessment of left ventricular function in patients referred from the center and from IRCH for cardiac evaluation in patients receiving chemotherapy.

Total Number of patients investigated in Nuclear Cardiology from 1 April 2022 to 31 March 2023

Myocardial perfusion study:            1608  
 RNV study:                                    572  
 Cardiac PET                                    219  
 Misc.(V/Q scan,1st pass):                91  
 Tc99m-PYP scans                            41  
 Total number of studies performed - 2,531

Item	2020-2021	2021-2022	2022-2023
OPD consultations (Diagnostic procedures)	686	1613	2531

## Stem Cell Facility

1. Clinical Research: Actively involved in the ongoing Clinical trials using autologous bone marrow derived mononuclear cell to evaluate their safety & feasibility in various disorders, like, Corneal Opacity (ocular surface disorder), Vitiligo, Bone regeneration.
2. Dedicated cGMP (current good manufacturing practices) laboratory for clinical research and patient care.
3. Establishment of animal models for various diseases, like, liver fibrosis, skin wound model etc. for pre-clinical studies using Stem Cells.
4. Maintaining Quality Assurance and Quality Control of all procedures involved in isolation and processing of Stem Cells.
5. Cryopreservation of Stem Cells from Bone Marrow and Umbilical Cord Blood.
6. iPSCs generation from healthy and Megalencephalic leukoencephalopathy patients and development of *in vitro* model of traumatic hemorrhage shock syndrome.
7. Amniotic Membrane Grafts: Recently, we have extended the Amniotic Membrane Graft distribution services from RPC, AIIMS to other departments of AIIMS (Pediatrics Surgery, Trauma Center, AIIMS) and to other Hospitals within and outside Delhi (ESI Hospital, Safdarjung Hospital, Dr Ram Manohar Lohia Hospital, etc.).

Sl. No.	Service Provided	Number of samples processed		
		2020-2021	2021-2022	2022-2023
1.	Stem Cell Isolation from Bone Marrow	30	25	22
2.	Stem Cell Isolation from Adipose Tissue	05	05	06
3.	Stem Cell Isolation from Wharton's Jelly	10	12	20
4.	MNC Isolation from Bone Marrow	02	02	06
5.	MNC Isolation and Cryopreservation from Umbilical Cord Blood	04	04	03
6.	Cryopreservation of Apheresis sample	08	09	20
7.	Cultured Oral Mucosa Epithelial Transplantation	04	04	28
8.	Culture Limbal Epithelial Transplant	03	03	05
9.	Viability of stem cells (pre & post transplantation/infusion)	15	15	06
10.	Amniotic Membrane preparation for grafting	19 batches (470 vials)	20 batches (500 vials)	14 batches (420 vials)
11.	Stem Cell Enumeration (CD34 + count)	05	06	05

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

### Blood Transfusion Services

**Professor Anjali Hazarika** chaired a scientific session at Institute of Liver & Biliary Sciences, Vasant Kunj on "Update on Screening for Transfusion Transmissible Infections" on 22 July 2022.

### Cardiology

**Professor Balram Bhargava** is DG, ICMR and Secretary, DHR.

**Professor Sandeep Seth** is Editor in Chief, JPCS.

**Professor Nitish Naik** is Secretary, CSI Delhi Branch and Convenor, STEMI Council of CSI

**Professor Rakesh Yadav** is Editor, Indian Heart Journal and Treasurer, CSI Delhi branch.

**Professor Sandeep Singh** is Executive Director, School of International Biodesign.

**Professor Karthikeyan G** is Executive Editor, Heart and Associate Editor, European Heart Journal, South Asia.

**Professor Gautam Sharma** is Distinguished Professor (Honorary) in the division of Yoga & Life Sciences of Swami Vivekananda Yoga "AnuswadhanaSamsthana" (S-VYASA), Bengaluru, Karnataka; took part in Torrent ISHR Oration; 13th Cardiology Chair Oration, SVIMS, 5 July 2022, Tirupati, AP and Satish K Parashar Oration - Echocardiography in RHD: Our journey Young adults with congenital heart disease presenting with heart failure, Annual Conference of the Indian Academy of Echocardiography (Echo India 2022), 18-19 November 2022, Hyderabad

**Professor S Ramakrishnan** is Chief Editor of Annals of pediatric cardiology; Treasurer of national rheumatic heart consortium; Associate editor of JPCS; Co-PI and task force member, India Hypertension management initiative (IHMI); National coordinator, STEMI-ACT, an ICMR initiative; Member, International travel grant award committee, ICMR; Member, A National Program for the Management of STEMI in India; FPICS (Fellow of Pediatric and congenital Interventional Cardiovascular Society); Performed the first fetal aortic valve balloon dilatation; took part in Torrent ISHR Oration 2023; Tirupati SKIMS Cardiology Oration 2022 and Dr Satish K Parashar Oration during IAE 2022.

**Professor Ambuj Roy** is Nodal Officer, National Resource Centre of National Medical College Network of MOHFW, GOI; Member, Institute Body, JIPMER, Puducherry; Expert, Standing Selection Committee Meeting by AIIMS Patna; Expert Selection Committee, RIMS, Ranchi; Elected Fellow, National Academy of Medical Sciences (India); Steering Committee Member and National Principal Investigator of G-CHF (Global Congestive Heart Failure) Registry; Steering Committee member of The National Heart Failure Registry; Steering Committee member of NIH-sponsored I-TREC study; Steering Committee member of TOPSPIN Trial; Member of the GBD India CVD Expert Group; Fellowship, Royal College of Physicians, Edinburgh (UK); Member, Task Force Committee of ICMR for Cardiovascular Research in India; Chairperson, Project Review Committee (cardiovascular diseases) of ICMR, New Delhi; Member, Managing Committee, K L Wig Center for Medical education and Technology, AIIMS, New Delhi, India; Member, Dean's Committee, AIIMS, New Delhi, India; Member, Dean's Research Committee, AIIMS, New Delhi; Member, Institute Ethics Committee (Postgraduates) at AIIMS, New Delhi, India; Facility Coordinator In-charge, Skill, e-Learning & Telemedicine (SET) Facility, AIIMS, New Delhi, India; Member, Institute Ethics Committee- Subcommittee for Serious Adverse Events in clinical trials.

**Professor Saurabh K Gupta** is Core member of AI for Healthcare cell of ICMR; Expert member of the writing committee for ethical guidelines for AI for healthcare; Expert member for DBT technical expert review for maternal and child health-related proposals; Treasurer of Pediatric Cardiac Society of India from 2015 onwards.

#### **Cardiac Anaesthesia and Critical Care**

**Professor Neeti Makhija** was felicitated in the inaugural function of 16th Annual Perioperative and Critical Care Echocardiography workshop from 11-3 March 2022 at PGIMER, Chandigarh; Chaired the session titled "ECHO in Hemodynamics and CPB weaning" & "congenital heart disease" in the 16th Annual Perioperative and Critical Care Echocardiography workshop from 11 March 2022 to 13 March 2022 at PGIMER, Chandigarh that included following topics: Hemodynamic Calculation using TEE, Strain and speckle tracking – technique, advances and limitations, Echo in CPB weaning, and Systematic approach to segmental analysis in congenital heart disease; Chaired a session on "How the expert handle adversaries?" on 22nd October in the 21st Annual Conference of Pediatric Cardiac Society of India – PCSI 2021 held from 16 and 24 October 2021 in hybrid mode. The session included following lectures: Failure to wean from ventilator, Post op refractory low cardiac output and Severe pulmonary hypertension with extubation failure; the paper "Malhotra R, Das SN, Chauhan S, Makhija N, Choudhury M, Lakshmy R. Impact of Preoperative Vitamin D deficiency on Post operative outcomes in adult cardiac surgery. Paper was presented surgery at 25th Annual Conference of the Indian Association of Cardio Thoracic and Vascular Anesthesiologists (IAC TACON 2022) held in the cultural capital of Tamil Nadu- Madurai from 25-27 March 2022" was awarded third prize in the oral free paper session with her as co-guide.

**Professor Poonam Malhotra Kapoor** is Guest Editor of JAAPI – an International journal in Medicine and Healthcare from the USA; President of South West Asia and Africa Chapter of the. Extracorporeal Life Support Organization (SWACELSO) for the year 2022-23; was re-nominated as "Fellow of International Society of Cardiovascular Ultrasound: 2022-23" by the International Society of Cardiovascular Ultrasound (ISCU) Society, Alabama USA, for my contribution to Echocardiography in cardiac sciences; President of SCA-Delhi and NCR Branch for the fourth consecutive year; Founding Secretary and Chairman Academics of "The Simulation Society"; Founder Editor-In-Chief. Journal of Cardiac Critical Care, 6.2, 6.3 and 7.1 issue of JCCC TSS in the year 2022-2023 from 2016 to till date; Principal Editor of Book entitled "Hypertension: New Frontiers – textbook of Cardiology" Edited by Dr HK Chopra published by Jaypee Publishers released December 2022; Academic content provider for online Fellowship in Cardiac critical care (FICCC), Fellowship in Advanced Echocardiography (FIAE) and Fellowship in Basic Echocardiography (FIBE) online Examination, conducted by The Simulation Society (TSS) and Journal of Cardiac Critical Care (JCCC); Chief editor of TCC (Textbook of cardiac critical care) released in February 2023 at Indore ISCCM Conference; International Examiner of DM Critical Care at Tribhuvan University, Nepal on 23 February 2022; Editor in Chief of Textbook of Cardiac Critical Care, released in December 2022 by Hon'ble Director of AIIMS. ACTIVITIES UNDERTAKEN IN 2022 (July 2022 to March 2023): 2021-22 being a COVID-19 pandemic era, she brought out 1 issue of Journal of Cardiac Critical Care in April to June 2022 with special issue on "Cardiac Nutrition", which was well received; Worked in Cardiac OT and ICU for 8-10 hours on a daily basis. She is the medical record and annual report provider in the department. Did social and charitable work honorarily on weekends. Released a Book entitled "Textbook of Cardiac Critical care and



ECMO” and 7.1 issue of Journal of Cardiac Critical Care (JCCC) at a workshop which she organized as TSS academic chairman. 10 online sessions were conducted during this workshop on 4th December 2022; 5th TSS Dr KK Malhotra oration was organized at the ECMO workshop organized at AIIMS on 19 June 2022 and the AIIMS honorable Director, Prof Randeep Guleria did the honors.



She had been involved for following academic activities in the year 2022-23: Online TSS JCCC fellowships and examinations in Cardiac Critical care, ECMO, Echocardiography and Cardio Diabetes; Editor in Chief and Co-founder of Journal of Cardiac Critical care 3 issues (6.2, 6.3 and 7.1 issue) and getting it higher indexing in 2022-23; Organized 6 seminars, 5 Webinars and 5 workshops under TSS and SCA-Delhi & NCR Branch as academic administrative in-charge; Continuing research in JCCC Journal research fund and virtual “College of Cardiac Critical Care” under the journal; Continuing the Charitable work in Gurukul and Ram Memorial Clinic in New Delhi, last 20 years and it reached its zenith in 2022 with more than 15 students in the Gurukul residing for free and studying “Kashividhya”; Organized a Hands-on TEE CME workshop with 10 faculties and 4 Live workshop sessions on ECMO simulators. More than 158 ECMO fellows from various colleges and medical universities of India and Abroad enrolled in TSS this year. Within 5 years The Simulation Society (TSS) has trained maximum ECMO and Cardiac Critical Care fellows in India. This majorly includes doctors, but also nurses and perfusion. Small online concept gave big results. God’s grace.

Was Examiner for: DM Critical Care, Tribhuvan University, Nepal; DM Cardiac Anaesthesia, KEM Mumbai; DM Cardiac Anaesthesia (UN Mehta); DM Cardiac Anaesthesia, PGIMER, Kolkata; Moderated and Examiner for DNB Cardiac Anaesthesia. Checking of DISSERTATIONS and Thesis for MD, Cardiac Anaesthesia, Aligarh Muslim University (Online); MD, Cardiac Anaesthesia, PGIMER, Kolkata (Online); MD, Cardiac Anaesthesia, U. N Mehta, Ahmedabad (Online). Chaired sessions: “Acinetobacter Pneumonia”, ISCCM, CRITICARE 2022, 8 April 2022, Gandhinagar, Gujarat; “MRSA in blood”, ISCCM, CRITICARE 2022, 8 April 2022, Gandhinagar, Gujarat; “Klebsiella Pneumoniae”, ISCCM, CRITICARE 2022, 8 April 2022, Gandhinagar, Gujarat

“Pseudomonas”, ISCCM, CRITICARE 2022, 8 April 2022 Gandhinagar, Gujarat; PROCON, ISCCM, CRITICARE 2022, 9 April 2022, Gandhinagar, Gujarat; All About VV ECMO, Hands on CME ECMO Simulation, 18 June 2022, CMET, AIIMS, New Delhi; FOCUSED ECMO CASES, ISCCM, EUROASIA 2022, 1 July 2022, Pullman hotel Aero city, New Delhi; DIABETES MELLITUS - Perioperative management, ICA Webinar, 9 September 2022, New Delhi; Walk with the weary: on dying with dignity, ICA Webinar, 13 April 2022, New Delhi; Hypertension care in a very meticulous manner in India, National scientific advisory board meeting, 24 April 2022, Eros Hotel, New Delhi; Basics of cardiac Anesthesia, ICA Webinar, 5 October 2022, New Delhi; Pediatric Anesthesia what lies ahead? ICA Webinar, 30 November 2022, New Delhi; What & how to feed critically ill, ICA Webinar, 12 October 2022, New Delhi; Perioperative point of care (POC) Testing, ICA Webinar, 19 October 2022, New Delhi; “Clinical Cardiology Session”, Women Cardiac Care (WCC) – 2023, 4 March 2023, Indore.

**Professor Minati Choudhury** was invited faculty at Royal university hospital, Liverpool; Examiner/expert: PCSI 2021; Judge in competitive session as an external examiner for DM Cardiac Anaesthesia exit exam, PGIMER Chandigarh, April 2021, as an external examiner for PDCC Cardiac Anaesthesia exit exam, IMS, BHU, 27 August 2021, as an external examiner for DM Cardiac Anaesthesia exit exam, NRS Medical College, Kolkata, 2 September 2021, As an external examiner for DM Cardiac Anaesthesia exit exam, RG Kar Medical College, Kolkata 15 September 2021, as an internal examiner for internal assessment: BSc OT technician course September 2021. Online consultation and management of more than 100 Covid-19 patients through AIIMS Covid helpline.

**Professor Sambhunath Das** had 5 Paper Publications; 1 Conference presentation; was External Examiner for 5 examinations; was invited Faculty four places; Chaired 2 sessions in conferences.

#### **Department of Cardiac Biochemistry**

**Professor R Lakshmy** is Member of project review committee for ICMR in the area of cardiovascular diseases and also in the area of endocrinology; Member of ethics committee of center for chronic disease control (CCDC); Member of research area panel in the area of diabetes for NCDIR, Bangalore; Examiner for PhD thesis from Bharati Vidyapeeth, Pune; Member of expert committee for ICMR Young Diabetes Registry (YDR) and YDR cohort phase-III; Member of expert committee for total diet study; Reviewed articles for *Frontiers in Cardiovascular medicine*, *JoVE*, *IJMR*, *Journal of Diabetes in Developing Countries (JDDC)* and *PLoS one*; Member of expert committee for ICMR-INDIAB study; PhD student received fourth rank in poster presentation in National Science Festival held in Jaipur in February 2023.

**Dr Manoj K Thembere** was nominated as member of Review Board of MDPI journals (*Applied Sciences*, *Bioengineering*, *Diagnostics*, *Journal of Clinical Medicine*, *Healthcare*, *Medicina*, *IJMS*, *Sensors* etc.), *PLOS One*, *Frontiers in Immunology*, *Cancer International* etc. and as emerging Editors in the journal of *Immunology and Immunology*, *Journal of Experimental Immunology* (Wiley Publications); was also nominated as member of Review Board of *Indian Journal of Dermatology*, *Venereology and Leprology (IJDVL)*; Reviewer of *National (IJDVL, Impact Factor = 3)* and *international Journal (British Journal of Dermatology, Impact Factor = 11.11)*; member of *Indian Immunology Society (IIS)*, *Indian Association of Dermatologists, Venereologists and Leprologists (IADVL)* and *American Society of Nephrology (ASN)*.

#### **Department of Cardio-Thoracic & Vascular Surgery**

**Professor SK Choudhary** was nominated as National NBEMS Webinar coordinator in the specialty of Cardio Vascular & Thoracic Surgery; Section Editor: Aorta for *Indian Journal of Cardiothoracic & Vascular Surgery*; National Coordinator for Database project of Indian Association of Cardiothoracic & Vascular Surgeons; Chairperson of Experts groups for development of Standard Treatment Workflows (STWs) in CTVS, Government of India, Ministry of Health & Family Welfare (Department of Health Research), New Delhi; Member Specialists Board in specialty of Cardiothoracic Surgery, National Board of Examinations; was nominated as External Subject Expert to make recommendation to the Governing Body of the Institute for the promotion of the eligible Faculty Members. Shree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum, Kerala, 20 April 2022; as external expert to assist the Standing Selection committee of the All India Institute of Medical Sciences, Jodhpur for selection of Faculty in the Department of Cardiothoracic Surgery, 12 April 2022; as an external expert for selection of faculty positions in the Department of Cardiothoracic Surgery, AIIMS, Guwahati on 22 April 2022; as an external expert for selection of faculty positions in the Department of Cardiothoracic Surgery, AIIMS, Raipur on 28 April 2022; as external expert to assist the Standing

Selection committee of the All India Institute of Medical Sciences, Jodhpur for selection of Faculty in the Department of Cardiothoracic Surgery, 27 July 2022; as an external expert for selection of faculty positions in the Department of Cardiothoracic Surgery, AIIMS, Raipur on 29 October 2022; as an external expert for selection of faculty positions in the Department of Cardiothoracic Surgery, AIIMS, Patna on 5 November 2022.

**Professor Milind Hote** is Member of NOTTO Apex Technical Committee for Heart Transplant and Committee for Lung Transplant.

**Professor Sachin Talwar** was Executive director of the Society of Pediatric and congenital Heart Surgeons; Governing council member of World Society of Pediatric and Congenital Heart surgery; Governing council member of Asian Society of Pediatric and Congenital Heart surgery (APCHS); Governing council member of Asian Society of Pediatric and Congenital Heart surgery (ASVTS); Guest reviewer for Journal of Thoracic and Cardiovascular Surgery; Guest reviewer for Annals of Thoracic Surgery; Guest reviewer World Journal of Pediatric and Congenital Heart surgery; Guest reviewer for European Journal of Thoracic Surgery; Guest reviewer for and Cardiovascular and Thoracic Annals; Guest reviewer for Annals of Pediatric cardiology; Expert for selection of Faculty at AIIMS Patna; Expert for selection of Faculty at AIIMS Bhubaneswar; Expert for selection at AIIMS Bhatinda; Practical Examiner for DNB exam for National Board of Examinations; OSCE Question Bank in the specialty of Cardiothoracic Surgery; Setting Theory Question Papers in the specialty of Cardio Thoracic Surgery, National Board of Examinations; Practical Examiner for DNB exam for National Board of Examinations; Workshop for Cardiothoracic Surgery, National Board of examination; Practical examination of M.Ch (CTVS) at SGPGIMS, Lucknow; Practical examination in the subject of M.Ch (CTVS) on 23-24 September 2022 at the Sher-i-Kashmir Institute of Medical Sciences (SKIMS), Srinagar, Jammu & Kashmir; Attended the medical camp at Kargil from 25 September 2022 to 1 October 2022; Expert for Multi-stakeholders meeting for streamlining the management of neonates and children with Congenital Heart disease at Maulana Azad Medical College (MAMC), Delhi on 27 April 2022; Developed Newer techniques: Open techniques for completion of the Total Cavopulmonary Connection, Bidirectional Glenn: Open technique of anastomosis on cardiopulmonary bypass, Takeuchi repair for anomalous left coronary artery origin from the pulmonary artery (ALCAPA) in adults, Autologous Extra-cardiac Fontan with direct IVC to PA Connection, Techniques of Redo Pulmonary Valve replacement technique, Simplified technique of Intra-Extracardiac Fontan, Simplified technique of Sub-aortic Membrane Resection.

**Professor Manoj Sahu** is Life Member of Indian Society of Anaesthesiologists (M-1077), Indian Association of Cardiovascular and Thoracic Anaesthesia (CLS 171), Indian Society of Critical Care Medicine (S-1197), Pediatric Cardiology Society of India (L-678), Life Member of Indian Society of Echocardiography and Indian Society of Heart & Lung Transplantation. Also he is Associate Editor of Journal of Cardiac Critical care.

**Dr Sarvesh Pal Singh** is General Secretary of the “Indian Society of Heart and Lung Transplantation (INSHLT)” from October 2020 to October 2022 and Member of the Organizing committee for the Annual Conference of the Indian Society of Heart and Lung Transplantation (INSHLT) in 2021 held at AIIMS, New Delhi.

#### **Department of Cardiovascular Radiology & Endovascular Interventions**

All faculty- JVIR Editor’s Award for Outstanding Clinical Research Paper for “Randomized, Double-Blind, Placebo-Controlled Trial to Evaluate Safety and Therapeutic Efficacy of Angiogenesis Induced by Intraarterial Autologous Bone Marrow-Derived Stem Cells in Patients with Severe Peripheral Arterial Disease.

**Professor Priya Jagia** is Editor (Volume Editor) for the IRIA Textbook of Radiology for the Volume III on Cardiac Imaging; Elected Subspecialty Head for 2 years for 2nd time for “Cardiac Radiology” by Indian Radiological Association IRIA; Conceptualized and moderated six-month long teaching course in Cardiac Radiology by Indian Radiological Association IRIA (Total of 26 weekly seminars done for nationwide broadcast); Special Executive Member, Indian Association of Cardiac Imaging; President, CVREF (Cardiovascular Research and Education Forum); Examiner for DM Exam in CVR and IR in SCTIMST, Trivandrum; Examiner for Theory & Practical DNB Radiology Examinations, by National Board of Examinations; Examiner for Fellowship in Cardiac Imaging at AIIMS, Jodhpur; Reviewer for many National and International Radiology and Cardiology Journal

**Dr Sanjeev Kumar** was Reviewer for many National and International Radiology and Cardiology Journals; Secretary, Society of Image Guided Therapy; was invited as Chairperson in various National Conferences and as Judge for ISVIR Annual Conference 2022 for Poster and Paper Session.

#### **Nuclear Medicine Department**

**Professor Chetan D Patel** was Editor, Indian Journal of Nuclear Medicine (Official Journal of Society of Nuclear Medicine, India); Reviewer for national and international academic journals; Executive Member, Nuclear Cardiological Society of India; External examiner for MD Nuclear Medicine examination at Amrita Institute of Medical Sciences, Kochi

on 13 May 2022; External examiner for Work based Clinical Assessment for Formative Assessment 2022, National Board of Examination in the discipline of Nuclear Medicine at Sir Gangaram Hospital, Delhi on 30 April 2022; Evaluated thesis for National Board of Examination of DNB Nuclear medicine students; External examiner for MD Nuclear Medicine examination at AIIMS, Raipur on 23 July 2022; Subject expert for faculty interview for AIIMS, Jodhpur held on 28 July 2022; External examiner for MD Nuclear Medicine examination at Amrita Institute of Medical Sciences, Kochi on 20 October 2022; External examiner for MD Nuclear Medicine examination at JIPMER, Puducherry on 28 November 2022; External examiner for PhD. (Nuclear Medicine) Viva-voce examination at PGIMER, Chandigarh on 20 February 2023; Member Store Purchase Committee of Center for Integrative Medicine & Research (CIMR); Chairman, Selection Committee for recruitment of core staff at CIMR under COE Scheme, AYUSH.

### Stem Cell Facility

**Professor Sujata Mohanty** received the Best Publication Award 2020 for the paper entitled “Tissue-specific mesenchymal stem cell-dependent osteogenesis in highly porous chitosan-based bone analogs” at the AIIMS Research Day 2022; the Best Publication Award 2021 for the paper entitled “Comparative evaluation of anti-fibrotic effect of tissue-specific mesenchymal stem cells derived extracellular vesicles for the amelioration of CCl<sub>4</sub> induced chronic liver injury” at the AIIMS Research Day 2022; the Best Poster Presentation Award 2022 for the work entitled “Promoting in-vivo bone regeneration using facile engineered load-bearing 3D bioactive scaffold” at the AIIMS Research Day 2022; Best Poster Presentation Award 2022 for the work entitled “Mesenchymal stromal cell exosome embellished implantable biomaterial construct for regenerative medicine” at the AIIMS Research Day 2022; Best Oral Presentation Award 2022 for the work entitled “Primed MSc derived conditioned medium for rapid 3D skin regeneration” at the Bio-Remedi conference held at IIT-G, 2022. Theses reviewed include: Expression Analysis Of Suppressor Of Cytokine Signaling (SOCS) Proteins During Neural Cell Differentiation From Human Mesenchymal Stem Cells, Amity University, Jaipur; Evaluation Of Neuroprotective Mechanisms of Endogenous Bone Marrow Mesenchymal Stromal Cells And Human Dental Pulp Stem Cells And Human Dental Pulp Stem Cells In Attenuating Diabetic Neuropathy In A Rat Model, National Institute of Mental Health and Neurosciences, Bangalore; Evaluating Crosstalk Between Sirtuins and Clock Genes in Nonalcoholic Fatty Liver Disease, Institute of Liver and Biliary Sciences, New Delhi; Synthesis and Characterization of Graphene Quantum Dots for Biomedical Applications, Amity University, NOIDA; Investigating The Effects of Neonatal Exposure to Estrogen On Mouse Testicular Stem Cells, ICMR - National Institute for Research in Reproductive and Child Health, Mumbai. She was also nominated as Member in various scientific bodies: Member of Institute Committee for Stem Cell Research— National Institute of Immunology, New Delhi; Institute of Liver & Biliary Sciences, New Delhi; National Brain Research Centre, Manesar; THSTI, Faridabad; IIT, Indore; University of Delhi; CSIR-Institute of Genomics & Integrative Biology (IGIB); Indian Spinal Injuries Centre, New Delhi; Kavikrishna Lab IIT – Guwahati; Jamia Hamdard University; Shri Govind Singh Try-centenary University; Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), Puducherry; Regional Centre of Biotechnology (RCB), Faridabad; Amity University, Noida; IISER Bhopal; Member: International/National Bodies — International Society for Cellular Therapy (ISCT); International Society for Stem Cell Research (ISSCR); Society of Biological Chemists (SBC); Indian Immunology Society; Indian Society of Nanomedicine; Indian Science Congress Association; Stem Cell Research Foundation of India; The Cytometry Society, India; Indian Society for Translational Research; The Biomedical Engineering Society (BMES); International Society of Extracellular Vesicles (ISEV); Member of Advisory Bodies—Core Committee for Stem Cell Donor Registry for Bone Marrow Transplant in India; Stem Cell Donor Registry, Ministry of Science & Family Welfare, Govt. of INDIA; High Powered Committee by Ministry of Health and Family Welfare, Govt. of India; Brainstorming meeting on Bio-fabrication & 3D Bio-printing; Expert Group Committee- Limbal Stem Cell Transplantation- ICMR; Centre for induced pluripotent Stem Cell Research and Application (CiRA) – For collaboration; Investigating team of CDSO-Dendritic Cell Vaccine Scandal; Department of Biotechnology Task Force on Bioengineering; DBT Expert Committee for Indo-Australian Career Boosting Gold Fellowships (IACBG-Fellowships); Technology Development Board, DST; Internal Committee for Sexual Harassment Cell: Redressal of Complaints NII; Institute of Life Sciences, Bhubaneswar; National Centre for Cell Science; Indian Association for Cancer Research; Aditya Jyoti Eye Hospital, New Delhi; Frontier Lifeline Hospital, New Delhi; AMITY University, Noida; Gangaram Hospital, New Delhi; Yash Raj Biotechnology, New Delhi; Vallabhai Chest Institute, New Delhi; MEDANTA, Gurugram; Member- Research Grant Review Committee— Project Monitoring Committee (BIRAC), DBT, Govt of India; Biotechnology Career Advancement and Reorientation Program for Women Scientists (BioCare), DBT; Biotechnology Industry Research Assistance Council (BIRAC); Indian Council of Medical Research, New Delhi; Department of Science and Technology, New Delhi; Council of Scientific and Industrial Research, New Delhi; Peer Review Committee- DRDO-Apollo Hospital, Hyderabad; SPARC (Scheme for Promotion of Academic and Research Collaboration), Ministry of Human Resource Development, Government of India at IIT-Kharagpur; SERB-Department of Science and Technology; DBT Technical/Advisory Core Committee (TACC); Project Monitoring Committee (PMC); Member-Journal Review Committee—Stem Cell Research Open library (SCROL); Life Science; Journal of Biosciences; Biomedical Research Journal; Insights in Stem Cells; World Journal of Stem Cells; CEINCA publishing group; Translational Surgery; Molecular and Cellular Biochemistry; Indian Heart Journal; BMC Ophthalmology; Future Science OA; Journal of Clinical and Translational Research; Asian

Journal of Dental Sciences; Complementary Therapies in Clinical Practice; Frontiers Cellular Neuroscience; Research and Reviews of Infectious Diseases; International Wound Journal; Frontiers of bioengineering and biotechnology; Member- Editorial Committee—Journal- Current Trends in Stem cells and Regenerative Medicine (CTSR); Jacobs Journal of Bone Marrow and Stem Cell Research; Scientific Reports, Nature publishing house; Stroke Research & Treatment; Indian Pediatrics.

#### **VISITING SCIENTISTS**

##### **Stem Cell Facility**

1. Dr Justin Colacino (Associate Professor), University of Michigan, USA
2. Dr Dean E Brenner (Professor), University of Michigan, USA
3. Dr Karen Anderson (Professor), Arizona State University, USA
4. Dr Kirk Herman (Clinical Project Manager), University of Michigan, USA
5. Dr Chandan K Sen (Professor), Indiana University, USA

## 10.2 Center for Dental Education and Research

### Chief

Ritu Duggal  
(Orthodontics and Dentofacial Deformities)

### Professors

Ajoy Roychoudhury (Oral and Maxillofacial Surgery)	Veena Jain (Prosthodontics)
Ongkila Bhutia (Oral and Maxillofacial Surgery)	Vijay Prakash Mathur (Pedodontics)
Ajay Logani (Conservative Dentistry Endodontics)	Dalim Kumar Baidya (Anesthesia)
Devlina Goswami (Anesthesia)	

### Additional Professors

Deepika Mishra (Oral Pathology and Microbiology)	Kalpana Bansal (Pedodontics)	Rahul Yadav (Oral and Maxillofacial Surgery)
Dheeraj kholi (Prosthodontics)	Nitesh Tewari (Pedodontics)	Amrita Chawla (Conservative Dentistry Endodontics)
Vijay kumar (Conservative Dentistry Endodontics)	Shalini Gupta (Oral Medicine)	Harsh Priya (Public Health Dentistry)
Kunaal Dhingra (Periodontics)	Prabhat Kumar Chaudhari (Orthodontics and Dentofacial Deformities)	

### Associate Professors

Vilas Samrit (Orthodontics and Dentofacial Deformities)	Vikender Singh (Periodontics)
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### Assistant Professors

Krushna Bhatt (Oral and Maxillofacial Surgery)	Aditi Nanda (Prosthodontics)	Rahul Morankar G (Pedodontics)
Sidhartha Sharma (Conservative Dentistry Endodontics)	Anika Dawar (Periodontics)	Bharti M Purohit (Public Health Dentistry)
Rajiv B (Orthodontics and Dentofacial Deformities)	Varun Surya (Oral Pathology and Microbiology)	Arun Kumar (Prosthodontics)
Khushboo Singh (Oral Medicine)		

### HIGHLIGHTS

CDER provided high quality dental care to patients visiting the OPD and those referred from other departments/ centres/blocks. Division of Orthodontics provided professional and academic expertise to various government/research organizations such as ICMR and Ministry of Health and Family Welfare and other institutions. Division of Oral and Maxillofacial Surgery had a total temporomandibular joint replacement protocol in place. The state-of-art virtual surgical planning for the facial deformity correction and execution by patient specific 3D-printed implant was done routinely in the department. Division of Conservative Dentistry and Endodontics achieved ten publications in leading international and national peer-reviewed journals and has successfully applied for one patent and two extramural funded research projects in the last year. Faculty from Division of Pedodontics professionally served as experts to various National Research and regulatory bodies. Division of Oral pathology and Microbiology hosted two national scientific research and educational programs. In collaboration with IIT, Delhi, division developed and validated fluorescence and autofluorescence spectroscopy devices for early detection of oral cancer. The division also initiated hematology reporting of routine patients reported at the CDER. Division of Oral Medicine and Radiology ran a special clinic Oral Ulcer Clinic and soft tissue LASER clinic where all oral mucosal lesions were managed. Anesthesia faculty provided comprehensive perioperative

care to all types of complex maxillofacial surgery patients of all age groups, and surgeries including temporomandibular joint disorders, trauma, tumors, and deformities.

## **EDUCATION**

### **Orthodontics**

- **Undergraduate**
  - BSc. Course in Dental Operating Room Assistant (DOREA) and Dental Hygiene (DH)
- **Postgraduate**
  - MDS program in Orthodontics, PhD and fellowship in Cleft Lip and palate
- **Paramedical teaching**

### **Short-term/long-term training/Continuing Medical Education**

- High-end training workshop on “digital orthodontics: from basics to beyond” from 22-27 September 2022

### **Oral and Maxillofacial Surgery**

The teaching includes postgraduate seminars, journal clubs, bedside case discussions and surgical training. Following innovative teaching methods were used for postgraduate training:

- Problem-based learning
- Tell- show-do-review model in teaching.
- Logbook and record keeping.
- What went right? What could have been better? Model in seminars

### **Prosthodontics**

- **Undergraduates**
  - Clinical teaching of 7th semester MBBS students
  - Clinical and theory teaching of BSc DORA & BSc DH
- **Postgraduates**
  - Organized and conducted Seminars, journal club, clinical case discussion for MDS Prosthodontic students
  - Supervise and guide the postgraduate students in clinics and for laboratory work

### **Conservative Dentistry and Endodontics**

- **Post-graduate teaching:** MDS course
- **Pre-clinical training:**
  - One-to-one demonstration of the exercises to be accomplished
  - Tell-show-do preclinical laboratory work including casting, finishing etc
  - Selection of thesis topic, literature search, writing of thesis protocol, etc
- **Clinical training:**
  - Case selection, treatment planning and its execution
  - Demonstration of the clinical manoeuvres
- **Academic training:** Under the guidance of senior faculties
  - Preparation of seminars, journal clubs and case presentations
  - Making of posters, essays and power-point presentations for national conferences
  - Lectures and preparation of theory questions and MCQs for their internal assessment examination
  - Educational videos on three clinically relevant topics
- **Undergraduate teaching:**
  - Lectures and chair side demonstrations for B.Sc DORA and DH students

### **Pedodontics**

MDS course Interdisciplinary training within CDER for other courses like MBBS, BSc in Dental Hygiene, DORA, Nursing, and allied professional courses

**Oral pathology and microbiology**

- **Undergraduate**
  - Lecture for 8th Semester MBBS students
- **Paramedical teaching**

BSc course of Dental Operatory Room Assistants (DORA)

**Oral Medicine**

- Clinical training, lectures and internal assessment for BSc DORA and BSc DH in all the academic years in the subjects of Dental Radiology, Dental Pharmacology, Oral and dental diseases
- Lecture on Oral cancer and precancers for BSc Nursing 2nd year

**Periodontics**

- **Undergraduate**
  - Lecture for 8th Semester MBBS students
- **Paramedical teaching:** BSc course of Dental Hygiene (DH) and BSc course of Dental Operatory Room Assistance

**CMEs/Workshops/Symposia/National and International Conferences conducted by Faculty Members of CDER**

1. 1st Asian Regional Congress of Dental Traumatology on Dental Trauma from 17-18 December 2022 at Agra, India
2. 33rd Annual Conference of Indian Society of Dental Research- IADR India Division on Dental Research from 17-19 February 2023 at New Delhi, India
3. Management of nonvital teeth with mucosal fenestration: Hands-on exercise on animal model on 14 October 2022 at 30th National Conference of Indian Endodontic Society, SET Facility, AIIMS, New Delhi
4. 2nd AIIMS Oral Pathology Symposium on 27-28 January 2023 at AIIMS, New Delhi
5. 2nd AIIMS Periodontal & Peri-implant Plastic Surgery Symposium on 23-24 September 2022 at New Delhi
6. Workshop on “Artificial Intelligence in Research and Patient Management” on 28 February 2023 in Delhi
7. Scientific program of the 30th annual conference of Indian Endodontic Society 2022 held on 22 October 2022 in New Delhi
8. Training of District Nodal Officers for Oral Health Promotion under National Oral Health Program on 1-2 March 2023 at AIIMS New Delhi
9. National Review Meeting of the National Oral Health Program on 17-19 January 2023 at AIIMS New Delhi
10. Qualitative Research Workshop for the Public Health Specialists on 20 December 2022 at AIIMS, New Delhi

**Lectures delivered: 140**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
106	106	140

**List of oral papers/posters presented: 52**

**Oral/poster presentations over past 3 years**

2020-2021	2021-2022	2022-2023
15	57	52

**Research**

**Funded projects**

**Ongoing**

1. Treatment of temporomandibular joint disorders based on Vienna Concept of Functional Occlusion, Dr Ritu Duggal, Austria-Scientific & Technological Cooperation, Department of Science and Technology, Government of India, 2 years, 2020-2022, Eur 15,000 (Austria)
2. Fluoride and Sugar levels for the commercially available Baby food supplements are appropriate, Dr Ritu Duggal, AIIMS Intramural, 2 years, 2020-2022, Rs 10 lakhs



3. HLA related genetic propensity for manifestation of Oral Submucous Fibrosis among North Indians, Dr Ritu Duggal, AIIMS Intramural, 2 years, 2020-2022, Rs 10 lakhs
4. 3D printed aligners as a state of the art smile designing appliance for its integration in Indian Public Hospitals, Dr Prabhat Kumar Chaudhari, Science and Engineering Research Board, Government of India, 3 years, 2022-2025, Rs 38.26 lakhs
5. Evaluation of the efficacy of tooth movement with Alignwise Clear Aligner System, Dr Vilas Samrit, Alignwise smile technologies (Private funding), 2 years, 2019-2021, Rs 4 lakhs
6. Development of patient specific additively-manufactured mandibular implants with biotechnology inspired functional lattice structures, Dr Ajoy Roychoudhury, Indo German Science and technology, 3 years, 2022-2025, Rs 90 lakhs
7. HLA related genetic propensity for manifestation of Oral Submucous Fibrosis among Indians, Dr Bharathi M Purohit, AIIMS Intramural Project, 2 years, 2021-2023, Rs 10 lakhs
8. Multiregion sequencing to unveil the intratumoral heterogeneity and novel biomarkers in oral squamous cell carcinoma in an Indian population: Case Control Study, Deepika Mishra, ICMR, 3 years, 2022-2025, Rs 52 lakhs
9. The detection of current and persistent oral HPV infection using non- invasive method in Oral Potentially Malignant Disorders with their clinical and molecular characteristics, Dr Shalini Gupta, ICMR extramural, 3 years, 2021-2024, Rs 49.38 lakhs
10. To determine the concentration of Betel nut alkaloids and Catechin in current and past betel nut users and their association with pro- oncogenic cytokines and oral potentially malignant disorders, Dr Shalini Gupta, AIIMS Intramural research fund, 2 years, 2021-2023, Rs 10 lakhs
11. Evaluation of Osteocalcin and Metalloproteinase 8 levels in the perimplant crevicular fluid (PICF) around immediate dental implant placed with socket shielding technique (SST) and conventional technique (CT) in maxillary anterior region- A randomized controlled pilot study, Dheeraj Kumar Koli, Intra mural project, AIIMS, New Delhi, 2 years, 2022-2024, Rs 8.60 lakhs
12. Evaluation of the effect of newer simplified protocols for fabrication of complete denture on denture quality, patient satisfaction, and nutritional status, Dr Aditi Nanda, Intramural project, AIIMS, New Delhi, 2 years, 2021-2023, Rs 4.89 lakhs
13. Comparison of the outcomes of using tissue graft versus volume-stable collagen matrix with modified coronally advanced flap for the treatment of multiple adjacent gingival recessions: A randomized clinical trial with molecular analysis, Dr Vikender Singh, ICMR, 3 years, 2023-2026, Rs 42.97 lakhs
14. Serum and Saliva Metabolomic Profiling and Identification of Potential Biomarkers in Periodontitis by Nuclear Magnetic Resonance Spectroscopy, Dr Anika Dawar, AIIMS Intramural early career, 2 years, 2022-2024, Rs 9.2 lakhs
15. Development of the mobile app for prevention of dental diseases in children, Dr Kalpana Bansal, Intramural, 2 years, 2021-2023, Rs 8 lakhs
16. Development and validation of Dental Trauma Awareness Tool for School Teachers, Dr Nitesh Tewari, ICMR, 3 years, 2019-2023, Rs 15 lakhs
17. Comparative evaluation of Module for Sports Dental Injury Prevention (MSIP) and combination of MSIP with custom-fabricated mouth-guard for prevention of traumatic dental injuries in 10-18 years old Kabaddi Players of Delhi-NCR region in a sports season: a cluster randomized controlled trial, Dr Nitesh Tewari, ICMR, 3 years, 2020-2023, Rs 42 lakhs
18. Intramural project titled "Cytotoxicity of intracanal medicaments used for root canal disinfection and their effect on proliferation and differentiation potentials of Stem Cells from Apical Papilla-An in-vitro study", Dr Morankar Rahul, AIIMS Intramural grant, 2 years, 2020-2023, Rs 10 lakhs
19. Development of an objective bioimpedance based non-invasive pulp vitality testing device as an alternative to traditional non-invasive pulp vitality testing methods" Dr Morankar Rahul, AIIMS-IITD collaborative research grant, 2 years, 2022-2024, Rs 20 lakhs
20. Development of transparent strip crowns for tooth restorations in Pedodontics, Dr Vijay Mathur, AIIMS-IITD collaborative research grant, 2 years, 2022-2024, Rs 20 lakhs
21. Traumatic implant injury: Finite element analysis and its mechanical validation, Dr Nitesh Tewari, AIIMS-IITD collaborative research grant, 2 years, 2022-2024, Rs 20 lakhs

### ***Completed***

1. Periodontal ridge preservation in human using 3-D scaffold matrices: Clinical trial for periodontal ridge augmentation, Dr Ajoy Roychoudhury, IIT Mumbai, 3 years, 2019-2022, Rs 25 lakhs
2. Explore the novel use of florescence based microendoscopy and Raman spectroscopy for detection of oral cancer and dysplasia, Dr Deepika Mishra, AIIMS-IIT-Delhi Inter Institutional Collaborative Research Grant, 2 years, 2020-2022, Rs 20 lakhs
3. Molecular and immunological characterization of fibro-osseous lesions affecting oral and maxillofacial region, Dr Deepika Mishra, AIIMS intramural Research Grant, 2 years, 2020-2022, Rs 10 lakhs
4. Impact of simulation based teaching on knowledge of performer, actual conduct of aerosol generating procedures and self-confidence while handling patients with COVID- 19, Dr Devalina Goswami, AIIMS, Intramural grant, 2 years, 2021-2023, Rs 4.58 lakhs
5. Fabrication and in-vivo (rat model) evaluation of novel local drug delivery system based on polymer nanocomposite for treatment of periodontitis, Dr Kunaal Dhingra, ICMR, New Delhi, 3 years, 2019-2022, Rs 42 lakhs
6. A Randomized Controlled Trial evaluating subepithelial connective tissue graft and injectable platelet-rich fibrin with or without enamel matrix derivative for treating multiple gingival recessions in smokers, Dr Kunaal Dhingra, Intramural, 2 years, 2020-2022, Rs 10 lakhs
7. Finite Element Analysis and development of Miniscrew Implant-Supported Bi-helix Appliance (MISBA) for true asymmetric maxillary expansion, Dr Prabhat Kumar Chaudhari, AIIMS, New Delhi & IIT-Delhi, 2020-2022, Rs 10.00 lakhs
8. Automatic diagnosis and monitoring for orthodontic invisible appliance cases using artificial neural network, Dr Prabhat Kumar Chaudhari, Department of Science and Technology (DST), 2 years, 2020-2022, Rs 19.87 lakhs
9. High-End Workshops on digital orthodontics: from basics to beyond, Dr Prabhat Kumar Chaudhari, Science and Engineering Research Board, Government of India, 2 years, 2022-2022, Rs 5 lakhs
10. Evaluation of Success of Silver Modified Atraumatic Restorative Technique with Conventional Restorative Technique on Carious Primary molars - A Randomized Controlled Trial, Dr Kalpana Bansal, AIIMS Intra-mural, 2 years, 2020-2022, Rs 1.26 lakhs
11. Effectiveness of a Cranberry Extract Mouth- Rinse Vs a Sodium Fluoride Mouth Rinse on Microbial Counts in Caries Active Children - A Double Blind Randomized Controlled Trial, Dr Kalpana Bansal, ICMR, 2.5 years, 2019-2021, Rs 29 lakhs

### **Departmental projects**

#### ***Ongoing***

1. A randomized control trial comparing the efficacy of arthrocentesis, mandibular manipulation and anterior repositioning splint versus arthrocentesis and mandibular manipulation in the management of temporomandibular joint disc displacement without reduction
2. Comparison of articular disc position following closed functional treatment and open reduction in condylar fracture of Mandible- MRI study
3. A randomized controlled trial to evaluate the outcome of subcondylar fracture treated with operative and non-operative method
4. Cross sectional study to evaluate osseous and soft tissue changes on contralateral side after unilateral TJR”
5. An ambispective to evaluate the changes in pharyngeal airway volume in the patients of temporomandibular joint ankylosis treated with total TMJ replacement
6. Dental Trauma Splint Aid: An adhesive tape for positioning of wire composite splints in luxation injuries of permanent teeth
7. A non-inferiority randomized controlled trial to compare lingual split bone technique and bur technique for post-operative pain and trismus following impacted mandibular third molar surgery
8. A randomized controlled trial to compare postoperative pain in buccal delivery approach in mandibular third molar surgery between the treatment groups using chisel and mallet and piezotome
9. A prospective cohort study to compare post-operative accuracy in virtual surgical planning and use of patient specific implant versus conventional planning and fixation of Lefort I osteotomy
10. An observational study to evaluate bone healing and recurrence rate within 1 year after topical application of 5FFU in the treatment of odontogenic keratocyst

11. An evaluation of Oral Health related Quality of Life in Children and Adolescents affected by Traumatic Dental Injuries
12. A randomized controlled trial to evaluate the success of single versus two-visit protocols of silver modified a traumatic restorative treatment (SMART) in primary molars
13. A randomized clinical trial comparing the outcomes of revascularization in immature non-vital permanent teeth using calcium hydroxide and triple antibiotic paste as an intracanal medicament-A pilot exploratory study” (Ethical clearance Ref no. IEC-330/04.06.2021,RP- 07/2021)
14. Evaluation of Dental pulp calcification in cancer survivors receiving chemotherapy and/or radiotherapy as a part of anticancer therapy
15. Evaluation of histological characteristics of prematurely erupted teeth in newborns- A pilot exploratory
16. Investigate the use of fluorescence based micro endoscopy, developing image repository and artificial intelligence based deep learning to detect oral squamous cell carcinoma and dysplasia in the Indian population
17. Artificial intelligence for classification of oral mucocutaneous lesions: A prospective study
18. Development and application of AI based algorithm to capture data from CT scan to determine age, gender and identity of the victim
19. Post-operative pulmonary complication with high FiO<sub>2</sub> or standard FiO<sub>2</sub> in adult patients undergoing abdominal surgery: A non- inferiority trial
20. Efficacy of a novel bundle of care to reduce complication following percutaneous dilatational tracheostomy in critically ill patients
21. Efficacy of high volume Pericapsular Nerve Group (PENG) Block in Patients with Acetabular Fracture For Positioning for Subarachnoid Block: Prospective observational study
22. Effect of driving pressure guided PEEP titration on postoperative pulmonary complications in patients undergoing scoliosis surgery: a randomized controlled trial
23. Effects of Parenteral Omega-3 Fatty Acid Supplementation on Clinical Outcomes and Organ Failure in Acute Pancreatitis - a randomized controlled trial
24. Efficacy of a Novel Technique for Percutaneous Dilatational Tracheostomy in critically ill patients
25. Renal Doppler ultrasound to predict acute kidney injury in patients with acute circulatory failure in icu: a prospective observational study
26. The Role of Renal Arterio Venous Coupling In The Prediction Of Acute Renal Injury In Patients With Sepsis: A Prospective Observational Study
27. Comparison of diuresis with furosemide versus furosemide with albumin during de-resuscitation phase of sepsis in hypoalbuminemic patients: a randomized control trial
28. Isotonic bicarbonate vs Balanced Salt Solution as resuscitation fluid in patients with severe metabolic acidosis: a randomized control trial
29. The Doppler Renal Resistive Index and semiquantitative power Doppler ultrasound for early detection of Acute Kidney Injury after Perforation Peritonitis Surgery
30. Association of intraoperative blood glucose variability with postoperative outcomes in emergency laparotomy
31. Comparison of standard vs trans pulmonary pressure guided intraoperative PEEP on postoperative oxygenation in patients undergoing laparoscopic lower abdominal surgery
32. Comparison of Spontaneous breathing versus Paralyzed technique during fiber-Optic intubation in anesthetized children and adolescents with Temporomandibular joint ankylosis: randomized parallel group trial
33. Comparison Of Cmac-D Blade and Cmac-Macintosh Blade For Nasotracheal Intubation In Patients With Limited Mouth Opening - A Prospective Randomized Controlled Trial
34. Velocity - time integral and stroke volume measured in the ascending aorta for prediction of volume responsiveness in spontaneously breathing patients
35. Diagnostic accuracy of diaphragmatic pulse-wave tissue Doppler imaging parameters in predicting weaning outcomes in critically ill mechanically ventilated patients
36. Association between Pre-operative frailty and Post-Operative Delirium and Cognitive dysfunction in elderly patients undergoing spinal surgery under general anaesthesia: A Prospective Observational Study
37. Intratracheal Dexmedetomidine vs Intratracheal Lignocaine in attenuation of cough reflex while extubation in patients of oral and maxillofacial surgery: A Randomized Controlled Trial
38. Comparison of hands-on ORSIM simulator training versus high fidelity mannequin training of novice anaesthesiology residents for fiberoptic intubation proficiency and retention ability - A prospective randomized controlled trial

39. Comparison of Caudal epidural block with Multiple injection Costotransverse block for pyeloplasty in paediatric patients: A prospective randomised, blinded clinical trial
40. Comparison between analgesic efficacy of Sacral Erector Spinae Block and Caudal Block in pediatric anorectal surgeries – A Randomized controlled trial
41. Comparative evaluation of Interleukin 6 levels and AHI score between mandibular advancement device group and continuous positive airway pressure group in Obstructive sleep apnea patients - A Pilot study
42. Comparative evaluation of surface roughness of denture base materials processed by using three different techniques following daily immersion in three denture cleansing agents - An invitro study
43. Comparison of the accuracy of implant placed with 3D printed surgical guide and with conventionally prepared surgical guide - Split mouth
44. Comparison of bone density and implant stability between Osseodensification and conventional drilling technique - A split mouth randomised controlled trial
45. A comparative study to evaluate alkaline phosphatase levels and implant stability quotient in Immediate implants placed by Using socket shield technique and conventional Technique in maxillary anterior region - a randomized Controlled trial
46. Comparative evaluation of wear of CAD CAM fabricated polished monolithic PEEK, Zirconia crowns and natural antagonist teeth- an in vivo study
47. To develop and validate clinical decision support tool (CDST) based on AAPD guidelines for diagnosis and management of deep carious lesion in primary teeth
48. Comparative evaluation of retention rates of novel sealant with silver nanoparticles and conventional fissure sealant in molars- a randomized controlled trial
49. A randomized clinical trial comparing the outcomes of revascularization in immature non-vital permanent teeth using calcium hydroxide and triple antibiotic paste as an intracanal medicament - A pilot exploratory study
50. Analysis of the existing anti spitting laws in various geographical locations and implementing sectors in India
51. A comparative evaluation of two protocols of topical fluoride varnish application in adult patients undergoing radiotherapy of head and neck regions for prevention of radiation caries
52. Impact of various front of pack nutrition labeling system on willingness to consumption
53. Analysis of the opinions and beliefs associated with the use of tobacco dentifrice among the Individuals attending a Dental Hospital
54. A bibliometric analysis of the top 100 most cited articles in nutrition and dietetics
55. Psychometric properties of Oral Health Values Scale and its validation in Indian Population
56. Effectiveness of sign language with other educational interventions in improving oral health of hearing impaired individuals: A systematic review and meta-analysis
57. Predictors of tobacco cessation in individuals attending a tobacco cessation clinic at tertiary care centre for dental education & research in India
58. Evaluation and Analysis of an oral health promoting website and mobile application - E Dant Seva

### ***Completed***

1. Longitudinal surveillance of serum metal ion levels in patients with total temporomandibular joint replacement
2. Accuracy of custom made TMJ prosthesis-a prospective study
3. An observational cross-sectional analytical study to evaluate the effects of Anti-cancer therapy on developing dentition in long term survivors of childhood cancers
4. Effect of 940nm diode laser irradiation and dentin bonding agent on the permeability of furcation area in primary molars
5. The effect of inciso-cervical position of wire-composite splint on the mobility of the avulsed permanent tooth: A cadaveric model study
6. Comparative evaluation of color change in restorative materials due to common eatables consumed by Indian children
7. Comparative evaluation of simvastatin gel and diode laser in pulpotomy of primary molars
8. Comparative evaluation of two rehydration protocols in fragment reattachment
9. Comparative evaluation of different root surface biomodification methods in teeth with extraoral dry times more than 60 minutes

10. Feasibility of the International Caries Classification and Management System (ICCMS) protocol in a hospital-based setting
11. Comparative Evaluation of Putty Index and Custom Template for Direct Composite Restoration of Uncomplicated Crown Fractures in Permanent Anterior Teeth
12. Severity and Pattern of ECC among preschool children and its association with various behavioral factors- A hospital-based study
13. Effect of application of SDF and potassium iodide on the micro tensile bond strength of composite resin to carious dentin – an experimental in-vitro study
14. Prevalence of developmental defects of enamel in children with Celiac disease. A hospital based observational study
15. Prevalence of teething problems in Infants: A pilot exploratory study
16. Evaluation of two rehydration protocols for fractured tooth fragments for depth of penetration of resin tags in dentin using Confocal Laser Scanning Microscopy
17. Development and validation of an assessment tool for traumatic maxillofacial and dental re- injury associated fear and anxiety in 10-16 years old boxers in Delhi NCR region
18. An in vitro evaluation of fracture resistance and failure-modes of two designs of PMMA Endocrown in primary molars
19. Trauma induced stress distribution in primary anterior teeth restored with aesthetic crowns: A finite Element Analysis 1
20. Assessment of fluoride and silver ion concentrations in saliva and urine following Silver Diamine Fluoride application on carious teeth in the children - An exploratory Study
21. Assessment of attentional bias to cariogenic versus non-cariogenic food presentations in children: a visual tracking study
22. A study to assess the effectiveness of an App based educational intervention regarding oral hygiene on knowledge, attitude, practice among parents of children with congenital heart disease at AIIMS, New Delhi
23. Assessment of fluoride and silver ion concentration in saliva and urine following silver diamine fluoride application on carious teeth in children - an exploratory study
24. Development and Validation of clinical decision support tool for the management of deep carious lesion in Primary dentition
25. Development of an adhesive tape based positioner for splinting of mobile injured teeth
26. Prevalence of Teething Problems during eruption of primary teeth: A prospective cohort study
27. Comparative evaluation of the retention rates of sealant with silver nanoparticles compared with that of conventional resin based sealant in molars - A randomized controlled trial
28. Prevalence and pattern of Traumatic dental injuries among children and Adolescents with severe to profound hearing impairment reporting to a tertiary care centre in North India
29. Comparative evaluation of patient acceptance for the conventional and prefabricated Band and Loop Space Maintainers in children with Premature Loss of Primary Molar: A randomized clinical trial
30. Comparative evaluation of success of single versus two visit protocols of Silver modified atraumatic restorative treatment (SMART) in primary molars
31. Retrospective study of oral pathology specimens: incisional vs excisional specimens and cytopathology vs histopathology
32. Etiology of Oral cancer in Indian population younger than 30 years
33. Sub-phenotype Identification in SARS- COV-2 Infected Adult Patients with ARDS by Latent Class Analysis: A Retrospective Study
34. Low Dose Aspirin in Moderate to Severe SARS- CoV-2 Infected Patients: A Pilot Randomized Controlled Trial
35. Ultrasonographic assessment of brachial artery reactivity as predictor of adverse outcome in patients undergoing emergency laparotomy for perforation peritonitis: prospective observational study
36. Comparison of blind intubation success rates through AirQ and LMA Blockbuster in adult patients
37. Effect of incremental PEEP titration on postoperative lung atelectasis in adult patients undergoing elective major abdominal surgery: A randomized controlled trial
38. Renal doppler ultrasound to predict acute kidney injury in patients with acute circulatory failure in ICU: a prospective observational study

39. Role of spot urine sodium in furosemide stress test in volume overloaded critically ill patients with acute kidney injury - a prospective study
40. Incidence, risk factors and outcome of acute kidney injury in adult patients undergoing Emergency Laparotomy: A Prospective Observational Study
41. Effect of incremental PEEP titration on postoperative lung atelectasis in adult patients undergoing elective major abdominal surgery: A randomized controlled trial
42. Association between perioperative acid-base abnormalities and kidney dysfunction in patients with peritonitis: A prospective cohort study
43. Velocity- time integral and stroke volume measured in the ascending aorta for prediction of volume responsiveness in spontaneously breathing patients
44. Comparison of post extubation lung aeration in patients undergoing traditional extubation with those undergoing positive pressure extubation in ICU: randomized control trial
45. Efficacy of decremental PEEP trial on postoperative oxygenation status in adult patients undergoing emergency laparotomy: A pilot randomized controlled trial
46. Carotid artery corrected flow time & respiratory variations of peak blood flow velocity for prediction of hypotension after induction of general anaesthesia in adult patients undergoing elective surgery: A prospective observational study
47. Comparison of Awake Nasotracheal Intubation Using Flexible Fibre-Optic Bronchoscope Versus D Blade CMAC Video-Laryngoscope in Patients Having Anticipated Difficult Airway Under Topical Local Anaesthesia and Dexmedetomidine Sedation
48. Correlation of oxygenation index and oxygen saturation index in patients undergoing emergency laparotomy under general anaesthesia: A prospective observational study
49. Efficacy of thoracic fluid content by cardiometry in predicting weaning failure in ICU: a prospective observational study
50. Application of ROX Index and ROX-HR Index as Predictors of Response to High Flow Nasal Oxygenation in Post Extubation Respiratory Failure: A Prospective Observational Study
51. Recovery characteristics of patients following two different anesthesia techniques in major maxillofacial surgery: a randomized controlled trial
52. Evaluation of effect of Ketofol and Ketodex on duration of Seizure activity, hemodynamic profile, recovery times and cortical activity (using fNIRS) in patients undergoing electroconvulsive therapy for depression
53. Evaluation of fracture strength of cad cam fabricated monolithic zirconia and peek crowns an in vitro comparative study
54. Evaluation and comparison of marginal adaptation of cad cam monolithic peek and zirconia crown- an in vitro pilot study
55. Comparative evaluation of wear of polished monolithic zirconia and opaque monolithic zirconia opposing natural teeth-an in vivo study
56. A comparative computerized occlusal analysis of conventional complete denture and implant supported overdentures
57. The effect of inciso-cervical position of wire-composite splint on the mobility of the avulsed permanent tooth: A cadaveric model study
58. Severity and Pattern of ECC among preschool children and its association with various behavioral factors- A hospital-based study
59. Trauma induced stress distribution in primary anterior teeth restored with aesthetic crowns: A finite Element Analysis 1
60. The effect of energy and fat content labeling on food consumption pattern: a systematic review and meta-analysis
61. Effectiveness of topical fluorides in prevention of radiation caries in adults: A systematic review and meta-analysis
62. Prevalence of oral premalignant lesion through visual screening among security personnel working at a tertiary health care centre
63. Comparative evaluation of effectiveness of personal intraoral photographs of oral potentially malignant disorders and behavioral counseling on tobacco cessation amongst the current tobacco users
64. Dental caries status in individuals with hearing difficulties: A systematic review and meta- analysis

65. Analysing the proficiency of a routine module in early detection of oral cancer among oral health care para professionals
66. Effectiveness of a Web based Learning Module on Oral Health Promotion for Nursing Professionals
67. Effectiveness of a training program in school teachers on the role of sugars in oral and general health
68. Global Status of Knowledge, Attitude and Practice on Tobacco Cessation Interventions Among Dental Professionals: A Systematic Review
69. Oral Hygiene status in individuals with hearing difficulties: A systematic review and meta- analysis

## **Collaborative Projects**

### ***Ongoing***

1. FTIR based ULTRA fast & quantitative assessment of COVID-19 viral load, IIT Kharagpur, Dept of Medicine, AIIMS
2. A prospective, active controlled, randomised, double blind, multicentre, phase III study to compare the safety and efficacy of biosimilar denosumab of Enzine Biosciences Limited Versus innovator denosumab in the treatment of postmenopausal osteoporosis, Orthopedics, Endocrinology, Radiology, AIIMS, New Delhi
3. Childhood Cancer Survivorship Program (CCSP) Program comprised effects of cancer related chemotherapy, radiotherapy and bone marrow transplantation of dentofacial and oral structures as Co-Investigator (Interdisciplinary collaborative project with IRCH department, Medical Oncology AIIMS New Delhi)
4. A descriptive study to evaluate the extracutaneous and systemic involvement in children with inherited epidermolysis bullosa, Dermatology and Venereology, AIIMS, New Delhi
5. Assessment of Quality of Life Among Adult Survivors of Head and Neck Ewing Sarcoma Family of Tumours, Department of Medical Oncology AIIMS New Delhi
6. Dental conditions and co-morbidities in an elderly Population in North India, Department of Geriatric Medicine, AIIMS, New Delhi
7. Role of Parecoxib, A Selective Cyclooxygenase-2 Inhibitor, for Reduction of Severity of Acute Pancreatitis: A Randomized Controlled Trial, Dept. of Gastroenterology and Human Nutrition
8. Effect of Timing of Biliary Drainage (Urgent versus Early) in Patients with Severe Acute Cholangitis on 30 days Mortality: A Randomized controlled trial (ACT trial), Dept. of Gastroenterology and Human Nutrition
9. A study to examine dependence, harm perception and motivation to quit amongst Indian areca nut users and pilot test an intervention module, Psychiatry & NDDTC, AIIMS
10. Analysis of gut and oral microbiome to understand the lifestyle factor associated risk in the development of oral cancer and periodontitis, School of Life Sciences JNU
11. Development of MOOCs on Oral Health and Oral Cancer, World Health Organisation
12. Empowering AYUSH health professionals for oral health promotion, Ministry of Health and Family Welfare
13. Impact of Training Package on Oral Health Promotion among School Teachers in India: An interventional study, Ministry of Health and Family Welfare
14. Impact of Oral Health Promotion Training among Nursing Professionals in India- An Interventional Study, Ministry of Health and Family Welfare
15. Role of Negative Regulators of IGF-1R in Malignant Transformations of Oral Dysplasia, Biochemistry, AIIMS
16. A phase III randomised controlled study comparing xerostomia after tubarial salivary gland sparing IMRT versus standard IMRT in patients with locally advanced oropharyngeal squamous cell carcinoma, Radiation Oncology, AIIMS
17. Elucidating the cellular functions and clinical significance of Dipeptidyl Peptidase III (DPP III) in oral cancer, Dept of Biochemistry, AIIMS
18. A pilot study to evaluate fluorescence UV imaging for assessment of malignant and potentially malignant disorders in oral cavity and update and analysis of tongue cancer database, Dept of Surgical Oncology
19. Oral Potentially Malignant Lesion Atlas Project: Validating the efficacy of a novel, Point-of-Care diagnostics and developing an integrated multidimensional, prognostic nomogram, NCI Jhajjar
20. A Population based prospective cohort study to unravel the causes of stroke and cognitive decline: A cross cultural perspective, Neurology – Clinical Epidemiology, AIIMS, New Delhi
21. Nanotechnological interventions in dental and bone metal implants: Tailoring smart, multifunctional interfaces towards improved osseointegrative and anti-bacterial properties, IIT Guwahati

22. Analysis of gut and oral microbiome to understand the lifestyle factor associated risk in the development of oral cancer and periodontitis, Dept. of Microbiology, Jawaharlal National University
23. NLRP3 Inflammasome gene polymorphisms and their expression in Periodontitis- a genetic study in North Indian population, Dept. of Biochemistry, AIIMS

### Collaborative Projects

#### Completed

1. Effect of various tooth storage media on viability, proliferative ability and differentiation of human periodontal ligament stem cells - an in-vitro preliminary study, Stem cell facility, AIIMS, New Delhi
2. Comparison of 5 factor modified frailty index and ASA classification to predict morbidity and mortality in patients undergoing arthroplasty - A prospective observational study, Dept of Orthopedics
3. Randomized controlled trial to assess the efficacy of swallowing exercise on dysphagia among post extubated patients admitted in ICU of AIIMS, College of Nursing
4. Role of human Heterogeneous Nuclear Ribonucleoprotein D (hnRNP D) in oral cancer, Biochemistry, AIIMS
5. Association between serological levels and genetic polymorphisms of VEGF A and C with clinicopathological characteristics in oral squamous cell carcinoma and oral submucous fibrosis - A pilot study, Biochemistry, AIIMS
6. Interdisciplinary variations in spectrum of oral mucosal lesions, Dermatology and CDER, AIIMS
7. Estimate the oral cancer conversion risk with long-term follow-up (10-15 years) of patients with precancerous lesions- leukoplakia, submucous fibrosis, lichen planus among patients, General Surgery, CDER AIIMS and NICPR, Noida
8. To assess the potential ability of Cathepsin L and Cathepsin B as universal biomarkers of cancer, Biochemistry, AIIMS
9. Cleft Lip and Palate Anomaly in India: Clinical profile Risk factors and current status of treatment: A hospital based study- CSIR-IGIB
10. A morphological study of the human Temporomandibular joint, Anatomy, AIIMS

### Research projects over past 3 years

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	35	49	41
Total funding	Rs 7,01,09,658	Rs 6,73,16,749	Rs 6,78,40,186

### Publications

**Journal: 114**

**Abstract: 7**

**Chapters in Book: 10**

### Publications over past 3 years

Item	2020-2021	2021-2022	2022-2023
<b>Total</b>	<b>165</b>	<b>165</b>	<b>131</b>
Journal articles	152	149	114
Abstracts	5	10	7
Chapters in books	8	6	10
Books	0	0	0

### PATIENT CARE

**In-patient care/supportive activities include information regarding**

#### Division of Orthodontics and Dentofacial Deformities

During the year under review we have provided greater emphasis on Interdisciplinary treatment of patients with Cleft Lip & Palate and combined orthognathic surgery patients suffering from facial deformities.



### **Oral & Maxillofacial Surgery**

More than 1500 major cases were operated in department.

- (a) Facilities available in the department (including special clinics and/or special laboratory facilities Oral & maxillofacial Surgery OPD and Inpatient services)
1. Exodontia, simple & complicated
  2. Temporomandibular Joint Surgery
  3. Cranio-facial trauma
  4. Orthognathic and Aesthetic Surgery of face
  5. Oral and maxillofacial Pathology
  6. Maxillofacial Infections
  7. Surgery for Obstructive sleep apnea
  8. Trigeminal neuralgia Clinic
  9. Oste-odontokeratoplasty

### **Division of Prosthodontics**

We have been managing outpatient duties for dental rehabilitation of complete and partially edentulous patients. We are running specialty clinic on Oral and maxillofacial Prosthodontics, implant dentistry and temporomandibular disorders. Different types of prosthesis which we are fabricating for the patients are Complete denture, Removable Partial Denture, Crown and Bridge work, Laminates, Occlusal splints, Implant supported Prosthesis ( Removable & Fixed), and Maxillofacial Prosthesis (Extra-oral/ Facial & Intra-oral).

At the department we are running two labs to fabricate removable and fixed Prosthodontic appliances.

### **Division of Periodontics**

Various treatment procedures carried out in Periodontics Division were:

- Conventional non-surgical and surgical periodontal therapy
- Periodontal plastic surgery
- Soft and hard tissue regenerative procedures
- Diode laser assisted soft tissue excision and adjunctive pocket debridement procedures

### **Division of Pedodontics**

On an average the division undertakes around 20,000 procedures in children which range from simple to advanced paediatric dentistry procedures. We stress upon holistic and interdisciplinary care of all our patients by collaborating with other medical and dental specialties. We follow preventive protocol in almost all the patients and perform simple procedures as restorations, extractions to complex procedures as deciduous and permanent endodontic treatments, stainless steel crowns, space maintainers, habit breaking appliances and minor surgeries. Full mouth rehabilitation in children with early childhood caries, having severely mutilated multiple carious teeth is frequently done. Our division is also one of the pioneers of starting use of soft tissue lasers for surgical and bio-stimulation procedures in paediatric dentistry in north India. Breaking appliances and minor surgeries. Full mouth rehabilitation in children with early childhood caries, having severely mutilated multiple carious teeth is frequently done. For the parent and child education a software mobile application by the name of "Healthy Smile" is available on the Google Play Store for the purpose of patient education and motivation for control of future dental caries.

### **Division of Public Health Dentistry**

- Tobacco Cessation Counselling at the CDER AIIMS, New Delhi, OPD
- Patient Care at Comprehensive Rural Healthcare Project - Ballabgarh.
- Patient care at Trilokpuri Centre AIIMS, New Delhi
- Oral Health Screening and Promotion for Security Guards
- Oral Health Promotion and Screening Program at India International Trade Fair - November 2022.
- Oral Health awareness and promotion at Rajkumari Amrit Kaur OPD - 7 April 2022

### **Oral Medicine & Radiology Facilities available:**

- Oral Medicine & Radiology OPD services
- Specialty Clinic: Oral Ulcers Clinic (Wednesday 2.00 PM)

- Oral cancer Screening
- Management of Oral Potentially Malignant Disorders
- Dental Clearance
- Dental Radiology (IOPA, Occlusal, OPG, Cephalometry)
- Cone Beam Computed Tomography Facility in Oral Medicine & Radiology CDER
- Development of registry for Oral Potentially Premalignant lesions in CDER
- Soft tissue Laser Clinic

#### Patient care

Item	2020-2021	2021-2022	2022-2023
OPD consultations	59,869	1,39,592	2,63,903
Special clinic consultations/procedures done	32,375	60,330	1,10,216
Surgery (Operation/Procedures including Major/Minor)	1046	1048	1155
Total inpatient admissions	255	707	936

#### AWARDS, HONOURS AND SIGNIFICANT EVENT

**Professor Ritu Duggal** was a Chief Guest at the 6th National Symposium - Dentraumaella organized by Indian Society of Dental Traumatology (ISDT) at Sri Ramakrishna Dental College & Hospital in Coimbatore, Tamil Nadu. Dr Duggal was Expert Member in the Selection Board for the post of Dean in ESIC Dental Colleges. She was examiner at Maulana Azad Institute of Dental Sciences, King George's Medical University (KGMU) at Lucknow, Kalinga Institute of Industrial Technology (KIIT), Bhubaneswar, JIPMER, Puducherry. Prof Ritu Duggal was nominated by the Registrar of the Himachal Pradesh University as a member of the Board of Studies in the subject of Dental Sciences for a period of two years. She was felicitated in the 56th Indian Orthodontic Conference in Pune, Maharashtra. Prof Duggal has also been conferred with the Lifetime Achievement Award by the Delhi Dental Show, Women's Dental Council. Dr Duggal has been conferred with the Dr AV Arun Outstanding Professor Award for the year 2022 by the Indian Orthodontic Society (IOS). She was invited as a Guest of Honour in the CDE Programme at Ghaziabad, Uttar Pradesh. She was invited as a member of Program Committee in the Symposium on Interdisciplinary Management of small mandibles at Faridabad, Haryana. She was nominated by the Ministry of Health & Family Welfare, Govt of India for the "Regional Meeting for Implementing the Action Plan for Oral Health 2022-2030 at Bangkok, Thailand.

**Professor Ajoy Roychoudhury** is the Associate Editor trauma section: Journal of Oral Biology and Craniofacial Research. He is a reviewer for British Journal of Oral and Maxillofacial Surgery, National Medical Journal of India, and National Journal of Oral and Maxillofacial Surgery. He has been Dental Council Inspector for Postgraduate education. He was in the committee of MOH&FW to review the decisions of Dental Council of India pertaining to recognition to various Dental Colleges in India. He also served as an expert at selection committee at PGIMER Chandigarh, AIIMS Bhatinda, and AIIMS Bilaspur.

**Professor Veena Jain** was expert in the Selection Committee at RIMS Ranchi; and subject expert to conduct onsite techno financial evaluation for India- Israel R&D and technological innovation proposal (CFP-9) 2022 on behalf of DST, for Global Innovation & Technology Alliance (GITA). She is also the subject expert for ICMR. She was external examiner at KGMU Lucknow; RUHS, CDS, Jaipur and KIDS, Bhubaneswar. She was chairman to comment on final reports of ad hoc research projects submitted at ICMR in 2023.

**Professor Ongkila Bhutia** was chairperson Hospital Infection Control Committee. She was appointed as a subject expert for the faculty promotion interview at the Government Institute of Medical Sciences, Greater Noida, and chaired a scientific session for the TRAUMA 22 at JNU, New Delhi.

**Professor Vijay Prakash Mathur** is a member of the National Steering Group, National Oral Health Programme; Committee for drafting National Oral Health Policy, and the Committee for drafting Operational Guidelines for National Oral Health Program. He was appointed Councilor for Global Oral Health Inequalities Research Network (GOHIRN), International Association of Dental Research (IADR) for 3 years (2021-24). He is also member of Council on Continuing Education (for 2021-23), American Academy of Pediatric Dentistry, IADR/AADR Publications Committee as the IADR Representative to Journal of Dental Research; and the IADR Awards Review Committee (for 2022-24). He is the President of Indian Society for Dental Traumatology; Vice President of Indian Society for Dental Research (IADR- India Division); Hon. Treasurer of Indian Society of Pedodontics and Preventive Dentistry; Scientific Editor for Journal of International College of Dentists (Section VI), and Editor in Chief of Journal of South Asian Association of Pediatric Dentistry.

**Professor Ajay Logani** has filed a patent on “A splint device”

**Professor Dalim Kumar Baidya** received the ISA Delhi Best Researcher Award 2022. He was the Convener and Key Resource Faculty to conduct AIIMS Cardiac Resuscitation Workshop in NDDTC, Ghaziabad He was the Chairperson in the Cardiac Lung Ultrasound and Echo (CLUE) and Hemodynamic Conference, and for Legal aspects and Anesthesiology at North Zone ISACON 2022 held at Indira Gandhi Medical College, Shimla. He was the Convener for the Workshop on Mechanical Ventilation Workshop at Neuro Critical Care Conference 2022. He was Examiner of MD Anesthesiology at AIIMS Bhubaneswar and for DM Critical Care Medicine at West Bengal University of Health Sciences and at Sri Ramachandra Institute of Health Sciences.

**Dr Prabhat Kumar Chaudhari** was awarded the T C White Observership - 2022 by the RCPSG, Glasgow. He was selected for the SERB International Research Experience Fellowship Award for the year 2022-2023 to visit to Forsyth Institute, USA. He also received the International Association of Dental Research (IADR) Centennial Travel Award 2022 and the International Association of Dental Research (IADR) Innovation Award for Excellence in Orthodontics Research Finalist in 2022.

**Dr Dheeraj Kumar Koli** was Invited as an Online BDS Proposals Reviewer for ICMR-STs 2022 program by Indian Council of Medical Research (ICMR), Department of Health Research (DHR), Ministry of Health and Family Welfare (MoH &FW), Government of India.

**Dr Kalpana Bansal** was conferred with the Fellow of Indian Society for Dental Research Award. She also was responsible for the copyright received in the name of AIIMS for Software- Healthy Smile Swasth Muskan – a digital tool for patient/public education for caries prevention.

**Dr Nitesh Tewari** received the JG Kannappan Award for the Best Published Paper in the Indian Journal of Dental Research, the TC White Observer-ship award-2022 of the Faculty of Dentistry, Royal College of Physicians and Surgeons of Glasgow, UK for his visit to King’s College London. He was appointed to the Editorial Board of Frontier’s in Oral Health. He was appointed as a member of SERB Programme Advisory Committee on Biomedical and Health Science. He was appointed as an expert in salivary and oral microbiome research by the Indian Council of Medical Research. He was elected as the Director of International Association of Dental Traumatology Board for a second term. He received accreditation for most cited papers in Dental Traumatology, Special Care in Dentistry and Journal of Periodontal Research for the year 2021-22. He was appointed to the Editorial Board Member for the section of Systematic Reviews and Meta-analysis for the Dental Traumatology. He was also appointed as the Secretary/treasurer of the Evidence Based Dentistry Network of the International Association of Dental Research.

**Dr Amrita Chawla** was awarded the fellowship from Indian Society of Dental Research.

**Dr Harsh Priya** received the Three Borrow Foundation Travel Grant for the 26th European Association of Dental Public Health (EADPH) Congress in Montpellier. She received a Certificate of Appreciation for Dental Health Check Up Booth and Exhibit at the 67th Institute Day. She was awarded the Fellow of Royal Society for Public Health. She was Chairperson of scientific sessions held at the 33rd Annual Conference of Indian Society for Dental Research. She was elected as Councillor for the IADR e-Oral Health Network group for the year 2020-2023. She is Member of the Board of Question Paper Setter in Utkal University and was appointed as Board of Studies Committee of Department of Public Health Dentistry, Faculty of Dental Sciences, SGT University as an External Subject Expert.

**Dr Deepika Mishra** was elected as an executive council member of Indian Association of Oral & Maxillofacial Pathologists (IAOMP). She is the scientific advisor for the proposal for In-vivo fast screening and diagnosis of oral cancerous epithelia using multi-modal optical spectroscopy and smart-phone imaging: A point of care device for low resource setting which has secured for the BIRAC BIG 19 grant 2023. She was also identified as an expert and reviewer at ICMR multiple times for reviewing BDS-related proposals for Short Term Studentship (STS) 2022 program, expert for reviewing three ADHOC projects’ review reports and expert for Innovation area of proposal for Oral Health call for proposal 2022 at ICMR. Chaired scientific sessions in ISDR conference. She is an expert resource person for Oral Care sessions for National training of trainers for Community Health Officers and Staff Nurses organised by National Health Systems Resource Centre (NHSRC) Delhi. She is an expert resource person on Oral cancer screening sessions at ICMR NICPR-ECHO’s Advanced Cancer Screening Training Program for Dentists (ACSTP-O6 and ACSTP-O7). Initiated involvement of our department in teaching postgraduates of Department of General Pathology, AIIMS in coordination with head and neck pathology. She was also identified for the subject expert committee for the Central Drugs Standard Control Organisation (CDSCO), Ministry of Health and Family Welfare. She is an expert in forensic odontology, and got the opportunity to be a member of the medical board of AIIMS for medical examination (Age estimation). Invited as an expert for the workshop on Gold Standard Medical Imaging Datasets for proposed ICMR-IISc Centre for Health

Data, Bengaluru. Worked as a member of the Inspection committee for verification of store items at CDER, organization of stage committee for Research Day 2022 and e-newsletter committee of Research at AIIMS.

**Dr Kunaal Dhingra** was appointed as Associate Editor of BMC Biotechnology and Frontiers in Dental Medicine, Guest Editor for Nanomaterials and Nanotechnology, Guest Editor for Composites and Advanced Materials, Academic Editor in PLOS ONE journal and Commentator in Evidence Based Dentistry. He is a reviewer for Indian Journal of Physiology and Pharmacology, European Journal of Dentistry, World Journal of Surgical Oncology, Diabetes & Metabolic Syndrome: Clinical Research & Reviews, JBI Evidence Synthesis. He was member of the prestigious IADR KULZER Travel Award Committee. He was awarded Membership (MAMS) by the prestigious National Academy of Medical Sciences (India), Member of Cochrane Affiliate Centre at AIIMS, New Delhi, India and Cochrane India Network, Member of Cochrane Methods, Member of Periodontology Special Interest Working Group and Task and Finish Group of European Association of Dental Public Health, Member of Topic group: Dental Diagnostics and Digital Dentistry of International Telecommunication Union and. He was also appointed to World Health Organization (WHO) Focus Group on “Artificial Intelligence for Health. He is the Nodal Officer in CDER, AIIMS, New Delhi, India for co-ordination with AIIMS BioNest Bioincubator. He was Awarded Fellowship (FRSPH) of the Royal Society for Public Health, UK. He is also the Member of grading of recommendations assessment, development and evaluation (GRADE) Working Group and has actively contributed to the development of Consensus Statement on Future Directions for the Behavioral and Social Sciences in Oral Health published in Journal of Dental Research. He was also elected as Member of the Abstract Review Sub-Committee of Guidelines International Network Conference 2022.

**Dr Vikender Singh** was appointed as Editorial Board Member as Section Editor (Dentistry) in Indian Journal of Health Sciences & Care, elected as Executive committee Member of Indian Society of Periodontology. He was the Chairperson for scientific sessions at the 2nd AIIMS Periodontal and Peri-implant Plastic Surgery Symposium organized by Periodontics Division, CDER. He was also the Chairperson of poster session at the 46th National Conference of Indian Society of Periodontology held at Bhubaneswar, Odisha.

**Dr Aditi Nanda** received her Membership of Faculty of Dental Surgery (Glasgow).

**Dr Morankar Rahul** was selected as Star Researcher for presenting the paper titled “Cytotoxicity of intracanal medicaments used for root canal disinfection and their effect on proliferation and differentiation potentials of Stem Cells from Apical Papilla” at the 33rd Annual Conference of Indian Society for Dental Research and was selected for Honorable Mention at the *Journal of Endodontics* Awards.

**Dr Sidhartha Sharma** was awarded the Fellowship from International Association of Dental Traumatology (FIADT) and received the gold medal in delegate category during 1st Asian Regional Congress of Dental Traumatology.

**Dr Varun Surya** developed “Hospital infection control manual” for CDER AIIMS for the purpose of NABH accreditation.

### Significant Events

Under National Oral Health Programme, the following activities have been undertaken:

### Events organized by the department in 2022

1. Webinar series on Oral Health Promotion for Navodaya Vidyalaya Samiti (NVS) Staff Nurses from December 2021 to April 2022. (CDER as centre of excellence for implementation of National Oral Health Program by Ministry of Health and Family Welfare).
2. Webinar series on ‘Role of Sugars in oral and general health’Kendriya Vidyalaya Sanghatan (KVS) Teachers (For Primary teachers (PRT), Post Graduate Teacher (PGT) and Trained Graduate Teacher (TGT)) from 21 August 2021 to 24 August 2022.
3. Outreach activities for oral health promotion for Special children, Juvenile convicts and Orphans.
4. Marking of oral health day through weeklong activities both at CDER and peripheral center (Ballabghad) of AIIMS, New Delhi. Slogan, Poster, Meme and Short video competitions on MyGov online platform on this occasion, in March 2022.
5. Orientation Program for ASHA workers on oral health at Primary Health Centre- Dayalpur, 2022.
6. Oral Cancer Awareness and Screening Program- Border Security Force at Tigri, Bhondsi and Chhawla in 2022.
7. Pit and Fissure Sealant Program at PHC, Chhaisa, CRHSP, Ballabgarh, 2022.
8. Oral health screening camp at Grameen SwasthyaShivir, Faridabad, August 2022.
9. Oral health and oral cancer screening camp at Community Clinic, Trilokpuri and CRHSP Ballabgarh May 2022.

### **Certificate course on special care in Dentistry**

The Indian Society of Pedodontics and Preventive Dentistry (ISPPD) conducted the first certificate course on Special Health Care Needs in Dentistry, from July to November, with the goal of improving knowledge and clinical skills to better manage children with special health care needs. The course consisted of 3 modules. The third and final module of knowledge evaluation and assessment was successfully organized by the Department of Paediatrics and Preventive Dentistry at the Centre for Dental Education and Research, AIIMS, New Delhi on 6th November 2022. There were approximately 30 participants from various parts of the country, and their performances were evaluated by 8 assessors. The programme was intended to encourage discussion among participants and assessors about the core concepts of special care dentistry. This was accomplished through different types of case presentations. All participants were evenly distributed among four presentation halls, with each presentation having a ten-minute time limit. At the end of each presentation, the presenter answered various questions posed by the assessors, which aided in the successful exchange of information and knowledge. The programme also included one hour for lunch and 15 minutes for morning and afternoon break to allow participants to continue their discussions after each session.

### **Activities on Children's day**

With the purpose of extending the knowledge and increasing the awareness of oral health among children and the parents, the Department of Pediatrics and Preventive Dentistry had actively conducted various events on Children's Day on 14 November 2022. To spread the message 'Healthy Smiles Everyday' and create awareness about the oral health, the children and the parents were taught about brushing techniques and mouth rinsing method. The DORA students made it successful by displaying various Health promotion videos, and brushing demonstration videos to the children. Live demonstration of brushing according to the age of the child was also done. Various interactive sessions such as quiz programs, drawing competition and skit were also conducted to enhance the active participation of the children and to improve their knowledge on importance of Oral health.

### **VISITING SCIENTIST**

Dr Brian O'Connell, Dean, Health Sciences, Trinity College Dublin and President International Association for Dental Research and Mrs Dr Anne O'Connell in December 2022.

### 10.3. Dr BR Ambedkar Institute Rotary Cancer Hospital

#### Professor and Chief

Lalit Kumar (Medical Record Section)

#### Professors and Head

Sushma Bhatnagar (Onco-Anaesthesia and Palliative Medicine)  
Atul Sharma (Medical Oncology) SVS Deo (Surgical Oncology)  
DN Sharma (Radiation Oncology) SVS Deo (DCR)

#### Professors

Sushma Bhatnagar (1 July 2022 to till date)  
Sidhartha Satpathy (Hospital Administration) (1 April 2022 to 30 June 2022)  
Mahesh R (1 July 2022 to till date)  
Seema Mishra (Onco-Anaesthesia and Palliative Medicine)  
Rakesh Garg (Onco-Anaesthesia and Palliative Medicine)  
Nishkarsh Gupta (Onco-Anaesthesia and Palliative Medicine)  
Vinod Kumar (Onco-Anaesthesia and Palliative Medicine)  
Sachidanand Jee Bharati (Onco-Anaesthesia and Palliative Medicine)  
Lalit Kumar (Superannuation on June 2022) (Medical Oncology)  
Sameer Bakhshi (Medical Oncology) Sunil Kumar (Surgical Oncology)  
Mukurdipi Ray (Surgical Oncology) Suman Bhasker (Radiation Oncology)  
Sushmita Pathy (Radiation Oncology) Subhash Gupta (Radiation Oncology)  
Haresh KP (Radiation Oncology) Sanjay Thulkar (Radiology Unit, Dr BRAIRCH)  
Chandrashekhara SH (Radiology Unit, Dr BRAIRCH)  
Ritu Gupta (Laboratory Oncology, IRCH)  
Sanjeev Kumar Gupta (Laboratory Oncology, IRCH)  
Anita Chopra (Laboratory Oncology, IRCH)  
Pranay Tanwar (Laboratory Oncology, IRCH)  
Pratik Kumar (Medical Physics)

#### Additional Professors

Ajay Gogia (Medical Oncology) Ranjit Kumar Sahoo (Medical Oncology)  
Prabhat Singh Malik (Medical Oncology) Sameer Rastogi (Medical Oncology)  
Rambha Pandey (Radiation Oncology) Ahitagni Biswas (Radiation Oncology)  
Ekta Dhamija (Radiology Unit, Dr BRAIRCH)  
Mukesh Kumar (Radiology Unit, Dr BRAIRCH)  
Amar Ranjan Singh (Laboratory Oncology, IRCH)

#### Associate Professors

Raja Pramanik (Medical Oncology) Atul Batra (Medical Oncology)  
Sachin Khurana (Medical Oncology) Chandra Prakash Prasad (Medical Oncology)  
Thoudam Debraj Sing (Medical Oncology) Mayank Singh (Medical Oncology)

#### Assistant Professors

Brajesh Kumar Ratre (Onco-Anaesthesia and Palliative Medicine)  
Anuja Pandit (NCI, Jhajjar) Saurabh Vig (NCI, Jhajjar)  
Shweta Bhopale (NCI, Jhajjar) Balbir Kumar (NCI, Jhajjar)  
Raghav Gupta (NCI, Jhajjar) Sushma Bhatnagar (NCI, Jhajjar)  
Prashant Sirohiya (NCI, Jhajjar) Deepam Pushpam (Medical Oncology)  
Akash Jha (Medical Oncology) Chethan R (Medical Oncology)  
Babita Kataria (Medical Oncology) Aparna Sharma (Medical Oncology)  
Ashutosh Mishra (Surgical Oncology) Sandeep Kumar Bhorawal (Surgical Oncology)  
Babul Bansal (Surgical Oncology) Jyoti Sharma (Surgical Oncology, NCI, Jhajjar)

Naveen Kumar (Surgical Oncology, NCI, Jhajjar)  
Jyotishman Sakia (Surgical Oncology, NCI, Jhajjar)  
Amitabh Mandal (Surgical Oncology, NCI, Jhajjar)  
Manish Kumar Gaur (Surgical Oncology, NCI, Jhajjar)  
Surendra Kumar Saini (Radiation Oncology, Medical Physics)  
Subramani V (Radiation Oncology, Medical Physics)  
Gopishankar N (Radiation Oncology, Medical Physics)  
Dhanbalan R (Radiation Oncology, Medical Physics)  
Abhishek Shankar (Radiation Oncology, Medical Physics) (Joined on 14 December 2022)  
Anjali VR (Radiation Oncology, Medical Physics) (Joined on 7 December 2022)  
Aman Sharma (NCI-AIIMS, Jhajjar)  
Supriya Mallick (NCI-AIIMS, Jhajjar)  
Karun Kamboj (NCI-AIIMS, Jhajjar) (Joined on 24 January 2023)  
Krithika Rangarajan (Radiology Unit, Dr BRAIRCH)  
Smeeta G (Laboratory Oncology, IRCH)  
Raj Kishore Bisht, (Medical Physics) (Joined on 10 February 2023)

#### **Scientists**

Bharat Bhushan (Medical Oncology) Sachin Kumar (Medical Oncology)  
Sampa Ghose (Medical Oncology) Surender K Sharawat (Medical Oncology)  
Gurvinder Kaur (Laboratory Oncology, IRCH) Deepshi Thakral (Laboratory Oncology, IRCH)  
Vivek Kumar Singh (Laboratory Oncology, IRCH)  
Susama Rani Mandal (Scientists-II) (Medical Physics)  
N Manoharan (Scientists-IV) (DCR)  
Rajeev Kumar Malhotra (Scientists-II) (DCR)

#### **Supervising MSSO**

Ashok Kumar Singh  
(DCR)

#### **Accounts Officer**

Trilok Chand

#### **Stores Officer**

Manohar Arya

## **HIGHLIGHTS**

### **DCR**

The Delhi Cancer Registry is a Population Based Cancer Registry which collects cancer patient's data from more than 172 government or private hospitals/centers and 250 nursing homes and vital statistics division of MCD and NDMC and reports the incidence of various cancers among Delhi Urban residents and covers 97.5% of Delhi population according to 2011 census. When the registry was established in 1988 it registered 5854 new cancer cases and over the years the new cancer incidence has been increasing and in 2015 the registered incidence was 21538 cases (11435 males and 10103 females). The common sites of cancer among Delhi males are lung, oral cavity, prostate, tongue and larynx and in females the common sites of cancer are breast, cervix, ovary, gallbladder and corpus uteri. The median age of diagnose of cancer for males is 58.0 and for females 55 years. The top ten cancer leading sites cover 54.3% and 66.1% of total cancer cases in males and females, respectively. The reports prepared by registry are being widely used by medical students, researchers, govt. organization etc.

### **Laboratory Oncology**

Laboratory Oncology Unit is an advanced cancer laboratory for leukemia diagnosis using blood and bone marrow morphology and next generational flow cytometric immunophenotyping. Apart from routine clinical applications, specialized services like minimal residual disease (MRD) detection, therapeutic monitoring for monoclonal antibodies, CSF, body fluid and fine needle aspirate immunophenotyping are being provided. The patients are also offered state-of-the-art molecular diagnostic facilities for all hematological malignancies. In addition, the laboratory also took lead in establishing and maintaining the round-the-clock services at the 'Robotic Core Lab' at NCI, Jhajjar. During the COVID pandemic, our laboratory also arranged and offered voluntary testing for COVID antibodies for all the healthcare

workers working at AIIMS, New Delhi. The Laboratory Oncology Unit has been actively involved in many intramural, extramural, inter-institutional and intra-institutional research projects and research collaborations, and has published more than 250 papers in national and international journals in the last 5 years. The various Inter-Institutional collaborations include those with Indian Institute of Technology (IIT, Delhi), Indian Institute of Information Technology (IIIT, Delhi), National Institute of Immunology (NII), Jamia Hamdard University, Delhi, Institute of Genomics & Integrative Biology (IGIB), New Delhi, NIPCR- Noida, NIOP- Safdarjung. The Laboratory Oncology Unit has an active PhD programme with many PhD students working on the ongoing research projects. The laboratory encourages students to apply for short-term research training.

### Medical Oncology

Department of Medical Oncology is known for its high-level academic program, busy clinical service, stem cell transplant program, and research activity. Its academic program PhD, DM and BMT Fellowship are very competitive and sought after. The department also attracts students from National science academies and universities for summer training. Publications in high-impact journals, research grants and recognition of faculty members and scientists by various government/Grant agencies are witness to their quality contribution.

After serving 3 decades at IRCH, Prof Lalit Kumar (HOD), Chief IRCH and Head of NCI-AIIMS, Jhajjar superannuated in June 2022 and Prof Atul Sharma took charge as the HOD of Medical Oncology in July 2022.

After the COVID-19 pandemic, the department continued to provide patients care, lab services and telephonic/e mail consults. Medical Oncology faculty has provided regular patients care (out patients/inpatients and day care) services at the NCI Jhajjar.

### Activities/steps taken to improve patient care services, education and research

1. Annual conference of RESMO and Alumni meeting of Medical Oncology department was held successfully on 11-12 February 2023 at the AIIMS, New Delhi and NCI Jhajjar.
2. A warm farewell function of Dr Lalit Kumar, Chief Dr BRAICH and Head NCI, AIIMS on his superannuation was organised at JLN Auditorium, AIIMS, on 28 June 2022.
3. Regular seminars by ‘Distinguished Speakers’ Seminar series” by eminent speakers (both from India and abroad) have given invited seminars on a range of topics, these have been liked by young faculty members. They feel motivated and stimulated with new research ideas and better patients care services.

### The number of patients treated in the department during 2022-2023

Sl. No.		2022-23
1.	Patients treated as in-patient	12514
2.	Patients treated in day care facility	31987
3.	Medical Procedures	6177
4.	Outpatient chemotherapy	6836
5.	Outpatient IV antibiotics	25861
6.	Hematopoietic Stem Cell Transplantation	121

### Patient care services in Medical Oncology (Lab)

Sl. No.		2022-23
1.	Cytogenetics for Detection of Philadelphia Chromosome	597
2.	Cytogenetics for chimerism	04
3.	RT-PCR for detection of p210 and p190 Translocation in CML (qualitative)	07
4.	RQ-PCR for detection of p210 and p190 Translocation in CML (quantitative)	588
5.	CD 34 counts by Flow Cytometry	175
6.	CD 3 counts by Flow Cytometry	22
7.	MNC counts	156
8.	Cryopreservation of stem cells -80°C	112
9.	Storage of stem cells at 4°C	70



10.	Infusion of stem cells	146
11.	Viability of stem cell	141
12.	ELISA for aspergillosis detection	1038
13.	EBV DNA detection for EBV detection	36

#### **Aphaeresis Lab (2022-23)**

Sl. No.		2022-23
1.	PBSC harvests	163
2.	SDP apheresis	2021
3.	Granulocyte apheresis	98
4.	Hemogram	553
5.	Plasma exchange	07

#### **Medical Physics**

Medical Physics Unit, IRCH looks after radiation safety and image quality in medical radiological imaging and radiation application in medicine pertaining to about 150 radiation equipment and facilities across about 20 Departments/centers/Sections at AIIMS and NCI Jhajjar. We provide regular Quality Assurance services to x-ray equipment, take care of the regulatory compliance of these X-ray equipment and facilities as per Atomic Energy Regulatory Board (AERB) rules, provide consultancy for radiation safety to patients, staff and public, carry out irradiation of blood bags, research related with optimization of radiation dosimetry and imaging and education in diagnostic medical physics area. During 2022-2023 the department carried out 6789 measurements, tests, consultancy, experiments and radiation sterilization of blood bags for blood transfusion.

#### **Onco-Anaesthesia & Palliative Medicine**

The department of Onco-Anaesthesia and Palliative Medicine has started providing services in 9 New Operation Theatre at NCI, 50-bedded Intensive Care Unit (ICU), 40-bedded Palliative Care Ward (PCU) at National Cancer Institute (NCI), Jhajjar. A dedicated Interventional Cancer Pain Programme is also started at NCI, Jhajjar. An initiative to integrate concept of palliative care across specialties of Pulmonary Medicine, Cardiology, Emergency Medicine, Neurology, Nephrology and Geriatric Medicine has started to improve patient care and their quality of life. The other new services started for various diagnostic interventions include anaesthesia for endoscopies, ERCP and stenting and pediatric sedation at NCI. A cardiorespiratory Exercise Testing (CPET) lab has been started for perioperative screening of high-risk cases. The department has developed and published protocols and SOPs book for better patient management.

#### **Preventive Oncology**

Awareness programmes: Comprehensive cancer awareness generation programme for University students at Guru Gobind Singh IP University and Vivekanand Institute of Professional studies.

Celebrated World cancer Day on 4 February 2023 by organizing a walkathon in AIIMS, a cancer screening camp and poster exhibition.

Celebrated Breast Cancer Awareness month in October 2022 by organizing health talks, poster competition, seminars and symposiums in IRCH.

Awareness programme on online mode: National level webinars on Cervical Cancer by Sree Anjaneya College of Nursing, Kerala and International Virtual Conference on Preventive Oncology by Nursing Scholar Society, Government Medical College and Hospitals, Chandigarh.

Patient care: Twice a week, preventive oncology clinic started in April 2022. Total of 279 people have been screened for oral, breast and cervical cancers in one year in the clinic. HPV Vaccination has been done for 50 EHS beneficiaries.

Out-reach screening programmes: In far-fetched rural areas of Haryana, out-reach common cancer screening camps were organized in collaboration with multiple departments from AIIMS. Camps were conducted at Tigaon and Badsa districts.

Out-reach camps also conducted for working staff of India International Centre. Fortnight camp for AIIMS employees was organized at NCI, Jhajjar.

Training programmes: Training the public sector doctors and nurses in common cancers screening and prevention in districts of Delhi and NCR to support National Health Programme pertaining to Cancers (NPCDCS)

Training on tobacco cessation for Medical Officers of New Delhi district

Short-term observership at Preventive Oncology, IRCH for 1 student.

Mentorship of one MBBS student under short-term student training programme.

Mentoring 3 MS students as co-guide in their thesis work.

### **Radio Diagnosis**

The number of diagnostic and interventional procedures performed in the department had increased significantly. The department is actively involved in research activities of artificial intelligence, machine learning and medical robotics. Departmental faculty also participated on rotation to provide radiology services at NCI-AIIMS, Jhajjar, in addition to the work at BRAIRCH. Our cancer care services also continued unabated with near-normal levels of clinical workload even during COVID times.

The department held weekly multidisciplinary discussions/tumor boards specifically addressing gastrointestinal malignancies, lung cancer and sarcoma. In addition, there was active participation in organizing workshops with other departments of the national and international conferences during this year.

### **Radiation Oncology**

The Department of Radiation Oncology is delivering high-quality comprehensive cancer care services. The department is engaged in teaching and research work along with taking care of cancer patients. The Department always aimed to achieve excellence in all domains of cancer care by collaborating with other departments at Dr BRAIRCH and AIIMS. The department has an excellent team and a mix of faculties with varying experience making it more balanced in terms of guidance and mentoring.

Currently, the department is equipped with high-end state of art Radiation therapy facilities with Linear Accelerators and Brachytherapy units to deliver the most advanced radiation treatment like IMRT, VMAT, SBRT, and brachytherapy. Our department has achieved many milestones in terms of clinical care, teaching standards, and research contribution and always striving to do better in subsequent years. The Department runs postgraduate academic courses like MD and PhD. There are about 21 postgraduate residents and 23 senior residents. Our department has highly motivated faculty members who are actively engaged in clinical care, academics, and research activities. There are many ongoing research studies and clinical trials being conducted with the research grant of Indian funding agencies and international research organizations. Our research work focused on brachytherapy has been recognized globally on multiple occasions and acclaimed worldwide. The department is also working on innovation in oncology and a project on the role of artificial intelligence and machine learning to provide improved and personalized patient care is underway.

### **Surgical Oncology**

During the year 2022-23 the Department of Surgical Oncology contributed significantly for patient care, training and research. The department has expanded surgical services at NCI and started advanced and complex cancer surgical services and comprehensive endoscopy services at NCI. The faculty of the department participated in various cancer registries, cancer awareness and prevention activities in collaboration with Govt. organizations and NGOs. A total of 2968 complex major cancer surgeries were performed during the current year along with 11023 diagnostic and therapeutic endoscopy procedures and minor cancer surgeries.

### **Activities/Steps taken to improve patient care services, education and research:**

1. Successfully performed more than 14000 major and minor cancer surgeries at IRCH and NCI with excellent outcomes. (Morbidity and Mortality benchmarks at par with best global outcomes)
2. Initiated a special drive to decrease the waiting time for common cancer surgery patients at AIIMS (IRCH and NCI).
3. Implemented ERAS program for decreasing hospital stay of surgical patients and optimizing hospital resource utilization.
4. Implemented Departmental Quality Control Program including morbidity and Mortality audit and quality metric evaluation.
5. Implemented a robust clinical data base program and captured patient-related data in a computerized structured format.

6. All residents including M.Ch and non-academic SRs were assigned Organ specific clinical databases and mentored by faculty for data analysis of presentations in conferences and publication in journals.
7. Started hybrid teaching programs to connect two campuses (IRCH and NCI).
8. The Department has initiated a number of collaborative research projects with prestigious national and International scientific organizations like IIT, ICMR, DBT and IISc.
9. The Department organized international and national scientific events.
10. The year 2022-23 was highly productive as far as research is concerned and we managed to publish more than 50 articles in high-impact scientific journals.

#### **Action Plan for Coming Year:**

The department is committed and determined to expand and strengthen cancer patient care activities further during the year 2023-24. Our vision is to introduce emerging surgical technologies like robotic surgery and IORT and improve patient care services through introduction of tele-oncology services, computerized clinical data bases, implementation of ERAS and fast-track surgery programs. The faculty of the department is also planning a number of innovative research projects applicable to Indian cancer patients.

**Summary:** Overall the year 22-23 was challenging but rewarding due to various noteworthy contributions by the departmental for patient care, teaching and research activities.

#### **EDUCATION**

##### **DCR**

Dr Rajeev Kumar Malhotra taking lectures in academic schedule from July to January 2023 and is also involved as co-supervisor in Radio-Therapy and Onco-Anesthesia MD thesis.

##### **Laboratory Oncology**

Laboratory Oncology provides peripheral blood and bone marrow morphology, myeloma and flow cytometry training to residents from Pathology, Hematology and Lab Medicine. In addition, residents from Medical Oncology, Pediatric Oncology also receive training here. Short – term training is given to MSc students from various colleges all over India.

##### **Medical Oncology**

The Department of Medical Oncology is running successfully the following programs

1. DM Program
2. PhD in Medical Oncology
3. BMT Fellowship
4. Summer internship/training

##### **Regular classes and seminars**

Departmental Faculty Seminar	Every Monday at 8.30 -9.30 AM
Journal Club/Case discussion	Every Wednesday at 8.30 -9.30 AM
IRCH Seminar	Every Thursday at 8.30-9.30 AM
Molecular Oncology Class	Every Tuesday at 2.00-3.00 PM

##### **Departmental Projects**

###### **Ongoing**

1. Role of Beta-Catenin induced metabolic changes in Triple Negative Breast Cancer(TNBC) prognosis and therapeutics. (Umar Sheikh)
2. Deciphering the oncogenic potential of Deubiquitinating enzymes (DUBs) in Gynaecological Cancers. (Ravi Chauhan)
3. Immunomodulatory properties of mesenchymal stem cells in Graft-Versus-Host-Disease. (Mohini Mendiratta)
4. Role of long non-coding RNA HOTAIRM1 in Acute Myeloid Leukemia. (Christine Wilson)
5. Evaluation of the potential of AP1-functionalised Elastin Like Polypeptide nanocarriers for multivalent targeting-based delivery of paclitaxel in human ovarian carcinoma. (Ridhima Goel)
6. Generation and characterization of therapeutic BCMA (B Cell Maturation Antigen) specific antibodies in multiple myeloma. (Ashna Gupta)

7. To investigate the significance of estrogen-related receptor gamma (ERR $\gamma$ ) expression in thyroid cancer and study its potential as a therapeutic target. (Deepak Gulwani)
8. Prognostic and Therapeutic Relevance of Human Antigen R(HuR) in Triple Negative Breast Cancer. (Arundhathi Dev J R)
9. Exploring the role of long non-coding RNAs in lung cancer. (Abhirup Mukhopadhyay)
10. Evaluating the theranostic potential of canonical and non-canonical WNT signaling in Gall Bladder Cancer (Akanksha Kashyap)
11. Mechanistic Insights on the role of one cut Homeobox 2 transcription factor in small cell lung cancer. (Harshal Kapoor)

***Ongoing Research by Postgraduates (fellows)***

1. Randomized double blind placebo-controlled study of topical diclofenac in patients receiving Capecitabine in breast and Gastrointestinal cancers. (Dr Akhil P Santosh)
2. Assessment of Sexual Health and Intimacy in Cancer Patients: Perspective from Patient and Health Care Workers. (Dr Aman Chaudhary)
3. Analysis of clinico-radiologic outcomes of patients with extremity fibromatosis after stoppage of sorafenib post one year of treatment. (Dr Bharat B G)
4. Gender inequity in the Utilisation of Oncology Healthcare services for childhood malignancies in India. (Dr Kanu Priya Bhatia)
5. Incidence of invasive colon cancer and colon polyps in first degree relatives of patients with colorectal cancer (Dr Sravan Kumar)
6. Olanzapine versus fosaprepitant for prevention of chemotherapy-induced nausea and vomiting in patients receiving carboplatin (AUC $\geq$ 4) containing chemotherapy regimen: a randomized, double blind, placebo-controlled trial (Dr Sneha B)
7. The effect of germline mutations on survival outcomes in patients with breast cancer-a case control study (Dr Nithin SG)
8. Psychosocial, functional, sexual, educational, vocational, outcomes, in survivors of extremity bone sarcomas (Dr Raghavendra Rao)
9. Monitoring for CMV Reactivation in Patients Undergoing Treatment for Hematologic Malignancies (Dr Archana Sasi)
10. A phase 2 study of regorafenib in advanced, refractory synovial sarcomas (Dr Sanal Fernandes)
11. Randomized double-blind, placebo-controlled study of oral Gabapentin for prevention of neuropathy in patients receiving paclitaxel (Dr Praful Pandey)
12. Liquid biopsy-based risk stratification and intensification of treatment In EGFR mutant advanced NSCLC (Dr Hemavati)
13. A single arm phase II study of single agent Pemetrexed in Platinum Resistant/Refractory Epithelial Ovarian or Primary Peritoneal Cancer (Dr Swasthik Upadhyay)
14. Assessment of cfDNA in GI tract malignancies (Dr Anura Kantak)
15. Metformin with neoadjuvant chemotherapy in localized Triple negative and Her2neu positive breast cancer a-prospective phase-2 open label randomised controlled trial” (McBETH) (Dr Mouna Manjunath)
16. Study of Impact of Tyrosine kinase Inhibitors on Endocrine Function and Fertility (Dr Rajiv Mohan)
17. Clinical features and outcomes of hematopoietic stem cell transplant at AIIMS Delhi: A 15-year retrospective analysis (Dr Sushant Chib)
18. Venetoclax with chemotherapy for remission induction in AML patients a phase Ib/II study (Dr Sabitha P)
19. Extended aprepitant in control of delayed emesis during induction chemotherapy in acute myeloid leukaemia (EACODE-AML) (Dr Santhosh Kumar KN)
20. The clinico-pathological profile and outcomes of hormone positive breast cancer: a 10-year retrospective analysis (Dr Aastha Goel)

**Medical Physics**

Medical Physics Unit carried out teaching assignments regarding radiation physics of medical imaging, radiation protection, radiation dose measurement and quality assurance in medical imaging to the students of MD Radiology, MBBS, and B.Sc. (Hons.) in Radiography and Nursing. At present 3 PhD students are carrying out their research works in the Department.

### Onco-Anaesthesia & Palliative Medicine

The department is successfully running two academic courses: DM and MD. First batch was admitted in January 2016. The department also organizes certificate course in Palliative Care twice a year in the months of June and November and Foundation course on Palliative care once a year in the month of March.

Departmental Seminar	Every Monday and Friday at 8-9 AM (Hybrid Mode)
IRCH Seminar	Every Thursday at 8.30-9.30 AM (Hybrid Mode)
Tutorials:	Every Tuesday 3-5 PM (Physical)
Radio Conference	Every Saturday at 9-10 AM (Physical)
Journal Club/Audit/Case discussion	Every Saturday at 10-12 Noon. (Hybrid Mode)

A complete and comprehensive video of introduction and concept of Palliative Care and Cancer Pain is uploaded on SARAL Platform of AIIMS, New Delhi for UG, PG and SR Teaching.

### Total Number of Trainees

2022-2023
Acad. JR(MD) - 17
Acad. SR(DM) - 22
Non-Acad. SR - 3
Non-Acad SR (PM) - 8

### Preventive Oncology

#### 1. Undergraduate:

Department not routinely engaged in MBBS training. However, 1 student mentored under STS mentorship programme.

#### Postgraduate:

There is no PG student in the unit. Faculty takes common Lecture for DM students

- Managing the cancers financially in India- Dr Pallavi Shukla
- Immunotherapy for Cancer- Dr Pawan Kumar
- Metabolic Reprogramming in Cancer- Dr Sujata Pathak

Co-guide for 3 MS students

#### Paramedical

- Training of New Delhi District Medical Officers & ANM in NPCDCS
- Training of North Delhi District Medical Officers & ANM in NPCDCS
- Training of Jhajjar District Medical Officers & ANM in NPCDCS
- Training of Gurugram District Medical Officers & ANM in NPCDCS
- Training of New Delhi District Medical Officers & ANM in NPCDCS
- Training of New Delhi District Medical Officers & ANM in Tobacco cessation

#### 2. Short-term training: Short-term observership at Preventive Oncology, IRCH for 1 student

### Radio Diagnosis

Faculty participated in undergraduate, postgraduate and super specialty teaching, radio-conferences, tumor board meeting, Clinical Combined Rounds, Clinical Grand Round. Faculty had also participated in the various symposiums and CMEs held in IRCH and institute.

### Radiation Oncology

Academic Schedule Attached

### Surgical Oncology

- Undergraduate teaching: The faculty was involved in undergraduate teaching by giving didactic lectures and by participating/moderating seminars on oncological topics
- Post graduate teaching: The faculty was involved in teaching and training of 17 M.Ch surgical oncology students and 12 surgical oncology senior residents, DM medical oncology residents and MD radiotherapy junior residents by giving didactic lectures, moderating seminars, journal clubs etc. & clinical teaching during ward rounds and in special cancer clinics of IRCH. The faculty acted as guide and co-guide for MCh Surgical oncology, DM

medical oncology, MD radio diagnosis, MD radiation oncology thesis projects and PhD projects from various dept. of BRA- IRCH & AIIMS. The faculty was also involved in teaching & training of general surgery & dental surgery residents and MCh Gynecology Oncology trainees on rotation

c. Para clinical teaching/training: The faculty was involved in the teaching of the MSc nursing oncology students

**CME/Workshop/Symposia/National and International Conference**

**Preventive Oncology**

- Cancer awareness programme- for Guru Gobind Singh IP university
- Cancer awareness programme- for Vivekanand Institute of Professional Studies
- Workshop on qualitative research as scientific advisory committee
- Organized cancer awareness day on 4 February 2023- “Close the care gap”

**Lectures delivered:**

**Laboratory Oncology: 22**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
4	14	22

**Medical Oncology: 71**

**Medical Physics: 5**

**Onco-Anaesthesia & Palliative Medicine: 86**

**Preventive Oncology: 10**

**Radio Diagnosis: 33**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
9	68	33

**Radiation Oncology: 49**

**Lectures delivered over past 3 years**

2020-21	2021-22	2022-23
30	29	33

**Surgical Oncology: 70**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
41	64	70

**List of oral papers/posters presented**

**DCR: 1**

**Oral presentations over past 3 years**

2020-2021	2021-2022	2022-2023
1	2	1

**Laboratory Oncology: 27**

**Oral/poster presentations over past 3 years**

2020-2021	2021-2022	2022-2023
5	7	5

**Medical Oncology: 19**

**Medical Physics: 4**

**Onco-Anaesthesia & Palliative Medicine: 11**

**Oral presentations over past 3 years**

2020-2021	2021-2022	2022-2023
10	16	11

**Preventive Oncology: 1**

**Oral/poster presentations over past 3 years**

2020-2021	2021-2022	2022-2023
00	4	1

**Radio Diagnosis: 5**

**Oral presentations over past 3 years**

2020-2021	2021-2022	2022-2023
6	13	5

**Radiation Oncology: 8**

**Oral presentations over past 3 years**

2020-21	2021-22	2022-23
10	3	7

**Surgical Oncology: 53**

**Oral presentations over past 3 years**

2020-2021	2021-2022	2022-2023
16	26	53

**Research**

**DCR**

**Funded projects**

**Ongoing**

1. Establishment of Hospital based Cancer Registries and patterns of care and survival studies on Cancer Breast, Cancer Cervix and Head & Neck Cancers, Dr SVS Deo, National Cancer Registry Programme, National Centre for Disease Informatics and Research, Indian Council of Medical Research, Bangalore, 10 years, 2014, Rs 47,00,000/- per annum (approx)
2. Patterns of Care and Survival Studies on childhood, lymphoid and hematopoietic malignancies and Gynaecological malignancies (except cervix), Dr SVS Deo, National Cancer Registry Programme, National Centre for Disease Informatics and Research, Indian Council of Medical Research, Bangalore, 6 years, 2017, Rs 2,00,000/- per annum (approx)
3. Population Based Survival Studies on Cancer Breast, Cervix and Head & Neck Cancers, Dr SVS Deo, National Cancer Registry Programme, National Centre for Disease Informatics and Research, Indian Council of Medical Research, Bangalore, 6 years, 2017, Rs 6,80,000/- per annum (approx..)

**Laboratory Oncology**

**Funded projects**

**Ongoing**

**Ritu Gupta**

1. To establish Cryopreservation system for Multiple Myeloma (MM) cells, Dr Ritu Gupta, FMER, United States, 2 years, 2023-2025, Rs 4,000,925
2. Targeting the tumor Microenvironment for novel therapeutic approaches in Multiple Myeloma (MM), Dr Ritu Gupta, DST-SERB, 3 years, 2022-2025, Rs 59,78,368

3. Centre for Advanced Research & Excellence in Leukemic Stem Cells (LSC) for Prognosis and Treatment (CARE-LSCPT) in Acute Myeloid Leukemia, Dr Ritu Gupta, ICMR, 5 years, 2019-2024, Rs 5,63,97,360

#### **Sanjeev Kumar Gupta**

1. Development of risk-stratification algorithm to select BCR-ABL1 negative pediatric B-ALL patients for detailed genetic analysis- a step towards optimum use of next generation sequencing platform, Sanjeev Kumar Gupta, ICMR, 3 years, 2020-2023, Rs 49,50,000
2. Study of prevalence and profile of predictive and prognostic molecular genetic aberrations in BCR-ABL1 negative B-cell acute lymphoblastic leukemia (B-ALL): A step towards personalized medicine, Sanjeev Kumar Gupta, DHR, 3 years, 2021-2024, Rs 30,00,000

#### **Anita Chopra**

1. DBT-Wellcome trust intermediate career fellowship, Dr Anita Chopra, DBT Wellcome India Alliance, 5 years, 2018-2023, Rs 3.86 crores
2. Cellular functions and clinical significance of NRf2 signaling T-ALL, Dr Anita Chopra, DHR, 3 years, 2021-2023, Rs 52 lakhs
3. Study of expression, function, and clinical significance of DNA damage repair pathway genes in acute lymphoblastic leukemia', Dr Anita Chopra, ICMR, 3 years, 2022-2025, Rs 56 lakhs
4. Understanding the role of RhoBTB2 in acute myeloid leukemia, Dr Anita Chopra, SERB, 3 years, 2022-2025, Rs 51 lakhs
5. Study of peripheral blood megakaryopoiesis in chronic myeloid leukemia, Dr Anita Chopra and Prof SS Chauhan, AIIMS interdisciplinary project, 2 years, 2021-2023, Rs 20 lakhs

#### **Pranay Tanwar**

1. ICMR TASK Force Genomics of gallbladder carcinoma in Indian Patients, Dr Pranay Tanwar, ICMR, 5 years, 2018-2023, Rs 1,99,00,000 ( One crore ninety nine lakhs)
2. A prospective study to elucidate genetics, clinical and molecular factors in gall bladder carcinoma in Indian patients, Dr Pranay Tanwar, Cancer Foundation, 7 years, 2017-2024, Rs 40,00,000 (Forty Lakhs)
3. Utility of DDPCR as novel method to detect CT-DNA in Head & Neck Cancer, Dr Pranay Tanwar, ICMR, 3 years, 2022-2026, Rs 43,00,000 (Forty-Three lakhs)
4. Generation of 3D Breast Tumor Organoids as an in vitro Drug Screening Study Model, Dr Pranay Tanwar, AIIMS New Delhi, 2 year, 2020-2022, Rs 8,91,106 (Eighty lakhs ninty one thousand)

#### **Amar Ranjan**

1. Analysis of expression of biomarkers in ovarian cancer, DrAmar Ranjan, AIIMS, N Delhi, 2 years, 2019-2022, Rs 10 lakhs

#### **G Smeeta**

1. Identification of Novel markers for monitoring of Minimal residual disease in Acute Myeloid Leukemia by Multiparametric Flowcytometry, Dr G Smeeta, Intramural (AIIMS, New Delhi), 2 years, 2022-2024, Rs 10,00,000 ( Ten lakhs)

#### **Deepshi Thakral**

1. Identification and characterisation of plasma-derived cell free nucleic acid-based markers for early detection and monitoring of relapse in AML, Deepshi Thakral, DHR, MOHFW, 3 years, 2022-2025, Rs 55,80,647 (Fifty-five lakhs, eighty thousand six hundred and forty-seven)
2. Designing of peptide nucleic acid-based biosensor for detection of circulating tumor DNA mutations in Acute myeloid leukemia, Deepshi Thakral, AIIMS New Delhi, 2 years, 2021-2023, Rs 10,00,000 (Ten lakhs)
3. Development of Electrochemical biosensor for detection of circulating tumor DNA mutations in Acute myeloid leukemia, Deepshi Thakral, ICMR, 1 year, 2022-2025, Rs 41,00,000 (Forty-one lakhs)

#### **Gurvinder Kaur**

1. Identification of neoantigens for T cell therapy for Chronic Lymphocytic Leukemia (CLL), Gurvinder Kaur, ICMR, 3 years, 2022-2025, Rs 1,08,20,376



### **Completed**

#### **Ritu Gupta**

1. Unit of Excellence on Cancer Research on Multiple Myeloma, Dr Ritu Gupta, DBT, 5 years, 2016-2022, Rs 3,14,00,000
2. Identification of network pathways for drug targeting in Multiple Myeloma from NGS data using Deep Learning, Funded by (DST), Dr Ritu Gupta, DST, 3 years, 2019- 2022, Rs 33,18,640
3. Immunoprofiling (IP) consortium for COVID-19: Integration of Extended Immune Monitoring (ExImM) and clinical parameters for early prediction of disease trajectory/progression, treatment planning and prophylaxis to improve COVID-19 prognosis, Dr Ritu Gupta, ICMR, 2 years, 2020-2022, Rs 72,06,370

#### **Sanjeev Kumar Gupta**

1. Prevalence and significance of ETS related gene deletions in Acute Lymphoblastic Leukemia, Sanjeev Kumar Gupta, AIIMS, New Delhi, 2 years, 2018-2020, Rs 10,00,000

#### **Anita Chopra**

1. Molecular biology of cytogenetically normal AML, Dr Anita Chopra, DBT, 3 years, 2014-2018, Rs 55 lakhs
2. Molecular determinants of prednisolone sensitivity in pediatric acute lymphoblastic leukemia, Dr Anita Chopra, AIIMS intramural, 2 years, 2016-2019, Rs 8 lakhs
3. Early immature T-lymphoblastic leukemia (ALL): evaluation of early thymic precursor T-ALL immunophenotype, absence of biallelic deletion of TCR  $\gamma$  chains (ABD) and expression of MEF2C as predictors of treatment response as assessed by minimal residual disease determination, Dr Anita Chopra, DST, 3 years, 2015-2019, Rs 20.16 lakhs
4. Elucidation of role of TOX in T-ALL, Dr Anita Chopra, DHR, 3 years, 2020-2023, Rs 30 lakhs

#### **Pranay Tanwar**

1. ICMR TASK Force Comparative study of Genetic, Clinical and Epidemiological factors of Breast Cancer in Indian population” as ICMR Task Force, Dr Pranay Tanwar, ICMR, 5 years, 2017-2022, Rs 1,91,00,000 (One crore ninety-one lakhs)
2. Human Papilloma Virus (HPV): Relevance in etiology of oral squamous cell carcinoma in Indian Population, Dr Pranay Tanwar, DHR, MOHFW, 3 years, 2017-2021, Rs 45,00,000 (forty-five lakhs)

#### **Amar Ranjan**

1. Evaluation of HE4 level in epithelial ovarian cancer for diagnosis & monitoring of therapy, Dr Amar Ranjan, ICMR, New Delhi, 5 years, 2017-2022, Rs 70 lakhs

### **Medical Oncology**

#### **Atul Sharma**

##### **Ongoing**

1. Aspirin for Dukes C and High Risk Dukes B Colorectal Cancers - An International, Multi-centre, Double Blind, Randomised Placebo Controlled Phase III Trial, Dr Atul Sharma, Singapore clinical Research Institute, Singapore, 10 years, 2013-ongoing till now, 500 USD per patients
2. A single arm, multicentric, open label, efficacy and safety study of Doceaqualip (Docetaxel Lipid Suspension for Injection of Intas Pharmaceuticals Limited, India) based regimens in metastatic gastric adenocarcinoma patients, Dr Atul Sharma, Lambda Therapeutics Research Limited, 2 years, 2018 - ongoing till now, Rs 4.79 lakhs + 1.72 lakhs per patient
3. A Single arm, multicentric, open label, efficacy and safety study of Docetaxel Lipid Suspension for injection of Intas Pharmaceuticals Limited, India in patients with inoperable locally advanced squamous cell carcinoma of the head and neck (SCCHN), Dr Atul Sharma, Lambda Therapeutics Research Limited, 2 years, 2018 - ongoing till now, Rs 4.79 lakhs + 1.72 lakhs per patient
4. An Open Label, Multicenter, Non-Comparative, Phase IV Study of Panitumumab to Characterize its Safety, Tolerability and Activity in Indian Subjects with Previously Treated Wild-Type RAS (*KRAS* and *NRAS*), Metastatic Colorectal Cancer, Dr Atul Sharma, Dr Reddy's Lab and PPD, 2 years, 2019 - ongoing till now, Rs 400000
5. A prospective, multicenter, randomized, double blind, Phase III study to compare the efficacy and safety of Biosimilar ENZ137 of Enzene Biosciences Ltd. versus Innovator Bevacizumab both in Combination with

CAPEOX in Patients with Metastatic Colorectal Cancer, Dr Atul Sharma, Alkem Lab, 1.5 years, 2021 - ongoing till now, Rs 787600

6. A prospective, multicenter, randomized, double blind, parallel group study to compare the efficacy and safety of biosimilar cetuximab versus innovator cetuximab in combination with platinum-based chemotherapy in patients with recurrent locoregional or metastatic squamous cell carcinoma of the head and neck (SCCHN), Dr Atul Sharma, Alkem Lab, 1 year, 2021-2022, Rs 1741200

### **Sameer Bakhshi**

#### ***Ongoing***

1. Indian Childhood collaborative leukaemia group multicentre national standardization study for newly diagnosed acute lymphoblastic leukemia (ALL), Dr Sameer Bakhshi, NCG, 3 years, 2017, Ongoing, Rs 57.6 lakhs
2. A Randomized, Open-Label Study of the Efficacy and Safety of Galinpepimut-S (GPS) Maintenance Monotherapy Compared to Investigator's Choice of Best Available Therapy in Subjects with Acute Myeloid Leukemia Who Have Achieved Complete Remission After Second-Line Salvage Therapy, Dr Sameer Bakhshi, Pharmaceutical Development India Private Limited, 5 years, 2022, Ongoing, Rs 8.13 lakhs per patient
3. A Randomized, Multiple-dose, Multicenter, Comparative Parallel Study to Evaluate the Pharmacokinetic, Pharmacodynamic, Efficacy and Safety of Subcutaneous Injection of Denosumab (Hetero) and Reference Medicinal Product (Denosumab, Amgen Inc.) in patients with bone metastases from solid tumors, Dr Sameer Bakhshi, Hetero Biopharma Limited, 2 years, 2022, Ongoing, Rs 2.96 lakhs per patient
4. A Randomized, Active-Controlled, Multicenter, Open label, Two Arm Study to Assess Safety, Efficacy, Pharmacodynamics, and Pharmacokinetics with Pegfilgrastim PFS of Intas Pharmaceutical Limited Compared with Neupogen® Injection in Paediatric Patients Under 6 years of Age with Rhabdomyosarcoma or Wilms' Tumour on Myelosuppressive Chemotherapy (CmT) Regimen, Dr Sameer Bakhshi, Intas Pharmaceutical Limited, 2 years, 2022, Ongoing, Rs 7.12 lakhs per patient
5. Molecular and Pharmacogenetic marker evaluation in relation to the toxicity and clinical response of acute lymphoblastic leukemia treatment in Indian children (MPGx-INDALL), Dr Sameer Bakhshi, DBT, 4 years, 2023-Ongoing, Rs 69.252 lakhs
6. Estimation of the prevalence of Epstein Barr virus positivity in aggressive mature B-Non-Hodgkin lymphoma in the Indian subcontinent and deciphering the genetic basis of its impact on disease biology and survival, Dr Sameer Bakhshi, ICMR, 3 years, 2023-Ongoing, Rs 76.87 lakhs (one year)
7. Developing Artificial Intelligence based model for detection of malignant potential of pulmonary nodules in sarcoma using computed tomographic imaging and its prospective validation, Dr Sameer Bakhshi, ICMR, 2 years, 2023-Ongoing, Rs 13.95 lakhs (one year)
8. Decoding mitochondrial heterogeneity and deciphering potential therapeutic targets in pediatric acute myeloid leukemia, Dr Sameer Bakhshi, ICMR, 3 years, 2023-Ongoing, 20.83 lakhs (One year)
9. Deciphering gene networks associated with altered mitochondrial DNA copy number for identification of novel potential therapeutic targets in pediatric AML, Dr Sameer Bakhshi, DST SERB, 3 years, 2022-Ongoing, Rs 8 lakhs
10. Establishing a nutritional counseling program and developing a nutritional database in pediatric patients with cancer, Dr Sameer Bakhshi, Cuddle Foundation, 3 years, 2016-Ongoing, Rs 13.37 lakhs
11. A Phase IV Multi-Centric Post-Marketing Study Evaluating the Safety, Immunogenicity and Efficacy of the Marketed Formulation of Hetero – Rituximab, Dr Sameer Bakhshi, Hetro Pharma Ltd, 6 years, 2018-Ongoing, Rs 12 lakhs for 2 years
12. Single-day Intravenous Fosaprepitant vs. 3-day oral Aprepitant anti-emetic regimen in pediatric patients receiving highly-emetogenic chemotherapy: An Investigator-initiated, Randomized, Open-label, Non-inferiority trial, Dr Sameer Bakhshi, Glenmark Pharmaceuticals Ltd, 3 years, 2020-Ongoing, Rs 5.52 lakhs for 2 years
13. Childhood Cancer Survivorship Program, Dr Sameer Bakhshi, CanKids KidScan, 5 years, 2020-Ongoing, Rs 12 lakhs
14. "A Phase III, Open-Label, Multicenter, Randomized Study Evaluating The Safety And Efficacy Of PolatuzumabVedotin In Combination With Rituximab Plus Gemcitabine Plus Oxaliplatin (R-Gemox) Versus R-Gemox Alone In Patients With Relapsed/Refractory Diffuse Large B Cell Lymphoma (Stage 2)", Dr Sameer Bakhshi, Roche Products (India) Private Limited, 3 years, 2021-Ongoing, Rs 1.95 lakhs per patient

#### ***Completed***

1. National Multicentre Childhood Leukemia Programme, Dr Sameer Bakhshi, ICMR, 2 years, 2020-2022, Rs 23.7 lakhs

2. SADAL: A Phase 2b Open label Study of Selinexor (KPT-330) in Patients with Relapsed/Refractory Diffuse Large B-Cell Lymphoma (DLBCL), Dr Sameer Bakhshi, Excel Life Sciences, 5 years, 2018-2023, Rs 15 lakhs
3. A Phase 2, Open-Label Trial Evaluating the Efficacy and Safety of Two Dosages of Once Daily Oral CA-170 in Patients with Selected Relapsed Advanced Tumors (ASIAD), Dr Sameer Bakhshi, Veeda Clinical Research Pvt Ltd, 5 years, 2018-2023, Rs 15 lakhs

### **Sameer Rastogi**

#### ***Ongoing***

1. Evaluation of BRCA and HRR genes in uterine leiomyosarcoma, Dr Sameer Rastogi/Dr Ruchi – Co PI, AIIMS, New Delhi, 1 year, 2022-2023, Rs 10 lakhs

### **Prabhat Singh Malik**

#### ***Ongoing***

1. Developing precision immunotherapy for value-based treatment of lung cancer in India, From AIIMS- Dr Prabhat Singh Malik, The DBT/Wellcome Trust India Alliance, 5 years, 2021-2025, Rs 18000000.00
2. A Phase III, Randomised, Controlled, Multi-centre, 3-Arm Study of Neoadjuvant Osimertinib as Monotherapy or in Combination with Chemotherapy versus Standard of Care Chemotherapy Alone for the Treatment of Patients with Epidermal Growth Factor Receptor Mutation Positive, Resectable Non-small Cell Lung Cancer (NeoADAURA), Dr Prabhat Singh Malik, Astrazeneca Pharma India Ltd, 5 years, 2021-2025, Rs Approx 50 lakhs
3. A study of familial aggregation in non-small cell lung cancer, Dr Prabhat S. Malik, Lady Tata Memorial Trust: Institute Research Grant, 2 years, 2023-2025, Rs 37,00,000
4. Evaluation of low dose nivolumab with neoadjuvant chemotherapy in non small cell lung cancer, Dr Prabhat Singh Malik, ICMR-ICRC, 3 years, 2023-2026, Rs 87,00,000

#### ***Completed***

1. A phase III, randomized, double-blind, placebo-controlled, multicenter, international study of osimertinib as maintenance therapy in patients with locally advanced, unresectable EGFR mutation-positive non-small cell lung cancer (stage III) whose disease has not progressed following definitive platinum-based chemoradiation therapy (LAURA), Dr Prabhat Singh Malik, Astrazeneca Pharma India Ltd, 5 years, 2021-2025, Rs Approx 50 lakhs

### **Atul Batra**

#### ***Ongoing***

1. A Phase III Double-Blind, Randomised, Placebo-Controlled Study Assessing the Efficacy and Safety of Capivasertib + Abiraterone Versus Placebo + Abiraterone as treatment for Patients with De Novo Metastatic Hormone-Sensitive Prostate Cancer (mHSPC) Characterised by PTEN deficiency (CAPItello-281), Dr Atul Batra, Astra Zeneca Pvt Ltd, 3 years, 2020-2023, Rs 50,49,000
2. A Phase III, Randomized, Open-Label, Controlled, Multi-Center, Global Study of First-Line Durvalumab in Combination with Standard of Care Chemotherapy and Durvalumab in Combination with Tremelimumab and Standard of Care Chemotherapy Versus Standard of Care Chemotherapy Alone in Patients with Unresectable Locally Advanced or Metastatic Urothelial Cancer(NILE), Dr Atul Batra, Astra Zeneca Pvt Ltd, 3 years, 2 February 2021 to 3 February 2024, Rs 17,54,456
3. A Randomised, Multicentre, Double-Blind, Phase III Study of AZD9833 (an Oral SERD) plus Palbociclib versus Anastrozole plus Palbociclib for the Treatment of Patients with Estrogen Receptor-Positive, HER2-Negative Advanced Breast Cancer Who Have Not Received Any Systemic Treatment for Advanced Disease, Dr Atul Batra, Astra Zeneca Pharma India Ltd, 8 years, 3 January 2022 to 2 January 2030, Rs 36,46,000
4. A Phase III Double blind Randomised Study Assessing the Efficacy and Safety of Capivasertib + Paclitaxel Versus Placebo + Paclitaxel as First line Treatment for Patients with Histologically Confirmed, Locally Advanced (Inoperable) or Metastatic Triple -Negative Breast Cancer (TNBC)(Capitello-290), Dr Atul Batra, Astra Zeneca Pvt Ltd, 2 years, 5 August 2021 to 4 August 2023, Rs 15,61,499
5. Paired targeted genomic profiling of triple negative breast cancer to understand the mechanism of chemoresistance and develop novel treatment targets. (ICMR funded project), Dr Atul Batra, ICMR, 3 years, 12 December 2022 to 11 December 2025, Rs 80,00,000
6. Prevalence of BRCA1 and BRCA2 Mutation Among Indian Breast Cancer Patients: A Multicentre Cross-Sectional Study BRCA Study, Dr Atul Batra, Astra Zeneca Pharma India Ltd, 1 year, 30 August 2022 to 29 August 2023, Rs 3,85,000

7. Metabolic Profile and Quality of Life Assessment in Patients with Metastatic Carcinoma Prostate Receiving Androgen Deprivation Therapy: A Cross Sectional Study, Dr Atul Batra, AIIMS, New Delhi, 1 year, 24 February 2023 to 23 February 2024, Rs 2,00,000
8. Development of an Affordable, Advanced Medicine Reminder-cum-Dispenser for Indian Patients with Cancer”, Dr Atul Batra, AIIMS- IIT Collaborative Research Project, 2 years, 2023-2025, Rs 10,00,000
9. Carboplatin in patients with metastatic castrate resistant prostate cancer harboring somatic or germline homologous recombination repair (HRR) gene mutations: A phase II single-arm trial (CiPHeR), Dr Atul Batra, ICMR, 3 years, 16 February 2023 to 15 February 2026, Rs 59,57,643
10. Prevalence of mutations influencing prostate cancer risk and progression, Dr Atul Batra, Prevalence of mutations influencing prostate cancer risk and progression, 1 year, 2023-2024, Rs 41,25,000

#### **Completed**

1. A multi center Phase 4, Open label, Single Arm, Safety and Efficacy Study of Enzalutamide in Indian Patients with Progressive Metastatic Castration Resistant Prostate Cancer Previously treated with Docetaxel Based Chemotherapy, Dr Atul Batra, IQVIA RDS (India) Private Limited, 4 years, 2019-2023, Rs 4,00,000
2. A non-interventional, multicentre study to determine the prevalence of homologous recombination repair (HRR) gene mutations in patients with metastatic castration-resistant prostate cancer in India. PROSPECT STUDY, Dr Atul Batra, Astra Zeneca Pharma India Ltd, 1 year, 1 January 2022 to 31 December 2023, Rs 9,30,000
3. Randomised phase II open-label study of topical diclofenac in prevention of hand-foot syndrome in patients receiving capecitabine.(D-TORCH), Dr Atul Batra, Nag Foundation, Pune, 2 years, 12 May 2021 to 11 May 2023, Rs 10,00,000
4. Assessment of serum tumor markers in response to neoadjuvant chemotherapy in locally advanced breast cancer, Dr Atul Batra, AIIMS, New Delhi, 2 years, 2020-2022, Rs 10,00,000
5. REMPRO Registry- A Multi-country, Multi-centre, Non-interventional, RETrospective Study to Describe the Real-world- Treatment Patterns and Associated Clinical Outcomes In Patients with Metastatic Castration-resistant PROstate Cancer, Dr Atul Batra, Astra Zeneca Pharma India Ltd, 1 year, 5 September 2022, 4 September 2023, Rs 1,98,000

#### **Raja Pramanik**

1. Establishing a registry for breast and ovarian cancer with mutations in hereditary cancer predisposition genes and a germline DNA repository at AIIMS, New Delhi, Dr Raja Pramanik, (DHR)-ICMR, GoI, 5 years, 17 January 2022, Rs 85,51,466

#### **Deepam Pushpam**

##### **Ongoing**

1. Cessation of imatinib in pediatric CML patients, DeepamPushpam, AIIMS, Delhi, 2 years, 2021

#### **Chandra Prakash Prasad**

##### **Ongoing**

1. Exploring how Phosphofructokinase-1 (PFK-1) induced metabolic changes can be exploited for Triple Negative Breast cancer (TNBC) prognosis and therapeutics, Dr Chandra Prakash Prasad, Indian Council of Medical Research (ICMR), 3 years, 2019-2023 (with extension), Rs 24 lakhs
2. Study of HuR mediated metabolic changes in Triple Negative Breast cancer (TNBC), Dr Chandra Prakash Prasad, Science & Engineering Research Board (SERB), 3 years, 2020-2024, Rs 46.65 lakhs
3. Evaluating the significance of extracellular lactate in cancer progression, Dr Chandra Prakash Prasad, AIIMS-Intramural, 2 years, 2020-2023, Rs 10.00 lakhs
4. Elucidation of Propofol mediated anti-metastatic effects in Triple Negative Breast Cancers, Dr Chandra Prakash Prasad, AIIMS-UG Research Mentorship, 2 years, 2021-2023, Rs 2.00 lakhs
5. Evaluating the theranostic potential of canonical and non-canonical WNT signaling in Gall Bladder Cancer, Dr Chandra Prakash Prasad, Indian Council of Medical Research (ICMR), 3 years, 2023-2026, Rs 46 lakhs

#### **Completed**

1. Role of Phosphofructokinase-P (PFKP) in Breast Cancer, Dr Chandra Prakash Prasad, AIIMS-Intramural, 2 years, 2017-2019, Rs 10 lakhs

2. Exploring how  $\beta$ -catenin induced metabolic changes can be exploited for Triple Negative Breast cancer (TNBC) prognosis and therapeutics, Dr Chandra Prakash Prasad, Science & Engineering Research Board (SERB), 3 years, 2018-2021, Rs 44.85 lakhs

### **Thoudam Debraj Singh**

#### ***Ongoing***

1. Estrogen Related Receptor Gamma (ERR $\gamma$ ) as a potential biomarker and therapeutic target for thyroid cancer and its correlation with iodine handling genes in thyroid, Dr ThoudamDebraj Singh, DST-SERB, 3 years, (2020-2023), Rs 50 lakhs
2. Multivalent targeting-based delivery of paclitaxel using elastin like polypeptide containing IL-4 receptor targeting peptide (AP1-ELP) for ovarian cancer therapy, Dr ThoudamDebraj Singh, ICMR, 3 years, 2019-2022, Rs 36 lakhs
3. Estrogen Related Receptor Gamma (ERR $\gamma$ ) as a potential biomarker and therapeutic target for human colorectal cancer and to investigate the antitumor efficacy of GSK5182 (Estrogen Related Receptor- $\gamma$  inverse agonist) in combination with MK2206 (a novel Akt inhibitor) in colon cancer in vivo, Dr Thoudam Debraj Singh, DHR, 3 years, 2021-2024, Rs 49 lakhs

### **Mayank Singh**

#### ***Ongoing***

1. Development of Liquid biopsy, cf (cell free) DNA based assay for prognosis of Cervical Cancer, Dr Mayank Singh, AIIMS, 2 years, 2021-2024, Rs 10,00,000
2. Development of BCMA based Chimeric antigenic receptor T cell (CAR T) cell against Multiple myeloma, Dr Mayank Singh, DBT, 3 years, 2021-2024, Rs 100,00,000

#### ***Completed***

1. Validation of USP37 as a Diagnostic prognostic marker in Osteosarcoma, Dr Mayank Singh, AIIMS, 2 years, 2017-2019, Rs 10,00,000
2. To study the role of USP37 in oncogenesis of ovarian cancer by using carbon nanodots embedded 3D cell culture platform, Dr Mayank Singh, AIIMS IITD, 2 years, 2019-2021, Rs 20,00,000

### **Sachin Kumar**

#### ***Ongoing***

1. Elucidating the role of circular RNA circLIFR in the pathogenesis of small cell lung cancer, Dr Sachin Kumar, SERB, 3 years, 2022-2025, ~41 lakhs
2. Elucidation of the role of long noncoding RNAs as a biomarker in lung tumorigenesis, Dr Sachin Kumar, DBT, 3 years, 2021-2024, ~89 lakh (In collaboration with Dr Manas K Santra, NCCS, Pune)

#### ***Completed***

1. Evaluation of regulation of programmed death-ligand 1 (PD-L1) expression by microRNA in lung cancer, Dr Sachin Kumar, ICMR, 3 years, 2019-2022, Rs 39 lakhs
2. Global profiling of circular RNAs in small cell lung cancer: a pilot study, Dr Sachin Kumar, AIIMS, New Delhi, 2 years, 2020-2022, Rs 10 lakhs

### **Sampa Ghose**

#### ***Ongoing***

1. APP-DIP: Development of AI based prognostic platform for an early detection of infections in immunocompromised patients, Self (PI), DBT (Indo-Sweden), 3 years, 2022-2025, Rs 90 lakhs
2. Elimination of leukemic and angiogenesis ability with altered macrophages plasticity in Acute Myeloid Leukemia, Self (PI), AIIMS Intramural, 4 years (got extension), 2019-2023, Rs 10 lakhs

### **Surender K Sharawat**

#### ***Ongoing***

1. Role of HOTAIRM1 long non-coding RNA in chemo resistance of acute myeloid Leukemia, Dr Surender K Sharawat, DST-SERB, 3 years, 2019-2022, Rs 48.49 Lakhs

2. The significance of UCA1 long non-coding RNA in pediatric acute myeloid leukemia, Dr Surender K Sharawat, AIIMS, 2 years, 2020-2022, Rs 10 lakhs
3. Evaluation of various intercalating agents for the high-resolution cytogenetics of leukaemia patients, Dr Surender K Sharawat, AIIMS, 2 years, 2022-2024, Rs 10 lakhs

### Medical Physics

#### Funded projects

##### Ongoing

1. Development of new and novel radiation dosimetric OSL materials by ion implantation technique and chemical methods for improved dosimetry, Dr Pratik Kumar, DRDO, 3 years, 2019-2023, Rs 23,65,828

### Onco-Anaesthesia & Palliative Medicine

#### Funded projects

##### Ongoing

1. To build the capacity of Palliative Care Services in 10 hospitals in North India to reduce suffering in patients with chronic debilitating conditions, Dr Sushma Bhatnagar, ICMR, 3 years, February 2023-2026, Rs 2 crores
2. Effect of Regional Anaesthesia on immune response, recurrence, and metastasis in breast cancer surgery: a prospective randomized control study, Dr Nishkarsh Gupta, ICMR, 3 years, 1 January 2022 to 31 December 2024, Rs 36,89,048
3. Novel Video Laryngoscope for Endotracheal Intubation in Patients with Reduced Mouth Opening, Dr Nishkarsh Gupta, AIIMS-IIT, 2 years, 31 March to 2023, Rs 10,00,000

##### Completed

1. Comparison of kind vision Videolaryngoscope channelled and non-channelled blades with direct Laryngoscope for intubation in mannequin by medical students: a randomized mannequin study, Dr Nishkarsh Gupta, AIIMS, 1 years, 2021-2022, Rs 2 lakhs
2. AIIMS-IIT development of a video laryngoscope, AIIMS-IIT, 2 years, 2021-2023, Rs 5 lakhs each
3. Comparison between C-MAC and King Vision video laryngoscope (channelled blade) for tracheal intubation in aerosol-prevention intubation box for COVID-19 patients: A manikin-based study, Dr Balbir, AIIMS New Delhi (intramural), 3 years, 2020-2022, Rs 5.5 lakhs

#### Research projects over past 3 years

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	5	3	3
Total funding	45 Lakh	20 Lakh	2.45 Crore

### Preventive Oncology

#### Funded projects

##### Ongoing

1. A study to quantify the burden of insulin resistance in breast cancer women and its relation with other known prognostic and predictive factors of breast cancer, Dr Pallavi Shukla, AIIMS-intramural, 2 years, 2020-2022, Rs 3.25 lakhs
2. Detection of HPV circulating tumor DNA in cervical cancer patients before and after chemoradiotherapy by droplet digital PCR, Dr Sujata Pathak, AIIMS-Intramural, 2 years, 2019-2021, Rs 9.5 lakhs
3. Sensitization effect of chloroquine and artemisinin on multidrug-resistant small cell lung cancer cell lines, Dr AsrarAlam, AIIMS-Intramural, 3 years, 2019-2022, Rs 10 lakhs
4. Identification of immunogenic regions from SARS-CoV-2 spike protein capable of eliciting robust humoral response, Dr AsrarAlam, AIIMS-Intramural, 2 years, 2020-2022, Rs 10 lakhs
5. Development of a novel cancer immunotherapeutic agent by integrating tumour antigen TRP-2 with Mycobacterium indicuspranii and analysis of its antitumour efficacy and immune-mechanisms using a mouse model, Dr Pawan Kumar, AIIMS Research Section, 2 years, 2019-2021, Rs 10 lakhs
6. Development of SARS-CoV-2 vaccine by incorporating its spike protein into Mycobacterium indicuspranii funded by AIIMS, New Delhi, Dr Pawan Kumar, AIIMS Research Section, 2 years, 2020-2022, Rs 10 lakhs

7. Development of novel cancer immunotherapy by incorporating cancer/testis antigen NY-ESO-1 into Mycobacterium indicuspranii and evaluation of its antitumor efficacy and immune mechanisms using a mouse tumor model, Dr Pawan Kumar, SERB, 3 years, 2022-2025, Rs 36 lakhs
8. Targeting multiple antigens for cancer immunotherapy with a recombinant Mycobacterium indicuspranii (MIP)-based approach and its evaluation using mouse tumor model, Dr Pawan Kumar, SERB, 3 years, 2022-2025, Rs 40.74 lakhs

#### **Completed**

1. Early and Late development of Castration Resistant Prostate Cancer and its correlation with Androgen Receptor Ligand Binding Domain Mutations, Dr Kumar Sandeep, AIIMS Research Section, 3 years, 2017-2020, Rs 7 lakhs

#### **Research projects over past 3 years**

<b>Research projects</b>	<b>2020-2021</b>	<b>2021-2022</b>	<b>2022-2023</b>
Total funded projects	06	09	08
Total funding <b>in lakhs</b>	52.75	126.75	129.49

#### **Radio Diagnosis**

##### **Funded projects**

##### **Ongoing**

1. Indigenous design and fabrication of auxetic vascular stents using the laser powder-bed fusion techniques- a pilot study, Chandrashekhara SH, AIIMS-IIT Delhi project, 2 years, 2022-2024, Rs 10,00,000
2. Artificial Intelligence in detection of cancer on mammography in the Indian Scenario, Krithika Rangarajan, DBT, 3 years, 2020-2023, Rs 80,00,000

#### **Completed**

1. Diagnostic accuracy of Contrast enhanced Ultrasound in detecting early response to Neoadjuvant Chemotherapy in Breast cancer patients, Ekta Dhamija, AIIMS Delhi intramural project, 2 years, 2019-2021, Rs 8,00,000
2. Artificial Intelligence in COVID: Whom to treat, Whom to test, how to treat, Krithika Rangarajan, AIIMS Intramural, 1 year, 2020-2021, Rs 2,00,000

#### **Research projects over past 3 years**

<b>Research projects</b>	<b>2020-2021</b>	<b>2021-2022</b>	<b>2022-2023</b>
Total funded projects	3	3	2
Total funding	95,00,000	30,27,000	90,00,000

#### **Radiation Oncology**

##### **Ongoing**

1. Development of novel film dosimeters for radiation diagnosis and comparison of planned and delivered dose distributions in brachytherapy, Dr Aoorva Mittal, DHR, 3 years, 2021-2024, Rs 27,50,000
2. Involved quadrant irradiation (IQI) post breast conservation surgery: A phase 3 randomized control study, Prof DN Sharma, ICMR, 3 years, 2023-2026, Rs 61,64,550

#### **Haresh KP**

1. A prospective pilot study to evaluate the effectiveness and toxicity of Stereotactic body radiotherapy (SBRT) for Portal Vein Thrombosis in patients with advanced Hepatocellular carcinoma (HCC) (DHR Grant), Dr Haresh KP, DHR, 3 years, 2019-2022, Rs 31,00,000
2. ARANOTE study (Protocol BAY 1841788/21140): A randomized, double-blind, placebo-controlled Phase 3 study of darolutamide in addition to androgen deprivation therapy (ADT) versus placebo plus ADT in men with metastatic hormone-sensitive prostate cancer (mHSPC), Dr Haresh KP, BAYER Pharmaceuticals, 5 years, 2021-2025, Rs 60,00,000
3. NAVIGATE Study (Protocol BAY No. 2757556/20289). A Phase 2 Basket Study of the Oral TRK Inhibitor larotrectinib in Subjects with NTRK Fusion-Positive Tumors, Dr Haresh KP, BAYER Pharmaceuticals, 4, 2021, 2024, Rs 6 Lakh per patient if patient is screened. For Pre-Screening Rs 15,345 per patient

4. Pilot study to compare moderate hypo fractionated radiotherapy versus stereotactic body radiotherapy (SBRT) in intermediate and high risk prostate cancer, A toxicity and quality of life comparison, Dr Haresh KP, ICMR, 3 years, 2022-2025, Rs 35,07,462
5. An institutional phase I/II study to evaluate safety and efficacy of high dose weekly hypofractionated palliative breast radiotherapy in fungating advanced unresectable or metastatic breast cancer, Dr Haresh KP, ICMR, 3 years, 2022-2025, Rs 35,07,462
6. A pilot study to develop and validate an artificial intelligence platform for the management of breast cancer, Dr Haresh KP, ICMR, 3 years, 2022-2025, Rs 66,13,008

#### **Rambha Pandey**

1. Prospective Pilot study of Endobronchial Brachytherapy in Malignant airway Obstruction, Dr Rambha Pandey, AIIMS, Intramural, 2 years, 2020, Not yet completed, Rs 10,00,000

#### **Surendra Kumar Saini**

1. Prediction of cervical cancer recurrence by deep learning model, Dr Surendra Kumar Saini, ICMR, 2 years, 2022-2024, Rs 25,00,000

#### **Supriya Mallick**

1. Optimum radiation dose for palliation in head and neck Squamous cell carcinoma – A phase 3 randomized controlled trial (OpRaH), Dr Supriya Mallick, ICMR, 3 years, 2021-2024, Rs 22,00,000

#### **Completed**

##### **DN Sharma**

1. Low Dose Radiation Therapy for Covid-19 Pneumonia: A Pilot Study, Prof DN Sharma, AIIMS Intramural COVID funding

##### **Haresh KP**

1. A Randomized, Multiple-dose, Multicenter, Comparative, Parallel Study to Evaluate the Efficacy, Safety and Pharmacokinetic Characteristics of Intravenous Infusion of Trastuzumab (Test, Hetero) and Reference Medicinal Product (Reference, Roche) in combination with standard chemotherapy in Patients of HER2-positive Metastatic breast cancer (TRUMAB Study), Dr Haresh KP, Hetero Pharma, 3 years, 2019-2022, Rs 17,00,000

##### **Supriya Mallick**

1. Phase II study of hypo-fractionated accelerated radiotherapy with concurrent and maintenance temozolomide in newly diagnosed IDHwt Anaplastic Astrocytoma (NCI-R-01-HyRAA), Dr Supriya Mallick, AIIMS Intramural, 2 years, 2021-2023, Rs 10,00,000
2. Cervical cancer tumor micro-environment immune-profiling and effect on early response to standard chemoradiotherapy in Indian patients, Dr Supriya Mallick, AIIMS Intramural, 2 years, 2021-2023, Rs 10,00,000

#### **Research projects over past 3 years**

Year	2020-21	2021-22	2022-23
<b>No. of projects</b>		3	11
<b>Total funding</b>		27,50,000/-	3.72 crores

#### **Surgical Oncology**

##### **Funded Projects**

##### **Ongoing**

1. HBCR & Pattern of care and survival studies in breast, head & neck and cervical cancer, SVS Deo, ICMR, NCDIR, 8 years, 2014, Ongoing, INR 47,00,000/Year
2. POCSS for PBCR-Head & Neck, Breast and Cervix cancers, SVS Deo, ICMR, NCDIR, 7 years, 2019-2023, INR 200000
3. Indian Breast Cancer Genome Atlas (An ICGA Project), SVS Deo, CSIR Multi-centric, 3 years, 2023-2026, INR 50 lakhs
4. Assessment of cell free DNAs (cf-DNA) as a biomarker in common gastrointestinal track cancers, Dr Sunil Kumar, AIIMS, New Delhi, 3 years, 2021-2023, Rs 10 lakhs



5. Patterns of Care and Survival Studies on Gall Bladder Cancer under ICMR- National Cancer Registry Programme (NCRP), Dr Sunil Kumar, NCDIR (ICMR), Bengaluru, 5 years, 2020-2024, Rs 13.75 lakhs
6. “Understanding the impact of gut microbiome dysbiosis and metabolic alterations in the pathogenesis of early onset (EOCRC) Colorectal Cancer (CRC)”, Jyoti Sharma, AIIMS Intramural research grant, 2 years, 2021-2023, Rs 10 lakhs
7. Designing of Self retaining Vascular Forceps, Prof M D Ray, PRISM of DSIR, DST, 2 years, 2021-2023, Rs 6,00,000

#### **Completed**

1. Predicting the response to neo-adjuvant chemotherapy by analysis of exome and transcriptome in squamous cell carcinoma of esophagus, Dr Sunil Kumar, 4 BaseCare, 2 years, 2020-2022, On actual cost
2. “Comparative Sphingolipid profiling of breast cancer cell and tissue types for identification of Potential Metastatic Biomarkers”, SVS Deo, DST, 5 years, 2017-2022, INR 4715480
3. “Patterns of care and survival studies on cancer in childhood, lymphoid and hematopoietic malignancies, othergynaecological malignancies, SVS Deo, ICMR, NCDIR, 5 years, 2017-2022, INR 500,000
4. Comparison of pulmonary metastasis detected with PET-CT vs NCCT chest with surgical pathology, Dr Sunil Kumar, AIIMS, New Delhi, 2 years, 2020-2022, On actual cost basis

#### **Research projects over past 3 years**

<b>Research projects</b>	<b>2020-2021</b>	<b>2021-2022</b>	<b>2022-2023</b>
Total funded projects	3	11	11
Total funding	22115480	16590480	Rs. 24990480

#### **Departmental projects**

##### **Laboratory Oncology**

##### **Ongoing**

##### **Ritu Gupta**

1. A study of plasma cell and B-cell compartment in plasma cell proliferative disorders (PCPD) (Ms Meetu Dahiya)
2. Establishment of Standard and the state-of-the-art molecular procedures for Monitoring Minimal Residual Disease (MRD) and identification of ABL kinase domain mutations in Chronic Myeloid Leukemia (CML) (Ms Medhavi Pandey)
3. Non-invasive evaluation of genomic aberrations in multiple myeloma (Mr Atul Basnal)
4. Evaluating autophagy-related pathways to overcome drug resistance in AML (Ms Aafreen Khan)

##### **Sanjeev Kumar Gupta**

1. To study the interaction of IKZF1 alterations with cell adhesion molecules in B-cell acute lymphoblastic leukemia
2. Transcriptomic profiling of Leukemic Stem Cells to study tumorigenesis and chemoresistance in AML
3. Profiling of predictive and prognostic molecular genetic aberrations in BCR: ABL negative B-ALL

##### **Anita Chopra**

1. Identification of genetic alterations in Indian paediatric Ph-like Acute lymphoblastic Leukemia, PhD thesis (completed)
2. Dissecting the molecular pathways in Dux4-rearranged B-ALL, PhD thesis (ongoing)
3. Elucidating the role of NRF2 signaling pathway in acute myeloid leukemia, PhD thesis (ongoing)
4. Elucidation of role of PAX5r in B-ALL (other study)
5. Deciphering the landscape of circular RNA in B-ALL (other study)

##### **Pranay Tanwar**

1. Identification of differentially expressed protein based biomarkers involved in downstream signalling pathways of gall bladder carcinoma
2. NGS based characterization of pathways involved in the development of breast cancer among Indian women
3. Bioinformatics Based Mutational Profiling and Structural Variations Analyses in Gallbladder Carcinoma
4. Relevance of WT gene expression in AML

5. A pilot study to evaluate FTO gene polymorphism among breast and ovarian cancer cases of north Indian Population
6. DDPCR based characterization of liquid biopsy as a clinical tool for therapeutic monitoring and disease prognosis in breast cancer cases

#### **Deepshi Thakral**

1. Centre for Advanced Research & Excellence in Leukemic Stem Cells (LSC) for Prognosis and Treatment (CARE-LSCPT) in Acute Myeloid Leukemia- ICMR
2. “Targeting the tumor Microenvironment for novel therapeutic approaches in Multiple Myeloma (MM)”- SERB DST
3. Minimally invasive evaluation of genomic aberrations in multiple myeloma (Thesis)
4. Transcriptomic Profiling of Leukemic Stem Cells (LSCs) to study tumorigenesis and chemoresistance in AML (Thesis)

#### **Medical Oncology**

##### **Atul Sharma**

##### ***Ongoing***

1. Concurrent Chemotherapy and External Radiation Therapy: An Open Label Non-Inferiority Phase III Randomized Controlled Trial of Weekly versus Three Weekly Cisplatin and Radical Radiotherapy in Locally Advanced Head and Neck Squamous Cell Carcinoma.
2. Adjuvant Chemotherapy or Chemo-radiation in Gall Bladder Cancer: A Phase III Randomized Controlled Study (ACCeRate trial)
3. A retrospective study of outcomes of High dose chemotherapy and stem cell transplant in Hodgkin’s lymphoma
4. Modified Gemcitabine + Oxaliplatin (mGemOx) in Management of Unresectable Gallbladder Cancer: A retrospective study
5. Real world data on implications of microsatellite instability in patients of gastric cancer receiving peri-operative chemotherapy
6. Induction Related Mortality Score in Acute Myeloid Leukemia: Prospective Validation Study
7. Spectrum and real-world outcome of viruses associated lymphoproliferative disorders

##### ***Completed***

1. A two arm randomized open label prospective parallel design superiority Phase II multicentric clinical trial to evaluate the efficacy of a doublet second line chemotherapy versus monotherapy in advanced unresectable or metastatic gall bladder cancer progressing on first line chemotherapy
2. A pilot study to assess safety and efficacy of modified FOLFIRINOX in unresectable Gall Bladder Cancer

##### **Sameer Bakhshi**

##### ***Ongoing***

1. Molecular and Pharmacogenetic marker evaluation in relation to the toxicity and clinical response of acute lymphoblastic leukemia treatment in Indian children (MPGx-IND ALL)
2. Assessment of Quality of Life among Adult Survivors of Head and Neck. Ewing Sarcoma Family of Tumors
3. Immune Responsiveness following Vaccination against SARS-Cov2 in Cancer Patients Belonging to the Children/ Adolescent/Young Adult Age Group
4. Prognostic factors Outcomes in Patients with Osteosarcoma Treated at a Tertiary Care Centre: A Retrospective Analysis
5. Evaluation of clinic-pathological characteristics, prognostic factors and treatment outcomes in patients with Ewing sarcoma in children and young adults
6. Line between mitochondrial morphology and mitochondrial biogenesis in Pediatric Acute Myeloid Leukemia (AML)
7. Assessment of sex bias in treatment abandonment in childhood cancer from a tertiary care oncology center in India
8. Extended aprepitant in control of delayed emesis during induction chemotherapy for acute myeloid leukaemia (AML) (EACODE-AML)

**Prabhat Singh Malik*****Ongoing***

1. Liquid biopsy-based risk stratification and intensification of treatment In EGFR mutant advanced NSCLC

***Completed***

1. A study of familial aggregation in non small cell lung cancer

**Raja Pramanik*****Ongoing***

1. Diagnosing hereditary cancer predisposition in Indian men with prostate cancer: a pilot study
2. A prospective study on germline mutation profiles of consecutive patients with ovarian cancer
3. Cell free DNA (cf-DNA) as a biomarker in common gastrointestinal cancers

***Completed***

1. Assessment of Sexual health and intimacy related problems in cancer patients undergoing chemotherapy

**Atul Batra*****Ongoing***

1. Carboplatin in patients with metastatic castrate resistant prostate cancer harboring somatic or germline homologous recombination repair (HRR) gene mutations: A phase II single-arm trial (CiPHeR)

***Completed***

1. Randomised phase II open-label study of topical diclofenac in prevention of hand-foot syndrome in patients receiving capecitabine (D-TORCH)

**Mayank Singh*****Ongoing***

1. Pazopanib based combination oral Metronomic therapy in Platinum Resistance, Platinum Refractory and advanced Ovarian Cancer: A randomized phase 2 Study
2. A Prospective Randomized Control Trial of Goal directed Vs Standard Fluid Therapy in Cytoreductive Surgery with Hyperthermic Intraperitoneal Chemotherapy
3. A single arm feasibility phase II study of EMF (erlotinib/mtx/5-FU) in platinum refractory R/M HNSCC
4. Role of PARP1 and  $\gamma$ -Glutamyl Cysteine Synthetase (GCS) Inhibitors on Cisplatin Sensitivity and DNA Methylation in Ovarian Cancer
5. Deciphering the Oncogenic potential of Deubiquitinating enzymes (DUBs) in Gynaecological Cancers

**Medical Physics*****Ongoing***

1. Development of new luminescence material for dosimetry purpose
2. Development of bolus material for radiation treatment

**Onco-Anaesthesia & Palliative Medicine*****Ongoing***

1. Comparison of impact of erector spinae plane block versus thoracic epidural analgesia on perioperative quality of recovery in onco-surgical patients undergoing unilateral thoracotomy: a prospective, randomized control, open-label, non-inferiority, preliminary trial (cepnet trial)
2. To compare the efficacy of opioid free anaesthesia with opioid based anaesthesia on post-operative opioid consumption in patients undergoing open thoracotomy surgeries: a prospective randomized control trial
3. Correlation of oxygenation, ventilatory parameters and optic nerve sheath diameter (ONSD) to intra-operative mechanical ventilation in abdominal surgeries, comparison of recruitment maneuver with conventional ventilation. A pilot randomized controlled trial

4. To evaluate the effect of two ventilatory strategies (conventional bag mask ventilation and manual jet ventilation) on peak inspiratory pressures and dynamic compliance using electrical impedance tomography after interventional rigid bronchoscopy for malignant central airway obstruction
5. Comparison of the effect of intrathecal hyperbaric bupivacaine (0.5 %), hyperbaric levobupivacaine (0.5%) and hyperbaric ropivacaine (0.75%) during interventional brachytherapy: A prospective, double blinded, randomized control study
6. Role of empirical antibiotics for asymptomatic leukocytosis in non- haematological malignancy patients admitted to the palliative care ward at a tertiary care centre – an ambispective observational study
7. Assessment of Symptom Burden and “Quality of Life” in Patients of Primary brain tumours receiving palliative care at a tertiary care centre, India: A Prospective Observational Study
8. Effect of early integration of best supportive care in addition to standard care in patients with breast cancer: a randomized controlled trial
9. To assess the palliative care needs, symptom burden and quality of life in advanced sarcoma patients presenting to a palliative medicine clinic of tertiary cancer centre- a cross-sectional study
10. Assessment of Symptom Burden and Quality of Life in Patients of advanced head and neck cancer receiving palliative care at tertiary care centre, India: A Prospective Observational Study
11. To study the effect of oral morphine prescribed for dyspnoea in cancer patients presenting to the Departments of Onco-Anaesthesia and Palliative Medicine and Pulmonary Medicine and Sleep Disorders in a tertiary care hospital in India: A prospective observational study
12. Assessment of Symptom Burden And Quality Of Life in Patients Of Lung Cancer Attending The Palliative Care Clinic Of A Tertiary Care Centre: Prospective
13. Assessment Of Symptom Burden And Quality Of Life In Paediatric Cancer Patients In A Tertiary Care Centre In India: A prospective study
14. Comparison of laryngeal exposure in bed-up-head-elevated position Macintosh laryngoscopy with conventional C-MAC video laryngoscopy: a randomized non-inferiority trial
15. Cricoid Ultrasound and CT to predict DLT size in Indian population – A Prospective Observational study
16. To assess the impact of advanced airway imaging (3D CT reconstruction and virtual endoscopy of airway) on airway management in adult patients undergoing head and neck cancer surgeries under general anaesthesia: Prospective randomized study
17. To evaluate the effect of implementation of Enhance Recovery after Surgery (ERAS) protocol in adult patients undergoing head and neck cancer surgery under general anesthesia on length of hospital stay: A prospective interventional study.
18. To assess the palliative care needs, symptom burden and quality of life in geriatrics patients attending a tertiary care centre in India- a cross sectional observational study
19. To assess the impact of respiratory physiotherapy on the effectiveness of pleurodesis after ultrasound guided pigtail catheter insertion in adult patients with malignant pleural effusion: a prospective randomized interventional study
20. Nasotracheal intubation in patients with oropharyngeal carcinoma under general anaesthesia: A comparative evaluation between fiberoptic bronchoscope and C-MAC D blade video laryngoscope
21. Comparison of different video laryngoscopes for Nasotracheal intubation in manikin with difficult airway by experienced anesthesiologists: A randomized, self-controlled, crossover trial
22. Effect of early integration of palliative care on QOL in patients with CA breast
23. Effect of COVID-19 on quality of life of patients
24. Triggers of initiation of palliative care and implementation of principles of palliative care practices in ICU in a tertiary care cancer centre in India- A prospective observational study
25. Comparison of palliative care outcomes among geriatric prostate cancer patients by longitudinal assessment of symptom burden, perception of disease and quality of life: a prospective cohort study
26. Early integration of palliative care along with standard oncology care VS Standard Oncology care among patients with haematological malignancies at Tertiary Care Centre: A Prospective Randomized Controlled Trial
27. Comparison of megestrol acetate versus dexamethasone versus dietary counseling alone for change in patients’ weight, appetite and quality of life in cancer related anorexia/cachexia: A Randomized Controlled Trial
28. Evaluation of tolerance with propofol in paediatric patients undergoing successive radiotherapy sessions- a prospective observational study

29. Comparison of quality of life and symptom burden in patients with carcinoma gall bladder- PTBD vs non-PTBD, A randomized control trial
30. Outcome assessment of early integration of palliative care in management of patients of primary brain tumours - A prospective randomized controlled trial
31. Inter-observer and intra-observer variability of modified lung ultrasound score in the perioperative setting in patients undergoing general anaesthesia – a prospective observational study
32. Assessment of depression and anxiety in patients attending Palliative Medicine Outdoor Patient Department-A prospective observational study

### ***Completed***

1. Comparison of intervention with analgesics versus analgesics alone in patients with Head and Neck malignancy in terms of pain relief and quality of life at 3 months follow up: A Prospective randomized study
2. Assessment of Symptoms Burden and Quality of Life in Patients of Malignant Bowel Obstruction Presenting in Palliative Care Unit at Tertiary Cancer Centre in India.
3. Pattern of Patients Presenting with Malignant Spinal cord Compression in Palliative Care Unit at a Tertiary Care Centre of India-An Observational Study.
4. To compare the efficacy of opioid free general anesthesia with opioid based general anesthesia on post-operative morphine consumption in patients undergoing breast cancer surgery: a prospective randomized control study.
5. Comparison of total intravenous anaesthesia and inhalational anesthesia for development of postoperative pulmonary complications in oral cancer resection surgery with pectoralis major myocutaneous (PMMC) flap reconstruction: a prospective, randomized control trial.
6. Comparison of lung aeration loss in open abdominal oncologic surgeries after ventilation with Electrical Impedance Tomography guided PEEP versus conventional PEEP – a pilot randomized control trial.
7. Comparison of different video laryngoscopes for Nasotracheal intubation in manikin with difficult airway by experienced anesthesiologists: A randomized, self-controlled, crossover trial.
8. Correlation of oxygenation, ventilatory parameters and optic nerve sheath diameter (ONSD) to intra-operative mechanical ventilation in abdominal surgeries, comparison of recruitment maneuver with conventional ventilation. A pilot randomized controlled trial.
9. Effect of anesthetic technique on anti-tumor immunity and its markers in patients undergoing surgery for Gall Bladder Cancer: A prospective randomized comparative study.
10. Role of Intravenous iron therapy on fatigue and quality of life in patients of palliative care: a prospective interventional study.
11. Comparison of efficacy of ultrasound guided paravertebral block versus complete anterior thoracic block for postoperative analgesia in modified radical mastectomy: a randomized controlled trial.
12. Comparison of pre-oxygenation with a heated humidified high-flow nasal cannula standard technique for induction of general anaesthesia and fibre-optic nasal intubation in patients undergoing head and neck surgery
13. To compare the efficacy of opioid free general anesthesia with opioid based general anesthesia on post-operative morphine consumption in patients undergoing breast cancer surgery: a prospective randomized control study
14. Muscle activity during intubation in a difficult airway
15. Comparison of Mc Grath-MAC and C-MAC video laryngoscopes for intubation in mannequin by donned anesthesiologists using an intubation box during COVID-19: pandemic: a prospective randomized study
16. Implementing Telemedicine in preanesthesia clinic at a tertiary cancer care centre: A Prospective randomized comparative study.
17. Smartphone based telemedicine service for symptoms assessment in patients attending palliative care unit: A cross sectional study at a tertiary care cancer hospital
18. Prevalence and risk factors of acute neuropathic pain following oncological surgeries: A prospective study at a tertiary cancer centre
19. Prospective Evaluation of Social Support, Depression and quality of life in advanced

### **Radio Diagnosis**

#### ***Ongoing***

1. Developing and Using Robotic arm for performing Ultrasound remotely' in collaboration with IIT Delhi
2. Contrast enhanced ultrasound-guided celiac plexus block in upper abdominal cancer pain
3. To evaluate the safety and efficacy of hepatic hilar nerve block in patients undergoing PTBD

4. To assess the impact of percutaneous transhepatic biliary drainage on the quality of life of patients suffering from carcinoma of gall bladder
5. To analyse the incidence of complications and failures of Peripherally inserted central catheter is placed under fluoroscopic guidance in patients with malignancies.
6. Dual Energy CT in assessing response to tyrosine kinase inhibitors (TKI) in metastatic renal cell carcinoma (mRCC)
7. Role of Contrast enhanced mammography in dense breasts
8. Role of contrast enhanced mammography in preoperative staging of breast cancer patients
9. Role of contrast enhanced ultrasound in response assessment of patients with desmoid fibromatosis on medical therapy
10. Clinico-radiological correlation of the breast diseases
11. Synthesized mammogram from digital breast tomosynthesis versus full field digital mammography with and without tomosynthesis: a prospective comparative study
12. Computational analysis of CT images

#### ***Completed***

1. Role of whole-body MRI in the evaluation of lung cancer
2. Assessment of the effectiveness of Transversus abdominis plane (TAP) block for pain relief in percutaneous transhepatic biliary drainage in gall bladder cancer patients- a randomized control trial
3. Imaging features of Primary Thoracic Sarcomas and Differentiating features of Pulmonary Sarcomas from Carcinomas on CT- A Retro- Prospective Observational study

#### **Radiation Oncology**

##### ***Ongoing***

##### **DN Sharma**

1. Multiple sessions versus single session image-based intracavitary brachytherapy for locally advanced cervical cancer – A Randomized Controlled Trial
2. Comparison between hypofractionated whole breast irradiation vs accelerated partial breast irradiation in early-stage breast carcinoma

##### **Suman Bhasker**

1. Hypofractionated Palliative Radiotherapy using “Quadshot Regimen” with Concurrent Cisplatin for Patients with Locally Advanced Head and Neck Squamous Cell Carcinoma Unsuitable for Curative Treatment.
2. Stereotactic Body Radiation Therapy in Management of Recurrent Head and Neck Carcinoma: An Assessment of Treatment Outcome and Toxicity

##### **Ahitagni Biswas**

1. A phase III randomized controlled study comparing xerostomia after tubarial salivary gland sparing IMRT versus standard IMRT in patients with locally advanced oropharyngeal squamous cell carcinoma
2. A retrospective analysis of patients with solitary plasmacytoma treated at AIIMS, New Delhi from 2011-21

##### **Surendra Kumar Saini**

1. Interstitial Brachytherapy Versus Extreme Hypo-fractionated External Beam Partial Breast Irradiation After Breast-Conserving Surgery in Early-Stage Female Breast Carcinoma
2. Extended field bone marrow sparing image-guided intensity-modulated (BMS IG-IMRT) chemoradiation with dose-dense neoadjuvant chemotherapy in carcinoma cervix with para-aortic lymphadenopathy: a phase II study

##### **V Subramani**

1. Studying the impact of advanced imaging system for high precision radiotherapy treatment techniques
2. Dosimetric Analysis of Treatment planning methods of high dose rate brachytherapy of cervical cancers
3. Evaluation on Early Breast Cancer Detection using Thermal Imaging by Ms Shobana at Anna University, Chennai

**Supriya Mallick**

1. Curative approach treatment with SABR in bone-only oligometastatic breast cancer
2. Hypo fractionated adjuvant radiation therapy in head and neck malignancies: a randomized phase ii study
3. Metformin with neoadjuvant chemotherapy in localized Triple-negative and Her2 neu positive breast cancer- a prospective investigator-initiated phase-2 open-label randomized controlled trial

**Completed****Haresh KP**

1. A prospective pilot study to evaluate the role of stereotactic body radiotherapy in portal vein thrombosis in patients with hepatocellular carcinoma

**Rambha Pandey**

1. Four dimensional computed tomography(4dct) based intensity modulated radiotherapy/volumetric modulated arc therapy (imrt/vmat) planning and 3dcrtpanning for non- small cell lung cancer-dosimetric comparison and assessment of early clinical outcome
2. Multiple Sessions versus Single Session :Image-based Intracavitary Brachytherapy for Locally Advanced Cervical Cancer – A Randomised Control Trial
3. Hippocampal avoidance -whole brain radiotherapy (HA-WBRT) plus Memantine with simultaneous integrated boost (SIB) versus Without SIB for patients with multiple brain metastases - a phase 2 Randomized control study

**Ahitagni Biswas**

1. A phase II study to evaluate the efficacy of cisplatin and gemcitabine-based neo-adjuvant chemotherapy followed by dysphagia-optimized intensity-modulated radiotherapy with concomitant cisplatin and correlation of clinical outcome with serial plasma Epstein Barr virus DNA titer in patients with locally advanced nasopharyngeal carcinoma
2. A retrospective analysis of patients with orbital rhabdomyosarcoma treated at AIIMS, New Delhi from 2010-19

**Supriya Mallick**

1. Comparison between hypofractionated whole breast irradiation vs accelerated partial breast irradiation in early stage breast carcinoma Pattern of care and outcome in locally advanced non-small cell lung cancer patients in northern India- radiation oncology perspective from a tertiary care centre

**Surgical Oncology****Ongoing**

1. The feasibility of implementation and compliance of “enhanced recovery after surgery (ERAS)” protocol in cytoreductive surgery (CRS) with Hyperthermic intraperitoneal chemotherapy (HIPEC) at a tertiary care centre - a prospective cohort study and audit and analysis of ovarian cancer database
2. Feasibility and Accuracy of SLNB In Radiologically Node Negative Primary Advanced Epithelial Ovarian Cancer (PAEOC) (FIGO Stage II-III)- A Prospective Pilot Study And Retrospective analysis to evaluate the prognostic and predictive significance of Ki-67 and p53 in treated primary advanced epithelial ovarian cancer
3. Ambispective study of orbital and salivary gland tumours for clinical profile, surgical management, morbidity and outcome analysis and update and analysis of thyroid cancer database
4. Comparison of efficacy between neoadjuvant chemotherapy and neoadjuvant concurrent chemoradiation in squamous cell carcinoma esophagus: A pilot randomized control study
5. Feasibility study of indocyanine green fluorescence dye for intraoperative assessment of gastric or colonic conduit perfusion in oesophageal cancer surgeries – a prospective validation study and update and analysis of hepatobiliary and pancreatic cancer database
6. Nomogram for predicting health related quality of life in esophageal cancer patients after esophagectomy
7. A prospective study evaluating the optimal margins in extremity soft tissue sarcomas and ambispective analysis of computerized clinical database of soft tissue sarcomas
8. A Prospective study on microbiome dynamics and gut dysbiosis in early onset colorectal cancer patients And A prospective study on critical anatomical evaluation of sphincter complex in low rectal cancer patients

9. Phase 2 randomised controlled trial in operable oral cavity cancer with oral metronomic therapy with surgery vs surgery alone long with p53 analysis of chemotherapeutic response
10. Feasibility and Accuracy of SLNB In Primary Epithelial Ovarian Cancer (PEOC) (FIGO Stage I-III)- A Prospective Pilot Study And Retrospective analysis to evaluate the prognostic and predictive significance of Ki-67 and p53 in treated primary advanced epithelial ovarian cancer
11. A Prospective study to assess the role of Contrast Enhanced Mammography in evaluation of multifocal and multicentric breast carcinoma in comparison with Conventional Imaging Modalities and Update and analysis of breast cancer
12. A pilot study to evaluate fluorescence uv imaging for assessment of malignant and potentially malignant disorders in oral cavity and update and analysis of tongue cancer database

### ***Completed***

1. Audit of Surgical Oncology database – Two decades Experience
2. Ambispective study comparing perioperative outcomes between Hyperthermic Intraperitoneal Chemotherapy (HIPEC) and Early Postoperative Intraperitoneal Chemotherapy (EPIC) with audit and analysis of peritoneal surface malignancy database
3. Functional recovery and Return to work after Thoracic surgery in patients with Malignant thoracic Diseases: A Prospective study
4. Prospective study on the expression of cancer-testis antigen (CT45) in the patients of advanced epithelial ovarian cancer undergoing Hyperthermic Intraperitoneal Chemotherapy and its correlation with response to platinum based chemotherapy
5. Pilot study to evaluate the role of Toluidine Blue Dye and Narrow Band Imaging for assessment of malignant and potentially malignant disorders in oral cavity and update and analysis of Oral Cancer Database
6. A study evaluating MIS for of colorectal cancer patients and learning basic laboratory techniques of molecular biology for miRNA extraction in colon and rectal cancer patients
7. Prospective study of in-person versus online cancer genetic counseling and Ambispective evaluation of patients undergoing risk reducing surgery
8. A pilot study to assess role of preoperative chemoradiotherapy in locally advanced/recurrent extremity soft tissue sarcoma & audit of soft tissue sarcoma database

### **Collaborative projects**

#### **Laboratory Oncology**

#### ***Ongoing***

#### **Ritu Gupta**

1. Role of T cell activation and Follicular helper T cell in Multiple Myeloma Funded by (ICMR), Amity Institute of Virology & Immunology, Noida
2. Characterizing the functional role of DNA binding domain lacking novel alternative splice form of TET1 in acute myeloid leukemia, leukemic stem cells and can it be chemically targeted, Funded by ICMR, SCMM, JNU, New Delhi

#### **Sanjeev Kumar Gupta**

1. Study of the erythroid and megakaryocytic lineages under normal development and pathological myeloproliferation, IIT, Delhi

#### **Pranat Tanwar**

1. Functional genomics of hepatobiliary cancers, IIT, Delhi
2. ICMR TASK Force Genomics of gallbladder carcinoma in Indian Patients, GB Pant Hospital, Delhi
3. ICMR TASK Force Comparative study of Genetic, Clinical and Epidemiological factors of Breast Cancer in Indian population” as ICMR Task Force, NIP, Delhi

#### **Deepshi Thakral**

1. Establishing a registry and germline DNA repository of breast and ovarian cancers with hereditary predisposition at AIIMS, New Delhi, Medical Oncology, Dr BRA IRCH, AIIMS, New Delhi



2. Characterizing the functional role of DNA binding domain lacking novel alternative splice form of TET1 in acute myeloid leukemia, leukemic stem cells and can it be chemically targeted? Special school of Molecular Medicine, JNU
3. Correlation of recurrent genetic mutations in acute myeloid leukaemia (AML) patients with upregulated S100 protein and intervention of S100 protein as a therapeutic target for developing anti-cancerous drug, Dept of Biophysics, AIIMS, New Delhi

**Completed**

**Ritu Gupta**

1. Identification of network pathways for drug targeting in Multiple Myeloma from NGS data using Deep Learning, Funded by (DST), IIT - Delhi
2. Minimal Residual Disease Estimation in Multiple Myeloma using Image Processing: Design and Development of Myelomaimager - an Automated Computer Assisted Tool. Funded by (DST), IIT - Delhi

**Medical Oncology**

**Atul Sharma**

**Ongoing**

1. Identification and characterization of plasma-derived cell free nucleic acid based markers for early detection and monitoring of relapse in AML, Lab Oncology, IRCH AIIMS New Delhi
2. Study of peripheral blood megakaryopoiesis in chronic myeloid leukemia, Lab Oncology, IRCH AIIMS New Delhi
3. Evaluation of cell adhesion molecules as prognostic and predictive markers in B-cell acute lymphoblastic leukemia (B-ALL) with IKZF1 alterations, Lab Oncology, IRCH AIIMS New Delhi
4. The Eliminate Trial: A Phase II/III randomised trial evaluating omission of radiotherapy to regional lymphatic's in pN0/N1 neck for Oral Cavity carcinomas, Radiotherapy, IRCH/NCI, AIIMS New Delhi
5. Understanding the role of RhoBTB2 in Acute Myeloid Leukemia, Lab Oncology IRCH AIIMS New Delhi

**Atul Batra**

**Ongoing**

1. Development of an Affordable, Advanced Medicine Reminder-cum-Dispenser for Indian Patients with Cancer, AIIMS- IIT Collaborative Research Project

**Deepam Pushpam**

**Ongoing**

1. ICICLE 2, Multi-institutional collaboration

**Raja Pramanik**

**Ongoing**

1. Clinical outcome and biological characteristics of ovarian cancer patients with positive germline mutations in hereditary ovarian cancer predisposing genes and acceptance of cascade testing in Indian women, GYNECOLOGY and OBSTETRICS, MEDICAL ONCOLOGY

**Completed**

1. Comparison of short course radiotherapy followed by neoadjuvant chemotherapy with long course concurrent chemoradiotherapy in locally advanced rectal cancer: a randomized controlled trial, Radiation oncology, medical oncology, Surgical oncology, GI surgery, Radiology
2. A phase ii study to evaluate the efficacy of cisplatin and gemcitabine based neo-adjuvant chemotherapy followed by dysphagia optimized intensity modulated radiotherapy with concomitant cisplatin and correlation of clinical outcome with serial plasma epstein barr virus DNA titre in patients with locally advanced nasopharyngeal carcinoma, radiation oncology, medical oncology, radiology, ENT
3. A phase iii randomised controlled study comparing xerostomia after tubarial salivary gland sparing imrt versus standard imrt in patients with locally advanced oropharyngeal squamous cell carcinoma, Radiation Oncology, Medical Oncology, Radiology, ENT

4. Prospective study of in-person versus online cancer genetic education and counselling in India, Ambispective evaluation of breast cancer patients undergoing risk reducing surgery, Surgical oncology, Medical Oncology, Radiology
5. Hypofractionated palliative radiotherapy using “quadshot regimen” with concurrent cisplatin in patients with locally advanced head and neck squamous cell carcinoma unsuitable for curative treatment, Radiation Oncology, Medical oncology, Radiology

### **Chandra Prakash Prasad**

#### ***Ongoing***

1. To evaluate the protective role of medicinal plants against breast cancer induced by 7,12-dimethylbenz(a) anthracene, mobile phone radiations and fructose-drinking in adolescent/young female rodents. Funding Agency: ICMR Extramural Grant; Duration: 2021-2024 - as Co-PI, PI: Dr Rajani Mathur, DIPSAR, New Delhi

### **Mayank Singh**

#### ***Ongoing***

1. “CRISPR- based editing of regulatory region and expanded triplet repeats as therapeutic approach in India’s most common hereditary Ataxias”
2. Department of Biotechnology (DBT) (2018-2021) as Co PI, PI: Prof Achal Srivastava, Professor Department of Neurology AIIMS
3. “Exploring how  $\beta$ -catenin induced metabolic changes can be exploited for Triple Negative Breast cancer (TNBC) prognosis and therapeutics”
4. Indian Council for Medical Research (ICMR) (2019-2022) as Co PI, PI: Dr Chandra Prakash prasad, Assistant Professor Department of Medical Oncology Lab BRAIRCH AIIMS

### **Sampa Ghose**

#### ***Ongoing***

1. Translational approach for reducing Hepatocellular Carcinoma through modulation of extracellular matrix protein Lysyl Oxidase (LOX) in tumor microenvironment, Co-PI, DST, 3 years +, 2019-2023 (On extension), 87 Lakhs
2. Translational approach to inhibit hepatoma cell stemness by altering survival signals to prevent recurrence of carcinogenesis, Co-PI, ICMR, 3 years +, 2019-2023, (on Extension), 73 Lakhs

### **Onco-Anaesthesia & Palliative Medicine**

#### ***Ongoing***

1. Novel Video Laryngoscope for Endotracheal Intubation in Patients with Reduced Mouth Opening approved for AIIMS-IIT project funding (ongoing), IIT Delhi
2. Comparison of palliative care outcomes among geriatric prostate cancer patients by longitudinal assessment of symptom burden, perception of disease and quality of life: a prospective cohort study, Medical Oncology and Geriatric
3. Early integration of palliative care along with standard oncology care VS Standard Oncology care among patients with haematological malignancies at Tertiary Care Centre: A Prospective Randomized Controlled Trial, Medical Oncology
4. Evaluation of tolerance with propofol in paediatric patients undergoing successive radiotherapy sessions- a prospective observational study, Radiation Oncology
5. Cognitive function in breast cancer patients on opioids, Physiology
6. Autonomic function and breast cancer, Physiology
7. Muscle activity during intubation in a difficult airway, Physiology

#### ***Completed***

1. Effect of repetitive transcranial magnetic stimulation on pain and quality of life in post mastectomy pain syndrome, Physiology

## **Preventive Oncology**

### ***Ongoing***

1. Clinico-genetic prognostic signatures for development of metastatic Castration Resistant Prostate Cancer, Department of Urology, AIIMS, New Delhi
2. Genomics of Gall Bladder Carcinoma in Indian patients, Laboratory Oncology Unit, Dr BRAIRCH, AIIMS, New Delhi
3. To elucidate the impact of micronutrients and vitamins on sex – steroid mediated stromal epithelial interactions in prostate cells : role in maintenance of normal prostate physiology, Reproductive Biology, AIIMS, New Delhi
4. Development of a novel cancer immunotherapeutic agent by incorporating NY-ESO-1 into Mycobacterium indicuspranii and evaluation of its antitumor efficacy/immune mechanisms using mouse model of tumor, Preventive Oncology, Dr BRAIRCH, AIIMS New Delhi
5. To study the Interplay between Cancer-Testis germline POTE antigen and Notch signaling and its association with global DNA methylation in Ovarian Cancer, Department of Biochemistry, AIIMS, New Delhi
6. A Study of Gut (oral, fecal and bile) Microbiome in Patients with Gallbladder Cancer, Dept of Surgical Disciplines, Dept of Gastroenterology, Translational Health Science and Technology Institute, Faridabad
7. Prevalence of BRCA1/2 germline mutations in young Indian women (<40 years) with triple negative breast cancers, Department of Surgical Disciplines, AIIMS, New Delhi
8. Cancer Awareness and Referral Engagement (CARE) program for medical- officers/Specialists in selected district hospitals of Haryana, Preventive Oncology, NCI
9. Topoisomerase2 $\beta$  and Anthracycline induced Cardio Toxicity (TACT) among females treated for malignant breast tumors, Preventive Oncology, NCI
10. To evaluate the mutation detection performance of various BRCA testing eligibility criteria tools among Indian females with breast cancer and in their immediate family members, Preventive Oncology, NCI
11. Assessment of Second-hand Tobacco smoke (SHS) exposure and evaluation of m-Health promotion strategy among attendants of cancer patients at a tertiary cancer hospital, Preventive Oncology, NCI
12. A descriptive cross-sectional study to identify the prevalence and risk factors of oral-premalignant lesions through visual screening among security personnel working at AIIMS, New Delhi, Public health dentistry, CDER, AIIMS, New Delhi

## **Radio Diagnosis**

### ***Ongoing***

1. Stereotactic body radiation therapy in management of recurrent head and neck carcinoma: an assessment of treatment outcome and toxicity, Department of Radiation Oncology
2. Validation of clinical examination with Doppler studies in the management of patients presenting with vascular disease: A Prospective study, Department of Surgery
3. LOI-Cancer immunotherapy and Epigenetics Research Network(CIEReN): Centralized e-platform for iER-TME (Immunotherapy based Epigenetic Reprogramming of Tumor Immune Micro Environment), Department of Surgical Oncology
4. Diagnostic and prognostic value of cell free DNA (cf-DNA) in epithelial ovarian cancer- A pilot study, Gynecology
5. Evaluation of tumor microenvironment in Osteogenic Sarcoma, Pathology
6. Diagnostic and Prognostic role of oncometabolites in endometrial cancer, Gyn- oncology
7. Genetic changes of TP53 and its role in treatment management of patients with advanced soft tissue sarcoma, Pathology
8. Impact of advanced airway imaging (3D CT reconstruction and virtual endoscopy)on airway management in patients undergoing head and neck cancer surgeries – Prospective randomized study, Oncoanaesthesia
9. A Prospective study to assess the role of Contrast Enhanced Mammography in evaluation of multifocal and multicentric breast carcinoma in comparison with Conventional Imaging Modalities, Surgical Oncology
10. Diagnostic performance of IOTA -SIMPLE RULES, IOTA- ADNEX, GI-RADS AND O-RADS USG reporting system in evaluation of adnexal masses, Obstetrics and Gynecology
11. Childhood cancer survivorship program, Department of Medical Oncology
12. Assessment of cell free DNAs (cf-DNA) as a biomarker in common gastrointestinal track cancers, Department of Medical Oncology

13. Exploring the role of AI in differentiating metastasis from granuloma in patients with pediatric sarcomas, Department of medical oncology, IIT Delhi
14. Cricoid ultrasonography and CT scan to predict the size of double lumen tube in Indian population - A prospective observational study, Department of Onco anaesthesia and palliative medicine
15. Neoadjuvant chemotherapy followed by surgery versus surgery followed by adjuvant chemotherapy for resectable gastric adenocarcinoma- Phase 3 Multicentric Randomised controlled trial (NAGA Study), Department of Medical Oncology
16. Early integration of point of care ultrasonography (POCUS) in oncopalliative patients, Department of Onco anaesthesia and palliative medicine

### **Completed**

1. Role of multimodality imaging and liquid biopsy for response assessment in colorectal carcinoma: An Ambispective study, Department of radio-diagnosis
2. Assessment of brain metastases in advanced NSCLC, Department of medical oncology
3. Comparison of CT vs PET CT in Ca ovary for accuracy of staging, disease burden and prediction of resectability and determination of PCI, a prospective study, surgical oncology
4. A Prospective study to determine the efficacy of Positron Emission Tomography/Computed Tomography (PET/CT) in detecting residual disease in Locally Advanced Head & Neck Squamous Cell Carcinoma managed with primary Chemo- Radiation Therapy, nuclear medicine
5. Role of MR guided biopsy in detecting prostate cancer- DC MEMBER, NMR
6. Role of Ultrasound guided wire localization and surgical removal of clipped pretreatment positive axillary lymph nodes in increasing the diagnostic accuracy of sentinel lymph node biopsy after neoadjuvant chemotherapy in breast cancer patients, Radiology
7. Prevalence of sarcopenia in patients with upper gastrointestinal and lung malignancy undergoing surgical resection and its impact on immediate postoperative outcomes: A prospective observational study, Surgical Oncology
8. Outcome of advanced unresectable synovial cell sarcoma from an Indian tertiary care center: retrospective study, Medical Oncology
9. A randomized control trial comparing the pain scores in gall bladder cancer patients undergoing percutaneous transhepatic biliary drainage under transversus abdominis plane block versus without transversus abdominis plane block, Radiology
10. Comparison of Multigene hereditary panel testing profiles in breast cancer patients qualifying and not qualifying the NCCN 2018 criteria for genetic testing: A prospective study, Medical Oncology
11. Evaluation of Indocyanine Green dye-based navigation surgery in optimizing axillary management of carcinoma breast, Surgical Oncology
12. A cross-sectional observational study to evaluate Health related quality of life (HRQoL) in patients with Desmoid type Fibromatosis, Medical Oncology
13. A comparison of efficacy of Trans rectal ultrasonography (TRUS) and Magnetic resonance imaging (MRI) in assessing tumor characteristics in women with early stage cervical malignancy, Gyne-Oncology
14. Evaluation of surgical resectability of epithelial ovarian, fallopian tube and primary peritoneal carcinoma using computed tomography based reporting system, Gyne-Oncology
15. Development of tissue equivalent optically stimulated luminescent materials for measurement of low doses of medical radiation, Medical physics unit, BRAIRCH, and Department of Health physics inter university accelerator centre, New Delhi
16. Detection of extranodal-extension (ENE) in node positive oral cavity squamous cell carcinoma (OSCC), Dept of ENT- HSNO
17. The feasibility of weekly paclitaxel in improving performance status of advanced NSCLC patients with poor performance status: A single arm phase two trial”, Medical Oncology
18. A Phase II Study of Gemcitabine/Docetaxel in Patients with Relapsed Metastatic Synovial Sarcoma, Medical Oncology
19. Prospective comparison between 18F-FDG PET/CT and conventional modalities for Ewing’s family of tumors, Nuclear medicine
20. Genetic changes of TP53 and its role in treatment management of patients with advanced soft tissue sarcoma, Pathology

## **Radiation Oncology**

### ***Ongoing***

#### **DN Sharma**

1. Non-invasive detection of tumor hypoxia in cervical cancer with FMISO PET and correlation with hypoxic gene signature on directed biopsy and evaluate prognostic difference after chemo-radiotherapy, Nuclear Medicine

#### **Ahitagni Biswas**

1. The role of novel self-assembling peptide matrix (SAPM) in prevention of post radiation caries in head and neck cancer patients: Randomized clinical trial, Division of Conservative Dentistry and Endodontics, Centre for Dental Education and Research (CDER) & Department of Radiation Oncology, AIIMS New Delhi
2. Can pre-session intra-ductal administration of N acetyl-cysteine in each wharton duct decrease xerostomia and improve quality of life in adult patients of oropharyngeal squamous cell carcinoma treated by single modality of radical external beam radiotherapy treatment? Departments of Otorhinolaryngology & head-neck surgery, Radiation Oncology & Pharmacology, AIIMS New Delhi

### ***Completed***

#### **Ahitagni Biswas**

1. EMF (Erlotinib/Methotrexate/5-FU) regimen as an efficacious therapy in unresectable or recurrent/metastatic Head Neck squamous cell carcinoma after platinum failure: Investigator initiated single arm phase II trial, Departments of Medical Oncology and Radiation Oncology, AIIMS New Delhi
2. Clinico-pathological features and outcome of patients with Hodgkin's Lymphoma: An ambispective study, Departments of Medical Oncology and Radiation Oncology, AIIMS New Delhi
3. H19 long non-coding RNA (lncRNA) and its association with the clinical outcomes in Indian pediatric patients of Wilms tumor, Departments of Paediatric Surgery, Pathology, Medical Oncology & Radiation Oncology, AIIMS New Delhi

## **Surgical Oncology**

### ***Ongoing***

1. Differentiating inflammatory and metastatic mediastinal lymphadenopathy on 18-FDG- PET/CT in lung cancer: Role of steroid suppression Department of Nuclear Medicine
2. Role of nuclear receptors in pathogenesis of carcinoma gall bladder Dept of Biochemistry, AIIMS, New Delhi
3. A prospective study to elucidate molecular genetic risk factors of gallbladder carcinoma in Indian Population Dept of Lab Oncology, IRCH, AIIMS, New Delhi
4. Evaluation of Human Epididymis Protein 4 (HE4) level in the diagnosis of ovarian cancer, Dept of Lab Oncology, IRCH, AIIMS, New Delhi
5. The phase 2 study of HIPEC and the proposed phase 3 RCT comparing between HIPEC and IP chemotherapy. TMC, Kolkata
6. Hyperthermia and immune modulation in homologous recombination stratified epithelial ovarian cancer: Development of targeted therapeutic approaches TMC, Kolkata
7. An economic analysis of alternative treatment methods of ovarian cancer in India: An appraisal of economic burden, quality of life and mortality risk, Dept of Obst & Gynae, AIIMS, New Delhi
8. Evaluation of regulation of programmed death-ligand 1 (PD-L1) expression by microRNA in lung cancer (In collaboration with Medical Oncology) Medical Oncology (AIIMS, New Delhi)
9. Role of heavy metals as etiology for carcinoma of the gallbladder. Early career intramural research grant Bio Chemistry
10. Evaluation of tumor derived exosomes in blood during pre and post treatment of pancreatic cancer patients. Intramural Collaborative-Research project, Bio Chemistry
11. Determining interactions between two tumor suppressor genes p53 in colorectal cancers. Indian Institute of Immunology, New Delhi
12. Molecular sub types of Breast Cancer–Correlation with Lipidomics Amity University, New Delhi.
13. Breast Cancer – Genetics study Jamia Milia University, New Delhi.
14. Establishment of patient specific 3D organoid biobanking in AIIMS Stem cell facility, AIIMS

15. Study of a Surrogate Panel of Immunohistochemical and Molecular Markers to Classify Human Colorectal Carcinomas as per the Consensus Molecular Subtypes and Clinical Correlation Department of pathology AIIMS, New Delhi.
16. A comprehensive analysis of mammalian target of rapamycin (mTOR) and mitogen activated protein (MAP) Kinase signaling pathways in non- small cell lung carcinoma Department of Pathology
17. Role of nuclear receptors in pathogenesis of carcinoma gall bladder Dept of Biochemistry, AIIMS, New Delhi
18. An economic analysis of alternative treatment methods of ovarian cancer in India: An appraisal of economic burden, quality of life and mortality risk, Dept of Obst & Gynae, AIIMS, New Delhi
19. Molecular and Genetic Analysis of TNBC, Department of Pathology

**Completed**

1. Comparison of analgesic efficacy of Ultrasound guided thoracic Paravertebral block versus surgeon guided Serratus Anterior Plane block for acute postoperative pain in patients undergoing thoracotomy for lung surgery-A prospective randomized study, Department of Onco-Anesthesia
2. Outcomes of Metastatic Colorectal cancers over 15 years- experience from tertiary care centre, Department of Medical Oncology

**PUBLICATIONS**

**DCR**

Journal: 11

**Laboratory Oncology**

Journal: 69                      Abstract: 18

**Medical Oncology**

Journal: 147                      Abstract: 7

**Medical Physics**

Journal: 3

**Onco-Anaesthesia and Palliative Medicine**

Journal: 85                      Abstract: 1                      Chapters in Book: 21                      Books & Monographs: 3

**Preventive Oncology**

Journal: 7                      Abstract: 1                      Chapters in Book: 1

**Radio Diagnosis**

Journal: 36                      Abstract: 3                      Chapters in Book: 3

**Radiation Oncology**

Journal: 41                      Abstract: 10                      Chapters in Book: 2

**Surgical Oncology**

Journal: 29                      Surgical Oncology: 1                      Books & Monographs: 6

**Publications over past 3 years**

**Radio Diagnosis**

Item	2020–2021	2021–2022	2022–2023
<b>Total</b>			
Journal articles	46	91	36
Abstracts	8	20	3
Chapters in books	2	5	3
Books	0	0	0

## Surgical Oncology

Item	2020–2021	2021–2022	2022–2023
Journal articles	15	27	29
Chapters in books	0	2	1
Books	0	1	6
<b>Total</b>	<b>15</b>	<b>30</b>	<b>36</b>

## PATIENT CARE

### (Medical Record Section)

#### Annual Report for the Year – APRIL-2022 TO MARCH-2023

#### 1. Total Bed Strength = 182

- Medical Oncology = 78
- Radiation Oncology = 37
- Surgical Oncology = 61
- Palliative Care Unit = 06

#### 2. Total OPD Attendance – (2022-23) (Total = 179741)

- New Patient's Registered = 14614
- Revisits = 165127

#### 3. Description of Various OPD/Clinics at DR BRAIRCH (Year 2022-2023)

Sl. No.	Name of the OPD/Clinic	New Patien			Registered Revisits		
		Male	Female	Total	Male	Female	Total
1.	Adult Medical Oncology Clinic	1133	1273	2406	12926	28919	41845
2.	Adult Lymphoma Leukemia Clinic	-	-	-	-	-	-
3.	AML/HL Clinic	151	96	247	2718	1935	4653
4.	ALL/CML Clinic	42	28	70	3217	2480	5697
5.	Breast Cancer Clinic	43	958	1001	626	10153	10779
6.	Bone & Soft (Tissue) Clinic	129	97	226	653	568	1221
7.	Cancer Prevention and Screening CL.	09	223	232	-	-	-
8.	Familial Cancer Clinic	09	25	34	003	041	44
9.	Gastro-Intestinal Clinic	433	309	742	2098	1602	3700
10.	Gynaecology Clinic - 'A'	-	122	122	-	591	591
11.	Gynaecology Clinic - 'B'	-	252	252	-	1238	1238
12.	Gynaecology Clinic - 'C'	-	222	222	-	1057	1057
13.	Genitourinary & Gynae Clinic	51	149	200	516	1609	2125
14.	Genitourinary & PSM Clinic	61	120	181	087	271	358
14.	Head & Neck (Surgery) - A	286	86	372	1491	626	2117
15.	Head & Neck (ENT) – B	780	147	927	2644	806	3450
16.	Hepatobiliary & Pancreatic Clinic	70	90	160	495	507	1002
17.	Lung Cancer Clinic	603	206	809	5005	3424	8429
18.	NHL/MM/CLL Clinic	86	83	169	1185	2023	3208
19.	Neuro Oncology Clinic	267	152	419	1392	950	2342
21.	Ophthalmic Tumour Clinic	04	03	07	-	-	00
22.	Paediatric Medical Oncology Clinic	259	132	391	6279	5357	11636
23.	Paediatric Lymphoma Leukemia Clinic	217	108	325	3704	2848	6552
24.	Paediatric (Surgery)	62	44	106	1514	1454	2968
25.	Pain Relief Clinic	860	627	1487	8270	9868	18138

26.	Pain & Palliative Care Clinic (RT-II)	-	-	-	-	-	-
27.	Paediatric Palliative Care Clinic	-	-	-	-	-	-
28.	Radiotherapy Clinic	796	792	1588	6567	9732	16299
29.	Surgical Oncology (Clinic)	414	314	728	1087	1159	2246
30.	Thoracic Oncology Clinic	188	108	296	1023	690	1713
31.	Transplant Clinic	52	36	88	1165	995	2160
32.	Urology Malignancy Clinic	512	69	581	5188	2552	7740
33.	Endo Malignancy Clinic	148	78	226	886	933	1819
	<b>Total =</b>	<b>7665</b>	<b>6949</b>	<b>14614</b>	<b>70739</b>	<b>94388</b>	<b>165127</b>

**G. Total = 14614 + 165127 = 179741**

<b>Admissions (2022-23)</b>	
<b>Regular Admissions</b>	<b>12415</b>
<b>Short/Day Care Admissions</b>	<b>31987</b>
<b>Total Admissions</b>	<b>44402</b>

<b>Discharges (2022-23)</b>	
<b>Regular Discharges</b>	<b>12136</b>
<b>Short/Day Care Discharges</b>	<b>31268</b>
<b>Total Discharges</b>	<b>43404</b>

<b>Total Deaths – (2022-23)</b>	<b>323</b>
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<b>Operation Theatre Services – (2022-23)</b>	
<b>Major Operations</b>	<b>1720</b>
<b>Minor Operations</b>	<b>8711</b>
<b>Total Operations</b>	<b>10431</b>

<b>Electro-Cardiogram (ECG) – (2022-23)</b>	<b>5566</b>
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<b>OPD Procedures (Treatment Room No. 15)</b>	<b>6177</b>
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<b>OPD Chemotherapy Services (Treatment Room No. 15)</b>	
Male CT	4210
Female CT	2626
Male Child CT (PAED.)	4461
Female Child CT (PAED.)	1690
<b>Total Cases</b>	<b>12987</b>

**OPD Attendance New Patient's Registered (Male & Female) – (2022-23)**

<b>New Patient's Registered</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
April – 2022	677	578	1255
May – 2022	673	632	1305
June – 2022	724	611	1335
July – 2022	621	606	1227
August – 2022	572	573	1145
September – 2022	701	622	1323
October – 2022	650	552	1202
November – 2022	649	541	1190
December – 2022	634	612	1246



January – 2023	559	515	1074
February – 2023	579	529	1108
March – 2023	626	578	1204
<b>Total</b>	<b>7665</b>	<b>6949</b>	<b>14614</b>

**Total (Male & Female) = 14614**

**OPD Attendance Revisits (Male & Female) – (2022-23)**

Revisits	Male	Female	Total
April = 2022	5173	6787	11960
May – 2022	5236	6704	11940
June – 2022	5704	7580	13284
July – 2022	5729	8240	13969
August – 2022	6183	8724	14907
September – 2022	6396	8631	15027
October – 2022	5794	8142	13936
November – 2022	6263	8154	14417
December – 2022	6357	8492	14849
January – 2023	5421	7233	12654
February – 2023	5672	7658	13330
March – 2023	6811	8043	14854
<b>Total</b>	<b>70739</b>	<b>94388</b>	<b>165127</b>

**Total (Male & Female) = 165127**

**Geographical Distribution According to their Residence = 14614**

Sl. No		Total
1.	Andhra Pradesh	05
2.	Andman Nicobar	00
3.	Assam	30
4.	Arunachal Pradesh	08
5.	Bihar	1597
6.	Chandigarh	46
7.	Chhattisgarh	176
8.	Dadar & Nagar Haveli	01
9.	Daman & Diu	01
10.	Delhi	5296
11.	Goa	00
12.	Gujrat	17
13.	Haryana	1066
14.	Himachal Pradesh	59
15.	Jammu & Kashmir	99
16.	Jharkhand	151
17.	Kerala	11
18.	Karnataka	15
19.	Ladakh	28
20.	Madhya Pradesh	252
21.	Maharashtra	24
22.	Meghalaya	12
23.	Manipur	42

24.	Mizoram	04
25.	Nagaland	06
26.	Orissa	36
27.	Pondicherry	01
28.	Punjab	62
29.	Rajasthan	193
30.	Sikkim	05
31.	Tamilnadu	05
32.	Telangana	08
33.	Tripura	03
34.	Uttar Pradesh	4792
35.	Uttaranchal	414
36.	West Bengal	125
	<b>Total =</b>	<b>14590</b>

#### Other Countries

1.	Afghanistan	00
2.	Bangladesh	04
3.	Mauritius	-
4.	Nepal	19
5.	South Africa	01
	<b>Total =</b>	<b>24</b>

**Grand Total = 14614**

#### Laboratory Oncology Services – (2022-23)

1.	Hemogram (HMG) – (HB, TLC, PLATELETS)	124533
2.	Peripheral Blood Smear (PBS)	4533
3.	Bone Marrow Aspiration (BM)	4389
4.	Cyto-Chemistry	949
5.	Serum Protein Electrophoresis (SPE)	6181
6.	Immunofixation (IFX)	4330
7.	Urine Electrophoresis (UE)	1669
8.	Tumor Marker	00
9.	FLOWCYTOMETRY	87402
10.	CSF	1870
11.	Molecular Biology	15775
12.	Serum Freelight Chain	8167
13.	BETA 2 – MICROGLOBULIN	1136
14.	Cytology	530
15.	HPB DNA	2910
16.	IMMUNOGLOBULIN	383
	<b>Total =</b>	<b>264757</b>

**Grand Total = 264757**

#### Apheresis – (2022-23)

1.	Single Donor Platelets (SDP)	2017
2.	Peripheral Blood Stem Cell – Harvest (PBSC)	161
3.	Hemogram	548

4.	Plasma	00
5.	No. of granulocytes	101
6.	Plasma Exchange	07
7.	Stem Cell Harvest	00
	<b>Total =</b>	<b>2834</b>

**Grand Total = 2834**

**Medical Oncology Laboratory Services - (2022-23)**

1.	Cytogenetics for Detection of Philadelphia Chromosome	597
2.	Cytogenetics for Chimerism	07
3.	RT-PCR for detection of P210 and P190 Translocation in CML (Qualitative)	06
4.	RQ-PCR for Detection of P210 and P190 Translocation in CML (quantitative)	588
5.	CD 34 Counts by flow Cytometry	175
6.	CD 3 Counts by flow Cytometry	22
7.	Immuno Phenotyping for Leukemia	00
8.	MNC Counts	156
9.	Cryopreservation of Stem Cells – 80	112
10.	Storage of Stem Cells AT 4	70
11.	Bone Marrow Transplant	00
12.	Infusion of Stem Cells	146
13.	Viability of Stem Cell	141
14.	Elisa for Aspergillosis Detection	1038
15.	LDH	01
16.	Magnesium	01
17.	EBV - DNA Detection for EBV Infection	36
	<b>Total =</b>	<b>3096</b>

**Grand Total = 3096**

**Medical Physics Services – (2022-23)**

1.	No. of blood bags irradiated	2045
2.	Quality Assurance test done on X-Ray machines	3727
3.	Quality Assurance test done on film processor at DR BRAIRCH, AIIMS	00
4.	Quality Assurance test on film processor at Radiology (Main)	00
5.	Radiation output measurements in X-Ray units	788
6.	Quality Assurance test done on film processor at AIIMS	00
7.	Radiation protection survey measurements	104
8.	Advise in inadvertent exposure to pregnancy	04
9.	Q.C. test fluoroscopy done at AIIMS	00
10.	Q.A. test done on Lead apron	121
	<b>Total =</b>	<b>6789</b>

**G Total = 6789**

**Radiotherapy Services – (2022-23)**

1.	Cases on Radiotherapy	85928
2.	Total Field on Radiotherapy	00
3.	Cases on Brachytherapy	964
4.	Treatment Planning and Simulations	4060

5.	Two and Three Dimensional Dose Distributions	3960
6.	Compensators	364
7.	Shielding Blocks Immobilization Devices and Orifits	2915
8.	Radiation Review Clinic	7736
9.	Planning CT	2092
	<b>Total =</b>	<b>108019</b>

**Grand Total = 108019**

#### Radio-Diagnosis Services – (2022-23)

1.	CT Scan	8613
2.	Ultra-sound	7889
3.	Mammography	2584
4.	X-rays (Routine)	19182
5.	Doppler	359
6.	Intervention	1947
7.	Special Investigation (BA,I)	849
8.	Intervention MA	00
	<b>Total =</b>	<b>41423</b>

**Grand Total = 41423**

#### Laboratory Oncology

Sr.	Description	No. of Test
1.	Hemogram	124533
2.	Bone Marrow	4389
3.	Peripheral Blood Smear	4533
4.	Serum Protein Electrophoresis	6181
5.	Urine Electrophoresis	1669
6.	Immunofixation	4330
7.	SFLC	8167
8.	Immunoglobulin	383
9.	Beta 2 microglobulin	1136
10.	Cytochemistry	949
11.	Cytospin/CSF	1870
12.	Molecular Biology	15775
13.	Flowcytometry	87402
14.	HPV	2910
15.	Cytology	530
	<b>Total =</b>	<b>264757</b>

#### Medical Oncology

**Prabhat Singh Malik** has been involved in multidisciplinary lung cancer clinic, adult medical oncology clinic and leukemia lymphoma clinic. Apart from this I have also been involved in the management of admitted patients in medical oncology wards and Stem cell transplantation facility.

#### Mayank Singh

1. PCR based services (Real time and Nested PCR) for Cancer patients for quantification of Bcr Abl transcript for CML patients from last 3 years, (Running this service with limited staff and reagent constriction during covid pandemic outbreak)
2. ELISA based VEGF estimation services for patients in Project mode (No charge)

**Sampa Ghose**

1. Supervised ELISA technique in laboratory for the detection of Galactomannan antigen in serum and bronchoalveolar lavage (BAL) fluid to monitor the fungal infection in patients during induction chemo therapy and bone marrow transplantation. Total 1038 samples (serum) from patients have been tested for *Aspergillus* infection during April' 2022 - March'2023
2. Has standardized the estimation of Epstein Barr Virus load at different time points during chemo/radiation therapy in Nasopharyngeal Carcinoma. Total 36 patients sample (plasma) has been tested for cell free EBV DNA during April 2022 – March 2023

**Surender K Sharawat**

1. Conventional and molecular cancer cytogenetic for 597 Leukemia patients

**Medical Physics****Medical Physics Services**

No. of blood bags irradiated	2045
Quality Assurance tests done on x-ray machines	3727
Radiation output measurements in x-ray units	788
<i>Advice in inadvertent exposure in pregnancy</i>	04
Radiation Protection Survey measurements	104
QA tests done on lead aprons at AIIMS	121
<b>Total</b>	<b>6789</b>

**Onco-Anaesthesia & Palliative Medicine**

1. OPD, IPD, Onco-ICU, Day Care, Palliative Care Clinic, PAC Clinic, Cancer Pain Clinic, CPET Lab.
2. community services for adult and paediatric patients (Can Support, CanKids)

**Preventive Oncology**

Preventive Oncology Clinics started in April 2022  
 Participants screened: 279 for oral breast and cervical cancers  
 Participants vaccinated: 50 against HPV

Community services/camps: 3 screening camps, 2 awareness camps, 7 training programmes

Item	2020-2021	2021-2022	2022-2023
OPD consultations	0	0	329
Special clinic consultations			
Patients provided rehabilitation services			
Total inpatient admissions			

**Radio Diagnosis**

Item	2020-2021	2021-22	2022-23
X-Ray	11352	16179	<b>19182</b>
Ultrasound	3739	5720	<b>7889</b>
Doppler	233	309	<b>359</b>
C T Scan	4435	5841	<b>8613</b>
Mammography	676	1730	<b>2584</b>
Fluoroscopy procedures and intervention	362	259	<b>849</b>
Intervention (USG, CT guided)	967	1477	<b>1947</b>
<b>Total =</b>	<b>21764</b>	<b>31515</b>	<b>41423</b>

## Radiation Oncology

Department of Radiation Oncology has the following facilities in providing quality of patient care.

1. Linear accelerators (Three in IRCH and 2 in NCI)
2. Telecobalt (One in IRCH and Two in Main RT)
3. Brachytherapy (Two in IRCH and 1 in NCI)
4. CT Simulator (One in IRCH and 1 in NCI)
5. One X-ray Simulator

Department runs Head and Neck Cancer Clinic, Neuro-oncology Clinic, Breast Cancer Clinic, GI Malignancy Clinic, GU Malignancy Clinic, Gynaecological Malignancy Clinic, Lung Cancer Clinic with different concerned departments.

### A. Departmental Statistics (IRCH)

1. Total fractions of external beam radiotherapy : 85928
2. Total cases of brachytherapy : 964
3. Treatment Planning and Simulations : 4060
4. 2D and 3D distribution : 3960
5. Compensators : 364
6. Shielding blocks, immobilization devices, moulds : 2915
7. Radiation Review clinic : 7736
8. Planning CT : 2092

### B. Departmental Statistics (NCI-AIIMS, Jhajjar)

1. Total fractions of external beam radiotherapy : 28720
2. Total cases of brachytherapy : 548
3. Planning CT : 3065
4. Treatment Planning and Simulations : 2065
5. Total Number of Immobilization and Mould : 1829

## Surgical Oncology

### Facilities available in the Department:

1. Inpatient Beds 45 (BRA-IRCH) & 60 (NCI)
2. Major Operation theaters – 4 (IRCH) & 3 (NCI)
3. Endoscopy and Minor OT Complex – 1 each at IRCH and NCI
4. MDT Organ Based Special Clinics and OPDs (10 each at IRCH and NCI).

### Special Advanced Oncology Programs

1. Peritoneal Surface Malignancy & HIPEC program.
2. Minimally Invasive Surgical Oncology Program
3. Cancer Genetics and Risk reducing Surgery Program
4. Palliative Surgical Oncology Program
5. Image guided Surgery program
6. Oncoplasty and Reconstructive Oncology program

### Census (Patient Care Services)

Item	2020-2021	2021-2022	2022–2023
OPD consultations	3575	4234	6867
Special clinic consultations	11162	22491	34154
Patients provided rehabilitation services	1200	1600	2200
Total inpatient admissions	1412	2325	3671
Total Number of Surgery performed	4321	7540	15872
Total Number of Major Surgeries	977	1697	2968
Total number of endoscopies & Minor surgeries	3344	5843	11023

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
NATIONAL CANCER INSTITUTE, JHAJJAR**

The patient care data for the year 2022-2023 that pertains to the National Cancer Institute, Jhajjar, AIIMS are given below:

**Total Bed Strength: 710**

**Total Functioning Beds: 317**

**OPD Attendance: 66598**

**New Cases Registered: 8395**

**Revisits/Old Cases: 58203**

**Details of OPD Attendance**

Sl. No.	Discipline	New cases			Revisit/Old Cases			Grand Total
		Male	Female	Total	Male	Female	Total	
1.	Medical Oncology	920	665	<b>1585</b>	11060	12952	<b>24012</b>	<b>25597</b>
2.	Surgical Oncology	1137	1037	<b>2174</b>	5674	5802	<b>11476</b>	<b>13650</b>
3.	Radiation Oncology	905	617	<b>1522</b>	5339	5090	<b>10429</b>	<b>11951</b>
4.	Oncology Anesthesiology & Palliative Medicine	589	448	<b>1037</b>	1820	1592	<b>3412</b>	<b>4449</b>
5.	ENT Oncology	850	181	<b>1031</b>	5182	1044	<b>6226</b>	<b>7257</b>
6.	Gynae. Oncology	0	469	<b>469</b>	0	1928	<b>1928</b>	<b>2397</b>
7.	Urology Oncology	450	60	<b>510</b>	577	106	<b>683</b>	<b>1193</b>
8.	Ortho Oncology	23	10	<b>33</b>	13	4	<b>17</b>	<b>50</b>
9.	Neuro Oncology	19	15	<b>34</b>	10	10	<b>20</b>	<b>54</b>
<b>Total</b>		<b>4893</b>	<b>3902</b>	<b>8395</b>	<b>29675</b>	<b>28528</b>	<b>58203</b>	<b>66598</b>

**Other Services**

	New cases			Revisit/Old Cases			Grand Total
	Male	Female	Total	Male	Female	Total	
Emergency/Casualty	629	417	<b>1046</b>	2671	2268	<b>4939</b>	<b>5985</b>
CT	1319	1017	<b>2336</b>	0	0	<b>0</b>	<b>2336</b>
Linac-I & II	0	0	<b>0</b>	16695	12044	<b>28739</b>	<b>28739</b>
Brachy-Therapy	0	203	<b>203</b>	0	331	<b>331</b>	<b>534</b>
PET-CT	1721	1308	<b>3029</b>	0	0	<b>0</b>	<b>3029</b>
SPECT	199	236	<b>435</b>	0	0	<b>0</b>	<b>435</b>
Physio-Therapy	1573	1398	<b>2971</b>	2046	1244	<b>3290</b>	<b>6261</b>
Nutrition Consultation	727	539	<b>1266</b>	0	0	<b>0</b>	<b>1266</b>
CPET	12	9	<b>21</b>	0	0	<b>0</b>	<b>21</b>

**Department wise Admissions and Discharges**

Medical Oncology	2259	2062	12987	<b>6.29</b>
Surgical Oncology	1480	1441	13604	<b>9.44</b>
Radiation Oncology	1296	1247	11235	<b>9</b>
Onco.Anesthesiology	1491	1461	6416	<b>4.39</b>
ENT Oncology	637	622	5513	<b>8.86</b>
Gynae. Oncology	338	343	2000	<b>5.83</b>
Urology	430	423	2291	<b>5.41</b>
Ortho Oncology	10	10	45	<b>4.5</b>
<b>Total</b>	<b>7938</b>	<b>7609</b>	<b>54091</b>	<b>7.10</b>

**Daycare/Short Admissions**

Discipline	Admissions	Discharges
Medical Oncology	23045	23045

**Department wise Death Indices**

Discipline	Total Discharges + Deaths	Total Deaths	Deaths Under 48 Hrs.	Deaths Over 48 Hrs.	Gross Death Rate %	Net Death Rate %
Medical Oncology	2062	169	45	124	8.19	6.14
Surgical Oncology	1441	21	6	15	1.45	1.04
Radiation Oncology	1247	29	8	21	2.32	1.69
Onco. Anesthesiology	1461	319	130	189	21.83	14.19
E.N.T	622	4	2	2	0.64	0.32
Gynae. Oncology	343	4	1	3	1.16	0.87
Urology	423	1	1	0	0.23	0
Ortho Oncology	10	0	0	0	0	0
<b>Total</b>	<b>7609</b>	<b>547</b>	<b>193</b>	<b>354</b>	<b>7.18</b>	<b>4.77</b>

**Bed Occupancy Rate: 59.84 % (On the basis of functional beds)**

**Surgical Procedures (Major and Minor)**

Major	Minor in IPD	Minor in OPD	Total
2303	1896	19276	23475

**Endoscopy**

UGIE (Gastrointestinal Endoscopy)	468
Cystoscopy	117
Bronchoscopy	55
Sigmoidoscopy	80
Colonoscopy	266
IDL (Indirect Laryngoscopy)	32
ILRT (Intraluminal Radiotherapy)	3
Core Biopsy	1
<b>Total</b>	<b>1022</b>

**Robotic Core Laboratory**

Month	No. of tests performed
April, 2022	334996
May, 2022	373921
June, 2022	400091
July, 2022	399002
August, 2022	441977
September, 2022	469083
October, 2022	428405
November, 2022	426910
December, 2022	424849
January, 2023	437620
February, 2023	422951
March, 2023	485468
<b>Total</b>	<b>5045273</b>



## Microbiology Lab

Sl. No.	Name of the Test/Assay	No. of tests performed
1.	Gene Xpert for SARS-CoV-2 (COVID-19)	6536
2.	Blood for culture and sensitivity	2001
3.	Urine for culture and sensitivity	3349
4.	Aerobic culture and sensitivity for other specimens	1219
5.	Gram staining	725
6.	Fungal culture and sensitivity	64
7.	KOH mount examination	71
8.	India ink mount examination	5
9.	Gene Xpert MTB/RIF Ultra	319
10.	Ziehl NZiehl Neelsen staining for Acid Fast Bacilli	442
11.	Stool routine examination	285
12.	Cryptococcal rapid antigen detection test	6
13.	ICT for scrub typhus	15
14.	Malarial antigen detection test	308
15.	Rk39 antibody detection test for leishmaniasis (Kala-azar)	11
16.	Dengue NS1/IgM/IgG rapid test	205
17.	Automated urine routine analysis	2954
	<b>Total</b>	<b>18515</b>

## Pathology Lab

The Department of Pathology at NCI was inaugurated on 1 August 2022. Currently the department provides routine diagnostic reporting of Surgical Pathology, Cytopathology, and molecular pathology service with the help of the main department of pathology. At NCI Formalin preparation, tissue fixation was done, and further processing done at AIIMS New Delhi. In Cytopathology fine needle aspiration, Ultrasound guided aspiration, fluid cytology (all body fluids and CSF) processing and staining done at NCI. CSF cases reporting done at NCI.

	Cytopathology			Histopathology (Biopsy + Excise Speciman)
	FNAC	Fluid Cytology	Cervical Smear	Histopathology Sample
April, 2022	38	-	-	469
May, 2022	35	-	-	652
June, 2022	25	-	-	760
July, 2022	20	-	-	497
August, 2022	34	24	24	1333
September, 2022	64	70	57	1752
October, 2022	89	76	26	1671
November, 2022	115	92	34	1965
December, 2022	95	91	36	1890
January, 2023	63	99	67	1897
February, 2023	78	86	34	1799
March, 2023	121	88	48	1936
<b>Total</b>	<b>777</b>	<b>626</b>	<b>326</b>	<b>16621</b>

**BLOOD CENTRE & TRANSFUSION MEDICINE****Patient Care Services provided****Donation Room**

1.	Total collection	11600
2.	Voluntary Donors	10919
3.	Replacement Donors	681
4.	Aphaeresis procedure	185
5.	Total voluntary donors camps organized	189
6.	TPE	0
7.	PBSC	0

**Routine Lab and Emergency Counter**

1.	Total patient Request Received	10549
2.	Total Blood group (ABO & Rh) performed (Donor + Patients)	22091
3.	Total X-match (Emergency & Routine) performed	5733
4.	Total ICT performed	9895
5.	Total DCT performed	59
6.	Total Titre (ICT+ABO) performed	0
7.	Total Antibody Screening performed	0

**Issue/Discarded**

1.	Total PRBC units Issued	5643
2.	Total PRBC Issued to outside hospital	4299
3.	Total units discarded due to TTI reactive status	1557
4.	Total Surplus Plasma issued to Plasma Fractionation Centre	10178

**Special Procedure Laboratory**

1.	Minor Grouping	0
2.	Cross Matching Discrepancy	159
3.	Gr Discrepancy	60
4.	AB Identification	213
5.	Anti Sera QC	970
6.	Transfusion Reaction Work up	17

**Component Laboratory**

1.	Platelet concentrate	11128
2.	Fresh Frozen Plasma	11242
3.	Liquid Plasma	0
4.	Cryoprecipitate	0
5.	Red Blood Cells	11259
6.	Component QC	500
7.	Buffy Coat	11128

**Infection Laboratory**

1.	HIV Test	11600
2.	HBV Test	11600
3.	HCV Test	11600
4.	VDRL Test	11600
5.	Malaria Parasite	11600
6.	NAT	11415

**Month-Wise Data of Radio-diagnosis Department**

Month	X-Ray	CT	Ultra-sound	USG Doppler	Mammo-graphy	MRI	Biopsy	DRF	RFA	DSA	Total
April, 2022	1142	285	314	11	78	12	76	5	0	13	<b>1936</b>
May, 2022	1168	336	330	19	78	13	85	5	0	16	<b>2050</b>
June, 2022	1112	306	296	15	69	8	55	5	0	18	<b>1884</b>
July, 2022	1331	273	335	6	88	3	51	6	0	15	<b>2108</b>
August, 2022	1369	300	322	5	74	1	55	7	0	0	<b>2133</b>
September, 2022	1535	338	388	11	97	0	78	7	0	0	<b>2454</b>
October, 2022	1435	320	385	22	80	0	91	9	0	0	<b>2342</b>
November, 2022	1641	553	411	21	97	0	110	13	0	0	<b>2846</b>
December, 2022	1620	541	399	15	104	0	78	10	0	0	<b>2767</b>
January, 2023	1808	459	433	16	115	0	50	11	0	0	<b>2892</b>
February, 2023	1812	574	455	30	116	26	97	6	0	12	<b>3128</b>
March, 2023	1938	510	521	23	121	47	137	8	0	23	<b>3328</b>
<b>Total</b>	<b>17911</b>	<b>4795</b>	<b>4589</b>	<b>194</b>	<b>1117</b>	<b>110</b>	<b>963</b>	<b>92</b>	<b>0</b>	<b>97</b>	<b>29868</b>

**Abbreviations**

**DRF:** Digital Radiography and Fluoroscopy

**RFA:** Radiofrequency Ablation

**DSA:** Digital Subtraction Angiography

**Medical Social Service**

Sl. No.	Nature of Work	No. of Beneficiaries
1.	Total Exemption	4646
2.	Railway Concessions	2218
3.	Consultation/Requisitions(BPL)	540
4.	Consultation/Requisitions(Poor Patient)	72
5.	Ayushman Bharat	433
6.	Financial Assistance (RAN)	5
7.	Financial Assistance (CMF)	6
8.	Financial Assistance (PMRF)	41
9.	Financial Assistance(CSR)	1
10.	Financial Assistance(HMDG)	3
11.	Poor Patient Fund	12
	<b>Total</b>	<b>7977</b>

**Abbreviations**

**RAN:** Rashtriya Arogya Nidhi

**CMF:** Chief Minister Fund

**PMRF:** Prime Ministers Relief Fund

**CSR:** Corporate Social Responsibility

**HMDG:** Health Minister Discretionary Grant

**All India Institute of Medical Sciences, New Delhi**  
**Out-Reach Opd, Badsa, Jhajjar**  
**Outpatient Services at a Glance**  
**Month-wise OPD details**

Month	New cases	Revisit/old cases	Total
April, 2022	3716	2095	<b>5811</b>
May, 2022	4098	2831	<b>6929</b>
June, 2022	4921	3441	<b>8362</b>
July, 2022	4521	3286	<b>7807</b>
August, 2022	5216	4104	<b>9320</b>
September, 2022	5528	4560	<b>10088</b>
October, 2022	3852	3690	<b>7542</b>
November, 2022	5093	3997	<b>9090</b>
December, 2022	4877	3433	<b>8310</b>
January, 2023	4219	3414	<b>7633</b>
February, 2023	4949	4197	<b>9146</b>
March, 2023	5689	5063	<b>10752</b>
<b>Total</b>	<b>56679</b>	<b>44111</b>	<b>100790</b>

**Radio-diagnosis Department**

Month	X-Ray	Ultrasound	Total
April, 2022	484	298	<b>782</b>
May, 2022	613	437	<b>1050</b>
June, 2022	586	576	<b>1162</b>
July, 2022	584	538	<b>1122</b>
August, 2022	701	607	<b>1308</b>
September, 2022	857	711	<b>1568</b>
October, 2022	743	488	<b>1231</b>
November, 2022	764	531	<b>1295</b>
December, 2022	728	604	<b>1332</b>
January, 2023	601	352	<b>953</b>
February, 2023	729	443	<b>1172</b>
March, 2023	735	510	<b>1245</b>
<b>Total</b>	<b>8125</b>	<b>6095</b>	<b>14220</b>

**Robotic Core Laboratory**

Month	No. of tests performed
April, 2022	1625
May, 2022	2335
June, 2022	2601
July, 2022	1857
August, 2022	2759
September, 2022	5828
October, 2022	7618
November, 2022	2282
December, 2022	2053
January, 2023	1522

February, 2023	2128
March, 2023	2898
<b>Total</b>	<b>35506</b>

#### Surgical Procedures (Minor)

Department	No. of minor procedures
General surgery	528
Orthopaedics	375
OBST & Gynaecology	222
<b>Total</b>	<b>1125</b>

#### Medical Social Service

Sl. No.	Nature of Work	No. of Beneficiaries
1.	Total Exemption	86

Above data relates to patient services at NCI.

Other aspects with regard to Research, achievements, academics are being sent by individual departments which are integrated with their departments at AIIMS Main campus.

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

##### DCR

**Dr Rajeev Kumar Malhotra** has been appointed as statistical editor to the medical journal “Indian Journal of Dermatology, Venereology and Leprology” for the year 2023-2025.

##### Laboratory Oncology

**Professor Ritu Gupta** has been admitted as Fellow of the Royal College of Pathologists (FRCPath), London, UK; “Short Term ICMR-DHR International Fellowship for Senior Indian Bio-medical Scientists 2022-23” (March - June 2023 at Mayo Clinic, Rochester, USA); “AIIMS International Fellowship under AIIMS Endowment” (September – October 2022 at DFCI, Harvard Medical School, Boston, USA); received Berend Houwen Travel award from International Society for Laboratory Hematology (ISLH), Bologna, Italy, AIIMS Excellence Research Award (First prize) in Basic Sciences 2021 for work on “Branching clonal evolution patterns predominate mutational landscape in multiple myeloma” at AIIMS Research Day (October 2022) and AIIMS Oncology Research Award (First Prize) in Basic Sciences 2020 for work on “RNA-Seq profiling of deregulated miRs in CLL and their impact on clinical outcome” at AIIMS Research Day (October 2022).

**Dr Sanjeev Kumar Gupta** was awarded the “AIIMS Oncology Research Award 2021”- Third Prize for outstanding publication (Clinical Sciences) titled, “Proposal and clinical application of molecular genetic risk scoring system, “MRplus”, for BCR-ABL1 negative pediatric B-cell acute lymphoblastic leukemia- Report from a single centre”, at AIIMS, New Delhi on 18 October 2022; was invited as Judge for the poster paper session at the Haematocon 2022, 63rd annual conference of Indian Society of Hematology and Blood Transfusion, Kolkata, 3-6 November 2022; invited as Chairperson for the session on “The coming of age of measurable residual disease in AML, for both technical and clinical implementation” at the 14th annual TCS meeting 2022, Hyderabad, 13-16 October 2022; invited as Judge for the poster session at the 10th Annual Conference of Molecular Pathology Association of India (MPAICON 2023) from 17-19 February 2023 at Lucknow; Invited for the panel discussions by the Mumbai Hematology Group in the following meetings: (a) “Basics of flow cytometry for clinical hematologists” (26 March 2023), (b) “What’s new in acute myeloid neoplasms (Pathology)”, 10 December 2022, (c) “Best of EHA2022- Challenges in Hematology”, 4-7 July 2022, (d) “10 things a hematologist must not do” (2 July 2022) and (e) “Myeloid neoplasms with striking erythroid hyperplasia: A case-based approach”, 26 June 2022.

**Dr Anita Chopra** received Contribution award, Korean Society of Hematology International Conference & 65th Annual Meeting; 31 March to 2 April 2023, Seoul, Korea; AIIMS Research Excellence Award, 2021, 3rd prize under the category Clinical Science for the publication entitled, “Prognostic Relevance of Expression of EMP1, CASP1, and NLRP3 Genes in Pediatric B-Lineage Acute Lymphoblastic Leukemia”, Published in Frontiers in Oncology Journal; Berend Houwen Travel Award, XXXVth International Symposium on Technical Innovations in Laboratory Hematology, Bologna, Italy, 8-10 September 2022, Bologna, Italy and Overseas Contribution award for oral presentation, The 6th Annual International Congress of Blood and Marrow Transplantation (ICBMT 2022), 1-3 September 2022, Busan, Korea.

**Dr Pranay Tanwar** received Contribution award, Korean Society of Hematology International Conference & 65th Annual Meeting; 31 March April 2, 2023, Seoul, Korea; Overseas Contribution award for oral presentation. The 6th Annual International Congress of Blood and Marrow Transplantation (ICBMT 2022), 1-3 September 2022, Busan, Korea; was part of ICKSH Organizing committee; 63rd Annual Meeting hosted by the Korean Society of Hematology(KSH), 31 March to 2 April 2022, as a virtual conference and EUROGIN International Multidisciplinary HPV Congress; Short listed for young scientist pitch completion, Wednesday, February 8, 17-18 at the EUROGIN conference in Bilbao, Spain.

**Dr Amar Ranjan** contributed in AR Singh, H Dubey, P Tanwar, Serological evaluation of mucins in ovarian cancer, Molecular Analysis for Precision Oncology Congress, Amsterdam, Netherlands, from 14-16 October 2022 and Amar Ranjan, Harshita Dubey, Pranay Tanwar, Serological evaluation of WT1 for the diagnosis of ovarian cancer, MVR Cancan 2022, 2-4 September 2022, Waynad. Received Academic grant “ALK+ large B-Cell Lymphoma of Jejunum with Recurrence as Skin Lesions” 6th Korea Digestive Disease Week (KDDW 2022), 1-3 December 2022, Incheon, Korea. Also contributed in Harshita D, Amar R, Pranay T, Diagnostic significance of HE4 as a biomarker in ovarian cancer, Molecular Analysis for Precision Oncology Congress, 14-16 October 2022, Amsterdam, Netherlands. Also received Travel Award: JSMO 2023; “Mucins in Ovarian cancer for its diagnostic and prognostic role”, 16-18 March 2023, Fukuoka, Japan and Merit Travel Grant: ESMO MAP 2022, “Comparison of Serum level WT1 gene and its expression in ovarian cancer”. From 14-16 October 2022, Amsterdam, The Netherlands.

**Dr Vivek Kumar Singh** received the International Myeloma Society (IMS) Career Development Award for the year 2023.

**Dr G Smeeta** was Member of Molecular Pathology Association of India and received ICBMT 2022 Poster presentation Award.

**Dr Deepshi Thakral** received the Best poster award for “Single Cell Transcriptome Profiling of Leukemic stem cells in pediatric Acute myeloid leukemia” at the 9th Molecular Pathologist Association of India, 6-7 August 2022, Ahmedabad, Gujarat.

**Dr Gurvinder Kaur** was Member of the American Society of Histocompatibility and Immunogenetics (ASHI) International Sub-Committee.

#### **Medical Oncology**

**Professor Atul Sharma** was Organizer of Annual meeting of Research and Educational Society of Medical Oncology, 10-11 February 2023, Online meeting and reviewer of “International Peer Review 2022-23 Disease Management Group (DMG)”, 27 February to 1 March 2023, Tata Memorial Centre, Mumbai.

**Professor Sameer Bakhshi** received Sun Pharma Science Foundation Research Awards-for Medical Sciences-Clinical Research, 2022.

**Dr Raja Pramanik** was part of the event Virtual Medical Camp: Tibetan refugees in Hubli, Karnataka as Medical Oncologist organized by Patient Care Trust, Hubli, 10 -15 January 2023. Also participated in ISMPO subcommittee meeting to revise Consensus Document for management of HBOC.

**Dr Chandra Prakash Prasad** received Young Investigator Award instituted by West Asia Organization for Cancer Prevention (WAOCP)- For best poster presentation at 11th APOCP Conference, Kolkata from 8-10 December 2022 and AIIMS Excellence Research Award (Certificate for Commendation)-Year 2021 at AIIMS Research Day on 18 October 2022; became Life Member of Indian Society of Cell Biology(ISCB), Membership no. 6601; July 2022 onwards, Life Member of Indian Academy of Biomedical Sciences (IABS), Membership no. 333/22; June 2022 onwards and Member of Society of Medicinal Plant and Natural Product Research; Membership no. 105070; May 2022 onwards.

**Dr Thoudam Debraj Singh** was part of Review committee in National Bodies: (a) Expert project review committee (PRC): Nanotechnology/Nanomedicine (ICMR) and (b) Special Expert Committee (PRC): Nanotechnology (DBT). Was also editor in International Journals: (a) Review Editor in Frontier in Oncology and (b) Review Editor in Biomedical and Pharmacology Journal.

**Dr Mayank Singh** was invited by Department of Biotechnology Government of India as an expert on track Chimeric antigen receptor T (CAR T) cell therapy and be the part of panel of experts from varied fields with the tile “New Age technologies” India International science festival 2022” at MANHIT Bhopal Madya Pradesh from 21-23 January on 10 January 2023.

**Dr Sachin Kumar** was awarded the Certificate of Commendation – AIIMS Excellence Research Award in Basic Sciences for the year 2020 during the 2nd Research Day organized by AIIMS, New Delhi on 18 October 2022.

**Dr Surender K Sharawat** organized the workshop “11th and 12th Cancer Cytogenetic Workshop for Post Graduate DM student”, Room # 410, 4th Floor, Medical Oncology laboratory, Medical Oncology Laboratory. Dr BR Ambedkar IRCH, AIIMS.

### **Medical Physics**

**Professor Pratik Kumar** got nominated as Member, National Advisory Board for MSc in Medical Physics course, Indian Institute of Technology (IIT), Hyderabad; Expert, core accreditation committee for diagnostic radiology testing laboratories constituted by National Accreditation Board for Testing & Calibration Laboratories (NABL), Department of Science & Technology; Reviewer for the projects submitted for funding to BIRAC, DBT under Biotechnology Industrial Partnership Programme (BIPP), Small Business Innovation Research Initiative (SBIRI) and Promoting Academic Research Conversion to Enterprise (PACE) programs; Member, specification/scope of work committee for new cobalt-60 source for installation, disposal of disused/spent cobalt-60 source and cobalt-60 source container/package for transportation, Institute of Nuclear Medicine & Allied Sciences (INMAS), DRDO, Delhi; Evaluator of the proposal submitted to Kerala State Council for Science, Technology and Environment (KSCSTE) for the financial assistance under Science Research Scheme; External expert for walk-in-interview of DRDO JRF (Physics/Applied Physics) at INMAS, Delhi; external expert to the Board of Studies (BOS) for BSc medical radiology and imaging technology, SGPGI, Lucknow; Moderator of a Panel Discussion on “Strengthening Medical Physics research in India: Current Status, Challenges and Action Plan” at 43rd Annual Conference of AMPI, 5-7 November 2022, New Delhi; Chaired International Day of Medical Physics (IDMP) mini-symposium: Inter-Professional Collaboration of Medical Physics, 7 November 2022 at 43rd Annual Conference of AMPI, New Delhi; Moderator of a panel discussion on “Medical Physics education and training in India: What is the way forward?” at 42nd Annual Conference of AROI, 1-4 December 2022, New Delhi; Expert to provide advise/inputs related to radiation safety in establishing upcoming radio-imaging at AIIMS, Vijaypur, Jammu; Member, inter-ministerial committee constituted by Department of Telecommunication to review the existing EMF emission norms from cell phone towers; Examiner of PhD thesis from Shobhit Institute of Engineering & Technology, Meerut (UP); Reviewer for the manuscript submitted to Medical Physics (Association of American Physicists in Medicine AAPM), Radiation Physics & Chemistry (Elsevier), Journal of Medical Physics, Applied Radiation & Isotopes (Elsevier), and Indian Journal of Radiology and Imaging (IJRI); Continued to be (i) Member, Editorial Board, IJRI (ii) Member, Electromedical and Diagnostic Imaging and Radiotherapy Equipment Sectional Committee, MHD-15, Bureau of Indian Standards (BIS), New Delhi (iii) Member, Editorial Board, Journal of Medical Physics (JMP) (iv) Founder Editor, Medical Physics Gazette, the newsletter of AMPI (v) Member, Project Review & Steering Group constituted by Min. of Electronics & Information Technology (MeitY) for the development of indigenous self-contained x-ray blood irradiator by the Society for Applied Microwave Electronics Engineering & Research (SAMEER), IIT Mumbai.

### **Onco-Anaesthesia & Palliative Medicine**

**Professor Sushma Bhatnagar** received Dr MJ Joshi IMA Bhushan Award and Oration 2023; was Chairperson of clinical services of COVID task force at NCI, Jhajjar, AIIMS, New Delhi; Founder of two important policies Pain Policy and End of Life Care Policy at AIIMS, New Delhi; Founder of two important courses at AIIMS. DM, Onco-Anesthesia & MD, Palliative Medicine at AIIMS, New Delhi; ‘Council member’ International Association of Study of Pain (IASP) Council for a period of six years till 2023; Council member of Asia Pacific Hospice Network; Member of Implementation Group - Lancet Commission Global Access to Pain Control and Palliative Care; President - Indian Association of Palliative Care; ‘Deputy Team leader’ of Training-of-Trainers in Palliative Care Programme by Asia Pacific Hospice Palliative Care Network and was appointed as ‘Master mentor’ of Palliative care program in India.

**Professor Rakesh Garg** was awarded prestigious oration of the All India Difficult Oration” NITTE ORATION- Airway-GOOD, BAD and UGLY” at 13th National Airway Conference 2022, All India Difficult Airway Association (AIDAA), Bengaluru. He is Editor-in-Chief of the PubMed Indexed official publication of the Indian Society of Anaesthesiologists Indian journal of Anaesthesia. He received President’s Appreciation Award at ISACON Delhi 2022 for exemplary contribution to ISA Delhi; was awarded “The CHAIRMAN AWARD” with a Certificate of Excellence for outstanding contribution to the speciality of Critical Care Medicine by SCCM Delhi Noida, received Singapore Medical Journal Reviewer Recognition Awards 2022; awarded Certificate of Appreciation for contributions as member ISCCM Research Committee 2022-23. He has been examiner and dissertation evaluator of AIIMS, New Delhi, National Fellowship in Palliative Medicine (Jointly run by Institute of Palliative Medicine & Christian Medical Association of India), AIIMS Rishikesh, AIIMS Bhopal, Maulana Azad Medical College, Delhi University, PGIMER, Chandigarh; AIIMS, Jodhpur,

**Professor Nishkarsh Gupta** was appointed editorial board member of IJPC, IJA (northern supplement), Associate editor Medical Journal of Dr DY Patil Vidyapeeth and Indian Journal of Pain and received MK Dey Award by ICA in November 2022.

**Professor Sachidanand Jee Bharati** was awarded Membership of NAMS, New Delhi and received Appreciation Award for Best Teacher by ISA Delhi

**Dr Balbir** contributed in OBESERVERSHIP in Anesthesia and Critical care department (23 August 2022 to 19 September 2022) at Memorial Sloan Kettering Cancer Care Center, New York USA and received Certificate of excellent Reviewing by Journal of Pharmaceutical International on 29 March 2022.

**Dr Raghav Gupta** was awarded Associate Fellow of Academy of Medical Sciences (A.FAMS) by NAMS, New Delhi; 2nd Prize in debate at IAPCON, 2022 Debate and 1st Prize in UP-UK Criticon Quiz.

### Preventive Oncology

**Dr Pallavi Shukla** underwent training on Introduction to Dissemination & Implementation Research in Health by UT Health Houston and WHO Memberships to advisory committees etc. and was Member of Technical Resource Group under National Programme for Prevention & Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke.









### **Radio Diagnosis**

**Professor Chandrashekhara SH** was awarded ‘GAPIO Excellence in Radiology/Radiation Therapy Awards in Young Clinician category’ for the year 2023 by Global Associations of Physicians of Indian Origin; was Joint Secretary for the Society of Image Guided Therapy for 2022-23 and successfully completed “Advanced Training in the field of Medical Science & Management for AIIMS and relevant Institutes ~Medical Device Development and Social Implementation” in Japan by Japan International Cooperative Agency (JICA) from 12-19 February 2023.

**Dr Mukesh Kumar** was reappointed as treasurer for the Society for Emergency Radiology India for 2022-23 and was Secretary of Delhi ISVIR for 2022-23.

**Dr Ekta Dhamija** is team member of Onco-Imaging Subspecialty Task force for preparing Oncologic Imaging Protocols and reporting checklist in Carcinoma cervix, ovary, endometrium and sarcomas; has been invited for multiple webinars conducted by NBE in breast imaging series and has moderated sessions on women imaging under aegis of IRIA-ICRI.

**Dr Krithika Rangarajan** was invited as “Young innovator and clinician” in the 8th research day celebrations by JIPMER, Pondicherry and conferred “Medical applied research and practice” fellowship by French Embassy In India

### **Surgical Oncology**

#### **Facilities available in the Department:**

1. Inpatient Beds 45 (BRA-IRCH) & 60 (NCI)
2. Major Operation theaters – 4 (IRCH) & 3 (NCI)
3. Endoscopy and Minor OT Complex – 1 each at IRCH and NCI
4. MDT Organ Based Special Clinics and OPDs (10 each at IRCH and NCI)

#### **Special Advanced Oncology Programs**

1. Peritoneal Surface Malignancy & HIPEC program
2. Minimally Invasive Surgical Oncology Program
3. Cancer Genetics and Risk reducing Surgery Program
4. Palliative Surgical Oncology Program
5. Image guided Surgery program
6. Oncoplasty and Reconstructive Oncology program

## Census (Patient care Services)

Item	2020–2021	2021–2022	2022–2023
OPD consultations	3575	4234	6867
Special clinic consultations	11162	22491	34154
Patients provided rehabilitation services	1200	1600	2200
Total inpatient admissions	1412	2325	3671
Total Number of Surgery performed	4321	7540	15872
Total Number of Major Surgeries	977	1697	2968
Total number of endoscopies & Minor surgeries	3344	5843	11023

**Dr SVS Deo** was elected as President of Indian Association of Surgical Oncology; nominated as External Assessor for Specialty of Surgical Oncology for University of Malaya, Malaysia; elected as President of “Association of Breast Surgeons of India”; nominated as subject expert by National Board of Examinations; nominated as Member of Armed forces Medical Research Committee; elected as Board member of Indian Cancer Genome Atlas (ICGA) project; elected as Member Scientific Committee “Breast Surgery International”, Switzerland; and was elected as President “Indian Society of Peritoneal Surface Malignancies”; elected as President “NCR oncology forum”; took a lead role as president of Association of Breast Surgeons of India in organizing awareness and screening activities related to breast cancer across India including North East, Jammu Kashmir, Uttarakhand and Maharashtra, Telangana; participated as expert for cancer awareness and cancer control activities organized by various government organizations, participated in TV programs and contributed write-ups for public in print media.

**Dr Ashutosh Mishra** was elected as EC member IASO and as EC member ABSI.

**Dr Sunil** was elected as EC member of Oncology forum; participated in community Oncology and cancer screening services in underserved areas of Bihar and community Oncology and cancer screening services in the state of Ladakh.

### Radiation Oncology

#### OPD Consultations

New - 1588, Old - 16299

#### Special clinic consultations

Breast cancer Clinic: New - 1001, Old - 10779  
Bone & Soft Tissue Clinic: New - 226, Old - 1221  
Gastro Intestinal Clinic: New - 742, Old - 3700  
Gynaecology Clinic A: New - 122, Old - 591  
Gynaecology Clinic B: New - 252, Old - 1238  
Gynaecology Clinic C: New - 222, Old - 1057  
Genitourinary & Gynae Clinic: New - 200, Old - 2125  
Head & Neck Clinic A: New - 372, Old - 2117  
Head & Neck Clinic B: New - 927, Old - 3450  
Lung Cancer Clinic: New - 809, Old - 8429  
Neuro-oncology Clinic: New - 419, Old - 2342  
Paediatric Cancer Clinic: New - 106, Old - 2968  
Urology Malignancy Clinic New - 581, Old - 2552

#### Total inpatient admissions

2022-23: 2909

**Professor DN Sharma** was elected as Editor-in-Chief of Journal of Cancer Research and Therapeutics (JCRT), A Journal of Association of Radiation Oncologists of India.

**Professor Haresh KP** received Iconic Healthcare Leader Award - Uro-Radiation Oncologist” at the Golden AIM Conference Awards on 31 May 2022; was Coordinator and Expert for OSCE workshop for Radiotherapy at National Board of Examinations; Co-ordinator for the DNB practical examination in radiotherapy at National Board of Examinations; Examiner for the evaluation of DNB Radiotherapy papers at National board for the theory and practicals; Faculty for

validation/moderation of MCQ Question Bank of Screening Test for Indian Nationals with foreign medical qualifications at NBE, Dwarka, New Delhi; Member of Project review committee (PRC) in Oncology of Indian Council of Medical Research (ICMR), New Delhi; International Steering committee member for the ARANOTE Study-Darolutamide in prostate cancer; Lead Principal Investigator for India for the international ARANOTE Study of Darolutamide in prostate cancer.

**Dr Ahitagni Biswas:** Dr Vivek Ghosh (thesis student) awarded certificate of commendation (poster- junior resident category) at AIIMS second annual research day in Oct 2022 for his thesis- ‘A phase II study to evaluate the efficacy of cisplatin and gemcitabine based neo-adjuvant chemotherapy followed by dysphagia optimized intensity-modulated radiotherapy with concomitant cisplatin and correlation of clinical outcome with serial plasma Epstein Barr virus DNA titre in patients with locally advanced nasopharyngeal carcinoma’. Dr Biswas’s additional academic activities include: Peer-reviewed 10 manuscripts for PUBMED-indexed journals in 2022-23; chaired a session (chemoradiation in locally advanced carcinoma larynx) on 5 April 2022 in the online head & neck clinical oncology symposium on ‘Organ preservation in locally advanced carcinoma larynx’, organized by RCC Trivandrum; chaired a Medical Physics session on 6 November 2022 in the 43rd Annual Conference of Association of Medical Physicists of India (AMPICON 2022) in Delhi and chaired a session (target volume delineation in Ca nasopharynx) on 29 March 2023 in the online head & neck clinical oncology symposium on Carcinoma nasopharynx, organized by RCC Trivandrum.

**Dr V Subramani** was Organising Secretary of 43rd Annual Conference of AMPI 5-7 November 2022, AIIMS, New Delhi; Member in the Education and Training Committee of International organization for Medical Physics (IOMP) since July, 2022; Chief Editor of Asia-Oceania Federations of organizations for Medical Physics (AFOMP) Newsletter since February, 2023; Member-Secretary for AIIMS Radiation Safety Committee constituted by the Director AIIMS, New Delhi; Supervision of Medical Physics Service in the Department of Radiation Oncology; In-Charge for Machinery and Equipment of the Department Since May 2022 for Radiation Therapy Equipment related activities; mentoring faculty for Medical Physics service in the Department of Radiation Oncology at NCI Jhajjar; established the Gamma Knife ICON Radiosurgery program at Neuroscience Gamma knife Centre at AIIMS, New Delhi; established the Total Body Irradiation with Electron Beam Therapy” in the Department of Radiation Oncology at Dr BRAIRCH, AIIMS, New Delhi; was nominated by Director AIIMS as Technical Expert in establishing the Radiation Oncology and Nuclear Medicine facilities at ESIC Hospitals under the Ministry of Labor and Employment Govt of India on 19 April 2022 at ESIC Hospital Head office at New Delhi; was also nominated by Director AIIMS as Technical Expert in the procurement of Radiotherapy equipment for upcoming AIIMS Institutions under PMSSY-IV and V scheme under Ministry of Health and Family welfare through HITES procurement agency; developed technical specification for state-of-the-art high-energy linear accelerator system and involved in the procurement process of the same equipment on behalf of the department; organized the Mini-Symposium on “Proton Therapy Health Technology Assessment” in the Department of Radiation Oncology through hybrid mode with Global Proton therapy vendors on 18 October, 2022 at Dr BRAIRCH, AIIMS, New Delhi; participated as Invited as Chairperson in the 02nd “Annual Practicum of Proton Therapy Practicum” organized by the Apollo Proton Therapy Centre, Chennai on 22 May 2022 online; PhD Examiner Dr A Raja at Anna University, Chennai in August 2022; Preparation of Medical Physics and Radiobiology part in the Department Academic Program; as a Faculty in-charge, prepared and submitted the “Proposal for starting BSc Radiotherapy Technology course” in the Department of Radiation Oncology, Dr BRAIRCH, AIIMS, New Delhi/

**Dr Abhishek Shankar** is Country ambassador for India, International Papilloma Virus Society (IPVS); Member, Tobacco Control & Smoking Cessation Committee, International Association for the Study of Lung Cancer (IASLC); Lead, Working Group on Engagement, Tobacco Control & Smoking Cessation Committee, International Association for the Study of Lung Cancer (IASLC); Member, Working Group on Research, Tobacco Control & Smoking Cessation Committee, International Association for the Study of Lung Cancer (IASLC); Member, Working Group on Collaboration, Tobacco Control & Smoking Cessation Committee, International Association for the Study of Lung Cancer (IASLC); Member, International Gynaecological Cancer Society Advocacy Network (IGCAN), International Gynecologic Cancer Society (IGCS); Member, Asian National Cancer Centers Alliance (ANCCA); Chair, Clinical Cancer Committee, Asian Pacific Organisation for Cancer Prevention (APOCP); Guest Editor, Special edition on Drug Interactions in Cancer Therapy for Life, MDPI; Editor in Chief, Asian Pacific Journal of Cancer Care (APJCC); Associate Editor, Asian Pacific Journal of Cancer Prevention (APJCP); Associate Editor, South Asia Journal of Cancer (SAJC); Peer-reviewed 17 manuscripts for PUBMED-indexed journals.

**Dr Supriya Mallick** received AIIMS oncology Research Award 2021-First Prize, 43rd Annual Conference of Association of Medical Physicists of India, AMPICON 2022, 5-7 November 2022, AIIMS, New Delhi.

## 10.4. Dr Rajendra Prasad Centre for Ophthalmic Sciences

### Chief and Professor of Ophthalmology

Jeewan S Titiyal

### Medical Superintendent

DK Sharma

### Professors

Radhika Tandon (Ophthalmology)	SK Khokhar (Ophthalmology)	Dilip R Shende (Anaesthesiology)	
Mandeep Singh Bajaj (Ophthalmology)	Rajpal (Ophthalmology)	Seema Sen (Ocular Pathology)	Sanjay Sharma (Radio-Diagnosis)
Seema Kashyap (Ocular Pathology)	Namrata Sharma (Ophthalmology)	Pradeep Venkatesh (Investigative Lab)	Tanuj Dada (Ophthalmology)
Neelam Pushker (Ophthalmology)	T Velpandian (Ocular Pharmacology)	Praveen Vashist (Community Ophthalmology)	Jasbir Kaur (Ocular Biochemistry)
Rohit Saxena (Ophthalmology)	Viney Gupta (Ophthalmology)	Renu Sinha (Anaesthesiology)	Tushar Agarwal (Ophthalmology)
M Vanathi (Ophthalmology)	Rajesh Sinha (Ophthalmology)	Bhavna Chawla (Ophthalmology)	Parijat Chandra (Ophthalmology)
Senjam Suraj Singh (Community Ophthalmology)	Alok Kumar Ravi (Ocular Biochemistry)	Nabanita Halder (Ocular Pharmacology)	

### Additional Professors

Noopur Gupta (Ophthalmology)	Rohan Chawla (Ophthalmology)	Vinod Kumar (Ophthalmology)
	Swati Phuljhele Aalok (Ophthalmology)	Rachna Meel (Ophthalmology)
Vivek Gupta (Community Ophthalmology)		Nishat Hussain Ahmed (Ocular Microbiology)

### Associate Professors

Shikha Gupta (Ophthalmology)	Shorya Vardhan Azad (Ophthalmology)	Dewang Angmo (Ophthalmology)	Kanil Ranjith Kumar (Anaesthesiology)
Neiwete Lomi (Ophthalmology)	Prafulla Kumar Maharana (Ophthalmology)		Arshad Ayub (Anesthesiology)

### Assistant Professors

Manpreet Kaur (Ophthalmology)	Rebika (Ophthalmology)	Amar Pujari (Ophthalmology)
Sridevi Nair (Ophthalmology)	Devesh Kumawat (Ophthalmology)	Sahil Agrawal (Ophthalmology)
Anu Malik (Ophthalmology)	Saurabh Verma (Ophthalmology)	Karthikeyan M (Ophthalmology)
	Karnika Saigal (Ocular Microbiology)	

### HIGHLIGHTS

Dr Rajendra Prasad Centre for Ophthalmic Sciences, AIIMS, the apex centre for ophthalmic care in the country, is recognized as a premier super-specialty institute with state-of-the-art equipment and world-class facilities for patient care, teaching and research. During the entire academic year junior residents as well as senior residents were trained comprehensively in all the practical and surgical aspects our specialty. Some of the key highlights of Dr RP Centre include:

**Unit I** provides state-of-the-art services in the field of Pediatric Cataract, Refractive Surgery, Vitreo-retina, Uvea, Squint and Neuro-ophthalmology. The unit specializes in pediatric cataract surgery and postoperative visual rehabilitation. The unit performs latest suture-less 27G vitreoretinal surgeries, squint surgeries, and surgeries for neuro-ophthalmological

conditions like optic nerve sheath decompression. It is supported by state-of-the-art imaging and investigative tools and LASER delivery systems.

**Unit II** provides services for effective diagnosis, treatment and research in Vitreoretinal diseases, VR surgery, Uveal diseases, Ocular Trauma, Stem Cells, Retinopathy of Prematurity (ROP) and Glaucoma. The unit is engaged in cutting-edge modern Vitreoretinal Surgery with the use of wide-angle viewing systems, 23G/25G/27G small gauge sutureless vitrectomy, modern surgical microscopes and other advanced vitreoretinal surgery equipment that have revolutionized surgery techniques and have outcomes comparable to best in the world.

**Unit III** provides state-of-the-art services in the field of Cornea, Cataract and Refractive Surgeries to patients from all over the community. The residents are provided training in eye banking as well as performing keratoplasties. New automated microkeratomes have been procured that help achieve high quality donor lenticules for use in both anterior lamellar keratoplasties and endothelial keratoplasties. State-of-the-art refractive surgery technology is being used; from bladeless femtosecond laser-assisted LASIK to flapless Small incision lenticule extraction (SMILE). Latest versions of implantable collamer lenses (ICL V4c) that obviate the need for a peripheral iridotomy (PI) are being routinely implanted. **Unit IV** is providing the latest technology in Cataract, Cornea and Refractive Surgeries to the common people at minimal cost. There is a state of art Glaucoma Facility that features the latest equipment viz, Swept Source OCT, HRT, GDxVcc, UBM and ASOCT for high-end research and clinical purposes.

**Unit V** continued to provide dedicated Oculoplasty, Oncology, Strabismus and Neuro-ophthalmology services, and compassionate patient care during the year 2022-23. The Unit provides Ophthalmic Plastic and Reconstructive Surgery for a wide variety of disorders including ptosis, congenital structural anomalies including use of expanders in congenital contracted socket, cosmetic blepharoplasty, eyelid retraction surgery, problems related to lacrimal drainage system, trauma-related orbital and periorbital deformities. Procedures such as orbital decompression surgeries, evisceration, enucleation, exenteration, placement of implant, botulinum toxin injections and scar revision surgeries etc. are also routinely performed in the unit. To address the existing lacunae in clinical as well as basic research areas, novel surgical techniques, randomized controlled trials and multicentric trials are conducted here. The effect of atropine eye drops in halting myopia progression, signs of vascular anomalies in amblyopic eyes (on optical coherence tomography angiography) and newer surgical techniques to provide better patient are currently being explored here. To improve training patterns, the animal modules are also being created here. To address surgical limitations, newer surgeries in unusual types of strabismus, modifications in existing technique, and newer concepts are also being explored.

**Unit VI** introduced new facilities such as Gamma Knife treatment for ocular melanoma, and Plaque brachytherapy for treatment of ocular malignancies was introduced with collaboration of IRCH and upgradation of Low Vision Services. Dr Radhika Tandon assisted National Health Authority in formulating guideline for ABPMJAY packages for Ophthalmology. Community Survey in Jaisalmer (Rajasthan) for eye diseases in the population at Desert area.

### **Ocular Radiology**

The Radiology Section is involved in the regular weekly Radiology-Ophthalmology Conferences in areas of Oncology, Oculoplasty and Neuro-ophthalmology. This provides an opportunity, wherever appropriate, for radiology-based decision-making in facilitating clinical management while serving as a forum for one-to-one postgraduate teaching. The section has conducted nearly 15000 in-house CT scan examinations in the over past decade.

### **Ocular Microbiology**

In addition to the services of light microscopy and culture for all pathogens, immuno-fluorescence for Chlamydia and Herpes Simplex Virus, and molecular assays; we have started doing fluorescence microscopy for fungal elements in the ocular tissues. Also, antifungal susceptibility testing has been standardized and is being done for refractory cases of ocular mycosis. Identification and antimicrobial susceptibility testing using automated system is now available for difficult-to-diagnose bacteria and yeasts. The section is involved in infection control at the Centre, and investigation and control of clusters and outbreaks of infections. Protocols and SOPs have been prepared to minimize transmission of infection, and occurrence of post-procedure infections. Preparation for renewal of NABL accreditation of the Ocular Microbiology section is in progress.

### **Ocular Pathology**

The section involved in Gene expression profile of human uveal malignant melanoma, Molecular Characterization of Malignant Lacrimal Gland (Notch Signalling) Tumours, Receptor Tyrosine Kinase in Ocular Malignancies: Novel Prognostic Markers and Therapeutic Targets, Immune checkpoint regulators in Ocular Lymphomas and Transcriptome analysis in Adenoid cystic Carcinoma.

### **Ocular Pharmacology & Pharmacy Division**

Provision to enable corneal preservation for transplantation (PECPT) – It is one of the flagship projects enabled through AIIMS-MHFW collaboration. By providing corneal transport media this project enables more than 4000 corneal transplants to blind eyes. Currently, it is rendering this service to 108 Govt eye banks across 24 states in India from 2010 to date. Introduced longer storage media RPC Extstorsol currently for Govt. Eye Banks. The innovation of TransReCon a novel reconstitution device is making its way for enabling unstable drugs for emergency ophthalmic practice. A device, method and kit for the reconstitution of a solid or semi-solid pharmaceutical composition (WO2018163201A1 WIPO (PCT) & Chinese patent (granted) Chinese Patent No. ZL 2018900007835 Y/R:FP0171/ca O/R:VU-195029-5955. (Under commercialization)

### **Ocular Biochemistry**

Clinical Biochemistry laboratory and Research laboratory facility have been upgraded with State-of-the-art equipment. We have identified some of the biomarkers, which could be used as prognostic/therapeutic targets of ocular tumours. The research scholar from ocular biochemistry has been awarded and recognized by national and international scientific organization.

### **Community Ophthalmology**

Community Ophthalmology is involved in the activities like comprehensive primary eye care services through 17 vision centres in underprivileged areas, outreach eye camps in community as well as in schools for the blind, school vision screening, low vision rehabilitation and in epidemiological research and surveys, training and capacity building, community awareness and mobilization apart from academic activities. Community ophthalmology is currently running 15 projects on eye care research & services in partnership with National agencies like NPCB&VI, ICMR, DHR, CBM, Haryana Government. Close collaborations have been developed with international agencies like the World Health Organization, London School of Hygiene and Tropical Medicine UK, ORBIS, Sightsavers, Visionspring, Operation Eyesight Universal, CBM etc. Under this initiative, vision rehabilitation services are being provided to people with visual disability by a team rehabilitation of Community Ophthalmology. Orientation & Mobility, Reading and writing rehabilitation services, Low vision evaluation, counselling on vocational training, activities of daily living (ADL), Instrumental ADL, issuance of disability certificates, advice for environmental and lighting modification are various components of services being offered to the needy patients and family members etc.

Community Ophthalmology has been involved in The National Trachoma Trichiasis only surveys being conducted in 200 districts across India with Tropical data and WHO as partner agencies for the survey, Corneal Opacity and Blindness Survey Haryana 2022-23 to assess the prevalence of blindness and Visual impairment due to Corneal opacity in Haryana state. The department releases report of Mapping of Human Resource & Infrastructure for Pediatric eye care services in India report.

### **EDUCATION**

The centre is actively involved in teaching and training of undergraduate MBBS, BSc (Optometry) and postgraduate in Ophthalmology.

<b>Details</b>	<b>Numbers</b>
Faculty and Medical superintendent	52
Senior Residents	52
Junior Residents	103
Undergraduate Students	156
Interns	92
Optometry Students	79
Short & long-term trainees	21

Teaching undergraduate MBBS, BSc Optometrist, BSc Nursing students, PhD Programme

- PG teaching: 103 postgraduate students rotating through Units, symposium classes, ward teaching, clinical and surgical teaching
- Senior Residents: academic interactions & surgical assistance

### **CMEs/Workshops/Symposia/National and International Conferences**

1. Cornea Workshop held on 17 April 2022 at AIIMS, New Delhi.
2. World Retinoblastoma Awareness Week held on 8-14 May 2022

3. Phacoemulsification and Refractive Surgery Workshop held on 23-24 July 2022 at AIIMS, New Delhi.
4. Delhi Ophthalmological Society, Monthly Clinical Meeting held in June 2022 at AIIMS, New Delhi.
5. Community Ophthalmology & Low Vision Workshop held on 19 June 2022 at AIIMS, New Delhi
6. Basic & Allied Ophthalmic Sciences workshop held on 21 August 2022 at AIIMS, New Delhi.
7. 37th National Eye Donation Fortnight Celebration held in September 2022 at AIIMS, New Delhi.
8. Teachers Day Celebration held in September 2022 at AIIMS, New Delhi.
9. ORA RPC CME & Inter-House Quiz held on 20 December 2022 (Tuesday), AIIMS, New Delhi.
10. Phacoemulsification & Refractive Surgery Workshop on 24 July 2022 at AIIMS, New Delhi
11. Basic & Allied Ophthalmic Sciences Workshop held on 21 August 2022 at AIIMS, New Delhi
12. Neuro-ophthalmology Workshop held on 18 September 2022 at AIIMS, New Delhi
13. CME & Panel Discussion on MGD & Associated Issues OSD & MGD: Evolving Understanding held on 21 September 2022
14. Paediatric Ophthalmology & Strabismus Workshop held on 6 November 2022 at AIIMS, New Delhi
15. Oculoplasty and Ocular Tumor Workshop held on 27 November 2022 at AIIMS, New Delhi
16. ORA RPC Cataract CME held on 30 December 2022 (Friday). Virtual
17. ORA RPC Retina CME held on 29 December 2022 (Thursday). Virtual
18. RP Centre-ORA CME & Quiz held on 20 December 2022 at AIIMS, New Delhi
19. 3rd Leadership exchange on Public Private Partnership 2023 for Clear Vision India held on to 10 January 2022
20. Phacoemulsification and Refractive Surgery Workshop held on 22 January 2023 at AIIMS, New Delhi
21. WHO Trachoma Review meeting on current status of national TT survey held on 07th February 2023 at AIIMS, New Delhi
22. International Childhood Cancer Day Retinoblastoma: Know the Glow held on 15 February 2023 at AIIMS, New Delhi
23. RPC Foundation Day and scientific sessions held on 10-12 March 2023 at JLA, AIIMS, New Delhi
24. RP Centre CME Update on Ocular Infections held on 28 March 2023 at AIIMS, New Delhi
25. 2nd Annual Conference of Delhi Pharmacological Society on 1 March 2023 at DIPSRU, New Delhi

**Lectures delivered: 718**

**Lectures delivered over past 3 years**

Year	Total Number of lectures delivered
2020-2021	331
2021-2022	463
2022-2023	718

**List of oral papers/posters presented: 165**

**Oral/posters presentations over past 3 years**

Year	List of oral papers/posters presented
2020-2021	46
2021-2022	92
2022-2023	165

## RESEARCH

**Funded projects**

**Ongoing**

1. Safety and efficacy of the presbyopic IPCL for correction of Presbyopia with moderate Myopia and Hyperopia, Prof JS Titiyal, Care Group India Ltd, 4 years, 2019-2023, Rs 41,95,180
2. Long Term outcomes and Tear Inflammatory Mediator Analysis in Cases Undergoing SMILE & LASIK, Prof JS Titiyal, M/s Carl Zeiss Meditec, 3 years, 2021-2024, Rs 33,78,254
3. Comparative evaluation of the efficacy of conjunctival stem cell transplantation with cultivated oral mucosal epithelial transplantation in patients with bilateral cicatrizing ocular surface diseases i.e, Steven Johnson syndrome



- & chemical burns (Project Code No. BT-1829), Dr Radhika Tandon, DBT, 5 years, 29 December 2017 to 30 April 2023, Rs 59,16,104
4. Multi-Centric Study of Impact of Exposure of Ultraviolet Radiation (UVR) & aerosol exposure on ocular health in India Phase - II (Project Code No. I-995), Dr Radhika Tandon, ICMR, 5 years, 1 March 2018 to 31 August 2023, Rs 428,42,697
  5. An Operational Research on Developing Disability Inclusive Eye Health Program in India [Project Code No. N-1714 (RS).] Dr Suraj SenjamSingh (PI), Dr Radhika Tandon (Chairperson), Christoffel Blind Mission (CBM), 3 years, January 2021 to December 2023, Rs 37,61,475.97
  6. A Randomized, Active-Controlled, Double-Masked, Parallel-Group, Phase 3 Study to Compare Efficacy and Safety of CT-P42 in Comparison with Eylea in Patients with Diabetic Macular Edema, Prof Rajpal, Syneos Health, September 2021- ongoing, Rs 10 lakhs
  7. A 96-week, two-arm, randomized, single-masked, multi-center, phase III study assessing the efficacy and safety of brolocizumab 6 mg compared to pan retinal photocoagulation laser in patients with proliferative diabetic retinopathy (CONDOR), Prof Rajpal, Condor, May 2022 - ongoing, Rs 50,000
  8. Identification and Characterization of Molecular Targets in Orbital Tumors: Basis of innovative therapeutic strategies, Dr Seema Sen UGC, 5 years, 2017-22, Rs 33 lakhs
  9. Receptor Tyrosine Kinase in Ocular Malignancies: Novel Prognostic Markers and Therapeutic Targets, Dr Seema Sen, CSIR, 3 years, 2022-24, Rs 27 lakhs
  10. Transcriptome analysis to define Novel Pathways in Adenoid cystic Carcinoma and to correlate with clinical outcome, Dr Seema Sen, Dr Kunzang, Intramural, collaborative, 3 years, 2022-24, Rs 20 lakhs
  11. Immune Checkpoint Regulators and Immunosuppressive Tumor Microenvironment in Ocular Lymphomas: Novel Prognostic Markers and Therapeutic Targets, Dr Seema Sen, ICMR, 3 years, 2021-24, Rs 36 lakhs
  12. Aberrant Lipid Metabolism Pathways as Novel Molecular Targets in Aggressive Ocular Malignancies, Dr Seema Sen, ICMR, 3 years, 2023-26, Rs 30 lakhs
  13. Gene regulation of Hippo Signaling pathway during cell cycle progression in Uveal Melanoma, Seema Kashyap, ICMR, 3 years, January 2023 to December 2026, Rs 30 lakhs
  14. Association of Hippo pathway with pigmentation in the tumor microenvironment of uveal melanoma and its clinical relevance, Seema Kashyap, ICMR, 3.5 years, June 2019 to February 2023, Rs 30 lakhs
  15. Differential role of pigmentation Markers with the Tumor-Associated Macrophages in Uveal Melanoma, Seema Kashyap, ICMR, 3 years, 2019-2022, Rs 35 lakhs
  16. Role of hypoxia mediated cell metabolism in pediatric ocular malignancy, Seema Kashyap, ICMR, 3 years, December 2020 to November 2023, Rs 35 lakhs
  17. Clinic-pathological significance of tumor biomarkers in serum, aqueous humor, and tumor tissue of intraocular retinoblastoma patients, Seema Kashyap and Rachna Seth, IRG Collaborative project, 4 years, 2021-2024, Rs 10 lakhs
  18. Assessment of visual performance of a new trifocal intraocular lens for visual acuity and safety (Optiflex trio, BioTech Europe Meditech), Prof Namrata Sharma, BioTech Vision Care Pvt Ltd, 1 year 9 months, December 2021 to September 2023, Rs 13,62,000
  19. Identification of the underlying differential expression and disease-specific signature profile in patients with epidermal necrolysis, Prof Namrata Sharma, ICMR, 3 years, July 2019 to July 2022, Rs 48 lakhs
  20. MicroRNA as a novel biomarker for the prediction of corneal graft rejection, Prof Namrata Sharma, CSIR, 3 years, December 2019 to December 2022, Rs 25 lakhs
  21. Role of Low dose heparin eye drops in chronic ocular cases of Steven Johnson Syndrome (SJS) and its correlation with immune pathway gene expression: A randomized controlled trial, Prof Namrata Sharma, ICMR, 3 years 5 months, September 2019 to February 2023, Rs 47 lakhs
  22. Effect of Yoga-based Intervention in Intra Ocular Pressure Quality of Life, Inflammatory Markers and Expression Profile in Glaucoma Patients: A Randomized Controlled Trial, Prof Tanuj Dada, ICMR, 2 years, October 2019 to September 2022, Rs 536536,71,260
  23. Developing quality control parameters and dispensing M.K. Media for corneal Transplant preservation for Indian Eye banks under Ministry of Health, Dr T Velpandian MHFW, Govt of India, 14 years, 2009-2025, Rs 129 lakhs
  24. Development and validation of TransReCon technique for sterile pharmaceutical preparation, Dr T Velpandian, BIRAC (BIG GRANT), Venture Centre, 3 years, 2019-2022, Rs 28.3 lakhs
  25. High throughput technology to monitor environment antibiotic dispersion and their impact on AMR, Dr T Velpandian, DBT and the Bill & Melinda Gates Foundation, 2 years, 2020-2023, Rs 41.3 lakhs

26. Aquatic vulnerability of high volume chemicals including phthalates and metabolites in Delhi and NCR, Dr T Velpandian, DST, Govt of India, 3 years, 2020-2023, Rs 57.13 lakhs
27. Understanding the pharmacology of dipyrindamole for its ophthalmic use, Dr T Velpandian, OD Ocular Discovery Ltd, Israel, 2 years, 2020-2023, Rs 13.31 lakhs
28. The Extent of Aquatic Exposure of Certain Endocrine Disruptors (High Volume Chemicals), Dr T Velpandian, ICMR, 3 years, 2021-2024, Rs 46.50 lakhs
29. Evaluation of effects of millimeter waves exposure on the ocular function using experimental animals, Dr T Velpandian, DRDO, 2 years, 2021-2023, Rs 40.08 lakhs
30. NPCB National Trachomatous Trichiasis only survey (TT only survey) in 200 districts across India, Prof Praveen Vashist, NPCB MoH&FW, 2 years, 2021-2023, Rs 5,23,15,425
31. A Sustainable Model for Comprehensive Outreach Eye Care Service in NCR, Prof Praveen Vashist, Deepalaya, 8 years, 2017-2025, Rs 77,12,242
32. A Sustainable Model for Comprehensive Outreach Eye Care Service in NCR, Prof Praveen Vashist, Hero Motocorp, 5 years, 2018-2023, Rs 37,04,530
33. A Sustainable Model for Comprehensive Outreach Eye Care Service for Underserved Population in Delhi Slums and Resettlement Colonies, Prof Praveen Vashist, Deepalaya, 7 years, 2018-2025, Rs 1,25,10,800
34. An Operational Research on Developing Disability Inclusive Eye Health Program in India, Dr Suraj Singh Senjam/Prof Praveen Vashist, Christoffel Blindenmission(CBM), 3 years, 2021-2023, Rs 33,99,387
35. Multi Centric study of Impact of exposure of Ultra Violet Radiation (UVR) & aerosol exposure on ocular health in India, Dr Radhika Tandon/Prof Praveen Vashist, ICMR, 5 years, 2018-2023, Rs 4,50,00,000
36. Support to the piloting of the newly revised WHO Eye Care Situation Analysis Tool (ECSAT) India project no 128/RPC/Project/2021, Prof Praveen Vashist, WHO, 1 year, 2021-2022, Rs 225570
37. Cost Effectiveness Analysis of Static Versus Mobile Vision Centres in Delhi (Project Code DHR-1400), Prof Praveen Vashist, DHR, 1 year, 2022-2023, Rs 14,00,344
38. Comprehensive Primary Eye Care Services in Rural Areas of Delhi project no 130/RPC/Project/2022 in partnership with, Prof Praveen Vashist, Divya Jyoti Jagrati Sansthan, 5 years, 2022-2027, Rs 50,00,000
39. Corneal Opacity and Blindness Survey Haryana 2021-22, Prof Praveen Vashist, Haryana State Blindness Control Society, 1 year, 2023, Rs 10,50,420
40. National Corneal Blindness and Visual Impairment Survey – A cross sectional situational analysis study in India, Prof Praveen Vashist, ICMR, 1 year, 2023-2024, Rs 7657615
41. ROSHINI: Pan India Initiative for Inclusive Comprehensive Eye Care Services- A multi centric approach funded by Christoffel Blindenmission (CBM), Prof Praveen Vashist, CBM, 3 years, 2023-2025, Rs 6,89,40,430
42. 3-D binocular motor control in Strabismus before and after surgery, Dr Rohit Saxena, CEFIPRA (Indo-French Collaborative study), 3 years, June 2022 to June 2025, Rs 20,00,000
43. Comparison of efficacy of topical NSAID versus topical corticosteroid post-cataract surgery, Dr Rohit Saxena, Sun Pharmaceuticals, 2 years, January 2022 to December 2023, Rs 8,00,000
44. To evaluate the effect of increased outdoor activity on the incidence and progression of myopia in school children, Dr Rohit Saxena, Department of Science and Technology, 5 years, June 2016 to May 2022, Rs 31,10,462
45. To evaluate the effect of low dose atropine eye drops for childhood myopia, Dr Rohit Saxena, Entod Pharmaceuticals, 3 years, September 2019 to June 2022, Rs 16,01,000
46. Evaluating ocular motion as a tool for characterizing visual field defects, Dr Rohit Saxena, AIIMS-IIT project, 2 years, January 2019 to December 2022, Rs 10 lakhs
47. Assessment of post-COVID symptoms and pre-existing health Impairments in individuals aged 18 and older who have recovered from COVID-19 (Project Code I-1391), Prof Suraj Singh Senjam, ICMR, 2022-2024, Rs 68,09,418
48. Evaluation of endothelin and retinal renin angiotensin system (RRAS) in glaucoma, Dr Nabanita Halder, AIIMS, 2 years, 2021-2023, Rs 4.9 lakhs
49. Role of neuromodulators in progression of myopia: A case controlled collaborative study, Noopur Gupta, ICMR, 2 years, 2023-2025, Rs 10331704
50. A metagenomic approach to evaluate the human ocular microbiome in patients with dry eye disease and limbal stem cell deficiency, Noopur Gupta, ICMR, 2 years, 2023-2025, Rs 4694736
51. Flowcytometry In Uveitis, Dr Rohan Chawla, AIIMS, 3 years, 2020-2023, Rs 800000
52. Phase 4 Study of use of Brolicizumab in Armd, Dr Rohan Chawla, AIIMS, 3 years, 2022-ongoing

53. Role of Biosimilar in Armd, Dr Vinod Kumar, AIIMS, 3 years, 2022-ongoing
54. A comparative study to evaluate the efficacy of Idebenone in comparison with placebo in Leber's Hereditary Optic Neuropathy patients - A Pilot study, Swati Phuljhele Aalok, Intramural Grant, 4 years, 2019 - ongoing, 4,32000 per year
55. A Prospective Collaborative Study for Newly Diagnosed Patients with Retinoblastoma in India Extramural project Funded by CANKIDS, Rachna Meel, NGO: Cankids, 3 years, 2021-2024, Rs 6,15,483.00
56. Patterns and pathways of care seeking for cataract and common ocular morbidities and impact of local volunteers on the pathways among urban vulnerable population settings of West Delhi, Dr Vivek Gupta, Swami Sivananda Memorial, 7 years, 2017-2024, Rs 79,40,000
57. Species identification, antifungal susceptibility profile and virulence factors of Candida species isolates from ocular infections, Dr Nishat Hussain Ahmed, AIIMS, New Delhi, Institutional grant, 24 months, 2021-2023, Rs 5 lakhs
58. Exome sequencing based detection of known and novel mutations among Axenfeld Rieger Syndrome cases (sent for review 2021), Dr Shikha Gupta, AIIMS intramural, ongoing, November 2021 onwards, Rs 10 lakhs
59. Novel genes in Axenfeld Rieger Syndrome Pathogenesis, Dr Shikha Gupta, ICMR, ongoing, February 2023-onwards, Rs 55 lakhs
60. Angiographic Outflow Assessment: Pediatric to Adult-Onset Glaucomas, Dr Shikha Gupta, ARVO Roche Collaborative Research Fellowship, ongoing, March 2022 onwards, Rs 800,000
61. Comparative evaluation of 26 gauge needle versus kimura spatula for corneal scraping in infective: a randomized comparative study, Prafulla K Maharana, ICMR, 3 years, 2019-2022, Rs 500000.00
62. Efficacy of long-term inflammation control with 0.05% Cyclosporine eye drops in preventing development of Keratoconus in Vernal Keratoconjunctivitis: A Randomized Controlled Study, Prafulla K Maharana, ICMR, 3 years, 2019-2022, Rs 900000.00
63. Evaluate the effect of Dexamethasone vs prednisolone on OCULAR TOXICITY INDUCED BY SYSTEMIC CYTARABINE ARABINOSIDE (ARA-C) in AML patients, Dewang Angmo, Collaborative, AIIMS, Intramural, 2 years, April 2023 to April 2025, Rs 20,00,000
64. 18F-FDG Radiomics and Radiogenomics profiling in Retinoblastoma, NeiweteLomi, Intramural AIIMS Interdisciplinary Collaborative Research Project, 2 years, 2020-2022, Rs 10 lakhs
65. Vision Assessment of Retinoblastoma Survivors (VARS) study, Neiwete Lomi, AIIMS undergraduate research project, 1 year, 2021-22, Rs 185000
66. Structural and functional changes with Occlusion therapy in Anisometropic Amblyopes using FMRI And Diffusion Tensor Imaging, Rebika
67. Interdisciplinary collaborative intramural funded research project, 2 years, 21 March 2023, Rs 1,40,000
68. Correlation of Neuroadaptive Changes on Functional MRI with Clinical Stereoacuity and Visual Quality after Bilateral Implantation of New Generation Multifocal Intraocular Lenses, Dr Manpreet Kaur, AIIMS interdepartmental intramural, 2 years, 2021-23, Rs 10 lakhs
69. Impact of Vectored Thermal Pulsation Treatment on Tear Film Lipid Profile & Inflammatory Mediators in Meibomian Gland Dysfunction, Dr Manpreet Kaur, AIIMS intramural, 2 years, 2022-2023, Rs 5 lakhs

#### Ongoing funded project over past 3 years

Year	List of Ongoing funded projects
2020–2021	66
2021–2022	79
2022–2023	69

#### Completed

1. AIIMS-IIT Delhi Collaborative Research project titled To generate feasibility data (for human clinical trial) of Bio engineered cornea (for potential clinical application in keratitis patients) - *An In-Vitro Study* (Project Code No. AI-23), Dr Radhika Tandon, AIIMS, 2 years, 2019-2020, Rs 5 lakhs
2. Comparison of high strength topical levofloxacin (1.5%) monotherapy with standard combination therapy for the management of bacterial keratitis: A Randomized controlled trial, Prof Namrata Sharma, Santen Pharmaceutical Co, Ltd, 2 years 2 months, September 2020 to November 2022, Rs 8.19 lakhs
3. Development and validation of TransReCon technique for sterile pharmaceutical preparation, Dr T Velpandian, BIRAC (BIG GRANT), Venture Centre, 3 years, 2019-2022, Rs 28.3 lakhs

4. Mapping of Human Resource & Infrastructure for Pediatric eye care services in India, Dr Praveen Vashist, ORBIS, 1 year 6 months, 2020-2022, Rs 25,13,747
5. Assessment of Pre-Existing visual disabilities and other Health Impairments among Recovered COVID-19 individuals and well-being thereafter, Dr Suraj Singh Senjam, AIIMS- UG scheme, 1 year, 2021-2022, Rs 1,60,000
6. Evaluating Targeted Orbital Intervention in the Management of (RSOM) Rhino Sino-Orbital Mucormycosis Cases in the Covid Era, Rachna Meel, Fast track intramural projects: Mucormycosis and COVID-19, July 2021 to August 2022, 2021-2022, Rs 147500.00
7. Out of pocket payments for cataract surgery: adapting and pilot testing a survey tool, Vivek Gupta, LSHTM, 1 year, June 2022 to September 2022, Rs 2 lakhs
8. Species identification, antifungal susceptibility profile and biofilm formation of Rhodotorula species isolates from ocular infections, Dr Nishat Hussain Ahmed, AIIMS, New Delhi. Institutional grant, 12 months, 2019-2020, Rs 5 lakhs
9. Establishment of Multiplex PCR for Detection of Herpes Simplex Viruses Type 1 and Type 2, Cytomegalovirus, Varicella-Zoster Virus and Adenovirus in Ocular Viral Infections, Dr Nishat Hussain Ahmed, AIIMS, New Delhi. Institutional grant, 24 months, 2016-2018, Rs 7.7 lakhs
10. Evaluation of Coronavirus in tears and conjunctival secretions of patients with SARS COVID-19, Dewang Angmo, AIIMS, Intramural, 2 years, April 2020 to April 2022, Rs 10,00,000
11. Gene expression profiling for grading metastatic potential in uveal melanoma, Dr Neiwete Lomi, AIIMS Intramural, 2 years, 2020-2022, Rs 10 lakhs

#### Completed funded projects over past 3 years

Year	List of Completed funded projects
2020-2021	16
2021-2022	22
2022-2023	11

#### Departmental projects

##### *Ongoing*

1. Assessment of accelerated corneal collagen cross-linking as an adjuvant therapy in moderate to severe fungal keratitis
2. Comparative evaluation of aqueous based and oil based 0.05% cyclosporine eye drops in the treatment of moderate to severe dry eye disease
3. Demographics, risk factors, clinical & microbiological characteristics and visual outcomes of bilateral simultaneous active keratitis
4. Evaluation of visual outcomes of cataract surgery in patients with ARMD and diabetic retinopathy, preoperative predictors and patient satisfaction
5. Evaluation of Modified Polyε -Caprolactone (pPCL) as a Substitute for Human Amniotic Membrane (HAM) Graft in Unilateral Acute Chemical Injury: A Pilot Clinical Trial
6. Ocular adverse effects of targeted therapy and checkpoint inhibitors
7. Meibography in patients with trichiasis: Exploring the role of Machine learning in determining etiology
8. Corneal Biomechanics of Intrastromal Keratoplasty in Keratoconus
9. Genetic Evaluation of ASDA with Primary Corneal Pathology
10. Corneal biomechanics in keratoplasty
11. Estimating the burden of Corneal Blindness and predicting the need for keratoplasty with the help of Artificial Intelligence
12. Outcomes of Corneal Transplantation in Patients with Trichomatous Keratopathy
13. Comparison of Tenon's patch graft and SMILE Lenticule in the management of small corneal perforations
14. Ocular manifestations in patients with Mucopolysaccharidoses: Role of evaluation modalities
15. Multiphasic micellar nano particle (MNP)cyclosporine in mild to moderate limbal stem cell deficiency
16. Meibography in patients with trichiasis: exploring the role of machine learning in determining etiology of trichiasis

17. To assess the outcomes of combined plaque brachytherapy and transpupillary thermotherapy in choroidal melanoma
18. Role of Combined Periocular Topotecan and Systemic Chemotherapy in Advanced intraocular Retinoblastoma
19. To correlate the metabolic activity of primary uveal melanoma on 18-fluorodeoxy-glucose positron emission tomography/computed tomography (18-FDG PET/CT) scan with the known clinical and pathological prognostic factors
20. Quantitative evaluation of macular and peripapillary retinal circulation based on OCTA after plaque brachytherapy with and without prophylactic intravitreal bevacizumab in uveal melanoma
21. Perilesional injections versus topical interferon alpha-2B in ocular surface squamous neoplasia
22. Ambispective study on factors associated with occurrence of visual axis opacification in pediatric cataract
23. To compare outcomes of 80 vs 100 micron flap Lasik in myopia and compound myopic astigmatism
24. Outcomes of laser refractive surgery in patients of corneal opacity
25. Outcomes of SMILE with cyclotorsion compensation in patients with myopic astigmatism
26. Retinal manifestations of demyelinating diseases of CNS
27. Comparison of serum and vitreous biomarkers in patients of type 1 and type 2 diabetes mellitus with diabetic retinopathy
28. Use of intravitreal methotrexate as an adjunct in retinal detachment with PVR
29. Anatomical and functional outcomes of 25 G vitrectomy in fundal coloboma with retinal detachment
30. Anatomical detection of ROP and quantification of PLUS disease
31. Ultrawidefield OCT characteristics of retinal capillary angiomas
32. Randomised Comparison of Weight Versus Weight for Age for Size Selection of LMA in Overweight or Underweight Pediatric Patient
33. Comparison of Analgesic Efficacy of Adductor Canal Block Alone and Combination of Adductor Canal Block With IPACK block in Patients Undergoing Elective Arthroscopic Knee Surgeries. A Randomized Double Blinded Controlled
34. Combination of inferior vena cava diameter, renal vein flow hepatic venous flow, and portal vein flow: venous excess ultrasound score (VEXUS SCORE) in predicting AKI in patient with sepsis/septic shock in ICU: A Prospective cohort study.
35. Prediction of augmented renal clearances using renal resistive index - Prospective observational study
36. Evaluation of outcome of oral sildenafil in orbital lymphangioma
37. To evaluate the role of topical timolol for treatment of periocular capillary hemangiomas as compared with oral propranolol
38. Evaluation of topical oxymetazoline 0.1% in treatment of acquired ptosis
39. Evaluation of Muller's muscle conjunctival resection as compared to levator plication in cases of mild to moderate ptosis
40. Evaluation of topical timolol in the treatment of periocular pyogenic granuloma
41. A prospective interventional study on correlation of Levator-Muller's complex thickness on UBM with clinical response to Botulinum toxin A injection in patients with thyroid-related retraction of upper eyelid.
42. Clinical Severity and distress in periocular and ocular malignancy patients during COVID pandemic
43. Clinicopathological presentations of eyelid malignancies in COVID era vs. PRECOVID era
44. Evaluation of octreotide as a potential agent for treatment in steroid resistant SSRT (Somatostatin Receptor) positive Graves orbitopathy
45. Baseline and Post Neoadjuvant Chemotherapy Imaging of Optic Nerve in Extraocular Retinoblastoma. Can MRI Predict Prognosis?
46. Infective periorbital and orbital diseases in the COVID-19 era
47. Use of fibrin glue versus sutures in the fixation of full-thickness skin graft for correction of eyelid deformity
48. Evaluation of collagen matrix implant in ocular surface Reconstruction for moderate to severe symblepharon: - a pilot Study
49. ICG enhanced TTT vs TTT for treatment of thicker tumors in Retinoblastoma – A Randomised Control Trial
50. Functional MRI and OCT angiography changes pre and post Occlusion therapy in anisometropic amblyopia
51. Assessment of Eye Related Quality of life (ERQOL) in children with strabismus
52. Evaluation of active dichoptic therapy in cases of anisometropic amblyopia

53. Assessment of case of Central Retinal Vein Occlusion using Ultra-wide field fluorescein Angiography
54. RD with CD with and without drainage
55. Pilot study comparing primary Anti-VEGF therapy Vs Pan Retinal photocoagulation in patients with proliferative diabetic retinopathy- completed
56. Demography and clinical profile of optic disc pit
57. OCT biomarkers of Diabetic macular edema
58. Molecular mechanism of melanogenesis pathway in uveal melanoma
59. Hippo signaling pathway and its biological function in Uveal Melanoma
60. Molecular Characterization of Malignant Lacrimal Gland Tumours
61. Spectral dual energy CT in assessing response to neoadjuvant molecular targeted therapy in metastatic renal cell carcinoma
62. Contrast enhanced ultrasound in retinoblastoma
63. Role of dual energy CT in acute pancreatitis
64. Intraoperative Ocular Coherence Tomography (I-OCT) guided Cataract Surgery
65. Comparative evaluation of topographical parameters using Pentacam-Corvis, Sirius, Cassini and MS-39 (if available) in grading the severity of Keratoconus and their co-relation with corneal biomechanics.
66. Intraoperative Ocular Coherence Tomography (I-OCT) guided Cataract Surgery
67. Evaluation of the role of cyclosporine A as an adjuvant in cases of fungal keratitis
68. Evaluation of Biosynthetic Corneas in Corneal Ectasia
69. Collagen Cross-Linking in Microbial Keratitis
70. Development of a Detection Kit for the instant diagnosis of *Acanthamoeba keratitis*
71. Optical Performance of Enhanced Monofocal Intraocular Lenses in Presence of Astigmatism
72. Molecular Mechanisms Involved in the Development of Insulin Resistance Due to Environmental Exposure of Phthalates
73. Ocular Disposition of Bio-therapeutics and the Role of Peptide Transporters in Blood Ocular Barriers
74. 3D Printed Pre-corneal Drug Eluting Polymeric Insert with Applicator for Night Dosing in Keratomycosis
75. Evaluation of the involvement of selected environmental pollutants on neurological disorders
76. Community based assessment of disability among adult population of Delhi using WHO-ICF (International Classification of Functioning, Disability and Health)
77. Community-based assessment of disability among adult population in Delhi using WHO International Classification of Functioning
78. Effect of perioperative analgesia Nociception Index (ANI) guided opioid administration on postoperative pain, score, opioid consumption and endocrine stress response in paediatric patients undergoing cochlear implant surgery: A prospective randomized controlled trial
79. Comparison of opioid-free anaesthesia protocols for paediatric strabismus surgery: A Randomized control trial
80. An ambispective study of profile and outcomes in Zone 3 Retinopathy of Prematurity
81. Role of Repeat Injection Ranibizumab in Management of Aggressive Retinopathy of Prematurity (AROP) in Preterm Neonates: Randomized Control Trial
82. Role Of STL In Diabetic Macular Oedema
83. Intravitreal Methotrexate In Uveitis
84. Intravitreal Anti-Vegf In Diabetic Vitrectomy
85. Microperimetry In Diabetic Patients
86. Drug resistance in gram-negative bacteria causing ocular infections
87. Microbiological Profile of Yeasts Causing Eye Infections
88. Fellow eyes of unilateral primary congenital glaucoma: incidence and risk factors for development of glaucoma over follow up
89. Comparing the efficacy of 360° Vs 180° gonioscopy Assisted transluminal trabeculotomy in the Management of primary congenital glaucoma
90. Nanophthalmos with glaucoma: Treatment outcome with different surgeries
91. Optic Disc Morphology in Congenital Glaucoma
92. Comparing severity among monogenic versus non-monogenic Juvenile Open Glaucoma

93. Comparative evaluation of Phacoemulsification combined with Endoscopic Cyclophotocoagulation Vs
94. Phacoemulsification alone in Primary angle closure glaucoma -A Randomized Controlled Trial
95. Evaluating the Effect of Dorzolamide vs Netarsudil on OCTA vessel density in Preperimetric and Early Glaucoma - A Randomized Controlled Trial
96. Evaluating the outcomes of 360 degree goniotomy in PCG
97. Evaluation of long-term outcomes of ocular Surface Changes in Glaucoma Patients on Preservative Vs Preservative-Free Antiglaucoma Medications
98. Identification of oxidative phosphorylation complex alterations in JOAG
99. Elucidating the therapeutic potential of a Unani formulation in glaucoma
100. Mitochondrial genome variants and maternal inheritance in pathogenesis of JOAG
101. Therapeutic potential of plant based formulation in glaucoma
102. Enhancing the success and safety of endotracheal intubation by the development of an innovative robotic intubation system: A Pilot Project
103. Sonographic Assessment of Suprahyoid Airway Parameters in Pediatric Patients planned for Elective Proseal placement - A Pilot, Observational Study
104. Comparison of Weight Versus Weight for Age For Size Selection of Laryngeal Mask Airway in Malnourished Pediatric - A prospective Randomized Crossover Trial
105. Comparison between the Medial and Lateral approaches of Ultrasound guided Costoclavicular Brachial plexus block for upper limb surgeries - A Pilot Interventional randomised control trial
106. Effect of lung compliance guided optimum PEEP verses fixed PEEP on postoperative lung atelectasis in pediatric Surgery : Double blinded Randomized control trial
107. Evaluation of predictive performance of sonographic airway assessment parameters and comparison of their efficacy with established parameters to predict difficult airway in 1 to 10 years old patients undergoing elective/ emergency surgery

#### **Ongoing Departmental Projects over past 3 years**

<b>Year</b>	<b>List of Ongoing Departmental Projects</b>
2020-2021	128
2021-2022	131
2022-2023	107

#### **Completed**

1. Exploring the application of artificial intelligence in differentiating developmental variants of Anterior Segment Dysgenesis presenting with infantile corneal opacities
2. Medium term outcomes in patients with primary renal tubular acidosis: Cross-sectional observational study
3. Comprehensive assessment of causes of visual impairment and quality of life among students studying in schools for the blind in Delhi
4. Evaluation of the role of 0.1% cutaneous tacrolimus in chronic vernal keratoconjunctivitis
5. Topical autologous platelet lysate drops for severe dry eye disease in chronic ocular graft versus host disease
6. Topical posaconazole 1% in fungal keratitis
7. Topical Adjunct IVIG therapy in DED
8. Audits of the phenotype, causes and correlates of trichiasis: A WHO Trachoma Collaborative Study
9. Meibography in patients with trichiasis: Exploring the role of Machine learning in determining etiology
10. Effect of Topical Brinzolamide on Corneal Endothelium in Post Penetrating Keratoplasty Patients
11. Hospital-based prevalence of meibomian gland dysfunction
12. Lenticular changes with use of statins - a hospital based prospective cohort study
13. Ocular Surface Evaluation in Vernal Keratoconjunctivitis
14. A comparative double-arm randomized controlled study to assess the effect of Evolve™ Pure Eyelid wipes in subjects with meibomian gland dysfunction

15. Intra operative monitoring of cerebral oxygen saturation using near infra red spectroscopy (nirs) and assessment of risk factors for low cerebral oxygen saturation in preterm and very preterm infants with retinopathy of prematurity during vitreo retinal surgeries: an observational prospective study
16. Comparison of Analgesic Efficacy and safety of erector spinae Plane Block versus local infiltration in Video Assisted Thoracoscopic Surgery in Adult Patients
17. To Compare diaphragmatic thickness fraction in patients undergoing VATS with erector spinae plane block vs with local infiltration
18. Evaluation of Mitomycin-c in Anophthalmic contracted socket reconstruction with Mucous membrane grafting
19. To investigate the efficacy of intralesional injection of bleomycin for treatment of orbital and periorbital cavernous hemangioma
20. Evaluation of the effect of Intralesional Bleomycin on Orbital Lymphangioma
21. To evaluate the role of routine systemic antibiotics in uncomplicated Eyelid surgery
22. Evaluation of Levator Plication as compared to Frontalis Sling in severe congenital Ptosis
23. Evaluating vitreous seed regression using intravitreal melphalan in combination with standard intravenous chemotherapy for persistent/partially regressing vitreous seeds in group C and D retinoblastoma
24. Autologous fat transfer for orbital volume augmentation in sockets with small nonseeing eyes
25. Psychosocial factors among patients undergoing orbital exenteration.
26. Correlation of Levator-Muller's complex thickness on UBM with clinical response to Botulinum toxin A injection in patients with severe thyroid related retraction of upper eyelid
27. Comparison of extrusion rate of silicone vs PMMA (mule's) implant following myoconjunctival technique of enucleation - a randomised control trial
28. Neoadjuvant chemotherapy in sebaceous gland carcinoma of eyelid
29. Clinicopathological presentations of eyelid malignancies in COVID era vs PRECOVID era
30. Assessment of retinal sensitivity and structural integrity in optic neuritis
31. Pilot Study Comparing Primary Anti-Vegf Therapy Vs Pan-Retinal Photocoagulation In Patients With Proliferative Diabetic Retinopathy
32. Prospective randomized study to evaluate anatomical result of VR surgery in RD with CD with or without ILM peeling
33. Surgical outcomes of anti-VEGF with vitrectomy in Stage 4 Retinopathy of Prematurity (ROP)
34. Characterization of Renal Cell Carcinoma with Dual Energy Computed Tomography and Multiparametric Magnetic Resonance Imaging and Correlation with Histopathology
35. Role of Dual Energy Computed Tomography (DECT) and Magnetic Resonance Imaging (MRI) in the evaluation of chronic pancreatitis
36. Role of split bolus spectral CT in evaluation of carcinoma gall bladder and hilar cholangiocarcinoma
37. Role of advanced MRI in prognostication of carcinoma urinary bladder
38. Macular imaging in Glaucoma suspects and Early glaucoma
39. Structural and functional changes of macula overtime in ocular hypertension vs age matched controls
40. Evaluation of long-term outcomes of Ahmed Glaucoma Valve (AGV) in Refractory Glaucomas
41. Evaluating the severity of glaucoma in consanguineous marriage
42. Co-relating Selective Laser Trabeculoplasty Outcomes with Anterior Segment OCT features in patients with Juvenile onset Primary Open Angle Glaucoma (JOAG)
43. Incidence of Congenital Glaucoma - A Multicentric Trial
44. Evaluation of visual cortex activity using fNIRS in primary glaucoma
45. Effect of 365 breathing technique on Intraocular pressure and autonomic functions in glaucoma patients
46. Effect of mindfulness meditation on IOP in patients with ocular hypertension
47. Endogenous cortisol profile in patients with primary open angle glaucoma and primary angle closure glaucoma and correlation with psychological stress
48. Efficacy of Micropulse in Primary Angle Closure Glaucoma
49. Comparison of iCare ic200 and Perkin tonometry in paediatric glaucomas
50. Metabolomics and Pharmacogenomic Evaluation of Glaucoma Therapy



51. Causes of Blindness and Severe Visual Impairment in children in schools for the blind in North India- A Situational Analysis study
52. Comparison of Pharmacokinetics and Sedative Effect of Sublingual and Intranasal Dexmedetomidine in Children : A double Blind Randomised Controlled Study
53. Comparison of time for endotracheal intubation with flexible tip bougie versus standard bougie during video laryngoscopy in simulated cervical spine immobilization in adult patients - A randomized control trial
54. An ambispective study of profile, gaps in care and outcomes in stage 5 ROP
55. Clinical sequelae in COVID-19 recovered healthcare workers from Dr Rajendra Prasad Centre for Ophthalmic Sciences, AIIMS, New Delhi
56. Acanthamoeba keratitis: Experience from a tertiary eye care centre in North India
57. Spectrum of Bacterial keratitis in North India- Six Year Retrospective Study from a Tertiary Care Eye Centre
58. Bacteriological profile of Central Line Associated Blood Stream Infections, with specific reference to biofilm formation and resistance pattern, and their correlation with response and outcome
59. Use of advanced genomics in Microbiology of culture negative infections
60. Species identification and determination of virulence factors of Coagulase negative Staphylococci in ocular infections
61. Molecular Characterization of Fungi from Mycotic Keratitis and Invasive Infections and Comparison with Conventional Methods like Direct Detection and Culture
62. Correlation of Antibiotic Resistance Patterns of Ocular Bacterial Isolates and Antibiotic Use in Patients Admitted to Hospital- a Step Towards Antimicrobial Stewardship
63. Bilateral Ultrasound guided erector spinae plane block for postoperative pain relief in traumatic spine surgery : A randomized controlled trial
64. Sonographic Assessment of Epidural Space Depth and Orientation in Paediatric Patients at Various Vertebral Levels: An Observational Cross-Sectional Study
65. Sonographic Assessment of Suprahyoid Airway Parameters in Adults Patients Planned for Elective Proseal Placement - A Pilot, Observation Study
66. A Retrospective study on anesthetic concerns, management and outcomes of brachytherapy in retinoblastoma children
67. Comparison of awake nasotracheal intubation using flexible Fibre -Optic bronchoscope versus Dblade CMAC Video- laryngoscope in patients having anticipated difficult airway under topical local anaesthesia and dexmedetomidine infusion
68. Comparison of Effect of Ketofol and Ketodex as Procedural Sedation for Oocyte Retrieval During in vitro Fertilisation Procedures - A Randomised Trial
69. Evaluation of effect of Ketofol and Ketodex On Duration of Seizure Activity, Hemodynamic Profile, Recovery Times and Cortical Activity ( Using Fnirs) In Patients Undergoing Electroconvulsive Therapy For Depression - Co Guide
70. Effect of lung compliance guided optimum PEEP versus fixed PEEP on postoperative lung atelectasis in Laparoscopic Gynaecological Surgery: Double Blinded Randomized control trial - Co-Guide
71. Competency of Novice Anaesthesia resident in performing Transthoracic Echocardiography with or without structured problem based hands on course using simulator - A Randomized controlled assessor trial - Co-Guide

#### Completed Departmental Projects over past 3 years

Year	List of Completed Departmental Projects
2020-2021	85
2021-2022	63
2022-2023	71

#### Collaborative projects

##### *Ongoing*

1. Neurocognitive changes associated with perception, spatial orientation and co-ordination in visually challenged subjects using functional Magnetic Resonance Imaging, Dept of NMR, AIIMS
2. Structural and functional changes with Occlusion therapy in Anisometropic Amblyopes using FMRI And Diffusion Tensor Imaging, NMR, AIIMS, New Delhi

3. Dalfmapridine in acute unilateral demyelinating optic neuritis-A randomized doubleblind placebo controlled trial, Department of Neurology
4. Thalidomide as treatment of optochiasmaticarachdonitis in tubercular meningitis, A prospective randomised open blinded endpoint study, Department of Neurology
5. Understanding the role of noncoding RNAs in osteogenesis (ICMR project Co-investigator in collaboration with IGIB), IGIB
6. Incidence of postoperative cognitive decline in elderly undergoing open surgeries under general anaesthesia using isoflurane or deflurane: A prospective observational pilot, Anaesthesia
7. Comparison of nucleosomes and tissue inhibitor of metalloproteinase1 in predicting sepsis severity and mortality in adult critically ill patients: a pilot study, Anesthesia
8. Clinical utility of Serum survivin levels in RB, Pediatrics
9. Cell-free DNA as a potential molecular marker for retinoblastoma diagnostic and therapeutic approach, Ocular Biochemistry
10. Correlation of surgical complexity and outcome with preoperative geometric parameters in MR urethrography in pelvic fracture urethral distraction defects: A prospective cohort study, Urology
11. Impact Of Pelvicalyceal System and Infundibular Anatomy in Predicting Stone Clearance And Complications After PCNL, Urology
12. Negative predictive value of MRI for significant prostate cancer in Indian men: An ambispective study, Urology
13. Role of 18F FDG PET/CT in assessment of treatment response to neoadjuvant chemotherapy in primary extra-ocular retinoblastoma, Nuclear Medicine
14. Evaluate the effect of Dexamethasone vs prednisolone on OCULAR TOXICITY INDUCED BY SYSTEMIC CYTARABINE ARABINOSIDE (ARA-C) in AML patients, Dept of Hematology, AIIMS
15. Preparation of Quinidine sulphate tablets/capsules/sachets, Cardiology/AIIMS
16. Preparation of sachets for pre-operative drink (Dr Bhavna), Anaesthesiology/AIIMS
17. Evaluation of cystinosis by estimating leukocyte cystine, Pediatrics/AIIMS
18. Exploring the role of hypoxia in modulating ceramide metabolism and insulin sensitivity in adipocytes, Biochemistry/AIIMS
19. To estimate the levels of N-Carboxymethyl lysine, arginine and Di-tyrosine in autistic children, Pediatrics/AIIMS
20. Untargeted metabolomics in osteoporotimia model, Biotechnology/AIIMS
21. Determination of plasma drug levels of antitubercular drugs in patients with extra pulmonary tuberculosis. outcomes, Medicine/AIIMS
22. To study the effect of Vitamin C and Thiamine in patients with sepsis in Indian Population, Medicine/AIIMS
23. FAPC as potential marker of invasive aspergillosis, Lab. Medicine/AIIMS
24. Estimation of Bisphenols in Urine of PCOS Patients, Gynaecology/AIIMS
25. To determine the concentration of Betel nut alkaloids and Catechins in current and past betel nut users and their association with pro-oncogenic cytokines and oral potentially malignant disorders, Centre for Dental Education and Research/AIIMS
26. Cancer metabolism, H1299 cells, glucose & glutamate starvation, Delhi University
27. Intestinal permeability in chronic pancreatitis by urine matrix, Gastro/AIIMS
28. A pilot study to assess the effect of timing of Gefitinib administration on blood levels in non small cell lung cancer patients, Pharmacology/AIIMS
29. Early bacterial activity and PK/PD study of Rifampicin, Faropenem and Cefdinir with clavulanate versus standard of care in newly diagnostic smear positive Rifampicin susceptible TB, Microbiology/AIIMS
30. Pharmacokinetics of first line Antitubercular drugs in TB patients, A Comparative study in patients with and without contaminate diabetic mellitus, MAMC
31. Lipids isolated from biological nanoparticles, IIT Delhi
32. Sugar analysis in baby food-products, Centre for Dental Education and Research/AIIMS
33. Penicillin detection in plasma of RHD patients, Cardiology, RML Hospital

**Ongoing Collaborative projects over past 3 years**

Year	List of oral papers/posters presented
2020-2021	69
2021-2022	81
2022-2023	33

**Completed**

1. AIIMS-IIT Delhi Collaborative Research project titled To generate feasibility data (for human clinical trial) of Bio engineered cornea (for potential clinical application in keratitis patients) - An In-Vitro Study (Project Code No. AI-23), AIIMS/IIT Delhi
2. Clinical severity and distress in periocular and ocular malignancy patients during COVID pandemic, Psychiatry
3. Baseline and Post Neoadjuvant Chemotherapy Imaging of Optic Nerve in Extraocular Retinoblastoma. Can MRI Predict Prognosis? IRCH
4. Neoadjuvant chemotherapy in sebaceous gland carcinoma of eyelid (collaborative), IRCH
5. Evaluation of Factors Affecting the Outcome Of Optic Nerve Sheath Fenestration Surgery (ONSF) in Patients With Idiopathic Intracranial Hypertension (IIH), Department of Neurology
6. An exploratory study to identify candidate CSF biomarkers in Idiopathic Intracranial hypertension with or without vision loss, Department of Neurology
7. Identification of endothelial progenitor cell markers in RB (ICMR project), Biochemistry
8. Utility of 99mTc-Ubiquicidin scintigraphy in the diagnosis of SinonasalMucormycosis, Nuclear Medicine
9. Role of MR guided biopsy in detection of prostate cancer, NMR
10. Analysis of SARS-CoV-2 in Corneal tissue of deceased asymptomatic COVID-19 donors
11. Antiseptic efficacy and plasma chlorhexidine levels following 2 different methods randomised trial, Pediatrics/AIIMS
12. Pharmacodynamic and pharmacokinetic interaction of the ayurvedic formulation (BGR-34) with glibenclamide in expe rats Pharmacology/AIIMS
13. Biomarkers for bacteremia AMR and HAIs by NMR and LCMS/MS, Microbiology/AIIMS
14. Randomized control trial of single dose oral Ivermectin in patients with COVID-19 infection, Pulmonary Med/AIIMS
15. Risk factors for failure of caffeine therapy in preterm neonates. Plasma caffeine & albumin level, Neonatology/AIIMS
16. Analysis of anticancer activity of crude hydroalcoholic herbal extracts on prostate cancer cell line, Reproductive biology/AIIMS
17. Pharmacokinetics and Biodistribution studies of berberine and berberine loaded nanoparticles in animals, Pharmacology/AIIMS
18. Amino acid estimation in breast cancer patients, Biochemistry
19. Citrulline estimation, Gastro/AIIMS
20. To study the effect of Vit-C and thiamine in patients with sepsis in Indian population, RCT, Medicine/AIIMS
21. Serum Benzathine Penicillin G levels in Indian Children and Adolescents with Rheumatic heart disease, Pediatric Cardiology/RML
22. To study Nilotinib Drug interaction with fatty acid meal, IRCH/AIIMS

**Complete Collaborative projects over past 3 years**

Year	List of oral papers/posters presented
2020-2021	21
2021-2022	32
2022-2023	22

**Research projects fund (Rs) over past 3 years**

Research projects	2020-2021	2021-2022	2022-2023
Ongoing	32,12,86,002	27,76,96,395	40,22,34,277
Completed	3,52,56,227	7,62,03,603	1,04,40,247

**PUBLICATIONS**

Journal: 333

Abstract: 9

Chapters in Book: 9

**Publications over past 3 years**

Year	List of publications
2020-2021	368
2021-2022	544
2022-2023	351

**PATIENT CARE****Medical Record Section**

		New Cases	Old Cases	Total
1.	General OPD	1,65,844	1,58,854	3,24,698
2.	Emergency	7,306	32,850	40,156
3.	Community Outreach	41,674	11,950	53,624
	<b>Total Cases</b>	<b>2,14,824</b>	<b>2,03,654</b>	<b>4,18,478</b>
1.	Cornea Clinic	4633	6049	10682
2.	Lens Clinic	779	1793	2572
3.	Uvea Clinic	1060	3312	4372
4.	Contact Lens Clinic	667	617	1284
5.	Glaucoma Clinic	3840	9128	12968
6.	Ophthalmoplasty Clinic	2224	1620	3844
7.	Paed. Ophthalmology Clinic	0	0	0
8.	Retina Clinic	2454	3702	6156
9.	Neuro-Ophthalmology Clinic	1917	2128	4045
10.	Vitreous Retinal Clinic	3158	4437	7595
11.	ROP	1521	3281	4802
12.	ROP Refraction	0	222	222
13.	Ocular Oncology Clinic	253	231	484
14.	RB	352	566	918
15.	Low Visual Aid	2894	1633	4527
16.	Orthoptic Clinic/Squint Clinic	6472	31161	37633
17.	Refraction	0	47017	47017
	<b>Total Cases</b>	<b>32224</b>	<b>116897</b>	<b>149121</b>

**ADMISSIONS**

1.	General Admissions	15370
2.	Casualty Admissions	2559
3.	Private Admissions	1049
4.	Short Admissions	15730
5.	Day Care Admissions	14007
	<b>Total</b>	<b>48715</b>

OPERATIONS		
1.	Major	18550
2.	Day Care	12245
	<b>Total</b>	<b>30795</b>
3.	Minor	15758
	<b>Grand Total</b>	<b>46553*</b>
	<b>Deaths</b>	NIL
YEARLY OTHER FIGURES		
1.	Average Bed Occupancy Ratio	75%
2.	Average length of stay	04 Days
3.	Average OPD Attendance per working day	1713 Patients
4.	Average No. of Indoor Admission per day	133 Per day
5.	Average No. of Surgeries per day	128 Per day

**\*It includes minor procedure also**

MONTHS	SMILE	FEMTO LASIK	PRK	PTK	TOTAL SURGERIES
1 Apr-22 to 31st Mar-23	755	2390	193	36	3374

#### Casualty Services

Total number of cases seen in Casualty (new + old)	40156
Total number of new registration	7306
Total number of patients admitted in Casualty ward	2559
Minor procedures done in casualty operating room	6043
Intravitreal injections done in casualty operating room	5481
Brachytherapy cases done in casualty operating room	18
Examination under anesthesia	NIL

#### Investigation Laboratories

Sl. No.	Investigations & Procedures	Total
1.	Tonometry (NCT + AT + Tonopen + Perkins + iCARE)	46235
2.	IOL Work-up	25748
3.	Refraction	99595
4.	AR (Auto Refraction)	81396
5.	PS-OCT	41127
6.	USG A Scan- Axial Length	6044
7.	USG B Scan	27652
8.	UBM	886
9.	Adaptive Optics	24
10.	Flaremetry	259
11.	Perimetry (GVF+HFA+MP)	10434
12.	Electrophysiological Tests (VER + ERG + mfERG + EOG)	3741
13.	Medical Board Investigations	2698
14.	Fundus Auto-Fluorescence	3168
15.	Dry Eye Work-up	1186
16.	Contact Lenswork-up (New + Old)	3697
17.	Anterior Segment CP	7435

18.	Posterior Segment CP	13818
19.	ROP workup	4802
20.	Topography (VKG + Cassini + Sirius + I-Trace)	6312
21.	Post Segment Laser	5433
22.	YAG LASER	1815
23.	Contrast Sensitivity	4189
24.	OCT Angiography	3921
25.	HRT-III	5386
26.	ECG	3572
27.	Low Vision Aids cases (New + Old)	4527
28.	Colour Vision Assessments	4728
29.	Laser Interferometry	4528
30.	FFA + ICG	3959
31.	Specular Microscopy	16548
32.	ASOCT	14960
33.	Pentacam + Corvis	17698
34.	Autolensometry (POG)	4603
35.	CCT/NCCT (Pachymetry)	28902
36.	Ocular Surface Analyser (OSA)	1211
37.	Orthoptics (New + old cases)	37162
38.	LIPI (View + Scan + Flow)	1401
39.	Meibo Thermal Flow	80
40.	AIIMS Employees Eye Health Check-up	39
GRAND TOTAL		5,50,919

### Community Ophthalmology

<b>Primary Eye care Services</b>		
Primary Eye care Clinics		17
Attendees at PEC Counters' in Slums Cluster		53624
Refraction carried out in PEC Centres in slums Cluster		25881
Spectacles prescribed in Slums		24152
Patients referred to R.P. Centre		8204
<b>Primary Eye Care Volunteer training events</b>		
Volunteers Training Programme organized		31
Volunteers Trained		312
<b>Eye Health Education Events- Community</b>		
Eye Health Education Event conducted		709
Participants in the Health Education events		18211
<b>Eye Health Education Events- RPCentre</b>		
Eye Health Education Event conducted		260
Participants in the Health Education events		6126
<b>Reach-in-Programme for cataract surgery in Rural and remote areas</b>		
Adult screening camps organized		07
People examined		824
Patients referred at R.P. Centre		105

<b>School Eye Screening Programme</b>	
Schools covered under SES Programme	19
Number of Children screened	6377
Children prescribed spectacles	1071
<b>Diabetic Retinopathy Screening Camps</b>	
Total number of DR screening camps organized	216
Diabetic patients screened in camps	2442
Total DR Patients identified	347
Total DR Patients referred to RP Centre	347
Total patients reported at RP Centre for further management	49
<b>Patients Reported for treatment at Dr RP Centre under Community Ophthalmology</b>	
Total patients reported under community ophthalmology:	5362
Total Patient Operated for cataract surgeries under community ophthalmology	2518
Follow-up camps organized	52
Patients examined in Follow-up camps	1413
<b>Rehabilitation Services in Community Ophthalmology</b>	
Patients are registered for rehabilitation services	2567
Patient's admission done for vocational training	06
Patients are benefited for ADL training	2565
Patients are benefited for Mobility training	542
Children's successful admission done in special schools	10
Patients are made visual disability certificate in AIIMS and counselling for the benefits of visual disability certificate.	489
<b>Assistive Technology Training Programme in Blind School</b>	
Provided training for AT (Daisy Book, Smartphone App, Victor Reader, Mobility & Orientation and USB Reader)	112

#### Ocular Radiology

Number of patients for X Rays	5267
Number of CTs	2136
The MRI and DSA are done by the main Radiology Dept	NA

#### Ocular Microbiology

Sl. No.	DIAGNOSTIC PROCEDURE	YEAR		
		2022-23	2021-22	2020-21
1.	Bacterial Culture & Sensitivity	13440	7959	8340
2.	Fungal Culture	4960	6695	2890
3.	Specimens Processed for Cytology	3524	2234	1638
4.	Specimens Processed for Chlmydia Ag Detection Using Dfa	28	14	32
5.	Specimens Processed for Hsv Ag Detection Using Dfa	01	02	Nil
6.	Viral Pcr for Herpes Simplex Virus, Adeno & Coxsackie Virus (Conjunctivitis/Corneal Ulcer)	33	20	59
7.	Specimens Processed for Microsporidia	09	09	07
8.	Specimens Processed for Mycobacteria	12	04	09
9.	Culture for Acanthamoeba	13	16	18
10.	Automated (Bactec) Culture for Endophthalmitis	Nil	05	02
11.	Broad Range Pcr for Endophthalmitis	Nil	05	02
TOTAL		22,020	16,963	12,997

## Ocular Pathology

Total number of Investigations	86,083
Blood	58,639
Urine	314
Cyto + Cyto research	1,683
Histo + Histo research	23,953
IHC	1,494

## Ocular Pharmacology

<b>Drugs fortified &amp; compounded at the Ocular Pharmacy</b>	
<b>DRUGS</b>	<b>Number of Vials (5 ml)</b>
1. Acetyl Cysteine (10, 20%, 2.5%, 5%)	178
2. Amphotericin B (0.25%, 0.15%, 0.1%)	172
3. Betaxolol (0.25%)	270
4. Capsfungine Acetate 0.5%	118
5. Cefazolin (5%)	754
6. Conc. Tobramycin (1.3%)	4526
7. Mitomycin (0.02%, 0.04%)	97
8. Pilocarpine (0.125%- 1%)	180
9. Polymixin B (10k-30k Iu)	220
10. Povidoneiodine 5%, 2%	17
11. Vancomycin (5%)	3670
12. Timolol 0.25	8
13. Ceftazidime 5%	291
14. Voriconazole (1%)	782
15. Gentamycin 1.3%	25
16. Proparacaine (0.5%, Preservative Free)	0
17. Heparin (1300 Iu/MI)	0
18. Amikacin (1.3%, 2.5%, 1.4%)	73
19. Levofloxacin 0.5%	2
20. Linzolin 0.2%	0
21. Ceftriaxon 5%	0
22. Colisthemethate 0.19mg/MI	50 ml – 1 vial
23. Clarithromycin 0.25%	0
24. Augmentin 625mg – ¼ Sachet	0
25. Acetazolamide 30mg, 10, 25, 40, 50, 60, 80 mg	337
26. Piperacillin 10%	52
27. Interferon	297
28. Meropenem (10%, 20%)	1
28. Chlorhexidine 0.02%	1
<b>Drugs dispensed to patients directly (Free of Cost) &amp; also for Hospital use</b>	
<b>DRUGS</b>	<b>Number of Vials</b>
1. Artificial Tears	38,032
2. Ciprofloxacin (0.3%)	10,899
3. Cyclosporine 2%, 1%	95
4. Edta (1.1%)	125
5. Homatropine (2%)	10126
6. Hypertonicsaline (5%)	4895



7. Methyl Cellulose (2%)	907
8. Pilocarpine(2%)	10
9. Sodium Ascorbate (10%)	405
10. Sodium Citrate (10%)	484
11. Thimerosal Solution (0.005%)	60 L
12. Tropicamide (1%)	36342
13. Tropac+ Phenylephrine (0.5%+2.5% (Rop)	9936
14. Gancyclovair Vials 100 mg	65
15. Piloclonidine	0
16. Oloapatadin	6440
17. Glycerin 50%	0
18. Phmb	50
19. Methylcellulose 2%	55 L
20. Hypertonic Saline 20%	250 ml

**Kit & Other items dispensed (on demand)**

DRUGS	Quantity	
1. Ethylalcohol 20%	615 x 5 ml	
2. Gold Chloride	200	vials
3. Hydrazin Hydrate	200	vials
4. Liposomal Amphoterecin B (0.15%)	03	vials
5. Tpa (Injection, 1mg/MI)	30	ampoules
6. Infliximab Inj 10mg	0	vials
7. Timololmaleateoint. 0.5%	122	ointments
8. Acyclovir 120 Mg	0	sachets
9. Valganciclovir Tablet	163	sachets
10. Sirolimus Powder	0	sachets
11. Livofloxacin 0.5%	4	vials
12. Voriconazole In Parts	8	sachets
13. Propanolol In Parts	15	sachets
14. Valganciclovir	0	sachets
15. Hydrogen Peroxide 3%	0	
16. Sod. Hypochlorite 1%	0	
17. Imepenam 1%	3	vials
18. Ponkreatflozt ¼ Sachet	0	sachets
19. Hydrocortisone 5mg	0	sachets
20. Ceftriaxone 5%	0	vial
21. Isoniazid	05	sachets
22. Quinidine 300 Mg	1200	sachets
23. Quinidine 400 Mg	700	sachets
24. Tab. Quinidine 200 Mg	0	sachets
25. Cap. Quinidine 200 Mg	1600	Sachets
26. Idebenone	550	Capsule
27. Hydrocortosone	0	Sachets
28. Propranolol	0	Sachets
29. Sodium Benzoide	58	Sachets
30. Haloparidol	0	Sachets
31. Quinidine Sulphate	0	Sachets

32. Posaconazole Suspension (1%)	167	Eye drops
33. Igg	204	Eye drops
34. Alfamino Power	0	Sachets
35. Quinidine Sulphate 100 mg	0	Capsule
36. Absolute Alcohol 100%	1.5 ml X 2	Vials
37. Urokinase 25000 IU/MI	1	Vials
38. Zinase-D ¼ In Parts	8	Sachets
39. PCM 500mg ¾ In Parts	8	Sachets
40. Posaconazole 1% (300 Mg/16.7 m)	1	vial
41. Doxycycline ¼ In Parts	4	Sachets
<b>Sterile drugs dispensed</b>		
1. BOTOX	351	Ampoules
2. BEVACIZUMAB (AVASTIN)	4683	Ampoules
<b>Biologicals dispensed</b>		
1. Autologous Serum	25	Vials
2. Autologous Prp	0	Vials
3. Platelet Rich Plasma	0	Vials

#### National Service

Item	No. of Vials (10 MI)
Corneal Storage Media (Supplied To 106 Govt Eye Banks In 24 States In India)	697
Longer Corneal Storage Media	4245

#### National Eye Bank

Total Collection of Cornea	1660
Total Utilization for Cornea Transplantation	1470
Other Eye Bank (OEB):	
Total Collection of Cornea	111
Total Utilization for Cornea Transplantation	105
Surgeries	
Optical Penetrating Keratoplasty	409
Therapeutic Penetrating Keratoplasty	803
DSAEK	105
Triple Procedure	54
DMEK	4
Lamellar Keratoplasty	109
Total	1484

#### Medical Social Service Unit

Sl. No.	Categories	Total Number of Cases	Total Amount
1.	Free Medicines For Poor and Indigent Outdoor (OPD) Patients Through Poor Patient's Fund	101	Rs 74,598
2.	Free Spectacles Provided Through Poor Patients Fund	173	Rs 1,10,502
3.	Free Surgeries through Consultations	129	Rs 3192755
4.	Exemptions of Hospital and investigation Charges (IPD & OPD)	739	Rs 707117
5.	Beneficiaries under Janani Shishu Surkshaa Karyakaram	1566	Rs 76,84,088
6.	Beneficiaries under Ayushman Bharat-PMJAY	756	Rs 1,69,88,059

7.	Patients helped through Direct Donations	38	Rs 2,17,082
8.	RCC(Railway Concession Certificates Issued)	373 (Permanent-101) (Temporary-272)	
9.	Counselling/Ayushmaan Bharat Counselling/Number of Patients guided and counselled for the benefits of Disability Certificate Issued/Number of Patients counselled and guided for the benefits of different government schemes	1628	
	<b>Total Number of patients helped through Medical Social Service Unit</b>	<b>5503</b>	<b>Rs 2,89,74,201 (Two crore eighty-nine lakh seventy-four thousand two hundred and one only)</b>
	EHS (Coordination for EHS Patients )	823	Rs 2,17,34,888

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Jeewan S Titiyal** received Fellowship membership of FRCOphthl Fellowship membership of FRCOphth, by Royal College of Ophthalmologists, London UK December 2022; P Siva Reddy International Award (2022) – All India Ophthalmological Society; is recognized as World’s Top 2% Researcher Scientist (2020-21) by Stanford University; was Visiting Professor to MTC campus, LVPEI Bhubaneswar, July 2022. Bhubaneswar, Odisha, India; received J Agarwal Global Icon Gold Medal by Intra ocular Implant and Refractive Surgery Society of India, (IIRSI) Annual meeting, July 2022, Chennai, Tamilnadu; Hero of Indian Ophthalmology awarded by Kerala Society of Ophthalmic Surgeons (KSOS) at 49th Annual Conference of Kerala Society of Ophthalmic Surgeons- Drishti 2022, November 2022, Kozhikode. (Kerala). Orations include Foundation Day Oration of Regional Institute of Ophthalmology (RIO), IGIMS, Patna, August 2022, Patna, Bihar, India; Twelfth Prof CS Bhaskaran Endowment Lecture, LVPEI Bhubaneswar, July 2022, Bhubaneswar, Odisha, India; AIOS P Siva Reddy International Oration Lecture. (Stalwarts in ophthalmology), 80th All India Ophthalmological Society Conference, June 2022; Mumbai, Maharashtra, India.

**Professor Radhika Tandon** was awarded ISCKRS Excellence Award for Outstanding Achievements in Cornea by Indian Society of Cornea and Keratorefractive Surgeons (ISCKRS), Dr PK Jain Oration Award 2022 by Delhi Ophthalmological Society (DOS) and Fellowship of the National Academy of Sciences, India (NASI); was Member of National Organ and Tissue Transplant Organization (NOTTO) conferred by NOTTO; Chairperson of the Committee for Standard Treatment Workflows (STWs) conferred by ICMR; Technical Expert for the Ayushman Bharat Pradhan Mantri Jan Arogya Yojna (AB PM-JAY) to provide valuable inputs in the areas of expertise on Health Benefit Packages, Standard Treatment Guidelines, Medical audit and Quality of care etc. for the seamless implementation of the scheme, organized by National Health Authority (NHA); was appointed as an Editorial Board Member for Meeting of the IHOPEJO Editorial Board to discuss the progress on the journal on 15 July 2022 through online/virtual mode; Expert for AIIMS (Jodhpur), AIIMS (Rishikesh), NEIGRIHMS (Shillong), JIPMER Puducherry, National Medical Commission (Dwarka, New Delhi), Dr Ram Manohar Lohia Institute of Medical Sciences (Lucknow) Member of the Inspection Committee for inspection of JIPMER Puducherry, Eye 7 Hospitals Pvt Ltd (New Delhi), AMVISION Eye and Child Care (Delhi), Base Hospital Delhi Cantt, Advanced Eye Centre (PGIMER Chandigarh), Eye Mantra Hospital Pvt Ltd (Delhi); acted as Technical Expert for Onsite Review Meeting for project Development of Diagnostic panel for inherited retinal diseases funded under Global Innovation & Technology Alliance (GITA) and Department of Science & Technology (DST) under India – Republic of Korea Joint Applied R&D Programme 2019 on 20 April 2022 at Hyderabad, Telangana; acted as PMC Expert for Project Monitoring Committee Meeting – Ophthalmology CTN organized by Biotechnology Industry Research Assistance Council (BIRAC); is Member of the Committee for an Expert Group Meeting to review the ICMR Task force proposal entitled Rapid tests for the diagnosis of fungal keratitis: new and Challenging approaches organized by ICMR on 29 August 2022 at ICMR, New Delhi; Member of the Committee for Meeting reg. Court of Chief Commissioner for Persons with Disabilities (Divyangjan) organized by DGHS, Ministry of Health & Family Welfare on 7 September 2022 at New Delhi; was appointed as an Expert of the Committee for the VC Meeting of the Experts on Stem Cell Therapy and problem faced by Stem Cell Industry, organized by DGHS, Ministry of Health & Family Welfare on 17 September 2022 through Online; as Member of the Selection Committee Meeting for the post of Project Technical Officer (Optometrist) under the project entitled GARHBINI of Translational Health Science and Technology Institute (THSTI), organized by THSTI, Faridabad on 4 October 2022 through Online; as PI in the High Powered Committee Meeting on Global Climate Change & Health held on 30 November 2022 at ICMR, New Delhi; was invited as Chief Guest for the Farewell Ceremony, Class of 2023 at Modern School,

Vasant Vihar, New Delhi and Advisor for Magazine for Advisory Council of the AIIMS Student's Association Elections for the year 2023.

**Professor Rajpal** is Member of All India Ophthalmological Society of India. He evaluated Thesis. He is Member of Vitreo Retina Society of India; Member of Editorial Board DJO; invited as an Expert in ophthalmology for the post of Specialist in Ophthalmology in ESIC, Faridabad; Chairman of Pediatric High Dependency Unit (IVA ward); Chairman of Retina Services; Chairman of ROP Services; Incharge of Vitreo Retina work in Unit-I; In Charge of All Investigational Lab, Dr RP Centre; Incharge of Stationery store, Dr RP Centre, AIIMS; Member of various selection committee, AIIMS, Delhi; Member of SC/ST selection committee for AIIMS, Jammu; Member of AIIMS faculty Reservation roster committee; actively involved research in Retinopathy of Prematurity, Diabetic Retinopathy, ARMD, Endophthalmitis, Uveitis, and Macular Hole. Administrative Activities include Liaison Officer of SC/ST, Member of Grievance of SC/ST Committee, Member of Selection Committee & DPC appointed by the Director, AIIMS. He is also Member of Vigilance and Inquiry Committee, Store Purchase Committee, Sub-Technical Committee, Standing Medical Board, Main Technical Evaluation Committee; Co-chairman of Annual Report Committee, Budget & Accounts; involved in preparation of Multiple Choice Questions for the Question Bank for PhD Programme Entrance Examination for the subject of Ophthalmology AIIMS.

**Dr Seema Sen** is Chairperson of Ocular Pathology/Ocular Oncology and Tumors Session, SAO 2022, New Delhi, 12 November 2022.

**Professor Sanjay Sharma** was featured in 'top 2% World Ranking Scientists 'in 2022 database (#11,215), Stanford University/Elsevier BV (Scopus), <https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw>; received AIIMS Excellence in Research Award 2021, Awarded in 2022; Best Publication Award at the 23rd Annual Conference of ISVIR 2023, Hyderabad, 9-12 February 2023; First prize to my MD student (Sen Category) for 'Imaging assessment of pancreatic fibrosis.' On 2nd AIIMS Research Day on 18 October 2022; was elected President, Delhi-NCR Chapter of 'Indian Society of Vascular & Interventional Radiology' (ISVIR) 2-year term (2022-24); Thesis examiner for National Board of Examinations, University of Delhi, Indraprastha University, PGIMER Chandigarh; External subject Expert Member for faculty recruitment at University College of Medical Sciences, New Delhi, 5 November 2022; External subject expert for APS interview for promotion to professor at JIPMER on 13 September 2022; Organized as chairperson meeting of the Delhi-NCR chapter of ISVIR at Delhi, twice viz. 26 November 2022 & 1 April 2023; Member of TSEC at RPC, External expert for PGI Chandigarh and SJH N Delhi; was consistently involved in 4-5 hours of 'Radiology conferences' for benefit of Oncology, Neuro-ophthalmology & Oculoplasty clinical services (not counted in formal teaching) at Dr RP Centre for last 14 years.

**Professor Seema Kashyap** was Awarded AIIMS Excellence Research Award -Basic Sciences category in 2022 Clinical relevance of the comparative expression of immune checkpoint markers with the Clinicopathological findings in patients with primary and chemoreduced retinoblastoma.

**Professor Namrata Sharma** was among Top 100 Most Influential Ophthalmologists 2022 by the Asia-Pacific Journal of Ophthalmology for outstanding achievement and significant contributions to ophthalmology in the Asia-Pacific Region and Beyond; received APAO Senior Achievement Award by the Asia Pacific Academy of Ophthalmology (2023), Dunes Iron Lady of the Year Award, Best Team Winner (Judges Choice), Most Educative Winner (Judges Choice), Best Team Winner (Audience Choice) & Most Innovative Winner (Audience Choice) 2023 in the Festival Du Film Dunes 2023 by the Jaipur Ophthalmological Society at Jaipur, Rajasthan. She was also awarded The Asian Eye Pallikaris Oration Award for life time contribution for academics in Refractive Surgery by the Maharashtra Ophthalmological Society (2023) at Pune, Maharashtra, the Modassar-Daud-Malla SAO Award for Leadership in SAO Region by the South Asian Academy of Ophthalmology (2022) at New Delhi. She delivered College Lecture on Microbial Keratitis : Beating the Bugs at the 30th Annual Congress of the College of Ophthalmologists of Sri Lanka held at Colombo, Sri Lanka – (2022); received Major SC Dutt Memorial oration award at the Ophthalmological Society of West Bengal (OSWB) – (2022); Global Influencer of the Year award by the International Society of Manual Small Incision Cataract Surgeons (ISMSICS) (2022); Dr Vinod Arora Oration award at the 18th Uttara Eyecon (2022); was also awarded Dr UV Raman Raju's lecture 2022 by the Andhra Pradesh Ophthalmic Society (APOS) – (2022); Mrs Tahira Agarwal Gold Medal by the Intraocular Implant & Refractive Society (IIRSI) – (2022). She is Honorary General Secretary, All India Ophthalmological Society (AIOS); President, Cornea Society of India (CSI); Vice-President, Eye Bank Association of India (EBAI) Vice-President, National Society for the Prevention of Blindness (NSPB); Regional Secretary, Asia Pacific Academy of Ophthalmology; General Secretary, Ophthalmic Research Association (ORA), RP Centre, AIIMS; Chairperson Scientific Committee of Indian Society of Cornea and Keratorefractive Surgeons, (ISCKRS); Chairperson, Academic & Research Committee at Dr Rajendra Prasad Centre for Ophthalmic Sciences, AIIMS; Chairperson & In-charge OT, Operation Theatre Committee (Main OT & Day Care) at Dr Rajendra Prasad Centre for Ophthalmic Sciences, AIIMS; Co-Chairperson of the Infection Surveillance & Monitoring Committee at Dr Rajendra Prasad Centre for Ophthalmic Sciences, AIIMS; Co-Chairperson,

Eye Banking & Eye Donation, Dr Rajendra Prasad Centre for Ophthalmic Sciences, AIIMS; Executive Member of Cornea Society of India (CSI); Member of Women Ophthalmic Society (WOS) and Intraocular Implant and Refractive Society of India (IIRSI).

**Professor Neelam Pushker** received 'Best Video Award' in 15th Biennial SAO International Conference 2022, & 'AIIMS Excellence Research Award' under the category – Clinical Science for the study titled, Mucous membrane grafting (fibrin glue vs. suture) for lid margin pathologies in Stevens-Johnson syndrome: randomized comparative study. She was Chief Instructor in the Instruction Course on – Tackling eyelid margin pathologies – The Oculoplastic Classroom, conducted in 15th Biennial SAO International Conference 2022 – 'Ophthalmology beyond Borders' held at India Habitat Centre, New Delhi, November 2022. She chaired 2 sessions in 56th RPC Annual Foundation Day – Scientific Teaching Program, held in JLN auditorium in March 2023, She has also chaired the Oculoplasty, oncology & pathology session in the – iFocus National PG Teaching Program in Ophthalmology, held in USII, Delhi March 2023. She is serving as Section Editor – Oculoplasty Section, of Indian Journal of Ophthalmology and Delhi Journal of Ophthalmology. She is also on the Editorial Advisory Board of Haryana Journal of Ophthalmology. She has evaluated an MS thesis (Ophthalmology) from Pt BD Sharma University of Health Sciences, Rohtak, February 2023.

**Professor T Velpandian** is Member, Ethics Committee (Basic Sciences), AIIMS (2016- till date); Member (Pharmacologist) Institute of Home Economics, Delhi University (2019-till date); Member (Pharmacologist) South Asian University, New Delhi (2020- till date); Member (Pharmacologist) INMAS, DRDO, Delhi (2019- till date); Member, Animal ethics committee -South Asian University, New Delhi (2016- till date); Member -ICMR Task force on Innovations and Translational research- 2018-till date; Member, Bio-Hazard panel of FSSAI (GOI), FDA Bhawan, New Delhi 2017- till date (second term); Expert Member in Project Monitoring Committee – BIRAC 2019-till date.

**Professor Praveen Vashist** was awarded for APAO Achievement Award in 38th APAO Congress in Kuala Lumpur, Malaysia from 23-25 February 2023; Best paper National Survey for Mapping Human Resource & Infrastructure for Eye Care Services in India. Managing activities related to WHO Collaborating Centre for Prevention of Blindness at RPCentre. Involved in developing action plan for re-designation of Dr RP Centre, AIIMS New Delhi as WHO CC for the period of four years 2020-2024; was nominated as a member for of expert committee in Trachoma subgroup for WHO Diagnostic Technical Advisory Group; invited for Interview by Italian CBM group to Project ROSHINI: Pan India Initiative for Inclusive Comprehensive Eye Care Services. Submitted Trachoma annual report for WHO Head Office on Trachoma Elimination and Monitoring Form (TEMF) to NPCB; Principal Investigator by NPCB & VI for conducting National Survey on Trachomatous Trichiasis (TT only survey) in 200 districts of India. Also Organized staff training program for the survey; Member Secretary for the Central Task Force at national level for policy planning and strategy for implementation for elimination of Trachoma from the country by the year 2020 under NPCB & VI; was invited by NPCB&VI in the Prime-Minister Motia Bind Mukti Abhiyan programme planning meet at Hotel Le-meridian and chaired three sessions; Member of NPCB&VI Committee on Revising guidelines of National Programme of Control of Blindness and Visual Impairment (NPCBVI); Vice president of Vision 2020 Right to Sight India for the period 2020-2023. Also, member of Vision 2020- Governing body to represent R P Centre, AIIMS; Chairman Research and Academic Committee in Association of Community Ophthalmologists in India; Member of editorial board for Indian Journal of Ophthalmology; appointed as member for AIOS Endophthalmitis Guidelines Committee; nominated as Member Secretary of the Presidential Committee of AIOS on prevention of blindness; Member for AIIMS Research Section Selection Committee; Member of AIIMS committee for assessment of proposal for Standing Finance Committee for creation of posts; Professor In charge, Recruitment cell, AIIMS New Delhi; nominated for as a Central Public Information Officer, Central Assistant Public Information Officer & First Appellate Authority for Recruitment cell AIIMS; Nodal Officer for RPCentre in the Annual report committee, AIIMS.

**Professor Rohit Saxena** was awarded P L Rao Lecture by Andra Pradesh Ophthalmology Society of India October 2022; Member Secretary Ethics Committee AIIMS; Member Subject Committee Ophthalmology for DCGI; North Zone representative for Academic and Research Committee for the All India Ophthalmological Society; Member of the subspecialty Subcommittee (Neuro-Ophthalmology) of the Collegium of the AIOS; Member for FAICO Advisory Board – Uvea & Neuro; Member of the subspecialty subcommittee (Uvea & Neuro) of the Collegium of the AIOS.

**Professor Tushar Agarwal** is Chairman – National Surgical Skill Development Centre (17 September 2021 onwards); Chairman – Internal Stores Review Committee (13 September 2021 onwards); Member – Infection Surveillance & Monitoring Committee (17 September 2021 onwards); Member – Operation Theatre Committee (Main OT & Day Care) 17 September, 2021 onwards; Member for planning of layout of RPC OPD in New Masjid Moth Campus under new Master Plan of AIIMS; Member – Souvenir Committee, Celebration of 55th Foundation Day of Dr RP Centre.

**Professor M Vanathi** received Best PG thesis AIOC – ARC – third prize (P Bordoloi, M Vanathi, T Velpandian, N Lomi, N Gupta, R Tandon, Tacrolimus 0.1% cutaneous application over upper lid skin in chronic vernal keratoconjunctivitis;

Best of IJO – Silver award 2022 (Anitha V, Vanathi M, Raghavan A, Rajaraman R, Ravindran M, Tandon R. Pediatric keratoconus – Current perspectives and clinical challenges. *Indian J Ophthalmol.* 2021 Feb;69(2):214-225); Best Physical Poster: PriyadarshanaBordoloi, M Vanathi, T Velpandian, N Lomi, N Gupta, R Tandon. Tear tacrolimus levels following cutaneous application in chronic vernal keratoconjunctivitis. *AIOC 2022* 4 June 2022 | 10:30 – 11:55; is Life Member of Cornea Society, USA; Member of Standard Treatment workflow Guidelines of Dept of Health Research, Ministry of Health & Family Welfare; Member of Cornea Expert Committee of FAICO – Cornea, AIOS Collegium 2021- 2022; involved in 2 MS Thesis Evaluation – Delhi University (January 2022); is Member – Academic Research Committee of RP Centre, AIIMS; Chairperson of Journal Ethics Committee of Delhi Journal of Ophthalmology; Evaluator of scientific submissions (free paper, videos & instruction courses) of AIOC 2022; DOS representative to AIOS 2020 – 2023; Member Managing Committee of AIOS 2020-23; Member of editorial board of IJO, *World Ophthalmology*, *Delhi Journal of Ophthalmology*.

**Professor Rajesh Sinha** received Distinguished Service Award by Asia Pacific Academy of Ophthalmology; Dr Anaparthi Narayan Reddy Oration at Andhra Pradesh Ophthalmological Society Conference 2022 at Eluru; Dr Amit Shah Oration at All Gujarat Ophthalmological Society Conference 2022 at Rajkot.

**Professor Bhavna Chawla** received Dr PN Sinha Oration Award, Bihar Ophthalmological Society (Patna) and Extraordinary Academic Excellence in Ophthalmology Forum of Ophthalmic teachers of India.

**Professor Parijat Chandra** was Moderator – Retina Session – 6, Mid term conference of the Delhi Ophthalmic Society, Delhi [2-3 April 2022]; Co-convener – Retina Session – 2, Midterm conference of the Delhi Ophthalmic Society, Delhi [2-3 April 2022]; Panelist – NBE webinar on ROP, National Board of Examination, Delhi [23 July 2022]; Judge. Video Podium Presentations, World ROP Congress, Dubai UAE, [1-4 September 2022]; Panelist – Master Class: Training, Surgery & Telemedicine, World ROP Congress, Dubai UAE, [1-4 September 2022]; Panelist – Consultative Meeting on Retinopathy of Prematurity (ROP) Screening for Preterms, Mission NEEV Project, RML Hospital, Delhi [23 September 2022]; Member Technical Expert Group – National ROP Task Force for prevention of Blindness due to ROP, Under MOHFW, GOI; Examiner – BSc (Optometry) Examination Phase II 2nd Year Prof exam (July 2022); External Examiner Thesis (MD Paediatrics), PGIMER Chandigarh (October 2022); External Examiner Thesis (MS Ophthalmology), GMC Chandigarh, (January 2023); External Examiner Thesis (MS Ophthalmology), Delhi University, (January 2023); Evaluator – Free papers (Pediatric) – AIOC 2022, Mumbai [2-6 June 2022].

**Professor Suraj Senjam Singh** chaired a scientific Session at Asia Pacific Ophthalmic Congress 2023, APAO Kuala Lumpur; is an Expert member of the WHO Rapid Assistive Technology Assessment (rATA) study group Geneva; an Expert member of the National Strategic Action Plan for Assistive Technology, India to be developed by WHO Country Office under the aegis of NITI Aayog India; Co-author for the best paper for community ophthalmology on National Mapping for Human Resources and infrastructure of eye care in AIOC-2022 (FP 1836); got Special Guest invitation by ADK Eye Hospital Baghpat on 3 November 2022.

**Dr Noopur Gupta** was invited as WHO Global Trachoma Expert at the Third Global Scientific Meeting on Trachomatous Trichiasis held at Cape Town, South Africa, December 2022 attended by experts from South African countries, South America and WHO; invited as Jury of Awards for the Annual VISION 2020 Awards; was involved in thesis evaluation of Master of Surgery – Ophthalmology invited by Rajasthan University of Health Sciences, Jaipur to conduct Thesis Evaluation at SP Medical College & Hospital, Bikaner; was invited as Global expert on Dry Eye for TFOS Workshop, entitled A Lifestyle Epidemic: Ocular Surface Disease. Involved in constructive critiques drafts of all the TFOS Lifestyle Workshop Subcommittee reports. These will include both narrative and systematic reviews, This Workshop is one of the most recent initiatives of TFOS, which was created to advance the research, literacy, and educational aspects of the scientific field of the tear film and ocular surface; has International collaboration with experts from WHO, Geneva on WHO based effective cataract surgical coverage; nomination as the Consulting Editor for an indexed international journal *Community Eye Health Journal* for SEARO and being appointed as Consulting Advisor for the journal while serving as a Board Member of South Asia Advisory Committee; was invited as global expert for PBKC Study Group in the field of pediatric and ocular surface disease, to participate in an International Delphi Method Consensus Study on PediatricBlepharokeratoconjunctivitis (BKC) with an aim to unify the definition, diagnostic criteria and therapeutic outcomes.

**Dr Rohan Chawla** contributed Paper on Tubercular DnaPcr of Ocular Fluids and Blood in Cases of Presumed Ocular Tuberculosis: A Pilot Study – Present at DRF Annual Meeting 6 November 2022 – Won Best Paper Award; is Member of ARVO of America 2021-2022; Member of Euro retina 2022–2023.

**Dr Swati Phuljhele** won SD Athawale Award 2022 for best paper in Neuro\_Ophthalmology in Annual Conference of Indian Neuro-Ophthalmology Society 2-5 June 2022; involved in Thesis Assessment of retinal sensitivity and

structural integrity in optic neuritis won the best abstract presentation at prestigious international North American Neuro-Ophthalmology Conference, March 2023.

**Dr Vivek Gupta** was awarded the Degree of MSc Public Health for Eye Care by London School of Hygiene and Tropical Medicine (LSHTM), University of London with Distinction and awarded the Hooper Prize and Gordon Jhonson Prize.

**Dr Nishat Hussain Ahmed** obtained lifetime membership of All India Ophthalmological society (AIOS) (N26015); conducted interview for selection of suitable candidates for the post of Senior Residents (Microbiology) in AIIMS, Vijaypur, Jammu-India.

**Dr Shikha Gupta** received Best video award for AGV Complication at Glaucoma Society of India in 2022; AIOS Photography Award (2nd Prize) at AIOS conference in 2022; GSI International Honor Award at Glaucoma Society of India in 2022; AIIMS International Research Fellowship in 2022; Roche Collaborative Research Fellowship at ARVO in 2022; Best Paper Trainee Award to Dr Aayush Majumdar (Thesis candidate) at UKPGS UK Glaucoma Society of India in January 2023; Yosi- AIOS Award to Dr Aayush Majumdar (Thesis Candidate) for best free paper at YOSI- AIOS Young Ophthalmologist Society of India in 2023; was elected as North Zone representative for Glaucoma Society of India at GSI in 2022.

**Dr Prafulla K Maharana** received the prestigious award for achieving more than 100 DCRS credits on behalf of the Delhi Ophthalmological Society at the award ceremony, on 28 January 2023, Chanakyapuri, New Delhi; received NATIONAL ICON OPHTHALMOLOGY AWARD from the Haryana Ophthalmological Society (HOS) for selfless service in ophthalmology and contribution to the field of ophthalmology at the inaugural session of the annual conference of HOS on 21 January 2023; winner of best entertaining surgical video at DOS Ophthalmic Premier League at the 73rd Annual Delhi DOS Conference 2022 from 7-9 October 2022, Chanakyapuri, New Delhi, India.

**Dr Dewang Angmo** was awarded and inducted in APAO - Leadership Development Program (LDP) 23-24; accepted for APAO International fellowship 2022-23; reviewer for few Indexed journals; Chief investigator for 1 Collaborative AIIMS-IRG Project and 2 Thesis Dissertations; Co-Investigator of 14 Thesis/Projects.

**Dr Neiwete Lomi** was awarded the AIIMS Oncology Research Award for the year 2020 in recognition of outstanding publication under the category: Basic Sciences titled Prognostic impact of HERC2 protein and pink-eyed dilution protein in uveal melanoma; trainer for a MCH candidate from PGI Chandigarh for short term Observership training in ocular oncology from 15 June 2022 to 14 July 2022; was appointed as external examiner to conduct the first batch of MBBS third professional examination in ophthalmology paper held during 6-8 April 2022 at Zoram Medical College, Mizoram; attended the speciality health camp at Leh, Ladakh to attend serious and chronic patients from 24-30 April 2022; participated in Low Vision Aid Training, as a team member, organised by CBM Global Advisor Dr Karin Van Dijk held on 18 to 22 July 2022 through online/virtual mode; Internal Examiner of the Board of Examiners for Bachelor of Optometry Phase-I in Paper-IV Optics (Physical and Physiological) examination at Dr RP Centre held in December 2022; organised World Retinoblastoma Awareness Week from 8 to 14 May 2022.

**Dr Manpreet Kaur** received Young Achiever's Award, Indian Society of Cornea & Keratorefractive Surgeons, 12-14 August 2022, Le Meridian, New Delhi; Keynote Address- 'Refractive Lenticule Extraction- the way forward!', All India Ophthalmological Society Annual Conference (AIOC 2022), 2-5 June 2022, Mumbai, India; Best e-Poster (Runner Up), Kaur M, Titiyal JS, Nair S, Spectrum of Post- LASIK Epithelial Ingrowth – Optimizing outcomes with intraoperative optical coherence tomography, 34th APACRS-2022 KSCRS Joint Meeting 11-12 June 2022; Best Podium Poster, Kaur M, Nair S, Titiyal JS, Flap Amputation for Longstanding Post-LASIK Flap Dislocation with Epithelial Ingrowth. All India Ophthalmological Society Annual Conference (AIOC 2022), 2-5 June 2022. Mumbai, India; was External Examiner- AIOS FAICO Examination – Cataract/Phaco - 4 January 2022 and External Examiner- AIOS FAICO Examination - Comprehensive Ophthalmology - 4 January 2022.

**Dr Rebika Dhiman** won First prize in free paper presentation on Cone mosaic characteristics in glaucomatous and non-glaucomatous optic neuropathy in INOS 2022 in New Delhi on 26-27 November 2022.

**Dr Amar Pujari** won AIOC 2022 – Best physical poster under the Strabismus category and Hanumanta Reddy Award-2022 SPOSI.

**Dr Sahil Agrawal** was awarded with International Heroes Title, AIOC 2023.

## 10.5 Jai Prakash Narayan Apex Trauma Center

### Chief

Prof Rajesh Malhotra

### Addl. Medical Superintendent

Prof Sanjeev Lalwani

### Professors

#### Anaesthesiology

Babita Gupta  
Chhavi Sawhney

#### Trauma Surgery

Sushma Sagar  
Subodh Kumar  
Amit Gupta  
Biplab Mishra

#### Radio diagnosis

Shivanand G  
Atin Kumar

#### Paediatric surgery

Shilpa Sharma

#### Nephrology

Bagchi Soumita K

#### Laboratory Medicine

Arulselvi S  
Purva Mathur

#### Neurosurgery

Deepak Aggrawal  
Deepak K Gupta  
GD Satyarthee  
Pankaj Kr Singh

#### Neuroanaesthesia

Ashish Bindra  
Gyanendra Pal Singh  
Niraj Kumar  
Keshav Goyal  
Navdeep Sokhal

#### Emergency Medicine

Sanjeev K Bhoi

### Additional Professors

#### Emergency medicine

Tej Prakash Sinha

### Associate Professors

#### Trauma Surgery

Pratyusha Priyadarshini  
Abhinav Kumar  
Narendra Choudhary  
Dinesh Kumar Bagaria

#### Urology

Siddharth Jain

### Assistant Professors

#### Psychiatry

Nishtha Chawla

#### Orthopaedics

Nishank Mehta  
Asjad Mahmood  
Arvind Kumar  
Garika Siva Srivastava

#### Forensic Medicine

Sanjeev Lalwani  
Adarsh Kumar

#### Orthopaedics

Kamran Farooque  
Vijay Sharma  
Buddhadev Chowdhry  
Vivek Trikha

#### C. & I. care

Kapil Dev Soni  
Richa Aggarwal

#### Obstetrics and Gynaecology

Garima Kachawa

#### Transfusion Medicine

Rahul Chaurasia

#### Orthopedics

Samarth Mittal

#### Trauma Surgery

Junaid Alam

#### Lab Medicine

Tapasya Mukhopadhyay (C)  
Aparna Ningombam (C)

#### Plastic Surgery

Suvashis Dash

#### Anaesthesia

Yudhyavir Singh  
Abhishek Singh  
Sharmishtha Pathak  
Riniki Sarma  
Anjishnujit Bandyopadhyay



<b>Emergency Medicine</b> Ritin Mohindra Vineeth Chandran KP	<b>Hospital Administration</b> Anant Gupta Mohammad Kausar	<b>Neurosurgery</b> Kokkula Praneeth Raghav Singla
<b>Forensic medicine</b> Swati Tyagi		

**HIGHLIGHTS**

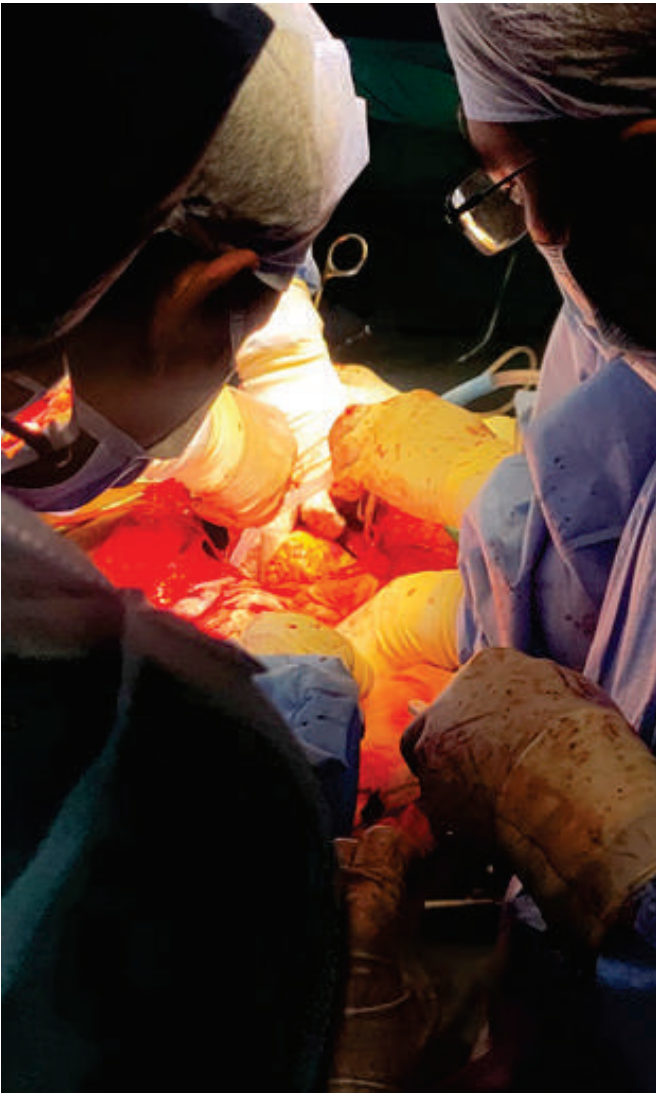
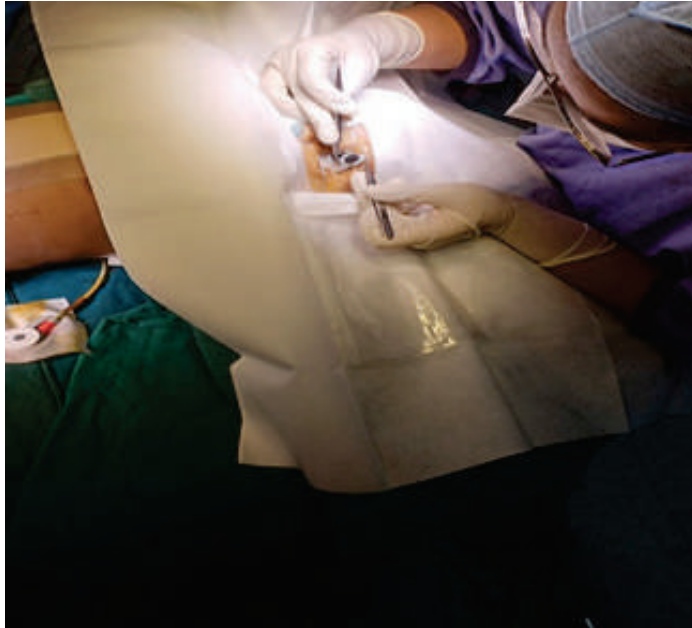
Jai Prakash Narayan Apex Trauma Center (JPNATC) continues to provide holistic care to the victims of trauma. There were nine workshops organized at JPNATC and several hands-on training workshops for residents in Cadaveric Skill Lab. Residents and faculty members have been involved in more than 200 ongoing and completed projects and more than 300 publications in the year 2022-23.

There were nearly 2000 in-patient admission, 8,64,752 lab tests conducted, and 1,76,665 imagings (CT, USG, X-rays, fluoroscopy) done.

Thirteen new Faculty members joined the centre in different departments and new developments happened in services and infrastructure as highlighted below:

1. **Organ donation:** There is a robust Organ Procurement Team (OPT) in JPNATC comprising faculties of Neurosurgery, Neuro Anesthesia, Microbiology, Laboratory Medicine, Intensive care, Trauma Surgery, Forensic Medicine, Nurse Transplant Coordinators and Hospital administration. OPT team works closely with transplant coordinators/ grief counsellors from ORBO, AIIMS. In the year 2022, Organ donation rate increased from 31.2% (2019) to 39.5% (2022). Our brain death conversion rate was 42% [90 potential donors out of which 38 were declared brain dead by brain death certification criterion in timely manner by OPT team]. In one year, a total of 50 organs were donated, which included 12 liver, 06 heart, 30 kidneys and 02 lungs (Figure below). Total of 162 cornea and 7 heart valves were retrieved. We also had 5 pediatric organ donors (the youngest being 16 months of age). Lung retrieval was done for the first time in AIIMS, lung transplantation programme has been initiated subsequently.





2. Development of manifold.
3. Extension of resuscitation bay.
4. Progressive installation of hybrid OT
5. Extension of new OT in first floor.
6. CRPF floor in “Rian Basera”.
7. Augmentation of ICU bed strength (TC2a, and TC3a)
8. Initiation of psychiatry follow-up OPD for trauma patients.
9. Initiation of alternative medicine (Yoga) clinic.

**Forensic Medicine: Annual ACSST Statistics: Cadaveric courses/workshops conducted during April 2022-March 2023.**

1. 1st International AIIMS spine deformity course, Ortho, AIIMS, 14 April 2022
2. Multi-organ harvest techniques, Surgery, AIIMS, 1 June 2022
3. Ultrasound guided regional anesthesia, Anesthesia, JPNATC, 11 June 2022
4. ACSCON-22 Surgical Cadaveric workshop, Surgery, JPNATC, 3 August 2022
5. Radiology (Musculoskeletal Society), Radiology AIIMS (SET), 19 August 2022
6. AIIMS Annual Spine Conference (SPINCON), Neurosurgery, AIIMS, 7 September 2022
7. 2nd AIIMS Periodontal and periimplant plastic microsurgery, Dental, AIIMS, 24 September 2022
8. AIIMS BARICON-3rd International Conference on Bariatric and Metabolic Surgery, Surgery, AIIMS(SET), 28 September 2022
9. Pre conference Current Concept in Arthroplasty-2022, Ortho, AIIMS, 14 October 2022
10. Pelvic acetabular trauma, Ortho, JPNATC, 4 November 2022
11. Trauma Exposure (Traumacon-2022), Surgery, JPNATC, 17 November 2022
12. AO Spine-MISS (Minimal invasive spinal surgery), Ortho+ Neurosurgery, AIIMS, 26 November 2022 and 27 November 2022
13. APPRA Cadaveric fluoroscopic guided pain interventional workshop, Anesthesia, AIIMS, 4 December 2022
14. Live Demonstration for retrograde intubation, Anesthesia JPNATC, 2 February 2023
15. Ultrasound guided regional anesthesia, Anesthesia JPNATC, 11 February 2023
16. Gynecology Workshop, Gynae, AIIMS (SET), 28 February 2023
17. Comprehensive symposium on ultrasound for Anesthesiologists (CUSA 2023), AIIMS (SET), 24- 26 April 2023
18. AIIMS-NCI Minimal invasive thoracic surgical oncology workshop, Surgical Oncology, AIIMS, 1 March 2023
19. Brachial Plexus cadaveric workshop, Neurosurgery, AIIMS, 3 March 2023
20. FUE ASIA Hair Transplant workshop, Derma AIIMS, 12 March 2023
21. Thoracic surgery, Surgery, AIIMS (SET), 26 March 2023
22. 1st 3D Inside-out head and neck Anatomy cadaveric dissection course, ENT, AIIMS, 27-28 March 2023
23. 2nd AIIMS International Spine Deformity Course, Ortho, AIIMS, 30 March 2023 (Evening)
24. International Head and neck dissection course, ENT, AIIMS, 30 March 2023 to 2 April 2023

**CMEs/ Workshops/ Symposia/ National and International conferences organized**

1. Surveillance of Healthcare Associated Infections Training as a part of NABH accreditation process (Workshop), 2 & 3 March 2023, Delhi
2. Annual AMR Surveillance Review Meeting & HAI Surveillance Sensitization Workshop National Programme on AMR Containment, 30-31 January 2023, New Delhi
3. NABI MID TERM CME “Policy and Innovation in Burn Care” PG Seminar organized by:Department of Plastic, Reconstructive and Burns Surgery, AIIMS, New Delhi, 18 January 2023,, Delhi
4. 1st Workshop Capacity Building and Strengthening of Hospital Infection Control to Detect and Prevent Antimicrobial Resistance in India: Phase 2, 14-15 November 2022, New Delhi.
5. 2nd Principal Investigator’s Meeting Capacity Building and Strengthening of Hospital Infection Control to Detect and Prevent Antimicrobial Resistance in India: Phase 2, 7 November 2022, New Delhi
6. 10th AIIMS Annual Spine Workshop 2022, 7-10 September 2022, New Delhi
7. 3rd Annual Conference of Neurocritical Care Society, 7-10 October 2022, New Delhi

8. 6th ISMINS Congress 2022, 27-28 October 2022, New Delhi
9. DNACON-The Silver Jubilee Year, 11-12 February 2023, New Delhi
10. 25th Annual Micro-surgery Workshop and Alumni Meet, 16-18 February 2023, New Delhi
11. 7th Annual Neurotrauma Conference, 16-18 March 2023, New Delhi
12. Ultrasound Guided Regional Anaesthesia in Cadaveric Skill Lab-conducted two hands-on training workshops for residents, on 11 June 2022 and 11 February 2023, New Delhi
13. Public Awareness Program on World Anesthesia Day – a nukkadnatak, 17 October 2022, New Delhi
14. Annual conference of Indian society for Trauma & Acute Care (ISTAC) “Trauma 2022 and Asian Trauma Congress 17-20 November 2022, Convention Centre, JNU, New Delhi
15. Training of Nurses – Trauma nurse coordinator training program under the aegis of Ministry of Health and Family Welfare was conducted for nurses from various hospitals, May 2022, New Delhi
16. National Conference of Reproductive Endocrinology 2022: Harmony with Hormones, 30-31 July 2022, Pune
17. Pre-Conference workshop on Intersex: Diagnosis & Management in National Conference of Reproductive Endocrinology 2022, 29 July 2022, Pune
18. Live Endoscopic operative preconference workshop on Endoscopy: “Rejuvenating young minds.” at 44th Annual Conference of Association of Obstetrics & Gynecologist, 10 November 2022, AIIMS, New Delhi
19. Dialogues in Health and Wellness: Workshop in relation to Balance and Fall Prevention (Organising Chairman: Prof Rajesh Malhotra), 9 April 2022, IIC, Delhi
20. Delhi Orthopaedic Association’s MIDCON 2022 (Organising Chairman: Prof Rajesh Malhotra), 3 July 2022, New Delhi
21. AAOS’s educational activity OASIS – Orthopaedic Academy for Scientific Innovations & Specialization (Course Director: Prof Rajesh Malhotra), 23-24 July 2022, Goa
22. Organized Guest lecture by Dr Aditya Maheshwari, USA on the Topic “Soft Tissue Balancing in THA”, 5 August 2022 at, AIIMS, New Delhi.
23. National Webinar on Low Back Pain (Organising Chairman: Prof Rajesh Malhotra), 1 October 2022
24. Current Concepts in Arthroplasty 2022, (Organising Chairman: Prof Rajesh Malhotra) 15-16 October 2022

**Lectures delivered: 471**

**Lectures delivered over past 3 years**

2020–2021	2021–2022	2022–2023
219	271	471

**List of oral papers/posters presented: 106**

**Oral/poster presentations over past 3 years**

Year	Total Number of oral presentations
2022-2023	108
2021-2022	91
2020-2021	84

## RESEARCH

### Funded projects

#### Ongoing

1. Metabolomic profile and serial changes following trauma- A prospective cohort feasibility and pilot study (Extra mural project), Abhinav Kumar, Extra Mural Grant. (SERB), 2 years, 2022-24, Rs 32.35 lakhs
2. An Intervention Study of developing robust trauma care systems in India, Amit Gupta, ICMR, 3 years, September 2019, August 2022, Rs 53 lakhs
3. To study the effectiveness of Trauma Quality Improvement Program (TQIP’s) in improving Trauma Care outcomes at Tertiary Care Hospitals in India, Amit Gupta, ICMR, 3 years, 2023-26, Rs 73 lakhs
4. Development of point of care Smartphone based PT/INR Test to simplify, hasten identification of patients? coagulation status and its comparison with conventional coagulation method, Arulselvi, AIIMS, 2 years, 2023-25, Rs 10,00,000/-

5. Evaluation and expression of Cathepsin B in peripheral blood of Isolated Traumatic Brain Injury patients and correlation with severity of injury, Arulselvi, ICMR id 2020-3513, 3 years, 2021-24, Rs 51,58,440/-
6. Micronutrient deficiency in children with moderate to severe traumatic brain injury: Burden and association with outcome, Ashish Bina, Indian Council of Medical Research, 3 years, 2023-25, Rs 58,23,000
7. Enhancing the success and safety of endotracheal intubation by development of an innovative intubation system: A Pilot Project, Babita Gupta, ICMR, 2 years, 2021-23, Rs 55 lakhs
8. Approaches and Decisions in Acute Pediatric TBI Trial, (ADAPT) USA, Deepak Kumar Gupta, National Institute of Health, 10 years, 2015-25, Rs 2,65,49,336
9. Collaborative European Neurotrauma Effectiveness research in TBI Collaborative Indian Neurotrauma Effectiveness research in TBI (CENTER TBI), Deepak Kumar Gupta, Universitair Ziekenhuis Antwerpen (UZA), Belgium, 8 years, 2015-23, 5000 USD per year
10. Impact of yoga intervention on functional assessment and quality of life in pelvic injury patients at level-I trauma Center – A Randomized Control Trial, Dinesh Bagaria, DST, 3 years, 2021-24, Rs 37 lakhs
11. Impact of yoga intervention on functional assessment and, quality of life in pelvic injury patients at level I trauma centre- A Randomized Control Trial, Dinesh Bagaria, DST, 3 years, 2021-24, Rs 37 lakhs
12. A prospective, open-label, single-center, single-arm, post-marketing study to evaluate the efficacy and safety of D- chiro inositol and myo-inositol combination on ovarian function and metabolic factors in women with polycystic ovarian syndrome (PCOS), Garima Kachhawa, Ambrosia Life Sciences Pvt Ltd, 3 years 8 months, 2019-23, Rs 17,96,900/-
13. Assessment of markers of Preeclampsia after delivery and correlation with future risk factors of cardio vascular disease in women, Garima Kachhawa, ICMR, 3 years, 2022-25, Rs 40,400,92/-
14. Role of Endocrine Disrupting Chemicals (EDCs) in Maternal and Childs Health, Garima Kachhawa, ICMR, 4 years 6 months, 2018-23, Rs 45,72,010/-
15. To study the effect of Immediate Post Operative Prosthesis in relation to postsurgical outcome, balance and quality of life in Above Knee Amputation patients (post-traumatic): A Pilot Randomized Controlled Trial, Junaid Alam, ICMR, 3 years, 2023-26, Rs 65 lakhs
16. A Study on development and piloting of Trauma ICU registry and comprehensive critical care for critically ill patients admitted to Trauma Intensive Care Unit of level-1 trauma center in India: A prospective observational Study.”, Kapil Dev Soni (PI), ICMR, 3 years, 2022-25, Rs 33,15,100
17. Role of Biomarkers in Predicting Evolution of Cerebral Edema following Traumatic Brain Injury, Kokkula Praneeth, AIIMS, 2 years, 2020-23, Rs 9,02,000
18. Secondary grant approved, Comparison of laparoscopic feeding gastrostomy versus Percutaneous endoscopic gastrostomy for long term assisted enteral feed in trauma patients – A randomized pilot study, Narena Choudhary, Intramural Research Project (AIIMS, New Delhi), 2 years, 2019-21, Rs 4.75 lakhs
19. Role of Surgical Rib Stabilization of fractured ribs in trauma patient with multiple rib fractures – A randomized pilot study, Narena Choudhary, Intramural Research Project (AIIMS, New Delhi), 2 years, 2021-23, Rs 8.75 lakhs
20. Capacity Building and Strengthening of Hospital Infection Control to detect and prevent antimicrobial resistance in India, Purva Mathur, Centres for Disease Control and Prevention, 5 years, 2021-26, Rs 2.5 crores
21. Centre for advanced Research (CAR) in Hospital Acquired Infections-Prevention and Control, Purva Mathur, ICMR, 5 years, 2020-25, Rs 7,53,35,152
22. Expansion of antimicrobial stewardship (AMSP) and infection control program (ICP) of ICMR in secondary care hospitals, Purva Mathur, ICMR (PFIZER), 2 years, 2020-22, Rs 31,36,390
23. Infection Prevention and Control (IPC)-Capacity Building-Orientation Training for COVID-19 Preparedness and IPC for Healthcare Facilities, Purva Mathur, Bill and Melinda Gates Foundation, 3 years, 2020-23, Rs 2,56,37,106
24. Prevalence of multi-ug resistant organisms in the healthy gut flora of individuals residing in rural and urban community setting, Purva Mathur, Research Grant (Intramural collaborative), 2 years, 2020-23, Rs 9,50,000
25. The quality evaluation of COVID-19 Rapid Antigen Test KitsT-240, Purva Mathur, ICMR, 1 year, 2021., Rs 3,00,000
26. Prospective, Multi-centre Outcomes Study of Persona Knee System in Total Knee Arthroplasty. Study Protocol # CSA2014-02K, Rajesh Malhotra, Zimmer, 9 years, 2015-24, Rs 24 lakhs,
27. Biomechanical study on the efficacy of rehabilitation for subjects with trauma-induced gait impairment, Rajesh Malhotra, DRDO, 2 years, 2022-24, Rs 280.45 lakhs,

28. Implementation of AMSP in various tertiary care centers across India, Richa Aggarwal, ICMR, 3 years, 2022-25, Rs 81 lakhs 50 thousand
29. To examine myelination and changes in oligodendrocytes in white matter pathology post severe traumatic brain injury (sTBI) among humans, Sanjeev Lalwani, ICMR, 3 years, 2021-24, Rs 27 lakhs
30. 'To evaluate the role of seminal miRNA's and inflammatory markers in cases of suspected prostate cancer and correlate with mpMRI and Biopsy findings.' Siddharth Jain, Intramural grant AIIMS, 2 years, 2020-22, Rs 5 lakhs
31. A multi-center, randomized, double-blind, placebo controlled, parallel group, phase III study to evaluate the efficacy and safety of LNP023 in primary IgA nephropathy patients, Soumita Bagchi, Novartis Ltd, 2 years, 2021-24, Rs 200000 per patient
32. A multicentre, randomized, double-blind, parallel group, placebo-controlled study to evaluate the efficacy and safety of iptacopan (LNP023) in complement 3 glomerulopathy, Soumita Bagchi, Novartis Ltd, 2 years, 2022-24, Rs 559000 per year (CRC salary) + Rs 224275 per patient
33. A randomized, treatment open-label, dose-blinded parallel group, three arm, proof-of-concept clinical trial to investigate the efficacy and safety of LNP023 compared with rituximab in the treatment of subjects with idiopathic membranous nephropathy, Soumita Bagchi, Novartis Ltd, 4 years, 2019-23, Rs 588000 per year (CRC salary) + Rs 200000 per patient
34. Impact of Psychosocial Intervention on Quality of Life and Stress Biomarkers in Patients with Traumatic Limb Amputation/s: A Randomized Controlled Trial, Subodh Kumar (PI), ICMR, 3 years, 2023-26, Rs 63 lakhs
35. Setting up of National Center for Assistive Health Technology (NCHAT), Sushma Sagar (Co-PI), ICMR, 5 years, 2021-25, Rs 45 crores
36. Surgical Innovation Laboratory (SIL) for advancing Patient care, Education and Research, Sushma Sagar, ICMR-MDMS, 3 years, 2022-25, Rs 4.5 crores
37. Impact of rTMS versus ug therapy on phantom limb pain in lower limb amputation patients: A Randomized control trial, Sushma Sagar, ICMR, 3 years, 2021-24, Rs 55 lakhs
38. Correlation Between Noraenaline, Serotonin, GABA, and Glycine in Cerebrospinal fluid with labor pain undergoing cesarean section: A preliminary study, Yudhyavir Singh, AIIMS Research Section, 2021-2023, Rs 878456
39. Predictive detection of osteoporotic fractures in Indian population based on Artificial Intelligence Implementation, Vijay Sharma, DBT, 3 years, 2020-23, Rs 86,53,660
40. A pilot parallel arm Randomized Control Trial evaluating the impact of Yoga intervention in treating post traumatic limb fractures which develop Complex Regional Pain Syndrome (CRPS I) and assessment of their quality of life, Vijay Sharma, ICMR, 3 years, 2021-24, Rs 64,71,108
41. Role of Yoga in Secondary prevention of Hip Fractures in the Elderly, Vijay Sharma, ICMR, 2 years, 2022-24, Rs 12.40 lakhs

Year	Funded projects							
	Ongoing				Completed			
	Intramural	Budget (lakhs)	Extramural	Budget (crores)	Intramural	Budget (lakhs)	Extramural	Budget (crores)
2022-2023	7	55.80	34	68.98	13	78.53	10	39
2021-2022	7	121.46	21	20.62	6	31.45	2	1.07
2020-2021	13	113.95	36	25.34	8	54.2	16	4.3
Total	27	291.21	91	114.94	27	164.18	28	44.37

#### **Completed**

1. Metabolomic Profiling and Serial Changes in Patients with Isolated Blunt Chest Trauma – A Prospective, cohort, feasible and exploratory study, Abhinav Kumar, Intra Mural grant, AIIMS ND, 2 years, 2019-21, 5 lakhs
2. An interventional study of developing robust trauma care system in India: a prospective cohort study, Amit Gupta, ICMR, 3 years, 2019-23, Rs 1.2 crores
3. Translational application of novel clinically accessible biological predictors to improved identification of mild and moderate Traumatic Brain Injury (TBI) induced neuro psychological impairment, Arulselvi, ICMR, 2 years, 2019-22 with extension, Rs 4223108

4. Association of GRP78, Zinc, Iron and vitamin C levels in patients with covid 19 and the occurrence of Mucor mycosis, Arulselvi/Ranveer Singh, Institute A COVID-19, 1 year, 2021-22, Rs 979600
5. Paroxysmal Sympathetic Hyperactivity (PSH) and its role in outcome in severe traumatic brain Injury, Arulselvi/Deepak Agrawal, Institute, Extended, 2019-20, Rs 10,00,000/-
6. Randomised Evaluation of Surgery with Craniectomy for patients undergoing Evacuation of Acute Subdural Haematoma (RESCUE-ASDH), Deepak Kumar Gupta, Cambridge University, 3 years, 2017-20, Consumables : 144 pounds per randomized patient CRF completion costs : 213 pounds per randomized patient
7. Evaluation of Parathyroid hormone as endpoint of resuscitation in trauma hemorrhagic shock patients, Dinesh Bagaria, Intra Mural grant, AIIMS, New Delhi, 1 year, 2020-21, Rs 5 lakhs
8. To Evaluate Combination of Biochemical Endothelial Markers and Arterial Stiffness in prediction of Preeclampsia (DHR special grant 2018 for Research studies with emphasis on Public health (Maternal health), Garima Kachhawa, ICMR (DHR), 4 years, 2018-22, Rs 83,93,333/-
9. A Randomized Control Trial to Study the effect of immediate versus Delayed Application of Prosthesis in below knee Amputation patient in relation, Junaid Alam, Intra Mural grant, AIIMS New Delhi, 2 years, 2020-22, Rs 5 lakhs
10. Post Discharge outcomes of COVID-19 patients following admission to intensive care unit. A prospective Cohort Study, Kapil Dev Soni, Intramural AIIMS, 2 years, 2020-22, Rs 640000
11. Comparing safety and efficacy of indigenous goggles with fan versus standard goggles in health care workers in COVID ICU, Navdeep Sokhal, AIIMS, 2 years, 2021-22, Rs 2,95,000/-
12. Development and validation of novel pressure measuring device for measuring the collapsing pressure of internal Jugular vein during an ultrasound examination, Niraj Kumar, AIIMS + IIT Delhi, 2+1 years, 2019,, Rs 20,00000 /
13. Capacity Building and Strengthening of Hospital Infection Control to detect and prevent antimicrobial resistance in India, Purva Mathur, Centers for Disease Control and Prevention, 6 years, 2015-21, Rs 35 crores
14. A prospective randomized study to compare the systemic emboli in computer assisted navigation Vs conventional surgical technique of knee replacement, Rajesh Malhotra, ICMR, 3 years, 2018-21, Rs 50 lakhs
15. Comparative Evaluation of Genetic and Biochemical profile in postmenopausal osteoporotic and age matched healthy women, Rajesh Malhotra, ICMR, 3 years, 2019-22, Rs 1,39,03,260
16. Prevalence of mucormycosis in patients discharged from covid centre and factors associated with it, Richa Aggarwal, AIIMS, 1 year, 2021-22, Rs 3.7 lakhs
17. Post mortem histopathological study of post TBI induced axonal injury using silver and  $\beta$ -APP stains in corpus callosum, brain stem and Thalamus, Sanjeev Lalwani, AIIMS, 2 years, 2017-19, Rs 4.80 lakhs
18. To study the postmortem time gap for RNA detection of SARS COV-2 virus and other respiratory pathogenic bacterial co-infections in confirmed COVID-19 cases, Sanjeev Lalwani, AIIMS Intramural research grant theme: research on SARS-Cov-2 and COVID-19, 2 years, 2020-22, Rs 9.99 lakhs
19. Prospective monitoring of BK virus replication in the first year following renal transplantation in Indian patients, Soumita Bagchi, Intramural grant, 2 years, 2014-16, Rs 620000
20. Prevalence and significance of serum galactose deficient IgA1 in Indian patients with IgA nephropathy: a case control study, Soumita Bagchi, Intramural grant, 1 year, 2017-18, Rs 500000
21. The association of HLA antigens with primary IgA nephropathy in Indian patients, Soumita Bagchi, Intramural grant, 2 years, 2019-21, Rs 970000
22. An adaptive seamless randomized, double blind, placebo-controlled, dose ranging study to investigate the efficacy and safety of LNP023 in primary IgA nephropathy patients, Soumita Bagchi, Novartis Ltd, 2 years, 2019-21, Rs 198000 per patient + Rs 588000 per year (CRC salary)
23. Role of neutrophils and new immune cells in the outcome of Chest trauma patients, Subodh Kumar, ICMR, 3 years, 2019-22, 36 lakhs

## **Departmental projects**

### ***Ongoing***

1. A Prospective Cohort Study to assess functional and radiological outcome in neck of femur fractures in young adults'
2. A study on Carbapenem and Colistin resistance in Urine Isolates in a Tertiary Care Centre
3. A prospective multi-centric randomized open label trial to assess efficacy of Hyoxychloroquine (HCQ) in reducing proteinuria in moderately severe primary IgA Nephropathy (EQUALITY study)

4. Analysis of the anaesthetic management and peri procedural complications of neuro endovascular procedures in pediatric patients-A single centre retrospective study
5. Assessment of Splenic Function in patients with Blunt Splenic Injury: A Prospective Observational Study
6. Biochemical analysis of Wound Exudate in patients requiring Negative Pressure Wound Therapy versus Conventional dressings for Traumatic Wounds Clinico-pathologic profile and outcome of C3 glomerulopathy: a retrospective study
7. Clinico-Radiological assessment of Arthroscopic repair for recurrent anterior shoulder instability
8. Comparative Medical record audit of COVID positive COVID suspect and non-COVID patients record in a tertiary care hospital, New Delhi, India
9. Comparative study for secondary trauma, burnout, compassion fatigue of healthcare workers of COVID positive COVID suspect and non-COVID patients in a tertiary care hospital, New Delhi, India
10. Comparative study on incidence of airway related complications while using polyvinyl chloride (PVC) tubes with a strategic cuff release manoeuvre versus armoured flexometallic endotracheal tubes in neurosurgical patients undergoing surgery in lateral position: A non-inferiority trial
11. Comparing the effect of Fentanyl and Midazolam with Ketofol for ICU sedation on the extended Glasgow outcome scale at three months in moderate to severe traumatic brain injury patients-A prospective randomized study
12. Comparison between pericapsular nerve group block and fascia iliaca block for positioning in hip fracture patients before neuraxial block- A randomised controlled pilot study
13. Comparison between pressure support ventilation and spontaneous ventilation during emergence and extubation in reducing incidence of post operative atelectasis in patients undergoing major abdominal surgeries
14. Comparison between superior trunk block and modified supraclavicular brachial plexus block for analgesia in shoulder surgery – A pilot study
15. Comparison of C-MAC video-laryngoscope with D-Blade, C-MAC video-laryngoscope with standard blade, and Macintosh Laryngoscopes for intubation with cervical spine immobilization: a randomized study.
17. Comparison of preoperative ultrasound guided pericapsular nerve group block and femoral nerve block for facilitating patient positioning prior central neuraxial blockade in patients undergoing hip fracture surgery - a randomized controlled pilot study
18. Comparison of preoperative ultrasound guided pericapsular nerve group block and femoral nerve block for facilitating patient positioning prior central neuraxial blockade in patients undergoing hip fracture surgery- A randomised controlled pilot study
19. Comparison of single point versus triple aliquot costoclavicular block in upper limb surgeries: A randomised controlled trial
20. Comparison of single versus triple injection costoclavicular block in upper limb surgery: Randomised Controlled trial
21. Comparison of the effect of ketofol and ketodex as procedural sedation and analgesia for Oocyte retrieval during in vitro fertilization procedures- a randomized controlled trial.
22. Comparison of three anaesthetic techniques on emergence and recovery profile in patients undergoing supratentorial craniotomy
23. Comparative evaluation of Spinopelvic and lower limb morphological parameters in patients with knee osteoarthritis and age matched normal population using low dose biplane radiography.
24. Correlation between injury morphology on CT and urological outcomes in sub axial cervical spine injury
25. Correlation of surgical complexity and outcome with preoperative geometric parameters in MRU in pelvic fracture urethral distraction defects: A prospective cohort study
26. Cost Effective Analysis in Scoliosis Surgeries between Adolescent Idiopathic Scoliosis Vs Congenital Scoliosis
27. Delay in Surgery after Hip Fracture: Reasons and Impacts on Outcomes
28. Designing of patient specific Total Elbow Replacement prosthesis for Indian Population (Ongoing)
29. Detection of the saline-filled cuff by ultrasonography for confirmation of correct endotracheal tube position in adult patients: a prospective observational study.
30. Development of postoperative laryngeal edema in patients undergoing craniotomy for elective intracranial tumour excision: a prospective, observational, preliminary study. (Co-Guide– DM thesis)
31. Dynamic needle tip positioning versus short axis technique for ultrasound-guided internal jugular vein various cannulation in adult surgical patients: a randomized control trail.



32. Effect of decompressive craniectomy on jugular venous oximetry in patients with severe TBI
33. Effect of Sugammadex versus Neostigmine reversal on lung aeration score after operative fixation of cervical spine: A prospective, double blinded, randomised control trial (SUN Trial)
34. Effect of systemic lidocaine and dexmedetomidine on perioperative analgesia and 3-month outcome in patients undergoing supratentorial craniotomy under inhalational anaesthesia: a randomised control trial.
35. Effect of systemic lidocaine and dexmedetomidine on perioperative analgesia and 3-month outcome in patients undergoing supratentorial craniotomy under inhalational anaesthesia: a randomized controlled trial.
36. Effects of varying concentrations on nitrous oxide on motor evoked potentials during spine surgeries: a randomized controlled study. (Guide – DM thesis).
37. Efficacy of high volume Pericapsular Nerve Group (PENG) Block in Patients with Acetabular Fracture For Positioning for Subarachnoid Block: Prospective observational study
38. Efficacy of Levonorgestrel intrauterine system in reducing menstrual blood loss in women with hematological disorders
39. EHS Module for Resident Manual, Estimation of Age by CT scan of pubic symphysis using Suchey Brooke's method in North Indian population- A digital autopsy based study.
40. Evaluation of effect of ketofol and ketodex on duration of seizure activity, hemodynamic profile, recovery times and cortical activity (using fNIRS) in patients undergoing electroconvulsive therapy for depression.
41. Evaluation of time taken for return of Radial and Ulnar Artery blood flow to basal values after radial artery decannulation using Duplex Doppler Ultrasound
42. Evaluation of time taken for return of radial and ulnar artery blood flow to basal values after radial artery decannulation using duplex doppler ultrasound
43. Evaluation of a novel antiseptic formulation-SEPIL for the treatment of chronic limb ulcers and pressure ulcers: A randomized, double-blind, Placebo-controlled trail
44. Functional and Radiological outcomes following Dual Plating in the management of AO33-C2 and AO33-C3 Femoral Fractures – A Prospective Cohort Study
45. Gastro Intestinal Parasitic and Microsporidia Infections in Renal Transplant Patient at A Tertiary Care Centre
46. Goal directed fluid therapy during endovascular therapeutic procedures following aneurysmal subarachnoid hemorrhage: A prospective randomized controlled study
47. Health related quality of life in adult patients with primary glomerular diseases in India
48. Impact of covid on neurosurgical procedures in a tertiary care centre
49. Incidence and risk factor for prolonged ICU stay after pituitary surgery: An observational study
50. Incidence of vertical transmission of COVID-19 infection in a tertiary hospital in India-A prospective study
51. Median effective volume of 0.25% ropivacaine for suprainguinal fascia iliaca compartment block [FICB] for positioning of hip fracture patients prior of neuraxial blockade: A prospective dose estimation study.
52. Neutrophil-lymphocyte ratio and Platelet to lymphocyte ratio as markers for predicting the outcome in trauma patients: A Prospective Observational study
53. Practice patterns in IgA nephropathy: a questionnaire based survey
54. Predictive detection of osteoporotic fractures in Indian population based on Artificial Intelligence Implementation Grant No. BT/PR38731/AI/133/28/2020 (Ongoing)
55. Prevalence of Neuropsychiatric Co-morbidities in patients with Traumatic Brain Injury
56. Quaiiceps depth measured by point of care ultrasound as a tool to discriminate between frail and non-frail patients with traumatic brain injury: A prospective observational study. (Co-Guide– DM thesis)
57. Retrospective multi-centric study for evaluating the clinical course and outcome of IgA nephropathy with crescents in the Indian population
58. Role of lung ultrasound in estimating extravascular lung water as an early predictor of sepsis in neurotrauma patients- an observational study.
59. Role of point-of-care ultrasound (POCUS) in assessing gastric residual volume in trauma and non-trauma patients scheduled for elective surgery – a prospective cohort study.
60. Sleep quality assessment in trauma patients requiring intensive care - a pilot study
61. Sleep quality assessment in trauma patients requiring intensive care - A prospective observational study
62. Sonographic assessment of suprahyoid airway parameters in adult patients planned for elective proseal placement: a pilot, observational study

63. Spinal alignment after fixation in trauma patients
64. Study of evolution of cerebral edema, neuroinflammation and blood brain barrier disruption in Pediatric Traumatic Brain Injuries
65. Study of Evolution of Cerebral Edema, Neuroinflammation and Blood-Brain Barrier Disruption in Pediatric Traumatic Brain Injuries
66. Study of Oligodendroglial Linage, Myelination and remyelination in brain tissue in head injury cases.
67. Study of the effect of stainless steel and titanium biomaterial on the level of C3 and C4 serum Complement levels in patients undergoing intramedullary nailing for fracture shaft femur
68. Study of variations in anatomy and pattern of skull base fractures un patients with post-traumatic CSF leak
69. The effect of Cabergoline and dienogest on Pro-Inflammatory markers in Endometriosis: A Pilot Study
70. Pilot Study
71. The effect of post-spinal hypotension on cerebral oxygenation using NIRS and Neonatal outcomes in full term parturient undergoing lower segment caesarean section.
72. To evaluate the impact of N-Acetylcysteine (NAC) use in the treatment of traumatic lower extremity vascular injury – A Pilot Randomized Controlled Trial
73. Use of ROTEM in guiding resuscitation in trauma hemorrhage
74. A prospective study to evaluate the restoration of abdominal wall dynamics in patients with incisional hernia following laparoscopic IPOM plus repair in comparison to healthy controls using surface EMG.
75. A Randomized Control Trial to Compare the Impact of Low pressure negative pleural suction with Under water seal drainage alone in Patients of Thoracic trauma.(Chief Guide)
76. A Randomized Control Trial to see the effect of post-operative Systemic Anticoagulation in patients Undergoing Post Traumatic Medium Sized Vessel Repair.
77. A Study to compare and correlate the Thoracic Trauma Severity Score (TTSS) with conventional trauma scores in Chest Trauma patients at a Level-1 Trauma Centre
78. Analysis of patterns of neck trauma and its outcomes at a Level I Trauma Center- An ambispective observational study
79. Clinico Radiological outcomes of Revision Joint Replacement Surgery in Prosthetic Joint Infections-An Ambispective Study
80. Comparison of pain status in patients undergoing Targeted Muscle reinnervation versus Conventional stump preparation following post-traumatic above knee amputation: A Randomised control trial
81. Correlation of Clinical and Radiological Parameters in outcomes of Morel-Lavallee Lesions at a Level-I Trauma Centre
82. Impact of Psychosocial Intervention on Quality of Life in patients with Post-traumatic Limb amputation/s: A Randomized Controlled Trial
83. Prophylactic antibiotic use in abdominal trauma patients undergoing operative intervention- A Randomized Controlled Trial
84. Prospective Observational study of Transfusion Practices in Severely injured Trauma Patients in Emergency department at Level 1 Trauma Centre
85. Randomized Controlled Trial Evaluating the efficacy of Trans-Cather Genicular Arterial Embolization in Patients with Knee Pain in Kellgren Lawrence grade II /III Osteoarthritis Refractory to Optimal Non-Surgical Management”.
86. To compare frequency of monitoring with Haemoglobin and Haematocrit in patients with Blunt Abdominal Trauma undergoing Non-Operative Management: A Randomized Controlled Trial
87. To compare the effect of Isokinetic training with Conventional exercises in patients with above knee amputation following trauma in relation to Prothesis adaptability and Gait: A Randomized Controlled Trial
88. To Compare the outcome or Modified Shoelace Technique versus Negative Pressure Wound Therapy (NWT) assisted skin approximation of lower limb fasciotomy wounds in trauma patients - a Pilot Randomised Controlled Trial at a Level 1Trauma Centre”
89. To evaluate the impact of N-Acetylcysteine (NAC) use in the treatment of traumatic lower extremity vascular injury – A Pilot Randomized Controlled Trial
90. To study etiology, clinical presentation and outcome of patients with gastroduodenal perforations.

91. To study the correlation between pre-operative pain thresholds measured using Quantitative Sensory Testing with post-operative pain scores using Visual Analogue Score in patients with laparoscopic groin hernia repair – A case control study.
92. To study the effect of combination therapy (NPWT + Topical oxygen) versus Negative pressure wound therapy (NPWT) alone on large post-traumatic wounds: A pilot Randomized Control Trial
93. To study the effect of initial irrigation and suction on outcome of patients with traumatic hemothorax: A Randomized Controlled Trial
94. Altered microRNA expression in peripheral blood and brain following severe traumatic brain injury
95. Analysis and comparison of serum complement levels (c3 and c4) in Lower Limb Fracture patients undergoing implant surgery
96. Assessment of gut barrier dysfunction, endotoxemic and inflammatory mediators during an episode of acute bleeding: Prospective observational study
97. Development and Validation of point-of-care Electro-Optic Sensing Platform for Estimation of Urine Albumin Creatinine Ratio (ACR) in Spot urine for diagnosis and monitoring of chronic kidney disease
98. Efficacy of Hemostatic Agents in Humans with TEG: An *in-vitro* Study
99. Identification of Transcriptomic lipidomic and mitochondrial challenges in metabolic Associated Fatty Liver Disease (MAFLD) and Hepatocellular Carcinoma
100. Role of endothelial GATA 4 and Platelet derived growth factor-B in Metabolic associated Fatty Liver Disease
101. Role of Glucose regulated protein-78 and Fatty acid binding protein-4 in Nonalcoholic fatty liver disease and type-2 diabetes mellitus patients
102. To study the gene expression, activation of cellular signaling pathway and its correlation with clinical outcome among trauma hemorrhagic shock T/HS (ICMR)
103. To study the role of cell free DNA among THS patients and its correlation with clinical outcome and severity of injury (ICMR)
104. Transcriptional involvement of APO E 4 gene in evolution of cerebral oedema, blood brain disruption and its subsequent restoration along with the comparison of equi osmolar solutions in paediatric TBI patients.
105. Comparative Medical record audit of COVID positive COVID suspect and non-COVID patients record in a tertiary care hospital, New Delhi, India
106. Comparative study for secondary trauma, burnout, compassion fatigue of healthcare workers of COVID positive COVID suspect and non-COVID patients in a tertiary care hospital, New Delhi, India
107. EHS Module for Resident Manual
108. Hybrid method of teaching-learning is effective in improving communication- an experience of an interventional pre-post single-arm study through communication workshop for nurses. (under Publication)
109. Correlation between injury morphology on CT and urological outcomes in sub axial cervical spine injury
110. Impact of covid on neurosurgical procedures in a tertiary care centre
111. Prevalence of Neuropsychiatric Co-morbidities in patients with Traumatic Brain Injury
112. Study of evolution of cerebral edema, neuroinflammation and blood brain barrier disruption in Pediatric Traumatic Brain Injuries
113. Study of variations in anatomy and pattern of skull base fractures un patients with post-traumatic CSF leak
114. Spinal alignment after fixation in trauma patients
115. Study of Evolution of Cerebral Edema, Neuroinflammation and Blood-Brain Barrier Disruption in Pediatric Traumatic Brain Injuries
116. To compare the Forgotten Joint Score, Clinical, Radiological outcomes and Gait parameters in patients undergoing Total Knee Arthroplasty with Ultracongruent Bearing versus Cruciate Retaining Bearing: A Randomized Control Study

### **Completed**

1. A randomised control trial evaluate the effects of Ketofol and Propofol on cerebral oxygenation in patients undergoing trans-sphenoidal pituitary surgery under total intravenous anaesthesia
2. Advanced MRI & Radiological Interventions in Patients of Osteoarthritis of Knee.
3. Anterior Minimal Invasive Plating Using Reverse PHILOS versus Posterior Open Reduction and Internal Fixation (ORIF) with Extra- Articular Locking Compression Plate (EALCP) in the management of distal third Humeral Diaphyseal/Metaphyseal Fractures- A Randomized Controlled Trial

4. Characterization of Chronic Kidney Disease of Unknown Origin in Patients attending Nephrology OPD of AIIMS, New Delhi-A cross-sectional study
5. Correlation of serum Immunoglobulin A/complement factor 3(IgA/C3) with the clinical and histologic severity in patients with IgA nephropathy, CT-based evaluation of spinal canal decompression achieved using posterior wall subsidence of retropulsed fragment in thoracolumbar burst fractures.
6. Delay in hip fracture surgery: Reasons and impact on outcomes
7. Efficacy of partial corpectomy in canal clearance for thoracolumbar burst fractures: A CT based radiological assessment.
8. Evaluating the effects of Dexmedetomidine loading dose on cerebral hemodynamic of patients with temporal/parietal glioma via Transcranial Doppler – A Prospective single-arm trial
9. Evaluation and development of Machine learning (ML) models for the automated detection, localisation and characterisation of traumatic rib fractures on CT scans
10. Perioperative complications during posterior fossa surgery in sitting position: A single center retrospective study
11. Randomized Control Trial comparing Clinical, Radiological and Functional Outcomes following Uniaxial vs Polyaxial Plating in Proximal Tibia Fractures and CT guided Mapping of Proximal Tibia Fractures in Indian Population
12. Randomized control trial comparing Radiological, Clinical and Functional Outcomes following the Supra-patellar and Infra-patellar nail insertion techniques in the treatment of extra-articular tibial shaft fractures in Indian Population.
13. Supportive management of IgA nephropathy-a prospective study
14. Alveolo – arterial gradient and respiratory index in patients with covid admitted to ICU
15. Challenges and Prospects of Neurosurgical Teleconsultations in a Developing Country: A Reality Check
16. Changes in clinical practices of anaesthesiologists due to COVID-19
17. Clinical characteristics and outcome of COVID-19 patients with TB
18. Comparison between pericapsular nerve group block and fascia iliaca block for positioning before neuraxial block in patients with hip fractures-: Randomized controlled pilot study.
19. Effect of different dose regimens of Tranexamic acid in pelvi-acetabular fracture – A Randomized clinical trial.
20. Effect of topical ropivacaine on extubation response in patients undergoing supratentorial tumour surgeries: a prospective randomised double blinded placebo-controlled trial. (Guide – DM thesis)
21. Electrolyte abnormalities in patients with head injury during ICU stay: a prospective observational study
22. Evaluation of effect of early use of Cryoprecipitate on blood components usage in trauma patients with haemorrhagic shock
23. Evaluation of renal function parameters during pregnancy and its correlation with maternal and fetal outcome
24. Evaluation of transfusion practices and outcome of patients receiving transfusion in patients of COVID-19
25. Frailty as a predictor of adverse discharge outcomes in geriatric trauma patients undergoing surgery: A prospective Case Control Study
26. Microsporidia and intestinal parasitic infections in renal transplant patients at tertiary care center
27. Outcome of tracheostomised patients in COVID
28. Perioperative Inflammatory Cytokines Alteration and Neutrophil Extracellular Trap Formation with Various Anesthetic Techniques in Patients Undergoing Major Orthopedic Trauma Surgery.
29. Prevalence of mucormycosis in patients discharged from COVID Center and Factors associated with it.
30. The Study of Feasibility of Ultrasound Guided Catheterization of Right Brachiocephalic Vein in Adult Patients
31. Analysis of quality parameters for blood components prepared from whole blood stored overnight at ambient temperature
32. Analysis of quality parameters for platelet concentrates prepared using different component preparation techniques.
33. Assessment of FokI polymorphism of vitamin D receptor (V) gene, vitamin D and parathyroid hormone levels in stage 4-5 chronic kidney disease (CKD) patients
34. Complement levels in trauma patients with hemorrhagic shock

35. Dysregulation of asymmetric dimethyl arginine and molecular expression of tight junctions (claudins) & programmed cell death ligand-1 in gastric cancer
36. Evaluation of acute and long-term consequence of COVID-19 infection in thyroid function
37. Evaluation of Myelin loss and Oligodendrocyte Pathology in Severe Traumatic Brain Injury (sTBI)
38. Molecular Expression of micronutrient anti-oxidant and interaction of GDF-15 and Iron trafficking protein in diabetes and metabolic syndrome
39. Study of complement levels in hospital admitted COVID-19 patients and its association with coagulopathy and survival
40. To determine the prevalence of ionized hypocalcemia in trauma patients and to study its role in predicting mortality at a Level I Trauma Center.
41. To study the Serum VEGF and Endostatin as a predictive factor for clinically symptomatic Radiation induced changes (RIC) in intracranial AVMs managed with Gamma Knife
42. A study of abbreviated discharge protocol in patients with blunt liver and/or splenic injury
43. A study to evaluate the predictors of outcome in patients with blunt liver trauma.
44. Determining the potential of different components of trauma triad of death on outcome
45. Documentation and Validation of Patient specific implants for mid face defects using 3D printing technology: An exploratory study.
46. Efficacy of Partial Corpectomy in assessing canal clearance for Thoracolumbar Burst Fractures: A CT- based study.
47. Effect of repetitive trans cranial magnetic stimulation (rTMS) in phantom limb pain
48. Effects of Severity of injury on the Dynamics of Immune Effector Cells (Th1, Th2, Th9, Th7, Th22) and neutrophils and their Correlation with Outcome in Patients with Blunt Thoracic Trauma.
49. Feasibility and Implementation of Hospital Based Trauma Registry for Road Traffic Injuries at Different Levels of Healthcare Settings and its Effect on Quality of Trauma Care.
50. Feasibility and Implementation of Hospital based Trauma Registry for Road Traffic Injuries at different levels of healthcare settings and its effect on quality of care.
51. Prospective Randomised control trail to assess the feasibility and safety of trophic feed in patients with haemorrhagic shock admitted in Trauma Care ICU
52. Prevalence of ionized hypocalcaemia in trauma patients and its role in predicting mortality at a Level I Trauma Center- A prospective observation study
53. Retrospective analysis of factor and blood product requirement in patients with bleeding disorders (BDs) who underwent different surgical interventions at AIIMS, New Delhi.
54. Study of the Serum complement C3 and C4 levels in patients undergoing intramedullary nailing for fracture shaft femur”
55. Study to develop an objective scoring system to grade the difficulty of laparoscopic cholecystectomy.
56. Surgical audit of Renal transplantation data of a single surgical unit over the last decade.
57. To evaluate the outcome of patients and anatomical status of pancreas after nonoperative management of grade III and IV pancreatic trauma at a level I trauma centre.
58. To compare outcome of early VATS versus alternative approach for evacuation of traumatic haemothorax – A randomized pilot study at Level I trauma centre

### **Collaborative projects**

#### ***Ongoing***

#### ***ANAESTHESIA***

1. Assessment of cerebral auto regulation by near infrared spectroscopy (NIRS) in patients with Severe TBI, Neurosurgery
2. Centre for advanced Research (CAR) in Hospital Acquired Infections-Prevention and Control, Lab medicine
3. Effect of decompressive craniotomy on jugular venous oximetry in patients with severe TBI, Neurosurgery
4. Evaluation of Cathepsin B in peripheral blood of Isolated Traumatic Brain Injury patients and its correlation, Department of Lab Medicine
5. Evaluation of Medical certification of death at AIIMS and to prepare a training programme in collaboration with the Dept of CCM, CCM

6. Expansion of antimicrobial stewardship (AMSP) and infection control program (ICP) of ICMR in secondary care hospitals, Lab medicine
7. Infrared pupillometry as a diagnostic tool in assessment of non-convulsive status epilepticus in severe TBI at level-1 trauma center in INDIA, Neurosurgery
8. Role of melatonin in ICU delirium in critically ill patients, Anaesthesia
9. Role of t – helper cells in chest trauma patients, Trauma surgery and critical care
10. To compare the opioid sparing effects of combination of dexamethasone, paracetamol and ketorolac (dexpak) vs paracetamol, ketorolac (pak) in patients undergoing total laproscopic hysterectomy. A prospective double blind random undergoing total laparoscopic hysterectomy: a prospective double blind, Dept. of Anaesthesia, Critical and Pain Medicine, AIIMS, New Delhi
11. To evaluate combination of biochemical and biophysical marker in prediction of preeclampsia, Department of Physiology/ AIIMS, New Delhi
12. To study the effect of a locally administered multifunctional cocktail on postoperative pain and blood loss in elective lumbar spinal surgeries: A prospective randomized control trial, Neurosurgery

#### ***FORENSIC MEDICINE***

1. Development and method validation for Z-uugs and Tramadol analysis in biological matrices, National Forensic Science University, Delhi campus
2. The evaluation of STR markers in various Global and Indian populations for exploring the correlation between genotype and geolocation, National Forensic Science University, Delhi campus

#### ***HOSPITAL ADMINISTRATION***

1. Evaluation of Medical certification of death at AIIMS and to prepare a training programme in collaboration with the Dept of CCM

#### ***LAB-MEDICINE***

1. “Impact of rTMS versus ug therapy on phantom limb pain in lower limb amputation patients: A Randomized control trial”.- (Co-PI), (PI- Sushma Sagar), Surgery Budget:- Rs 60,00,000/- 2022-25, Funding agency – ICMR project.
2. “Impact of yoga intervention on functional assessment and quality of life in pelvic injury patients at level-I trauma Centre – A Randomized Control Trial.”- (Co-PI), (PI- Dinesh Bagaria), Surgery Budget:- Rs 35,98,960/-, 2021-24, Funding agency – SATYAM project.
3. “Role of Biomarkers in predicting Evolution of Cerebral Edema following Traumatic Brain Injury”(as co PI), (PI- Kokkula Praneeth), Neurosurgery, Budget:- Rs 9,00,000/, 2020- 2023, Intramural Project.
4. A comparative study of melatonin, gabapentin and alprazolam in reducing preoperative anxiety, Kelika Prakash, Anesthesia
5. An international randomized trial of additional treatments for COVID-19 in hospitalized patients who are receiving the local standard of care, Medicine
6. Comparing safety and efficacy of indigenous with fan versus standard goggles in health care worker in COVID ICU, Anesthesia, JPNATC
7. Evaluation of CD4 T-cell function among pulmonary tuberculosis (PTB) patients with or without Type 2 diabetes mellitus and its correlation with anti-tubercular therapy (ATT) response: a prospective blinded study, Lab Medicine Department, Main Hospital
8. Evaluation of novel technologies and biomarkers for diagnosis and prognosis of SARS-CoV-2 (COVID-19) in leftover samples, Lab Medicine
9. Evaluation of Parathyroid hormone as endpoint of resuscitation in trauma haemorrhagic shock patients, PI- Dinesh Bagaria, Surgery 5 lakhs
10. Examination of myelination and oligodendrocyte pathology associated with severe post-traumatic brain injury, Sanjeev Lalwani, Forensic dept, TC
11. Gait Kinematics and neurogenic bladder in incomplete spinal cord injury patients following transcranial magnetic stimulation: a randomized controlled trial, Department of Physiology
12. Implementation of AMSP in various tertiary centers across India, Anesthesia & Critical Care, JPNATC
13. Incidence of Ventilator-associated events and impact of bundled care: implementing updated National Healthcare safety network surveillance criteria, Anesthesia & Critical Care, JPNATC

14. Maternal and fetal Outcomes after exposure to COVID-19 at various stages in pregnancy: A Longitudinal assessment for seroconversion and its correlation to outcomes, Obs & Gynae
15. Metabolomic Profiling and Serial Changes in Patients with Isolated Blunt ChestTrauma –A Prospective, cohort, feasible and exploratory study. Abhinav Kumar, Surgery, TC
16. Predictive detection of Osteoporotic fractures in Indian population based on Artificial Intelligence Implementation, Orthopedics, JPNATC
17. Saliva as an Alternate Specimen Source for Detection of SARS-CoV-2 in Symptomatic Patients Using Cepheid Xpert Xpress SARS CoV-2 in an outpatient setting, Lab Medicine Department, Main Hospital
18. SCOPE-Surveillance of COVID in Pregnancy-Standardizing data collection and protocol for improving the Quality of evidence on clinical characteristics and outcomes of COVID-19 and Pregnancy, Obs & Gynae
19. Seroprevalence of Dengue and outcome among COVID-19 patients, Medicine
20. Serum Vascular endothelial growth factor and Endostatin as an adjunct to clinical decision making in managing symptomatic radiation induced changes post Gamma Knife in cranial Arterio-venous Malformations patients: Observational study, Shweta Kedia, NS Institute project
21. Study Of The Serum Complement C3 And C4 Levels in Patients Undergoing Intramedullary Nailing ForFracture Shaft Femur, Laboratory Medicine, JNATC, AIIMS
22. Title:- “To study the effect of Immediate Post Operative Prosthesis in relation to post-surgical outcome, balance and quality of life in Above Knee Amputation patients (post traumatic): A Pilot Randomized Controlled Trial”.- (Co-PI), (PI- Junaid Alam), Surgery, Budget:- Rs 65,00,000/-, 2023- 2025, Funding agency – ICMR project.
23. To evaluate combination of biochemical and biophysical marker in prediction of preeclampsia, Department of Physiology/ AIIMS, New Delhi
24. To study the gene expression, activation of cellular signaling pathway and its correlation with clinical outcome among trauma hemorrhagic shock T/HS (ICMR), Sanjeev Bhoi, Emergency Dept, TC
25. To study the role of cell free DNA among THS patients and its correlation with clinical outcome and severity of injury (ICMR), Sanjeev Bhoi, Emergency Dept, TC
26. Triacetylfusarinine C (TAFC) in urine/serum as a potential biomarker for early diagnosis of invasive pulmonary aspergillosis in patients with hematological malignancies, Lab Medicine Department, Main Hospital

#### ***NEUROSURGERY***

1. Evaluation of Cathepsin B in peripheral blood of Isolated Traumatic Brain Injury patients and its correlation, Department of Lab Medicine
2. Posterior cervical fixation versus long-term cervical collar for management of Hirayama Disease: Prospective randomized open blinded endpoint (PROBE), phase III study, Neurology and Neurosurgery, AIIMS, New Delhi.

#### ***NEURO-ANAESTHESIA***

1. Development and validation of novel pressure measuring device for measuring the collapsing pressure of internal Jugular vein during an ultrasound examination, AIIMS+ IIT Delhi
2. Comparison of C-MAC video-laryngoscope with D-Blade, C-MAC video-laryngoscope with standard blade, and Macintosh Laryngoscopes for intubation with cervical spine immobilization: a randomized study, Neuroanesthesiology and critical care
3. Detection of the saline-filled cuff by ultrasonography for confirmation of correct endotracheal tube position in adult patients: A prospective observational study, Neuroanesthesiology and critical care

#### ***ORTHOPEDICS***

1. Biomechanical study on the efficacy of rehabilitation for subjects with trauma-induced gait impairment, IIT

#### ***TRAUMA SURGERY***

1. Retrospective assessment of road injuries and fatalities in Delhi referral trauma hospitals, post-mortem centres, and city-wide ambulance services, Transport Research and Injury Prevention Program (TRIPP), Indian Institute of Technology, Delhi.
2. Capacity building and strengthening of Hospital Infection Control to detect and prevent antimicrobial resistance in India (CDC), Purva Mathur, Professor, Dept. of Lab Medicine, JPNATC, AIIMS, New Delhi

3. Evaluation of adaptability of indigenously developed low-cost light weight polycentric polymeric knee joint (PPKJ) and its effect on quality of life & rehabilitation on post-traumatic transfemoral amputees, Mohit Joshi, Deptt of Surgical Disciplines AIIMS Delhi, Prof Naresh Bhatnagar, IIT Delhi
4. Evaluation of a novel herbal antiseptic formulation-SEPIL for the treatment of chronic limb ulcers and pressure ulcers: A randomized, double blind, placebo-controlled trial, Vijay Sharma, Prof Div of Orthopedics, JPNATC AIIMS, Prof Vivek Verma, IIT Kanpur
5. Effect of repetitive transcranial magnetic stimulation (rTMS) of dorsolateral prefrontal cortex (DLPFC) in patients with phantom limb pain, Akansha Singh, Deptt of Physiology, AIIMS Delhi
6. Evaluation of outcome of three-dimensional printing model and stimulation program for post-traumatic nasal deformities correction, Raj Manas, Deptt of Plastic Reconstructive & Burns Surgery, AIIMS Delhi

### ***Completed***

#### ***ANAESTHESIA***

1. Assessment of workload and musculoskeletal symptoms among minimal access surgeons- A Prospective Study, Department of Surgery (MAS)/ AIIMS, New Delhi
2. Association of calcium levels with outcome in covid patients, Lab Medicine
3. Clinical profile and secondary infections in COVID-19, Lab. medicine
4. Comparing safety and efficacy of indigenous goggles with fan versus standard goggles in health care worker in COVID ICU, Anaesthesiology and Critical Care, Lab Medicine, Hospital Administration
5. Comparison of different video laryngoscopes for nasotracheal intubation in manikin with difficult airway by experienced anaesthesiologists: A randomised, self-controlled, crossover trial, Department of Oncoanaesthesia and Palliative Medicine, AIIMS New Delhi
6. Correlation of the gastric residual volume determined by ultrasound and acceptance of enteral tube feed in medical /surgical ICU – an observational study, Anaesthesia
7. Electrolyte abnormalities in patients with head injury during ICU stay: a prospective observational study, Lab Medicine, JPNATC, AIIMS
8. Enhancing the success and safety of endotracheal intubation by development of an innovative intubation system: A Pilot Project
9. Evaluation of menstrual pattern, fertility, pregnancy outcomes and its modulation by gluten-free diet in females with Celiac disease, Department of Gastroenterology. / AIIMS, New Delhi
10. Evaluation of renal function parameters during pregnancy and its correlation with maternal and fetal outcome.
11. Proficiency evaluation of novice anaesthesiology residents in simulated awake fiberoptic guided oral intubation after a structured training program- a manikin-based study.
12. Department of Anaesthesiology, Critical Care and Pain Medicine, AIIMS, New Delhi
13. Role of neutrophils and new immune cells in the outcome of Chest trauma patients. Trauma Surgery
14. Study of vaginal microbiome and metabolome in women with bacterial vaginosis (B/V) and healthy controls, Department of Dermatology and Venereology/ AIIMS, New Delhi
15. To evaluate the efficacy of two different doses of intravenous dexamethasone on the duration of subarachnoid block in patients undergoing infraumbilical surgery: A randomized control double blind study. Dept. of Anaesthesia, Critical and Pain Medicine, AIIMS, New Delhi
16. Ultrasound guided pericapsular nerve group block for improving positioning before central neuraxial block in patients undergoing surgery for neck of femur and inter trochanteric fracture-a randomized controlled pilot study. Dept. of Anaesthesia, Critical and Pain Medicine, AIIMS, New Delhi

#### ***FORENSIC MEDICINE***

1. To study the extent of variation in ridge characteristics and determining gender among twins using their fingerprint characteristics, Department of Forensic Medicine, KMC, Manipal

#### ***LAB MEDICINE***

1. Role of T-helper cells and neutrophils in the outcome of patients with chest trauma, Trauma Surgery
2. To study the effect of Yoga on Pulmonary functions, Respiratory muscle strength and endurance, Chest wall mobility, Inflammatory markers and Quality of life in blunt chest trauma patients and their correlation with Thoracic Trauma Severity Score at level-I trauma centre, Trauma Surgery
3. To study clinical and immunological parameters in predicting short-term outcomes in polytrauma patients admitted to Trauma Surgery, Trauma Surgery



4. To study splenic functions and complications following blunt splenic trauma at level-I trauma centre, Trauma Surgery
5. To study the impact of Yoga on pulmonary functions, immune response and quality of life in chest trauma patients at level-I trauma Centre, Trauma Surgery
6. Effect of Curcumin and its combination with Piperine in experimentally induced Liver fibrosis in rats: A comparative analysis.”, Shilpa Sharma Pediatric Surgery, JPNATC, AIIMS, Intramural grant
7. Amniotic fluid Mesenchymal stem cells engineered to a skin substitution patch with 3D bioprinting, Shilpa Sharma Pediatric Surgery, JPNATC, AIIMS, UCL–AIIMS, New Delhi
8. Comparison of Two Protocols of Carbon Tetrachloride-Induced Cirrhosis in Rats – Improving Yield and Reproducibility, Shilpa Sharma, Pediatric Surgery, JPNATC, AIIMS
9. “A randomized control trial for evaluation of effects of leukoreduced blood transfusion on infection risk in severely injured trauma patients”, F.5-59/IRG/2010/RS Rahul Chaurasia, Blood Bank
10. Stress response to C-Mac video laryngoscope versus Direct Laryngoscopy for tracheal intubation in patients with cervical spine immobilization, Chhavi, Anesthesia
11. Post Mortem Histopathological study of post TBI induced axonal injury using silver and A $\beta$ PP stains in corpus callosum, thalamus and brain stem. Sanjeev Lalwani, FM

#### **NEURO-ANAESTHESIA**

1. Comparing efficacy and safety of indigenous goggles with fan versus standard goggles in health care workers in COVID ICU: A pilot study, Neuroanesthesiology and critical care

#### **ORTHOPEDICS**

1. Biomechanical Design Evaluation of Knee Implants for Indian Population, IIT
2. Computer based surgical planning for patient with fused hip and spino-pelvic deformities, IIT

#### **TRAUMA SURGERY**

1. Estimating Post-Crash Accessibility to Trauma care Facility in Delhi **Amit Gupta**, Transport Research and Injury Prevention Program (TRIPP), Indian Institute of Technology, Delhi.

#### **PUBLICATIONS**

Journal: 265      Abstract: 10      Chapters in Book: 32      Books & Monographs: 02  
 Last 3 years Publications

Year	Publications				
	Article	Abstract	Chapters	Book/monograph	Total
2022-2023	265	10	32	2	309
2021-2022	171	3	9	0	183
2020-2021	377	18	18	0	413

#### **PATIENT CARE**

##### **Overall JPNATC Statistics at a Glance:**

<b>I. A. Total Bed Strength of facility</b>	<b>: 265*</b>
Ward beds	: 172
ICU beds	: 032
Private Bed	: 022
EM Deptt. (Triage)	: 018
Covid Beds	: 011
<b>B. Total Admission beds</b>	<b>: 226</b>
Ward Beds	: 172
ICU beds 2nd floor	: 12
ICU beds 3rd floor	: 20
Private Beds	: 22

### C. Deptt. wise bed distribution

Ortho	: 060
TSCC	: 044
Neurosurgery	: 072
Pvt.beds	: 022
Emergency Deptt.	: 018
Covid	: 011
Others [Disaster+EHS+MS pool,G.ICU]	: 028
Total beds	: 255*

\*Ward TC-01 is under Renovation w.e.f: 25 October 2022 vide issued circular from AMS- Office No: F.No.100/MS/JPNATC/22 dt. 25/10/2022. Therefore, Total beds in TC = 237 + 18 ED (Triage) = 255.

### II. Statistics at a Glance

Total No. of E.D. Attendance	: 60430 patients
Average patients per day	: 165.56
Total No. of Admission	: 7515
Average admissions per day	: 20.58
Average Length of Stay (LOS) days	: 8.91 Days
Total No. of Follow-up OPD Cases	: 42800 patients
Avg. Follow up OPD pt. attendance per day	: 144.10

### III. Total No. of Cases in E.D. : 60430

Males	: 39929
Females	: 14836
Male Child	: 03696
Female Child	: 01956
Other	: 00013
MLC	: 34032
NMLC	: 26398

### Triage category

Green	: 17977
Yellow	: 33045
Red	: 05653
Black	: 00135
OPD	: 03614
Radiology	: 00004
Others	: 00002

### IV. Total No. of Follow-up OPD Cases : 42800

New	: 18269
Old (Re-visit)	: 24531
Male	: 28220
Female	: 10315
Male Child	: 02894
Female Child	: 01371

### Specialty-wise break-up

Ortho	: 30675
TSCC	: 04844
Neurosurgery	: 06217
OMS	: 01017
Urology	: 00047

<b>V. Total No. of Admissions</b>	<b>: 7515</b>	
Regular	: 7501	
Short	: 14	
MLC	: 5544	: 08
NMLC	: 1957	: 06
Male	: 5490	: 09
Female	: 1310	: 03
Male Child	: 0438	: 02
Female Child	: 0262	: 00
Others	: 0001	: 00

**Specialty-wise break-up**

Orthopedics	: 3166	: 05
TSCC	: 1936	: 08
Neurosurgery	: 2142	: 01
PRS	: 0235	: 00
ENT	: 0005	: 00
PEAD	: 0017	: 00

**VI. Total No. of Operations performed : 8001**

Major	: 7896
Minor	: 0105
Male	: 6112
Female	: 1156
Male Child	: 0544
Female Child	: 0189

**Specialty-wise break-up**

Orthopedics	: 3916
TSCC	: 2135
Neurosurgery	: 1486
PRS	: 0464

**VII. Total Discharges : 7224**

Male	: 5334
Female	: 1260
Male Child	: 0399
Female Child	: 0231
Others	: 0000

**Department-wise Distribution**

Ortho	:3121	: 06.46
TSCC	:1912	: 10.05
Neurosurgery	:1945	: 11.79
PRS	:0224	: 08.14
ENT	:0003	: -
Pead.	:0019	: 11.00

**Department-wise: LOS**

<b>VIII. Days of Care</b>	<b>: 64379</b>
Ortho	: 20171
TSCC	: 19227
Neurosurgery	: 22947
PRS	: 01825
Pead.	: 00209

<b>IX. Total Deaths Registered</b>	<b>: 865 (M-686, F-121, MC-30, FC-28)</b>
Brought Dead Cases	: 351
<b>Total Death occurred at TC</b>	
(Death Registered – Brought Dead)	: 514 (865 - 351 = 514)
Deaths Under 48 Hours	: 137
Deaths Over 48 Hours	: 377
Gross Death Rate	: 7.11%
Net Death Rate	: 5.31%
Bed Occupancy Rate	: 78.04%
Average length of Stay/pt.	: 8.91 days
Bed Turnover rate	: 2.66 pts.

**X. State-wise ED Patient attendance Distribution JPNATC April 2022 to March 2023**

Year	DL	UP	HR	PB	RAJ	GUJ	AP	MP	MAH	UK
April-22 to March-23	48830	4962	3285	65	450	17	18	255	48	00
Year	HP	BR	JHK	J&K	WB	ORISSA	TN	Other States	F.Ctry.	Total
April-22 to March-23	31	1322	151	63	186	53	26	639	29	60430

**XI. State-wise distribution of Patient Admission in JPNATC April 2022 to March 2023**

Year	DL	UP	HR	PB	RAJ	GUJ	AP	MP	MAH	UK
April-22 to March-23	4472	1498	882	08	80	02	02	89	05	00
Year	HP	BR	JHK	J&K	WB	ORISSA	TN	Oth. States	F.Ctry.	Total
April-22 to March-23	03	263	39	13	18	09	00	127	05	7515

**Anaesthesia**

**OT**

Item	2020-2021	2021-2022	2022-2023
GA administered	NA		2371
RA administered	3504		
GA with RA	287		
Monitored anaesthesia care	28		
Pain Services (Acute and Chronic)			1492
Peripheral Services (MRI/DSA)			138

## General ICU

Item	2020-2021	2021-2022	2022-2023
Admissions		NA	595
Bronchoscopy		227	
Tracheostomy		86	
Dialysis		170	

## Critical & Intensive Care

Routine and emergency ICU and OT care of patients at JPNATC. Dedicated Pain Clinic and Pre-anesthesia Clinic at JPNATC.

Item	2020-2021	2021-2022	2022-2023
Special Clinic Consultations (PAC/Pain)	COVID period	COVID period	1490
Operating room procedures	30 (COVID)	403 (COVID)	1490
TC-3 ICU patient care	COVID period	COVID period	1160

## Forensic Medicine

- Forensic Histopathology
  - Number of Cases: 212
  - Number of Samples Processed: 543
- Collection of Sample for DNA Test
  - In a case forwarded by Shri Ankit Karan Singh, Civil Judge-01(West), Delhi dated 3/1/2023
  - In process of making, it operational completely very soon, awaiting few important scientific equipment
- Medico-Legal Work
  - Opinion on JPNATC MLC's: 520
  - Opinion on other hospital MLC: 14
  - Opinion on Post-mortem Report: 18
  - Total no. of Opinions: 552
  - Number of Post Mortem's (April '22- March '23): 1103
- Emergency:
  - Division of Forensic Pathology and Molecular DNA Laboratory at JPNATC is providing round-the-clock medico-legal services like in cases of injury, sexual offences etc. reported to Emergency Services of JPNATC.
- Autopsy Services A total of 1103 medico-legal autopsies were conducted at mortuary of JPNATC.
- Summons Doctors of the Division attended court of law in cases from Delhi and other states.
- Community Services
  - The Division continues to participate in training program for CBI officials, police officers and public prosecutors from all over the country.
- Organ Retrieval for Therapeutic Transplantation
  - The Division of JPNATC facilitated eye donation, heart valve donation and organ retrieval in brain-dead trauma patients for transplantation by National Eye Bank and ORBO.
- DNA Laboratory
  - The division is in process of Establishing Molecular DNA Laboratory at JPNATC as a part of Disaster Victim Identification.

## Gynaecology

- Apart from regular care of gynecologic and high-risk pregnant women, minimally invasive surgeries in complicated referral cases are being performed.
- Specialized care provided to DSD cases and gynae endocrine clinic.

- Labor Room and high-risk Obstetric services were shifted by Dr Garima Kachhawa at the new MCH block.
- Initiated the starting of the new specialized menopausal clinic to address the concerns of postmenopausal women.

Item	2020-2021	2021-2022	2022-2023
OPD consultations	25 per week	70 per week	70 per week
Special clinic consultations	5 per week	5 per week	5 per week
Patients provided rehabilitation services	30 per week	75 per week	75 per week
Total inpatient admissions	5 per week	10 per week	10 per week

#### Lab medicine

Total tests conducted in **biochemistry** (LFT, RFT, sugar, electrolytes, enzymes, lipid profile, CK, CK MB, LDH, CRP) = 8,64,752

Total tests conducted in **hematology** (hemogram, coagulation and clinical pathology) = 6,88,055

Total tests conducted in **immunology** (IL 6, ferritin, Troponin, BNP, PCT, vit D, PTH, TFT, cortisol) = 4493

Total tests conducted in **Histopathology** (routine and Forensic/ cytology) = 6591

**Net Tests Conducted in Lab. Medicine = 9,78,362**

No. of tests	2020-2021	2021-2022	2022-2023
Biochemistry / Immunology (electrolytes, enzymes, lipid profile)	443018	487329	8,64,752
Haematology, coagulation, Clinical pathology	325972	459704	6, 88,055
Immunology	17611	26985	8,542
Histopathology	2238	4353	6571

**Samples processed in Microbiology Laboratory, JPNA Trauma Center: 1 April 2022 to 31 March 2023**

S.No.	Description	Tests
<b>Microbiology</b>		
1	Total Microbiology Sample	20541
2	Positive sample	4516
3	Sensitivity	4516
4	Hospital Infection Control	5540
5	Rectal Sample	277
6	KOH/Fungal	91
	Total	35481
<b>Serology</b>		
1	HIV (spot)	1800
2	HBsAg (spot)	1800
3	HCV (spot)	1875
4	HIV (Vidas)	1800
5	HBsAg (Vidas)	1800
6	PCT (Vidas)	4330
7	Anti HBs	26
8	IgG	25
9	IgM	25
	Total	13,481

## Neurosurgery

Item	2020-2021	2021-2022	2022-2023
OPD consultations	NA	NA	1000
Special clinic consultations	NA	NA	40
Patients provided rehabilitation services			200
Total inpatient admissions	NA	NA	250

## Psychiatry

Appointment of Psychiatry faculty (Dr Nishtha Chawla) at JPNATC w.e.f. 3rd December 2022. Psychiatry faculty ward rounds are conducted on Tuesdays and Fridays for all patients requiring psychiatry consultation along with a junior and a senior resident. Follow-up psychiatry clinic for JPNATC patients started for discharged patients requiring long-term psychiatry care every Friday, w.e.f, 3 February 2023.

Item	2020-2021	2021-2022	2022-2023
Special clinic consultations	NA	NA	22

## Radiology

Radiology section at the Trauma Center is equipped with state-of-the-art equipments consisting of two flat panel radiography units (one in emergency bay), 6 mobile digital radiography units (stationed in emergency, ICUs and wards), one digital fluoroscopy unit, one dental unit, two state-of-the-art 128 slice Multidetector CT scanners including one dual energy unit, one 3T magnetic resonance imaging (MRI) unit with all advanced applications, 3 ultrasound units and one Digital Subtraction (DSA) unit for interventional procedures. Besides the above, the Radiology section also provides services to the C arm units in OTs and portable head CT scanner in ICU. The Radiology section has a full-fledged PACS and RIS and is a filmless department for the last 12 years.

The details of investigations done in last year 1 April 2022 – 31 March 2023 are as below

Sl. No	Month	CT Scan	MRI	Ultrasound	X-Ray Casualty	X-Ray OPD R.No-53	X-Ray Ward R.No-53	Portable X-RAY	DSA	Fluoro	Port CT	Dental
1	Apr 2022	2015	121	2448	4908	584	204	1756	17	14	30	00
2	May 2022	2095	116	2796	6000	511	196	1745	16	09	34	05
3	Jun 2022	2050	126	2397	5807	1249	230	1679	09	14	57	04
4	Jul 2022	2188	147	2647	5917	1276	217	1893	09	14	54	03
5	Aug 2022	2560	135	2777	6329	1332	198	1873	00	12	48	01
6	Sept 2022	2456	155	3242	5819	1361	201	1555	04	14	72	00
7	Oct 2022	2859	133	3658	6455	1337	218	1688	13	11	96	00
8	Nov 2022	2552	203	3143	5892	1557	205	1892	08	14	95	00
9	Dec 2022	2418	185	3265	6341	1588	193	1950	08	20	46	07
10	Jan 2023	2142	175	3046	5369	1500	201	1907	12	09	87	00
11	Feb 2023	2365	176	3116	5122	1654	166	1980	10	10	89	00
12	Mar 2023	2548	192	3291	6332	1397	167	1815	06	03	87	00
	<b>Total</b>	<b>28248</b>	<b>1764</b>	<b>35826</b>	<b>70291</b>	<b>15346</b>	<b>2396</b>	<b>21733</b>	<b>102</b>	<b>144</b>	<b>795</b>	<b>20</b>

### Trauma Surgery & Critical Care

- Amputation clinic being run at JPNATC for Amputees
- Regularly organize free distribution of prosthesis/Assistive devices by NGO groups.
- Yoga awareness program run for admitted patients in wards by Yoga instructor as part of divisional research project
- Regular distribution of teaching books, toys, coloring materials to children admitted in trauma surgery wards by division staff

### Community services/camps

- Basic Life Support and Road safety awareness stall being managed by Trauma Surgery Team at Bharat Parv Mela, India Gate on Republic Day 2023 for Min of Road Traffic and Highways in collaboration with IRSC.

Item	2020	2021	2022-23
OPD consultations	1278	275	4844
Special clinic consultations	NA	NA	1649
Total inpatient admissions	1109	1091	1780

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Dr Abhinav Kumar** was invited as the Course faculty and convenor for the Pre-conference Cadaveric workshop of ACSCON 2022. Annual conference of the American College of Surgeons at HIMSR, ND; underwent training of the 5th edition standard of NABH for hospitals in 10-12 November 2023 at JPNATC, AIIMS, ND; was nominated as the Biosafety officer at The Atal Incubation Centre-JNU Foundation for Innovation (AICJNUFI-1081), JNU, New Delhi; invited as the member of Board of Studies for the Trauma & Emergency Department of AIIMS Patna, Bihar; nominated as the Nodal officer for State level training cum workshop for disaster preparedness; invited by National board of examination (NBE) for faculty lecture in Postgraduate teaching program; External Examiner for practical/clinical of final MBBS (General Surgery) at Gopal Narayan University, Jamuhar, BIHAR; External Examiner for Theory/oral (VIVA)/practical/clinical examination of final MBBS (General Surgery) at University of Delhi, New Delhi.

**Professor Adarsh Kumar** delivered **First MR Chandran Oration** on “**Virtual Autopsy**” during First State Conference of Kerala Medicolegal Society “**KMLECON-2023**” held on 22 January 2023 at Jubilee Mission Medical College, Thrissur, Kerala; was elected Secretary General of Indo-pacific Association of Law, Medicine & Science (INPALMS). Elected Vice President of Indian Academy of Forensic Medicine. Nominated Management Committee member of Asia Pacific Association of Medicolegal Agencies (APMLA); Board of Studies Member-External Expert in Forensic Medicine at Manipal University, Manipal, Board of Studies Member-External Expert in Forensic Sciences at The West Bengal University of Juridical Sciences, Kolkata, Research Advisory Board Member in Forensic Sciences and allied subjects of Jain University, Bangalore. Research Advisory Committee member of National Forensic Science University, Ahmedabad and New Delhi campuses; Chairman, Disability Medical Evaluation Board at JPNA Trauma Centre.

**Professor Amit Gupta** was Chairman, Asian Collaboration for Trauma (ACT). November 2022 – Till date; National Coordinator for webinars for the Fellowship of National Board of Examinations (FNB) in Trauma and Acute Care Surgery. National Board of Examination in Medical Sciences, MoH&FW, Govt. of India. January 2021- till date; Education Committee Chair of the Asian Collaboration on Trauma. December 2020-Till Date; Chairman Academy of the Asian Collaboration for Trauma (ACT) December 2020 – November 2022; Member: Experts Group NIHFW, for the Course on Hospital Preparedness for Health Emergencies for Senior Hospital Administrators. 2018 – till date; Member: Experts Group NIHFW, for the Training on Hospital Preparedness for Health Emergencies for District Health Officers. 2018 – till date; Member, Medical Board for Medical/Psychological Examination at AIIMS for Antarctic Expedition Team. 2016 till date; Subject Expert of Trauma and Emergency for the Standing Selection Committee for faculty Interviews on 12 November 2022, AIIMS, Patna; Subject Expert of Trauma and Emergency for the Standing Selection Committee for faculty Interviews on 20 November 2022, AIIMS, Nagpur; Subject Expert of Trauma and Emergency for the Standing Selection Committee for faculty Interviews on 11 February 2023, AIIMS Gorakhpur; Examiner for General Surgery Practical Exam on 10-12 February 2023 at Armed Forces Medical College, Pune; Subject Expert of Trauma and Emergency for the Standing Selection Committee for faculty Interviews on 17 February 2023, AIIMS, Patna.

**Dr Anant Gupta** was awarded the DMA Distinguished Service Award; Organized two training workshop of NABH 5 Edition at JPNATC; Member Secretary and Project Officer of Infectious Disease and Critical Care Block; Member of SPC of JPNATC; Member of SPC of Main Hospital; Guest Lecture for IIM Jammu; had been involved in various



projects of Institute as well as JPNATC like the CBRN facility, Modular OT, Hybrid OT, CAPFIMS, Critical Care Block, NABH etc. His most significant contribution is towards the Infectious Disease and Critical Care Block whereby applying knowledge of Hospital planning and designing to design the above-mentioned block and to make it a Model Block. Also, his other contribution is as NABH coordinator for JPNATC which has taken the first step towards ensuring quality care to patients; Member of Space allocation committee at JPNATC. Space for ICU, Emergency. Operationalization of TC3 A ICU was involved in Modular OT project which is nearing Completion; involved in Hybrid OT project (47 Cr) from creation to SFC agenda . Currently in tendering stage; Draft report for Takeover of CAPFIMS Medical College by AIIMS New Delhi along with Dr Angel; Planning and Designing of CBRN Facility at JPNATC. Site and Feasibility report creation; Planning and Designing of OPD at JPNATC to augment the OPD Chambers; Planning and Designing and operationalization of 5 bedded ICU to be used at Disaster beds; Planning of space for shifting of billing section to a place near the Main Hospital; Coordinator of NABH entry level. Application filed for entry level NABH. More than 10 manuals and various processes created; Involved in tenders for hiring agency to help AIIMS for NABH and NABL; Nodal person at JPNATC for Containment of Vector Borne Diseases; Member in Implementation of Good Samaritan Scheme; Member of Quick Response team; Planning and Conduction of Meeting of Director AIIMS with Medical Superintendent of hospitals in Delhi for smooth referral; Officer in charge of Emergency and transport at Main Hospital for Brief Period; involved in enquiry committees; Member of Medical Record Committee at JPNATC; Creation of Draft KPI for Director AIIMS to document Achievements of Departments of AIIMS; Member of Department Academic Committee; Creation of Dashboard for Emergency of Main Hospital and JPNATC in coordination with the respective Computer Facility; Member Secretary and Project Officer of Infectious Disease and Critical Care Block; Member of SPC of JPNATC; Member of SPC of Main Hospital.

**Professor Arul Selvi** is Member in preparation of competency-based Curriculum for PG, in Subject of immunohematology Transfusion/Transfusion & Blood Medicine to Medical Council of India; Member of PG expert committee to medical council of India in selection of colleges for starting or upgrading PG medical courses in India; Member of the Project Implementation Committee for Metro Blood Bank at Chennai; Member of the committee in preparing Metro Blood Bank in the campus of Central Health Education Bureau (CHEB) located at Kotla Road New Delhi; Member of Project Review and Advisory Committee Meeting in Long-term Development and Sustenance of Database of Scientific Equipment (Phase III) Department of Science & Technology (DST) Government of India; Preparing SOP and training technical staffs, residents on each laboratory techniques, getting laboratory prepared for NABH and NABL accreditation; Chairman of technical specification committee for laboratory consumables / items; Member of Hospital purchase committee in various common stationaries, linen, computer peripherals through Gem in JPNATC, AIIMS; Co-ordinating Hospital Transfusion committee meeting in JPNATC; Arranging various indoor and outdoor voluntary blood donation camps to meet the needs of JPNATC trauma patients' treatment; Associate editor in Journal of Laboratory Physicians (Thieme publication), Reviewer of several PubMed indexed journals e.g. IJHBT, IJHB, IJO, under series of BMC, Wiley, MDPI journals.

**Professor Ashish Bindra** is Section Editor, Neurology India; Section Editor, Frontiers in Anesthesiology; Organized World Food Day celebration on 18th October 2022 at JPNA Trauma Center. Organized healthy food stalls, painting competitions, and made millet-based recipes; External Examiner for the conduct of DM in Neuroanaesthesia & Neurocritical Care- Part II Annual Examination to be held during June 2022; External Examiner for the conduct of DM in Neuroanaesthesia & Neurocritical Care- Part II Annual Examination to be held during December 2022; Member Scientific committee, Annual Conference of Neurocritical Care Society of India 2022; Chairperson: Oral Award Paper Presentation, TRAUMA 2022 & Asian Trauma Congress 2022; Member Scientific Committee, Annual Conference of Indian Society of Neuroanesthesiology and Critical Care 2023; Chairperson: Addressing knowledge gaps in brain death certification and organ donation from brain dead, Annual Neurotrauma Conference 2023; Organising Committee 8th Annual AIIMS Neuroanaesthesia and Neurocritical Care Update and 3rd Neurocritical Society of India Conference 2023; Member education committee Society for Neuroscience in Anesthesiology and Critical Care (SNACC); Vice-chair Indian Society of Neuroanesthesiology and Critical Care, e-education platform.

**Professor Atin Kumar** is Member of Research Committee of American Society of Emergency Radiology 2023 Sub-speciality chapter head (Emergency Radiology) of Indian Radiology and Imaging Association (IRIA); Editorial board member of Indian Journal of Radiology and Imaging (IJRI); Silver medal in Tennis (doubles) and bronze medal in Tennis (singles) in IRIA Olympics – annual sports event at Annual conference of Indian Radiology and Imaging Association at Amritsar 1-5 March 2023.

**Professor Babita Gupta** was nominated as an Expert for drafting syllabus/curriculum for FNB 'Trauma Anaesthesia and Critical Care' by National Board of Examination; nominated as an Expert in Ethics Committee, National Medical Commission; External examiner for thesis evaluation at Guru Gobind Singh Indraprastha University, Postgraduate Institute of Medical Education and Research and Baba Faridkot University; was invited as Chairperson in Trauma session in "ISACON" (National Conference) held from 25 to 28 November 2022 in Shillong; was invited as Chairperson

for a session on “Trauma 2022” held from 18 to 20 November 2022 in Delhi; Judge for e-poster presentation Advanced Airway workshop by Airway Management Foundation; Chairperson in “Comprehensive Symposium on Ultrasound for the Anaesthesiology” held on 25th February 2023 at AIIMS, New Delhi; was nominated as an expert for inspection and approval of “FNB Trauma Anaesthesia and Critical Care” Course

**Professor Biplab Mishra** is Chairperson: Annual day & CME in Surgery General Surgery & Endocrine Surgery: 3 September 2022, New Delhi; Session chair: Vascular trauma at Trauma 2022 & Asian Trauma Congress 2022: 18 November 2022, New Delhi; Chair: Injuries to neck and thorax at Trauma 2022 & Asian Trauma Congress 2022: 18 November 2022, New Delhi.

**Dr Dinesh Kumar Bagaria** is Expert in International Road Federation pilot project- “bystander First Aid Training program and capacity assessment of health care facilities along national Highways”; Completed AIIMS Endowment Fund Fellowship at Orebro University, Sweden and received “Fellowship in Vascular and endovascular surgery and experimental animal REBOA program; Member of Association of Academic General Surgery Education Committee; Editorial team member of Journal of Trauma and Acute Care Surgery; Member of Eastern Association for the Surgery of Trauma Guideline Committee; Member of International Relation Committee of American Association for the Surgery of Trauma; Formulated guidelines of Massive Hemorrhage Protocol at JPNATC; Participated in Program on Implementation for NABH Hospital 5th Edition Accreditation Standards at JPNATC ON 31 October – 02 November 2022; Chaired the session – “How I do it session by Masters” at Hernia Conclave on 3-4 December 2022 at Choithram Hospital and Research Centre, Indore; Member of Quick Response Team during G20 meeting in New Delhi 25-27 February 2023.

**Professor Garima Kachhawa** in UG Mentorship won Third prize (poster) at Second Annual Research Day (MBBS category) on “Serum alkaline phosphatase as an early diagnostic marker for gestational diabetes mellitus.”, AIIMS, New Delhi held on October 18, 2022. (Dr Arunangshu Bhattacharya). In MD Mentorship, won Dr Siuli Rudra Sinha best paper on Endoscopy, Deoghare M, Kachhawa G, Rapaka G, Mahey R, Sharma J B, Bhatla N, “To compare efficacy of vaginal versus laparoscopic peritoneal vaginoplasty in women with MRKH Syndrome” on 4-8. 1.2023 at 65th AICOG held at Kolkata. (Dr Mansi D); Dr U P Jha & Raj Soni’s Medal for best paper in Endoscopy to Deoghare M, Arora B, Kachhawa G, Mahey R, Bhatla N. Efficacy of laparoscopic davydov’s vaginoplasty in patients with absent vagina: A follow up study” at 44th Annual Conference of AOGD on 12-13.11.2022 at India Habitat Center, ND. (Dr Mansi D); Dr CL Jhaveri Prize Award to Kumari S, Bhatla N, Singh A, Varun N, Mahey R, Kachhawa G, Kumari R, Sharma JB, Sharan P, Singh A. Comparative study of anxiety and depression in low risk vs high risk pregnant women in Indian on 4th – 8th January 2023 at 65th All India Congress of Obstetrics & Gynecology held at Bengal Kolkata. As PhD Candidate, won First prize (UN-SGD Category) for poster at Second Annual Research Day on “The intimate story: components and characteristics of vaginal dysbiosis.” AIIMS, New Delhi held on October 18, 2022. (Dr Apoorva Challa); Second Prize (PhD Category) for oral presentation at Second Annual Research Day on “Omics-based biomarkers of bacterial vaginosis in reproductive- age Indian women.” At AIIMS, ND held on October 18, 2022. (Ms Apoorva Challa); Dr V Govindhan Nair Memorial Award (Silver Medal) was awarded to the PhD work under her guidance to Ms Apoorva Challa; “Machine learning model for microbiome- based diagnosis of bacterial vaginosis in Indian women” at 46th National Conference of IASSTD & AIDS (ASTICON), Telangana on 9-11 September 2022.

**Professor Gyanendra Pal Singh** received Appreciation Award in recognition of Exemplary efforts in teaching and training in the field of Anaesthesiology, by the Indian Society of Anaesthesiologists, Delhi Branch on 9 October 2022; was awarded the “Bharat Vikas Award” on 6 January 2023 by Institute of Self Reliance, Bhubaneswar; was appointed as the Regional Faculty for India by American Heart Association for 2 years duration (2022-2024).

**Dr Junaid Alam** successfully completed Advance Trauma Life Support (ATLS) provider course by American College of Surgeons committee on Trauma at RML Hospital, New Delhi held on 21-23 April 2022; Abstract has been accepted for the scientific exhibition (E-poster presentation) in AOCR 2022 & KCR 2022, Seoul, Korea - “Periportal collar” An imaging alarm of vigorous fluid resuscitation in trauma setting; Organizing team member of Trauma 2022 & Asian Trauma Congress; Workshop Convenor for Workshop on “Hands-on Cadaveric on Trauma Resuscitation – Surgical Exposures” on 17 November 2023 at Cadaveric Lab, JPN Apex Trauma Centre (AIIMS); Poster selected for oral presentation Outcome predictors of patients with extremity amputation following trauma: five years’ experience from level 1 trauma centre, selected for paper presentation in SAWC, USA as co-author 26-30 April 2023.

**Professor Kamran Farooque** has administrative responsibilities as Chairman, TSEC, Officer Incharge- Surgical Stores, TNC System, and Unit Incharge of Ortho A unit at JPNATC; was awarded the Keynote Lecture on “Neglected Cervical Facet Dislocation with intact Neurology: A management Dilemma” on 21 January 2023 at ROASCON, Kumbhalgarh, Rajasthan; External Examiner for M.S. Orthopedic examination on 4 and 5 May 2022 at MAMC, New Delhi; Assessor for Trauma & Acute Surgery Department at Coimbatore, Tamil Nadu on 11 May 2022, by National Board of Examination;

External Examiner for Thesis Evaluation for Delhi University M.S. Orthopedics; was invited as External Expert for Spine Fellowship Exit Exam of ASSI, on 4 September 2022, at Sanchet Hospital, Pune; invited as External Examiner for MCH Spine Surgery exam at AIIMS, Rishikesh on 9 December 2022; invited as External Expert for M.S. Orthopedics post graduate examination at AIIMS, Patna on 12th December 2022; appointed as External Examiner for thesis Evaluation for Delhi University M.S. Orthopaedics.

**Professor Kapil Dev Soni** was selected to serve as a specialist responsible for evaluating projects for the European Society of Intensive Care Medicine Research Awards Campaign; served as an external examiner for DM Critical Care Medicine examinations at AIIMS Bhopal. He was also an external expert tasked with evaluating theses at PGI Chandigarh and AIIMS Jodhpur; was appointed as an expert for the Faculty Selection Board at Ranchi Institute of Medical Sciences; served as the workshop convenor for organizing workshops at two conferences: NCSI and Trauma 2022; was appointed as a faculty member for the Fellowship of Critical Care Ultrasound within the Indian Society of Critical Care Medicine (ISCCM); contributed expertise as a member of the Advisory Committee on National Thermal Power Corporation (NTPC) COVID management.

**Dr Kokkula Praneeth** was Associate Editor – Journal of Spinal Surgery; Section Editor – Neurology India; Successfully completed AIIMS Faculty Development Course organized by Department of Neurosurgery, AIIMS, New Delhi; Co-Organizing Secretary – AIIMS Neurotrauma Conference (ANTC) 2023; Diploma in Transplant Procurement Management (TPM) Training Course; Diploma in Belt & Road Organ Donation Capacity Improvement Cooperation Training Project.

**Dr Narendra Choudhary** received Fellowship of Asian Collaboration for Trauma (FACT); received short-term training for 3D printed prosthesis development lab set up from Hiroshima University Hospital, Japan under academic exchange program; was conferred honorary post of Joint Secretary for the Indian Society of Trauma & Acute care Surgery; participated as instructor faculty at BLS & ACLS provider course of AHA from 21 to 23 February 2023, organized by ITC, AIIMS New Delhi.

**Professor Navdeep Sokhal** was granted a patent for “A BREATH SAMPLE LINE FOR EFFECTIVE VENTILATION MONITORING” by Government of India on 22 November 2022; successfully organized “AIIMS Critical Care Course” as Course Director on 30-31 January 2023. In this course interns and surgical residents were trained for various lifesaving skills like basic and advanced cardiac life support, airway management, vascular access and cricothyrotomy on mannequins and were taught basic concept of critical care management.

**Professor Niraj Kumar** completed fellowship Program: (CMETI – Part Time Clinical Research Methodology and Evidence Based Medicine) at AIIMS, New Delhi; Instructor (Faculty) of –ATLS, ANC, ACCC, AIIMS – EM-SONO, AUTLS; successfully completed Good Clinical Practice Training Program – and Got GCP completion certificate; was invited in process of recruiting of faculty, department of anesthesia, RIMS, Ranchi (Online) as an expert; was a part of organizing committee member and was the coordinator of hemodynamic monitoring workshop in 3rd Annual Conference of Neurocritical Care Society of India (NCSI 2022) at AIIMS, New Delhi; Conducted National Live Webinar Series at NBEMS (National board of examinations in Medical Sciences) as guest speaker; Co-organizing secretary AIIMS annual spine workshop 7-10 September 2022.

**Dr Nishtha Chawla** won Bhagwat award presented at Annual National Conference of Indian Psychiatric Society (ANCIPS) 2023; initiated weekly Trauma Psychiatry follow-up clinic in JPNATC OPD for follow-up of patients admitted in JPNATC requiring psychiatric consultation/ intervention w.e.f. 3 February 2023; Drafted consultation proforma for specific psychiatry referral in JPNATC; was awarded Life Fellow membership of Addiction Psychiatry Society of India (APSI) 2023; was invited as chair of free paper sessions at National Conference of Indian Association for Social Psychiatry 2022 at Agra.

**Dr Pratyusha Priyadarshini** is Part of organizing team of Trauma 2022 & Asian Trauma Congress; Workshop Convenor for Workshop on “Hands-on work shop for vessel, nerve and tendon repair.” on 17 November 2023 at WET LAB SET FACILITY (AIIMS); Poster selected for oral presentation, “A Study of Abbreviated Discharge Protocol in Patients with Blunt Liver and/or Splenic injury.” selected for paper presentation in AAST, USA as co-author, March 2023.

**Professor Purva Mathur** won Best Poster IAMM Delhi Chapter Award-II for the project: Parveen R, Puraswani M, Srivastava S, Tewari P, Thakur AK, Ningombam A, Valan S, VanderEnde D, Walia K, Mathur P. Surveillance of Hospital Acquired Urinary Tract Infection (HAUTI) in Intensive Care Units (ICUs) of National level network of Indian Hospitals. MICRO-D-CON 2022, 14th Annual Conference of IAMM Delhi Chapter (Laboratory Preparedness in Novel Infections) 5 November 2022, India Habitat Centre, New Delhi; Second prize in Critics Award for the Project Scientist and/fellow category: Puraswani M, Parveen R, Srivastav S, Sharma D, Soni KD, Aggrawal R, Brahmchari Y, Bindra A, Srivastava S, Malpiedi PA, Siromany VA, Vanderende D, Walia K, Malhotra R, Mathur P. Healthcare associated

infection in COVID ICU's: a multicentric study. Annual Research Day, 2022 AIIMS, 16-19 October 2022, AIIMS, Delhi; Second prize in Best oral presentation for the project: Varma S, Sharad N, Kiro V, Srivastava S, Ningombam A, Bindra A, ... Mathur P, et al. Microbiological Profile and the Resistance Pattern of Pathogens in Neurosurgical Patients from a New Delhi Trauma Center. 7th AIIMS Annual Neurotrauma Conference. 18-20 March 2023. JL Auditorium, New Delhi AIIMS; Best oral presentation award for the project: Vedachalam SK, Siromany VA, Malpiedi PA, Hudson M, VanderEnde D, Dikid T, Mathur P, Evaluation of Healthcare-Associated Bloodstream Infection Surveillance System-India, May 2017-December 2021. 66th Annual IPHACON Conference, 23 September 2022, Pune, Maharashtra; 3rd place in the photo contest: Vedachalam SK, Siromany VA, Malpiedi PA, Hudson M, VanderEnde D, Dikid T, Mathur P. Evaluation of newly implemented Healthcare-Associated Bloodstream Infection Surveillance System-India, 2021, 11th Global TEPHINET Conference, 8 September 2022, Panama, City Panama.

**Professor Rajesh Malhotra** participated in Golden Jubilee Oration of IOA on “Alternating Layers of Morcellised Allograft and Injectable Ceramic Bone Graft Substitute in Acetabular Reconstruction – A Novel ‘Sandwich’ Technique” during the 67th Annual Conference of Indian Orthopaedic Association (IOACON 2022) on 29 November to 3 December 2022; Dr N.S. Narasimman Oration on “Change is the Only Constant in Life - My Journey of Four decades in Hip Arthroplasty” in TNOACON 2023 at Chennai on 10-12 February 2023; Prof Narsimha Reddy Oration on “Complications in Arthroplasty-Anticipate, Ascertain, Analyse & Address” in OSSAPCON 2023 at Guntur on 24-26 February 2023; Patron, 1st International AIIMS Spine Deformity Course at New Delhi on 14-15 April 2022; Patron, IInd AIIMS International Spine Deformity Course on 31st March to 1 April 2023 at AIIMS, New Delhi; Best Paper of the Year Award for publication – “Timings of Surgery following SARS CoV-2 Infection: an International Prospective Cohort Study” COVID Surg Collaborative. GlobalSurg Collaborative. *Anaesthesia* 2021;76;748-758. DOI:<https://doi.org/10.1111/anae.15458>. The paper was also mentioned in World Guinness Book of Records in 2021; Best Paper Award for the paper entitled: “Hip Spine Relationship in Patients undergoing Total Hip Arthroplasty” in the category of Best Paper in Arthroplasty Free Paper Session during NZOACON Annual Conference on 6-8 May 2022 at Chandigarh; “Delhi NCR Leading Health Care Provider Award” for JPN Apex Trauma Centre AIIMS by Delhi Medical Association on 28 August 2022; received Capital Foundation National Award for remarkable contribution in the field of Orthopaedics and providing Covid Facilities, presented by Chief Justice of India Mr NV Ramana, 4 September 2022; won First Prize for Annual Hindi Dictation 2021-2022 during Hindi Pakhwara at AIIMS, New Delhi on 15 September 2022; was awarded Rashtriya Gaurav Samman 2022 for Outstanding Achievement & Extra-Ordinary Contribution to the Society in the area of Health Sector felicitated by Aaj Ka Prahari at Constitution Club of India on 8 November 2022 at New Delhi. Member, Executive Board of Indian Society of Hip & Knee Surgeons 2021-22; Chairman, Technical Specification & Evaluation Committee for the Procurement of Cautery Machine, AIIMS; Member, Academic Council for the term of two years w.e.f. 01.07.2021 to 30.06.2023, at Baba Farid University of Health Sciences, Faridkot; Founding Member, Asia Pacific Osteoporosis and Fragility Fracture Society (APOFFS), New Section of APOA; President Elect, Asia Pacific Osteoporosis & Fragility Fracture Society (APOFFS) 2021-2022; Member, Screening Committee for screening the “Various Faculty Posts at AIIMS” constituted on 20th May 2022; Chairman, Committee to introduce M.Sc. Nursing in Trauma and Emergency Nursing as a Speciality for M.Sc. Nursing Program at College of Nursing on 14 June 2022; was invited as a speaker for the Inauguration Ceremony of “Maa Narmada Rahat Clinic” on 2 October 2022; Co-Chairman, Research Committee of Indian Society of Hip & Knee Surgeons (ISHKS) 2021-23; Co-Chairman of the technical committee for the operationalization of Bone Bank at NOTTO (National Organ & Tissue Transplant Organization); Member, Committee to start of the services of liver transplant with living donor at AIIMS, New Delhi on 9 March 2023; Member, Second Meeting of Task Force for Research Resource Service Facility Platform (RRSFP) under DBT-BUILDER Programme (2020-21) on 25-26 April 2022; Member, Third Meeting of the Task Force on Research Resource Service Facility Platforms (RRSFP) (Under DBT SAHAJ-Infrastructure Program) on 7 November 2022; Member, Task Force Committee on Proposal for pre-fabricated, self contained, container based mobile hospital for Amarnath Yatra by Ministry of Health & Family Welfare; Chairman for “Developing Emergency and Critical Care training Curriculum for Medical Officers” constituted by Ministry of Health & Family Welfare on 13 May 2022; Member, Meeting by JS(P) to discuss the proposed Operational & Technical Guideline for Emergency services at District Hospitals by Ministry of Health & Family Welfare on 7 June 2022; Member, Meeting of National Emergency Medical Team (NEMT) Initiative launched by Ministry of Health & Family Welfare in technical collaboration with WHO India on 25 January 2023; Live TV Show Ayushman Bhava on “Knee Pain” on Sansad TV at 01:00 pm on 30 July 2022; Live TV Show Hello Doctor on “Spinal Cord Injuries” on DD Urdu Channel at 04:00 pm on 11 August 2022; TV Show on “Osteoporosis- Karaan aur Upchaar” on DD Kisan Channel at 06:00-07:30 pm on 28 January 2023; “RADIO DOCTOR” a special live Phone-in programme on Knee Pain & Replacement on All India Radio, FM Rainbow Channel of AIR (102.6 MHz) at 3pm-4pm on 10 May 2022; “RADIO DOCTOR” a special live Phone-in programme on Joint Pain & Replacement on All India Radio, FM Rainbow Channel at 3 pm-4 pm on 7 June 2022; “RADIO DOCTOR” a special live Phone-in programme on “Coping with Fracture in different age groups” on All India Radio, FM Rainbow Channel at 3pm-4pm on 19 July 2022; “RADIO DOCTOR” a special live Phone-in programme on “Bone Tumours” on All India Radio, FM Rainbow Channel at 3pm-4pm on 6 September 2022; “RADIO DOCTOR” a special live Phone-in programme on “Accident and Trauma Care” on All India Radio, FM Rainbow Channel at 3pm-4pm on 17 October

2022; “Road Accidents-Reason & Prevention”-Live Phone in program on All India Radio Prasar Bharti at 03:30-04:00 pm on 29 October 2022; “Ek Kadam Aur Bujurgon Ke Liye” a special live Phone-in programme on “Bone and Joint Problems in Elderly” on All India Radio, FM Gold Channel at 09:30-10:00 pm on 11 December 2022; “RADIO DOCTOR” a special Phone-in programme on “Bone Donation and Bone Banking” on All India Radio, FM Rainbow Channel at 3 pm-4 pm on 22 December 2022; “Bone TB-Diagnosis & Treatment”-Live Phone in program on Prasar Bharti at 03:30-04:00 pm on 24 March 2023; External Expert for Standing Selection Committee for selection of Faculty in the Department of Orthopaedics of the All India Institute of Medical Sciences, Jodhpur on Tuesday 12 April 2022; External Expert to examine two M. Tech theses from Department of Mechanical Engineering of the India Institute of Technology, Delhi on 10 June 2022. Candidates: Mr Ankit Kumar, Thesis Entitled: FE based study of injuries in thoracic organs under blast conditions and Mr Pradip Kumar, Thesis Entitled: Distal femoral fracture management: FE Analysis; External Expert for Standing Selection Committee for selection of Faculty in the Department of Orthopaedics of the All India Institute of Medical Sciences, Jodhpur on 27 July 2022; External Expert for Standing Selection Committee for selection of Faculty in the Department of Orthopaedics of the All India Institute of Medical Sciences, Raipur (virtual) on 5 August 2022; Expert for Standing Selection Committee of AIIMS, Kalyani on 13 October 2022; External Expert for the Final Practical Examination of M.Ch at AIIMS Rishikesh on 10 December 2022; Member, Special Selection Board to review and select the Senior Research Associate (Pool Scientist) in the Life Science Domain Constituted on 2nd January 2023; Expert for the Standing Selection Committee (virtual) Interviews for the Faculty (Orthopaedics) of AIIMS Bhopal on 2 February 2023.

**Professor Richa Aggarwal** received FRCP (fellowship of royal college of physicians); was invited as chairperson for the 3rd Annual conference of the Neurocritical Care Society of India (3rd NCSI) and 8 AIIMS Neuroanaesthesia and Neurocritical Care Update 2022 held from 6 to 9 October 2022; invited as a distinguished teacher for Anesthesia Postgraduate Pre Examination Course (APPEC-23) held from 3 to 9 December 2022; invited as judge for the award paper session in 3rd International and 13th Annual National Conference of ICA (ICACON) 2022.

**Dr Riniki Sarma** was awarded 1st Prize in RSACP National Scientific Paper Presentation held by RSACP National from 30 January to 2 February 2023.

**Dr Samarth Mittal** was selected as editorial board member of Journal of Orthopaedics which is a peer – reviewed, pubmed indexed journal and one of the 3 pubmed indexed orthopaedic journals from India; Continued as Section Editor for IJO (Indian Journal of Orthopaedics) which is the official journal of Indian Orthopaedic association and is a Pubmed Indexed journal; Continued as co-opted executive member of Delhi Orthopaedic Association and then elected as Executive committee member of DOA; Continued as Treasurer of APOA (Asia Pacific Orthopaedic Association) YSF India Chapter; Continued as Associate Editor of JCOT (Journal of Clinical Orthopaedics and Trauma) which is the official journal of Delhi Orthopaedic society and is a Pubmed Indexed journal; Developed app for patient education for hip fractures; Upgraded the already developed app on teaching and training of postgraduates; Continued as AOSpine elected delegate member from India; was elected Joint secretary of SDOS (South Delhi Orthopaedic Society); elected as executive committee member NZOACON-2022 (North Zone orthopaedic Association); became member of Membership committee: Making editorial group diverse of the prestigious JCOT peer reviewed, Pubmed indexed journal; passed the Programme on Implementation of NABH 5th Edition Standards for Hospitals conducted on 31 October 2022 to 2 November 2022 at New Delhi; participated in Kargil Medical Camp in last week of October 2022 from Orthopaedics camp to treat the poor patients in far to reach difficult areas; Completed fellowship in trauma at University of Birmingham, Birmingham, Alabama, USA from 21 to 30 September 2022; Completed AO Faculty Education programme held at Mumbai, Maharashtra, India from 8 to 10 August 2022 was elected as Delhi State representative of IOA (Indian Orthopaedic Association).

**Professor Sanjeev Lalwani** was Chief Guest for the 6th convocation ceremony of graduating students of Sharda School of Allied Health Sciences, Sharda University on 11 October 2022; Key Note speaker-2nd International Forensic Forum 2022: Quality Evidence in CSI- Research, Innovation and Challenges on 22 November 2022; delivered Guest Lecture in 8th Batch of Training of Transplant Coordinators on 17 January 2023 at LT – 1, VMMC & Safdarjung Hospital Campus, New Delhi. Topics: Process of Organ Donation in MLC cases.

**Dr Sharmishtha Pathak** was awarded Instructor Candidate at ATLS-Instructor course Jan-2023.

**Professor Shivanand Gamangatti** received JVIR 2021 Editor’s Award for Outstanding Clinical Study for “Long-Term Outcomes of Endovascular Interventions in More than 500 patients with Budd–Chiari Syndrome”, at SIR 2022 Annual Scientific Meeting in Boston, Massachusetts, 14 June 2022.

**Professor Soumita Bagchi** was Associate editor of Seminars in Dialysis.

**Professor Subodh Kumar** was awarded by Delhi Medical Association “Eminent Medical & Health Education Teacher Award” on the occasion of Teacher’s Day Celebrations on 4 September 2022; was Managing Editor of Indian Journal of Surgery, a peer reviewed official Journal of Association of Surgeons of India; nominated as an Expert Member to discuss the issue of “Good Practice” by Deputy Secretary, Ethics and Medical Registration Board (EMRB), National Medical Commission on 20-21 March 2023 at NMC Headquarter, Sector 8, Dwarka, Delhi; nominated as Vice President of Indian Society for Trauma & Acute Care (ISTAC)® in General Body Meeting 2022 of ISTAC during TRAUMA 2022 conference from 17 to 20 November 2022 at JNU Conventional Centre, New Delhi; Co-organizing Secretary-TRAUMA 2022 and Asian Trauma Congress 2022 held on 17-20 November 2022 at JNU Convention Centre, New Delhi; was nominated as the Co-Chair of Hospital, Diagnostics and Wellness Committee of PHDCCI for Presidential Year 2022-23; nominated as an Expert by Global Innovation & Technology Alliance, a joint venture of DST and CLL to attend an on-site Techno Financial Evaluation & Due-Diligence meeting on 11-12 October 2022 at Mysore; invited as Chairperson during SURGICON 2022 Annual Conference of Association of Surgeons of India (Delhi State Chapter, ASI) on 13 November 2022; invited as Chairperson, NABI Mid Term CME 18-19 January 2023, New Delhi; External Expert for the Faculty Selection/APS in General Surgery at All India Institute of Medical Sciences, Jodhpur; External Expert for Faculty Selection at All India Institute of Medical Sciences, Rishikesh; Examiner for Thesis of MS (Surgery) for PGIMER, Chandigarh; Examiner for Thesis of MS (Surgery) for King George’s Medical University, Lucknow; Examiner for Thesis of MCh (Trauma Surgery & Critical Care) for All India Institute of Medical Sciences, Rishikesh; Examiner for MCh Thesis of (Endocrine Surgery) for King George’s Medical University, Lucknow; Examiner for Thesis of MS (Surgery) for Medical College, Patiala by the Baba Farid University of Health Sciences.

**Professor Sushma Sagar** was elected as Secretary of Indian Society for Trauma & Acute Care (ISTAC)® in General Body Meeting 2022 of ISTAC during TRAUMA 2022 conference from 17-20 November 2022 at JNU Conventional Centre, New Delhi; Organizing Secretary- Annual conference of Indian Society for Trauma & Acute Care (ISTAC) “Trauma 2022” from 17 to 20 November 2022, JNU, Convention Centre, New Delhi; was appointed as Principal Secretary’s nominee for hospital-based authorization committee of Transplantation of organs and tissues, Govt. of NCT of Delhi 2022-2023; attended overseas training for 3D printed immediate prosthesis development at lab set up from Hiroshima university Hospital, Japan under academic exchange program; Chairperson of Grievance Redressal Committee at JPNATC; was nominated as member of Ethics and Medical Registration Board (EMRB) to formulate guidelines for RMP’s by National Medical Commission (NMC); Member for WOMEN Grievance Committee at AIIMS, New Delhi; Expert member for Medtech Innovations: ICMR-DHR-Centres of Excellence (CoEs) at seven IITs on 24 June 2022 at ICMR Hqrs, New Delhi; nominated by Chief, JPNATC to attend walk-in interview for engagement of consultant on contractual basis in Disaster Management cell, MoH&FW; External examiner for MCh Trauma & Critical Care AIIMS Rishikesh; Internal examiner for MCh Plastic, Reconstructive & Burns Surgery, AIIMS Delhi; Visiting Faculty, AIIMS Rishikesh; Expert for meeting of Group of Experts to discuss the issue of regulations to supersede “Indian Medical Council (Professional Conduct, Etiquette and Ethics) Regulations, 2002” by Under Secretary (EMRB), National Medical Commission on 17-18 May 2022 at NMC, Delhi; Expert for meeting of the group of experts with an objective to study, analyse and document for research and publication of cases decided by EMRB, National Medical Commission on 19-20 July 2022 at NMC Headquarter, Sector 8, Dwarka, Delhi; Expert panelist on Trauma and Plastic Surgery for Total Health on DD News July 2022; External Expert for selection committee interview for Assessment promotion of the faculty to the post of Professor in Emergency Medicine on 8 August 2022 at NIMS, Hyderabad; Expert panelist on prevention of Burn injuries during Diwali on Total Health DD News, October 2022; Chief Guest at Physiotherapy Session for Physiotherapists & Nurses NABI Mid Con organized by Department of Burns Plastic, AIIMS, New Delhi; Panelist at Diet Workshop at NABI Mid Con CME for Dietician organized by Department of Burns Plastic, AIIMS New Delhi; was invited as Subject expert for faculty selection on 14 March 2023 at AIIMS, Madurai; Expert to discuss the issue of “Good Practice” by Deputy Secretary (EMRB), National Medical Commission on 20-21 March 2023 at NMC Headquarter, Sector 8, Dwarka, Delhi; Expert speaker on managing emergency situations for Radio Doctor at FM Rainbow.

**Professor Vijay Sharma** is Selection Committee member for faculty recruitment, AIIMS, Raebareli on 29 April 2022; Standing Selection Committee member for faculty recruitment, AIIMS Rishikesh on 20 August 2022; Academic Exchange Program for 3D Printed Prosthesis development. Hiroshima University Hospital, Japan 24-30 September 2022; National Accreditation Board for hospitals & healthcare providers. Programme on implementation of NABH 5th Edition Standards for Hospitals, 10-12 November 2022; Exam paper setter for Medical and Surgical Management of Sports Injuries/ Conditions for MPT 2nd Year Examination February 2023; Thesis Evaluation: PGI Chandigarh, AIIMS Jodhpur, AIIMS Rishikesh, Delhi University.

**Professor Vivek Trikha** was appointed as Academic Cell Incharge of Indian Orthopaedic Association, national orthopaedic body of India; invited as external Examiner at Kathmandu University of Medicine, Nepal for Orthopaedic Surgery 3rd Year Residents in Orthopaedic s and Trauma Surgery; Member Editorial Board of Indian Journal of Orthopaedics National Journal of Indian Orthopaedic Association (Pubmed Indexed journal); Associate Editor of Journal

of Clinical Orthopaedics & Trauma (Pubmed Indexed journal); Trauma Committee Member of SICOT world Association of Orthopaedic Surgeons from 2020 onwards.

**Dr Yudhyavir Singh** is Instructor for the FCCS Course (SCCM, USA) in India; Course Coordinator for the FCCS, Obstetrics Course organized at PSRI, Hospital, New Delhi held on 29-30 November 2022; worked as lead Faculty for National Emergency Life Support (NELS) course organized from 29 to 31 August 2022, at JPNATC, AIIMS in collaboration with MOHFW; Instructor for the Provider NELS COURSE for paramedics developed by MOHFW and JPNATC.

#### VISITING SCIENTISTS

S. No.	Name	Posting Period	Country
1.	Maximilian Foldvary	15-22 June 2022	Germany
2.	Sven Jorin Geller	15-22 June 2022	Germany
3.	Mr Julian Josef Albers	19 September-1 October 2022	Germany
4.	Ms. Bettina Multani	14-26 November 2022	Germany

## 10.6 National Drug Dependence Treatment Center

### Professor and Chief

Rakesh Kumar Chadda

### Additional Medical Superintendent

Parmeshwar Kumar

### Professors (Psychiatry)

Rakesh Lal                      Anju Dhawan                      Sonali Jhanjee  
Atul Ambekar                      Yatan Pal Singh Balhara                      Ravindra Venkat Rao

### Professors (Clinical Psychology)

Rachna Bhargava                      Gauri Shanker Kalojya

### Professor (Biostatistics)

Ashwani Kumar Mishra

### Additional Professors (Psychiatry)

Prabhu Dayal                      Alok Agrawal                      Biswadip Chatterjee  
Siddharth Sarkar                      Piyali Mandal

### Additional Professor (Clinical Chemistry)

Rizwana Quraishi

### Associate Professor (Psychiatry)

Roshan Mohanpant Bhad

### Assistant Professor (Psychiatry)

Shalini Singh

### Group A Officers

Lini Philip  
(Clinical Psychologist)

Braham Prakash                      Deepak Yadav  
(Supervising Medical Social Service Officers)                      (Supervising Medical Social Service Officers)  
Yogesh Kumar                      BD Rawat  
(Accounts Officer)                      (Assistant Nursing Superintendent)



## HIGHLIGHTS



During the year 2022-23, NDDTC attended to 3,14,395 patients comprising 8,063 new patients and 3,06,332 follow-up cases in general OPD and its 5 speciality clinics at the main centre and the three community clinics and Mobile Methadone Clinic. NDDTC provided inpatient care to 1165 patients. At the main AIIMS campus, 245 new cases and 349 referrals from inpatients from various departments were attended in the ‘Consultation Liaison Addiction Psychiatry’ service. The NDDTC laboratory conducted 2,35,262 tests during the year in its toxicology, haematology, biochemistry and HIV screening labs.

NDDTC coordinates the activity of 27 “Drug Treatment Clinics (DTCs)” under the Drug De-Addiction Programme (DDAP) of the Ministry of Health & Family Welfare at the national level. A total of 1,40,650 patients took treatment from these clinics during this period.

Faculty from NDDTC represented India in key international meetings including the WHO Global Consultation with Professional Associations and Academia on Implementation of the Global Alcohol Action Plan (GAAP) 2022-2030 in January 2023 and the 66th session of Commission on Narcotic Drugs (CND), Vienna, in March 2023. A total of 111 research articles in peer reviewed national and international journals of repute and 9 chapters in various books have been published in this period. NDDTC also won the *First Prize* on AIIMS Annual Day Poster Exhibition, on 25 September 2022.

### Education and Training

NDDTC trains postgraduate students (MD Psychiatry), MBBS, MSc psychiatric nursing and BSc Nursing students in substance use disorders. NDDTC runs a superspeciality course, Doctorate of Medicine (DM) course in Addiction Psychiatry and PhD in Addiction Psychiatry. Clinical and academic training is rigorous and *weekly* journal clubs,

seminars and case conferences are part of the academic schedule. During this period the following training activities were carried out:

- Under the *Addiction Treatment Facility (ATF) scheme supported by (MoSJE)* since 2020, NDDTC has conducted a total of 20 training workshops wherein 920 medical professionals were trained in the treatment of substance use disorders
- Emergency life support workshop was organized for Nursing officers at NDDTC on 21 April 2022
- Emergency life support workshop was organized for Residents and faculty of NDDTC on 28 April 2022
- Two weeks Capacity Building Program for Govt college teachers (Assistant professor Level) of social sciences, supported by the Indian Council of Social Science Research (ICSSR), 6-18 June 2022
- Online Automated Training in substance use disorders is carried out on NDDTC Web portal: <https://naat.co.in>.
- Under the initiative of enhancing dual diagnosis care, online dual diagnosis case discussion meetings for clinicians across several academic institutions were held.

**List of CME/Conference/symposium/National and International conferences organized by the department**

- Annual Day Symposium: *Digitisation In Addiction Psychiatry* on 13 April 2022 in Ghaziabad
- Organized the First Annual National Conference of Society for Addiction Psychology (ANCSAP-2023) on 10-11 March 2023
- Cyclothon - On International Day Against Drug Abuse and Illicit Trafficking - 26 June 2022
- Poster Making Competition on World Mental Health Day, 9 October 2022
- Public Lecture and Street Play on World Mental Health Day, 10 October 2022
- Walkathon & Panel Discussion on prevention of drug use among youth and children on 9 March 2023

**Lectures delivered: 191**

**Lectures delivered over past 3 years**

2020-21	2021-22	2022-23
168	208	191

**Oral presentations: 12**

**Oral presentations over past 3 years**

	2020-21 (current)	2021-22	2022-23
Total number of oral presentations	14	12	12

**RESEARCH**

**Funded projects**

**Ongoing**

1. Assessment of rates and causes of mortality among people with opioid dependence, Ravindra Rao Indian Council of Medical Research 3 years, July 2021 to June 2024, Rs 56.98 lakhs
2. Developing and testing an online training programme for medical officers on treatment of substance use disorders, Ravindra Rao Ministry of Social Justice and Empowerment, Government of India, 2 years, June 2021 to May 2023, Rs 32.6 lakhs
3. Facilitators and barriers in the uptake of HIV-related services among spouses of male Injecting Drug Users, Ravindra Rao, Delhi State AIDS Control Society, 5 months, December 2022 to May 2023, Rs 2.23 lakhs
4. A Cross Sectional Epidemiological Assessment of Treatment Seekers at De-addiction Centres across the country through Drug Abuse Monitoring System (DAMS), Ashwani Kumar Mishra MOH&FW Cont. Activity of NDDTC, 2012-Till date, Rs 2 lakhs
5. A study to examine psycho-social & behavioral domains among school going adolescents during COVID-19 pandemics: Mixed study design, Rachna Bhargava, ICMR, 3 years, 2022-2025, Rs 1.35 crores
6. “Evaluation of Neurocognitive, Personality, Emotional, and Psychosocial Biomarkers as Candidate Endophenotypes for Opioid Use Disorder & Their Relationship with Polymorphism in Opioid & Dopamine Receptor Genes: Implications for Prevention & Treatment” Prabhoo Dayal ICMR, 3 years, 2021-2024, Rs 36.62 lakhs
7. Identifying Predictors of Suicidal Risk in Individuals with Alcohol Use Disorder Using a Combined Biomarker and Clinical Risk Assessment Approach Prabhoo Dayal, DHR, 3 years, 2023-2026, Rs 50.60 lakhs

8. Role of genetic polymorphism in determining risk and severity of opioid dependence: A case-control study. Biswadip Chatterjee, AIIMS, intramural funding, 2 years, 2019-2021, Rs 10 lakhs
9. Role of specific single-nucleotide gene polymorphisms (SNPs) with treatment adherence and outcome with naltrexone among patients with opioid dependence: A naturalistic follow-up study. Biswadip Chatterjee, ICMR, 3 years, 2021-24, Rs 50 lakhs
10. Establishing and Implementing capacity building mechanisms for addiction treatment facilities in India, Alok Aggarwal, Ministry of Health and Family Welfare, 5 years, 2019-2023, Rs 12 crores
11. An evaluation of mu-opioid receptor gene polymorphism (A118G) and long term naltrexone treatment response in North Indian Alcohol dependent patients. Rizwana Quraishi Indian Counsel of Medical Research (ICMR), 4 years, 2019-2023, Rs 28 lakhs
12. A time series approach to evaluating the role of co-occurring depression and anxiety as determinants of outcomes, disability and quality of life among patients with opioid dependence, Siddharth Sarkar, ICMR, 3 years, 2023-2026, Rs 42 lakhs
13. Real world effectiveness of add-on yoga of patients with opioid dependence stabilized on treatment, Siddharth Sarkar, DST, 3 years, 2022-2025, Rs 36 lakhs
14. Role of significant others involvement in retention and outcome on naltrexone among opioid dependent individuals: An open label comparative study, Piyali Mandal, AIIMS Intramural, 2021-2024, Rs 4.55 lakhs
15. Metabolic and addiction indices in Indian opioid dependent subjects on Buprenorphine-naloxone Maintenance treatment: A longitudinal study Piyali Mandal Indian Council of Medical Research, 3 years, 2023-26, Rs 40 lakhs
16. A pilot study of assessment of behavioral markers for treatment seeking substance use disorders through digital phenotyping: A cross sectional comparative study from Delhi-NCR, India, Roshan Bhad, Mannki Healthcare Pvt Ltd, 1 year, 2022-23, Rs 3 lakhs
17. A cross sectional assessment of risk factors and seroprevalence of Hepatitis C virus infection in individuals receiving agonist treatment for injecting drug use at a community clinic in Delhi. Shalini Singh, AIIMS Intramural research grant, 2 years, 2022-24, Rs 4 lakhs
18. HIV, Hepatitis B and C testing in individuals receiving agonist treatment for injecting drug use at a community clinic in Delhi: a cross sectional assessment of risk factors and seroprevalence. Shalini Singh, AIIMS Early Career Intramural Research Project for the year 2021-2022, 18 months, 2022-2023, Rs 4.4 lakhs

### ***Completed***

1. Detection of New Psychoactive Substances among Substance Abuse Treatment Seekers in India: A Multi-centric Study. Rakesh Chadda, Ministry of Revenue, Govt of India, 3 years, 2017-2022, Completed, Rs 7.5 crores
2. A prospective double blind, randomized clinical study to evaluate the antibody response after Covid-19 vaccine when provided along with Kabasura Kudineer, a siddha medicine, Anju Dhawan, SSIAR, 6 months, 2021-2022, Rs 3.5 lakhs
3. Screening and Intervention for Drug/Substance Use among Secondary School going Children, Anju Dhawan, UEE Mission, Education Department Delhi, 1 year, 2019-2022, Rs 23 lakhs
4. National Survey on Extent and Pattern of Substance Use in India, Atul Ambekar, Ministry of Social Justice and Empowerment, Government of India, 5 years, 2016-2022, Rs 22.41 crores
5. Development and evaluation of service delivery models for management of substance use disorders among the homeless population receiving urban shelter services in Delhi, Atul Ambekar, Department of Women and Child Development, Government of NCT of Delhi, 2 years, 2020-2022, Rs 30 lakhs
6. Rates and pattern of psychoactive substance use among people in prisons in India, Ravindra Rao, Ministry of Social Justice and Empowerment, 3 years, 2019-2022, Rs 23 lakhs
7. Screening and intervention in school students of elementary classes for substance use in Delhi, Rachna Bhargava, Smagrashiksha, Directorate of Education, 2½ years, 2019-2022, Rs 20 lakhs
8. Brain Stimulation as a Novel Technique for Cognitive Dysfunction and Craving Management to Enhance Treatment Outcome in Patients with Alcohol Dependence: a Prospective, Randomized Controlled Trial, Prabhoo Dayal, DST, 3 years, 2018-2022, Rs 30.80 lakhs
9. Development of Training Modules on Substance Use for training of Child Welfare Police Officers, functionaries working in Integrated Rehabilitation Centre for Addicts (IRCA), Out Reach Drop-in Centre (ODICs) and Community Based Peer-Led Intervention (CPLIs), Dr Biswadip Chatterjee, NISD, MoSJE, 9 months, 2021-2022, Rs 5.15 lakhs

10. A functional polymorphism of dopamine beta hydroxylase gene and disulfiram treatment response in patients with alcohol dependence: A pilot exploratory study, Dr Rizwana Quraishi, AIIMS (Intramural), 2 years, 2018-20, Rs 4.5 lakhs
11. Development of an Indian Scale to Assess Substance Related Problems, Dr Siddharth Sarkar, ICMR, 3 years, 2019-2022, Rs 42 lakhs

## **Departmental projects**

### ***Ongoing***

1. A comparative study of Injecting and non-Injecting male opioid-dependent patients
2. A cross sectional study to measure the frequency of the BDNF gene polymorphism (Val66Met) in patients seeking treatment for Alcohol Dependence syndrome (ADS)
3. A cross sectional study to measure the frequency of the BDNF Met66 allele in patients seeking treatment for alcohol use disorder
4. A functional polymorphism of aldehyde dehydrogenase gene (rs671) and disulfiram treatment response in patients with alcohol dependence: A pilot exploratory study
5. A hospital based case control study to assess and compare the dimensions of motivation in those with alcohol use disorder based on their treatment seeking patterns
6. A hospital based cross-sectional study to assess the dimensions of motivation and associated factors in those with alcohol-related liver disease
7. A Pilot Study on dropouts in Adolescent Outpatients with Substance Use Disorder
8. A quantitative exploratory study of socio-occupational functioning, protracted withdrawals and supervision of patients with opioid dependence taking naltrexone treatment
9. A randomized controlled trial of family intervention for patients with opioid dependence
10. A randomized double blind sham controlled trial for evaluating effectiveness and tolerability of high definition transcranial direct current stimulation in depression
11. A study of the assessment of training needs in addiction medicine: A global online survey
12. Assessment of clinical and HPA axis hormones in response to stress challenge in buprenorphine maintained patients: an exploratory study
13. Assessment of impact of COVID-19 and related measures on substance use and associated factors among treatment-seeking adolescents.
14. Assessment of sexual functioning and sex hormone levels in opioid-dependent males maintained on opioid agonist treatment: A prospective, community-based study
15. Association of the galanin and galanin receptor gene polymorphism (rs948854) and opioid dependence: A case control observational study
16. Comparative Study of Marital Adjustment in Alcohol and Opioid Dependent Men and their Wives
17. Cue Induced Craving and fMRI changes associated with Meditation- Based intervention in Smokers
18. Development of Cognitive Behaviour based intervention module for adolescents in conflict with law
19. Development of Psychological Intervention Module among Adolescents with Dissociative Disorder
20. Expenditure and Procurement Practices of Heroin among People with Opioid Dependence in Delhi: An Exploratory Study
21. Experience of Patients on Methadone Maintenance Treatment Receiving Take-Home Methadone Doses During Covid-19 Pandemic In India: A Mixed-Method Study
22. Feasibility of ecological momentary assessment to measure associations between perceived control over alcohol use, craving, mood and daily alcohol consumption in treatment-seeking patients of alcohol dependence syndrome
23. Issues and challenges faced by family members in supervision of disulfiram used in treatment of alcohol dependence
24. Neuropsychological functioning in patients with alcohol dependence: A case control study
25. Positive aspects of caregiving among patients with opioid use disorder
26. Prevalence and correlates of neurological and neurocognitive disorder in HIV positive patients on ART
27. Psychosocial correlates of caregiving experience among caregivers of patients with schizophrenia
28. Retrospective study to analyze the profile, the pattern of substance use and outcome of treatment of adolescent patients who sought treatment for opioid use

29. Substance use among homeless women receiving services from shelter homes in Delhi
30. The Efficacy of a Telephonic Brief Negotiated Interview (BNI) on re-entry of dropouts from Opioid Agonist Treatment: An open label randomized controlled trial

#### **Completed**

1. A randomized controlled trial of brief intervention for patients with cannabis use disorder
2. Assessment of reasons, status of, and factors associated with drop-out in patients on opioid substitution therapy: a cross-sectional, comparative, community-based study
3. Association Between Screen time & Mental, Behavioural and Social Aspects Among School Going Adolescents
4. Association of Tobacco Smoking with Psychiatric Co-morbidities among Patients with Chronic Obstructive Pulmonary Disease
5. Comparative study of marital adjustment in alcohol and opioid dependent men and their wives
6. Covid-19 Vaccine acceptability in patients with opioid dependence – a cross-sectional, community-based study from India
7. Cue Induced craving in Smokeless tobacco: an fMRI study
8. Development and validation of an Indian scale to assess severity of substance related problems
9. Development of Cognitive Behavioural based Intervention Module for Adolescents in Conflict with Law
10. Exploratory study of problematic internet pornography use
11. Hindi Adaptation and Psychometric Validation of Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) among Participants with Alcohol Dependence
12. Impact of Screen Time on Mental, Behavioural and Social aspects among School going Adolescents
13. Outcomes in Treatment with Tramadol for Opioid Use Disorder over 12 weeks : A Prospective Observational Study
14. Psychological Correlates of Caregiving among the caregivers of patients with Schizophrenia

#### **Collaborative Projects**

##### **Ongoing**

1. A Cross-Sectional Study to Screen for Psycho-sexual Health Disorders and Measure Neurochemical Correlates in Gynaecology Cancer Survivors, Department of Obstetrics & Gynecology, Department of Radiotherapy, IRCH
2. A pilot study to assess the items for the anxiety related events among blood donors and establish their face and content validity at a tertiary care academic institute in North India, Transfusion Medicine
3. Enhancing Mental Health and Substance Use Literacy among College Going Students in National Capital Territory of Delhi- An Intervention Study, Centre for Community Medicine
4. Exploring neuroimaging and metabolomic markers associated with opioid dependent subjects on buprenorphine maintenance treatment, Department of NMR
5. Functional outcome of patients undergoing thoracic surgery for pulmonary and pleural diseases: a prospective cohort study, Pediatric Surgery
6. HRV and autonomic parameters for supplementing clinical assessment of opioid withdrawal, Physiology
7. Microstates and cortical sources as a QEEG tool to quantify and classify normal, meditative, stressed and psychiatric brain states, Department of Physiology
8. Outcome of ASO in TGA intact ventricular septum with regressed LV in the age group 2-6 months using two stage VS integrated ECMO-A prospective observational study, CTVS

##### **Completed**

1. A Study to explore the of Gamma Synucleinasa Potential Biomarkerin Breast Cancer, Surgery
2. A study to compare the anxiety, depression and quality of life (QOL) among caregivers of children with cerebral palsy and those with typically developing children attending Paediatric Neuro OPD at AIIMS, New Delhi, Nursing
3. A hermeneutic phenomenological study on experiences of living donors post kidney transplant at AIIMS New Delhi, Nursing
4. Clinical severity and distress in periocular and ocular malignancy patients during COVID pandemic, Ophthalmology
5. Development and validation of an assessment tool for traumatic maxillofacial and dental re-injury associated fear and anxiety in 10-16 years old boxers in Delhi NCR region, Dental

6. Evaluation of IL6 and IL-1B gene polymorphism in patients with opioid dependence, Anatomy
7. Functional outcome of patients undergoing thoracic surgery for benign Pulmonary and pleural diseases: ambispective cohort study, Pediatric Surgery
8. Psychosocial factors among patients undergoing orbital exenteration, Ophthalmology

#### Research projects over past 3 years

	2020-21	2021-22	2022-23
Total funded projects	34	34	18
Total amount of funding	Rs 992,880,000	Rs 1,081,270,000	Rs 175,298,000

#### PUBLICATIONS

Journal: 97      Abstract: 5      Chapters in Book: 06      Books & Monographs: 02

#### Publications over past 3 years

Total number of publications	2020-21	2021-22	(2022-23)
Journal articles	88	107	97
Abstracts	1	3	5
Chapters in book	15	9	6
Book/Monograph	4	None	2

#### PATIENT CARE

##### 1. OUT-PATIENT SERVICES

Statement showing the data of Hospital Statistics for the financial year 2022-2023 i.e. 1 April 2022 to 31 March 2023

OPD	New cases	Old cases	Total
NDDTC (General OPD)	7003	95086	102089
NDDTC(Speciality Clinics)*	201	1401	1602
TRILOK PURI (Community Clinic)	215	40250	40465
SUNDER NAGRI (Community Clinic)	397	146959	147356
KOTLA MUBARAKPUR (Community Clinic)	247	22636	22883
Total Cases	8063	306332	314395

\*NDDTC runs 5 speciality clinics including Dual Diagnosis clinic, Adolescent clinic. Tobacco cessation clinic, Women clinic and Family Empowerment Clinic

##### 2. OTHER PATIENT CARE STATISTICS

Total No. of admissions	1165
Total No. of patients visited Day care	Nil
Total No. of deaths	Nil
Average no. of admissions per working day	04
Average no. of OPD attendance per working day at NDDTC (New patients)	23
Average no. of OPD attendance per working day at NDDTC (Old patients)	317
Average no. of OPD attendance per working day at Trilokpuri clinic (New patients)	0.71
Average no. of OPD attendance per working day at Trilokpuri clinic (Old patients)	134
Average no. of OPD attendance per working day at Sunder Nagri community clinic (new patients)	1.32
Average no. of OPD attendance per working day at Sunder Nagri community clinic (old patients)	403
Average no. of OPD attendance per working day at Kotla Mubarakpur Community clinic (new patients)	0.82

Average no. of OPD attendance per working day at Kotla Mubarakpur Community Clinic (old patients)	75
Bed occupancy in a year	93%
Average length of stay	13 days

**CL Addiction Psychiatry services:** 245 New Cases and 429 follow-ups in CLAP OPD; 349 referrals from inpatients during 2022-23

### 3. NDDTC LABORATORY(2022-23)

Investigations	Number of tests
Hematological	82059
Biochemical	110233
Drug Screening*	42386
HIV screening	584

\*Total drug screening done for opioids (morphine, codeine, buprenorphine, dextropropoxyphene, pentazocine, tramadol), pheniramine, naltrexone, benzodiazepines, cotinine, cannabis and inhalants)

### Patient care over past 3 years

Item	2020-21	2021-22	2022-23
OPD Consultation	171793	250687	312793
Special clinic consultations	465	1095	1602
Patients provided rehabilitation services	NIL	NIL	548
Total in-patient admissions	65	407	1165
Community clinic consultation (3 clinics)	128,657	184,377	209,845
Total haematology tests	8880	35379	82059
Total biochemistry tests	15241	48685	110233
Total HIV screening	-	171	584
Total drug screening Screening done for opioids (morphine, codeine, buprenorphine, dextropropoxyphene, pentazocine, tramadol), pheniramine, naltrexone, benzodiazepines, cotinine, cannabis and inhalants)	4834	17754	42386

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Rakesh Chadda** is Secretary General (2019-2022), World Association of Social Psychiatry; President-Elect (2022-2025), World Association of Social Psychiatry; Associate Editor, British Journal of Psychiatry; Handling Editor, *BJ Psych International*, another Journal of the Royal College of Psychiatrists of the UK; Vice President, Addiction Psychiatry Society of India; Member, Executive Council of the National Academy of Medical Sciences (India) 2021-2023; Nominated Honorary interim Treasurer in January 2023; Convenor, PG curriculum committee of the National Medical Commission of India; Convenor, Specialty Board in Psychiatry, National Board of Examinations; Chairperson, Awards Committee, Indian Association for Social Psychiatry; Dean, Indian Psychiatric Society Academy for Education and Research, 2023-26; Chairperson, CME, Indian Psychiatric Society, North Zone, 2021-23; Nominated Member, Institute of Eminence, University of Delhi; Nominated Member, Governing Body, Ramanujan College, University of Delhi; Member, Deans Committee, AIIMS; Member, Working Group on 'National Working Group for Prevention & Treatment of Substance Use in Prison Settings', Ministry of Social Justice & Empowerment; Represented the country in Global Consultation with Professional Associations and Academia on Implementation of The Global Alcohol Action Plan (GAAP) 2022-2030 at the WHO HQ, Geneva, 18-20 January 2023; Coordinating the starting of mental health helpline for BSF personnel at AIIMS; Was Chair, NAMS Task Force on Alcohol, Substance Use Disorders, and Behavioral Addictions, and developed the recommendations of the Task Force in consultation with the members of the Task Force; Has been on selection committees of a number of institutes including AIIMS, Guwahati, AIIMS, Jodhpur, SGPGI, Lucknow, AIIMS, AIIMS, Jammu, Haryana Public Service Commission and others.

**Professor Anju Dhawan** is Member Executive Committee of APSI (Addiction Psychiatry Society of India); Member National Level Working Group for Substance Use Prevention & Treatment in Prison Settings; Jury for the best thesis paper award at ADDICON 2022; Evaluation of thesis papers for Dr VK Varma Award for IASP 2022.

**Professor Sonali Jhanjee** was invited to be Guideline Development Group (GDG) member for developing WHO clinical treatment guideline for tobacco cessation; Invited to be a part of the core committee for drafting “Operational Guideline for Establishment of Tobacco Cessation Centre in the Medical Colleges of the country.” by MOH & FW; Invited to be a part of “Expert Committee for accelerating Tobacco Cessation services” constituted under the Chairpersonship of Dr Jitendra Prasad, Addl. DG, Dte.GHS, MoHFW for accelerating tobacco cessation services in India; Nominated as a member of the Specialist Board of Addiction Psychiatry by National Board of Examination of Medical Specialties (NBEMS) for launch of 2-year fellowship course in Addiction Psychiatry; Evaluation of thesis papers for Dr VK Varma Award for IASP 2022.

**Professor Atul Ambekar** was awarded, “Meritorious Award for outstanding contribution for the prevention & control of Non-Communicable Diseases (NCDs)”, April 2022, by the National Resource Centre for Non-Communicable Diseases, Thiruvalla, Kerala and Alcohol and Drug Information Centre (ADIC), India; Nominated by the Government of India as a member of the Indian delegation at the 66th session of Commission on Narcotic Drugs (CND), Vienna, in March 2023. Delivered a statement on behalf of MoH&FW, Government of India; Participated as representative of the MOH & FW, Government of India in the Indo-USA bilateral Counter Narcotics Working Group (CNWG) meeting (July 2022); Nominated as Member, Inter-ministerial expert committee constituted by the Ministry of Home Affairs, Government of India on ‘dual use’ chemicals and illicit trafficking of prescription drugs and precursors; Nominated as chairperson, National Technical Resource Group on People who Use Drugs, National AIDS Control Organisation, Government of India; Nominated as member, Expert Committee for Reviewing the Current Model for the Integrated Rehabilitation Centre for Addicts (IRCA) Under NAPDDR - Ministry of Social Justice and Empowerment, Government of India; Nominated as Member, Project Selection Committee for setting up of District De-Addiction Centres (DDACs) under NAPDDR - Ministry of Social Justice and Empowerment, Government of India; Nominated as Co-chairperson, Addiction Psychiatry Sub-Committee, SAARC Psychiatric Federation (SPF); Nominated as Advisor, Addictive Disorder Specialty Section, Indian Psychiatric Society; Nominated as Member (Mental Health Expert), on the Oversight Advisory Board of Network of Asian People who Use Drugs (Bangkok, Thailand); Nominated as member, selection committee for faculty/staff at Dept. of Psychiatry at AIIMS, Deoghar and AIIMS, Bhubaneswar.

**Professor Rachna Bhargava** was Associate-cum-Specialty Editor in Journal of Indian Association of Social Psychiatry; Secretary General, Indian Association of Child & Adolescent Mental Health; External Examiner for PhD Viva Voice in Delhi University; External Expert for Paper Setting for MPhil Exam (Clinical Psychology) Kashmir University; Member of District Inspection Committee for Foster Care Homes; Incharge Scientific Program for CME of IACAM at Mumbai; Organized National Webinar on Infant, Child, Adolescent Mental Health Day, 23 April 2022; Mental Health Expert in Y-20 India Summit 2023 Brainstorming Workshop on Health, Wellbeing & Sports, 29 March 2023 at Delhi.

**Dr GS Kaloyia:** 12 Days Capacity Building Program on Addiction for College Teachers held from 6 June 2022 to 18 June 2022 at NDDTC; Organized 1st Annual Conference of Society for Addiction Psychology held on 10 & 11 March 2023 at NDDTC.

**Dr Prabhoo Dayal** is Resource person in the Indian Council of Social Science Research (ICSSR) sponsored 12 days Capacity Building Program for Govt college teachers (Assistant professor Level) of social sciences held at, NDDTC, AIIMS New Delhi from 6th to 18th June 2022; Medical Assessment and Rating Board, National Medical Commission (NMC) appointed as coordinator to inspect medical facilities.

**Dr Siddharth Sarkar** was awarded the NIDA ISAM Travel Fellowship as young investigator; Dr Mahadev Singh Sen won the Anil Malhotra Award of the Indian Association for Social Psychiatry for the year 2022; Convener of Guidelines Committee on emergency psychiatry and neurostimulation techniques of the Indian Psychiatric Society; Deputy Editor of the Indian Journal of Psychiatry and Indian Journal of Social Psychiatry; Serving on the editorial board of several journals; Co-chairperson of the Awards Committee of the Indian Psychiatric Society, North Zone.

**Dr Roshan Bhad** is Recipient of “AIIMS Excellence Research Award 2021” for outstanding publication under the clinical sciences titled “Mobile Methadone Dispensing in Delhi, India: Implementation Research”; was invited to present a Plenary Lecture at 23rd Annual Congress of International Society of Addiction Medicine (ISAM) at Valletta, Malta (4-7 October 2022) titled “What is NExT? Role of early career professionals in reshaping addiction medicine in the post pandemic world”. The conference was attended by delegates from 55 countries; Invited to attend “Global Alcohol Action Plan meeting - WHO Headquarters - 18 January 2023, 09:00 (Europe/Zurich)” on behalf of International Society of Addiction Medicine (ISAM).

**Dr Shalini Singh** is Associate fellow of the National Academy of Medical Sciences.



## 10.7 Neurosciences Center

### CENTER HIGHLIGHTS

In the year 2022-23, the Neurosciences Center continued to scale new heights in patient care, research, education and training. The Department of Neurology organized the 18th Asian Oceanian Congress of Neurology (AOCN) and 29th Annual Conference of the Indian Academy of Neurology, on the theme 'Pursuing perfection through innovations in neurology'. Prof Padma received the Metro Dora Excellence Award for Women in Science 2022 and delivered the prestigious Anandibai Joshee oration by Indian National Science Academy 2022. Prof Manjari Tripathi was with ILAE for Epilepsy surgery sub-commission. Prof Rohit Bhatia received an award on the Institute Research Day for his work on yoga and migraine.

The Department of Neurosurgery performed 3269+ neurosurgical procedures. At the Gamma-knife centre, 655 cases of GKRS were performed. In addition, it successfully conducted 25th Annual Micro-neurosurgery Workshop from 18 to 20 February 2023, the 7th AIIMS Annual Neurotrauma Conference 2023, AIIMS Annual Spine Workshop SPINECON 2022. Neurosurgery stalwarts including Prof Takeo Goto from Osaka Metropolitan University, Osaka Japan, Prof Aswini Sharan from Thomas Jefferson University, USA and Prof Franco Servasei from Italy visited the department.

The Department of Neuroanesthesia and Critical Care conducted anesthetic management for 3355 neurosurgical procedures, and 755 neuroradiological procedures (517 in Angiography lab and 238 in MRI suite). Intensive care management of 1850 ICU patients was performed. A total of 8512 patients (4961 new and 3551 old) were seen in Pre-Anaesthesia Check-up (PAC) clinic OPD at NSC. The department organized the 3rd Annual Conference of the Neurocritical Care Society of India (NCSI 2022) and AIIMS Neuroanaesthesia and Neurocritical Care Update 2022.

The Department of Neuropathology conducted diagnostic services (total of 2427 cases) and conducted the CME in Neuropathology and Workshop on Fluorescence in Situ Hybridisation (FISH) at Shillong.

#### **Department of Neurology**

##### **Professor and Head**

MV Padma Srivastava

##### **Professors**

Manjari Tripathi

Achal Srivastava

Rohit Bhatia

Mamta Bhushan Singh

Deepti Vibha

##### **Associate Professors**

Vishnu VY

Roopa Rajan

Awadh Kishor Pandit

Rajesh Kumar Singh

##### **Assistant Professors**

Anu Gupta

Elavarasi

Animesh Das

Divya MR

Ayush Agarwal

Divyani Garg (Jhajjar)

Jasmine Parihar (Jhajjar)

Biswamohan Misra

## HIGHLIGHTS

In the year 2022-23, the Department of Neurology continued to scale new heights in patient care, research, and training. This year the department was part of the organizing committee of the 18th Asian Oceanian Congress of Neurology (AOCN) and 29th Annual Conference of the Indian Academy of Neurology, on the theme 'Pursuing perfection through innovations in neurology', held in New Delhi, India. The department generated 243 publications, presented 70 posters/oral presentations at various national and international platforms and is running scientific projects worth 67 crores. The faculty and residents won many accolades for the institute. Prof Padma received the Metro Dora excellence award for women in science 2022 and delivered the prestigious Anandibai Joshee oration by Indian National Science Academy 2022. Prof Manjari Tripathi was with ILAE for Epilepsy surgery subcommission, Neurophysiology task force, stigma task force & driving task force of the IBE. Prof Rohit Bhatia received an award on the Institute Research Day for his work on yoga and migraine. Dr Roopa Rajan was awarded the DBT/Wellcome Trust India Alliance Clinical Public Health Intermediate Career Fellowship. Dr Vishnu VY received the Elsevier award for his poster on FSHD genetics at the World Muscle Society Conference 2022. Dr Ayush Agarwal was the World Stroke Organization- Future Leaders Program (WSO-FLP) Awardee for 2022-24. Dr Divyani Garg received the Best Review Paper in Annals of Movement Disorders 2022-2023 award, awarded by the Movement Disorders Society of India. The department rendered services to 89,558 outpatients, 3,207 inpatients and 9519 laboratory procedures.

### CMEs/Workshops/Symposia/National and International Conferences

1. 18th Asian Oceanian Congress of Neurology (AOCN) and 29th Annual Conference of the Indian Academy of Neurology, 3-6 November 2022, New Delhi

**Lectures delivered: 84**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
49	41	84

**List of oral papers/posters presented: 71**

**Oral presentations over past 3 years**

2020-2021	2021-2022	2022-2023
20	19	71

## RESEARCH

### Funded projects

#### Ongoing

1. ICMR CARE – centre for Advanced Neuroassistive Technology for Stroke Recovery, MV Padma Srivastava, ICMR, 5 years, 2021-2025, Rs 5 crores
2. Smartphone based Telestroke vs 'Stroke Physician' led Acute Stroke Management (SMART INDIA): A cluster randomised trial, MV Padma Srivastava, DHR, 3 years, 2021-2025, Rs 1.5 crores
3. Strategic Multimodal Intervention in at-risk Elderly Indians for Prevention of Dementia: SMRUTHI, MV Padma Srivastava, ICMR, 3 years, 2022-2025, Rs 4.9 crores
4. A case-control study to investigate gut microbiota dysbiosis in drug-refractory epilepsy patients using whole-metagenomic shotgun sequencing, Manjari Tripathi, ICMR/DHR, 3 years, 2021-2024, Rs 5901627
5. IMPETUS Stroke: IMPLEMENTATION of an Evaluation and Treatment Package for Uniform Stroke Care and Outcomes in the Medical Colleges in India: An Implementation Research Study, Rohit Bhatia, DHR-ICMR, 2 years, October 2021, October 2023, Rs 4 crores, For 22 sites
6. Indian multiple sclerosis and allied demyelinating registry of India and research network, Task force project, Rohit Bhatia, ICMR, 3+2 years, August 2021, August 2025, Rs 3.5 crores initially for 21 sites
7. Randomised Trial of Biosimilar TNK Versus TPA during Endovascular Therapy for Acute Ischemic Stroke Due to Large Vessel Occlusions: RE-OPEN, Rohit Bhatia, ICMR, 3 years, March 2022, March 2025, Rs 28 lacs per year
8. STENOSIS; Longterm Single versus Dual Antiplatelet Therapy in Patients with Ischemic Stroke due to Intracranial Atherosclerotic Disease: A Randomized Trial, Rohit Bhatia, ICMR, 3 years, March 2022, March 2025, Rs 12 lacs per year

9. Cognition in MS: cross sectional and longitudinal study, AIIMS and PGIMER collaborative study, Rohit Bhatia, DST, 3 years, July 2021, July 2024, Rs 90 lacs 2 sites
10. HBSR: hospital based stroke registry of India, Rohit Bhatia, Site PI, ICMR, NCDIR, 3 years, 2020-2024, Rs 5 lacs annually
11. INTRINSIC: Indian Trial of Tranexemic Acid in Spontaneous Intracerebral Haemorrhage, ICMR, Rohit Bhatia, Site PI, ICMR, 4 years, March 2022, March 2026, Rs 1.9 Lacs per year
12. Can capacity building at primary care level improve access to epilepsy care in Chhattisgarh? An Implementation Research, Mamta Bhushan, ICMR, 3 years, 2022-2025, INR 99,10,600
13. Music therapy for rehabilitation in post-stroke non-fluent aphasia: the Indian adaptation, Deepti Vibha, ICMR, 3 years, 2023-2026, Rs 59,80,795.20
14. Posterior cervical fixation versus long-term cervical collar for management of Hirayama Disease: Prospective randomized open blinded endpoint(PROBE), phase III study, Deepti Vibha, AIIMS Interdisciplinary Collaborative Intramural Research Project, 2 years, 2023-2025, Rs 20,00,000
15. A prospective, multicentric, randomized, double-blind, parallel, phase III clinical study to assess efficacy of PMZ-1620 along with standard treatment in patients of acute ischemic stroke, Deepti Vibha, Pharmazz India Pvt Ltd, 4 years, 2019-2023, Rs 7,48,000
16. A randomised double-blind study of prophylactic levetiracetam for the prevention of post-stroke seizures (PROLEVIS) – Investigator initiated academic trial, Vishnu VY, SERB, Department of Science and Technology, Government of India, 6 years, 2018-2024, Rs 28 lakhs
17. Identification of pathobiological and disease activity markers in Primary CNS Vasculitis, Vishnu VY, ICMR, 3 years, 2020-2023, Rs 49 lakhs
18. Prevention of post-stroke seizures with Levetiracetam in Intracranial Cerebral Venous Sinus Thrombosis (PROLEVIS-CVT): A Randomized Placebo-Controlled Trial, Vishnu VY, DHR, 3 years, 2021-2024, Rs 78 lakhs
19. Identification of genetic vasculopathies among a cohort of Primary CNS Vasculitis using whole-exome sequencing, Vishnu VY, Intramural, 2 years, 2021-2023, Rs 10 lakhs
20. Identification of the Genetic architecture of FSHD in India, Vishnu VY, ICMR, 3 years, 2023-2026, Rs 80 lakhs
21. Spiral Dx: Tremor diagnosis and quantification using artificial intelligence, Roopa Rajan, DBT, 3 years, 2021-2024, Rs 1,064,9600
22. Genetic Architecture of Parkinson's Disease in India (GAP-India), Roopa Rajan, Michael J Fox Foundation, 4 years, 2021-2023, Rs 75,00,000
23. Wearable electronics for swallowgraphy in stroke patients Collaborative project between AIIMS-IIT Delhi, Awadh Kishor Pandit, Intramural Project AIIMS, New Delhi, 2 years, 2023-2025, Rs 20 lakhs
24. Cost-effective analysis of evidence based interventions underlying Acute Ischemic Stroke: A Retrospective Study of Patients in a Tertiary Care Hospital, Delhi, India (Approved for funding by DHR, Government of India), Awadh Kishor Pandit, DHR, Government of India, 18 months, 2021-2023, Rs 6,51,240
25. Bridging therapy with intravenous Alteplase in imaging eligible Acute Ischemic Stroke patients with onset between 4.5 to 9 hours – A Randomized Controlled, Pilot Study (Funding by Intramural Grant, AIIMS, New Delhi), Awadh Kishor Pandit, AIIMS, New Delhi, 2 years, 2020-2022, Rs 8 lakhs
26. Efficacy and Safety of Injection Tenecteplase in 4.5 To 24 hours imaging Eligible Window patients with Acute Ischemic Stroke (Funding by Science and Engineering Board, DST, Government of India), Awadh Kishor Pandit, DST SERB, 3 years, 2022-2025, Rs 32,14,400
27. Fever, Hyperglycemia, Swallowing and Hypertension Management in Acute Stroke: A Cluster Randomized: Trial (Indian Quality Improvement in Stroke Care Study (FeSSH) Phase-II (Funding by Indian Council of Medical Research, New Delhi), PI: Dr Kameshwar Prasad, PI of nodal Center: Awadh Kishor Pandit, ICMR, 3 years, 2022-2025, Rs 6,90,660
28. CSF inflammatory markers in the diagnosis of autoimmune encephalitis, Rajesh Kumar Singh, AIIMS, New Delhi, 2 years, 2021-2023, Rs 9,25,000.00
29. Thalidomide as treatment of optochiasmatic arachnoiditis in Tuberculous meningitis: A prospective randomized open blinded endpoint (PROBE) study Rajesh Kumar Singh, ICMR, 3 years, 2022-2025, Rs 24,59,466.00
30. To evaluate the prevalence and incidence of cognitive deficits, in relation to glycaemic control and other metabolic risk factors, in elderly patients with type 2 diabetes mellitus who are at high risk of dementia, in comparison to age and sex matched control, Anu Gupta, ICMR, 3 years, 2019-2022, No cost extension for 6 months in 2023, Rs 46 lakhs

31. Clinical and radiologic profile, risk associations, caregiver burden and clinical outcomes in early and late onset dementia, Anu Gupta, AIIMS Intramural grant, 2 years, 2021-2023, Rs 8,15,000
32. Efficacy and safety of Cyclophosphamide in treatment of refractory proliferative arachnoiditis in Central nervous system Tuberculosis A Randomized placebo controlled Trial Elavarasi A, AIIMS Intramural research project, 2 years, 2021-2023, Rs 620000 INR
33. Evaluation of effects of repetitive rTMS at supplementary motor area (SMA) in Parkinson's disease patients with freezing of gait (FOG)- A randomized sham controlled study, Elavarasi A, ICMR Extramural project: 3 years, 2023-2026, Rs 35,86,994
34. Evaluation Of Effects Of Repetitive Trans Cranial Magnetic Stimulation At Supplementary Motor Area In Parkinson's Disease Patients With Freezing Of Gait- A Randomized Sham Controlled Study, Divya MR, ICMR, New Delhi, India, 3 years, 2021-2024, Rs 24 lakhs
35. Clinical And Genetic Profile Of Patients With Huntington's Disease And Other Hereditary Chorea, Divya MR, AIIMS Intramural Research Grant, 2 years, 2021-2023, Rs 8 lakhs
36. The Role Of Educational Intervention On Improving Diagnosis And Treatment Of Central Nervous System Tuberculosis—A Cluster Randomized Trial (RED-TB Trial), World Federation of Neurology Grant in Aid 2021, Divya MR, World Federation of Neurology, 2 years, 2022-2024, Rs 18.5 lakhs
37. Evaluation of rapid eye movement (REM) behavioural disorder in sporadic adult-onset ataxia (SAOA)- A prospective observational study, Animesh Das, ICMR, Delhi, 3 years, 2021-2024, Rs 25.08 lakhs
38. Dalfampridine for improving visual function in acute optic neuritis (DON) - A randomized placebo controlled phase 2 trial, Animesh Das, DHR, Government of India, 2 years, 2022-2024, Rs 29.37 lakhs
39. HLA associated genetic predisposition for hypersensitivity reaction to antiepileptic drugs in North Indians- A case control study, Animesh Das, AIIMS, New Delhi, 2 years, 2021, 2023, Rs 10 lakhs
40. Development of an imaging based algorithm for classification of subtypes of NBIA, Achal Kumar Srivastava, AIIMS Intramural Grant, 2 years, 2021-2023, Rs 5 lakhs
41. A large-scale comprehensive clinical and genomics approach for rare mutations and novel gene discovery in hereditary ataxias in India-(CHANGER), Achal Kumar Srivastava, ICMR, 3 years, 2021-2024, Rs 1.49 crores
42. Integrated molecular modelling and *in vivo* approach to discover potent phytochemicals for improving cognitive decline in Alzheimer's disease, Achal Kumar Srivastava, ICMR, 3 years, 2023-2026, Rs 48 lakhs
43. Post-acute Covid-19 Neurological Sequelae: Deciphering Molecular Signatures by Integrating Data Sources of Covid-19 and Neurodegenerative Diseases and Their Validation, Achal Kumar Srivastava, ICMR, 3 years, 2023-2026, Rs 48.97 lakhs
44. Long Range, Cis-Acting Functional Variations in Regulatory Elements of Frataxin: New Therapeutic Targets in Friedreich's Ataxia, Achal Kumar Srivastava, ICMR, 3 years, 2021-2024, Rs 89 lakhs
45. Clinical Outcome Measures in Friedreich's Ataxia - FACOMS, Achal Kumar Srivastava, Friedreich's Ataxia Research Alliance (FARA) 533 W Uwchlan Ave, Downingtown, PA 19335, United States, 1 year (extendable), 1 December 2022, 30 November 2023, INR 7910000
46. A population Based Prospective Cohort Study in Unravel the Causes of Stroke and Cognitive Decline: A cross-cultural perspective, Achal Kumar Srivastava, DBT, 7 years, 2017-2024, Rs 32 crores
47. To unravel clinico-genetic association of non-lesional epilepsy, syndromes through deep targeted clinical sequencing", Achal Kumar Srivastava, ICMR, 3 years, 2022-2025, Rs 70 lakhs
48. Development of an imaging-based algorithm for classification of subtypes of Neurodegeneration with Brain Iron Accumulation (NBIA), Achal Kumar Srivastava, AIIMS, 2 years, 2022-2023, Rs 6 lakhs

### **Completed**

1. A randomised trial to assess the efficacy of add-on therapy with Aspirin or Clopidogrel to the standard medical therapy alone in patients with Tubercular Meningitis: ACT-TBM, Rohit Bhatia, ICMR, 3.5 years, August 2019, February 2024, 80 lacs
2. SENSE Study: A Prospective, Two-Stage, Non-randomized, Multi-center Within Patient Comparison Study to Evaluate the SENSE Device's Ability to Monitor Intracranial Hemorrhage, Rohit Bhatia. Site PI, Sense Diagnostics Inc, 1 year, 2022-2023, Rs 6.7 lacs
3. Genomic and Proteomic Characterization of Indian Patients with Amyotrophic Lateral Sclerosis. AIIMS-IIT project, Rohit Bhatia, AIIMS-IIT, 2 years, 2021-2023, Rs 10 lacs
4. Determination of efficacy of 9 months, 12 months and 18 months of Anti-Tubercular Treatment (ATT) for Tuberculous Meningitis (TBM): A randomized controlled, non-inferiority trial, Deepti Vibha, Department of Health Research, 3 years, 2019-2022, Rs 40,52,121

5. The first investigation of the genetic causes of Facioscapulohumeral muscular dystrophy (FSHD) in the Indian population, Vishnu VY, AIIMS-UCL Intramural grant, 1 year, 2021-2022, Rs 10 lakhs
6. Machine Learning model for early diagnosis of stroke in resource-limited settings: Pilot study: A collaborative project with IIT Delhi, Vishnu VY, DBT, Government of India, 3 years, 2019-2022, Rs 70 lakhs
7. The Indian Movement Disorder Registry and Biobank: clinical and genetic evaluation in Indian patients with movement disorders, Roopa Rajan, DBT, 4 years, 2018-2022, Rs 28772170
8. Unravelling the genetic landscape of Indian dystonia: a chromosomal microarray approach, Roopa Rajan, AIIMS, 2 years, 2021-2023, Rs 1000000
9. Exploring the electrophysiological signatures of Essential Tremor and Essential Tremor Plus, Roopa Rajan, UCL-AIIMS, 1 year, 2021-2022, Rs 500000
10. Intracranial Mucormycosis in COVID-19 patients – a case control study, Awadh Kishor Pandit, Intramural Grant, AIIMS, New Delhi, 1 year, 2019-2020, Rs 4,87,000
11. An exploratory study to identify candidate CSF biomarkers in Idiopathic Intracranial hypertension with or without vision loss, Awadh Kishor Pandit, AIIMS, New Delhi, 2 years, 2018-2020, Rs 2.5 lakhs
12. Deciphering the role of ATF3 and TGF $\beta$  signaling in Mesial Temporal lobe epilepsy (MTLE) patients, Rajesh Kumar Singh, AIIMS, New Delhi, 2 years, 2018-2020, Rs 9,44,000.00
13. Awareness Of Head Injury While Driving In Patients With Epilepsy: A Preventive And Public Education Study, Divya MR, ICMR, New Delhi, India, 3 years + 6 months extension, 2019-2023, Rs 26 lakhs
14. Clinical and genetic characterization of spectrum of dystonia using deep targeted clinical sequencing, Achal Kumar Srivastava, ICMR, Three years, September 2019, August 2022, Rs 60 lakhs

## **Departmental projects**

### ***Ongoing***

1. A Population Based Prospective Cohort Study to Unravel the Causes of Stroke and Cognitive Decline: A Cross-Cultural Perspective (Funded by DBT, Government of India)
2. A randomized double-blind study of prophylactic levetiracetam for prevention of post stroke seizures (PROLEVIS), AIIMS Primary CNS Vasculitis Registry.
3. An Exploratory Study to Evaluate Optical Coherence Tomography Angiography in Cases of Ischemic Stroke due to Extracranial Internal Carotid Artery Atherosclerotic Disease and Pre And Post Carotid Artery Re-Vascularization (Carotid Artery Stenting and Carotid End-Arterectomy) –A Prospective Cohort Study
4. Analysis of non-ataxic manifestations of SCA-12
5. Bridging therapy with intravenous Alteplase in imaging eligible Acute Ischemic Stroke patients with onset between 4.5 to 9 hours – A Randomized Controlled, Pilot Study (Funding by Intramural Grant, AIIMS, New Delhi)
6. Clinical and Radiological Spectrum of Anti-MOG antibody related neurological disorders – an ambispective observational study.
7. Clinical Utility of Intravascular Ultrasound (IVUS) in carotid artery interventions – a systematic review and meta-analysis
8. Clinico-phenotypic subtyping of spinocerebellar ataxia type 12
9. Clinico-radiological profile and treatment outcomes in hypertrophic pachymeningitis: A retrospective study
10. Clinicodemographic characteristics and outcome of patients with myasthenic crisis and impending myasthenic crisis-An ambispective study
11. Cognitive impairment, its risk associations, and event related potential P300 in patients with migraine
12. Correlation of FDG-PET findings with different phenotypic variants of PSP
13. Cost-effective analysis of evidence based interventions underlying Acute Ischemic Stroke: A Retrospective Study of Patients in a Tertiary Care Hospital, Delhi, India (Approved for funding by DHR, Government of India)
14. Diagnostic accuracy of imaging findings in tubercular meningitis/spinal tubercular arachnoiditis and correlation with outcomes in patients with tubercular meningitis, spinal tubercular arachnoiditis
15. Efficacy of propranolol in tremors in patients of spinocerebellar ataxia 12- a single centre double blind randomised placebo-controlled pilot study
16. Efficacy of smartphone based digital application to track migraine, offer pill reminders for medication adherence and community blog for migraineurs in improving headache related parameters as compared to paper pen diary in patients with Migraine – A Randomized Controlled cross over trial

17. Epigenetic signatures and variations in regulatory regions of FXN gene and their validation: deciphering transcription hurdles in Friedreich's ataxia
18. Exploring the utility of quantitative susceptibility mapping in MRI brain in Wilson's disease
19. Fever, hyperglycemia, swallowing and hypertension management in acute stroke: A cluster randomized controlled trial (Indian Quality Improvement in Stroke Care study)" (Funded by ICMR, Government of India)
20. Genetics of dystonia in India: a next generation sequencing approach
21. Identification of blood-based biomarkers in Friedreich's Ataxia using single cell transcriptomics
22. Identification of pathobiological and disease activity markers in Primary CNS Vasculitis (Funded by ICMR, Government of India)
23. Institutional registry of patients with hypertrophic pachymeningitis
24. Machine Learning model for early diagnosis of stroke in resource limited settings: Pilot study: A collaborative project with IIT Delhi (Funded by DBT, Government of India)
25. Mission Thrombectomy 2020 (MT 2020 App) study.
26. Multimodal electrophysiological evaluation of tremor: a machine learning approach
27. Non-ataxia manifestations of spinocerebellar ataxia type 12
28. Outcome of patients treated with demyelinating disorders on treatment with rituximab
29. Outcome of plasmapheresis in patients with demyelinating disorders
30. Pattern of autonomic involvement in variant subtypes of GBS and its correlation with electrophysiological parameters.
31. Prevention of post-stroke seizures with Levetiracetam in Intracranial Cerebral Venous Sinus Thrombosis (PROLEVIS-CVT): A Randomized Placebo-Controlled Trial (Approved for funding by DHR)
32. Quantitative susceptibility mapping to predict deep brain stimulation outcomes in Parkinson's disease
33. Randomised trial of oral prednisolone in muscular dystrophy
34. Study to assess the clinical profile, risk factors and outcomes in very elderly stroke patients.
35. Timing and clinical factors related to anticoagulation among patients with RHD
36. To determine the association of statin, use with the presence of cerebral micro bleeds in patients with acute stroke: a cross sectional study
37. To develop a severity scale in spinocerebellar ataxia 12 patients
38. To study the genetic modifier of variability in age at onset in SCA2 & SCA12
39. To study the utility of high resolution vessel wall magnetic resonance imaging in patients with acute ischaemic stroke.
40. Utilization of in-hospital resources for stroke care patients of acute ischemic stroke (AIS): prospective cohort study

### **Completed**

1. Characterization of tremor and gait in spinocerebellar ataxia type12
2. Clinical and radiological spectrum and outcomes in patients of Subacute Sclerosing Panencephalitis: an ambispective study
3. Clinical and radiological spectrum of Anti Myelin oligodendrocyte glycoprotein (MOG) antibody related neurological disorders — An ambispective observational study
4. Early Neurological Deterioration after Acute Ischemic Stroke and Long-Term Functional Outcome: A Prospective Cohort Study
5. Effect of COVID-19 pandemic on the follow-up of patients with Wilson's Disease
6. Epidemiological, Clinical and Radiological Spectrum of Connective Tissue Disease Related Neurological Disorders — An Ambispective Observational Study
7. Exploring The Utility Of Quantitative Susceptibility Mapping in Magnetic Resonance Imaging Of Brain In Wilson's Disease: A Prospective Cohort Study
8. Pattern of autonomic involvement in variant subtypes of GBS and its correlation with electrophysiological parameters.
9. Repetitive Transcranial Magnetic Stimulation to the Inferior Parietal Lobule in Task-Specific Focal Hand Dystonia: A Randomized Crossover Blinded Outcome Assessment Study
10. Retrospective Study Of Drug-Induced Movement Disorders from a single center movement disorder clinic

11. Social cognition in Parkinson's disease
12. Role microRNAs in pathophysiology of neurodegenerative disorder: spinocerebellar ataxia type 2 (SCA2)

### Collaborative projects

#### Ongoing

1. A Longitudinal study to assess cortico-spinal excitability and plasticity in amyotrophic lateral sclerosis using transcranial magnetic stimulation metrics, Department of Physiology, AIIMS, New Delhi
2. Development of an imaging based algorithm for classification of subtypes of NBIA, Department of Neuroradiology, AIIMS, New Delhi
3. Development of digital ELISA diagnostics to monitor therapeutic efficacy of pharmacological interventions in dopamine dictated states of Parkinson's disease and schizophrenia, Biophysics, AIIMS, New Delhi
4. Effect of Probiotics and repetitive Transcranial Magnetic Stimulation on cognitive and motor function in 6-hydroxy Dopamine rat model of Parkinson's Disease, Physiology, AIIMS, New Delhi
5. Effect of Probiotics Supplementation on Cognition and Motor Symptoms in Patients with Parkinson's Disease with motor fluctuations, Physiology, AIIMS, New Delhi
6. Exosome based non-invasive (saliva and urine) detection technique development, Biophysics, AIIMS, New Delhi
7. Fever, Hyperglycemia, Swallowing and Hypertension Management in Acute Stroke: A Cluster Randomized: Trial (Indian Quality Improvement in Stroke Care Study (FeSSH) Phase-II (Funding by Indian Council of Medical Research, New Delhi), RIMS, Ranchi
8. Investigating the role of nicotinic neuromodulation in levodopa induced dyskinesias- a multimodal study Clinical and genetics characterization, IIT Mumbai/NBRC
9. Role of MRI in predicting outcome in patients with Cervical Spondylotic Myelopathy and Hirayama's disease, Department of Neurosurgery, AIIMS, New Delhi
10. Role of trace amines in neurodegenerative diseases, Department of Ocular pharmacology, AIIMS, New Delhi
11. SmartWear- AI Enabled wearable system for monitoring and intervention of gait disorders in Parkinsonism, IIT Gandhinagar
12. To Investigate the Combined Neuromodulatory Effects of Intermittent Theta Burst Stimulation and Probiotics on Gut-Brain Axis in Parkinson's Disease – A Randomized Controlled Trial, Dept. Physiology, AIIMS Delhi
13. Wearable electronics for swallowgraphy in stroke patients, Indian Institute of Technology (IIT), New Delhi

#### Completed

1. Clinical And Genetic Profile of Patients With Wilson's Disease – A Prospective Cohort Study, CSIR-IGIB New Delhi
2. Effect Of Intermittent Theta Burst Stimulation on Neurogenic Orthostatic Hypotension in Patients of Parkinson's Disease, Dept. Physiology, AIIMS Delhi
3. Effect Of Salient Phytocompounds on Behavioral Activity and Biomarker Level in An Experimental Model of Parkinson's Disease: An In-Silico and In-Vivo Study, Department Physiology, AIIMS Delhi

### Research projects over past 3 years

Research projects	2020–2021	2021–2022	2022–2023
Total funded projects	36	36	31
Total funding (Lakhs)	Rs 52,69,95,680	Rs 79,56,16,918	Rs 67,97,37,382

### PUBLICATIONS

**Journal: 193    Abstract: 24    Chapters in Book: 22    Books & Monographs: 1**

#### Publications

Item	2020–2021	2021–2022	2022–2023
<b>Total</b>	<b>157</b>	<b>154</b>	<b>240</b>
Journal articles	139	115	193
Abstracts	14	30	24
Chapters in books	4	8	22
Books	0	1	1

**PATIENT CARE**

**Special clinics**

- Botulinum Toxin Clinic
- Neuro-immunology clinic
- Neuromuscular Disease Clinic
- Ataxia Clinic
- Stroke clinic
- Neuro-infections clinic
- Intractable epilepsy clinic
- Movement disorders and DBS clinic
- Headache clinic

**Special lab facility**

- Electrophysiology laboratory for nerve conduction studies, evoked potentials, electromyography, electroencephalography, video-electroencephalography, sleep study and transcranial magnetic stimulation
- Neuro-sonology – transcranial doppler for diagnostic indications
- Neurobiology laboratory (under department of Neurology) has been adding new facilities like in-house autoimmune encephalitis testing and other autoimmune panels
- Botulinum Toxin Injection services
- A diagnostic Digital Subtraction Angiography (DSA) in Neurovascular cases with Neurosurgery department

**Community services/camps**

- Public awareness lectures and awareness programs (via television) on stroke, Parkinson’s disease and dementia

**Patient care**

Item	2020–2021	2021–2022	2022–2023
OPD consultations	32,130	65,378	89,558
Total inpatient admissions	1,215	2,331	3,207
Lab procedures	3,326	8,847	9,519

**AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Padma Srivastava** is Faculty for Future Leaders Program, World Stroke Organization, 2022; Nomination to Women in stroke 2022 by WSO; received Metro-Dora award for women in science excellence award 2022 by IAPOO; Indian Academy of Science membership 2022 under the aegis of NCSTC, DST GOI 2022; Member of SERB Board DST 2022, GOI; Anandibai Joshee oration by INSA, 2022; Dr Muralidhar Rao oration by APNEUROCON 2022; Mmember IMA standing committee for stroke, hypertension control initiative 2022; Member executive council PBDS university of health sciences, Rohtak, Haryana.

**Professor Manjari Tripathi** is Advisor for the NHSRC, Ministry of social justice & empowerment for Disability task force, National essential drug list formulation & is a specialist with Ayshman Bharat -AB PM-JAY and co-chair Standard treatment flow -STF - ICMR. Internationally she is with ILAE for Epilepsy surgery subcommision, Neurophysiology task force stigma task force & driving task force of the IBE

**Professor Rohit Bhatia** received award on AIIMS, Delhi, Institute Research Day for publication on the study of Yoga and migraine RCT. He is Member for committee to set up stroke command centre at central govt hospitals, Delhi under DGHS New Delhi. He was invited by Andhra Medical College, Vishakhapatnam to deliver the 16th annual endowment lecture. August 2022.

**Professor Deepti Vibha** is core faculty in the stroke fellowship programme (under Neurology) and research methodology and evidence-based medicine (under CMETi); Expert reviewer for extramural projects in DST and DHR, Reviewer in various international indexed journals; Member of AIIMS annual report committee, technical specification committee for purchase of equipment, generic pharmacy bill verification committee; Expert panelist for MD (Medicine) thesis dissertations.

**Dr Vishnu VY** received Elsevier award for poster on FSHD genetics at the World Muscle Society Conference 2022.



**Dr Roopa Rajan** was awarded the DBT/Welcome Trust India Alliance Clinical Public Health Intermediate Career Fellowship; Co-chair of the International Parkinson's Disease and Movement Disorder Society Young Members Group, Co-Chair of the Task Force on Integrated Care; Treasurer, Organizing Committee of the AOCN-IANCON 2022.

**Dr Rajesh Kumar Singh** was Chairperson for moderating a session on 6 November 2022 for AOCN- IANCON conference 2022 at Delhi; Assistant editor in Journal Neurology India.

**Dr Anu Gupta** was Chairperson for moderating a session in AOCN- IANCON conference 2022 at Delhi; Evaluator for DM thesis, PGIMER Chandigarh; Member of the Neurosciences infection control committee.

**Dr Elavarasi** was part of Sixweek observership in Movement disorders at the Department of Clinical Neurological Sciences, Division of Neurology, University Hospital, London, Ontario, Canada; Global Clinical Research Training Program - Class of 2024 from the Harvard Medical School; was trained in GRADE (WHO Endorsed) method for Clinical guideline development organized by the US GRADE Network in December 2022.

**Dr Divya Radhakrishnan** was Social Media Ambassador for 8th Asian and Oceanian Parkinson's disease and Movement Disorders Congress 2023; Assistant Editor Annals of Movement Disorders (AOMD); invited member of GCRF Neurocysticercosis Network Group (A special interest group collaborating to develop a worldwide registry for Neurocysticercosis); invited as study group member of International Parkinson's and Movement Disorder Society Ataxia Study group; Member of review sub-committee for the video tournament of 8th Asian and Oceanian Parkinson's disease and Movement Disorders Congress 2023.

**Dr Ayush Agarwal** was World Stroke Organization- Future Leaders Program (WSO-FLP) Awardee for 2022-24; Chair, Indian Academy of Neurology- Young Neurologists Forum; received Young Investigator Award for WSO 2022 in Singapore and Travel Scholarship to attend MDS 2022 in Madrid, Spain.

**Dr Divyani Garg** contributed Best Review Paper in Annals of Movement Disorders 2022-2023, awarded by the Movement Disorders Society of India.

#### **Department of Neurosurgery Emeritus Professors**

Prakash Narain Tandon Ajit K Banerji

#### **Professor and Head Shashank Sharad Kale**

#### **Professors**

P Sarat Chandra Manmohan Singh (JPNATC)	Ashish Suri Deepak Agrawal (JPNATC) Gurudutt Satyarthee (JPNATC)	Rajinder Kumar Deepak Gupta
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#### **Additional Professors**

Pankaj Kumar Singh (JPNATC)	Vivek Tandon	Sachin Borkar
Hitesh Gurjar	Amandeep Kumar	Shashwat Mishra
Rajeev Sharma	Shweta Kedia	Ramesh Doddamani
DattarajSawarkar	Kanwaljeet Garg	Manoj Phalak

#### **Associate Professors**

Amol Raheja	Satish Verma	Rajesh Meena
Santanu Kumar Bora	Kokulla Praneeth	Ravi Sharma
	Raghav Singla	

#### **HIGHLIGHTS**

The Department of Neurosurgery has continued to excel in patient care, research & training during the year 2022-2023. In last one year, the Department of Neurosurgery performed 3269+ neurosurgical procedures. At the Gamma-knife centre, 655 cases of GKRS were performed. Our department conducted interview for INI-Superspecialty course in neurosurgery.

We also successfully conducted 25th Annual Micro-neurosurgery Workshop from 18 to 20 February 2023 which is a unique workshop that aims to impart neurosurgical skills to young neurosurgeons from India and abroad. In this workshop, neurosurgery stalwarts including Prof Takeo Goto from Osaka Metropolitan University, Osaka, Japan, Prof Aswini Sharan from Thomas Jefferson University, USA and Prof Franco Servasei from Italy shared their experience and knowledge with the delegates. This year's Microneurosurgery workshop was a great success with very good participation & was much appreciated for its scientific content. Our department also organized 7th AIIMS Annual Neurotrauma Conference 2023, AIIMS annual spine workshop SPINECON 2022 and all of which were great success in terms of scientific content and delegate participation. ISPNS annual cadaveric and live operative workshop. Not lagging behind in research, our department has published 160 research articles in both national & international high impact journals. Our department has contributed 18 book chapters in various books during this period.

## **EDUCATION**

Dr Ashish Suri

Convener: Neurosurgery Simulation-based Short Term Skills Training Program: Neurosurgery Skills Training Facility (NSTF) and Neurosurgery Education and Training School (NETS)

- Simulation-based neurosurgery skills training sessions: 478
- Simulation-based short-term neurosurgery skills training = 10
  - 4 weeks short-term training = 2
  - 2 weeks short-term training = 8
- NETS Weekend Workshops (no of residents) = number of workshops = 3;
- number of trainees = 48
- E-learning in neurosurgery skills training (1 April 2022 to 31 March 2023)
  - Surgical videos = 76,266 views (747 Subscribers)
  - Website views = 7769 views
  - Discussion forum = 1019 likes (Total likes = 9883)

### **CMEs/Workshops/Symposia/National and International Conferences:**

1. 25th AIIMS annual Microneurosurgery workshop: February 2023
2. 7th AIIMS Annual Neurotrauma Conference 2023: 18-19 March 2023
3. AIIMS annual spine workshop SPINECON 2022, 7-10 September 2022
4. ISPNS annual cadaveric and live operative workshop, 4-5 March 2023, AIIMS, New Delhi

**Lectures delivered: 181**

**List of oral papers/posters presented: 17**

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. Material characterization of brain tissue and development of tissue-device interaction based neurosurgical simulation tools, Prof Ashish Suri, Department of Health and Research (DHR), Indian Council of Medical Research (ICMR), Ministry of Health & Family Welfare, Government of India, AIIMS+ Applied Mechanics-IIT-D, 3 years, 2020-2023, Rs 839 lakhs
2. Collaborative neuro-engineering platform for excellence in innovation and translational research in neurosurgery simulation, Prof Ashish Suri, Department of Biotechnology (DBT), Ministry of Science and Technology, Govt. of India AIIMS+ IIT-D, 5 years, 2018-2024, Rs 741 lakhs
3. A study to develop automated neurotrauma Registry for TBI in AIIMS, Dr Deepak Agrawal, Department of Science and Technology, 4 years, 2019-2023, Rs 7316000
4. An IoT enabled portable device for OND/ONSD based automated detection of Intracranial Pressure ICP through ocular USG Imaging, Dr Basant (MNNIT Allahabad) Dr Deepak Agrawal (Co-PI), Department of Science & Technology, 3 years, 2021-2024, Rs 2165348
5. Development and validation of prognostic models for patients with traumatic brain injury: A comparison of the modern machine learning methods, Dr Vineet Dr Deepak Agrawal (Co- PI), Indian Council Of Medical Research, 3 years, 2021-2024, Rs 2235600

6. To study the effect of a locally administered multifunctional cocktail on postoperative pain and blood loss in elective lumbar spinal surgeries: A prospective double blinded randomized control trial, Dr Sachin Borkar, ICMR, 2 years, 2022-2024, Rs 40,50,060
7. Histopathological and Immunohistochemistry Analysis Of Posterior Atlanto Occipital Membrane In Patients With Congenital/Developmental Craniovertebral junction (CVJ) Anomalies, Dr Sachin Borkar, ASSI, 1 year, 2022-2023, Rs 150000
8. Approaches and Decisions in Acute Pediatric TBI Trial, (ADAPT) USA, Dr Deepak Kumar Gupta, National Institute of Health, 10 years, 2015-2025, Rs 2,65,49,336
9. Collaborative European Neurotrauma Effectiveness research in TBI Collaborative Indian Neurotrauma Effectiveness Research in TBI (CENTER TBI), Dr Deepak Kumar Gupta, UniversitairZiekenhuisAntwerpen (UZA), Belgium, 8 years, 2015-2023, USD 5000 per year
10. Designing and testing intra-operatively an inexpensive, small, efficient and portable, table/microscope objective mounted device for visualizing and recording indocyanine green fluorescence during surgeries under the operative microscope, Shashwat Mishra, AIIMS- IIT Delhi interdisciplinary research, 2 years, 2019-2023, Rs 10 lakhs
11. 3D volumetric analysis to define the extent of resection of giant pituitary adenomas, Rajeev Sharma, AIIMS, New Delhi, 2 years, 2021-2023, Rs 6 lakhs
12. Serum Vascular endothelial growth factor and Endostatin as an adjunct to clinical decision making in managing symptomatic radiation induced changes post Gamma Knife in cranial Arterio-venous Malformations patients: Observational study, Shweta Kedia, AIIMS, Delhi, 2 years, October 2020, October 2022, Rs 5 lakhs
13. A study on the effect of GABA A receptor alterations in Cortical Dysplasias, Ramesh S Doddamani, DBT Govt of India, Ongoing, 2016 - ongoing
14. Prospective study to evaluate the role of bevacizumab in treatment of vestibular schwannoma in patients with neurofibromatosis type 2, Ramesh S Doddamani, Ongoing, 2017 Onwards
15. RELA fusion in Supratentorial Ependymomas, Meher Chand Sharma, Intramural Grant (AIIMS, Delhi), ONGOING, 2019 onwards, Rs 500000
16. Assessment of hypoxia inducible factor- 1 alpha pathway activation and its correlation with tumor immune microenvironment and markers of tumor invasiveness in myxopapillary ependymomas, Meher Chand Sharma, Intramural Grant (AIIMS, Delhi), Ongoing, 2020 onwards, Rs 500000
17. Microsurgical comparison of operative exposure of IAC through middle fossa and retrosigmoid hearing preservation skull base approaches - a laboratory investigation, Amol Raheja, AIIMS Intramural grant, Extension granted, 2018-2022, Rs 5,00,000
18. Quantitative analysis of the variants of the Far lateral Approaches in Neurosurgery, Rajesh Meena, Intramural, Ongoing, 2016 - ongoing, Rs 4.75 lakhs
19. Recurrent glioblastoma; a diagnostic challenge: A multidisciplinary approach for differentiating tumor recurrence and treatment related changes, Dr Santanu Kumar Bora, AIIMS, New Delhi, 2 years, 2022-2024, Rs 10,00,000
20. Extending the horizon of endoscopic neurosurgery: A cadaveric study as a starting step to introduce posterior fossa endoscopic approaches to the armamentarium of minimally invasive neurosurgery of our institute. Dr Santanu Kumar Bora, AIIMS, New Delhi, 1 year, 2020, Rs 405000
21. Role of Biomarkers in Predicting Evolution of Cerebral Edema following Traumatic Brain Injury, Dr Kokkula Praneeth, AIIMS, 2 years, 2020-2023, Rs 9,02,000 Secondary grant approved

## **RESEARCH**

### **Funded projects**

#### ***Completed***

1. Paroxysmal Sympathetic Activity and its role in severe TBI, Prof Deepak Agrawal, AIIMS, 2 years, 2018-2021, Rs 10,00000
2. "VEGF: as a potential systemic marker of local angiogenic activity and response to gamma knife surgery" for your consideration, Prof Deepak Agrawal, AIIMS, 1 year, 2016-2017, Rs 5,00,000
3. Early versus Delayed Decompression for Traumatic high Cervical Spinal Cord Injury in Acute Spinal Cord Injury Study, Prof Deepak Agrawal, DST, 4 years, 2014-2018, Rs 24,52 800/-
4. "Determination of the reference range for the elevated PT/INR with normal coagulation factor level and its association with plasma transfusion therapy in head injury patients, Prof Deepak Agrawal, ICMR, 2 years, 2015-2017, Rs 25,00,000
5. "Monitoring cognition of healthcare workers in emergency and intensive care setting and its relation to medical errors", Prof Deepak Agrawal, DST, 4 years, 2012-2016, Rs 59,86,400

6. "Automated assessment of hand hygiene complication in healthcare settings using Kinect Camera", Prof Deepak Agrawal, DBT, 3 years, 2013-2016, Rs 24,00,000
7. "Economic & Social burden of Managing Traumatic brain injuries (TBI) in adult aged 18-50 years in India", Prof Deepak Agrawal, DHR, 1 year, 2014-2015, Rs 8,00,000
8. "Thromboelastometry (TEG): Utility and Cost-effectiveness in diagnosing of infection in Neurosurgery Intensive care unit (ICU) as compared to established biomarkers", Prof Deepak Agrawal, Institute, 1 year, 2014, Rs 10,00,000
9. "Matrix Metalloproteinase (MMPS) (MMPS) as biomarkers for fusion following spinal instrumentation, Prof Deepak Agrawal, AOSPINE, 1 year, 2014, 5500 CHF
10. Acute thalamic involvement in severe head injury-An autopsy study with histopathological correlation", Prof Deepak Agrawal, Institute, Rs 1,00,000
11. A Registry for Comparing Catheter-Related Infection Rates Among Various Shunt Systems in the Treatment of Hydrocephalus, Prof Deepak Agrawal, Codmon Corporation, USA, Rs 1000000
12. "Optic Nerve Ultrasound in Severe Traumatic Brain Injury", Prof Deepak Agrawal, DBT, 3 years, 2015-2017, Rs 36,07,380
13. Randomised Evaluation of Surgery with Craniectomy for patients undergoing Evacuation of Acute Subdural Haematoma (RESCUE-ASDH), Dr Deepak Kumar Gupta, Cambridge University, 3 years, 2017-2020, Consumables: 144 pounds per randomized patient CRF completion costs: 213 pounds per randomized patient
14. Deciphering the role of Histone deacetylases (HDACs) in mesial temporal lobe epilepsy, Ramesh S Doddamani, AIIMS, Delhi, 2 years, 2016-2018, Rs 5 lakhs

## **Departmental projects**

### ***Ongoing***

1. Transarticular screws versus other methods of fixing AAD – A comparative study
2. Endoscopic excision of giant pituitary adenoma – an outcome study
3. Stereotactic target accuracy with different MRI sequences
4. Gamma-Knife for giant intracranial (>20cc) lesions
5. Role of Gamma Knife in Craniopharyngiomas
6. Role of Bevacizumab in NF2 for tumor control
7. Study of evolution of cerebral edema, neuroinflammation and blood brain barrier disruption in Pediatric Traumatic Brain Injuries
8. Study of variations in anatomy and pattern of skull base fractures in patients with post-traumatic CSF leak
9. Correlation between injury morphology on CT and neurological outcomes in sub axial cervical spine injury
10. Spinal alignment after fixation in trauma patients
11. Impact of covid on neurosurgical procedures in a tertiary care centre
12. Evaluation Of Biomarkers (Procalcitonin, IL-6, D-Dimer, TLC, CRP) To Predict Cerebral Vasospasm And Delayed Ischemic Neurological Deficits After Aneurysmal Subarachnoid Hemorrhage
13. Development of a Machine Learning algorithm for prediction of severity and need for surgery in Cervical Spondylotic Myelopathy. AIIMS-IIT Delhi research Collaboration
14. Outcome of staged surgeries in Neurosurgical setup
15. Study of variations in anatomy and pattern of skull base fractures in patients with posttraumatic CSF leak
16. Spinal alignment after fixation in trauma patient
17. Study of ZFTA and YAP-1 fusion in supratentorial ependymomas
18. Role of third ventricular volume as a predictor of hydrocephalus in patients with aneurysmal subarachnoid hemorrhage.
19. A Comparative Ambispective Study of Trans-Cranial versus Trans-Sphenoidal approaches for Tuberculum Sella Meningiomas Comparative ambispective study of transcranial versus trans-sphenoidal approaches for tuberculum sella meningioma
20. An ambispective analysis of outcome of patients with atlanto axial instability undergoing posterior fixation with C1 lateral mass and C2 pedicle screws. (Co-guide for Thesis submitted by Dr Abhishek Kumar in January 2024)
21. Clinical and radio-pathological correlation in pituitary adenomas in modern era of transcription factors Immunohistochemistry. (Co-guide for Thesis submitted by Dr Gursewak Singh in October 2024)

22. Spinal Alignment After Fixation In Trauma Patients
23. Role Of Revision CVJ Surgery In Management Of CVJ Anomaly
24. Impact Of Covid-19 On Neurosurgical Procedures For Non-Traumatic Pathologies In Neurosciences Centre
25. A study on the effect of GABA A receptor alterations in cortical dysplasias
26. Prospective study to evaluate the role of bevacizumab in treatment of vestibular schwannoma in patients with neurofibromatosis type 2
27. Fixation versus Decompression in the management of Chiari malformation: A randomized control trial
28. Target accuracy of different imaging techniques in stereotactic functional neurosurgery
29. Evaluation of biomarkers (procalcitonin, il-6, d- dimer, tlc, crp) to predict cerebral vasospasm and delayed ischemic neurological deficits after aneurysmal subarachnoid hemorrhage
30. Gamma Knife Subthalamotomy for Idiopathic Parkinson's Disease - A Pilot Study
31. A study to assess the impact of nurse-led home based care on knowledge, practice and burden of caregivers among patients with traumatic brain injury (TBI) at AIIMS Delhi
32. A retrospective analysis of atlantoaxial fusion with C1-C2 transarticular screws
33. Remission and Recurrence after surgical treatment for functional pituitary adenomas
34. Decompressive Craniectomy v/s Cisternostomy in Severe Traumatic Brain Injury: A Single Centre Prospective Study

### ***Completed***

1. "Therapeutic Application of Bone Marrow Derived Stem Cell in Complete Spinal Cord Injury"
2. Study of Traumatic brain injury induced secondary gastrointestinal changes
3. Pituitary dysfunction following stereotactic radiosurgery for secretory pituitary adenomas
4. Primary Gamma-Knife with concurrent Temozolomide for GBM
5. Global sagittal balance in degenerative spine diseases
6. Correlation between clinical examination and MRI findings in Neurosurgical cases: A prospective study
7. A prospective blinded study of 500 patients demonstrating the accuracy of clinical localisation with radiological (MRI) diagnosis and localisation in compressive spine pathologies.
8. Role of Dotanoc PET in meningiomas.
9. Role of endoscopic endonasal approach in the management of giant pituitary adenoma. (Co-guide for Thesis submitted by Dr Ajay Jhahhariya in September 2022)
10. Functional and neuropsychological outcome in Moyamoya disease. (Co-guide for Thesis submitted by Dr Sidharth Joshi in January 2023)
11. Gamma Knife Radiosurgery in the Management of Trigeminal Neuralgia – Outcome Assessment and Prediction Using Artificial Neural Network Model
12. Outcome of Gamma Knife Radiosurgery in Craniopharyngiomas
13. Intraoperative mMEP and D wave monitoring in CVJ patients undergoing DCER and postoperative motor outcome
14. Utility of Postoperative CT scans in Elective Postoperative Neurosurgical Patients.
15. Standard MRI Imaging is inadequate in drug resistant epilepsy" Retrospective analysis.
16. Pseudo-progression following GKRS for Vestibular schwannoma
17. Analysis of PDL-1 expression and T-cell infiltration in different molecular subgroups of midline gliomas and the clinical outcome
18. Midline gliomas: A study of clinical outcome and associated molecular alterations
19. Factors effecting persistence and recurrence in Cushing's Disease
20. Challenges and Prospects of Neurosurgical Teleconsultations in a Developing Country: A Reality Check

### **Collaborative projects**

#### ***Ongoing***

1. Collaborative neuro-engineering platform for excellence in innovation and translational research in neurosurgery simulation, AIIMS: Neurosurgery, Anatomy, Forensic Medicine, Neuroradiology, Neuropathology IIT-D: CSE, CBME

2. Material characterization of brain tissue and development of tissue-device interaction based neurosurgical simulation tools, AIIMS: Neurosurgery, Anatomy, Forensic Medicine, Neuroradiology, Neuropathology, NMR IIT-D: Applied Mechanics
3. Outcome assessment of Early Integration of Palliative Care in management of patients of primary brain tumors, Onco-anaesthesia and Palliative care, IRCH
4. Fluoride levels in cervical OPLL, Anatomy
5. “Establish robust and economical blood-based panel of diagnostic biomarkers for early diagnosis, detection of tumor progression and its recurrence in gliomas.”, Neuropathology; Neuro-radiology
6. Infra-red pupillometry as a diagnostic tool in assessment of non-convulsive status epilepticus in severe TBI, Neuroanaesthesia
7. Methylation array based profiling of gliomas in young adults to improve subclassification and prognosis prediction, Neuropathology, Neuro-radiology
8. RELA fusion in Supratentorial Ependymomas, Neuropathology
9. Assessment of hypoxia inducible factor- 1 alpha pathway activation and its correlation with tumor immune microenvironment and markers of tumor invasiveness in myxopapillary ependymomas, Neuropathology
10. Multiple degrees of freedom of robotic manipulator for minimally invasive neurosurgery, IIT, Delhi
11. Evaluation of Cathepsin B in peripheral blood of Isolated Traumatic Brain Injury patients and its correlation, Department of Lab Medicine
12. Randomised trials to intensify adjuvant treatment in newly diagnosed cases of brain tumor, Radiation Oncology

#### **Completed**

1. Correlation of neuropsychological deficits and lesions of white matter bundle in the pre-frontal area, Physiology, Neuropsychology

#### **PUBLICATIONS:**

**Journal: 160**

**Chapters in Book: 18**

#### **PATIENT CARE**

Department of Neurosurgery has two units with general neurosurgical ward under each unit (35X2 beds). There are two ICUs with 23 beds. There are now 7 elective operation theatres and two exclusive operation theatres in trauma centre. We offer world class neurosurgical facilities in all neurosurgical sub-specialties, which include- vascular surgery, epilepsy surgery, minimally invasive cranial and spinal neurosurgery, pediatric neurosurgery, functional neurosurgery, neuro-oncosurgery, skull base and complex spinal surgeries. We have advanced imaging modalities (O-arm) and navigational devices (like Stealth Station and ROSA). Department of Neurosurgery runs an outpatient Spine clinic which deals with all diseases related to spine including degenerative, deformity, tumors, etc. It is held on Saturdays from 9 am to 12 pm. We have also started DBS clinic in collaboration with Deptt. of Neurology for providing comprehensive care of patients who have undergone DBS, which will be held on all Saturdays from 9 am-12 pm.

Following number of patients were treated by the department during the year 2022-2023.

S. No.	Treatment facility	Number
1.	Outpatient department	
	a) Total New Cases	16111
	b) Total Old cases	30441
	c) Total cases	46552
2.	Gamma knife procedures performed	655
3.	Number of surgeries at CNC	3269
5.	Number of surgeries at JPNATC	1492
6.	Total number of surgeries	4761

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor SS Kale** received Life time achievement award, Spinal Cord Society, 3 December 2022; Life time achievement award, Spine Society Delhi Chapter, 25 March 2023; Treasurer Neurological Society of India from 2022 to 2024; President Neuro Spine Surgeons Association from 2022 to 2023.

**Professor Ashish Suri** is Adjunct Professor, School of Information Technology, Indian Institute of Technology- Delhi; Executive Member: World Federation of Neurosurgical Societies, Skull Base Committee (WFNS); President-Elect: Skull Base Surgery Society of India (SBSSI); Vice President: Neuro-Endoscopy Society of India (NESI); Elected Member of WANS – World Academy of Neurological Surgeons.

**Professor Manmohan Singh** delivered Dr Arun Banerjee Memorial Oration, at 67th Foundation Day Program of IPGMER, Kolkata on 16 January 2023; Topic: Management of Cavernous Sinus Lesion- Multimodal Approaches.

**Professor Deepak Agarwal** was Editor-in-Chief of Indian Journal of Neurotrauma (IJNT); was elected as Secretary, Indian Society of Peripheral Nerve Surgery.

**Dr Sachin A Borkar** was elected as EC member for Indian Society of Pediatric Neurosurgery for the term 2022-25 and was appointed as Spine & CVJ Section editor for Neurology India Journal; as one of the nodal officers for Infection Control in NSC, was actively involved in formulating guidelines and ensuring compliance for Infection control activities in NSC; Ensured training and teaching of HCW towards COVID appropriate behaviour; was involved in many physical/virtual educational activities in the form of webinars, panel discussion during the course of the year; served as a core member in conducting various CME and conferences under the Deptt of Neurosurgery like AIIMS Microneurosurgery Workshop, AIIMS Spine Workshop and AIIMS Neurotrauma Workshop, etc.; In-charge of departmental infection control, website maintenance, telemedicine; as a part of NSC infection control committee, formulated guidelines to streamline activities.

**Dr Vivek Tandon** was the co-organizer for the 25th AIIMS annual microneurosurgery workshop held from 16th to 18th February 2023. I have actively helped in improving the IT infrastructure at AIIMS; Chairman for the implementation committee tasked for making AIIMS a paperless hospital and helped the computer facility after the cybersecurity breach. He is also chairman for the committees tasked for improvement in 5G network at AIIMS, deployment of internal navigation application and procurement of secure instant messaging application.

**Dr Rajeev Sharma** was Section Editor, Cerebrovascular Surgery section, Neurology India; Treasurer, ISPNS; Co-opted member, COVID, ASSI; Coordinator, 25th Live operative Microneurosurgery workshop, 16-18 February 2023; Co-Organizing Secretary, ISPNS Cadaver and Live Operative Workshop, 3-4 March 2023; took active interest in various conferences organized by the Department.

**Dr Shweta Kedia** was Assistant editor in Indian Journal of Neurosurgery; Section editor of neuro-oncology in Neurology India; Core member of Pediatric neuro-oncology tumor board; Mentor for mentor-mentee program: an initiative by WINSI section of NSI; Upgrade user Gamma knife ICON Program, 5-8 December 2022, at Dallas, USA UT South western medical center, department of radiation oncology; ICON New Sites Application training, 26-28 October 2022 at AIIMS Delhi; Technical evaluation of bids for peripheral AIIMS; Panelist in Doctoral Committee Meeting 25th July, Neuropathology; Executive member of WHO-WFNS Liaison Committee.

**Dr Dattaraj Sawarkar** was Co-organizing secretary AIIMS annual spine workshop 7-10 September 2022 and Organizing secretary, ISPNS annual cadaveric and live operative workshop, 4-5 March 2023, AIIMS, New Delhi.

**Dr Ramesh Doddamani** was Section Editor for World Neurosurgery: Sections—1. Epilepsy, 2. Pain and 3. CSF pathways and Hydrocephalus. He was Editor for “Neurocutaneous Disorders” May 2022 Issue of Neurosurgical Focus.

**Dr Satish Verma** underwent two short-term trainings - Short-term fellowship in Neuro-endovascular and Neurointervention at GB Pant Hospital, Delhi, from 1 to 31 August 2022.

**Dr Amol Raheja** was corresponding author and co-authored NSI award for best paper in neurosurgery, entitled “Virtual reality technology in preoperative planning of complex cranial surgeries” presented by JigishRuparelia (Skull Base and Cerebrovascular Neurosurgery Fellow) at NSICON 2022, Agra, India; Team leader and co-authored original work in the field of quality improvement projects in cerebrovascular neurosurgery, entitled “A quality improvement initiative to decrease the number of revisits of patients to neurosurgery facility for getting the digital subtraction angiography performed at a tertiary care referral hospital”; and was awarded 1st prize for best E-poster presentation at Neuro-nursing update during 3rd annual conference of Neuro-Critical Care Society of India (NCSI 2022), Hotel Pride Plaza, Aerocity, New Delhi. In order to serve remote communities with limited access to healthcare, he actively participated in 6th free medical site camp organised by “Patient Care Trust” in serving the exiled Tibetan community, in Hubballi, Karnataka.

**Dr Shantanu Kumar Bora** got Fellowship in Neuro-intervention at GB Pant Hospital, New Delhi; successfully completed AIIMS Faculty Development Course organized by Department of Neurosurgery, AIIMS, New Delhi; chaired a session in Neuroendocon 2023, in Chandigarh; Diploma in Transplant Procurement Management (TPM) Training Course.

**Dr Kokkula Praneeth** was Associate Editor – Journal of Spinal Surgery; Section Editor – Neurology India; Successfully completed AIIMS Faculty Development Course organized by Department of Neurosurgery, AIIMS, New Delhi; Co-Organizing Secretary – AIIMS Neurotrauma Conference (ANTC) 2023; secured Diploma in Transplant Procurement Management (TPM) Training Course and Diploma in Belt & Road Organ Donation Capacity Improvement Cooperation Training Project.

**Department of Neuroanesthesia and Critical Care  
Professor (HAG) and Head  
Arvind Chaturvedi**

**Professors**

Mihir Prakash Pandia  
Rajendra Singh Chouhan  
Girija Prasad Rath  
Hemanshu Prabhakar

**Additional Professors**

Charu Mahajan  
Indu Kapoor  
Surya Kumar Dube

**Assistant Professor**

Suman Sokhal

**HIGHLIGHTS**

Anesthetic management for 3355 neurosurgical procedures was performed. Anesthetic management for 755 neuroradiological procedures (517 in Angiography lab and 238 in MRI suite) was performed. Intensive care management of 1850 ICU patients performed. A total of 8512 patients (4961 new and 3551 old) were seen in Pre-Anaesthesia Check-up (PAC) clinic OPD at NSC. A total of 684 patients (553 new and 131 old) were seen in pain clinic OPD, NSC and 330 nerve blocks were given in the pain clinic.

Eight candidates were awarded D.M. (Neuroanaesthesiology and Critical Care) degree and four candidates were awarded fellowship in Neurocritical care. Twelve new candidates joined D.M. course and four candidates joined the Neurocritical care fellowship courses. Sixty-one senior residents (37 academic and non-academic Neuroanaesthesia senior residents, 12 senior residents from IRCH, 12 senior residents from general anaesthesia department AIIMS, 2 senior residents from KEM hospital Mumbai) and 22 PG students (22 from AIIMS and 11 from Lady Hardinge Medical College, New Delhi) received training in the department. One candidate from Defence services medical academy, Myanmar received short-term training of Neuroanesthesia and Neurocritical care in this department.

Faculty members are working on four funded research projects. Ten research projects were completed in the department and 19 research projects continuing. Faculty members are working on 4 collaborative projects. Faculty members delivered 49 lectures in various national and international conferences. The department published 32 papers in various national and international journals and 7 chapters in books. One faculty member published a book. Faculty members in the department got awards and recognition in various national and international platforms.

**CMEs/Workshops/Symposia/National and International Conferences**

**Arvind Chaturvedi**

1. Organizing Chairman of 3rd Annual Conference of Neurocritical Care Society of India & 8th Annual Neuroanaesthesia update, organized by Deptt of Neuroanaesthesia & Critical Care AIIMS, New Delhi on 6 September 2022
2. “Positioning in Neurosurgery” Organising Chairman 17 April 2022 in AIIMS New Delhi

**Surya Kumar Dube**

1. Fundamental Critical Care Support Provider & Instructor Course, 13-16 July 2022 (Virtual Mode)
2. NTSI–Neurotrauma 2022, Vishakhapatnam, Andhra Pradesh, 12-14 August 2022
3. 3rd Annual conference of the Neurocritical Care Society of India (NCSI 2022) and AIIMS Neuroanaesthesia and Neurocritical Care update 2022, 6-9 October 2022, New Delhi



4. 69th National Conference of Indian Society of Anaesthesiologists, ISACON 2022, Shillong, Meghalaya, 23-27 November 2022
5. AIIMS Post Graduate Assembly 2023, 5 January 2023, AIIMS, New Delhi
6. 24th Annual Conference of ISNACC. ISNACC 2023, 19-22 January 2023, Hyderabad, Telangana
7. Acute Critical Care Course (ACCC), 30 January 2023, AIIMS, New Delhi
8. West Zone ISACON (RAJWISACON 2023), 10-12 February 2023, Jaipur, Rajasthan
9. Central Zone Post Graduate Assembly, 15-19 February 2023, BHU, Varanasi, UP
10. Workshop on Brain Death and Organ Donation. (As Chief Coordinator), 6 October 2022, 3rd Annual Conference of the Neurocritical Care Society of India (NCSI 2022) and AIIMS Neuroanaesthesia and Neurocritical Care update 2022, New Delhi
11. AIIMS-ICMR-CDC workshop on Capacity Building and Strengthening of Hospital Infection Control to Detect and Prevent Antimicrobial Resistance in India: Phase 2, 14-15 November 2022, India Habitat Center, New Delhi
12. CME and Workshop on Brain Death Diagnosis and Certification (ISNACC Endorsed workshop), 7 January 2023, AMRI Hospital, Bhubaneswar, Odisha (Course director)
13. Workshop on Crisis Management in Neuroanaesthesia, 24th Annual Conference of ISNACC. ISNACC 2023, 19 January 2023, Hyderabad, Telangana. (As Faculty)
14. Workshop on Role of Artificial Intelligence in Research and Patient Development, 28 February 2023, AIIMS, New Delhi

#### **Suman Sokhal**

1. "Positioning in Neurosurgery"  
Organising faculty 17 April 2022, 6th floor, Seminar Room, CNC, AIIMS  
Annual Conference of NCSI 2022
2. "Care of lines in ICU"  
(Workshop faculty)  
6 October 2022, Auditorium, AIIMS
3. Optic nerve sheath diameter for ICP monitoring  
(Workshop faculty), 11 March 2023, NIMHANS, Bengaluru

#### **Lectures delivered: 49**

#### **Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
34	47	49

#### **List of oral papers/posters presented: 14**

#### **Oral/poster presentations over past 3 years**

2020-2021	2021-2022	2022-2023
14	17	14

### **RESEARCH**

#### **Funded projects**

#### ***Ongoing***

1. Study of muscle enzyme elevation in neurosurgery and its relevance in post-operative acute kidney injury: A Pilot Study, Dr Surya Kumar Dube, AIIMS, New Delhi (Intramural Grant), 4 years, 2018-2022, Rs 3 lakhs
2. Comparison of Fiber-optic Endotracheal Intubation with and without the use of air-Q as a conduit in patients with cervical spine injury: A pilot Study, Prof Gyaninder Pal Singh, AIIMS, New Delhi (Intramural Grant), 4 years, 2016-2020, Rs 2 lakhs 16 thousand
3. Impact of intraoperative jugular venous oximetry based management on outcome in patients undergoing excision of intracranial meningiomas: a preliminary study, Dr Charu Mahajan, AIIMS (Intramural), 2 years, 2020-2022, Rs 4.7 lakhs

4. Comparing safety and efficacy of indigenous goggles with fan versus standard goggles in health care workers in COVID ICU, Navdeep Sokhal, AIIMS, 2 years, 2021-2022, Rs 2,95,000/-

## **Departmental projects**

### ***Ongoing***

1. Airway Changes in Patients Undergoing Spine Surgery in the Prone Position: A Prospective Observational Study
2. Incidence & risk factors for prolonged ICU stay after pituitary surgery: A Prospective Study
3. Effect of topical ropivacaine on extubation response in patients undergoing supratentorial tumour surgeries: a prospective randomized double blinded placebo controlled trial
4. Effect of intraoperative goal directed fluid therapy on extravascular lung water after lateral position craniotomy
5. Opioid free anesthesia for supratentorial craniotomy
6. Surgical Position Associated Intra-Abdominal Pressure Changes in Neurosurgery. (*As Chief Guide*).
7. Effect of Intraoperative Goal-Directed Fluid Therapy on Extra Vascular Lung Water after Lateral Position Craniotomy, A Prospective Randomized Study: (*As Chief Guide*)
8. Comparing the Effect of Fentanyl and Midazolam with Ketofol for ICU Sedation on the Extended Glasgow Outcome Scale at Three Months in Moderate to Severe Traumatic Brain Injury Patients – A Prospective Randomized Study (*Co-Guide*)
9. Point of care ultrasound to identify Frailty and predict outcomes in patients with traumatic brain injury: A prospective observational study
10. Opioid sparing Anesthesia Technique for supratentorial craniotomy in geriatric patients [OPIATE]: a randomized open labeled study
11. Effect of Intraoperative Goal-Directed Fluid Therapy on Extra Vascular Lung Water After Lateral Position Craniotomy. A Prospective Randomized Double blinded Study
12. Opioid free anesthesia for craniotomy in supratentorial tumors
13. Impact of intraoperative juglar venous oximetry based management on outcome in patients undergoing excision of intracranial meningiomas: a preliminary study
14. Effect of dexmedetomidine on cerebral vasospasm associated biomarkers in patients undergoing elective craniotomy for intracranial aneurysms: a randomized controlled trial
15. Effect of dexmedetomidine on oxidative stress and immune modulation in patients undergoing aneurysm clipping-a randomized controlled trial
16. Comparative study on incidence of airway related complications while using polyvinyl chloride (PVC) tubes with a strategic cuff release manoeuvre versus armoured flexometallic endotracheal tubes in neurosurgical patients undergoing surgery in lateral position: A non-inferiority trial
17. Effects of varying concentrations of Nitrous Oxide on motor evoked potentials using IONM during spine surgeries: A double blinded Randomised Controlled Study
18. Effect of topical Ropivacaine on extubation response in patients undergoing supratentorial tumour surgeries: A prospective randomised double blinded placebo controlled trial
19. Dynamic needle tip positioning versus short axis technique for ultrasound guided internal jugular venous cannulation in adult surgical patients: A randomized controlled trial

### ***Completed***

1. Comparison of change in the Pulsatility index before and after ventriculoperitoneal shunt surgery in adult patients with hydrocephalus
2. A study to assess the effect of simulation-based ventilator alarm management training on nurse's knowledge and practices in a tertiary care hospital. (*Co-guide for MSc Nursing Student*).
3. Comparison of Glasgow Coma Scale-Pupils and Full Outline OfUnResponsiveness score for predicting outcome in patients of traumatic brain injury
4. Role of preoperative Anesthesia Counseling in the neurosurgical patients: a randomized controlled open label study
5. Comparison of enhanced recovery after surgery [ERAS] protocol vs conventional care in patients undergoing elective craniotomy for intracranial aneurysms: a randomized controlled controlled trial
6. Near infrared spectroscopy as a predictor of evaluation towards brain death following severe brain damage

7. Comparison of 0.9% normal saline, stereofundin, and plasmalyte with respect to metabolic parameters and brain relaxation in patients undergoing supratentorial craniotomy
8. Influence of Periprocedural Anesthetic Management of Endovascular Thrombectomy for Anterior Circulation Acute Ischemic Stroke on Neurological Outcome
9. Anesthetic Management of Patients with Hypothalamic Hamartoma- A Retrospective Study
10. Changes in clinical practices of anaesthesiologists due to COVID-19

### Collaborative projects

#### Ongoing

1. Covid Surg-3: Impact of Covid-19 Infection on Surgical Outcomes, It's a multicentric Study involving 116 countries. Nodal Centre is Birmingham, UK
2. Effect of dexmedetomidine on cerebral vasospasm associated biomarkers in patients undergoing elective craniotomy for intracranial aneurysms: a randomized controlled trial, Department of Biochemistry
3. Effect of dexmedetomidine on oxidative stress and immune modulation in patients undergoing aneurysm clipping-a randomized controlled trial, Department of Biochemistry
4. Comparing safety and efficacy of indigenous goggles with fan versus standard goggles in health care worker in COVID ICU, Anesthesiology and Critical Care, Lab Medicine, Hospital Administration

### Research projects over past 3 years

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	2	6	4
Total funding (Rs Lakhs)	45	112.7	12.81

### Publications:

Journal: 39

Chapters in Book:7

Books & Monographs:1

### Publications over past 3 years

Item	2020-2021	2021-2022	2022-2023
<b>Total</b>			
Journal articles	69	51	39
Abstracts	1	1	0
Chapters in books	19	19	7
Books	0	0	1

### PATIENT CARE

Cumulative data of department given above

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Arvind Chaturvedi** was promoted as Professor Senior HAG Grade in February 2023 (from 1 July 2016); Organizing Chairman of 3rd Annual Conference of Neurocritical Care Society of India & 8th Annual Neuroanaesthesia update, organized by Deptt of Neuroanaesthesia & Critical Care AIIMS, New Delhi, on 6 September 2022. He chaired Saini, Dash, Bithal Oration in 3rd Annual Conference of Neurocritical Care Society of India & 8th Annual Neuroanaesthesia update, organized by Deptt of Neuroanaesthesia & Critical Care AIIMS, New Delhi, on 6 September 2022; chaired prestigious Prof Gode oration in 24th annual conference of Indian society of Neuroanaesthesiology & Critical care, in AIG Hospital Hyderabad from 20-22 January 2023; Organized as Chairman, Annual PDF Neuroanaesthesia Fellowship exam of ISNACC in AIIMS, New Delhi in January 2023; was selected as Subject expert for Faculty selection in AIIMS, Raipur; NBE Expert for assessment of Dr NB Neuroanaesthesia course in Aramis Hospital Gurgaon in March 2023.

**Professor MP Pandia** was appointed as Member of Constitutional Committee Neurocritical Care Society of India (NCSI) I was appointed as judge to evaluate research presentations in 24th Annual Conference of Indian Society of Neuroanaesthesiology and Critical Care (ISNACC 2023) held in Hyderabad between 20-22 January 2023 and Chaired a session in the 3rd Annual Conference of the Neurocritical Care Society of India (NCSI 2022) and AIIMS Neuroanaesthesia and Neurocritical Care update 2022, 6-9 October 2022, New Delhi.

**Professor Girija Prasad Rath** was elected as the Secretary-Treasurer of Society for Neuroscience in Anesthesiology and Critical Care (SNACC, USA). Continues to contribute as the Secretary of Indian Society of Neuroanaesthesiology and Critical Care (ISNACC). Continues to contribute as the Chair of Global-Outreach Committee, Member of Scientific, Membership, Communication, Annual Meeting Planning, and strategic affairs committees of the SNACC. Delivered an invited lecture for 14th World Stroke Congress in Singapore, Conducted TCD workshop SNACC Annual Meeting 2022 at Seattle, USA. Continues to contribute as the EXCO member (India) for Asian Society of Neuroanaesthesia and Critical Care (ASNACC) and its Web Editor. Continues to hold the post of Executive Editor for the Journal of Neuroanaesthesiology and Critical Care (JNACC), Editorial Board Member of Indian Journal of Anaesthesia (IJA), Neurology India, The Indian Anesthetists' Forum, and Section Editor (Neuroanaesthesia) for the Journal of Anaesthesiology and Clinical Pharmacology (JOACP). Continues to serve as the International Advisory Board Member of Anesthesia Essays & Researches (AER) and Anesthesiology & Pain Medicine (AAPM), and peer-reviewer of reputed international journals such as Minerva Anesthesiologica, Journal of Neurosurgical Anesthesiology, Neurocritical Care, and Journal of Clinical Anesthesia.

**Dr Surya Kumar Dube** was Member of SNACC (USA) education committee and Patient Safety Group; Instructor ACLS, ATLS, BLS, ACCC; Editorial board JNACC, Journal of Anesthesia and Research; Reviewer for Indian Journal of Anaesthesia, Journal of Neuroanaesthesiology and Critical Care, Clinics (Sao Paulo); Contributed Quiz and Article of the month for SNACC, USA.

**Dr Suman Sokhal** was appointed as judge in 3rd Annual Conference of Neurocritical Society of India (NCSI 2022) in Nurses CME.

#### **Department of Neuropathology**

**Professor** (In-charge)

MC Sharma

**Professor**

Vaishali Suri

#### **HIGHLIGHTS**

In the year 2022-2023 unit of Neuropathology has been able to maintain high standard of academics and state-of-the-art clinical services. The unit is engaged in routine diagnostic services (total of 2427 cases), teaching of undergraduate, postgraduate, DM, Mch and PhD students; as well as high quality research in various subspecialties of Neuropathology.

#### **Steps taken to improve patient care services and research in the past year**

New facilities have been added for the molecular diagnosis and cytogenetic work-up in routine work-up in neurooncology, which includes *in-situ* hybridization, capillary electrophoresis, real-time PCR etc. The diagnostic immunohistochemical panel has been expanded and a total of 21,980 slides have been stained and studied during this period. The unit is regularly integrating molecular markers of clinical significance in the histopathological reports of Neurooncology and myopathology. The Neuropathology faculties have received funding for 8 extramural projects. A total of 39 papers have been published in peer reviewed national and international journals. Research work was presented at various national and international platforms in which our students won 6 prizes. CME in Neuropathology and Workshop on Fluorescence in Situ Hybridisation (FISH) was organized by Dr Vaishali Suri at NEIGHRIMS Shillong, Meghalaya, from 16 to 19 November 2022 under the aegis of DBT project and NPSI.

#### **Action Plan for coming year**

To provide a combination of highest quality diagnostic Neuropathology services, teaching, advanced translational research and develop skilled manpower in the super-specialty.

#### **CMEs/Workshops/Symposia/National and International Conferences**

- CME in Neuropathology and Workshop on Fluorescence in Situ Hybridisation (FISH) was organized by Dr Vaishali Suri at NEIGHRIMS Shillong, Meghalaya, from 16 to 19 November 2022 under the aegis of DBT project and NPSI

**Lectures delivered: 12**

**Lectures delivered over past 3 years**

2020-2021	2021-2022	2022-2023
10	19	12 (5 + 4 CPC & Role of Electron microscopy in pathology & Immunohistochemistry)

**List of oral papers/posters presented: 8**

**Oral/poster presentations over past 3 years**

2020-2021	2021-2022	2022-2023
2	12	8

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

##### **MC Sharma**

1. Unraveling RNA landscape in posterior fossa ependymal tumors using integrative transcriptome analyses, Prof MC Sharma, ICMR, 3 years, 2023-2026, Rs 80 lakhs
2. Tumor Immune landscape: PDL1 expression and evaluation of tumor immune interplay by investigating the immune cell infiltration in supratentorial ependymoma and its correlation with survival outcomes, Prof MC Sharma, ICMR, 3 years, 2020-2023, Rs 35 lakhs
3. Clinopathological and serological assessment of adult-onset idiopathic inflammatory myopathies(IIM) aimed at improved characterization of sporadic inclusion body myositis, Prof MC Sharma, ICMR, 3 years, 2020-2023, Rs 50 lakhs
4. Interrogation of human leukocyte antigen genetic variants in clinically, serologically and histologically defined subgroups of idiopathic inflammatory myopathies (IIMs), Prof MC Sharma, Intramural (AIIMS), 3 years, 2021-2023, Rs 20 lakhs

##### **Vaishali Suri**

1. Evaluation of potential diagnostic value of circRNA in meningiomas for risk stratification and its role in therapeutic intervention, Prof V Suri, ICMR, 3 years, 2020-2023, Rs 78 lakhs
2. Establish robust and economical blood-based panel of diagnostic biomarkers for early diagnosis, detection of tumor progression and its recurrence in gliomas, Prof V Suri, ICMR, 3 years, 2021-2024, Rs 1 crore
3. To analyse the molecular profile of paediatric gliomas and establish robust and economical methods for molecular sub-grouping and risk stratification, Prof V Suri, DBT, 3 years, 2021-2024, Rs 80 lakhs
4. Methylation array-based profiling of gliomas in Adolescents and Young Adults (AYA) to improve sub-classification and prognosis prediction, Prof. V Suri, ICMR, 3 years, 2022-2025, Rs 80 lakhs

#### ***Completed***

1. Unravelling the functional relevance of Snail paralogs in the pathogenesis of pediatric ependymomas, Prof M C Sharma, DST, 3 years, 2017-2020, Rs 46 lakhs
2. Sequencing Target genes aimed at Neuromuscular disorders in India, Prof MC Sharma, ICMR, 3 years, 2019-2022, Rs 50 lakhs
3. Identification of non-coding RNA panel as novel biomarker for stratification of meningiomas and evaluation of its prognostic therapeutic significance, Prof V Suri, Multi-Institutional Faculty Interdisciplinary Research Project with IIT Delhi, 3 years, 2018-2020, Rs 10 lakhs
4. Molecular signature of protumorigenic inflammation in the context of the WHO 2016 classification of glioma, Prof V Suri, AIIMS inter-departmental collaborative project, 3 years, 2018-2020, Rs 20 lakhs
5. Targeted genomic-epigenomic analysis to develop a novel approach for routine molecular subgrouping and identification of actionable targets in meningioma, Prof V Suri, DST, 3 years, 2018-2021, Rs 42 lakhs approx, (41,23,098)
6. Integrative transcriptome analyses of different histological and molecular subgroups of meningiomas to identify prognostic signature and therapeutics, Prof V Suri, ICMR, 3 years, 2019-2022, Rs 62 lakhs

**Departmental projects**

**Ongoing**

1. Assess molecular and immune profile of eGBs& GBs
2. Molecular profile of IDH wildtype and mutant gliomas
3. Evaluation of miRNA profiling of meningiomas
4. Immunofluorescence for dysferlinopathy
5. Line immuno assay for myositis specific and myositis associated autoantibody detection
6. Immunoblot for dysferlin and calpain
7. Genetic and epigenetic profiling of AYA population
8. Transcriptomic profiling by Nanostring
9. MGMT promoter assessment by qualitative and quantitative assay
10. Molecular profiling of ependymoma

**Completed**

1. Assess molecular and immune profile of PXA
2. Asses molecular profile of meningiomas
3. To analyze immune microenvironment of different grades of gliomas
4. IDH mutation assessment by Sanger sequencing and ddPCR

**Collaborative projects**

**Ongoing**

1. Molecular signature of protumorigenic inflammation in the context of the WHO 2016 classification of glioma (2018-20), Department of Biochemistry (2018-20)
2. Recurrent glioblastoma; A diagnostic challenge; A multidisciplinary approach for differentiating tumor recurrence and treatment related changes, Department of Neurosurgery (2021-2023)
3. Histopathological Immunohistochemistry analysis of Posterior AtlantoOccipital Membrane in Patients with Congenital/Development Craniovertebral anomalies, Department of Neurosurgery
4. MGMT expression profiling and its correlation with response to TMZ in high grade gliomas in pediatric and AYA population, Department of Radiology (2023-2025)

**Research projects over past 3 years**

Research projects	2020-2021	2021-2022	2022-2023
Total funding	3.17 crores	4.25 crores	4.08 crores

**Publications:**

**Journal: 24      Case Report: 9      Review Article: 7**  
**Abstract: 2      Chapters in Book: 7      Books & Monographs: 1**

**PATIENT CARE**

In-patient care/supportive activities include information regarding: (a) facilities available in the department (including special clinics and/or special laboratory facilities) (b) community services/camps etc.

**NEUROPATHOLOGY LAB**

Year	2020- 2021 COVID	2021-2022 COVID	2022-2023
Total No. of specimens	540	2167	2427
Intraoperative frozen section diagnosis	32	330	424
Immunohistochemistry	6161	13,444	14,158
Fluorescence in-situ hybridization	472	836	1271
Muscle biopsies (frozen)	56	236	240

Muscle Enzyme histochemistry	151	553	910
Muscle Immunohistochemistry	460	2354	1765
Muscle immunofluorescence	-	50	128
Immunoblot	17	65	75
Electron microscopy	56	197	243
Sanger sequencing qPCR/ RT-PCR	-	431	339
Total Units (Each item in column is taken as one unit)	<b>7,945</b>	<b>20,663</b>	<b>21,980</b>

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Dr Sumanta Das** got **second prize** for poster presenting entitled “An unusual pediatric high grade glioma: Unravelling by molecular testing” and won the second prize at the 25th annual conference of Delhi Neurological Association (DNAICON 2023) held at New Delhi, from 11 to 12 February 2023

**Dr Vijaya Nirmala** got **third prize** for oral paper presenting entitled “Molecular characterization of supratentorial ependymomas” at the 25th annual conference of Delhi Neurological Association (DNAICON 2023) held at New Delhi, from 11 to 12 February 2023

**Swati Singh** got **second prize** for poster presenting entitled “Fatty acid synthase regulates AKT1 E17K mutation in meningioma” at the 25th annual conference of Delhi Neurological Association (DNAICON 2023) held at New Delhi, from 11 to 12 February 2023

**Jyotsna Singh** received Dr Subimal Roy award for the best paper published in Neuropathology entitled “DNA methylation profiling of meningiomas highlights clinically distinct molecular subgroups” at the 6th Annual National Conference of Neuropathology Society of India (NPSICON 2023) held on 23-25 February 2023, organized by Christian Medical College Vellore (Virtual conference)

**Aishwarya Dhall** got **third prize** (non-neoplastic category) for presenting an oral paper entitled “Spectrum of Muscular Dystrophies in North India” at the 6th Annual National Conference of Neuropathology Society of India (NPSICON 2023) held on 23-25 February 2023, organized by Christian Medical College Vellore (Virtual conference)

**Dr Divya Mohan** got **third prize** for best paper presenting entitled “MYCN amplification in spinal ependymomas” at the 25th annual conference of Delhi Neurological Association (DNAICON 2023) held in New Delhi, from 11 to 12 February 2023

#### **Division of Neuropsychology Professor**

Ashima Nehra

#### **HIGHLIGHTS**

Neuropsychology at Neurosciences Center has been providing para clinical services as the part of Continuum of Care (CoC Model) while the primary source of contact has been the Clinicians (Medical Doctors). The students along with multidisciplinary teams received some National and International recognition. All of this has been possible with the support of esteemed seniors, and colleagues of Neurosciences Centre and other departments of AIIMS, for giving us this opportunity. The enthusiasm and willingness of the students have played a major part in delivering ‘standard of care’.

Our Neuropsychology service at AIIMS, New Delhi, have diligently and honestly tried to maintain a good work culture in providing ‘Standard of Care’, as a part of the Continuum of Care team, when seeing patients, including referrals from other centers and departments both outpatient and inpatient. Being a lone faculty in this discipline, I have been active with research teams as a Co-PI/Co-Investigator (in the field of Neuropsychology) in government funded projects and have been actively involved in interdisciplinary/multidisciplinary projects as Co-PI/Co-I/Co-Guide has been involved in teaching psychology to students.

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. To study the Mental Health Status and Needs of Front-line Medical, Para-medical healthcare professionals in India to build preventive and curative models for enhancing their holistic well-being in times of Emergency National Crises: A cross-section study, Dr Ashima Nehra, AIIMS, New Delhi, 1 (extendable by another 1 year), 2020-23, 10 lakhs

### **Departmental projects**

#### ***Ongoing***

1. To ascertain efficacy of 'Patient & Carer Indian Neuropsychological Continuum of Care (PIN-CoC) model' developed to improve QoL and reduce Cognitive decline in Stroke survivors: A randomized multi-centric clinical trial
2. To understand, document and standardize current standards/practices of Identifying Learning Disabilities across Centers in India
3. To identify and harmonize the issues of writer's cramps in individuals leading to disability

#### ***Completed***

2. To study the effectiveness of Repetitive Transcranial Magnetic Stimulation (rTMS) on Activities of Daily Living, Behavioral and Cognitive ability (A-B-C) of Parkinson disease Patients.

### **Collaborative projects**

#### ***Ongoing***

1. Cognitive Decline In Patients With Multiple Sclerosis A Multicentric Cross Sectional And Prospective Longitudinal Study Neuropsychology, Neurology, Bio-Statistics
2. Development And Efficacy of Comprehensive Neuropsychological Rehabilitation for Improving Cognition and Quality Of Life in persons with Drug Refractory Epilepsy: A Randomized Controlled Clinical Trial, Neuropsychology, Neurology, Bio-Statistics
3. To identify and harmonize the issues of writer's cramps in individual leading to disability, Neurology, Neuropsychology, Bio-Statistics
4. To understand, document and standardize current standards/practices of Identifying Learning Disabilities across Centres in India, Neuropsychology, Neurology, Bio-statistics
5. To Identify and Harmonize the issues of Epilepsy in Individuals leading to disability, Neuropsychology, Neurology, Bio-statistics
6. To Identify and harmonize the writer's cramps concerns in individuals leading to disability, Neuropsychology, Neurology, Bio-statistics

#### ***Completed***

1. To study the Mental Health Status and Needs of Front-line Medical, Para-medical healthcare professionals in India to build preventive and curative models for enhancing their holistic well-being in times of Emergency National Crises: A cross-section study (First Phase), Pulmonary Medicine, Critical Care and Sleep Disorders; Neurology, Internal Medicine, BioStatistics, Neuropsychiatry, Neuropsychology

### **Publications:**

**Journal: 14**

### **PATIENT CARE**

Under the title: Patient care/supportive activities: please include information regarding:

- (a) facilities available in the department (including special clinics and/or special laboratory facilities)

**Outpatient service (OPD):** *There are 4 Neuropsychology/Clinical Neuropsychology (CNP) OPDs/week (during the Pandemic Times):*



**1. Clinical Neuropsychology (CNP) Clinic:**

a. Monday, Tuesday, Wednesday and Thursday:

**2. Specialized Clinics:**

a. Neuro-Cognitive Rehabilitation/Neuropsychological Rehabilitation (NCR) Clinic

Neuropsychological Rehabilitation	Cognitive Retraining/Restructuring
	Basics Skill Training
	Functional Re-training
	Speech and Language Rehabilitation
	Psychosocial Therapy
	Guidance and Counselling
	Individual Therapy
	Family Therapy
	Vocational Guidance
	Holistic/eclectic Approach Therapy (depending on the patient’s needs)

b. Wednesday: Cognitive Disorders and Memory (CDM) Clinic ALONG with Neurology

Cognitive Disorders and Memory Clinic	Memory Assessment
	Screening for Cognitive Decline
	Cognitive Rehabilitation for Dementia/Alzheimer’s Dementia
	Cognitive Re-training for decline in Memory/Executive Functioning
	Management of Cognitive/Memory Disorders
	Identify and treat pseudo-dementia
	Education: patients, carers, trainees, colleagues, and the general public.
	Family guidance
	Monitoring of progress and response to therapy

The clinical/pharmacological aspects of which were taken care by the Neurologist/Neurology Experts

**REFERRALS**

Patients are referred from Neurology, Paediatric Neurology, Neurosurgery, Psychiatry, JPN Trauma Centre, Neuroanaesthesia, Physical rehabilitation and medicine (PMR), Medical superintendent’s office (for medico-legal cases), etc.

**AWARDS, HONOURS AND SIGNIFICANT EVENTS**

1. Contribution from a Psychological perspective in devising Guidelines for Women’s Health’22 by Health Parliament on invite of Dr Rajendra Prasad. This was launched by Dr Jitendra Singh, MD Union Minister of State, PM Office on 28th October 2022 at Global Digital Health Summit held in Vigyaan Bhawan, New Delhi
2. Invited for: Contribution from a Psychological perspective in devising Guidelines for Women’s Health’22 by Health Parliament
3. Sharma S, Nehra A, Tripathi M, Chandra PS, Pandey RM (2021). Randomized controlled trial on neuropsychological rehabilitation for patients with drug refractory epilepsy: Challenges, adaptations & findings. Epilepsia, 38-38, PhD Thesis Paper included in the WHO website

**Department of Neuroimaging & Interventional Neuroradiology**

**Neurosciences Centre**

**Professor and Head**

Shailesh B Gaikwad

Ajay Garg

S Leve Joseph Devarajan

**Non-faculty staff**

Ramesh K Sharma, CTO

Shashi Gupta, PS to HOD

## HIGHLIGHTS

- The department provides state-of-the-art neuroimaging and neuro-interventional services round the clock, 365 days a year.

## CMEs/Workshops/Symposia/National and International Conferences Shailesh Gaikwad

1. Imaging in intractable epilepsy, Monthly webinar lecture series, India College of Radiology and Imaging, 6 July 2022, Webinar, an online platform
2. Flow diverter treatment of intracranial aneurysms-An institutional experience from a tertiary care center in India, 16th Congress of World Federation of Interventional and Therapeutic Neuroradiology (WFITN2022, 21-25 August 2022, Kyoto Convention Centre, Kyoto, Japan
3. Thrombectomy Service in India, ICCA STROKE 2022 Acute Stroke Interventions & Carotid Stenting, 8-9 September 2022, Frankfurt, Germany Online
4. Carotid Stenting: Do's and Don't's, 2nd AIIMS, Jodhpur Neuroradiology Update
5. Focus: Neurointervention, 17-18 September 2022, AIIMS, Jodhpur, Rajasthan
6. Endovascular Revascularisation in Carotid Stenosis, Mid-term CME 2022 of Indian Society for Neuro-Radiology, 15-16 October 2022, Department Of Radio-Diagnosis, IGMC, Shimla, HP
7. Carotid stenting-Imaging & Intervention, Sharda Radiology Update 2022, 5 November 2022, Radiology Department, Sharda University, Noida
8. Carotid Stenting: Basics and Beyond, Udaipur Chapter of Radiology as ISVIR outreach program, 18-19 November 2022, RNT Medical College, Udaipur
9. Endovascular Management of Cerebral Aneurysms, Udaipur Chapter of Radiology as ISVIR outreach program, 18-19 November 2022, RNT Medical College, Udaipur
10. Intracranial aneurysm: Endovascular Therapy, World-leading experts against stroke: Third Neuro-addicts course. live neurovascular course, 16-18 December 2022, Almaty, Kazakhstan
11. Carotid Angioplasty and Stenting: A single center experience at a tertiary care hospital,, 75th Annual Conference of Indian Radiological and Imaging Association, 2-5 February 2023, Amritsar

**Lectures delivered: 14**

**List of oral papers/posters presented: 9**

## RESEARCH

### Funded projects

#### *Ongoing*

1. Development of an imaging-based algorithm for the classification of subtypes of Neurodegeneration with Brain Iron Accumulation (NBIA), Dr Ajay Garg, Intramural, 2 years, 2021-23
2. Computer Aided Diagnostic System for the Detection and Evaluation of Intracranial Atherosclerotic Disease using Computed Tomography Angiography (DBT funded), Dr S Leve Joseph Devarajan, DBT, 2 years, extended to 3 years, 2020-2023, Rs 26,08,400

#### *Completed*

1. Correlation of Imaging Traits with region-specific gene expression profiles in Glioblastoma Multiforme. Funded by, Dr Ajay Garg, Department of Biotechnology, Government of India, 3 years, 2018-2022, Rs 55,97,315
2. Imaging Evaluation of Intracranial Mucor and Other Mold Infections in COVID-19 and non-COVID Clinical Settings: An Ambispective Comparative Study (intramural funded), Dr S Leve Joseph Devarajan, Intramural, 10 months, 2021-2022, Rs 2,38,000

### Departmental projects

#### *Ongoing*

1. Utility of Magnetic Resonance Imaging in the Evaluation of Myopathies and correlation with Genetic Studies

#### *Completed*

1. Comparative assessment of DCE, DSC, and ASL MR perfusion techniques in the differentiation of radiation necrosis from tumor recurrence
2. Angiographic Outcomes of Stent assisted Coiling in intracranial aneurysms. An Institutional Experience

3. Dural AVF institutional experience
4. Radiogenomics in Glioblastoma

### **Collaborative projects**

#### ***Ongoing***

1. International Centre for Genomic Medicine in Neuromuscular Diseases (ICGNMD), Neurology
2. A Population-Based Prospective Cohort Study to Unravel the Causes of Stroke and Cognitive Decline: A cross-cultural perspective, Neurology
3. Centre for Excellence (COE) for Difficult to Treat Epilepsy, Neurology
4. Prevalence of Symptomatic and asymptomatic coronary artery disease in patients with stroke and transient ischemic attack, Neurology
5. Aspirin or clopidogrel in patients with TB Meningitis, Neurology
6. Pathobiology of Multiple Sclerosis: phenotypic, biomarker, and genetic signatures, Neurology
7. Clinical and genetic factors for aspirin resistance in Indian patients with ischemic stroke, Neurology
8. Citicoline in Acute Ischemic Stroke undergoing revascularisation therapy- Investigator-initiated academic trial-, Neurology
9. A randomized double-blind study of prophylactic levetiracetam for the prevention of post-stroke seizures (PROLEVIS), Neurology
10. Identification of pathobiological and disease activity markers in Primary CNS Vasculitis, Neurology
11. Prevention of post-stroke seizures with Levetiracetam in Intracranial Cerebral Venous Sinus Thrombosis (PROLEVIS-CVT): A Randomized Placebo-Controlled Trial, Neurology
12. AIIMS Primary CNS Vasculitis Registry, Neurology
13. Efficacy and Safety of Injection Tenecteplase in 4.5 To 24 hours Imaging eligible Window patients with Acute Ischemic Stroke, Neurology
14. Bridging Therapy with Intravenous Alteplase in Imaging Eligible Acute Ischemic Stroke Patients with onset between 4.5 to 9 hours – A Randomized Controlled, Pilot Study, Neurology
15. Identification of pathobiological and disease activity markers in Primary CNS Vasculitis, Neurology
16. Identification of genetic vasculopathy among a cohort of Primary CNS Vasculitis using whole-exome sequencing, Neurology
17. LASI DAD project- partnered by the University of Southern California with approval of NIH, USA, Geriatric medicine

### **Publications**

**Journal: 55**

**Abstract: 8**

**Chapters in Book: 1**

### **PATIENT CARE**

The department works 24 × 7, 365 days for patient care work & regularly attends to emergencies like subarachnoid hemorrhage, stroke, acute encephalopathies, myelopathies, traumatic or iatrogenic cerebrovascular injuries, etc. All requests for CT scan from outpatients & in-patients are done the same day & often immediately, so that decision can be promptly taken for patient management. There is no waiting for CT scans in this department. DSAs are regularly done for cerebral & spinal vascular studies for patients attending the Neurosciences Centre and also other departments like ENT & Ophthalmology. Similarly, neuro-interventional therapeutic management is routinely carried out for patients of the Neurosciences Centre as well as those referred from ENT, Ophthalmology, Paediatrics, Cardiology, and Orthopaedics amongst others. Besides, CT scans are done in the ICUs for patients on life support or ventilator using the mobile CT scanner. Bedside X-rays are routinely done using a digital portable X-ray unit or CR unit & images are uploaded to the PACS network. Portable Ultrasound is done whenever required for sick & immobile patients in the wards & ICUs of the Neurosciences Centre. All consultants & residents access PACS images through IP-enabled protocol and hence can view the images from home or anywhere using the internet or even using their smartphones. The departmental conference room has been upgraded for multimodality image viewing using a high-resolution Dicom-compatible projection system so that clinical consultants & residents can easily see their patient's images in chronological sequence & in comparison mode on the large projection screen. Even old images & scanned private images can be viewed efficiently and instantaneously which helps quick decision-making.

**Neuroimaging & Interventional procedures performed during the year 2022-2023**

CT Scans		<b>23836</b>
Digital Subtraction Angiography	Therapeutic Neuro-Interventional procedures: (Cerebra Aneurysms, Cerebral & Spinal AVM embolizations, Carotid revascularization, etc.)	<b>461</b>
	Diagnostic DSA	<b>826</b>
Ultrasound Examinations/ Doppler studies		<b>3151</b>
MRI	GAMMA KNIFE	<b>5542</b>
	NMR	<b>4187</b>
X Rays		<b>8213</b>
Portable x-rays		<b>6879</b>
OLD FILM SCANNER		<b>16428</b>
Data Migration		<b>5400</b>

**Total 76923**

**Cases discussed & reviewed in Neuroradiology conferences for patient care decision making**

	No. of cases	Weekly Frequency	Total
<b>Epilepsy Case Conference</b>	10@	2	20/week
<b>Neurosurgery conferences</b>	40@	4	160/week
<b>Neurology conferences</b>	25@	6	150/week
<b>Neuropathology conference</b>	4@	biweekly	8/week
		<b>Total</b>	<b>338/week</b>

**Total = 17,576 cases per year**

**AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Shailesh B Gaikwad** was nominated as coordinator for the ICRI-ISNR Synerji Series Indian College of Radiology and the Indian Society of Neuroradiology jointly hosted one-day academic activity with participation from national and international speakers. He was External expert to conduct practical MD exams on the subject of Radiodiagnosis Smt Kashibai Navale Medical College & General Hospital, Appointed by Maharashtra University of Health Sciences, Nashik; External expert to conduct MD practical exams Srimanta Sankaradeva University of Health Sciences, Barapeta, Guwahati, Assam; External expert, Procurement of implants and consumables for the Interventional lab. Safdarjung Hospital, New Delhi; Moderated Stroke session, attended EC meeting, GBM Society of Therapeutic Neurointervention with Neurocomplication Joint Meeting, Panjim, Goa; Reviewer for the Scientific papers submitted for the conference 16th Congress of World Federation of Interventional and Therapeutic Neuroradiology (WFITN2022, Kyoto Convention Centre, Kyoto, Japan. He was invited as an international board member to assist in the revision of the constitution of the society Asian & Oceanian Society of Neuroradiology and Head & Neck Radiology; Interventional Radiology-Moderator session, 75th Annual Conference of Indian Radiological and Imaging Association, Amritsar; Conducted hands-on-training workshop on acute stroke module, 23rd Annual National Conference “ISVIR 2023, Novotel Hotel, Hitech City, Hyderabad; Organizing Chairman, 24th Annual Conference of the Indian Society of Neuroradiology Attended the Inaugural function of the conference as President, ISNR, 24th Annual Conference of the Indian Society of Neuroradiology. Chaired National Oration during the conference. He was re-elected as President, ISNR GBM, 24th Annual conference of Indian Society of Neuroradiology and Re-elected President of the Indian Society of Neuroradiology for a second consecutive year during the GBM held on 25 February 2023. Also he was Elected President of the Society of Therapeutic Neurointervention on 21-24 July 2022 during GBM of STNI annual conference, Goa, Taj Hotel; was conferred with a Gold medal and citation for “Dr Prashant Shetty Oration” during the 24th Annual Conference of ISNR, Pride Plaza, Aerocity, New Delhi; conferred upon the Gold medal to honor contributors to the growth of ISNR as President; nominated as a reviewer for the assessment of the abstracts submitted by the international participants for attending the 16th Congress of World Federation of Interventional and Therapeutic Neuroradiology (WFITN2022, 21-25 August 2022 Kyoto Convention Centre, Kyoto, Japan. He also hosted the 24th Annual Conference of Indian Society of Neuroradiology as Organizing Chairman, 24-26 February 2023, Pride Plaza, Aerocity, New Delhi; organized guest

lecture by world-renowned expert Prof Suresh R Mukherji on 22 February 2023 at Ramalingaswamy Board Room, 4-5 pm, AIIMS, New Delhi, The topic of the talk was: “Artificial Intelligence: Challenges and Opportunities for Implementing AI in clinical practice”, Live streaming of the lecture was attended by 931 online attendees; received the prestigious “Chairman Appreciation Award” from the Indian College of Radiology and Imaging (ICRI), during the award ceremony held on 3 February 2023 during the 75th Annual Conference of Indian Radiology and Imaging Association, Amritsar; was nominated as domain experts by the National Board of Medical Sciences and Education to assist them in designing the structured course curriculum for training manpower in the specialist field; Domain expert in PMJAY assisted in preparing the package system for Neuro-interventional procedures under the Prime Minister’s flagship program on Ayushman Bharat thereby benefitting patients below the poverty line for affording high-cost treatment at tertiary care hospitals across India; Domain expert in National Stroke Registry under the aegis of ICMRI, Bangalore branch; was nominated as domain experts by the National Board of Medical Sciences and Education to undertake inspection of tertiary care hospitals on 16 February 2023 before granting recognition to set up the fellowship course in Neurointervention; nominated as an expert to conduct MCI/NMC inspection at Srimanat Sankardeva University of Health Sciences, Department of Radiodiagnosis, Barpeta, Guwahati, Assam; nominated as an expert to conduct MCI/NMC inspection at Smt Kashibai Navale Medical College & General Hospital, Pune, Maharashtra University of Health Sciences, Nashik and was invited as guest of honor to inaugurate the 3rd Annual Conference of the Neurocritical Care Society of India (3rd NCSI) in August gathering the Director, AIIMS on 7 October 2022, 7-8 pm Pride Plaza, Aerocity, New Delhi. He also inaugurated the mid-term CME 2022, 15 October 2022 of the Indian Society of Neuroradiology, organized by the Department of Radiodiagnosis, IGMC, Shimla, HP and the 2nd AIIMS-Jodhpur-Neuroradiology update on 17 September 2022 organized by the department Imaging and Interventional Radiology, AIIMS, Jodhpur.

#### **VISITING SCIENTIST**

Prof Suresh R Mukherji, Professor of Radiology and Radiation Oncology, University of Illinois, Michigan State, USA

## 11.1 BB Dikshit Library

### Chairman, Library Committee

M Ramam

### Officiating In-charge

Jahangir Khan

### Background

BB Dikshit Library is the central library and knowledge hub, which provides knowledge-based value-added services on healthcare to different stakeholders, i.e. faculty, undergraduates, postgraduates, and researchers of all the departments and centres. The library is open round the clock to access the vast number of resources both in print and online. The library also has a rich collection of Hindi books in the healthcare sector for readers (employees; both technical and non-technical). The library is located on two floors. The first-floor houses printed books with a seating capacity of 300 users and the ground floor has archival collection of journals, Rajkumari Amrit Kaur collection, and a book bank facility (currently this area is under renovation). On average 350 readers visit the library every day. The library is well-equipped with modern facilities to support biomedical education and research.

The library has predominantly e-resources (90%) which include e-journals and databases. These resources are accessible inside campus over AIIMS IP Range and are also accessible through remote access facilities ie Knimbus and OpenAthnes. Necessary access to healthcare knowledge services is also disseminated through the library webpage (<http://www.aiims.edu/en/library.html>). The library also provides research-based services to its stakeholders such as academic integrity and plagiarism verification facility. The library has its own search engine called 'Single Point Search', a web-scale discovery service to retrieve library subscribed electronic resources and library holdings effectively. It also acts as a tool for bibliographic management system for users.

The Library Committee is an advisory body for the management of the library. It advises regarding the procurement of books and journals, budgetary allocation, improving library operations and services, working out mechanisms in getting institutional membership for all journals for online access and developing collaborations with other libraries across the globe for online activities. The committee meets at least once every three months and as and when required.

The library has its own Wi-Fi service and approx. 1500 users were benefited during the year. The library uses Libsys Premia automation software system that supports data entry and retrieval of books and other documents. All documentation/bibliographic services, as well as certain library operations, have been computerized, using integrated library management software. The circulation section of the library is computerized through RFID smart card system and online issue/return of books with automatic reminder systems through email. The library provides Current Awareness Services and Reference Services. It also provides services such as web-based Open Access Public Catalogue (Web OPAC), Reprography, and printout of academic literature. The library imparts orientation and information literacy programs to students, research scholars, and doctors regularly. In the last three years, Library has also provided Short-term observation/Training programs to 14 Library Professionals.

Inter-Library Loan service was also provided through DELNET. BB Dikshit Library has established ETD (Electronic Thesis and Dissertation) facility to access all Theses and Dissertation through online platforms. This material is available for readers in printed/CD formats/online platforms (24 × 7).

A brief overview of the resource collection is given below:

### Major Resources Statistics

Resources	2020-21	2021-22	2022-23
Total printed books	73970	74569	74569
Total Hindi books	667	667	667
Pamphlets	17915	17965	18065
Total bound volumes of Journals	84391	84391	84391
Thesis	7634	7942	7974

e-journal	1416	1228	1167
E-Books	348	265	804 (McGraw Hill Access Combo)
Point of Care databases and other medical databases (Up-to-date, BMJ Best Practice, BMJ Case Report, BMJ RT oP, BMJ Learning, Acland Anatomy)	Yes	Yes	Yes
JAMA Evidence	Yes	Yes	No
MedOne Neurosurgery	Yes	No	No
Abstracting and Indexing databases (EMBASE, SCOPUS, WOS etc.)	3	3	3
Plagiarism Verification Service	Yes	Yes	Till July, 2022
Access facility software and services	Libsys Premia Library Automation, EBSCO Discovery Service (Single Point search for all subscribed E-resources). All E-Resources are accessed through IP-enabled (Open Athens & Knimbus) remote access facilities within and outside the campus.		

### Library Services Statistics

Sl. No.	Services	Total (Start date - till 31 March 2023)	Service provided (April 2022 to March 2023)
1.	Knimbus Remote Access	804 (Started in July 2022)	804
2.	Open Athens Remote Access	293 (Started in 2015)	168
3.	No. of articles supplied through Inter-Library Loan Service	Calculated every year	212
4.	Library Membership RFID Card	4679 (New + Renewed) (01/01/2016 - 31/03/2023)	678 (New + Renewed)
5.	Short-Term Observation/Training Program	42 Library Professionals (Total recorded data since 2015)	7 Library Professionals
6.	Wi-Fi Service	4758 (Total recorded data from 2009)	431 (New Members)

### Staff Strength:

Librarians: 8

Supporting Staff: 15

### Mr Jahangir Khan

#### Conferences/CME/webinars organized:

1. Organizing Secretary in International webinar on “Digital Health Knowledge Connect 2022: Paradigm shift in Research Information Management System” on 27 April 2022, organized by World Bank and BB Dikshit Library, AIIMS, New Delhi
2. Organizing Secretary in National Webinar Series on “Digital Health Knowledge Connect 2022: Knowledge 4.0: Re-visioning through Co-creation and Collaboration. Topic: Research Data Management” on 21 June 2022, organized by NCI AIIMS, Jhajjar
3. Organizing Secretary in National Librarian’s Day event theme: From Transactional to Transformational Library on 12 August 2022, organized by BB Dikshit Library, AIIMS, New Delhi
4. Organizing Secretary in orientation programme for AIIMS new MBBS Students (Batch-2022) on 3 November 2022

**Award**

The Best Librarian Award 2022: Library Management BB Dikshit library, in Seminar on Digital Health Knowledge connect 2022 at NCI, AIIMS, Jhajjar (June 2022)

**Dr Prashant Shrivastava****Lectures delivered:**

1. Invited speaker in International webinar on “Digital Health Knowledge Connect 2022: Paradigm shift in Research Information Management System” on 27 April 2022, organized by World Bank and BB Dikshit Library, AIIMS, New Delhi
2. Invited speaker in National Webinar Series on “Digital Health Knowledge Connect 2022: Knowledge 4.0: Re-visioning through Co-creation and Collaboration. Topic: Research Data Management” on 21 June 2022, organized by National Cancer Institute, AIIMS, Jhajjar
3. Invited Speaker in National Librarian’s Day event theme: From Transactional to Transformational Library on 12 August 2022, organized by BB Dikshit Library, AIIMS, New Delhi
4. Lecture delivered on E-Library Facility to new MBBS Students (Batch-2022) in orientation programme on 3 November 2022
5. Delivered lectures in online mode for Summer Internship Program for MLibSc students under Central University of Haryana on topics: Information retrieval techniques, Interactive learning tools, Research Support Services, Digital Librarianship, Research Data Management Services during 18-22 July 2022. Academic Counsellor on Sundays for Department of Library and Information Science, School of Open Learning, University of Delhi for courses such as Master of Library and Information Sciences and Bachelor of Library and Information Sciences

**Paper presentation:**

Shrivastava P, et al. Health Knowledge Resources Development in Indian Health Science Libraries: A Comparative Study. 3rd National Conference of FHSLA, 25-26 November 2022 at AIIMS Rishikesh.

**Resource Person****Projects**

eShodhmanthan - Research Data Repository hosted by Central University of Haryana, Mahendergarh, Haryana (As Co-PI).

**Awards**

Best Librarian 2022: Service Excellence for Resources Management in BB Dikshit Library.

**Mr Umesh Kumar****Conference/ Workshops/Seminar/Webinar attended:**

1. Webinar on the collaboration with the World Bank group on Paradigm Shift in Research Information Management System 27 April 2022 organized by World Bank and BB Dikshit Library
2. Webinar on Digital Health Knowledge Connect 2022 Knowledge 4.0: Re-visioning through Co-creation and Collaboration on 21 June 2022, held at NCI AIIMS Jhajjar, organized by BB Dikshit Library
3. 3rd National Conference of FHSLA on Harnessing the Digital Space: One India One Subscription Initiative and Medical Librarians & Perspective on 25-26 November 2022. Jointly organized by Federation of Health Science Libraries Association (FHSLA) & AIIMS Rishikesh

**Papers Presented:**

Shrivastava P, Kumar U, et al. Health Knowledge Resources Development in Indian Health Science Libraries: A Comparative Study at 3rd National Conference of FHSLA (25-26 November 2022) AIIMS, Rishikesh

**Mr Deepak Shukla**

1. Served as a Technical coordinator at webinar in collaboration with the World Bank group on Paradigm Shift in Research Information Management System (27 April 2022)
2. Attended one-day event on Digital Health Library Knowledge Connect 2022-Knowledge 4.0: Re-visioning through Co-creation and collaboration at NCI, AIIMS Jhajjar (21 June 2022)
3. Attended three days Training Program on Ethical Issues and Use of Plagiarism Detection in Research, (29-31 August 2022) organized by at INFLIBNET Centre, Ahmedabad



**Mrs Jomol Mathew, Jr Administrative Officer**

Attended training workshop (from 27 February 2023 to 10 March 2023) on Administration Skills named “OSP-AIIMS-2” at ISTM, Department of Personnel & Training, Govt of India

**Mr Rakesh Rawat, DEO Grade-A**

Attended and technically (IT) assisted the Webinar on ‘Digital Health Knowledge Connect 2022 - Knowledge 4.0: Re-visioning through Co-creation and Collaboration’ (21 June 2022) at NCI AIIMS, Jhajjar organized by BB Dikshit Library

## 11.2 Cafeteria

### Chairperson

Sh Rabindra Agarwal, Addl. Director (Admin)

### ASO (stores)

Sh Satish Sangawat

### Accounts Officer for Cafeteria

Sh Satish Sangawat, ASO

### Dy General Manager

Sh Pawan Kumar

Sh Pankaj Gupta

AIIMS Cafeteria has been established under the category of Departmental canteen with the objective of providing wholesome food prepared under healthy hygienic condition at reasonable prices to the Institute employees. The Cafeteria caters the needs of more than 24,000 employees of the Institute including Faculty Members, Doctors, Nursing Staff, Students, outsourced manpower etc. Cafeteria services are being provided round the clock at different places/centers under the supervision of Cafeteria Management Committee. Cafeteria also provides tea/snacks/meals etc. for various official meetings, departmental meetings and workshops, symposia etc. The cafeteria also provides services during the visits of VVIPs to AIIMS.

Considering massive expansion in the requirement of catering services at the institute as a result of additional AIIMS staff strength at upcoming blocks in AIIMS campus, patients & their relatives, some part of Cafeteria services have also been outsourced through a tender to a professional agency through open tendering process. Currently, Institute Cafeteria/ Kitchen services are being provided at 13 numbers of outlets in different parts of the campus.

### STAFF STRENGTH

The cafeteria has the following manpower strength:

Sl. No.	Category of staff	Numbers
1.	Regular	16
2.	Contractual (through M/s BECIL)	16
3.	Contractual (through M/s Sudarshan)	79
4.	Contractual (through M/s Sulabh)	16

Apart from this, various centres/blocks are also providing support manpower as per the need.

### ANNUAL TURNOVER

- The total turnover of the Cafeteria Department is Approx 3.50 Crores.

## 11.3 Central Animal Facility

### Professor-In-Charge

SS Chauhan  
Chairperson of IAEC

### Senior Veterinary Officer

PK Yadav  
Member Secretary, IAEC & EAWC

During the year 2022-2023, Rats, Mice, Rabbits and Guinea-Pigs were maintained in our Central Animal Facility (CAF).

### Laboratory Animal (Rodents)

The following Average numbers of different laboratory animals were maintained during the year 2022-2023.

1. Rats (Wistar)	-	2081
2. Rats (Sprague Dawley)	-	619
3. Mice (Swiss)	-	789
4. Mice Balb/c	-	856
5. Mice C57 BL/6	-	693
6. Rabbits (New Zealand)	-	96
7. Guinea Pigs (Dunkin Hartley)	-	56

A total of 2793 Laboratory animals (Wistar Rats-1277, SD Rats-536, Mice Swiss Albino-309, Mice Balb/c-106, Mice C57BL/6- 475, Rabbit-75 and Guinea-Pigs- 15) were issued to various departments of the Institute with IAEC approved protocols and a total 3484 Laboratory animals (Wistar Rats- 2040, SD Rats- 498, Mice Swiss Albino- 400, Mice Balb/c- 278, Mice C57BL/6- 226, Rabbit- 14 and Guinea Pig- 28) were sold to various CCSEA approved Academic and Research Institutions of India.

### Experimental Surgery

A total of 134 surgical procedures were performed by investigators and researchers from various departments in the Central Animals Facility. The departments include Anatomy, Biochemistry, Biophysics, Biotechnology, Pharmacology, Reproductive Biology, Stem Cell Facility and Cardiac Bio-Chemistry.

### Institutional Animal Ethics Committee

The Institutional Animal Ethics Committee (IAEC) is approved by the Committee of Control and Supervision of Experiments on Animals (CCSEA) Under the Ministry of Fisheries, Animal Husbandry and Dairying (Govt of India). The AIIMS CCSEA registration No. is 10/GO/ReBiBt/S/99/CPCSEA "Research for Education Purpose, Breeding for in house use and Breeding for the purpose of trade of Rodents animals (Rat, Mice, Rabbit, Guinea Pigs and Hamsters)". IAEC cleared new 75 projects/protocols and gave extension to 10 projects/protocols on laboratory animals (Rodents) for various investigators of Institute during the year 2022-23.

### Services Provided

The Central Animal Facility has been maintaining the laboratory animals belonging to the departments of Anatomy, Biochemistry, Biophysics, Biotechnology, Gastroenterology, Laboratory Medicine, Neuro-Surgery, Pediatric Surgery, Pharmacology, Reproductive Biology, Stem Cell Facility, and Cardiac Bio-Chemistry. This facility has maintained Rats-147, Mice-254, and Guinea Pigs-02 belonging to the above departments throughout the year 2022-23.

The IAEC has given permission to Departments of Physiology, Pharmacology, Ocular Pharmacology and Pharmacy (RPC) AIIMS to maintain the laboratory animals in their respective departments as per norms and guidelines of CCSEA. Central Animal Facility provides supervision for the same.

## **Educational programmes attended**

### **Dr PK Yadav**

1. Fifth GLP Training Course Inspector 2022 under Ministry of Science and Technology (DST, Govt of India) during 23-27 May 2022 at New Delhi
2. Congress for 10th International Conference of LASA India (3 June 2022) at ICAR-National Academy of Agricultural Research Management (NAARM) Hyderabad
3. As the chairperson in Conference on Defining Ethics and Welfare in Preclinical Research & Workshop on Preparing B-Forms and the conduct of IAEC (14-15 November 2022 SCTIMST, Thiruvananthapuram, Kerala)
4. As Vice-President of Veterinary Council of India (VCI) attended 70th Veterinary Council of India meeting on 2-3 February 2023 at College of Veterinary Science and Animal Husbandry, Aizawl, Mizoram, India
5. As Vice-President of Veterinary Council of India (VCI) attended the 71st Veterinary Council of India meeting on 14 March 2023 at the Karnataka Veterinary Council, Veterinary College Campus, Hebbal, Bangalore, Karnataka, India 1 DST (SERB) National Conference on Clinical Pharmacology on “Drug Repurposing : A New Ray to Overcome COVID-19 Disaster on 29 April 2022 organised by School of Medical and Allied Sciences at KR Mangalam World School Gurugram, Haryana
6. South Asia workshop PREventing Zoonotic disease Emergence on 23 June 2023
7. One day workshop - 4th Workshop on basic training in Animal Handling and experimentation on 2 November 2022
8. International Symposium on “Recent Trends and Future Opportunities in Pharmaceuticals (NIPER- PHARMACOM 2022) on 10-12 November 2022 at NIPER, SAS Nagar, Punjab, India
9. One week National Training on “Laboratory animal Management and Breeding” organized by Department of Animal Genetics and Breeding, College of Veterinary and Animal Science, MAFSU, Parbhani (January 2023)
10. ISAE workshop, “Animal Welfare progress in India on 28 January 2023 at CSIR-IGIB New Delhi
11. Online Webinar - “ISO 17025:2017- Introduction and Basic Requirements for Testing Laboratories” on 4 February 2023
12. Online Webinar-Guideline for safety Assessments and SOP’s on Genomic Edited Plants - Regulatory Review in India” on 23 March 2023

## **AWARDS, HONOURS AND SIGNIFICANT ACHIEVEMENTS**

**Dr PK Yadav** was nominated as a member of Committee of ICMR-National Animal Resource Facility for Biomedical Research (ICMR/NARFBR), Hyderabad.

## 11.4. Central Workshop

### Faculty Coordinator

Dr Ganga Prasad  
Professor, (Department of Anaesthesiology, Pain Medicine and Critical Care)

### Chief Technical Officer

Nitin Srivastava

### Senior Technical Officer

Manpreet Singh Sudan

### Objectives

The Central workshop was established in AIIMS in 1964 under the Colombo Plan, a collaboration between the Indian and Australian governments. The aim of this workshop is to repair sophisticated medical devices and to develop commercially available tools for patient care and research purposes within the Institute. The Central Workshop houses various sections such as Electronics, Electrical, Mechanical, Refrigeration, Fine Instrument, Sheet Metal, Painting and Upholstery to meet the diverse requirements of a multi-specialty premier institute like AIIMS. Workshop Technicians help ensure that the equipments which are used in the Institute are maintained and repaired properly. Without a workshop, Institute may need to outsource these services, which can be expensive and time-consuming. An effective repair system, such as Central Workshop in AIIMS, minimizes the amount of time equipment is unusable.

### Strength of the employee

Central workshop is a team of engineering professionals engaged in the repair, maintenance, and fabrication of equipments used for Patient Care, medical education and scientific research. Each section of the Central Workshop is supervised by a Sr Technical Officer/Technical Officer, under whom support staff like Workshop Technicians and Workshop Assistants work.

Following is the staff strength of the Central Workshop:

- Chief Technical Officer - 01
- Senior Technical Officer - 01
- Technical Officer - 05
- Technician (Grade I) - 07
- Technician (Grade II) - 04
- Workshop Assistant - 03
- Office Clerk (JAA) - 01
- Store Clerk (SAA) - 01
- Operator (E&M) - 03

### Services available

Department of Central Workshop provides following services to AIIMS Main Hospital, Dr Rajendra Prasad Centre for Ophthalmic Sciences, Dr BR Ambedkar Institute Rotary Cancer Hospital, Centre for Dental Education & Research, Cardio-thoracic & Neurosciences Centre, JP Narayan Apex Trauma Centre, Mother & Child block, Surgical Block, NCI Jhajjar, NDDTC Ghaziabad and CRHSP Ballabhgarh:

## 1. Repair and Maintenance

The number of items repaired by Central Workshop during the year 2022-23 is 6320. Some section-wise examples of repaired items are given below:

Sl. No.	Section	No. of Jobs completed	Job/Item Description
1.	Electronics	704	Patient Monitors, Infusion Pumps, Regulated Power Supplies, Electronic Weighing M/c, Light Sources, ECG Machines, Sealing Machines, Ultrasonic Nebulizer, DVT Pumps, CVT/Stabilizers, Induction Hot Plate, Public Address Systems, Operation Table (Remote controlled), Microscopes, Microwave Ovens, Studio Light, Patient Warmer, LED View Box, Reaction timer, Air Mattress Pump etc.
2.	Electrical	689	Autoclave M/c, Gynae examination/Gooze Neck/ Bull eye lamps, Boiler, Centrifuge M/c, Suction Machines, Fly killer M/c, Fumigator, Gauge/Plaster Cutters, Grinders, Hot Case, Hot Air Ovens, Hot display counter, Hot Plates, Incubators, Laminar Flow, Mayo stand, Mixer Grinder, Magnetic stirrer, Needle Destroyers, OT Lights, Spot Light, Steam Bath, Sterilizers, UV Lights, Vacuum Cleaners, X-Ray View Box, Vortex Shaker, Water Bath, Wax Bath, Electric Kettle etc.
3.	Mechanical	2659	Surgical Instruments, Tr Tube, Scissors (Gauge Cutting), Bed Side Lockers, IV Stands, Patient Trolleys, Patient Beds, Wheel Chairs, Loading Trolleys, Food Trolleys, Side Screens, Instrument Trolleys, Basin Stand, Foot Step, Surgical Drums, Push Cart, Pt. Examination Tables, Hydraulic Trolleys, Test Tube Stands, Revolving Stools, Bike Ambulance, Crash Cart, OT Table etc.
4.	Fine Instrument	1913	Digital BP Instrument, Proctoscope, Gauge/Dial BP Instrument, Stethoscopes, Weighing M/c, Oxygen Flow Meters, Single Gauge & Double Gauge Oxygen Regulators, Suction Regulators, Wall Suction regulator and Flowmeter, Oxygen Bi-connector, Laryngoscopes etc.
5.	Refrigeration	215	Visi Coolers, Deep Freezers (up to -20°C), Chilling Unit, Ice Cream Cabinet, Refrigerators, Cold Display Counters, Minicold Room, Ice Machine etc.
6.	Upholstery	140	Revolving Stool, Wheel Chair, Lead Apron, Executive Chair, Pt Trolley Mattress, Surgical/Dental Stool, OT Table Mattress, Settee Mattress, Cardiac Table, Tourniquet cuff etc.
	Total	6320	

## 2. Fabrication and Guidance

Central workshop provides a space for Doctors and researchers to get new devices designed and developed which are useful in patient care or scientific research. A total of 306 items have been fabricated by the Central Workshop during the year 2022-23. Details of the fabricated items are as below:

Sl. No.	Item Description	Quantity	Department
1.	Handle for Surgical Instruments	33	Ortho OT, JPNATC OT
2.	Sample Tray	1	CT3 Ward
3.	Acrylic Box (As per design)	1	Anatomy
4.	Teeth Holder	2	NMR

5.	Tonsil Rod Retractor	8	ENT
6.	Mice Teether	1	Physiology
7.	Probe (As per sample)	1	SM OT
8.	Hammer PVC Cap	2	Ortho OT
9.	Copper Stylate	27	Pead OT, Anaesthesia store
10.	Metallic Knob (As per sample)	9	JPNATC
11.	Donation Tag	205	Anatomy
12.	Aluminum Box (Attached with Medicine trolley as per need)	3	C6 ward
13.	Upholstery work of Wheelchair Back & seat	13	CN Tower, IRCH OPD, CT2, CT3, NS5, AB2 & Geriatric OPD
	Total	306	

### 3. Painting and Aesthetics

The painting Section in Central Workshop helps maintain the aesthetics of the hospital, ensuring that it remains clean and presentable for patients and visitors. Painting section carries out painting of all office and hospital furniture items like Beds, IV stands, all types of Trolleys, Wheelchairs, Benches, Footsteps, Patient Bedside lockers, Pigeon Lockers, Patient examination Tables, Push Carts, Almirahs, Racks etc.

During the year 2022-23, a total of 774 different items have been painted by Central Workshop.

#### Academic Activity and Short-term Training

Central Workshop is involved in educating BSc OT Technology students about the working principle, maintenance and effective use of medical equipment in accordance with their curriculum.

Central Workshop also provides short-term training (4-6 weeks) to the Diploma/Undergraduate students of various engineering colleges.

## 11.5 Centre for Integrative Medicine & Research (CIMR)

### Professor In-charge

Gautam Sharma

### Faculty In-charge

Jitender Sodhi

### HIGHLIGHTS

- Centre for Integrative Medicine and Research (CIMR) is envisioned as a “state-of-the-art research centre” to integrate traditional Indian medical practices with conventional medicine through scientific validation for the holistic treatment, disease prevention, and health promotion. CIMR is supported by the Ministry of AYUSH under the scheme of “Centre of Excellence (CoE) for Yoga and Ayurveda”.
- Currently, CIMR is conducting more than 40 research projects in collaboration with 20 departments of AIIMS, New Delhi. These include MD, DM, PhD and MSc thesis with Yoga and/or Ayurveda as an intervention. CIMR has external joint research activities with institutions such as Vardhman Mahavir Medical College & Safdarjung Hospital, New Delhi, Atal Bihari Vajpayee Institute of Medical Sciences & Dr Ram Manohar Lohia Hospital, New Delhi, Maulana Azad Medical College and associated Govind Ballabh Pant Institute of Postgraduate Medical Education and Research, New Delhi, Dayanand Medical College & Hospital, Ludhiana, Swami Vivekananda Yoga Anusandhana Sansthana (S-VYASA), Bengaluru, All India Institute of Ayurveda, New Delhi, Institute of Genomics and Integrative Biology, New Delhi and Dabur India Limited, New Delhi.
- In the 96th episode of the Radio Program ‘Mann Ki Baat’ aired 25 December 2022, the Honourable Prime Minister of India Sh Narendra Modi recognized the CIMR’s efforts in generating scientific evidence of traditional Indian medical practices, especially Yoga and Ayurveda for global acceptance. He highlighted the research trials conducted at our centre which showed the benefits of yoga practices in clinical conditions including migraine and vasovagal syncope.
- On 11 December 2022, while addressing the valedictory session of the 9th World Ayurveda Congress & Arogya Expo 2022 held between 8 and 11 December 2022 at Kala Academy, Panjim, Goa (India), the Honourable Prime Minister of India emphasized the importance of integrative medicine research for the global acceptance of traditional Indian medical practices, highlighting the integrative research works conducted at CIMR, AIIMS, New Delhi and research publications in the reputed international journals namely Journal of the American College of Cardiology (JACC), Neurology, etc.

### Major activities in the past year

#### Yoga & Ayurveda services

A total of 12,150 participants attended Yoga and/or Ayurveda sessions at CIMR between April 2022 and March 2023, including in-patients and outpatients of All India Institute of Medical Sciences, New Delhi. CIMR does not levy any fee for the Yoga and Ayurvedic treatments provided to the participants. Between April 2022 and March 2023 more than 2665 patients have benefitted from virtual yoga sessions and counselling.

CIMR in collaboration with the Department of Obstetrics and Gynaecology, AIIMS, New Delhi, conducting the yoga sessions for the benefit of patients in the Ante-Natal Clinic (ANC), AIIMS, New Delhi.

#### 8th International Day of Yoga Celebrations

Centre for Integrative Medicine and Research (CIMR), AIIMS, New Delhi, conducted a series of workshops and events from 15 to 21 June 2022, to mark the celebration of the 8th International Day of Yoga (IDY). The events began with an inter-institutional IDY quiz competition organized on 15 June 2022, in which 15 participants from five Yoga and Ayurveda institutions/universities actively participated and the top three teams are awarded with prize money and certificate of merit by the Director, AIIMS, New Delhi. A series of workshops with the theme “Synchronizing Work-Life with Yoga And Mindfulness (SWAYAM)” was organized for the faculties, nursing officers, administrative officers, students, residents, researchers, patients and other staffs of AIIMS, New Delhi.

On the day of the International Day of Yoga (21 June 2022), a mass Yoga practice for the faculty, students, staff, and patients of the institute was organized at the central lawn of AIIMS, New Delhi. The Director, AIIMS, New Delhi addressed the participants and appreciated the enthusiastic participation in huge numbers. The event was well received



with overwhelming participation of over 2300 Yoga enthusiasts, creating awareness among health professionals, patients, and general public. Yoga enthusiasts captured selfies at the selfie stands and signed on the signature board to mark their presence in the IDY celebrations of AIIMS, New Delhi.

The Research Section, AIIMS, New Delhi organized an internal poster competition cum exhibition on 21 June 2022 with the theme “Yoga research in AIIMS”, as a part of the 8th International Day of Yoga celebrated at AIIMS, New Delhi. The Centre for Integrative Medicine and Research (CIMR, AIIMS, New Delhi) also participated in the International Day of Yoga (IDY) 2022 AYUSH exhibition held on 21-22 June 2022, at Mysuru, Karnataka (India). Posters highlighting the research activities of CIMR, including its translational value & outreach, and those about the centre (genesis, establishment, vision & mission, and progression) were presented in the exhibition. At the event, the Honourable Prime Minister of India, Shri Narendra Modi visited the CIMR research pavilion and appreciated the efforts of the Centre. Other dignitaries like the Secretary (Ministry of Ayush, Govt. of India), the Director (Central Council for Research in Yoga and Naturopathy, Govt. of India), and the Chief Minister of Karnataka, also visited the CIMR research pavilion.



Yoga session conducted for the faculties in workshop held at CIMR



International Day of Yoga (2023) celebration



Mass Yoga practice on the occasion of 8th International Day of Yoga (2023)



“Yoga research in AIIMS” poster competition held at AIIMS, New Delhi.



CIMR research pavilion visited by the Honourable Prime Minister of India, Sh Narendra Modi, along with Minister and Secretary - Ministry of Ayush (Govt. of India), Director - Central Council for Research in Yoga and Naturopathy (CCRYN), and Chief Minister of Karnataka, at exhibition held in Mysuru, Karnataka.

**Workshops organized:**

**Workshop 1:** Integrative Medicine Research Methodology Workshop for Ayush Professionals.

Date: 17 December 2022, Venue: Centre for Integrative Medicine and Research, AIIMS, New Delhi.

**Workshop 2:** Yoga Workshop on “Dialogues in Health and Wellness: Role of Yoga in Preventing Cardiovascular Diseases in Context to Stress and Modern Life”

Date: 15 February 2023, Venue: Kamaladevi Complex, Multipurpose hall, India International Centre (IIC), New Delhi.

**Lectures delivered by Dr Gautam Sharma, Prof In-charge: 03**

**Lectures delivered over past 3 years**

Name of faculty	2020-2021	2021-2022	2022-2023
Dr Gautam Sharma	01	03	03

**Oral/poster presentations over past 3 years**

Presentation	2020-2021	2021-2022	2022-2023
Oral/poster	--	03	04

**RESEARCH**

**Funded projects**

**Ongoing**

1. Centre for Excellence for Yoga and Ayurveda, Gautam Sharma, Ministry of Ayush, 7 years, 2017-23, Rs 964.11 lakhs

2. Effect of Yoga-based intervention on VPC burden, quality of life and LV functions in patients with Ventricular premature complexes (VPC): A Randomized Controlled Trial, Gautam Sharma, DST, 3 years, 2021-24, Rs 32.32 lakhs
3. Clinical efficacy of Arjunaksheerpaka [A traditional Ayurvedic formulation of stem bark of Terminalia Arjuna (Roxb. Ex DC.) Wight & Arn.] to standard treatment care in post CABG patients. A double blind, randomized placebo-controlled pilot study, Gautam Sharma, Dabur India Limited, 5 years, 2019-24, Rs 17.18 lakhs

#### ***Completed***

1. Effect of Yoga on Clinical Outcomes and Quality of Life in patients with Vasovagal Syncope. A randomized controlled trial, Gautam Sharma, Ministry of Ayush, 4 years, 2018-21, Rs 24.65 lakhs

#### **Departmental projects**

##### ***Ongoing***

1. Using Yoga as a complementary intervention for smoking and tobacco Cessation: A Probe Trial
2. Two Arm Parallel Open Label Randomized Controlled Add on Trial to Investigate the Efficacy of Shirodhara (Ayurvedic Oil Dripping Treatment) in the Subjects with Chronic Insomnia Disorder
3. A comparative study between Shirodhara and Yoga nidra on psychomotor performance and autonomic variability among doctoral students: A pilot randomized comparative trial
4. Efficacy of YOGA in Indian Patient with Coronary Artery Disease (YOGICAD)
5. Effect of Slow Pranayamic breathing on neural correlates (Physiological, psychological, imaging) and Cardiophysiological markers in healthy subjects: A Randomized controlled trial
6. Effect of oil dripping treatment (Shirodhara) on sleep quality in patients with recent cardio-cerebrovascular events (RESOLVE TRIAL): A Randomized controlled trial
7. Efficacy of Yoga in Indian Patient with Coronary Artery Disease (YOGICAD).

##### ***Completed***

1. Comparing Prakriti (Ayurveda constitution types) prediction between Ayurvedic clinical methods and questionnaire-based assessment: A cross-sectional study
2. Effect of Yoga on Burn-out in healthcare professionals working during COVID-19 pandemic
3. Effect of add-on integrative approach to yoga therapy on adult with clinical depression. A Randomized Controlled Trial
4. Psychological distress among health care workers in India during COVID-19 outbreak: A Nationwide Survey
5. Knowledge, Attitude and Practice of Yoga system of medicine among patients attending the Cardio-Neurology OPD of a tertiary care hospital in India. A Single Centre Survey
6. Knowledge, Attitude and Practice of Ayurvedic system of medicine among patients attending the Cardio-Neurology OPD of a tertiary care hospital in India. A Single Centre Survey
7. To study the effect of Bhramari pranayama on blood pressure, heart rate, heart rate variability, cardiac output, peripheral resistance in patients with hypertension.
8. A network pharmacology-based approach to explore therapeutic mechanism of Indian herbal formulation Nisha Amalaki in treating Type 2 diabetes mellitus
9. Network pharmacology-based analysis of Indian herbal formulation Trikatu in relation to metabolic disorders
10. Network Pharmacology of Phuskar Guggulu In Ischemic Heart Disease

#### **Collaborative projects**

##### ***Ongoing***

1. Yoga in coronary artery disease and Quality of Sleep (YOGA-CADETS), Cardiology
2. Add on Efficacy and Functional outcomes of Combination of Ayurveda therapies along with oral administration of Ashwagandha churnam (a traditional Ayurvedic formulation made up of roots of Withania somnifera (L) Dunal) in children with Spastic cerebral Palsy: A randomized controlled open label Pilot Study, Paediatric Neurology
3. Randomized trial of Yoga as an add on therapy in patients with Multiple Sclerosis, Neurology
4. Management of Long COVID symptoms with Yoga based rehabilitation as an add on therapy to the standard care: A randomized controlled trial (YOGA-REHAB), Medicine

5. Elucidating the meditation associated epigenetic modulation in persons with temporal and temporal plus epilepsy, Neurology
6. Clinical efficacy of addition of Agastya Haritakiavaleha [An Ayurvedic formulation] to standard treatment care and Yoga in the management of Bronchial Asthma in Children and Adolescents. A randomized controlled trial, Paediatrics
7. Efficacy of Bacopa monnieri Linn. on cognitive functions & alterations in blood metabolites in patients with amnesic mild cognitive impairment and early Alzheimer Disease: A double blind, randomized placebo-controlled trial, Neurology
8. Efficacy of comprehensive Ayurveda intervention on remission of prediabetes: A randomized control trial, Endocrinology
9. To evaluate the additive effect of Yoga on follicular response in PCOS women undergoing ovulation induction cycle - a pilot randomized controlled trial, Obstetrics and Gynecology

### ***Completed***

1. A feasibility study to examine the effect of video assisted yoga on pain perception fatigue and QOL in children with planned chemotherapy, Medical Oncology, IRCH
2. A Pilot multicentre open label parallel arm RCT evaluating whether yoga can delay initiation of insulin therapy in patients with type 2 diabetes mellitus with suboptimal glycemic control on near maximal oral drugs and/or who may require insulin therapy in near future, Endocrinology
3. A prospective randomized controlled trial to study the effect of prenatal yoga on maternal weight gain and psychological stress in pregnancy and its association with pregnancy outcomes, Obstetrics and Gynecology
4. An open label 3 arm Randomized Control Trial to evaluate the effect of different modalities of lifestyle intervention (videos educating on lifestyle modification, Yoga and standard care) on HbA1C in individuals with Type 2 Diabetes Mellitus on > half maximal dose of 2 or more oral anti-hyperglycemic drugs for at least 3 months, Endocrinology
5. Benefit of Yoga therapy in management of systemic sclerosis as compared to standard drug therapy alone: A pilot randomized controlled trial, Neurology
6. Effect of a Lifestyle Modification Programme with Yoga on Overweight and Non-Morbidly obese patients with Obstructive Sleep Apnoea - A Randomized controlled study, Neurology
7. Effect of integrated Yoga on ART outcomes and Psychological stress in patients undergoing In-Vitro-Fertilization (IVF) cycles: A Prospective Randomized Controlled Trial, Obstetrics and Gynecology
8. Effect of structured Yoga program on Stress and Professional Quality of Life among selected nursing staff in a tertiary care hospital of Delhi - A small scale phase-2 trial, Community Medicine
9. Effect of yoga as add on therapy in migraine: A randomized controlled study, Neurology
10. Effect of yoga in adult patient with Type-2 Diabetes Mellitus. A Pilot Randomized Control Trial, Endocrinology
11. Effect of Yoga on Psychological, cognitive and glycemic control in patient with T2DM and Depression: Two arm parallel Randomized control trial, Endocrinology
12. Efficacy of YOGA based cardiac rehabilitation on quality of life and clinical outcomes in patients who have undergone Fontan operation: A randomized control trial, Cardiology
13. Efficacy of yoga on Symptom Severity and Quality of life of patients suffering from pain predominant medically unexplained physical symptoms (MUPS), Medicine
14. Evaluation of the prophylactic effect of comprehensive Ayurveda and Mindfulness based yoga regimen among health care workers (HCW) of a tertiary care hospital in Delhi during COVID-19 pandemic: A Randomized Controlled Trial, Medicine
15. Feasibility of introducing Yoga and its effect on stress and perceived Well-Being on New Medical Under-Graduate Students of AIIMS New Delhi, Community Medicine
16. Feasibility, efficacy, and safety of Yoga therapy in women with urinary incontinence: A prospective randomized control trial, Obstetrics and Gynaecology
17. Impact of Yoga and Pranayama on Respiratory Functions in Patients with Scoliosis: A randomized controlled trial, Orthopaedics
18. Interventions for stigma in persons with epilepsy in India, Neurology
19. Neurocognitive co-relates of emotion and cognition amongst Yoga Practitioners, Physically Active and Sedentary Lifestyle individuals: An FMRI and Neuropsychological Study, Nuclear Magnetic Resonance

20. Randomized Trial to study the effect of lifestyle Management through Indian System of Medicine including Yoga in heart failure patients along with standard care in modern medicine, Cardiology
21. Safety & efficacy of yoga based cardiac rehabilitation after coronary artery bypass surgery in patients of coronary artery disease with moderate-severe left ventricular dysfunction: a post-surgery follow up randomized controlled study, Cardiology
22. The effect of structured yoga practices on the quality of life and clinical outcomes in patients with ulcerative colitis, Gastroenterology
23. To compare the Effectiveness of conventional therapeutic exercises with Yoga for chronic nonspecific Low Back Pain: A randomized comparative trial, Physical medicine & rehabilitation
24. To effects of yoga on dyspnoea, muscle strength, inflammatory markers and quality of life in patients with Bronchiectasis. A randomized controlled trial, Pulmonary Medicine
25. Yoga for ICD patients: A Randomized Controlled Trial to evaluate the Efficacy of Yoga on Psychological and Arrhythmic outcomes in patients with Implantable Cardioverter Defibrillators, Cardiology

#### Research over past 3 years

Research projects	2020-2021	2021-2022	2022-2023
Total funded projects	03	04	03
Total funding	Rs.10,05,96,090	Rs.10,38,28,254	Rs.10,13,62,638

#### PUBLICATIONS

**Journals: 6**

#### Publications over past 3 years

Item	2020-2021	2021-2022	2022-2023
<b>Total</b>	<b>05</b>	<b>11</b>	<b>06</b>
Journal articles	05	10	06
Abstracts	--	01	--
Chapters in books	--	--	--
Books	--	--	--

#### PATIENT CARE

S. No	Total number of participants recruited in projects	Year
1	12150	2022-2023

Total number of participants includes subjects recruited in the Yoga & Ayurveda research projects, AIIMS staff, faculty members, who undergo health promotion Yoga sessions.

#### Patient care over past 3 years

Item	2020-2021	2021-2022	2022-2023
OPD consultations	--	--	--
Special clinic consultations	--	--	--
Patients provided rehabilitation services (Yoga & Ayurveda)	1206	5488	12150
Total inpatient admissions	--	--	--

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Gautam Sharma** is Expert member and Chairman of AYUSH interdisciplinary Task Force on High Impact Research in Yoga; Member of the committee constituted on formulation of Integrative Health Policy, NITI AAYOG, Govt. of India; Member of Academic and Scientific Advisory Committee, All India Institute of Ayurveda (AIIA), New Delhi; Member of Taskforce on “Impact of Yoga on Chronic Care”, Indian Council Medical Research, New Delhi; Editorial Member of the “Journal of Indian journal of yoga and Naturopathy”, the official Journal of CCRYN, Ministry of AYUSH, Govt of India; Reviewer for Journals: Journal of Interventional Cardiac Electrophysiology, The National Medical Journal of India, Indian Heart Journal, Indian Pacing and Electrophysiology Journal; Visiting Professor at

Swami Vivekananda Yoga Anusandhana Samsthana (S-VYASA Deemed to be University), Bangalore, Karnataka, India;  
Mentor: 2nd CIMER (Centre for Integrative Medicine, Education & Research) committee meeting (virtual) held at  
AIIMS, Raipur, on 29 March 2022.

**MEDIA COVERAGE:**

- Following the **Honourable Prime Minister Sh Narendra Modi's** speech on the 96th episode of the Radio Program 'Mann Ki Baat' aired 25 December 2022, the FM channel and TV channels such as ANI and DD News covered CIMR on 25 December 2022, 26 December 2022 and 6 January 2023, respectively.

## 11.6 Computer Facility

### Professor-in-Charge

Pooja Gupta

### Deputy Director

Sh SN Ragu Kumar

### Systems Analyst

SK Meher

Sh Sanjay Gupta

### Senior Programmers

Sh Hari Shanker  
Smt Tripta Setia

Sh Shyamal Barua  
Sh Sanjeev Kumar

Sh Pawan Sharma  
Sh Amit Bhati

### Programmers

### Nursing Informatics Specialist

### Data Entry Operators

### Hardware/Network Engineers

### Points of Pride

Software Services and Education	IT Infrastructure and Network
<ul style="list-style-type: none"> <li>• Hospital Information System</li> <li>• Laboratory Information System</li> <li>• RIS/PACS</li> <li>• Stores Inventory</li> <li>• In-house Modules:                             <ul style="list-style-type: none"> <li>○ Administration and Back Office</li> <li>○ Clinical Applications</li> </ul> </li> <li>• Employees Health Services Application (EHS)</li> <li>• AIIMS website: <a href="http://www.aiims.edu">www.aiims.edu</a></li> <li>• Email and SMS services</li> <li>• Computer education classes for Undergraduate and Postgraduate Nursing students</li> </ul>	<ul style="list-style-type: none"> <li>• Maintaining 9500+ nodes</li> <li>• NKN connectivity for high speed Internet connection</li> <li>• Wi-Fi Coverage in buildings</li> <li>• In-house Data Centre</li> <li>• Augmentation of IT Security</li> <li>• State of art 3 tier Networking Architecture</li> <li>• UTM/Firewall</li> </ul>

### SOFTWARE SERVICES AND EDUCATION

#### Hospital Information System

Hospital Information System (HIS) is implemented using e-Hospital@NIC software through which following modules are managed:

- Online Appointment System
- OPD Registration (New and Follow-up)
- Admission, Discharge and Transfers (ADT)
- Medical Record Section
- Patient Billing
- Inventory Management Module
- Laboratory Information System
- Radiology Information System
- Dietary services
- Blood Bank



**Online Appointments Stats**

Particulars	2020-2021	2021-2022	2022-2023
New Patients	102050	516210	1101249
Follow up Patients	116043	857579	1679625

**OPD Registrations (New and Follow-up) STATS**

Centre Name		2020-2021	2021-2022	2022-2023
Main Hospital	New Registrations (Physical)	104891	238715	463218
	Follow up Registrations (Physical)	177240	422949	972296
Cardio Neuro Centre	New Registrations (Physical)	13324	50482	84096
	Follow up Registrations (Physical)	36494	71659	132144
Dr RP Centre	New Registrations (Physical)	36616	131528	224633
	Follow up Registrations (Physical)	67020	142745	222885
Dental Centre	New Registrations (Physical)	21236	58994	1 14413
	Follow up Registrations (Physical)	26749	61879	87838
IRCH	New Registrations (Physical)	21185	22990	28939
	Follow up Registrations (Physical)	14548	908	8662
NCI	New Registrations (Physical)	-	8778	9354
	Follow up Registrations (Physical)	-	38448	41896

**Admission, Discharge and Transfers (ADT) STATS**

Particulars	2020-2021	2021-2022	2022-2023
Admissions	138133	180202	234136
Transfers	60763	73126	87679
Discharges	138587	179677	234007

**Laboratory Information System**

Laboratory Information System is implemented through integration of Laboratory Equipment and eHospital software following international HL7 standards. Laboratory equipment connected to LIS are:

Sl. No.	Laboratory Location	Equipment Name	Number	Machine Type
1.	CNC	Beckman 5Plot cell Counter	1	Uni-directional
2.	CNC	IRIS iCount3	1	Uni-directional
3.	CNC	Immolute1000	1	Uni-directional

4.	CNC	Bio-Rad10	1	Uni-directional
5.	CNC	Alifex R20 ESR Machine	1	Uni-directional
6.	CNC	Beckman 3Plot cell Counter	1	Uni-directional
7.	RPC Hematology (7th Floor)	Beckman Coulter 5 Plot Act Diff Cell Counter	1	Uni-directional
8.	RPC Hematology (7th Floor)	Sysmex KX21	1	Uni-directional
9.	RPC Hematology (6th Floor)	Beckman AU680	1	Bi-directional
10.	Endocrinology-1	Bio-rad D10	1	Uni-directional
11.	CCF Ground Floor	Cobas 6000	1	Bi-directional
12.	CCF Ground Floor	Urin Analyzer	1	Uni-directional
13.	Renal	Cobas C3 11	1	Bi-directional
14.	Renal	Abott Architect1 000	1	Bi-directional
15.	Renal	IONS	2	Uni-directional
16.	Emergency Department	AQT 90	1	Uni-directional
17.	Emergency Department	ABL 800	1	Uni-directional
18.	Emergency Department	Pentra XL	1	Uni-directional
19.	New Private Ward 2nd Floor	Mini Cap	1	Uni-directional
20.	Pediatric Endocrinology	Cobas e41 1	1	Bi-directional
21.	CNC	Beckman Coulter AU680	1	Bi-directional
22.	CNC	Beckman Coulter 480	1	Bi-directional
23.	Reproductive Biology	Abbott Architect1 000	1	Bi-directional
24.	IRCH 1st Floor	MS4 Cell Counter	1	Uni-directional
25.	IRCH 1st Floor	MS9 Cell Counter	1	Uni-directional
26.	IRCH 2nd Floor	MS4 Cell Counter	2	Uni-directional
27.	IRCH 2nd Floor	MS9 Cell Counter	2	Uni-directional
28.	Lab Medicine Room No-2	Comiline	2	Uni-directional
29.	Lab Medicine Room No-2	Caretium	2	Uni-directional
30.	CNC R. No.53 GF	Hitachi Modular	1	Bi-directional
31.	CCF Ground Floor	Beckman Coulter Access 2	1	Bi-directional
32.	Lab Medicine R. No.20	Hitachi Modular	2	Bi-directional
33.	Endocrinology-01	Cobas Integra	1	Bi-directional
34.	CNC	Sta Compact	2	Bi-directional
35.	RPC 6th Floor	Beckman Coulter AU680	1	Bi-directional
36.	RPC 6th Floor	Access2	1	Bi-directional
37.	New Private Ward 2nd Floor	Sta Compact	1	Bi-directional
38.	Reproductive Biology	Architect 1000	1	Bi-directional
39.	Reproductive Biology	Architect 4000	1	Bi-directional
40.	Reproductive Biology	Architect 2000	1	Bi-directional (IoT based Interfacing)
41.	Endo-02	Cobase41 1	4	Bidirectional

42.	Endo-02	Liaison	2	Bidirectional
43.	Endo-02	Cobase41 1	1	Bi-directional (IoT based Interfacing)
44.	Endo-02	LiasionXL	1	Bidirectional
45.	CNC	Advia	1	Bidirectional
46.	CNC	AdviaCentura XP	1	Bi-directional
47.	CNC	Beckman Coulter Act5	1	Bi-directional
48.	Biochemistry	Vitros Analyzer	1	Bi-directional
49.	Endo-01	Thosh G8	1	Unidirectional
50.	Lab medicine Room no-2	EliteAcl	1	Bi-directional (IoT based Interfacing)
51.	Smart Lab Basement, New RAK OPD	Cobas Infinity (Roche)	1	Bi-Directional
52.	NCI Jhajjar Robotic Lab	Centralink (Siemens)	1	Bidirectional
		<b>Uni-directional</b>	<b>27</b>	
		<b>Bi-directional</b>	<b>35</b>	
		<b>Total number</b>	<b>62</b>	

### Laboratory Information System

Particulars	2020-2021	2021-2022	2022-2023
Uni-directional	27	25	27
Bi-directional	33	33	35
Total number	60	58	62

### RIS and PACS

#### RIS

Appointment of various radiological investigations is managed through eHospital RIS system. Results after investigations are also pushed back to HIS system using HL7. Various investigations appointment scheduled via RIS are as listed under:

- Plain X-ray
- CT Scan
- MRI Scans
- Ultrasonography
- PET Scans
- Ophthalmic Radiology
- Mammography
- Angiography
- Dental X-rays

These investigations are offered across multiple locations in various centres of AIIMS.

#### PACS

AIIMS has implemented a common centralized PACS Server with web-based visualizer: Oviyam. This system integrates with the standalone departmental PACS systems (Siemens/GE Centricity/Philips/Sonosite).

**MODALITIES connected to Open source PACS at AIIMS.** The modalities have been configured from various departments and locations like Main AIIMS, JPNATC, NCI JHJJAR to store the studies in PACS server, from 2014 onwards. AET stands for application entity title.

**PACS integration with HIS e-Hospital:** It is integrated with HIS to receive patient demographics details using HL7 standards. This helps to send the requisition for radiological investigations such as X-ray, CT, MRI etc. via online to RIS systems. PACS integration had been done with different modalities.

**Oviyam viewer:** Module added to get studies from GE-PACS directly using DICOM C-Get/C-Move.

**Auto forwarding of studies** from JPNATC Centre PACS to AIIMS PACS is configured.

**PDF2DICOM application** installed to upload Spirometry reports which convert Pdf, JPG, and JPEG images to Dicom images and push into PACS server.

**Different Studies have been stored/archived in Open PACS during the year 2022-2023**

Sl. No.	Modality	Number of Studies	Location of Modality
1.	CR (Computed Radiography)	24554	CNC, IRCH, MAIN AIIMS, RPC, Trauma OPD, Trauma Center
2.	CR\SR	14	Main AIIMS, Trauma OPD
3.	CT (Computed Tomography)	6411	New Private Ward, Main Radiology, Main AIIMS GE, IRCH, NCI AIIMS, RPC, Trauma Center AIIMS
4.	CT\OT\SR	4	CT8 Radiology Workstation, Main AIIMS
5.	CT\PR\SR	8	Main AIIMS GE, NCI AIIMS
6.	CT\REG	24	NCI AIIMS, MAIN AIIMS, IRCH
7.	CT\SR	12447	CT8 Radiology Workstation, Main AIIMS, NCI AIIMS, IRCH, Trauma Center AIIMS
8.	DX (Digital Radiography X-Ray)	20145	IRCH, CT8 Radiology Workstation, Main AIIMS, IRCH, New RAK, NCI AIIMS, RPC
9.	DX\SR	7	New RAK, Main AIIMS
10.	KO\MR	5	Main AIIMS
11.	MG (Mammography)	552	IRCH-MEMO, Main AIIMS
12.	MR (Magnetic Resonance)	1056	IRCH, Main AIIMS SIEMENS, Main AIIMS
13.	OT (Other)	257	CDER-X-Ray, Main AIIMS SIEMENS, NCI JHAJJAR, Main AIIMS
14.	PR	187	IRCH-MEMO
15.	PT\CT	54	Main AIIMS
16.	REG\MR\SR	7	Main AIIMS
17.	RF\CR	224	IRCH-LUMINOUS TF, SEIMENS, Main AIIMS, Trauma OPD
18.	SEG\CT\SR	356	CDER-X-RAY, Main AIIMS SIEMENS, NCI AIIMS, Main AIIMS, Main AIIMS GE, Trauma Center, IRCH
19.	US (Ultrasound)	2546	IRCH, NCI, Main AIIMS, Main AIIMS SIEMENS
20.	XA (X-Ray Angiography)	12	Main AIIMS, Main AIIMS SIEMENS

**Different studies have been stored/archived in OPEN PACS**

2020-2021	2021-2022	2022-2023
1,28,227	1,37,051	68,874

**Total Studies received in OPEN PACS: 68,874**

**Average PACS Access time:** Total OPEN PACS access time for 12 Months is 1082.14 hours which was accessed over LAN connections & Wi-Fi. Average one month PACS data accessed is  $1082/12 = 90.7$  hours per month approximately.

**In-House Modules**

Computer Facility has a team of programmers which continuously maintain, upgrade and develop various in-house modules using Dot Net technology, Python programming language, Tryton framework, and PostgreSQL database. The In-house modules are categorized under Administration and Clinical modules.

**Administration and Back Office Modules**

For administrative and back office automation, various in-house modules maintained and implemented in the Institute are listed below:

- Hostel Allotment and Registration system
- Estate Allotment System
- MSSO Rail Concession System
- Letter of Intent and Award system for Engineering Services Department
- Online Organ Donation Form
- Online Transport System
- Electronic Annual Performance Assessment and Report (eAPAR) for all regular employees of the Institute
- Cheque printing, RTGS and Reconciliation
- Computer Facility team has implemented eOffice@NIC software for e-filing in the entire Institute and has trained more than 1000 employees

**Clinical Modules**

Sl. No.	Application Name
1.	PDS Main for Emergency Patient Details
2.	eMLC Main Hospital
3.	eMLC RPC
4.	eMLC Burns & Plastic Surgery
5.	RPC Tissue Utilization
6.	Ocular Pathology RPC
7.	eCertificate
8.	EBC RPC
9.	CNC Lab Register
10.	IRCH Day Care
11.	eBirth
12.	ECertificate AIIMS
13.	Bone Bank (Ortho & Neuro)
14.	eDeath Note
15.	Onco Anaesthesia IRCH
16.	OT Module
17.	Anticoagulant Registration
18.	eCath list
19.	Admission Slip NCI Jhajjar
20.	OT Module NCI Jhajjar
21.	eDeath Note NCI Jhajjar
22.	eMLC NCI Jhajjar
23.	IRCH Diagnosis

### Employees Health Services Application

Employees Health Services (EHS) Software system is used for recording and maintaining Employees health prescriptions generated in the EHS OPD. This system maintains all the employees' records and their dependents' details that are eligible for EHS benefits in the EHS OPD.

The system registers each EHS patients in the OPD and records their medicines prescribed online in the system. Medicines are also dispensed online via EHS Pharmacy counters. Medicines which are not available in the EHS pharmacy are sent for Local Purchase. LP Indents are automatically generated twice by this system and submitted in the online mode to the LP vendor. EHS Registration and Prescription data for FY 2022-23 is:

- Total registrations in Main AIIMS: 189668
- Total registrations in NCI Jhajjar: 8124
- Total registrations in Trauma: 1844
- Total online prescriptions in Main AIIMS: 166430
- Total online prescriptions in NCI Jhajjar: 7498
- Total online prescriptions in Trauma: 1652

Particulars	2020-2021	2021-2022	2022-2023
Total Registrations	286190	207126	199636
Total Online Prescriptions	266883	183881	175580

### AIIMS Website

- Computer Facility maintains AIIMS website aiims.edu and various other services pertaining to it
- The total number of pages updated, created and uploaded on AIIMS website approx. 8000
- Created and maintained the AIIMS Swachhata wall webpage (swachhata.aiims.edu), to showcase the cleanliness environment in AIIMS. Around 25 images were uploaded from various areas
- Maintenance of covid.aiims.edu website. Uploaded content related to COVID

### Email and SMS Services

- Using Google workspace as our email services (www.aiims.edu).
- Till now 3735 email accounts have been created. These email id are used by Faculties, SRs, JRs and MBBS students. Created approx. 616 new emails.
- Regular E-mails sent to all faculties regarding various conference, seminars etc.
- Mobile Seva CDAC SMS Gateway services are used by the Institute for providing messages to various stakeholders such as:
  - Patient's related SMSes such as Appointment details, Lab reports OTP etc.
  - Examinations Section-related messages
  - Academic Section-related messages to the students
  - Blood bank-related messages to the blood donors
- Organ Donors details

### Stores and Inventory Stats

Total No. of Indent Generated	Total No. of Indents Issued	Total online Main Stores	Total online Sub-Stores
106828	102783	71	1087

### IT Infrastructure and Network

- Computer Facility provided internet/intranet connectivity & network management facilities to various locations at AIIMS
- Managed network infrastructure at New OPD, Burns and Plastic, Surgery Block, Mother & Child Block, NCA and Private Ward-III at AIIMS, New Delhi

- Approximately 350 new network connections were provided to faculty members, officers and staff of AIIMS
- Provided high speed NKN internet connectivity for various Seminars/Conferences/Video conference:
  - LAN/Wi-Fi facility provided for National CME/Symposium/Workshop/Conferences held in AIIMS, New Delhi
  - High speed internet connectivity provided for “Live surgery transmission from OT 5th floor to LT VI, 6th floor, RPC and JLN Auditorium”
  - High speed internet connectivity provided for Ortho OT to JLN Auditorium for “Live surgery transmission”
  - High speed internet connection provided for various events at SET facility, Convergence Block
- Continued management of firewall done for security of computer networks and application for management at gateway level
- Continued management of the wireless networking zones at around 18 hostel locations, creating Wi-Fi zones for internet, information and online journals access to students and resident doctors. Approximately 700 IDs created for hostel users
- Technical support to BB Dixit Library (BBDL) for management of Wi-Fi services at BBDL
- Internet facility provided through lease line for faculty and other staff of AIIMS and is being maintained on 24/7 basis
- Facility management for call maintenance of user’s complaints and resolution available 24 × 7 × 365 days through help-desk of Computer Facility. Over 28,000 calls were handled during the year
- VPN-based access mechanism for e-Hospital Module, CPRS access and other in-house application servers from outside AIIMS
- Continued management of secure tunnel for connecting NDDTC GZB, JPNATC, CRHSP Ballabgarh and NCI Jhajjar
- Provision for accessing Smart lab and Blood Bank for management purposes
- Different Firewall rules created for interfacing with various services
- After the cyber attack on AIIMS ICT infrastructure, security measures are being implemented across entire network in consultation with different agencies

#### HONOURS AND SIGNIFICANT EVENTS

**Sh SN Ragu Kumar, Deputy Director (Computer Facility)** was Member of various Technical Specification Committee for development of IT Infrastructure for AIIMS and all its Centres and Upcoming Centres; Monitoring of the services and all service providers/vendors pertaining to IT Implementation at AIIMS; Management/Administration of Computer Facility, NIC staff posted at Computer Facility and Contractual Staff working in Computer Facility; Conducted Orientation program for newly selected MBBS students, AIIMS, New Delhi.

**Dr SK Meher, Systems Analyst** is Currently working in ‘AI in oncology project’ funded by MEITY and is nodal officer for SNOMED CT project (under MOHFW) implementation at AIIMS, New Delhi; Deputy Editor and Member Editorial Board of BMJ Health & Care Informatics 2020-2023, Board member of International Society for Gerontechnology 2019-2023. As a co-investigator of the projects: Artificial intelligence in Oncology: Harnessing big data and advanced computing to provide personalized diagnosis and Treatment for Cancer patients; Identification Portal and DNA Database of Unidentified Bodies Autopsied at AIIMS, New Delhi; Smartphone App for management of gestational diabetes mellitus in urban and rural settings in India: A randomized controlled trial. Chairman of technical committee for purchase of IT equipment in ICMR, New Delhi; Selection committee for the recruitment of IT staff for ICMR projects; Committee for formulating requirement and up gradation and new requirement of networking in ICMR, New Delhi and its other branches in India. Member of the project (Air Pollution viz-a-viz (i) infectious diseases including COVID-19; (ii) Air Quality and (iii) Microenvironments evaluation committee.

## 11.7 Electron Microscope Facility

**Professor**

TC Nag

**Additional Professor**

Subhash C Yadav

**Assistant Professor**

Prabhakar Singh

**Senior Technical Officer**

Sandeep Arya

**Technical Officer**

Chanda Panwar

### EDUCATION

1. EM classes (theory as well as practical) for Anatomy postgraduates were conducted from 15 to 23 September 2022.
2. EM classes (theory and practical) for Biotech 1st year students were conducted from 5 to 13 December 2022.

### CME/Workshops/Symposium/National and International Conferences

1. National workshop on “Electron Tomography of Biological Specimens” was conducted from 9 to 13 May 2022.
2. A summer training program in electron microscopy was conducted from 16 May to 15 June 2022. Twenty-two participants from various parts of India attended this training.
3. The DST-STUTI training program on Biological Electron microscopy was organized from 29 August to 4 September 2022. Thirty participants from various parts of India attended this training.
4. The 38th National Training Program in Electron Microscopy for Scientific Investigators was held from 21 November to 2 December 2022. Twelve candidates from all over India participated in this training program.
5. Students [16 BSc, and 32 MSc 3rd year] and three faculty from SGT University, Gurugram visited EM facility on 13 April 2022.
6. Prof Sushil Kumar from University of Colorado, USA visited EM lab on 11 June 2022.
7. Eighteen Students and three faculty from SRCASW, Delhi University visited EM facility on 9 September 2022.
8. Thirty students and two faculty from Institute of Home Economics, Dept of Biochemistry, Delhi University, visited EM facility on 6 January 2023.
9. Forty-two students and three faculty from Gargi College, Department of Microbiology, visited EM facility on 14 January 2023.
10. Two faculty from Sardar Patel Postgraduate Institute of Dental and Medical Sciences, Lucknow, visited EM facility on 27 January 2023.

**Lectures delivered: 11**

**Oral presentations over past 3 years**

Year	Number of oral presentations
2022-2023	11
2021-2022	8
2020-2021	6



## RESEARCH

### Funded projects

#### Ongoing

1. Mitochondrial dynamics and status of autophagy in retinal photoreceptor cells after experimental iron overload in rats, TC Nag, ICMR, 3 years, 2019-2022, Rs 30 lakhs
2. An experimental study to understand the mechanisms of choroidal capillary death in aging eye with emphasis on involvement of macrophages and other immunocompetent cells, TC Nag, ICMR, 3 years, 2021-2024, Rs 31 lakhs
3. Cryo-Electron Microscope Imaging facility for biological specimens (Cells and Tissue), Subhash C Yadav, DBT, 4 years, 2021-2026, Rs 2000 lakhs
4. External delivery of Cisplatin using Human Papilloma Virus (HPV 16) based nanocarriers for treatment of cervical cancer, Subhash C Yadav, DHR, 3 years, 2021-2024, Rs 30 lakhs
5. Establishment of confocal laser scanning microscope Facility for biomedical live cell Imaging and for nanoparticulate drug delivery, Subhash C Yadav, DST-FIST, 5 years, 2018-2023, Rs 165 lakhs
6. To study the role of cholinergic transmission on the amyloid beta induced neurodegeneration and therapeutic interventions for Alzheimer's disease, Dr Prabhakar Singh, ICMR, 3 years, 2023-2026, Rs 30 lakhs

### Research projects over past 3 years and total amount of extramural/intramural funding

Year	Total funded research projects	Total amount of extramural/intramural funding (lakhs)
2022-2023	6	1738.78
2021-2022	10	155.74
2020-2021	9	72.02

### Departmental projects

#### Ongoing

1. Mitochondrial dynamics and status of autophagy in retinal photoreceptor cells in a rat model of experimental iron overload.
2. Pattern of mTORC1 expression in rat retina in experimental iron
3. Expression pattern of ghrelin in the retina and its link with light insult in rats
4. Identification of HPV-16 induced cervical cancer cells from cytology samples
5. To study the morphological changes in endothelin-1 induced capsular infarct model in rat

### Collaborative projects

#### Ongoing

1. Fluorosis mitigation in community of Bihar through intervention and counseling, Anatomy
2. Pharmacological and Molecular approaches to investigate the effect of *Adhatoda vasica* in experimental models of bleomycin induced pulmonary fibrosis (funding agency: CCRUM, Ministry of AYUSH, Pharmacology)

## PUBLICATIONS

Journal: 11

### Publications over past 3 years

Year	Publication Subtypes	Total no. of Publication
2022-2023	Journal articles: 11 Chapter in book: 0	11
2021-2022	Journal articles: 19 Chapter in book: 1	20
2020-2021	Journal articles: 13 Chapter in book: 2	15

### Patent Filed

1. Yadav SC, Sesham K, Kumar S, Raman S, Gupta A, Mridha AR, Yadav RK. A kit and Method for Detection of BK Virus: Filing date: 13 October 2022, Patent Application Number: 202211058621

## PATIENT CARE

### Special laboratory facilities

During the year, special laboratory facilities provided for research and patient care are as follows:

Sl. No.	Facility	User number analyzed		Specimens	
		Internal	External	Internal	External
1.					
2.	Transmission Electron Microscope	143	406	741	3029
	Scanning electron microscope	43	119	260	513

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor TC Nag** examined one PhD thesis from Osmania University, Hyderabad, two from University of Chennai and one from IIT, Guwahati and one research project grant application from DST-SERB. He reviewed 98 manuscripts for publication in various journals. He was a member of abstract review committee and judge in second AIIMS Annual Research Day presentation, 18 October 2022. He received AIIMS Research Excellence Award (2021, third prize) under basic science category, and Life Time Achievement Award (2022, life sciences/medical sciences category) of the Electron Microscopy Society of India. He delivered one plenary lecture at the 41st Annual Meeting of the Electron Microscopy Society of India, held in Delhi University, Delhi (8-10 December 2022).

**Dr Subhash C Yadav** has examined three PhD theses [Institute of Advance Research, Gandhi Nagar (1), IIT Hyderabad (1), and IIT Roorkee (1)] and one MSR thesis from IIT Delhi. He organized the National Workshop on “Electron Tomography of Biological Specimens” from 9-13 May 2022 at EM Facility, AIIMS, New Delhi. He reviewed journal papers and was the general secretary of the Scientific Training programs of SAIF, AIIMS, New Delhi.

**Dr Prabhakar Singh** served as a guest editor for one issue of Indian Journal of Biochemistry and Biophysics. He was the organizing secretary of the National Scientific Training Program, Summer Training Program and DST- STUTI Training Program on Biological Electron Microscopy organized by SAIF, AIIMS, New Delhi.

## 11.8 Hostel Section

### Superintendent of Hostels

Sandeep Agarwala

### Deputy Superintendents of Hostels

Neerja Bhatla	Tanuj Dada	Raj Kumar Yadav
Rakesh Kumar	KH Reeta	Vijay Sharma
Kapil Yadav	Harshal Ramesh Salve	Cecilia MS
(upto 16 October 2022)	(from 17 October 2022)	
	Bhupinder Kaur	

### Administrative Officer (Hostels)

Uttam Chand

### Store Officer (Hostels)

Yatender Kumar Meena

### Senior Warden (Hostels)

Mohan Kumar Sharma

### Wardens

Seema Pruthi

### Deputy Wardens

Satprakash Kalia	Suchita Kumari
Sukhpal Mallick	

### Assistant Wardens

Rani Varghese	Ankit Dogra
---------------	-------------

### Junior Wardens

Babu Lal Meena	Dinesh Desai	Nirmala
Rajesh Rawat		Sunil Devi

### Ministerial and Contractual Staff

There are 6 ministerial and 10 contractual staff

### Subordinate Staff

There are 12 male Office Attendants and 26 female Office Attendants posted in different Hostels under Hostel Section. AIIMS has several halls of residents with a capacity of over 2004 (approximate) single/double rooms, 262 married accommodations, 429 accommodations for nursing students/staff nurses and 24 guest rooms. These are spread over different hostels and residence in the AIIMS Main Campus, Masjid Moth, JPNATC Hostel (Raj Nagar).

*The total hostel strength is 2695 (in 19 Hostels) which includes accommodation for undergraduate and postgraduate students of various courses of AIIMS ranging from single to 6-seater capacity*

### Shops and Establishments

Various Mess/Cafes and shops are provided in hostels located at Ansari Nagar, Trauma Centre & Masjid Moth There are 09 contractor-run mess and 06 cooperative mess located in the premises of hostels.

### Student's Wellness Centre

#### 1. Main Campus

- Student wellness Centre services are available at room no. 11, (Opposite Hostel No. 7 Ashwini Hostel), Gents Hostel, AIIMS.
- Common Room/I, Hostel No. 9 Parvati Hostel, ladies hostels, AIIMS.

## **2. Masjid Moth Campus**

Common Room (2/II), Second Floor, Hostel No. 19 (Patanjali Hostel) Masjid Moth.

## **3. Trauma Center Campus - In the Trauma Center**

### **Significant Events**

#### **1. Civil Work**

##### **Renovation**

1. Renovation work of almost 75 rooms in Hostel No. 1 to 6 is in progress
2. Construction of Dump yard is completed in Gents hostel
3. Coffee shop got renovated in Gents hostel complex
4. Page turners' library is renovated in Hostel no. 1
5. ASA office got renovated
6. 42 rooms have been renovated in Hostel Nos. 1-6
7. Music room in Hostel no. 5 got renovated
8. 50 rooms in hostel no. 7 got renovated
9. 6 common lavs in hostel no. 6 got renovated
10. New water cooler is installed in GF of Hostel No. 7
11. Water proofing work is completed in Hostel No. 7
12. Repair of chajja is completed in hostel No. 9
13. Recreation room & gym in hostel No. 10 got renovated
14. Student wellness centre situated in FF of hostel 10 got renovated
15. Construction of open gym and installation of swings is done in the garden of hostel No. 10
16. Installation of water cooler & RO is done in the garage between (C-II flats 11 & 13) hostel no. 11
17. C-II flats 10 to 14 (Hostel No. 11) got renovated
18. 6 common lavs in hostel No. 13 got renovated
19. Whitewash in hostel lounge, guest room, corridor and plastering work inside and outside of hostel is done in hostel No. 12
20. Renovation of washing area and dining area is completed in the mess of hostel No. 14
21. 39 rooms including 19 married rooms in hostel No. 14 got renovated
22. Work of transit rooms is in progress in hostel No. 14
23. Whitewash of 150 rooms for new BSc Nursing students is completed in hostel No. 15
24. Installation of tiles in bathrooms of 10 married rooms is done in hostel No. 16
25. Installation of looking mirror is done in 54 rooms of hostel No. 17
26. Replacement of main water pipeline and old windows is done in JPNATC hostel

#### **2. Electrical work**

1. IGL connection in mess of hostel No. 14 was installed
2. Modernization of lift done in hostel no. 14
3. All lifts in hostel no. 15 got renovated

#### **3. Air Conditioning**

1. AC were installed in student wellness center of hostel No. 9

#### **4. Miscellaneous**

1. New furniture is provided in hostel Nos. 1 to 11, 13, 15 & JPNATC Hostel
2. Installation of Camera by Computer facility dept. is in progress in JPNATC Hostel
3. Installation of CCTV camera is in progress in all hostels of Masjid Moth

## 11.9. Ethics Committee

### Member Secretary

Rohit Saxena (Institute Ethics Committee)  
Sanjeev Sinha, (Institute Ethics Committee for PG Research)

Total number of Project proposals and Thesis Protocols submitted and discussed in the Ethics committee for the past three academic years are mentioned below:

#### Meetings:

- **The number of meetings of Institute Ethics Committee and Institute Ethics Committee for Post Graduate Research for Basic & Clinical Science:**

	2020-21	2021-22	2022-23
Institute Ethics Committee	16	12	12
Institute Ethics Committee for Post Graduate Research for Basic & Clinical Science	12	12	12

- **The number of projects reviewed by the Institute Ethics Committee:**

	2020-21	2021-22	2022-23
New Project Proposals	1610	1300	900
Review Projects	757	1000	550
Old Projects	383	500	350

- **The number of projects reviewed by the Institute Ethics Committee for post graduate Research for Basic & Clinical Science was as follows:**

	2020-21	2021-22	2022-23
New Thesis	1048	900	750
Review Thesis	494	500	360
Old Thesis	204	150	130

In addition, the Institute Ethics Committee continues to receive notifications of serious adverse reactions, serious adverse events, annual progress report and completion report.

The Institute Ethics Committee's Standard Operating Procedures (SOPs) were modified as per the need and are available on the AIIMS website.

#### SIGNIFICANT EVENTS

The Institute Ethics Committee and Institute Ethics Committee for Post Graduate Research for Basic & Clinical Science were registered with DCGI, DHR and FWA.

## 11.10 KL Wig Centre for Medical Education, Technology and Innovation (CMETi)

### Chief

Peush Sahni

### Professor-in-Charge

(For Faculty Development of Basic Sciences)

KK Deepak (till Feb 2023)

### Education Media Generalist

Yogesh Kumar

### Administrative officer

Bhoop Singh (till 5 July 2022)

RK Sharma (from 6 July 2022)

### Faculty Members for Fellowship in Clinical Research Methodology & Evidence-Based Medicine

Dr Peush Sahni	Dr Shashi Kant	Dr K Anand
Dr Govind Makaria	Dr Deepti Vibha	Dr Tulika Seth
Dr Rajeev Kumar	Dr Rakesh Lodha	Dr Neerja Bhatla
Dr Naveet Wig	Dr A K Misra	Dr Kapil Dev Soni
	Dr Partho Haldhar	

### Highlights

CMETi activities can be divided into two major categories:

1. Training Program and
2. Media Support: Media Services are client-dependent services. No targets were set but CMETi exceeds the potential and ability to deliver on time

In the 3rd year of the COVID-19 pandemic, CMETi also started working in the hybrid mode and provided full media support to faculty & residents. CMETi entertained 378 videorecording/editing related, 239 Photographs/Scan related, and 1043 Graphics, including large format/e-Posters, related requests.

### Major Highlights

#### 67th Institute Day Celebration: 25 September 2022

- The theme of the exhibition was: AIIMS Today and Vision 2047, 100+ physical posters of 36x56 inches were prepared by various departments, and six video stations were placed on display. The exhibition was inaugurated by Dr Bharti Pravin Pawar, Minister of State for Health and Family Welfare, in the presence of the Director AIIMS, Prof M Srinivas
- A live telecast of the 67th Institute Day was also organized by the CMETi team, covering Institute Day prize distribution and Diamond Jubilee oration presented by Prof KM Venkat Narayan, Executive Director, Emory Diabetic Research Centre, Emory University USA

**Yoga Day Celebration:** On International Yoga Day, 21 June 2022, a poster Exhibition entitled “Yoga Research at AIIMS” was organized to display the past and present research conducted by various departments of AIIMS. A total of 70 research papers were displayed. CMETi team also arranged live streaming of the mass yoga program from the central quadrangle on YouTube.

**Doctors Day Celebration:** On National Doctors’ Day, 01 July 2022, an exhibition was organized to pay tribute to Dr Bidhan Chandra Roy and to pay tribute to the doctors and medical professionals for their immense contribution in the past 2 years during the COVID pandemic.

**76th Independence Day Celebration at AIIMS:** Live telecast of the event from the central quadrangle of AIIMS on YouTube was arranged by CMETi Team using a multi-camera setup.

**2nd AIIMS Research Day:** On the 2nd AIIMS Research Day, 18 October 2022, an exhibition was organized by the Research Section in collaboration with CMETi, in which 340+ posters were displayed along with 18 live demonstrations of innovations made by faculty and scientist of AIIMS. CMETi team designed, printed, and assisted SRs, JRs, PhD, MBBS, and M.Sc. Students in designing the posters and managed this exhibition in-house including display. CMETi Audio-video team also arranged a day-long live telecast of proceedings of scientific presentation by the SRs, JRs, PhD, MBBS, and MSc Students and eminent guest scientists.

**RP Centre Day:** An exhibition was organized on 10 March 2023. CMETi designed and printed 27 posters highlighting the research and other achievements of RP Centre, AIIMS, New Delhi.

**Live Streaming:** CMETi team organized live streaming of the following events. All the videos are available on YouTube.

**A. 10 Public Lectures:** supervised and arranged the live telecast of the following public lectures held at AIIMS.

- |   |                 |
|---|-----------------|
| 1. Parkinson's disease: integrated health care        | 13 April 2022   |
| 2. Autism Awareness Program                           | 28 April 2022   |
| 3. National Dengue Day                                | 17 May 2022     |
| 4. Multiple Sclerosis                                 | 30 May 2022     |
| 5. Brain health issue in school children              | 27 July 2022    |
| 6. World Mental Health Day                            | 10 October 2022 |
| 7. Stroke   | 29 October 2022 |
| 8. Let's talk about obesity                           | 6 March 2023    |
| 9. Millets for health and nutrition security in India | 16 March 2023   |
| 10. Head injury                                       | 20 March 2023   |

**B. 8 Orations/Lectures:**

1. **Professor AK Banerji Oration** by Prof Sunil K Gupta, HOD, Department of Neurosurgery, PGIMER, Chandigarh, 1 April 2022
2. **Dr Sarinder Man Singh Memorial Oration** by Prof Laurence Klotz, Department of Surgery, University of Toronto, Chief, Division of Urology, Sunnybrook Health Sciences Centre, Canada, 28 April 2022
3. **Dr SK Kakkar Oration** delivered by Dr Naresh Panda, Prof & Head Department of Otorhinolaryngology, PGIMER, Chandigarh, India. 13 August 2022
4. **Silver Jubilee Oration** by Dr Chandan K Sen, Director, Indiana Centre for Regenerative Medicine and Engineering, Indianapolis, Indiana, 17 October 2022
5. **Guest Lecture** by Dr Devi Prasad Shetty, Chairman and Executive Director, Founder of Narayana Health, "How India will become the first country in the world to dissociate healthcare from affluence in just five years", 24 January 2023
6. **Dr PN Tandon Oration** by Prof Ashwini Sharan Professor Neurological Surgery, Sidney Kimmel Medical Centre/Thomas Jefferson University, USA, 17 February 2023
7. **Dr KR Laumas Oration** by Prof Surendra Sharma, Director of the Centre of Excellence for Reproductive Health, Department of Paediatrics, Women & Infants Hospital-Brown University, USA on "Alzheimer Etiology in Younger population: Lessons from Preeclampsia, a Severe Pregnancy Complication", 20 February 2023
8. **Dr OP Ghai Oration** by Dr AK Deorari, former Prof & Head, Department of Pediatrics, AIIMS, New Delhi on "Quality Improvement: A Tool to Achieve Excellence in Healthcare", 6 March 2023

**C. 95 Videos:**

- Conference papers and poster presentations by faculty/residents: 23 videos
- CCM: Interview-based 9 videos.
- AIIMS-CDAC Project: Prakasmay: 17 videos (lecture series related to COVID management)
- AIIMS-CDAC Project: Obse-Gyne and Reproductive Biology Course: 13 Videos
- AIIMS-CDAC Project: Endocrinology: 4 videos
- AIIMS-CDAC Project: Mental Health and Wellbeing: 3 video lectures and 7 educational documentaries entitled:
  1. Managing Exam Anxiety
  2. Identifying and Improving Thinking Error

3. Time Management
4. Gender Stereotyping
5. Sexual Harassment at the Workplace
6. Self-Awareness-Johari Window
7. Sleep, Brain, Beauty & Health
- Videos For various departments (19)
  1. First aid management of seizure in Hindi & English
  2. IBD nuticare mobile app video (in Hindi, Kanada, Tamil, English)
  3. Kegel exercise video in Hindi & English
  4. Physiotherapy for Parkinson's disease patients
  5. "Smart lab" in AIIMS
  6. Swallowing assessment by the nursing officer in stroke patient
  7. "World TB Day awareness" video for OPD patient
  8. Unilateral Advancement Flap
  9. Partial nail avulsion with phenolization
  10. Laser Scanning Confocal Microscope
  11. Como site Running subcuticular- Buried Dermal Suture
  12. Pneumatic Tube System for blood sample transportation
  13. Pulmonary Rehabilitation Exercise
  14. Body composition Analyser
  15. Bereitschafts Potential
  16. Bionomadix Wireless Monitoring
  17. Functional Near Infra-Red Spectroscopy
  18. Visual Tracking
  19. Cognitive Neurophysiology and Nutrition Lab

**Logistic support:** This year CMETi extended logistic support to the research scientists of the Central Research Unit (CRU) in relation to space, furniture, computers, printers, internet facilities, etc. for the smooth functioning of their work.

**Media Production:** Details of Media Production for the year 2022-23 and previous two years:

	2022-23	2021-22	2020-21
• Designing/printing of large format Academic Posters (including e-posters)	1646	488	367
• Requisitions for Video recording and editing	378	355	432
• Clinical/Event Photography/Scanning (MRI/CT/X-Ray)	239	96	208
• Number of on-screen presentations (no of slides)	68(4600+)	126(8410 Slides)	112
• A3 Poster prints	764	643	710
• A4 Poster prints	281	499	1409

CMETi photographers/videographers also covered events like workshops, orations and other departmental activities, delegation/visits to AIIMS, and other social events.

**Lecture series under Fellowship in Clinical Research Methodology & Evidence-Based Medicine:** 5 Sessions of 90+ minutes were organized this year.

S. No	Topic	Faculty I/C	Date
1.	Overview of a systematic review and Meta-analysis	Dr Kameshwar Prasad	4 October 2022
2.	Choosing effect measure for meta-analysis	Dr Kameshwar Prasad	14 October 2022
3.	Hands-on exercise on Rev Man	Dr Pradeep Kumar	9 November 2023
4.	Critical Appraisal Diagnostic Studies	Dr Deepti Vibha	29 November 2023
5.	Multi variables regression analysis vs Multivariate regression analysis	Dr M Kalaivani	22 March 2023



**Lectures delivered at CMEs, National and International Conference (all lectures, invited talks, plenary lectures, and guest lecturers except names orations are to be listed here)**

**Yogesh Kumar (Workshop/Sessions)**

<b>Sr. No.</b>	<b>Topic</b>	<b>Date</b>
1.	Information retrieval and bibliography management	1 November 2022
2.	Bibliography Management using Zotero	2 November 2022
3.	Tools for scientific writing in MS Word	9 November 2022
4.	Tools for scientific writing in MS Word	15 November 2022
5.	Effective PowerPoint Presentation	16 November 2022
6.	Media in Education	22 November 2022
7.	Animation In PowerPoint	23 November 2022

## 11.11 MEDIA CELL & PROTOCOL DIVISION

**Professor In-Charge**  
**Protocol Division**  
Dr Nand Kumar

**Professor In-Charge**  
**Media Cell**  
Dr Rima Dada

<b>S.NO.</b>	<b>Date</b>	<b>Title</b>	<b>Newspaper</b>
1.	2 April 2022	शिशुओं में आर्टिज्म की जल्द पहचान करेगा एम्स का नया जांच टूल	दैनिक जागरण
2.	2 April 2022	डॉक्टरों की सलाह, अब भी पहने मास्क	नवभारत टाइम्स
3.	2 April 2022	कृतिम कॉर्निया से अंधापन हो रहा दूर, दाता का खतम होगा इंतज़ार	अमर उजाला
4.	3 April 2022	नेपाल के डॉक्टरों को प्रशिक्षण देगा दिल्ली एम्स	अमर उजाला
5.	3 April 2022	पश्चिमी नेपाल में महिला और नवजात शिशुओं के लिए सुविधा देगा दिल्ली एम्स	पंजाब केसरी
6.	3 April 2022	नेपाल की प्रथम महिला ने किया एम्स का दौरा	नवोदय टाइम्स
7.	4 April 2022	80 hectares earmarked for AIIMS revamp plan; DDA invited comments	Hindustan Times
8.	5 April 2022	नॉन अल्कोहलिक फॅटी लिवर का इलाज आसान करेगी कुटकी के अर्क से बनी दवा	दैनिक जागरण
9.	5 April 2022	ब्लड जांच के लिए निजी लैब पर काम हुई निर्भरता	दैनिक जागरण
10.	7 April 2022	दिल्ली को बीमारियों से बचाएगा 'वन हेल्थ'	अमर उजाला
11.	8 April 2022	ओमिक्रॉन के नए सब वैरिएंट से नहीं आएगी गंभीर बीमारी की लहर	दैनिक जागरण
12.	9 April 2022	AIIMS tightens noose against touts	The Times of India
13.	9 April 2022	Smoking can cause infertility among women, premature birth, say doctors	The Pioneer
14.	9 April 2022	गर्भपात की वजह बन रहा पति का नशा	दैनिक जागरण
15.	9 April 2022	हिंदी के १० हज़ार शब्द लिखने पर एम्स के डॉक्टरों को मिलेगा पुरस्कार	अमर उजाला
16.	9 April 2022	एम्स में वर्ल्ड क्लास यूनिवर्सिटी बनाने पर आगे बढ़ा काम	नवभारत टाइम्स
17.	13 April 2022	Shot in AIIMS : Plan for Bigger, Better AIIMS on Fast Track	The Times of India
18.	14 April 2022	मरीज़ पार्किंग को न करे अनदेखा : डॉ अचल	दैनिक जागरण

19.	14 April 2022	पार्किंसन मरीजों के लिए एम्स में शुरू होगा नया क्लिनिक	नवोदय टाइम्स
20.	15 April 2022	61 year old organs retrieved within 24hrs of brain death, save four lives	The Times of India
21.	15 April 2022	AIIMS, Delhi to start a Deep Brain stimulation clinic	The Pioneer
22.	15 April 2022	AIIMS to start dedicated clinic for advanced	India News
23.	15 April 2022	चलते चलते कमजोरी महसूस हो, शरीर में अकड़न हो तो डरने की नहीं, हौसला बढ़ाने की जरूरत : डॉ पद्मा श्रीवास्तव	दैनिक भास्कर
24.	16 April 2022	AIIMS में आज से पार्किंसन मरीजों के लिए स्पेशल क्लिनिक की शुरुआत	नवभारत टाइम्स
25.	16 April 2022	कोरोना महामारी से बच्चों के संक्रमित होने पर घबराने की जरूरत नहीं : डॉ गुलेरिया	दैनिक जागरण
26.	19 April 2022	Dedicated DBS Centre at AIIMS, Delhi	The Pioneer
27.	22 April 2022	एम्स में मरीज, तीमारदार के लिए इवी सेवा सुरु	दैनिक जागरण
28.	22 April 2022	प्रदूषण मुक्त होगा एम्स, अब एम्स परिसर में चलेंगे इ - वाहन	अमर उजाला
29.	22 April 2022	E-Transport to make AIIMS a green campus : Guleria	The Pioneer
30.	24 April 2022	AIIMS hints at New Covid Complication	The Times of India
31.	26 April 2022	एम्स में दो प्राइवेट वार्ड को कोविड के लिए किया रिवर्स	नवभारत टाइम्स
32.	29 April 2022	आटिज्म पीड़ित ८० प्रतिशत बच्चे दूसरी बीमारी से भी होते हैं ग्रस्त	दैनिक जागरण
33.	29 April 2022	आटिज्म पीड़ित बच्चों पर संगीत के असर का अध्ययन करेगा एम्स	हिंदुस्तान
34.	30 April 2022	एम्स सर्जरी ब्लॉक के दो ऑपरेशन थिएटर शुरू	हिंदुस्तान
35.	30 April 2022	मरीजों को सर्जरी के लिए बुला रहा एम्स अस्पताल	अमर उजाला
36.	30 April 2022	5 Years old girl's parents donate her organs to help other kids live	The Times of India
37.	03 May 2022	Why experts expect cases to wane soon	The times of india
38.	03 May 2022	एम्स में और सुलभ होगी सुविधाएं	दैनिक जागरण
39.	03 May 2022	दामा रोगियों के लिए इनहेलर सबसे सुरक्षित	हिंदुस्तान
40.	08 May 2022	AIIMS 2nd public hospital india to do lung transplant	The times of india
41.	09 May 2022	AIIMS perform first lung transplant	The Pioneer
42.	12 May 2022	एम्स में पहला फेफड़ा प्रत्यारोपण, सेना के जवानों के अंगदान से बची तीन जान	दैनिक जागरण

43.	12 May 2022	नर्सिंग कर्मियों ने परिवानो से पहले मरीज की सेवा को दी असहमति	हिंदुस्तान
44.	12 May 2022	एक हजार से अधिक नर्स नेत्रदान की लेगी शपथ, 200 खेत भरे	दैनिक जागरण
45.	14 May 2022	Why all elderly may not require daily aspirin to prevent heart attack, stroke	The times of India
46.	14 May 2022	देश में 2025 तक 2.98 करोड़ हो सकते हैं कैंसर मामले	हिंदुस्तान
47.	15 May 2022	एम्स ने बर्न और प्लास्टिक सर्जरी सेंटर में पूरी सुविधा के साथ इलाज शुरू	दैनिक जागरण
48.	16 May 2022	कोरोना के बाद बच्चों निकट दृष्टि दोष का खतरा हुआ दोगुना	दैनिक जागरण
49.	17 May 2022	अंगदान से चार लोगों को मिला नया जीवन	दैनिक जागरण
50.	17 May 2022	संदीप के अंगदान से चार लोगों की जिंदगी बची	हिंदुस्तान
51.	17 May 2022	दिल्ली में एक चोथई महिला उच्च रक्तचाप की शिकार	हिंदुस्तान
52.	19 May 2022	6-year-old brain dead girl saves 5 lives, becomes youngest organ donor at AIIMS	The Statesman
53.	19 May 2022	मच्छरों को पनपने से रोकना ही है डेंगू से बचने का सबसे प्रभावी तरीका	दैनिक जागरण
54.	19 May 2022	आपातकालीन चिकित्सा को मिलेगा 'जीवनदान' ताकि बच खातिर लोगों की जान	दैनिक जागरण
55.	20 May 2022	AIIMS does away with all user charges less than Rs 300	The Indian Express
56.	20 May 2022	AIIMS makes all lab tests free, but triple rates for pvt rooms	Hindustan Times
57.	20 May 2022	एम्स में 300 तक की जांच मुफ्त, प्राइवेट वार्ड का शुल्क बढ़ा	दैनिक जागरण
58.	20 May 2022	अंगदान कर चार लोगों को जीवनदान दे गए संदीप	दैनिक जागरण
59.	21 May 2022	6-yr-old gunshot victim becomes youngest donor at AIIMS	The Indian Express
60.	21 May 2022	केंद्रीय संसाधनों में 500 रुपये की जांच हो सकती है मुफ्त	दैनिक जागरण
61.	22 May 2022	Six-year-old gunshot victim becomes youngest organs' donor at AIIMS	दैनिक जागरण
62.	25 May 2022	कोरोना के बाद अस्पताल में बढ़े रहे टीबी के मरीज	दैनिक जागरण
63.	26 May 2022	A year on, grief lingers for families who lost loved ones to second wave	दैनिक जागरण
64.	29 May 2022	ऐप से हो सकेगी 50 से अधिक स्किन रोगों की पहचान	Dainik Jagran
65.	29 May 2022	स्वस्थ तारिके से कंट्रोल करने में लाखों असमर्थ : गुलेरिया	Dainik Bhaskar

66.	31 May 2022	मल्टीपल स्केलेरोसिस के मरीजों का डेटा इकट्ठा कर रहा एम्स करेगा शोध	Navodaya Times
67.	1 June 2022	एम्स : मल्टीपल स्केलेरोसिस के शोध के लिए मरीजों के सैंपल एकत्र करना शुरू	दैनिक भास्कर
68.	2 June 2022	Organs of brain dead man save three lives	The Times of India
69.	2 June 2022	Swasthe sewaye me ho raha badlao : Dr. Guleria	दैनिक जागरण
70.	2 June 2022	विज्ञान, प्रौद्योगिकी और मानविकी पर प्रभाव का त्रिकोण है अनुसंधान	अमर उजाला
71.	3 June 2022	किडनी के बुलुर्ग मरीजों की डायलिसिस के लिए सह नहीं मशीन खरीदेगा एम्स	दैनिक जागरण
72.	6 June 2022	Drone Corridor : Crucial Drugs may reach AIIMS Jhajjar Faster	The Times of India
73.	8 June 2022	एम्स बनाएगा नया एप, एक क्लिक पर मिलेगी जांच रिपोर्ट	दैनिक जागरण
74.	9 June 2022	एम्स में मोबाइल एप पर मिल सकेगी जांच रिपोर्ट	हिंदुस्तान
75.	10 June 2022	Fresh covid surge : Call for caution, not panic	The Times of India
76.	13 June 2022	मीनोपॉज के बाद होने वाली बीमारियों के लिए एम्स में विशेष क्लिनिक	दैनिक जागरण
77.	14 June 2022	एम्स में महिलाओं के लिए विशेष क्लिनिक	हिंदुस्तान
78.	15 June 2022	पुलिशकर्मियों की अच्छी पहल है ' जीवन दायनी ' योजना : डॉ गुलेरिया	दैनिक जागरण
79.	16 June 2022	Chew and Swallow : AIIMS advisory on Momos	The Times of India
80.	16 June 2022	बिना चीरफाड़ यकृत की नसों का इलाज करने पर एम्स की चिकित्सक सम्मानित	जनसत्ता
81.	20 June 2022	Sickle Cell Disease continues to remain health challenge	The Pioneer
82.	20 June 2022	कोरोना के मामले बढ़ने से गबराये नहीं, हस्पतालो में ज्यादा नहीं बेढंगे मरीज	दैनिक जागरण
83.	21 June 2022	Woman gets donor six year after registering for kidney transplant	The Times of India
84.	22 June 2022	सुधरेगी स्वस्थ सेवाएं, एम्स बनेगा विश्वस्तरीय चिकित्सा विश्विधलय	दैनिक जागरण
85.	22 June 2022	एम्स चिकित्सको ने योग दिवस पर किया योग	नवोदय टाइम्स
86.	27 June 2022	नशा छोड़ने के लिए एम्स में ले सकते हैं डॉक्टर से सलाह : डॉ गुलेरिया	दैनिक जागरण
87.	01 July 2022	सब्जी बेची, सीमेंट के कट्टे ढोए अब एम्स में एसोसिएट प्रोफेसर हैं	हिंदुस्तान
88.	14 July 2022	Within a yr, AIIMS Burns & Plastic surgery block conducted nearly 6K to 7K surgeries	Millennium Post
89.	15 July 2022	एम्स में प्लास्टिक सर्जरी की अनूठी प्रदर्शनी	हिंदुस्तान

90.	15 July 2022	एम्स में प्लास्टिक सर्जरी दिवस पर होगा कार्यक्रम	Januarysatta
91.	16 July 2022	Plastic surgery film festival organized at AIIMS-Delhi	The Asian Age
92.	16 July 2022	महर्षि सुश्रुत की शल्य चिकित्सा का अध्ययन करेगा एम्स	हिंदुस्तान
93.	16 July 2022	टॉप-10 संस्थानों में दिल्ली के तीन	Navbharat Times
94.	16 July 2022	एनआईआरएफ में दिल्ली एम्स सर्वश्रेष्ठ मेडिकल कॉलेज	Navodaya Times
95.	16 July 2022	इंजीनियरिंग आईआईटी, मेडिकल में एम्स टॉपर	Amar Ujala
96.	17 July 2022	Plastic Surgery beyond cosmetic	The Pioneer
97.	17 July 2022	लघु फिल्म से बताना प्लास्टिक सर्जरी का महत्व	दैनिक जागरण
98.	18 July 2022	डॉ। भार्गव ने संभली एम्स के कार्डियक सेंटर की कमान	दैनिक जागरण
99.	26 July 2022	मंकीपॉक्स की एम्स में भी होगी जांच, 24 घंटे मिलेगी रिपोर्ट	दैनिक जागरण
100.	26 July 2022	दिल्ली में होंगे टेस्ट, चेचक का टीका कारगर	Navbharat Times
101.	26 July 2022	मंकीपॉक्स की एम्स में भी होगी जांच	Navodaya Times
102.	28 July 2022	सोनीपत में प्रोफेसर के शरीर में लाल दाने, एम्स आया सैंपल	दैनिक जागरण
103.	28 July 2022	डिस्लेक्सिया से पीड़ित बच्चों के लिए एम्स ने लॉन्च की वेबसाइट	दैनिक जागरण
104.	28 July 2022	ऐप से सामान्य बच्चों की राह शिकेंगे डिस्लेक्सिया पीड़ित	हिंदुस्तान
105.	28 July 2022	देश में 834 लोगो पर एक डॉक्टर, वैश्विकमानको से जायदा	Amar Ujala
106.	29 July 2022	AIIMS' AI-based website for dyslexia offers fresh hope	The Times of India
107.	30 July 2022	मंकीपॉक्स के सैंपल जांच के लिए एम्स भेजे जाएंगे	हिंदुस्तान
108.	31 July 2022	Kin donate 36-yr-old's organs, 2nd lung transplant at AIIMS	The Times of india
109.	31 July 2022	2nd lungs transplant at AIIMS within 3 months	The Asian Age
110.	31 July 2022	ब्रेनडेड युवक के अंगदान से पांच को मिला जीवन	दैनिक जागरण
111.	31 July 2022	अब ओरल कैंसर का तीन मिनट में चल जाएगा पता	दैनिक जागरण
112.	31 July 2022	फेफड़े के प्रत्यारोपण से बची महिला की जान	हिंदुस्तान
113.	31 July 2022	जाते-जाते 5 मारिजो को नई जिंदगी दे गए अमरेश	Navbharat times
114.	31 July 2022	अंगदान कर पांच लोगो को दी गई नई जिंदगी	Amar Ujala

115.	31 July 2022	Delhi AIIMS conduct second successful harvested lung transplant	ANI News
116.	31 July 2022	New Delhi; AIIMS carries out second lung transplant in less than 3 months	The Print
117.	31 July 2022	Delhi AIIMS conduct second successful harvested lung transplant	ANI Digital
118.	31 July 2022	Life after Death : Brain Dead patient saves five lives	The New Indian
119.	03 August 2022	एम्स के डॉक्टरों की पहल, बीपी के मारिजो की करेंगे पहचान या इलाज	Dainik bhaskar
120.	04 August 2022	AIIMS start testing samples to detect monkey pox virus	The Times of India
121.	06 August 2022	एम्स के माइक्रोबायोलॉजी विभाग में मंकीपॉक्स वायरस के सैंपल की जांच शुरू	Dainik Bhaskar
122.	08 August 2022	एम्स ब्लड सेंटर की ओर से निकली गई तिरंगा यात्रा	दैनिक जागरण
123.	09 August 2022	तीन साल में पांच सर्जरी, एम्स डॉक्टरों ने बनाया नया हाथ	दैनिक जागरण
124.	11 August 2022	लिवर या किडनी के प्रत्यारोपण कर डॉक्टरों ने बचाई 22 साल के युवाओं की जान	दैनिक जागरण
125.	11 August 2022	एम्स में महा रक्तदान शिविर में 603 ब्लड यूनिट एकत्र	दैनिक जागरण
126.	12 August 2022	एम्स में जवानों ने किया रक्तदान	Navbharat Times
127.	13 August 2022	एम्स की इमरजेंसी में अब नहीं करना होगा इंतजार, 4 आपत्कालीन शुरू	Amar Ujala
128.	16 August 2022	दिल्ली में ओजाकी तकनीकी से पहली बार दो मारिजो की मुफ्त वाल्व रिप्लेसमेंट सर्जरी	Navbharat Times
129.	16 August 2022	मास्टर प्लान प्रोजेक्ट के बाद एम्स बदलेगा मेडिकल यूनिवर्सिटी में	NavBharat Times
130.	17 August 2022	एम्स में बनेगा संक्रमण से होने वाली बिमारियों के लिए स्पेशल ब्लॉक	Navbharat Times
131.	24 August 2022	एम्स झज्जर में कैंसर की मुफ्त स्क्रीनिंग	Hindustan
132.	26 August 2022	16-month-old becomes youngest organ donor at AIIMS, saves 2 lives	Millennium Post
133.	26 August 2022	16 माह के शिशु के अंगदान से दो बच्चों को मिली जिंदगी	Dainik Jagran
134.	27 August 2022	एम्स में बढ़ेगी फीफडो की बीमारी के इलाज की सुविधा	Dainik Jagran
135.	28 August 2022	AIIMS brings hope for those with injuries in spinal cord	The Times of India
136.	01 September 2022	एनीमिया स्क्रीनिंग कैंप में 200 दिव्यांग छत्रों ने कराई जांच	Amar Ujala
137.	02 September 2022	जल्दी वह सिंगल डोज टिके से ही हो पाएगा सर्वाइकल कैंसर से बचाव	Dainik jagran

138.	03 September 2022	पर्याप्त कॉर्निया मिलने पर 10 हजार दृष्टि बढ़ा को रेशनी दे सकता है एम्स	Dainik jagran
139.	05 September 2022	AIIMS revamp plan to impact 2,641 tress, gets delhi green authority nod	Hindustan Times
140.	05 September 2022	रक्तदान शिविर का आयोजन	NavBharat Times
141.	09 September 2022	AIIMS to develop mobile app for eye patients	The Statesman
142.	11 September 2022	AIIMS, Delhi plans first of its kind mobile app for eye patient	The Pioneer
143.	11 September 2022	केंद्रीय अस्पतालों में 40 हजार से ज्यादा नोकरी मिलेगी	Dainik Bhaskar
144.	12 September 2022	95% महिलाओं में कैंसर का खतरा जेनेटिक जांच से हो सकता है दूर	Navbharat Times
145.	14 September 2022	अब द्रोण की सहायता से पहुंचेंगे मानव अंग	Amar Ujala
146.	16 September 2022	In a first, both kidneys of a 16 moth old baby save 5 year old baby	The Times of India
147.	16 September 2022	Transplant co-ordinators session held in AIIMS for organ donation	The Pioneer
148.	16 September 2022	एम्स में 5 साल के बच्चों के दोनो किडनी ट्रांसप्लांट	Navbharat Times
149.	19 September 2022	साइकिल रैली निकल कर दिया स्वस्थ रहने का संदेश	Amar Ujala
150.	20 September 2022	जोशी को प्राकृतिक चिकित्सा उत्कृष्टता पुरस्कार	Navodaya Times
151.	24 September 2022	Herbal drug beats obesity:AIIMS Study	The Asian Age
152.	24 September 2022	सीएसआईआर की दवा मधुमेह के साथ मोटा पा भी काम कर सकती है : एम्स	Amar Ujala
153.	25 September 2022	अनुठी पहल: सांस की बनी रहेगी आस, मुफ्त में फेफड़े बदलेगा एम्स	Amar Ujala
154.	26 September 2022	बेहतर स्वस्थ बेहतर से बढ़ रही मारिजो की रिकवरी : डॉ. भारती पवार	Amar ujala
155.	26 September 2022	अंगदान करने वाले परिवार का होसला या बढ़ावा देने का एम्स निर्देशक का संकल्प	Dainik Jagran



156.	26 September 2022	कॉर्पोरेट शैली में कार्य करेगा एम्स, निदेशक के साथ सीईओ भी जुड़ा	Amar ujala
157.	29 September 2022	How heart transplant have given these recipients a new lease of life	The Times of India
158.	30 September 2022	'World class' revamp of AIIMS set to start	The Times of india
159.	30 September 2022	एम्स से कैंसर मरीजों को एनसीआई में ले जाकर होगा इलाज	Dainik Jagran
160.	30 September 2022	एम्स दिल्ली से एनआईसी इज्जर के लिए मिलेगी ट्रांसपोर्ट सुविधा	Amar Ujala
161.	01 October 2022	India's anti-Covid fight prepares it For next battles	The Pioneer
162.	01 October 2022	एम्स कैंसर सेंटर में बढ़ा पंजीकरण कार समय	दैनिक जागरण
163.	01 October 2022	अब एम्स से बिन स्क्रीनिंग नहीं लौटेगा कोई कैंसर मरीज	अमर उजाला
164.	01 October 2022	एम्स से नैशनल कैंसर सेंटर इज्जर के बिच ट्रांसपोर्ट सुविधा	नवभारत टाइम्स
165.	02 October 2022	रक्तदान करना समाज की सच्ची सेवा: मांडविया	नवोदय टाइम्स
166.	02 October 2022	मरीजों को स्लॉट के अनुसार मिलेगा अप्वाइंटमेंट, ओपीडी पंजीकरण मुफ्त	दैनिक जागरण
167.	02 October 2022	एम्स की ओपीडी में नहीं लगेगी भीड़, स्लॉट के अनुसार देखे जाएंगे मरीज	नवभारत टाइम्स
168.	02 October 2022	AIIMS revises OPD registration ease burden	The Indian Express
169.	03 October 2022	Organs of Delhi AIIMS official's sister give life to 4 and vision to 2	The Indian Express
170.	03 October 2022	AIIMS officer donates brain-dead sister's organs to save 4 lives	The Pioneer
171.	03 October 2022	एम्स: ओपीडी पर्चा बनवाने के लिए नवंबर से नहीं लगेगे पैसे, 300 रु तक की जांच भी फ्री	दैनिक भास्कर
172.	03 October 2022	टब एम्स में मरीज खुद कर सकेगा अपना पंजीकरण	अमर उजाला
173.	05 October 2022	एम्स के डॉक्टरों व नर्सिंगकर्मी ने डेगू मरीजों के लिए किया प्लेटलेट्स दान	दैनिक जागरण
174.	05 October 2022	एम्स: मरीजों के लिए बैट्री युक्त 50 नई बसें आएंगी	दैनिक भास्कर
175.	06 October 2022	एम्स में दो पालियों में ओटी चलाने की तैयारी, घटेगी सर्जरी की वेटिंग	दैनिक जागरण
176.	06 October 2022	एम्स में दो शिफ्ट में सर्जरी की है तैयारी, कम होगी वेटिंग	नवभारत टाइम्स

177.	07 October 2022	एम्स में अब 24 घंटे एमआरआइ जांच होगी	दैनिक जागरण
178.	07 October 2022	एम्स में 24x7 होगा एमआरआइ टेस्ट, आएंजी नई मशीनें	नवभारत टाइम्स
179.	08 October 2022	एम्स में इस साल अब तक हुए 13 अंगदान, 50 को मिली नई जिंदगी	नवभारत टाइम्स
180.	08 October 2022	मरीजों को स्टैंडर्ड सुविधाएं देने के लिए एम्स लेगा लाइसेंस	नवभारत टाइम्स
181.	08 October 2022	एम्स के एनसीआइ के नेतृत्व में कैंसर पर शोध	दैनिक जागरण
182.	09 October 2022	एम्स में अब एजेंटों की एंटी बैन, पकड़े गए तो होगी जेल	नवभारत टाइम्स
183.	10 October 2022	स्मार्ट फोन पर सक्रियता से कम हो गए सोने के घंटे	दैनिक जागरण
184.	11 October 2022	एम्स की इमरजेंसी में इंतजार होगा कम, बढ़ेंगे बेड, बेहतर होंगे इंतजाम	नवभारत टाइम्स
185.	11 October 2022	गर्भाशय कैंसर की एआइ तकनीक से जांच शुरू करेगा एम्स	दैनिक जागरण
186.	11 October 2022	आर्टिफिशियल इंटेलिजेंस डिवाइस से गर्भाशय कैंसर की जांच करेगा एम्स	अमर उजाला
187.	11 October 2022	Lung cancer rates higher in women than men: Study	The Times Of India
188.	12 October 2022	मातृ एवं शिशु ब्लॉक में बहुत जल्द शुरू होगी मरीजों को भर्ती करने की सुविधा	दैनिक जागरण
189.	14 October 2022	हृदयाघात होने पर घर पहुंचकर जान बचाएगी बाइक एंबुलेंस	दैनिक जागरण
190.	14 October 2022	दिल का दौरा पड़ने पर मदद को पहुंचेगी एम्स की बाइक एंबुलेंस	अमर उजाला
191.	14 October 2022	एम्स में अब 24 घंटे होगी सीटी स्कैन की सुविधा	दैनिक जागरण
192.	14 October 2022	AIIMS bike ambulance to cover all heart ailments, expand radius	The Times of India
193.	14 October 2022	AIIMS mandates in-house CT scans of patients	The Indian Express
194.	16 October 2022	हृदय व लकवा मरीजों के लिए होगी अलग इमरजेंसी	दैनिक जागरण
195.	16 October 2022	एम्स में शुरू हुआ स्वच्छता अभियान	हिंदुस्तान
196.	16 October 2022	एम्स में सीटी स्कैन टेस्ट भी अब 24 घंटे और सातों दिन	नवभारत टाइम्स
197.	16 October 2022	एम्स इमरजेंसी से रेफर नहीं होंगे हार्टब्रेन के मरीज	अमर उजाला
198.	17 October 2022	एम्स में एंडोस्कोपी थियेटर का किया जाएगा विस्तार	दैनिक जागरण
199.	18 October 2022	एम्स में गायनी मरीजों की दिक्कतें जल्द होंगी दूर	नवभारत टाइम्स
200.	18 October 2022	ढादसे के बाद समय पर पहुंचें ट्रॉमा सेंटर तो बचाई जा सकती है जान : एम्स	अमर उजाला

201.	20 October 2022	AIIMS tech offers better life to cancer patients	The Times Of India
202.	21 October 2022	एम्स में ओपीडी ब्लॉक का होगा विस्तार, मरीजों को होगी काफी सहूलियत	दैनिक जागरण
203.	21 October 2022	कमजोर हाथ को मजबूती देगा एम्स का रोबोट	अमर उजाला
204.	24 October 2022	IIT, AIIMS researchers devise a robotic hand for paralytics	The Times Of India
205.	26 October 2022	पेपर लेस होगा एम्स, मरीजों को मिलेगा स्लॉट	अमर उजाला
206.	28 October 2022	एम्स के बर्न सेंटर में ही हो सकेगी बच्चों की प्लास्टिक सर्जरी	दैनिक जागरण
207.	28 October 2022	गंव और कस्बे में ब्रेस्ट कैंसर के मरीजों की स्क्रीनिंग करेगा एम्स	नवोदय टाइम्स
208.	28 October 2022	एम्स में 33 वर्ष बाद बढ़ेगी किडनी के इलाज की सुविधा	दैनिक जागरण
209.	28 October 2022	एम्स में मरीजों के लिए बनेगा 900 मीटर का स्काईवॉक	नवोदय टाइम्स
210.	29 October 2022	एम्स में ब्रेन स्ट्रोक का फ्री इलाज, 'गोल्डन ऑवर' से बच सकती है जान	अमर उजाला
211.	29 October 2022	एम्स में शुरू होंगे 15 डायलिसिस सेंटर, मरीजों को मिलेगी राहत	दैनिक भास्कर
212.	30 October 2022	एम्स में एक नवम्बर से डेंगू और मलेरिया की 24 घंटे होगी जांच	नवोदय टाइम्स
213.	30 October 2022	व्यायाम करवाकर रोबोट करेगा लकवा का इलाज	अमर उजाला
214.	30 October 2022	AIIMS dashboard on for real-time updates on emergency beds	The Times Of India
215.	30 October 2022	AIIMS Delhi to create database, mechanism for cross-referrals with other govt hospitals	The Statesman
216.	31 October 2022	AIIMS neuro app to the aid of stroke patients in rural areas	The Times Of India
217.	31 October 2022	एनसीआर के प्राथमिक स्वास्थ्य केंद्रों में मिलेगा एम्स का उपचार	अमर उजाला
218.	31 October 2022	एम्स दूसरे अस्पतालों को देगा अपने डॉक्टर व संसाधन	जनसत्ता
219.	01 November 2022	AIIMS launches dashboard for admissions patient care	Hindustan Times
220.	01 November 2022	AIIMS To Create Dashboard For CT Scans, MRI Investigations	Millenium Post
221.	01 November 2022	आधे दमा में हो सकेगा एम्स में हड्डी रोग प्रत्यारोपण	अमर उजाला
222.	01 November 2022	चित्रकारी दे रही स्तन कैंसर की जानकारी, लॉन्च हुआ 'आर्टकैन'	अमर उजाला

223.	04 November 2022	एम्स में मरीजों को मिलेगी इलेक्ट्रिक कार की सुविधा	दैनिक जागरण
224.	04 November 2022	एम्स में कैंसर मरीजों को कार ले जाएगी एनसीआई	अमर उजाला
225.	05 November 2022	Future-ready at AIIMS: Skywalk for movement of patients, helipad for air ambulance service	The Times of India
226.	05 November 2022	एम्स में बेड ही नहीं, सभी तरह की जानकारी मिलेगी आनलाइन	दैनिक जागरण
227.	05 November 2022	एम्स: घर बैठे मिलेगी बेड की जानकारी	अमर उजाला
228.	05 November 2022	एम्स में सस्ती दर पर दांतों का इंप्लांट	हिंदुस्तान
229.	05 November 2022	एम्स इमरजेंसी में खाली बिस्तर ऑनलाइन देखें	हिंदुस्तान
230.	06 November 2022	किराये पर लेकर एम्स देगा इलेक्ट्रिक बसों की सुविधा	दैनिक जागरण
231.	06 November 2022	रोबोटिक सर्जरी से घुटना प्रत्यारोपण तो जल्दी स्वस्थ होंगे मरीज	अमर उजाला
232.	07 November 2022	50 New e-buses to ease transport inside AIIMS	Millennium post
233.	07 November 2022	एम्स: दांत प्रत्यारोपण इंप्लांट भी सस्ती दरों पर मिलेगा	दैनिक भास्कर
234.	08 November 2022	एम्स में कैंसर मरीज के लिए बढा भर्ती का समय	अमर उजाला
235.	08 November 2022	एम्स की नर्स को फ्लोरेंस नाइटिंगल पुरस्कार	दैनिक जागरण
236.	08 November 2022	51 नर्सिंग पेशेवर राष्ट्रपति से सम्मानित	हिंदुस्तान
237.	09 November 2022	डेमेंशिया रोगियों को खोजेगा एम्स	अमर उजाला
238.	09 November 2022	डिमेंशिया के कितने मरीज, एम्स दिल्ली चलाएगा अभियान	नवभारत टाइम्स
239.	09 November 2022	सेरायसिस के इलाज में जैविक दवाएं कारगर	दैनिक जागरण
240.	09 November 2022	Air Pollution worsening underlying diseases, it's a silent killer : Guleria	The Times of India
241.	10 November 2022	खेल-खेल में बुजुर्ग भूल जाएंगे 'भूलने की बीमारी' एम्स तैयार कर रहा मोबाइल एप्लीकेशन	अमर उजाला
242.	12 November 2022	एम्स: रियल टाइम में मरीजों की सेहत की मिलेगी जानकारी	नवोदय टाइम्स

243.	12 November 2022	एम्स के आइसीयू में भर्ती मरीजों पर मोबाइल से नजर रखेंगे डॉक्टर	दैनिक जागरण
244.	13 November 2022	AIIMS gets third brain dead paediatric donor in six months	The Times Of India
245.	15 November 2022	सक्रामित रहे डायबिटिज मरीजों पर एम्स में हो रहा शोध	दैनिक जागरण
246.	18 November 2022	एम्स जारी करेगा स्मार्ट कार्ड, सिर्फ कैशलेस होगा भुगतान	दैनिक जागरण
247.	18 November 2022	एम्स में चलेगा स्मार्ट कार्ड	अमर उजाला
248.	19 November 2022	एम्स ने बच्चों के लिए अभियान शुरू किया	हिंदुस्तान
249.	19 November 2022	All Payments at AIIMS to go fully digital from April 1	Millennium Post
250.	20 November 2022	'Safe Balcony, Safe Child': AIIMS launches new campaign	The Indian Express
251.	21 November 2022	कैंसर की सटीक दवा के लिए झज्जर में बनाया जाएगा देश का पहला शोध केंद्र	दैनिक जागरण
252.	21 November 2022	कल्चर जांच के बाद कम हो जाएगी एंटीबायोटिक की खपत	दैनिक जागरण
253.	21 November 2022	एम्स जैसा इमरजेंसी सिस्टम मृत्यु दर कम कर सकता है	हिंदुस्तान
254.	22 November 2022	एम्स में आभा के जरिए ओपीडी रजिस्ट्रेशन	नवभारत टाइम्स
255.	22 November 2022	एम्स: जांच के आधार पर दी जाने वाली एंटीबायोटिक ही असरदार	नवोदय टाइम्स
256.	23 November 2022	कोरोना के बाद बढ़ी एंटीबायोटिक प्रतिरोधकता की समस्या	दैनिक जागरण
257.	23 November 2022	एम्स में रक्तदान के लिए नई वैन	दैनिक जागरण
258.	23 November 2022	एम्स की ब्लड डोनेशन वैन से मिलेगी राहत	हिंदुस्तान
259.	25 November 2022	अध्ययन: पलू का टीका लेने वाले दिल के मरीज कम बीमार	हिंदुस्तान
260.	27 November 2022	स्टोमा के मरीजों को अब नहीं होगी बैग लटकाने की जरूरत एम्स स्टैनफोर्ड केयर के साथ मिलकर तैयार किया कैप	अपर उजाला
261.	28 November 2022	कैंसर पर कारगर है त्रिफला: एम्स	हिंदुस्तान
262.	30 November 2022	टंगदान से बचा सकते हैं दूसरों की जिंदगी: श्रीनिवास	अमर उजाला

263.	30 November 2022	अल्फा थेरेपी से न्यूरोएंडोक्राइन कैंसर के मरीजों में जगी नई उम्मीद	दैनिक जागरण
264.	30 November 2022	Rising above sorrow to stay connected with loved ones	The Times of India
265.	30 November 2022	Flu Vaccines May Cut Risk Of Heart Attack	The Times of India
266.	30 November 2022	Myths, fears surrounding organ donation must be dispelled : AIIMS	Millennium Post
267.	01 December 2022	फ्लू के टीके से कम होगा अटैक का खतरा	दैनिक जागरण
268.	03 December 2022	एआई से दूर होगी दिव्यांगता रोबोटिंग ट्रेनर बनेगा मददगार	अमर उजाला
269.	03 December 2022	Ganga Bacteria could help against infections	The Times Of India
270.	04 December 2022	AIIMS ready with its ageing centre	The Times of India
271.	05 December 2022	एम दूर करेगा डिस्लेक्सिया घर बैठे हो जाएगा इलाज	अमर उजाला
272.	06 December 2022	कोरोना के बाद अचानक हृदय गति रुकने के मामले बढ़े: विशेषज्ञ	हिंदुस्तान
273.	11 December 2022	AIIMS to set up digital library to increase transparency	The Times Of India
274.	11 December 2022	एम्स की लाइब्रेरी लगाएगी भ्रष्टाचार पर अंकुश	नवोदय टाइम्स
275.	13 December 2022	Teleconsultation at AIIMS for all depts. From April 1	The Times Of India
276.	15 December 2022	एम्स होगा धुमपान से मुक्त	दैनिक जागरण
277.	16 December 2022	AIIMS to take action against staff if found smoking on campus	The Times Of India
278.	17 December 2022	एम्स: तीन माह के बच्चे को मिली नई जिंदगी सिर की हुई सर्जरी,	अमर उजाला
279.	17 December 2022	एम्स में कराना चाहते हैं इलाज, तो बना लें आभा नंबर	दैनिक जागरण
280.	18 December 2022	Bangladeshi infant with rare congenital disorder gets a new lease of life in city	The Times Of India
281.	19 December 2022	First time at AIIMS: Spinal surgery, discharge in a day	The Times Of India
282.	19 December 2022	Pvt. Ward at AIIMS to outsource a few services	The Times Of India

283.	19 December 2022	Sudden Cardiac Deaths could be tied to long covid, say docs	The Times Of India
284.	19 December 2022	Bangladeshi infant with cyst undergoes successful head surgery at AIIMS	The Pioneer
285.	19 December 2022	AIIMS to provide utensils to patients, attendants on loan	The Times Of India
286.	21 December 2022	नई तकनीक से एडवांस स्टेज स्तन कैंसर का इलाज शुरू	दैनिक जागरण
287.	21 December 2022	एम्स में मरीजों को आनलाइन रिपोर्ट देने की सुविधा शुरू	दैनिक जागरण
288.	21 December 2022	एम्स: अब मरीज घर बैठे हासिल कर सकेंगे रिपोर्ट	अमर उजाला
289.	22 December 2022	एम्स में सिंगल यूज प्लास्टिक पर प्रतिबंध	दैनिक जागरण
290.	22 December 2022	टब नशामुक्त और प्लास्टिक फ्री बनेगा एम्स	नवभारत टाइम्स
291.	22 December 2022	जल्द एनीमिया मुक्त होगा देश: एम्स	हिंदुस्तान
292.	22 December 2022	एम्स में देश को एनीमिया मुक्त बनाने की कवायद शुरू	नवोदय टाइम्स
293.	25 December 2022	एम्स के मातृ और शिशु ब्लॉक में बढ़ेंगी सुविधाएं	हिंदुस्तान
294.	26 December 2022	एम्स में डॉक्टर योग से इलाज पर कर रहे शोध	दैनिक जागरण
295.	26 December 2022	एम्स ने आईएनआई सीईटी के पहले दौर में सीटों की आवंटित	दैनिक भास्कर
296.	27 December 2022	AIIMS bone bank gets year's first donation, from soldier's wife	The Times of India
297.	27 December 2022	कोरोना के लिए तैयार होगा जेरियाट्रिक ब्लॉक	दैनिक जागरण
298.	28 December 2022	थ्वतैबीववसे जनकमदजे पद कमसीपए समेपवदे पद ब्त्एँपजीे वउमीमसच तिवउ ।पुडै	जिम प्दकपंद म्चतमे
299.	29 December 2022	एम्स की इमरजेंसी में परी के लिए नहीं करना पड़ेगा इंतजार	अमर उजाला
300.	31 December 2022	सभी मरीजों के खर्च का हिसाब रखेगा एम्स	दैनिक जागरण
301.	01 January 2023	एम्स निदेशक प्रतिदिन एक घंटा कर्मचारियों की समस्या सुनेगे	Hindustan
302.	02 January 2023	Aim for more than Januaryust more AIIMS	The Times of India

303.	02 January 2023	Students and staff of AIIMS can now meet institute director without appointment on designated days	Millennium Post
304.	02 January 2023	नए साल में स्वस्थ ढाचा होगा मजबूत, पूरी होगी योजनाये	Dainik Jagran
305.	02 January 2023	एम्स में 2 शिफ्ट में शुरू हो सकती है सर्जरी, वेटिंग होगी कम	Navbharat Times
306.	03 January 2023	2022 में रिकॉर्ड 102 लोगो को अंगदान से मिली जिंदगी	Navbharat Times
307.	07 January 2023	दृष्टिबदितो के लिए आंख का काम कर पाएगा ऐप	Amar Ujala
308.	08 January 2023	Bus services from naJanuaryafgarh to AIIMS JANUARYhaJanuaryJanuaryar flagged off	The Times of India
309.	08 January 2023	State of the art Burn centre at AIIMS Bhubaneswar for public	The Statesman
310.	11 January 2023	एम्स में ई-हॉस्पिटल के लिए होगा अलग सर्वर	Amar Ujala
311.	13 January 2023	AIIMS strengths its e-hospital network to prevent cyber attacks	Millennium Post
312.	15 January 2023	एम्स में बनाया जाएगा 300 बेड का नया इमरजेंसी ब्लॉक	Dainik Jagran
313.	16 January 2023	AIIMS to prepare demo of master plan of a new emergency block	Millennium Post
314.	18 January 2023	एम्स का ट्रॉमा सेंटर में शुरू हुआ आश्रय गृह	Amar Ujala
315.	18 January 2023	AIIMS to appoint retired Army soldiers for security	The Times of India
316.	20 January 2023	एम्स की पाठशाला में दिमाग पर शोध कर रहे 11 देशो के विशेषज्ञ	Amar Ujala
317.	22 January 2023	आईम्स में न्यूरो और हृदय के मरीजों को घर पहुंचने की सुविधा शुरू	Dainik Jagran
318.	26 January 2023	आईम्स में बदलेगा 50 साल पुराना MBBS का पैटर्न	Dainik Jagran
319.	28 January 2023	Blood test can help detect breast cancer early: Study	The Times of India
320.	28 January 2023	AIIMS app for better cancer palliative care	The Times Of India
321.	28 January 2023	अंतरिक्ष में दिमाग कैसे करेगा काम, बताएगा AIIMS	Amar Ujala



322.	29 January 2023	टेली मेडिसिन सेवाओं से आ रहे सार्थक बदलाव	Dainik Jagran
323.	30 January 2023	कीटनाशक तो नहीं कैंसर का कारण, बताएगा AIIMS	Dainik Jagran
324.	31 January 2023	AIIMS launches new app for better cancer palliative care at home	Millennium Post
325.	31 January 2023	टेली मेडिसिन सेवाओं से आ रहे सार्थक बदलाव	Amar Ujala
326.	03 February 2023	50 yr old man's organs give life to four others	The Times Of India
327.	04 February 2023	दिल्ली के बच्चों में कैंसर का खतरा देशभर में सबसे ज्यादा : AIIMS	Navbharat Times
328.	05 February 2023	कैंसर मरीजों के लिए AIIMS की छात्राओं- नर्सों के लिए हेयर डोनेट	Dainik Bhaskar
329.	05 February 2023	Millet canteen at AIIMS to open by March 1	The Pioneer
330.	06 February 2023	घर-घर जाकर मरीजों का इलाज करेगा AIIMS, हर व्यक्ति की हो रही स्क्रीनिंग	Amar Ujala
331.	07 February 2023	AIIMS NCI के डॉक्टर करेंगे कैंसर की स्क्रीनिंग	Dainik Jagran
332.	08 February 2023	AIIMS के सभी एंटी गेटो पर खुलेंगे कंट्रोल रूम	Navbharat Times
333.	09 February 2023	AIIMS to add more ICU beds in each department	Hindustan Times
334.	10 February 2023	AIIMS-R develops new technique to diagnose lung cancer	The Statesman
335.	10 February 2023	AIIMS to convert existing wards into intensive care units	Millennium Post
336.	12 February 2023	AIIMS में ेस्तन कैंसर की सर्जरी हुई दोगुनी	Dainik Jagran
337.	13 February 2023	AIIMS-Delhi named centre of excellence for healthcare AI	The Times of India
338.	14 February 2023	AIIMS के आउटपोस्ट बनेंगे 'मददगार'	Dainik Jagran
339.	17 February 2023	मरीजों को राहत, AIIMS का होगा विस्तार	January
340.	20 February 2023	9m Indians have dementia, up 2.4x from 2009: Study	The Times Of India
341.	21 February 2023	AIIMS के मातृ एव शिशु ब्लॉक में बच्चों की सर्जरी हुई शुरू	Dainik Jagran

342.	22 February 2023	अस्पतालों का अधिग्रहण कर AIIMS करेगा विस्तार, लम्बी लाइन से मिलेगा छुटकारा	Dainik Jagran
343.	22 February 2023	जी -20 के लिए AIIMS बना रेफरल अस्पताल	Amar Ujala
344.	23 February 2023	AIIMS plans 800-bed extension at NDMC's shanty path hospital	Hindustan Times
345.	23 February 2023	AIIMS to introduce startup policy for medical students	The Times of India
346.	25 February 2023	AIIMS : 25 लाख का हुआ इलाज	Navbharat Times
347.	27 February 2023	AIIMS में एक तिहाई बेड पर होगी ICU की सुविधा	Amar Ujala
348.	01 March 2023	डेनमार्क और एम्स के विशेषज्ञ करेंगे सुरक्षित प्रसव पर मंथन	अमर उजाला
349.	01 March 2023	एनडीएमसी का नया अस्पताल एम्स चलाएगा	हिंदुस्तान
350.	01 March 2023	एम्स में बच्चों की सर्जरी में अब तेजी आने की उम्मीद	नवभारत टाइम्स
351.	03 March 2023	एम्स शुरू करेगा लाइव डोनर लिवर प्रत्यारोपण की सुविधा	दैनिक जागरण
352.	03 March 2023	गमा नाइफ से कम होगी ब्रेन ट्यूमर व न्यूरो सर्जरी की लंबी वेटिंग	दैनिक जागरण
353.	03 March 2023	एम्स के नए प्राइवेट वार्ड में इलाज की सुविधा शुरू, 400 से अधिक हुई बेड की संख्या	दैनिक जागरण
354.	03 March 2023	एम्स के निजी वार्ड में बढ़े 33 प्रतिशत बेड	अमर उजाला
355.	04 March 2023	सरकारी अस्पतालों में एम्स के डॉक्टर करेंगे इलाज	दैनिक जागरण
356.	04 March 2023	2 govt hospitals to share patient load with AIIMS	The Times Of India
357.	04 March 2023	For cross-referral of patients, AIIMS to team up with govt hospital in capital	The Indian Express
358.	05 March 2023	एम्स में शुरू होगा रोबोटिक सर्जरी का प्रशिक्षण	दैनिक जागरण
359.	06 March 2023	एम्स जल्द करेगा 1500 बेड के अस्पताल का संचालन	दैनिक जागरण
360.	07 March 2023	'States too need to offer funds for rare diseases'	The Times Of India
361.	08 March 2023	Rare Disease Policy 2021 good but more needs to be done: Experts	The Pioneer

362.	10 March 2023	एम्स के लिवर ट्रांसप्लांट इमरजेंसी वार्ड में बेड बढ़े	अमर उजाला
363.	10 March 2023	एम्स निदेशक ने लिखा-अस्पतालों के बीच रेफरल व्यवस्था लागू न हुई तो बढ़ेगी मौतें	दैनिक जागरण
364.	11 March 2023	संकट: कोरोना महामारी के बाद बच्चों में निकट दृष्टि दोष बढ़	हिंदुस्तान
365.	11 March 2023	डब्ल्यूएचओ जल्द घोषित कर सकता है भारत को ट्रेकोमा मूक्त: एम्स	अमर उजाला
366.	12 March 2023	ब्लड कैंसर की जांच के लिए एम्स ने खोजा नया बायो मार्कर	दैनिक जागरण
367.	13 March 2023	जेनेटिक दुर्लभ बीमारियों के इलाज की दवाओं के लिए शोध करना जरूरी: एम्स	दैनिक जागरण
368.	14 March 2023	एम्स में भी होगा लाइव लिवर ट्रांसप्लांट	नवभारत टाइम्स
369.	15 March 2023	एम्स के चिकित्सकों ने 28 सप्ताह के भ्रूण के दिल का 90 सेकेंड में किया प्रोसीजर	दैनिक जागरण
370.	16 March 2023	एम्स: हार्ट और न्यूरो की इमरजेंसी में मरीजों के लिए 20 बेड रिजव	नवभारत टाइम्स
371.	16 March 2023	Doctors Perform 90-Sec Surgery In 'Grape-Sized' Heart Of 28-Wk Fetus	The Times Of India
372.	16 March 2023	AIIMS Plans to start live-donor liver transplants: constitutes panel	Millennium Post
373.	17 March 2023	एम्स में शुरू होगी आंत प्रत्यारोपण सर्जरी	दैनिक जागरण
374.	18 March 2023	डायबिटीज को नियंत्रित करते हैं मिलेट्स	दैनिक जागरण
375.	18 March 2023	Lack of sleep may lead to chronic health disorder: Docs	The Pioneer
376.	18 March 2023	AIIMS to make its campus 5G-enabled	The Times Of India
377.	19 March 2023	एम्स शुरू करेगा देश का पहला रोबोटिक सर्जरी प्रशिक्षण केन्द्र	दैनिक जागरण
378.	19 March 2023	एम्स ने अंगदान बढ़ाने को स्पेन की तर्ज पर शुरू किया कोर्स	दैनिक जागरण
379.	19 March 2023	देश में अंगदान को बढ़ावा देने के लिए एम्स में खास कोर्स हुआ शुरू	नवभारत टाइम्स
380.	20 March 2023	Moving with the times, AIIMS set to start robotic surgery training	The Times Of India
381.	20 March 2023	कोरोना का संक्रमण बढ़ने से घातक बीमारी और अस्पतालों में मरीज बढ़ने की आशंका नहीं	दैनिक जागरण

382.	22 March 2023	AIIMS panel for intestinal transplants	Hindustan Times
383.	24 March 2023	AIIMS to start crèche service for staff kids with spl needs	Millennium Post
384.	24 March 2023	कोरोना के बाद टीबी सर्वाभित बढे: एम्स	जनसता
385.	25 March 2023	14-yr-old youngest to get hip replacement surgery	The Times Of India
386.	27 March 2023	AIIMS TO BUILD A NEW WAITING ROOM	Millennium Post
387.	27 March 2023	एम्स के डॉक्टरों ने मिलेट्स की अहमियत समझाने और लोगों में जागरूकता के लिए 2.5 किमी वॉकथॉन का किया आयोजन	दैनिक भास्कर
388.	28 March 2023	Ankylosing spondylitis may lead to permanent disability, reveals study	The Pioneer
389.	29 March 2023	एम्स में बनाया जाएगा क्रिटिकल केयर और संक्रामक रोग केंद्र	दैनिक जागरण
390.	29 March 2023	बुजुर्गों में बढ रहा डिमेंशिया, इलाज के लिए एम्स में ब्लॉक शुरू	अमर उजाला
391.	30 March 2023	एम्स और हार्टफुलनेस संस्थान ने समझौते पर किया हस्ताक्षर	दैनिक जागरण
392.	30 March 2023	ध्यान व विश्राम के लिए तकनीक तैयार होंगी	अमर उजाला
393.	30 March 2023	पुरानी बीमारियों से पीड़ित व बुजुर्ग कोरोना महामारी से रहें सतर्क	दैनिक जागरण

## **Media Interactions 2022-2023**

<b>S.No.</b>	<b>Date</b>	<b>Media House</b>	<b>Topic</b>	<b>Expert</b>	<b>Anchor</b>
1	18.07.2022	Zee Business	General	Dr. R.K. Yadav, Deptt. of Nephrology	Mr. Akshay Jain, Zee Business
2	28.07.2022	All India Radio	Common Kidney Disease: Cause and Cure	Dr. R.K. Yadav, Deptt. of Nephrology	Mr. Sanjay Koul, All India Radio
3	03.08.2022	Times of India	Monkeypox	D.Lalit Dar, Deptt. of Microbiology	Ms. Somrita Ghosh, Times of India
4	03.08.2022	India News TV	Monkeypox	D.Lalit Dar, Deptt. of Microbiology	Mr. Manohar Kesari, India News TV
5	04.08.2022	ANI TV	Monkeypox	D.Lalit Dar, Deptt. of Microbiology	Ms. Shalini Bhatt, ANI TV
6	22.08.2022	All India Radio	Heart Ailmenet in new born children – Causes and Cure	Dr. Saurav Kumar Gupta, Deptt. of Cardiology	Mr. Sanjay Koul, All India Radio
7	09.09.2022	Sansad TV	Tuberculosis in India : Road to Elimination	Dr.(Prof.) Urvashi B. Singh, Microbiology	Mr. Lokesh Bhardwaj, Sansad TV
8	20.10.2022	Times of India	Overuse of steroids by covid patients during pandemic triggers destruction of hip joint	Dr. Kamran Farooque	Ms. Anuja Jaiswal, Times of India

9	11.11.2022	The Week	AIIMS top the list of Best Hospital in the country	Dr.(Prof.) M. Srinivas, Director	Ms. Shalini P. Thomas, The Week
10	14.11.2022	DD News ANI PTI	Visit in New RAK OPD, Emergency ward, Ambulance Area	Dr.(Prof.) M. Srinivas, Director, Dr.(Prof.) Aarti Vij, Dr. Karan Madan, Dr. Angel Ranjan Singh, Dr. Vikas, Dr. Jaswant Jangra	Mr. Nitendra DD News Mr. Payal Banerjee PTI, Ms. Shalini ANI
11	18.11.2022	Amar Ujala	बच्चों में होने वाली मोबाइल की लत पत स्टोरी के सम्बन्ध में जानकारी हेतु	Dr. Sheffali Gulati, Paeds Neurology	Mr. Rakesh Kumar Sharma, Amar Ujala
12	19.11.2022	Amar Ujala	Research work which is useful for Cancer patients	Dr. Nidhi Gupta, Bio-Chemistry	Mr. Rakesh Kumar Sharma, Amar Ujala
13	23.11.2022	Sansad TV	Brain Stroke	Dr. Awadh Kishore Pandit, Neurology	Ms. Amrita Chaurasia, Sansad TV
14	24.11.2022	DD Urdu	Hello Doctor Live	Dr. Alpesh Goyal, Endocrinology & Metabolism	Mr. Farhan, DD Urdu
15	23.03.2023	Sansad TV	Tuberculosis	Dr.(Prof.) Urvashi B. Singh, Microbiology	Mr. Lokesh Bhardwaj, Sansad TV
16.	30.03.2023	DD Urdu	Celebration of Poshan Pakhwada	Ms. Monita Gehlot, Gastroenterology	Mr. Farhan, DD Urdu

**Press Releases 2022-2023:**

<b>S. No.</b>	<b>Date</b>	<b>Topic's</b>	<b>Department</b>
1.	21.04.2022	E-Vehicle transport initiative	AIIMS
2.	27.04.2022	Break the maze of Autism with special focus on inclusive quality education for all	Pediatrics
3.	28.04.2022	ऑटिज्म के चक्रव्यूह को तोड़ने के साथ सभी के लिए समावेशी गुणवत्ता शिक्षा पर विशेष ध्यान देना	बाल रोग विभाग
4.	18.05.2022	Dengue fever	Medicine
5.	30.05.2022	Multiple sclerosis: advance in Management(MS)	Neurology
6.	15.07.2022	12 <sup>th</sup> National Plastic Surgery day	Burn &Plastic Surgery
7.	27.07.2022	Brain health issue in School children:concerns & Solution	Pediatrics
8.	07.09.2022	37 <sup>th</sup> National eye donation fortnight	Dr. R.P. Centre
9.	11.09.2022	Hereditary Gynecology cancer: from evidence to practice	OBs & Gynecology
10.	13.09.2022	31 <sup>st</sup> Prominent Hospital Participated in the Brain storming session of transplant co-ordinator	ORBO
11.	15.09.2022	India youngest En-Bloc Kidney transplant	Nephrology
12.	10.10.2022	Accelerating action for cervical cancer Mukta Bharat	OBs & Gynecology
13.	18.10.2022	2 <sup>nd</sup> Annual Research day	Research Section
14.	27.10.2022	Breast cancer Awareness event	Surgery
15.	29.10.2022	Stroke	Neurology
16.	29.10.2022	AIIMS Main Hospital casualty dashboard	AIIMS
17.	29.10.2022	NABH Implementation at AIIMS New Delhi	Burn &Plastic Surgery
18.	12.11.2022	Two Multiple organ donors	ORBO
19.	22.11.2022	AIIMS New Delhi – ICICI Bank foundation blood donation Van Initiative through CSR	AIIMS
20.	23.11.2022	Cyber security incident at AIIMS New Delhi	AIIMS
21.	24.11.2022	Cyber security incident at AIIMS New Delhi	AIIMS
22.	25.11.2022	Cyber security incident at AIIMS New Delhi	AIIMS
23.	28.11.2022	Cyber security incident at AIIMS New Delhi	AIIMS
24.	29.11.2022	Donor felicitation program	ORBO
25.	21.12.2022	Anemia	Pediatrics
26.	14.01.2023	Medical Science & Indian scriptures	Physiology
27.	02.02.2023	Organ Donation	ORBO
28.	28.02.2023	Rare Disease day	Pediatrics
29.	06.03.2023	Join hands with Racefor7' ORDI's run against rare disease	Pediatrics
30.	17.03.2023	Millets are good for your health for famers and for the environment	CCM
31.	25.03.2023	Waiting hall for patient at AIIMS New Delhi	AIIMS
32.	29.03.2023	AIIMS New Delhi sign hits a new milestone by signing an MoU with hurtfulness	AIIMS

**Press Conference 2022-2023:**

<b>S. No.</b>	<b>Date</b>	<b>Topic's</b>	<b>Department</b>
1.	21.04.2022	E-Vehicle transport initiative	AIIMS
2.	28.04.2022	Autism	Pediatrics
3.	18.05.2022	Dengue fever	Medicine
4.	30.05.2022	Multi sclerosis: advance in Management(MS)	Neurology
5.	21.06.2022	Yoga Day	CIMR
6.	15.07.2022	12 <sup>th</sup> National Plastic Surgery day	Burn &Plastic Surgery
7.	27.07.2022	Brain health issue in School children:concerns & Solution	Pediatrics
8.	07.09.2022	37 <sup>th</sup> National eye donation fortnight	Dr. R.P. Centre
9.	11.09.2022	Hereditary Gynecology cancer: from evidence to practice	OBs & Gynecology
10.	25.09.2022	Institute day celebration – AIIMS diamond Jubilee	AIIMS
11.	27.09.2022	Australia-India business exchange blood donation	AIIMS
12.	10.10.2022	Accelerating action for cervical cancer Mukh Bharat	OBs & Gynecology
13.	27.10.2022	Breast cancer Awareness event	Surgery
14.	29.10.2022	NABH Implementation at AIIMS New Delhi	Burn &Plastic Surgery
15.	29.11.2022	Donor felicitation program	ORBO
16.	10.01.2023	3 <sup>rd</sup> leadership exchange on public private partnership 2023 for clear vision India	Dr. R.P. Centre
17.	14.01.2023	Medical Science & Indian Scriptures	Physiology
18.	17.01.2023	Aashray temporary setter having 160 beds	JPNATC
19.	28.02.2023	Rare disease day	Pediatrics
20.	17.03.2023	Millets are good for your health for famers and for the environment	CCM



## MEDIA & PROTOCOL DIVISON

### AIIMS

#### List of Public lecture from April,2022 to March,2023

<b>S.No.</b>	<b>Public lecture</b>	<b>Date</b>	<b>Department</b>
1.	Head Injury Prevention and Road Safety	21.03.2022	Neuro- Surgery
2.	Parkinson Disease: Integrated Health Care	13/04/2022	Neurology
3.	Autism Awareness	28/04/2022	Pediatrics
4.	Dengue Fever	18/05/2022	CCM
5.	Multiple Sclerosis : Advances in Management	30/05/2022	Neurology
6.	Brain Health in School Age	27/07/2022	Pediatrics
7.	Physiotherapy for Public Health	08/09/2022	Neuro. - Physiotherapy (Neurology)
8.	Make Mental Health & Wellbeing For All a Global Priority	10/10/2022	Psychiatry
9.	Stroke	29/10/2022	Neurology
10.	Millets for Health and Nutrition	17/03/2023	CCM
11.	On Head Injury (Traumatic Brain Injury, Sar Avam Dimag Ki Chot)	20/03/2023	Neurosurgery

## 12. Publications

### Journals

1. Abhijith NV, Kalyanasundaram D. Development of single stage TiNbMoMnFe high entropy alloy coating on 304L stainless steel using HVOF thermal spray. *J Thermal Spray Technol.* 2022; 31:1032-44.
2. Abraham R, Viswanathan GK, Dass J, Dhawan R, Aggarwal M, Kumar P, et al. Prekallikrein deficiency: Challenges in laboratory testing. *Int J Lab Hematol.* 2022; 44(4):e185-e186.
3. Abraham R, Viswanathan GK, Dass J, Dhawan R, Aggarwal M, Kumar P, et al. Prekallikrein deficiency due to homozygous KLKB1(+) mutation c.444\_445insT (p.Ser151PhefsTer34). *Int J Lab Hematol.* 2022; 44(3):e132-e134.
4. Acharya P, Saha R, Quadri JA, Sarwar S, Khan MA, Sati HC, et al. Quantitative plasma proteomics identifies metallothioneins as a marker of acute-on-chronic liver failure associated acute kidney Injury. *Front Immunol.* 2023; 13:1-17.
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#### Abstracts in Journals

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#### Chapters in Books

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#### Patents

1. A Bio composite, composition thereof and method of preparation therefor. Date of filing:08.07.2022, Application number: 202211039429, O/Ref: SUJA003INP
2. Dual-pore scaffold and method for preparation thereof. Date of filing:11.03.2023, Application number: 202311026724, O/Ref: SUJA004INP
3. Single-step method for synthesizing biocompatible fluorescent magnetic nanoparticle for biomedical application and biomaterial labelled therewith. Date of filing:30.06.2022, Application number: 202211037664, O/Ref: SUJA002INP

#### Case Report

1. Dutta R, Nambirajan A, Kumar S, Bhalla A, Tyagi R, Sharma MC, et al. A Mediastinal Mass in a Middle-Aged Woman from a Rare Cause. *Chest*. 2022; 162: E183-e190.
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#### Review Article

1. Gupta RK, Sharma A, Sharma MC. Overview of recent advances in the classification of ependymomas in WHO CNS5 classification: Simplified approach to their integrated diagnosis. *Indian J Pathol Microbiol*. 2022; 65(Suppl): S68-S72.
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## 13. Finance Division

### Senior Financial Advisor

Shri Neeraj Kumar Sharma, ICAS

### Financial Advisor

Shri Narender Bhatia

### Finance and Chief Accounts Officers

Shri Vikas Kumar

Shri Padam Singh

### Accounts Officers

Trilok Chand

Prem Pal

Meenakshi Dabral

Upender Kumar

Prakash Giri

Yogesh Kumar

Joginder Singh

Satish Kumar Yadav

Shivanand Thakur

Snehlata Sharma

Nikhil Jain

Satish Kumar

Surendra Koolwal

Ravinder Kumari

The Institute, an Autonomous Body under the control of Ministry of Health & Family Welfare (MoHFW), GoI, receives gross budgetary support from the Government of India in the form of Grants-in-Aid under heads of Creation of Capital Assets, General and Salary. Grants are also received for National Drug Dependence Treatment Centre, Ghaziabad & various national level Centers, programmes, schemes, separately from MoHFW. Besides, extramural grants are also received from various external funding agencies such as ICMR, DST, CSIR, WHO UNICEF, DBT, etc. for various research projects.

Grants-in-Aid so received from the Government of India and other agencies are further allocated in superspecialty centers/Departments/Research section as per their projections, priorities and requirements.

### BUDGET SECTION

#### Grant-in-Aid (budget) for Financial Year 2022-23

(Amount in Rs Crore)

Head of Accounts	Budget Estimate	Revised Estimate	Received Grant	Actual Expenditure
1	2	3	4	5
Gia Creation of Capital Assets	794.00	450.00*	450.00	323.72
GIA General	1152.50	1338.50**	1300.00	1310.86
HEFA	76.50	304.74	293.79	294.29#
SAP	7.00	7.00	7.00	8.10##
GIA Salary	2160.0	2300.00***	2300.00	2251.46
<b>Total</b>	<b>4190.00</b>	<b>4400.24</b>	<b>4350.79</b>	<b>4188.43</b>
<b>Receipts</b>				<b>139.30</b>

\* As per RE 450.00 Crore was received in Creation of Capital Assets against which Rs 125.00 Crore was surrendered by the Institute.

\*\* As per RE Rs 1338.50 Crore was sanctioned in GIA General against which Rs 38.50 Crore was surrendered GIA General limit of Rs 1300.00 Crore fully utilized, additional expenditure met out from Reserve & Surplus available.

\*\*\*As per 2300.00 Crore was received in GIA Salaries against which unspent balance to be transferred to Scheduled commercial bank account for making payment of salary for the month of March, 2023 to paid in April, 2023.

# Excess amount of interest amounting to Rs 0.75 Crore has been met out from previous year Balances available of HEFA interest.

## Excess expenditure amount to Rs 1.10 Crore met out from previous year's balance available under SAP.



**Functions of Finance Division (Finance Division)**

**Budget-related:** FD's Budget wing is responsible for calling for annual requirements from various centers/departments/divisions to formulate projections for next year. Once approved by Parliament in Annual Budget, the same is intimated by MoHFW to AIIMS.

**Project Formulation & Appraisal:** The Institute is growing in terms of load of patient-care, medical education & research. There are several ongoing health care projects of very high value and critical to carry out the mandate of AIIMS. The FD assists in ensuring compliance, prioritization of activities & allocation of funds, and concurrence of projects, as per government rules & guidelines.

**Financial Concurrence:** Each year numerous proposals on account of procurement of Machinery & Equipment, Rate Contract for chemicals, medicines, consumables, contract for works & services etc. are responded to by FD with financial concurrence/advise. The scrutiny from procedural and financial point of view is critical to ensure best Value For Money and assurance to public exchequer.

**Scrutiny of bills for payment:** Thousands of bills on account of personal claims of employees, fellows, researchers & resident doctors; procurement of good, services & works through GeM, tendering etc. are processed in FD. All prescribed checks, TDS & GST compliances are ensured by the FD while making payments through Public Financial Management System (PFMS)'s Treasury Single Account (TSA) module.

**AIIMS Receipts & Adjustments:** AIIMS collects receipts on accounts of patient care services, conduct of examination for course & recruitment, academics, donations, including CSR, interest on savings and deductions/contributions. This is ploughed back for institutional expenditure to supplement Grants-in-Aid General towards patient care, etc. or as prescribed by government. Any savings or surplus is invested as per prescribed procedure.

**Internal Audit:** With increased activities and expansion of AIIMS, the number of units required to be audited annually has gone up substantially.

**Accounts & Audit:** AIIMS, being central autonomous body, is required to compile the Annual Accounts for preceding year by 30th June each year for audit by C&AG's team. The audited Annual Accounts, Separate Audit Report & Utilization Certificates (UCs) are required to be submitted to MoHFW for continued budgetary support. The Institute's Annual Report, comprising above, is tabled by MoHFW in the Parliament.

The external audit team of C&AG office also conducts Transaction/Compliance Audit conducted upto 31.03.2022, 55 Nos. Paras are outstanding.

The above functions/activities are executed by Finance Division under overall control of Senior Financial Advisor.

# अखिल भारतीय आयुर्विज्ञान संस्थान, नई दिल्ली-29

All India Institute of Medical Sciences, New Delhi-29

## वित्तीय स्थिति का विवरण

Statement of Financial Position

as on 31st March, 2023

		(Rs. In Fig.)		
CORPUS/CAPITAL FUND AND LIABILITIES		Schedule	2022-23	2021-22
Corpus/Capital fund and Liabilities	1		80,53,49,03,442	77,39,51,39,660
Reserves and Surplus	2		5,22,47,54,003	3,72,60,56,505
Earmarked / Endowment Fund	3		1,75,18,72,191	1,60,47,72,114
Secured Loans & Borrowings	4		-	2,69,64,00,000
Current Liabilities and Provisions	7		6,17,99,75,309	5,99,40,12,751
<b>TOTAL</b>			<b>93,69,15,04,946</b>	<b>91,41,63,81,030</b>
<b>ASSETS</b>				
Fixed Assets	8		72,37,82,55,073	70,70,36,55,256
Investments-others	10		61,16,00,000	61,16,00,000
Current Assets, Loan & Advances etc.	11		20,70,16,49,873	20,10,11,25,775
Misc. Expenditure (to the extent not written off or adjusted)				
<b>TOTAL</b>			<b>93,69,15,04,946</b>	<b>91,41,63,81,030</b>

Accounting policies and notes forming part of accounts

24

Accounts Officer

Financial Advisor

Senior Financial Advisor

Director

# अखिल भारतीय आयुर्विज्ञान संस्थान, नई दिल्ली-29

All India Institute of Medical Sciences, New Delhi-29

आय और व्यय खाता

## INCOME AND EXPENDITURE ACCOUNT

as on 31st March, 2023

(Rs. In Fig.)

INCOME	Schedule	2022-23	2021-22
Income from Sales/Services	12	60,06,92,861.65	25,99,67,614.71
Grants/Subsidies	13	35,65,22,33,698.00	30,19,91,83,691.00
Fees/Subscriptions	14	20,79,40,718.43	22,59,16,639.14
Interest Earned	17	3,95,44,530.00	1,49,85,438.00
Other Income	18	69,73,02,717.59	48,48,52,817.91
<b>TOTAL (A)</b>		<b>37,19,77,14,525.67</b>	<b>31,18,49,06,200.76</b>
<b>EXPENDITURE</b>			
Establishment Expenses	20	22,51,45,95,090.99	20,09,70,15,363.49
Other Administrative Expenses etc.	21	7,30,68,59,174.71	6,97,08,14,766.18
Material and supply	21B	5,27,22,21,206.48	4,63,83,40,233.00
Interest / Bank Charges	23	2,21,01,003.00	3,24,22,485.60
Depreciation (Net Total at the year-end - corresponding to Schedule 8)		81,91,45,366.56	38,38,58,598.47
<b>TOTAL (B)</b>		<b>35,93,49,21,841.74</b>	<b>32,12,24,51,446.74</b>
<b>Balance being excess of Income over Expenditure (A-B)</b>		<b>1,26,27,92,683.93</b>	<b>-93,75,45,245.98</b>
Transfer to Special Reserve (Specify each)			
Transfer to /from General Reserve			
BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CORPUS/ CAPITAL FUND			
TOTAL			

Accounts Officer

Financial Advisor

Senior Financial Advisor

Director

# अखिल भारतीय आयुर्विज्ञान संस्थान, नई दिल्ली-29

All India Institute of Medical Sciences, New Delhi-29  
Schedules forming part of Balance Sheet as on 31-03-2023

(Rs. In Fig.)

SCHEDULE 1- CORPUS/CAPITAL FUND:	2022-23	2021-22
Balances as at the beginning of the year	77,39,51,39,659.20	71,46,90,36,139.60
Add : Contributions towards Corpus/Capital Fund (CCA Grant)	3,23,50,00,000.00	5,97,55,00,000.00
Less Condemnation during the year	9,52,36,217.00	4,93,96,480.00
<b>BALANCE AS AT THE YEAR-END</b>	<b>80,53,49,03,442.20</b>	<b>77,39,51,39,659.60</b>

Accounts Officer

Financial Advisor

**अखिल भारतीय आयुर्विज्ञान संस्थान, नई दिल्ली-29**  
**All India Institute of Medical Sciences, New Delhi-29**  
**Schedules forming part of Balance Sheet as on 31-03-2023**

SCHEDULE 2 - RESERVES AND SURPLUS:		2022-23	2021-22
(Rs. In Fig.)			
<b>1. Capital Reserve:</b>		-	-
As per last Account		42,12,355.00	35,98,085.00
Addition during the year		2,65,44,250.00	6,14,270.00
Less: Deductions during the year		-	
<b>2. General Reserve</b>		-	
As per last Account		3,72,18,59,816.40	4,64,70,63,225.00
Addition during the year		1,26,27,92,684.93	-92,75,13,128.98
Add/(Less): Adjustment		20,71,08,786.00	22,94,054.00
Cancelled Cheque Credit B.A		22,36,112.00	-
<b>TOTAL</b>		<b>5,22,47,54,003.33</b>	<b>3,72,60,56,504.34</b>

Accounts Officer

Financial Advisor

**अखिल भारतीय आयुर्विज्ञान संस्थान, नई दिल्ली-29**  
**All India Institute of Medical Sciences, New Delhi-29**  
**Schedules forming part of Balance Sheet as on 31-03-2023**

		(Rs. In Fig.)	
<b>SCHEDULE 3 - EARMARKED/ENDOWMENT FUNDS</b>		<b>2022-23</b>	<b>2021-22</b>
a)	Opening balance of the funds	1,60,47,72,114.14	1,46,89,48,757.64
b)	Additions to the Funds:	-	23,97,843.50
	i. Donations/grants	71,82,59,395.62	73,19,17,938.11
	ii. Income from investments made on account of funds	-	2,63,09,301.00
	v. Others	37,35,20,936.00	19,21,15,828.00
	<b>TOTAL (a)</b>	<b>2,69,65,52,445.76</b>	<b>2,42,16,89,668.25</b>
c)	Utilisation/Expenditure towards objectives of funds	-	-
	i. Capital Expenditure	-	-
	- Fixed Assets	5,00,00,000.00	27,60,07,286.00
	- Others	20,24,465.00	37,34,304.00
	ii. Revenue Expenditure	-	-
	- Salaries, Wages and allowances etc.	1,62,50,915.00	2,45,75,125.90
	- Rent	-	-
	- Other Expenses	87,64,04,874.50	51,26,00,838.14
	Total Expenditure	94,46,80,254.50	81,69,17,554.04
	<b>NET BALANCE AS AT THE YEAR-END (a-b)</b>	<b>1,75,18,72,191.26</b>	<b>1,60,47,72,114.21</b>

Accounts Officer

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# अखिल भारतीय आयुर्विज्ञान संस्थान, नई दिल्ली-29

All India Institute of Medical Sciences, New Delhi-29  
Schedules forming part of Balance Sheet as on 31-03-2023

(Rs. In Fig.)

	2022-23	2021-22
<b>SCHEDULE 4-SECURED LOANS AND BORROWINGS:</b>		
1. Other Institutions and Agencies (HEFA Loan)		
Add- Loan Received	2,69,64,00,000.00	3,22,14,00,000.00
Add- Loan Received		
Less- Repayment of Loan (262500000*2)		52,50,00,000.00
Less- Repayment of Loan	2,69,64,00,000.00	
<b>TOTAL</b>	<b>-</b>	<b>2,69,64,00,000.00</b>

Accounts Officer

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**अखिल भारतीय आयुर्विज्ञान संस्थान, नई दिल्ली-29**  
**All India Institute of Medical Sciences, New Delhi-29**  
**Schedules forming part of Balance Sheet as on 31-03-2023**

(Rs. In Fig.)

SCHEDULE 7- CURRENT LIABILITIES AND PROVISIONS	2022-23	2021-22
<b>A. CURRENT LIABILITIES AND PROVISIONS</b>		-
1. Interest accrued but not due on:		-
a) Refundable to the MoH&FW	2,10,49,065.00	2,10,49,065.00
a) Unsecured Loans/borrowings	-	-
2. Other current Liabilities	6,15,89,26,243.75	5,97,29,63,685.99
<b>TOTAL (A+B)</b>	<b>6,17,99,75,308.75</b>	<b>5,99,40,12,750.99</b>

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# अखिल भारतीय आयुर्विज्ञान संस्थान, नई दिल्ली-29

All India Institute of Medical Sciences, New Delhi-29

Schedules forming part of Balance Sheet as on 31-03-2023

(Rs. In Fig.)

Schedule-8	GROSS BLOCK 2022-23					Cost/ Valuation at the year end
	Cost/valuation As at beginning of the year	Additions during the year	Condemnation	Depreciation		
<b>FIXED ASSETS:</b>	-	-	-	-	-	-
<b>LAND:</b>	-	-	-	-	-	-
a) Freehold / Leasehold	89,55,04,881.00	-	-	-	-	89,55,04,881.00
<b>BUILDINGS:</b>	-	-	-	-	-	-
a) On Freehold Land	30,65,26,50,534.65	68,70,233.00	-	12,57,10,391.28	-	30,53,38,10,376.37
b) Capital Work in Progress	46,03,03,700.00	-	-	-	-	46,03,03,700.00
<b>PLANT MACHINERY &amp; EQUIPMENT</b>	36,74,13,53,789.00	2,17,31,19,767.02	9,36,45,884.00	67,29,09,893.63	-	38,14,79,17,778.39
<b>Vehicles</b>	9,31,06,029.00	2,81,87,094.00	15,90,333.00	40,08,508.40	-	11,56,94,281.60
<b>Furniture</b>	5,98,10,328.00	2,56,90,672.00	-	25,79,352.20	-	8,29,21,647.80
<b>Computer/Peripherals</b>	26,79,62,130.00	4,09,03,084.00	-	1,39,37,221.05	-	29,49,27,992.95
<b>Library Books</b>	1,53,29,79,529.00	31,41,94,886.12	-	-	-	1,84,71,74,415.12
	<b>70,70,36,70,920.65</b>	<b>2,58,89,65,736.14</b>	<b>9,52,36,217.00</b>	<b>81,91,45,366.56</b>		<b>72,37,82,55,073.23</b>

Accounts Officer

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# अखिल भारतीय आयुर्विज्ञान संस्थान, नई दिल्ली-29

All India Institute of Medical Sciences, New Delhi-29  
Schedules forming part of Balance Sheet as on 31-03-2023

(Rs. In Fig.)

SCHECULE 10 - INVESTMENTS - OTHERS	2022-23	2021-22
1. In Government Securities		
2. Other approved Securities		
3. Shares		
4. Debenutres and Bonds		
5. Subsidiaries and Joint Venutres		
6. Others	61,16,00,000.00	61,16,00,000.00
8. Investment of Donations		
<b>TOTAL</b>	<b>61,16,00,000.00</b>	<b>61,16,00,000.00</b>

Accounts Officer

Financial Advisor

# अखिल भारतीय आयुर्विज्ञान संस्थान, नई दिल्ली-29

All India Institute of Medical Sciences, New Delhi-29  
Schedules forming part of Balance Sheet as on 31-03-2023

<b>Schedule-11</b>		(Rs. In Fig.)	
<b>CURRENT ASSETS:</b>		<b>2022-23</b>	<b>2021-22</b>
1. Inventories/Advances for Procurement	-		-
a) M&E Foreign Purchase	32,06,63,824.00	34,18,91,888.00	
b) M&S	97,82,099.00	97,82,099.00	
2. Sundry Debtors:	-		-
a) Debts Outstanding	85,48,327.00	2,84,95,004.00	
b) Others (outside recoveries)	48,87,397.00	32,45,441.00	
c) Misc. recoveries receivable from Centres (Engg. Work)	76,000.00	76,000.00	
3. Cash balances in hand (including cheques/ drafts and imprest)	39,78,845.00	12,23,056.00	
4. Bank Balances:	-		-
a) With Scheduled Banks:	-		-
i) On Current Accounts	2,10,77,50,840.83	1,39,94,18,422.02	
ii) On Deposit Accounts / Saving Account	5,47,79,57,030.25	3,54,43,11,595.19	
b) With non-Scheduled Banks:	-		-
i) on FDRs	87,25,00,001.00	86,83,00,000.00	
5. Duty and Avances Others	6,51,08,462.45	6,35,26,217.00	
<b>TOTAL (A)</b>	<b>8,87,12,52,826.53</b>	<b>6,26,02,69,722.21</b>	-

<b>LOANS, ADVANCES AND OTHER ASSETS</b>		
<b>1. Loans:</b>	-	-
a) Staff	79,43,934.00	87,32,629.00
b) Other Entities engaged in activities/objectives similar to that of Entity	-	-
c) Other (Adv for purchase)	-	24,09,595.00
<b>2. Advances and other amounts:-</b>	-	-
a) On Capital Account	-	-
b) Letter of Credit	19,04,82,162.00	24,63,17,656.00
c) Custom Duty	13,22,65,689.00	7,54,86,449.00
d) PDA	46,79,018.00	51,71,625.00
3) Other Advances	11,49,50,26,243.48	13,50,27,38,098.50
<b>TOTAL (B)</b>	<b>11,83,03,97,046.48</b>	<b>13,84,08,56,052.50</b>
	<b>20,70,16,49,873.01</b>	<b>20,10,11,25,774.71</b>

**Accounts Officer**

**Financial Advisor**

# अखिल भारतीय आयुर्विज्ञान संस्थान, नई दिल्ली-29

All India Institute of Medical Sciences, New Delhi-29  
Schedules forming part of Income & Expenditure as on 31-03-2023

(Rs. In Fig.)

SCHECULE 12 - INCOME FROM SALES / SERVICES	2022-23	2020-21
1) Income from Sales	-	-
a. Sale of Scraps	5,92,890.00	9,27,696.00
2) Income from Services	-	-
a) Hospital receipts	59,84,58,015.65	25,75,46,245.71
e) Others	16,41,956.00	14,93,673.00
<b>TOTAL</b>	<b>60,06,92,861.65</b>	<b>25,99,67,614.71</b>

Accounts Officer

Financial Advisor

# अखिल भारतीय आयुर्विज्ञान संस्थान, नई दिल्ली-29

All India Institute of Medical Sciences, New Delhi-29  
Schedules forming part of Income & Expenditure as on 31-03-2023

SCHEDULE 13 - GRANTS /SUBSIDIES	(Rs. In Fig.)	
	2022-23	2020-21
1. Central Government (under TSA)	35,65,22,33,698.00	30,19,91,83,691.00
<b>TOTAL</b>	<b>35,65,22,33,698.00</b>	<b>30,19,91,83,691.00</b>

Accounts Officer

Financial Advisor

# अखिल भारतीय आयुर्विज्ञान संस्थान, नई दिल्ली-29

All India Institute of Medical Sciences, New Delhi-29  
Schedules forming part of Income & Expenditure as on 31-03-2023

(Rs. In Fig.)

SCHEDULE 14 - FEES/SUBSCRIPTIONS	2022-23	2021-22
1. Tuition Fee	9,02,78,201.43	7,47,16,754.74
2. Licence Fee	2,25,14,900.00	5,09,20,993.40
3. Seminar/Program Fees	9,51,47,617.00	
4. Others		10,02,78,891.00
	<b>20,79,40,718.43</b>	<b>22,59,16,639.14</b>

Accounts Officer

Financial Advisor

# अखिल भारतीय आयुर्विज्ञान संस्थान, नई दिल्ली-29

All India Institute of Medical Sciences, New Delhi-29  
Schedules forming part of Income & Expenditure as on 31-03-2023

SCHEDULE 17 - INTEREST EARNED		(Rs. In Fig.)	
	2022-23	2021-22	
1. On Term Deposits:	-	-	
a) With Scheduled Banks	-	-	
b) With Non-Scheduled Banks	3,91,34,769.00	1,28,38,862.00	
c) With Institutions	-	-	
2. On Savings Accounts:	-	-	
a) With Scheduled Banks	-	-	
b) With Non-Scheduled Banks	-	9,42,084.00	
c) Post Office Savings Accounts	-	-	
d) Others	-	-	
3. On Loans:	-	-	
a) Employees/Staff	4,09,761.00	12,04,492.00	
b) Others	-	-	
4. Inerest on Debtors and other Receivables	-	-	
<b>TOTAL</b>	<b>3,95,44,530.00</b>	<b>1,49,85,438.00</b>	

Accounts Officer

Financial Advisor



# अखिल भारतीय आयुर्विज्ञान संस्थान, नई दिल्ली-29

All India Institute of Medical Sciences, New Delhi-29  
Schedules forming part of Income & Expenditure as on 31-03-2023

	2022-23	2021-22
<b>SCHEDULE 18 - OTHER INCOME</b>		
1. Misc. Receipt	8,17,16,698.54	2,91,92,185.80
3. Exam Section Receipt	60,00,00,000.00	44,24,07,699.00
4. Other Income	1,55,86,019.05	1,32,52,933.11
<b>TOTAL</b>	<b>69,73,02,717.59</b>	<b>48,48,52,817.91</b>

(Rs. In Fig.)

Accounts Officer

Financial Advisor

# अखिल भारतीय आयुर्विज्ञान संस्थान, नई दिल्ली-29

All India Institute of Medical Sciences, New Delhi-29  
Schedules forming part of Income & Expenditure as on 31-03-2023

(Rs. In Fig.)

SCHEDULE 20 - ESTABLISHMENT EXPENSES	2022-23	2021-22
Pay and Allowances	19,73,30,90,022.99	17,03,90,98,817.36
Travelling Allowance	13,97,48,847.00	13,23,72,530.00
Learning Resource Allowance	-	89,84,828.00
Expenses on Employees ":Retirement and Terminal Benefits"	2,45,10,64,763.00	2,09,64,59,783.75
Others	19,06,91,458.00	81,77,40,997.38
Leave Salary Pension Contribution	-	23,58,407.00
	<b>22,51,45,95,090.99</b>	<b>20,09,70,15,363.49</b>

Accounts Officer

Financial Advisor

# अखिल भारतीय आयुर्विज्ञान संस्थान, नई दिल्ली-29

## All India Institute of Medical Sciences, New Delhi-29 Schedules forming part of Income & Expenditure as on 31-03-2023

	(Rs. In Fig.)	
	2022-23	2021-22
<b>SCHEDULE 21 - OTHER ADMINISTRATIVE EXPENSES ETC.</b>		
a) Purchases of hospital stores others specify	-	88,35,66,963.00
b) Manpower Outsourcing Charges	1,83,26,78,963.00	40,97,68,504.00
c) Office Expenses	85,88,16,650.00	3,41,62,756.00
d) Electricity and power	1,18,00,99,071.00	1,05,59,66,946.00
e) Water charges	5,26,32,946.00	6,27,91,128.00
f) Insurance	-	-
g) Repairs and maintenance (AMC/CAMC)	-	34,61,20,601.00
h) Repairs and maintenance of Buildings	80,80,28,945.00	74,84,42,083.00
i) Travelling and Conveyance Expenses	-	62,56,661.00
j) Other Expenses	-	24,61,39,738.00
k) Bank Charges	-	2,58,693.18
m) Rent, Rates and Taxes	1,03,99,585.00	
p) Others (specify)	2,56,42,03,014.71	3,17,73,40,693.00
	<b>7,30,68,59,174.71</b>	<b>6,97,08,14,766.18</b>
<b>SCHEDULE 21B - Material and Supplies</b>		
a) Hospital stores M&S	5,22,85,70,009.48	4,57,45,15,245.00
b) Others M&S	4,36,51,197.00	6,38,24,988.00
<b>Total</b>	<b>5,27,22,21,206.48</b>	<b>4,63,83,40,233.00</b>

Accounts Officer

Financial Advisor

# अखिल भारतीय आयुर्विज्ञान संस्थान, नई दिल्ली-29

All India Institute of Medical Sciences, New Delhi-29  
Schedules forming part of Income & Expenditure as on 31-03-2023

	(Rs. In Fig.)	
	2022-23	2021-22
SCHEDULE 23- INTEREST DEBIT/ BANK CHARGES		
a) Bank Charges	1,003.00	2,485.60
b) Transfer to the Ministry of Health and Family Welfare	2,21,00,000.00	3,24,20,000.00
<b>Total</b>	<b>2,21,01,003.00</b>	<b>3,24,22,485.60</b>

Accounts Officer

Financial Advisor

## **SCHEDULED 24**

### Accounting Policies and Notes forming part of Accounts

1. The Activities of the Institute is mainly funded from the grants from Government of India and Accounts of the Institute are prepared in accordance with Generally accepted Accounting principles.
2. The accounts have been prepared on cash basis i.e. on actual Receipt and Payments basis. However, depreciation has been charged on the assets acquired in FY 2021-22. Computation of depreciation has been made on straight line method after taking into account the actual life of assets subtracting the salvage value of assets.
3. Consolidated final accounts of AIIMS New Delhi have been prepared for FY 2021-22. However, accounts of Research Section, NDDTC, UNDCP and GPF have been kept separately as these Centres receive funds separately from the Ministries/various funding agencies as regard to GPF A/c no grant are received against the same .
4. Interest figures also include interest earned on revenue receipts of the Institute. After calculation interest portion earned on unspent balance of GIA will be remitted to the Ministry.
5. No provisions for liability of Gratuity, pension and leave encashment etc have been made in the accounts as the grants from the Government of India are received for actual expenditure. The payment of Gratuity, pension and leave encashment etc are accounted in the accounts only at the time of actual payments.
6. No closing stock of Store and supplies at the end of accounting period is incorporated in the accounts as all expenditure on stores and supplies are treated as final expenditure at the time of payments in the accounts.
7. Income of the Institute is exempted from Income-Tax under Section 11 of the Income Tax Act, 1961.
8. All Assets (Machinery & Equipments, vehicles etc) funded from the grants for the Research projects are used for the activities of the Research projects and are not included in the assets of the Institute. Such Assets (Machinery & Equipments, vehicles etc,) are either returned to the funding agencies or used in the Departments after the completions of the projects as per sanction of the funding agencies.
9. A statement showing the expenditure made by various Project Investigators for Research Projects during 2021-22 and balance amount lying with the Institute as on 31-03-2022 is attached with the Accounts.
10. Advances for treatment under the packages were treated as revenue and expenditure incurred against those treatments was shown in expenditure. During the current year advances received against the packages for treatment are shown under the revolving fund and expenditure incurred against the revolving fund. Balances in the revolving fund shown as liability. The impact of these changes of accounting policy is not assessable and not significant.
11. Accounts for the year ended 31-03-2022 are prepared in the new format and grouping and regrouping and classification, wherever necessary have been changed /adopted for better presentation.
12. Assets of the Institute in every Departments/Centre's are physically verified once in year by the faculty/officer nominated for the purpose and no significant /major deviations have been reported.
13. Stores and supplies of the Institute in every Departments/Centre's are physically verified once in year by the faculty/ officer nominated for the purpose and no significant /major deviations have been reported.
14. Institute is maintaining various Revolving funds for test/procedures required for patients care and same are included in the consolidated Accounts of the Institute.
15. Donations/receipts from various sources without any attached conditions are treated as income of the concerned centre or of Institute as the case may be.
16. All Accounting policies and Notes Forming Part of Accounts listed above are also applied in the preparation of the Accounts of the Centers also.

**Accounts Officer**

**Financial Advisor**

**Sr. Financial Advisor**

**Director**

**National Drug Dependence Treatment Centre  
RECEIPT AND PAYMENTS FOR THE MONTH ENDED AS ON 31.3.2023**

Receipts	2022-23	2021-22	Payments	2022-23	2021-22
<b>1. Opening Balances</b>			<b>1. Expenses</b>		
(a) Cash in Hand	-	-	(a) Establishment Expenses (Schedule 20)	197,600,000.00	176,744,143.00
(b) Bank Balances	-	-	(b) Administrative Expenses (Schedule 21A)	127,869,781.00	139,061,550.00
(i) In current accounts	2,712,738.37	36,250,382.37	(c) Material and Supplies (Schedule 21-B)	41,014,560.00	
(ii) In deposit accounts	-	-	<b>2. Advance payment</b>		
(iii) In saving accounts	34,779,336.50	61,248.50	i) Material and Supply		100,000.00
			ii) Temp adv for training programme (DTCs Scheme)	-	-
			iii) For Nurses Training Programm	-	-
<b>2. Grant Received</b>			<b>3. Investments and deposits made</b>		
(a) From Government of India (Ministry of H&FW)					
Grant in Aid (Capital Assets)	20,000,000.00	16,958,921.00	(a) Out of Earmarked/Endowment Funds	-	-
Grant in Aid (General)	118,700,000.00	92,820,270.00	(b) Out of Own funds (Investments-others)	-	-
Grant in Aid (Salaries)	182,600,000.00	185,500,000.00	<b>4. Expenditure on Fixed Assets &amp; Capital Work-in-Progress</b>		
Grant in aid (General)/DTCs Scheme	50,000,000.00	47,161,364.00	(a) Purchase of Fixed Assets (Schedule 8)	15,968,430.42	16,996,692.00
Grant in aid General (Nurses training programme)	-	-	(b) Expenditure on capital work-in-progress	-	-
<b>3. Income on Investment from</b>			<b>5. Refund of surplus money/loans</b>		
a) Earmarked/endow funds	-	-	(a) To the Government of India	4,031,569.00	-
b) own funds (oth. investments)	-	-	(b) To the State Government	-	-
			(c) Repayment of loan to AIIMS (Schedule 7)	15,000,000.00	55,000,000.00
<b>4. Interest received</b>			(d) Refund to UNDCP A/c	30,000,000.00	-
(a) On bank deposits	396,734.00	468,368.00	<b>6. Finance Charges (Interest)</b>		
(b) Loans, Advances etc.	-	-			
			<b>7. Other Payments (Specify)</b>		
<b>5. Income from Hospital Services</b>			Outside Recoveries (GPF, NPS, HBA, Income Tax, License Fee etc.)	-	-
Hospital Receipts	557,442.00	227,766.00	(a) Projects	-	-
<b>6. Other Income</b>			(b) Refund of Earnest Money Deposit	-	-
Miscellaneous receipt	181,719.01	10.00	(c) Employees Recovery payment	-	-
Receipts 5% Admin. cost from UNDCAP A/C	12,000.00	5,946,130.00	(i) Recoveries from employees remitted to AIIMS (Main)	1,035,397.00	1,084,459.00
			AIIMS/Outside, Outstanding Recovery (schedule 7)		
<b>7. Amount Borrowed</b>			(ii) Outside Recoveries	36,034,908.00	30,589,206.00
Loan from AIIMS (Main)	30,000,000.00	40,000,000.00	(iii) GPF (Subscription and Advances) remitted to GPF Section AIIMS Main	11,554,460.00	13,055,254.00
Loan from UNDCP A/c			(iv) NPS Recovery to bank	7,752,535.00	6,567,779.00
			(v) NPS Recovery (without PRAN) remitted to GPF Section AIIMS Main	323,923.00	260,266.00
			Previous year Recovery	-	-

**National Drug Dependence Treatment Centre**  
**RECEIPT AND PAYMENTS FOR THE MONTH ENDED AS ON 31.3.2023**

Receipts	2022-23	2021-22	Payments	2022-23	2021-22
<b>8. Any other receipts</b>					
a) Projects	-	-			
(b) Earnest Money Deposits	-	-	<b>Loan, Advances and Other Assets</b>		
(c) Employees Recovery(Income Tax)	-	-	Advance payment for purchase of Material and Supply	-	-
i) Recoveries from employees	1,035,397.00	1,084,459.00	Computer Advance	-	-
ii) Outside Recoveries	36,034,908.00	30,589,206.00	Festival Advance	-	-
iii) GPF (Subscription and Advances)	11,554,460.00	13,055,254.00	Recovery/Deductions (Engg Works)	-	-
iv) NPS Recovery	7,752,535.00	6,567,779.00	Recovery/Deductions (other than Engg Works)	3,669,333.00	2,830,732.00
v) NPS Recovery (without PRAN)	323,923.00	260,266.00	Repayment of loan (UNDCP)	-	-
vi) Recovery from Engg. Works					
<b>9. Penalty levied on SIS (Security Agency)</b>	337,250.00		<b>8. Expenditure on Medicine Theft in NDDTC</b>	337,250.00	
<b>10. Loan, Adv. and Other Assets/Recovery</b>			<b>9. Closing Balances</b>		
Car Advance Recovery	-	-	(a) Cash in hand	-	-
Computer Advance Recovery	-	-	(b) Bank Balances	-	-
House Building Advance Recovery	-	-	(i) In current accounts	2,837,031.38	2,712,738.37
Festival Advance Recovery	-	-	(ii) In deposit accounts	-	-
Recovery/Deductions (Engg Works)	-	-	(iii) In saving accounts	5,618,598.08	34,779,336.50
Recovery/Deductions (other than Engg Works)	-	-			
	3,669,333.00	2,830,732.00			
<b>Total</b>	<b>500,647,775.88</b>	<b>479,782,155.87</b>	<b>Total</b>	<b>500,647,775.88</b>	<b>479,782,155.87</b>

A.O., NDDTC, AIIMS

CHIEF, NDDTC, AIIMS

**National Drug Dependence Treatment Centre**  
**INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31.3.2022**

<b>INCOME</b>	<b>Schedule</b>	<b>2022-23</b>	<b>2021-22</b>
Income from Sales/Services (Hospital Receipts)	12	557,442.00	227,766.00
Grants/Subsidies	13	351,300,000.00	325,481,634.00
Fees/Subscriptions	14	-	-
Income from Investments (Income on Invest. From earmeked/endow.Funds transferred to funds)	15	-	-
Income for Royalty, Publication etc.	16	-	-
Interest Earned	17	396,734.00	468,368.00
Other Income	18	193,719.01	5,946,140.00
Increase/(decrease) in stock of Finished goods and works-in-progress	19		
<b>TOTAL (A)</b>		<b>352,447,895.01</b>	<b>332,123,908.00</b>
<b>EXPENDITURE</b>			
Establishment Expenses	20	197,600,000.00	176,744,143.00
Administrative Expenses etc.	21A	127,869,781.00	140,397,453.00
Material and supply	21B	41,014,560.00	-
Expenditure on Grants, Subsidies etc.	22	-	-
Interest	23	-	-
Depreciation (Net Total at the year-end - corresponding to Schedule 8)		2,311,480.22	1,375,684.87
<b>TOTAL (B)</b>		<b>368,795,821.22</b>	<b>318,517,280.87</b>
<b>Balance being income over expenditure (A-B)</b>		(16,347,926.21)	13,606,627.13
Transfer to Special Reserve (Specify each)		-	-
Transfer to /from General Reserve		-	-
<b>BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CORPUS/ CAPITAL FUND</b>		<b>352,447,895.01</b>	<b>332,123,908.00</b>

A.O.,NDDTC,AIIMS

CHIEF,NDDTC,AIIMS



**NATIONAL DURG DEPENDENCE TREATMENT CENTRE**  
**BALANCE SHEET AS ON 31.3.2023**

		(Amount in Rupees)	
	Schedule	2022-23	2021-22
<b><u>CORPUS/CAPITAL FUND AND LIABILITIES</u></b>			
CORPUS/CAPITAL FUND AND LIABILITIES	1	310,525,181.00	297,756,791.00
RESERVES AND SURPLUS	2	(1,384,713.21)	14,963,213.00
EARMARKED/ ENDOWMENT FUNDS	3	-	-
SECURED LOANS AND BORROWINGS	4	-	-
UNSECURED LOANS AND BORROWINGS	5	-	-
DEFERRED CREDIT LIABILITIES	6	-	-
CURRENT LIABILITIES AND PROVISIONS	7	35,869,812.00	50,749,562.00
<b>TOTAL</b>		<b>345,010,279.79</b>	<b>363,469,566.00</b>
<b><u>ASSETS</u></b>			
FIXED ASSETS	8	334,682,331.33	324,225,422.13
INVESTMENTS-FROM EARMARKED/ENDOWMENT FUNDS	9	-	-
INVESTMENTS-OTHERS	10	-	-
CURRENT ASSETS, LOANS , ADVANCES ETC.	11	10,327,948.46	39,244,143.87
MISCELLANEOUS EXPENDITURE		-	-
(to the extent not written off or adjusted)		-	-
<b>TOTAL</b>		<b>345,010,279.79</b>	<b>363,469,566.00</b>

AO.,NDDTC,AIIMS

CHIEF,NDDTC,AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2023**

	(Amount-Rs.)	
	2022-23	2021-22
<b><u>SCHEDULE 1- CORPUS/CAPITLA FUND:</u></b>		
Balances as at the beginning of the year	297,756,791.00	280,797,870.00
Add : Contributions towards Corpus/Capital Fund	20,000,000.00	16,958,921.00
Less : Fixed Assets Condemned during the year	3,200,041.00	-
Less : Refund of Grant Unspent Money to Govt. of India	4,031,569.00	310,525,181.00
<b>BALANCE AS AT THE YEAR-END</b>	<b>310,525,181.00</b>	<b>297,756,791.00</b>

	(Amount-Rs.)	
	2022-23	2021-22
<b><u>SCHEDULE 2- RESERVES AND SURPLUS:</u></b>		
<b>1. Capital Reserve:</b>		
As per last Account	-	-
Addition during the year	-	-
Less: Deductions during the year	-	-
<b>2. Revaluation Reserve</b>		
As per last Account	-	-
Addition during the year	-	-
Less: Deductions during the year	-	-
<b>3. Special Reserves</b>		
As per last Account	-	-
Addition during the year	-	-
Less: Deductions during the year (AIIMS LOAN REVERSE)	-	-
<b>4. General Reserve</b>		
As per last Account	14,963,213.00	1,356,585.87
Adjusted during the year	(16,347,926.21)	13,606,627.13
Less: Deduction during the year	-	-
<b>TOTAL</b>	<b>(1,384,713.21)</b>	<b>14,963,213.00</b>

AO.,NDDTC,AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2023**

<b>SCHEDULE 3 - EARMARKED/ENDOWMENT FUNDS</b>	<b>TOTALS</b>	
(Amount-Rs.)	<b>2022-23</b>	<b>2021-22</b>
a) Opening balance of the funds	-	-
b) Additions to the Funds:	-	-
i. Donations/grants	-	-
ii. Income from investments made on account of funds	-	-
iii. Other additions (specify nature)	-	-
iv. Less Expenditure during the year	-	-
<b>TOTAL (a+b)</b>	<b>0</b>	<b>0</b>
c) Utilisation/Expenditure towards objectives of funds	-	-
i. <u>Capital Expenditure</u>	-	-
- Fixed Assets	-	-
- Others	-	-
ii. <u>Revenue Expenditure</u>	-	-
- Salaries, Wages and allowances etc.	-	-
- Rent	-	-
- Other Administrative expenses	-	-
<b>Total</b>	-	-
<b>TOTAL (c)</b>	<b>-</b>	<b>-</b>
<b>NET BALANCE AS AT THE YEAR-END (a+b-c)</b>	<b>0</b>	<b>0</b>

AO.,NDDTC,AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2023**

(Amount-Rs.)

<b>SCHEDULE 4-SECURED LOANS AND BORROWINGS:</b>	<b>2022-23</b>		<b>2021-22</b>	
1. Central Government	-	-	-	-
2. State Government	-	-	-	-
3. Financial Institutions	-	-	-	-
a) Term Loans	-	-	-	-
b) Interest accrued and due	-	-	-	-
4. Banks:				
a) Term Loans	-	-	-	-
- Interest accrued and due	-	-	-	-
b) Other Loans (specify)	-	-	-	-
- Interest accrued and due	-	-	-	-
5. Other Institutions and Agencies	-	-	-	-
6. Debentures and Bonds	-	-	-	-
7. Others (Specify)	-	-	-	-
<b><u>TOTAL</u></b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<u>Note</u> : Amounts due within one year				

AO.,NDDTC,AIIMS

**National Drug Dependence Treatment Centre  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2023**

	(Amount-Rs.)	
<b>SCHEDULE 5 - UNSECURED LOANS AND BORROWING</b>	2022-23	2021-22
1. Central Government	-	-
2. State Government	-	-
3. Financial Institutions	-	-
4. Banks:		
a) Term Loans	-	-
b) Other Loans (specify)	-	-
5. Other Institutions and Agencies	-	-
6. Debentures and Bonds	-	-
7. Fixed Deposits	-	-
8. Others (Specify)	-	-
<b>TOTAL</b>	<b>0</b>	<b>0</b>
<b>Note:</b> Amounts due within one year		

	2022-23	2021-22
<b>SCHEDULE 6 - DEFERRED CREDIT LIABILITIES:</b>		
a) Acceptances secured by hypothecation of capital equipment and other assets	-	-
b) Others	-	-
<b>TOTAL</b>	<b>0</b>	<b>0</b>
<b>Note:</b> Amount due within one year		

AO.,NDDTC,AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2023**

	(Amount -Rs.)	
	2022-23	2021-22
<b>SCHEDULE 7 - CURRENT LIABILITIES AND PROVISIONS</b>		
<b>A. CURRENT LIABILITIES AND PROVISIONS</b>		
1. Acceptances	-	-
2. Sundry Creditors:	-	-
i) For Goods (Customs Duty to be paid)	-	-
ii) Others Outside recoveries to be paid to AIIMS (O.B.)	13,155.00	13,155.00
3. Advances drawn from GIA General-DTC's Scheme-Project Staff Salary)	383,442.00	263,192.00
4. Interest accrued but not due on:	-	-
i) Secured Loans/borrowings	-	-
ii) Unsecured Loans/borrowings	-	-
5. Interest accrued but not due on:	-	-
a) Secured Loans/borrowings	-	-
a) Unsecured Loans/borrowings	-	-
6. Statutory Liabilities:	-	-
a) Overdue	-	-
a) Others	-	-
7. Security Deposits (EMD)	-	-
Opening Balance	360,000.00	360,000.00
Received during the year	-	-
Refund during the year	-	360,000.00
8. Other current Liabilities	113,215.00	113,215.00
9. Loan from UNDCP A/c ( opening Balance)	30,000,000.00	30,000,000.00
Loan from UNDCP A/c during the year	-	-
Less : Loan refund to UNDCP A/c	30,000,000.00	30,000,000.00
10. Loan from AIIMS (Main) (OB)	20,000,000.00	35,000,000.00
Loan from AIIMS (Main) during the year	30,000,000.00	40,000,000.00
Loan refund to AIIMS (Main) during the year	15,000,000.00	55,000,000.00
<b>TOTAL (A)</b>	<b>35,869,812.00</b>	<b>50,749,562.00</b>
<b>B. PROVISIONS</b>		
1. For Taxation	-	-
2. Gratuity	-	-
3. Superannuation/Pension	-	-
6. Accumulated Leave Encashment	-	-
6. Trade Warranties/Claims	-	-
6. Others (specify)	-	-
<b>TOTAL (B)</b>	<b>-</b>	<b>-</b>
<b>TOTAL (A+B)</b>	<b>35,869,812.00</b>	<b>50,749,562.00</b>

National Drug Dependence Treatment Centre  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2023

(Amount in Rs.)

SCHEDULE 8 – FIXED ASSETS											
DESCRIPTION	GROSS BLOCK				DEPRECIATION				NET BLOCK		
	Cost/ valuation as at beginning of the year	Additions during the year	Deductions during the year	Cost/ valuation at the year-end	As at the beginning of the year	On Additions during the year	On Deductions during the year	Total up to the year-end	As at the Current year-end 22-23	As at the previous year-end 21-22	
<b>A. FIXED ASSETS:</b>											
<b>1. LAND:</b>											
a) Freehold	-	-	-	-	-	-	-	-	-	-	-
b) Leasehold	-	-	-	-	-	-	-	-	-	-	-
<b>2. BUILDINGS:</b>											
a) On Leasehold Land	-	-	-	-	-	-	-	-	-	-	-
b) Ownership Flats/Premises	-	-	-	-	-	-	-	-	-	-	-
3. Engineering capital work	134,033,566.48	-	2,770,821.00	134,033,566.48	82,568.52	-	-	-	133,950,997.96	134,033,566.48	
4. PLANT MACHINERY & EQUIPMENT	88,805,497.84	5,705,297.00	-	91,739,973.84	350,811.16	361,335.48	-	-	91,027,827.20	88,805,497.84	
5. VEHICLES	16,761,636.34	-	-	16,761,636.34	216,488.66	-	-	-	16,545,147.68	16,761,636.34	
6. FURNITURE, FIXTURES	18,218,966.82	1,763,932.00	203,447.00	19,779,451.82	154,457.18	173,023.16	-	-	19,451,971.48	18,218,966.82	
7. Office Equipment	942,329.39	574,955.00	-	1,517,284.39	9,974.61	109,241.45	-	-	1,398,068.33	942,329.39	
8. COMPUTER/PERIPHERALS	2,673,719.80	1,475,111.00	225,773.00	3,923,057.80	541,990.20	292,195.26	-	-	3,088,872.34	2,673,719.80	
9. ELECTRIC INSTALLATIONS	-	-	-	-	-	-	-	-	-	-	-
10. LIBRARY BOOKS	60,675,540.00	6,449,135.42	-	67,124,675.42	19,394.54	-	-	-	67,124,675.42	60,675,540.00	
11. OTHER FIXED ASSETS (SAP)	2,114,165.46	-	-	2,114,165.46	-	-	-	-	2,094,770.92	2,114,165.46	
<b>TOTAL OF CAURRENT YEAR</b>	<b>324,225,422.13</b>	<b>15,968,430.42</b>	<b>3,200,041.00</b>	<b>336,993,811.55</b>	<b>1,375,684.87</b>	<b>935,795.35</b>	<b>-</b>	<b>-</b>	<b>334,682,331.33</b>	<b>324,225,422.13</b>	

AO., NDDTC, AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2023**

(Amount - Rs.)

<b>SCHEDULE 9 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</b>	<b>2022-23</b>	<b>2021-22</b>
1. In Government Securities	-	-
2. Other approved Securities	-	-
3. Shares	-	-
4. Debentures and Bonds	-	-
5. Subsidiaries and Joint Venutres	-	-
6. Others (to be specified)	-	-
7. Seed money for opening of Bank Account (Donation)	-	-
<b>TOTAL</b>	<b>0</b>	<b>0</b>

<b>SCHEDULE 10 - INVESTMENTS - OTHERS</b>	<b>2022-23</b>	<b>2021-22</b>
1. In Government Securities	-	-
2. Other approved Securities	-	-
3. Shares	-	-
4. Debentures and Bonds	-	-
5. Subsidiaries and Joint Venutres	-	-
6. Others (NPS Fixed Deposit)	-	-
7. Investment of Donations	-	-
<b>TOTAL</b>	<b>-</b>	<b>-</b>

AO., NDDTC, AIIMS



**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2023**

		(Amount - Rs.)	
		2022-23	2021-22
<b>SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES ETC.</b>			
<b>A CURRENT ASSETS:</b>			
<b>1. Advances for Procurement</b>			
a) Material and Supply	Opening Balance	255,000.00	255,000.00
	Addition during the year	65,000.00	100,000.00
	Adjusted during the year	65,000.00	100,000.00
		255,000.00	255,000.00
b) Nurses Training programme:	Opening Balance	125,000.00	125,000.00
	Addition during the year	-	-
	Adjusted during the year	-	-
		125,000.00	125,000.00
c) Advance Salary for DTC's Scheme	Opening Balance	263,192.00	263,192.00
	Addition during the year	383,442.00	-
	Adjusted during the year	263,192.00	-
		383,442.00	-
<b>2. Advance for training Programme</b>			
	Opening Balance	668,169.00	1,904,072.00
	Addition during the year	-	-
	Adjusted during the year	-	-
		668,169.00	1,235,903.00
<b>3. Sundry Debtors:</b>			
a) Debts Outstanding		-	-
b) Others (outside recoveries)		-	-
c) Misc. recoveries from Centres (Engg. Work)		-	-
<b>4. Cash balances in hand (including cheques/ drafts and imprest)</b>			
<b>5. Bank Balances:</b>			
a) With Scheduled Banks:			
On Current Accounts		2,837,031.38	2,712,738.37
On Deposit Accounts (includes margin money)		-	-
On Savings Accounts		5,618,598.08	34,779,336.50
b) With non-Scheduled Banks:			
On Current Accounts		-	-
On Deposit Accounts		-	-
On Savings Accounts		-	-
<b>6. Custome Duty Advance</b>			
		400,000.00	400,000.00
<b>7. Outside Recovery</b>			
		40,708.00	40,708.00
<b>TOTAL (A)</b>		<b>10,327,948.46</b>	<b>39,244,143.87</b>

AO., NDDTC, AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2023**

	(Amount - Rs.)	
	2022-23	2021-22
<b>SCHEDULE 11B - CURRENT ASSETS, LOANS, ADVANCES ETC. (Contd.)</b>		
<b>B</b>		
<b><u>LOANS, ADVANCES AND OTHER ASSETS</u></b>		
1. <u>Loans:</u>		
a) Staff	-	-
i) Motor car	-	-
ii) House Building Advance	-	-
iii) Computer Advance	-	-
iv) Festival Advance	-	-
2. <u>Advances and other amounts recoverable in cash or in kind or for value to be received:</u>		
a) On Capital Account	-	-
b) Prepayments	-	-
c) Others	-	-
3. <u>Income Accrued:</u>		
a) On Investments from Earmarked / Endowment Funds	-	-
b) On Investments - Others	-	-
c) On Loans and Advances	-	-
d) Others	-	-
(includes income due unrealised - Rs.....)		
4. <u>Claims Receivable:</u>		
-	-	-
<b>TOTAL (B)</b>	<b>-</b>	<b>-</b>
<b>TOTAL (A + B)</b>	<b>10,327,948.46</b>	<b>39,244,143.87</b>

AO.,NDDTC,AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED ON 31.3.2023**

(Amount - Rs.)

<b><u>SCHEDULE 12 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</u></b>	<b><u>2022-23</u></b>	<b><u>2021-22</u></b>
<b><u>1) Income from Sales</u></b>		
1. Sale of Finished Goods	-	-
2. Sale of Raw Materials	-	-
3. Sales of scraps	-	-
<b><u>2) Income from Services</u></b>		
a). Hospital receipts	557,442.00	227,766.00
b) Professional / Consultancy Services	-	-
c) Agency Commission and Brokerage	-	-
d) Maintenance Services (Equipment/Property)	-	-
e) Others (Specify) Hospital Receipt	-	-
<b><u>TOTAL</u></b>	<b><u>557,442.00</u></b>	<b><u>227,766.00</u></b>

<b><u>SCHEDULE 13 - GRANTS /SUBSIDIES</u></b>	<b><u>2022-23</u></b>	<b><u>2021-22</u></b>
<b><u>1) Income from Sales</u></b>		
<b><u>(Irrevocable Grants &amp; Subsidies Received)</u></b>		
1. Central Government	351,300,000.00	325,481,634.00
2. State Government(s)	-	-
3. Government Agencies	-	-
4. Institutions/ Welfare Bodies (SAP)	-	-
5. International Organisations	-	-
6. Others (Specify) LOAN FROM AIIMS	-	-
<b><u>TOTAL</u></b>	<b><u>351,300,000.00</u></b>	<b><u>325,481,634.00</u></b>

AO.,NDDTC,AIIMS

National Drug Dependence Treatment Centre  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2023**

<b>SCHEDULE 14 - FEES/SUBSCRIPTIONS</b>	(Amount-Rs.)	
	2022-23	2021-22
1. Tuition & Examination Fee		
2. Licence Fee		
3. Seminar/Program Fees		
4. Consultancy Fees		
5. Others (Specify) EHS		
<b>TOTAL</b>	<b>0</b>	<b>0</b>
<b>Note-</b> Accounting Policies towards each item are to be disclosed		

<b>SCHEDULE 15 - INCOME FROM INVESTMENTS</b>	Investment from Earmarked Fund		Investment-Others	
(Income on Invest. From Earmarked/Endowment Funds transferred to Funds)	2022-23	2021-22	2022-23	2021-22
1. Interest				
a) On Govt. Securities	-	-	-	-
a) Other Bonds/Debentures	-	-	-	-
2. Dividends:				
a) On Shares	-	-	-	-
a) On Mutual Fund Securities	-	-	-	-
3. Rents	-	-	-	-
4. Others (Specify)	-	-	-	-
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>TRANSFERRED TO EARMARKED/EDNOWNMENT FUNDS</b>				

AO., NDDTC, AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2023**

<b>SCHEDULE 16 - INCOME FROM ROYALTY, PUBLICATION ETC.</b>	<b>2022-23</b>	<b>2021-22</b>
1. Income from Royalty		
2. Income from Publications		
3. Others (specify)	0	
<b>TOTAL</b>	<b>0</b>	<b>0</b>

<b>SCHEDULE 17 - INTEREST EARNED</b>	<b>2022-23</b>	<b>2021-22</b>
1. On Term Deposits:		
a) With Scheduled Banks	-	-
b) With Non-Scheduled Banks	-	-
c) With Institutions	-	-
d) Others	-	-
2. On Savings Accounts:		
a) With Scheduled Banks	396,734.00	468,368.00
b) With Non-Scheduled Banks	-	-
c) Post Office Savings Accounts	-	-
d) Others	-	-
3. On Loans:		
a) Employees/Staff	-	-
b) Others	-	-
4. Interest on Debtors and other Receivables	-	-
<b>TOTAL</b>	<b>396,734.00</b>	<b>468,368.00</b>

AO.,NDDTC,AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2023**

<u>SCHEDULE 18 - OTHERS INCOME</u>	2022-23	2021-22
1. Misc Receipts	181,719.01	10.00
2. Receipts 5% Admn. Cost form UNDCAP A/c	12,000.00	5,946,130.00
3. Others (specify)		
<b>TOTAL</b>	<b>193,719.01</b>	<b>5,946,140.00</b>
<u>SCHEDULE 19 - INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS &amp; WORK IN PROGRESS</u>	2022-23	2021-22
a) Closing stock	-	-
- Finished Goods	-	-
- Work-in-progress	-	-
b) Less: Opening Stock	-	-
- Finished Goods	-	-
- Work-in-progress	-	-
<b>NET INCREASE/(DECREASE) [a+b]</b>	<b>-</b>	<b>-</b>
<u>SCHEDULE 20 - ESTABLISHMENT EXPENSES</u>	2022-23	2021-22
Salaries	186,292,949.00	164,574,158.00
Salaries expenditure		
Contribution to NPS	11,307,051.00	12,169,985.00
Contribution to Other Fund (Scheme Cell)	-	-
Staff Welfare Expenses	-	-
Expenses on Employees " :Retirement and Terminal Benefits"	-	-
Others (NPS & LSPC)	-	-
<b>TOTAL</b>	<b>197,600,000.00</b>	<b>176,744,143.00</b>

AO., NDDTC, AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2023**

	(Amount-Rs.)	
<b>SCHEDULE 21 - ADMINISTRATIVE EXPENSES ETC.</b>	<b>2022-23</b>	<b>2021-22</b>
a) Purchases of hospital store (Material & Supply)	41,014,560.00	33,257,934.00
b) Housekeeping Services	1,904,555.00	-
c) Misc expenditure (Adj. of advances)	65,000.00	100,000.00
d) Wages for security and contractual staff	38,237,589.00	34,349,597.00
e) Electricity and power	6,471,941.00	5,799,193.00
f) Imrest adjusted (20-21)	84,803.00	35,000.00
g) Repairs and maintenance (AMC/CAMC)	152,594.00	659,240.00
h) Repairs and maintenance of Buildings	18,328,105.00	10,086,184.00
i) Rent, Rates and Taxes	309,020.00	-
j) Vehicles, Running and Maintenance	3,237,841.00	2,660,641.00
k) Postage, Telephone and Communication Charges	334,431.00	85,010.00
l) Printing and Stationary	931,783.00	1,058,233.00
m) Travelling and Conveyance Expenses	-	-
n) Expenses under Nurses Training programme	-	-
o) Expenses under DTCs Scheme	49,879,750.00	47,161,364.00
p) TDS	747,577.00	598,034.00
q) GST	1,971,906.00	1,868,450.00
r) Insurance of Vehicle	29,743.00	119,630.00
s) Bank Charges (Current and Saving Account)	5,778.00	8,000.00
t) Provision for DTC's Advance Salary	-	-
u) Irrecoverable Balances Written-off	-	-
v) Patient Diet	3,461,493.00	686,259.00
w) Freight and Forwarding Expenses Int. paid to MoHFW	468,368.00	-
x) Vehicle Hiring	923,850.00	628,781.00
y) Misc. Expenditure	323,654.00	-
z) Others (specify)(Contingency charge)(Adj. of advances)	-	1,235,903.00
<b>TOTAL</b>	<b>168,884,341.00</b>	<b>140,397,453.00</b>

AO., NDDTC, AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF RECEIPTS AND PAYMENT FOR THE YEAR ENDED 31.3.2023**

		(Amount-Rs.)	
		2022-23	2021-22
<b>SCHEDULE 21A - OTHER ADMINISTRATIVE EXPENSES ETC.</b>			
a) Purchases of hospital store (Material & Supply)		-	33,257,934.00
b) Housekeeping Services		1,904,555.00	-
c) Misc expenditure (Adj. of advances)		65,000.00	-
d) Wages for security and contractual staff		38,237,589.00	34,349,597.00
e) Electricity and power		6,471,941.00	5,799,193.00
f) Imrest adjusted (20-21)		84,803.00	35,000.00
g) Repairs and maintenance (AMC/CAMC)		152,594.00	659,240.00
h) Repairs and maintenance of Buildings		18,328,105.00	10,086,184.00
i) Rent, Rates and Taxes		309,020.00	-
j) Vehicles, Running and Maintenance		3,237,841.00	2,660,641.00
k) Postage, Telephone and Communication Charges		334,431.00	85,010.00
l) Printing and Stationary		931,783.00	1,058,233.00
m) Travelling and Conveyance Expenses		-	-
n) Expenses under Nurses Training programme		-	-
o) Expenses under DTCs Scheme		49,879,750.00	47,161,364.00
p) TDS		747,577.00	598,034.00
q) GST		1,971,906.00	1,868,450.00
r) Insurance of Vehicle		29,743.00	119,630.00
s) Bank Charges (Current and Saving Account)		5,778.00	8,000.00
t) Provision for DTC's Advance Salary		-	-
u) Irrecoverable Balances Written-off		-	-
v) Patient Diet		3,461,493.00	686,259.00
w) Freight and Forwarding Expenses Int. paid to MoHFW		468,368.00	-
x) Vehicle Hiring		923,850.00	628,781.00
y) Misc. Expenditure		323,654.00	-
z) Others (specify)(Contingency charge)(Adj. of advances)		-	-
<b>TOTAL</b>		<b>127,869,781.00</b>	<b>139,061,550.00</b>

AO.,NDDTC,AIIMS



**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2023**

(Amount-Rs.)

<b>SCHEDULE 22- EXPENDITURE ON GRANTS, SUBSIDIES ETC.</b>	<b>2022-23</b>	<b>2021-22</b>
a). Grants given to Institutions/Organizations	-	-
b). Subsidies given to Institutions/organisations	-	-
<b>Total</b>	-	-
<b>Note</b> - name of the Entities, their activities along with the amount of grants/subsidies are to be disclosed.		

<b>SCHEDULE 23- INTEREST</b>	<b>2022-23</b>	<b>2021-22</b>
a) On fixed Loans	-	-
b) On other Loans ( including Bank charges)	-	-
c) Others( Specify)	-	-
<b>Total</b>	-	-

AO.,NDDTC,AIIMS

**UNDCP ACCOUNT**  
**RECEIPT AND PAYMENTS FOR THE MONTH ENDED AS ON 31.3.2023**

Receipts	2022-23	2021-22	Payments	2022-23	2021-22
<b>1. Opening Balances</b>			<b>1. Expenses</b>		
(a) Cash in Hand	-	-	(a) Establishment Expenses (Schedule 20)	6,052,740.00	5,529,439.00
(b) Bank Balances	-	-	(b) Administrative Expenses (Schedule 21)	78,750,902.00	69,285,762.00
(i) In current accounts	87,424,814.16	160,848,440.16			
(ii) In deposit accounts	-	-	<b>2. Advance payment</b>		
(iii) In saving accounts	9,032.50	8,350.50	(i) Material and Supply	-	4,000.00
			(ii) Temp adv for training programme (DTCs Scheme)	-	-
			(iii) For Nurses Training Programm	-	-
<b>2. Grant Received</b>			<b>3. Investments and deposits made</b>		
a) From WHO	-	-	(a) Out of Earmarked/Endowment Funds	-	-
b) From NFCDA	228,203.00	150,000.00	(b) Out of Own funds (Investments-others)	-	-
c) From MOSIE	770,000.00	1,522,805.00			
d) From CBP	600,000.00		<b>4. Expenditure on Fixed Assets &amp; Capital Work-in-Progress</b>		
			(a) Purchase of Fixed Assets (Schedule 8)	-	277,230.00
			(b) Expenditure on capital work-in-progress	-	-
<b>3. Income on Investment from</b>			<b>5. Refund of surplus money/loans</b>		
a) Earmarked/endow. funds	-	-	(a) To the Government of India	-	-
b) own funds(oth. Investments)	-	-	(b) To the State Government	-	-
			(c) Repayment of loan to AIIMS (Schedule 7)	-	-
<b>4. Interest received</b>			(d) Refund to UNDCP A/c	-	-
(a) On bank deposits	44,733.00	682.00	<b>6. Finance Charges (Interest)</b>		
(b) Loans, Advances etc.	-	-			
			<b>7. Other Payments (Specify)</b>		
<b>5. Income from Hospital Services</b>			Outside Recoveries (GPF, NPS, HBA, Income Tax, License Fee etc.)	-	-
Hospital Receipts	-	-	(a) Projects	-	-
<b>6. Other Income</b>			(b) Refund of Earnest Money Deposit	-	-
Miscellaneous receipt	127,153.00	-	(c) Employees Recovery payment	-	-
Receipts 5% Admin. cost from UNDCAP A/c	-	-	(i) Recoveries from employes remitted to AIIMS (Main)	-	-
Loan Received from NDDTC	30,000,000.00	-	AIIMS/Outside, Outstanding Recovery (schedule 7)	-	-
<b>7. Amount Borrowed</b>			(ii) Outside Recoveries	-	-
Loan from AIIMS (Main)	-	-	(iii) GPF (Subscription and Advances) remitted to GPG section AIIMS Main	-	-
Loan from UNDCP A/c	-	-	(iv) NPS Recovery to bank	-	-
<b>8. Any other receipts</b>			(v) NPS Recovery (without PRAN) remitted GPF section to AIIMS MAIN	-	-
a) Projects	-	-	Previous Year Recovery	-	-
(b) Earnest Money Deposits	-	-	<b>Loan, Advances and Other Assets</b>		
(c) Employees Recovery (Income Tax)	-	-	Advance payment for purchase of Material and Supply	-	-
i) Recoveries from employees	-	-	Computer Advance	-	-

**UNDCP ACCOUNT**  
**RECEIPT AND PAYMENTS FOR THE MONTH ENDED AS ON 31.3.2023**

Receipts	2022-23	2021-22	Payments	2022-23	2021-22
ii) Outside Recoveries	-	-	Festival Advance	-	-
iii) GPF (Subscription and Advances)	-	-	Recovery/Deductions (Engg Works)	-	-
iv) NPS Recovery	-	-	Recovery/Deductions (other than Engg Works)	-	-
v) NPS Recovery (without PRAN)	-	-	Loan to NDDTC ( schedule No.11)	-	-
vi) Recovery from Engg Works	-	-	<b>8. Closing Balances</b>	-	-
<b>9. Loan, Adv. and Other Assets/Recovery</b>	-	-	(a) Cash in hand	-	-
Car Advance Recovery	-	-	(b) Bank Balances	-	-
Computer Advance Recovery	-	-	(i) In current accounts	-	87,424,814.16
House Building Advance Recovery	-	-	(ii) In deposit accounts	-	-
Festival Advance Recovery	-	-	(iii) In saving accounts	34,400,293.66	9,032.50
Recovery/Deductions (Engg Works)	-	-		-	-
Recovery/Deductions (other than Engg Works)	-	-		-	-
<b>Total</b>	<b>119,203,935.66</b>	<b>162,530,277.66</b>	<b>Total</b>	<b>119,203,935.66</b>	<b>162,530,277.66</b>

A.O.,NDDTC,AIIMS

CHIEF,NDDTC,AIIMS

**UNDCP ACCOUNT**  
**INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31.3.2023**

<b>INCOME</b>	<b>Schedule</b>	<b>2022-23</b>	<b>2021-22</b>
Income from Sales/Services (Hospital Receipts)	12	-	-
Grants/Subsidies	13	1,598,203.00	1,672,805.00
Fees/Subscriptions	14	-	-
Income from Investments (Income on Invest. From earmeked/endow.Funds transferred to funds)	15	-	-
Income for Royalty, Publication etc.	16	-	-
Interest Earned	17	44,733.00	682.00
Other Income	18	127,153.00	-
Increase/(decrease) in stock of Finished goods and works-in-progress	19	-	-
<b>TOTAL (A)</b>		<b>1,770,089.00</b>	<b>1,673,487.00</b>
<b>EXPENDITURE</b>			
Establishment Expenses	20	6,052,740.00	5,529,439.00
Administrative Expenses etc.	21A	54,869,270.00	69,289,762.00
Material and supply	21B	23,881,632.00	-
Expenditure on Grants, Subsidies etc.	22	-	-
Interest	23	-	-
Depreciation (Net Total at the year-end - corresponding to Schedule 8)		-	-
<b>TOTAL (B)</b>		<b>84,803,642.00</b>	<b>74,819,201.00</b>
<b>Balance being excess of expenditure over income (A-B)</b>		<b>(83,033,553.00)</b>	<b>(73,145,714.00)</b>
Transfer to Special Reserve (Specify each)		-	-
Transfer to /from General Reserve		-	-
<b>BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CORPUS/ CAPITAL FUND</b>		<b>1,770,089.00</b>	<b>1,673,487.00</b>

A.O., NDDTC,AIIMS

CHIEF, NDDTC,AIIMS

**UNDCP ACCOUNT  
BALANCE SHEET AS ON 31.3.2023**

(Amount in Rupees)

<b>CORPUS/CAPITAL FUND AND LIABILITIES</b>	<b>Schedule</b>	<b>2022-23</b>	<b>2021-22</b>
CORPUS/CAPITAL FUND AND LIABILITIES	<b>1</b>	-	-
RESERVES AND SURPLUS	<b>2</b>	72,723,343.66	155,756,896.66
EARMARKED/ ENDOWMENT FUNDS	<b>3</b>	-	-
SECURED LOANS AND BORROWINGS	<b>4</b>	-	-
UNSECURED LOANS AND BORROWINGS	<b>5</b>	-	-
DEFERRED CREDIT LIABILITIES	<b>6</b>	-	-
CURRENT LIABILITIES AND PROVISIONS	<b>7</b>	-	-
<b>TOTAL</b>		<b>72,723,343.66</b>	<b>155,756,896.66</b>
<b>ASSETS</b>			
FIXED ASSETS	<b>8</b>	38,278,050.00	38,278,050.00
INVESTMENTS-FROM EARMARKED/ENDOWMENT FUNDS	<b>9</b>	-	-
INVESTMENTS-OTHERS	<b>10</b>	-	-
CURRENT ASSETS, LOANS , ADVANCES ETC.	<b>11</b>	34,445,293.66	117,478,846.66
MISCELLANEOUS EXPENDITURE (to the extent not written off or adjusted)		-	-
<b>TOTAL</b>		<b>72,723,343.66</b>	<b>155,756,896.66</b>

AO.,NDDTC,AIIMS

CHIEF,NDDTC,AIIMS

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2023**

		(Amount-Rs.)	
		2022-23	2021-22
<b>SCHEDULE 1- CORPUS/CAPITLA FUND:</b>			
Balances as at the beginning of the year	-	-	-
Add : Contributions towards Corpus/Capital Fund	-	-	-
Less : Fixed Assets Condemned during the year	-	-	-
<b>BALANCE AS AT THE YEAR-END</b>	-		-
<b>SCHEDULE 2- RESERVES AND SURPLUS:</b>			
<b>1. Capital Reserve:</b>			
As per last Account	-	-	-
Addition during the year	-	-	-
Less: Deductions during the year	-	-	-
<b>2. Revaluation Reserve</b>			
As per last Account	-	-	-
Addition during the year	-	-	-
Less: Deductions during the year	-	-	-
<b>3. Special Reserves</b>			
As per last Account	-	-	-
Addition during the year	-	-	-
Less: Deductions during the year (AIIMS LOAN REVERSE)	-	-	-
<b>4. General Reserve</b>			
As per last Account	155,756,896.66	228,902,610.66	155,756,896.66
Adjusted during the year	(83,033,553.00)	(73,145,714.00)	-
Less: Deduction during the year	-	-	-
<b>TOTAL</b>	<b>72,723,343.66</b>	<b>72,723,343.66</b>	<b>155,756,896.66</b>

AO.,NDDTC,AIIMS

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2023**

(Amount-Rs.)

<b>SCHEDULE 3 - EARMARKED/ENDOWMENT FUNDS</b>	<b>TOTALS</b>	
	<b>2022-23</b>	<b>2021-22</b>
a) Opening balance of the funds	-	-
b) Additions to the Funds:	-	-
i. Donations/grants	-	-
ii. Income from investments made on account of funds	-	-
iii. Other additions (specify nature)	-	-
iv. Less Expenditure during the year	-	-
<b>TOTAL (a+b)</b>	<b>0</b>	<b>0</b>
c) Utilisation/Expenditure towards objectives of funds	-	-
i. <u>Capital Expenditure</u>	-	-
- Fixed Assets	-	-
- Others	-	-
ii. <u>Revenue Expenditure</u>	-	-
- Salaries, Wages and allowances etc.	-	-
- Rent	-	-
- Other Administrative expenses	-	-
<b>Total</b>	-	-
<b>TOTAL (c)</b>	-	-
<b>NET BALANCE AS AT THE YEAR-END (a+b-c)</b>	<b>0</b>	<b>0</b>

AO.,NDDTC,AIIMS

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2023**

(Amount-Rs.)

<b>SCHEDULE 4-SECURED LOANS AND BORROWINGS:</b>	<b>2022-23</b>		<b>2021-22</b>	
1. Central Government	-	-	-	-
2. State Government	-	-	-	-
3. Financial Institutions	-	-	-	-
a) Term Loans	-	-	-	-
b) Interest accrued and due	-	-	-	-
4. Banks:				
a) Term Loans	-	-	-	-
- Interest accrued and due	-	-	-	-
b) Other Loans (specify)	-	-	-	-
- Interest accrued and due	-	-	-	-
5. Other Institutions and Agencies	-	-	-	-
6. Debentures and Bonds	-	-	-	-
7. Others (Specify)	-	-	-	-
<b><u>TOTAL</u></b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<u>Note</u> : Amounts due within one year				

AO.,NDDTC,AIIMS



**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2023**

	(Amount-Rs.)	
<b>SCHEDULE 5 - UNSECURED LOANS AND BORROWING</b>	<b>2022-23</b>	<b>2021-22</b>
1. Central Government	-	-
2. State Government	-	-
3. Financial Institutions	-	-
4. Banks:	-	-
a) Term Loans	-	-
b) Other Loans (specify)	-	-
5. Other Institutions and Agencies	-	-
6. Debentures and Bonds	-	-
7. Fixed Deposits	-	-
8. Others (Specify)	-	-
<b>TOTAL</b>	<b>0</b>	<b>0</b>
<b>Note:</b> Amounts due within one year		

	<b>2022-23</b>	<b>2021-22</b>
<b>SCHEDULE 6 - DEFERRED CREDIT LIABILITIES:</b>		
a) Acceptances secured by hypothecation of capital equipment and other assets	-	-
b) Others	-	-
<b>TOTAL</b>	<b>0</b>	<b>0</b>
<b>Note:</b> Amount due within one year		

AO.,NDDTC,AIIMS

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2023**

	(Amount - Rs.)	
	2022-23	2021-22
<b>SCHEDULE 7 - CURRENT LIABILITIES AND PROVISIONS</b>		
<b>A. CURRENT LIABILITIES AND PROVISIONS</b>		
1. Acceptances	-	-
2. Sundry Creditors:	-	-
i) For Goods (Customs Duty to be paid)	-	-
ii) Others Outside recoveries to be paid to AIIMS (O.B.)	-	-
3. Advances Received	-	-
4. Interest accrued but not due on:	-	-
i) Secured Loans/borrowings	-	-
ii) Unsecured Loans/borrowings	-	-
5. Interest accrued but not due on:	-	-
a) Secured Loans/borrowings	-	-
a) Unsecured Loans/borrowings	-	-
6. Statutory Liabilities:	-	-
a) Overdue	-	-
a) Others	-	-
7. Security Deposits (EMD)	-	-
Opening Balance	-	-
Received during the year	-	-
Refund during the year	-	-
8. Other current Liabilities	-	-
9. Loan from UNDCPA/C.O.B.	-	-
Loan from UNDCP A/c	-	-
Less : Loan refund to UNDCP A/c	-	-
10. Loan from AIIMS (Main) (OB)	-	-
Loan from AIIMS (Main)	-	-
Loan refund to AIIMS (Main)	-	-
<b>TOTAL (A)</b>	-	-
<b>B. PROVISIONS</b>		
1. For Taxation	-	-
2. Gratuity	-	-
3. Superannuation/Pension	-	-
6. Accumulated Leave Encashment	-	-
6. Trade Warranties/Claims	-	-
6. Others (specify)	-	-
<b>TOTAL (B)</b>	-	-
<b>TOTAL (A+B)</b>	-	-

AO, NDDTC, AIIMS

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2023**

(Amount in Rs.)

DESCRIPTION	GROSS BLOCK			DEPRECIATION				NET BLOCK		
	Cost/ valuation as at beginning of the year	Additions during the year	Deductions during the year	Cost/ valuation at the year-end	As at the beginning of the year	On Additions during the year	On Deductions during the year	Total up to the year-end	As at the Current year-end 22-23	As at the previous year-end 21-22
<b>A. FIXED ASSETS:</b>										
<b>1. LAND:</b>										
a) Freehold	-	-	-	-	-	-	-	-	-	-
b) Leasehold	-	-	-	-	-	-	-	-	-	-
<b>2. BUILDINGS:</b>										
a) Engineering related capital work	-	-	-	-	-	-	-	-	-	-
b) On Leasehold Land	-	-	-	-	-	-	-	-	-	-
c) Ownership Flats/Premises	-	-	-	-	-	-	-	-	-	-
<b>3. PLANT MACHINERY &amp; EQUIPMENT</b>	38,278,050.00	-	-	38,278,050.00	-	-	-	-	38,278,050.00	38,278,050.00
4. VEHICLES	-	-	-	-	-	-	-	-	-	-
5. FURNITURE; FIXTURES	-	-	-	-	-	-	-	-	-	-
6. Office Equipment	-	-	-	-	-	-	-	-	-	-
7. COMPUTER/PERIPHERALS	-	-	-	-	-	-	-	-	-	-
8. ELECTRIC INSTALLATIONS	-	-	-	-	-	-	-	-	-	-
9. LIBRARY BOOKS	-	-	-	-	-	-	-	-	-	-
10. OTHER FIXED ASSETS (SAP)	-	-	-	-	-	-	-	-	-	-
<b>TOTAL OF CAURENT YEAR</b>	<b>38,278,050.00</b>	<b>-</b>	<b>-</b>	<b>38,278,050.00</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>38,278,050.00</b>	<b>38,278,050.00</b>

AO., NDDTC, AIIMS

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2023**

	<u>2022-23</u>	<u>2021-22</u>
<b>SCHEDULE 9 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</b>		
1. In Government Securities	-	-
2. Other approved Securities	-	-
3. Shares	-	-
4. Debenutres and Bonds	-	-
5. Subsidiaries and Joint Venutres	-	-
6. Others (to be specified)	-	-
7. Seed money for opening of Bank Account (Donation)	-	-
<b>TOTAL</b>	<b>0</b>	<b>0</b>

(Amount - Rs.)

	<u>2022-23</u>	<u>2021-22</u>
<b>SCHEDULE 10 - INVESTMENTS - OTHERS</b>		
1. In Government Securities	-	-
2. Other approved Securities	-	-
3. Loan to NDDTC	-	-
4. Debenutres and Bonds	-	-
5. Subsidiaries and Joint Venutres	-	-
6. Others (NPS Fixed Deposit)	-	-
7. Investment of Donations	-	-
<b>TOTAL</b>	<b>-</b>	<b>-</b>

AO.,NDDTC,AIIMS

**UNDCP ACCOUNT**

**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2023**

		2022-23		2021-22	
		(Amount - Rs.)			
<b>SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES ETC.</b>					
<b>A CURRENT ASSETS:</b>					
1. <u>Advances for Procurement</u>					
	a) Material and Supply	45,000.00	-	45,000.00	-
	Opening Balance	-	-	4,000.00	-
	Addition during the year	-	-	4,000.00	-
	Adjusted during the year	45,000.00	45,000.00	45,000.00	45,000.00
	b) Nurses Training programme:				
	Opening Balance	-	-	-	-
	Addition during the year	-	-	-	-
	Adjusted during the year				
2. Loan to NDDTC					
	Opening Balance	30,000,000.00	-	30,000,000.00	-
	Addition during the year	-	-	-	-
	Adjusted during the year	30,000,000.00	-	-	-
3. <u>Sundry Debtors:</u>					
	a) Debts Outstanding	-	-	-	-
	b) Others (outside recoveries)	-	-	-	-
	c) Misc. recoveries from Centres (Engg. Work)	-	-	-	-
4. <u>Cash balances in hand (including cheques/ drafts and imprest)</u>					
		-	-	-	-
5. <u>Bank Balances:</u>					
	a) <u>With Scheduled Banks:</u>				
	On Current Accounts	-	-	-	87,424,814.16
	On Deposit Accounts (includes margin money)	-	-	-	-
	On Savings Accounts	34,400,293.66	34,400,293.66	-	9,032.50
	b) <u>With non-Scheduled Banks:</u>				
	On Current Accounts	-	-	-	-
	On Deposit Accounts	-	-	-	-
	On Savings Accounts	-	-	-	-
6. <u>Customs Duty Advance</u>					
		-	-	-	-
7. <u>Outside Recovery</u>					
		-	-	-	-
<b>TOTAL (A)</b>			<b>34,445,293.66</b>		<b>117,478,846.66</b>

AO., NDDTC, AIIMS

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2023**

	(Amount - Rs.)	
<u>SCHEDULE 11B - CURRENT ASSETS, LOANS, ADVANCES ETC. (Contd.)</u>	<u>2022-23</u>	<u>2021-22</u>
<b>B</b> <u>LOANS, ADVANCES AND OTHER ASSETS</u>		
1. <u>Loans:</u>		
a) Staff	-	-
i) Motor car	-	-
ii) House Building Advance	-	-
iii) Computer Advance	-	-
iv) Festival Advance	-	-
2. <u>Advances and other amounts recoverable in cash or in kind or for value to be received:</u>		
a) On Capital Account	-	-
b) Prepayments	-	-
c) Others	-	-
3. <u>Income Accrued:</u>		
a) On Investments from Earmarked / Endowment Funds	-	-
b) On Investments - Others	-	-
c) On Loans and Advances	-	-
d) Others	-	-
(includes income due unrealised - Rs.....)		
4. <u>Claims Receivable:</u>		
	-	-
<b>TOTAL (B)</b>	<b>0</b>	<b>0</b>
<b>TOTAL (A + B)</b>	<b>34,445,293.66</b>	<b>117,478,846.66</b>

AO.,NDDTC,AIIMS

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED ON 31.3.2023**

(Amount - Rs.)

<b><u>SCHEDULE 12 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</u></b>	<b><u>2022-23</u></b>	<b><u>2021-22</u></b>
<b><u>1) Income from Sales</u></b>		
1. Sale of Finished Goods	-	-
2. Sale of Raw Materials	-	-
3. Sales of scraps	-	-
<b><u>2) Income from Services</u></b>		
a). Hospital receipts	-	-
b) Professional / Consultancy Services	-	-
c) Agency Commission and Brokerage	-	-
d) Maintenance Services (Equipment/Property)	-	-
e) Others (Specify) Hospital Receipt	-	-
<b><u>TOTAL</u></b>	<b>-</b>	<b>-</b>
<b><u>SCHEDULE 13 - GRANTS /SUBSIDIES</u></b>	<b><u>2022-23</u></b>	<b><u>2021-22</u></b>
<b><u>1) Income from Sales</u></b>		
<b><u>(Irrevocable Grants &amp; Subsidies Received)</u></b>		
1. From WHO	-	150,000.00
2. From NFCDA (unspent Grant receipt from centers)	228,203.00	1,522,805.00
3. From MOSJE	770,000.00	
4. CBP	600,000.00	
<b><u>TOTAL</u></b>	<b>1,598,203.00</b>	<b>1,672,805.00</b>

AO.,NDDTC,AIIMS

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2023**

<b>SCHEDULE 14 - FEES/SUBSCRIPTIONS</b>	(Amount-Rs.)		
	2022-23	2021-22	2021-22
1. Tuition & Examination Fee			
2. Licence Fee			
3. Seminar/Program Fees			
4. Consultancy Fees			
5. Others (Specify) EHS			
<b>TOTAL</b>	<b>0</b>		<b>0</b>
<b>Note-</b> Accounting Policies towards each item are to be disclosed			

<b>SCHEDULE 15 - INCOME FROM INVESTMENTS</b>				
(Income on Invest. From Earmarked/Endowment Funds transferred to Funds)	Investment from Earmarked Fund		Investment-Others	
	2022-23	2021-22	2022-23	2021-22
1. Interest				
a) On Govt. Securities	-	-	-	-
a) Other Bonds/Debentures	-	-	-	-
2. Dividends:				
a) On Shares	-	-	-	-
a) On Mutual Fund Securities	-	-	-	-
3. Rents	-	-	-	-
4. Others (Specify)	-	-	-	-
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>TRANSFERRED TO EARMARKED/EDNOWNMENT FUNDS</b>				



**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2023**

(Amount-Rs.)

<b>SCHEDULE 16 - INCOME FROM ROYALTY, PUBLICATION ETC.</b>	<b>2022-23</b>	<b>2021-22</b>
1. Income from Royalty	-	-
2. Income from Publications	-	-
3. Others (specify)	-	-
<b>TOTAL</b>	<b>0</b>	<b>0</b>

<b>SCHEDULE 17 - INTEREST EARNED</b>	<b>2022-23</b>	<b>2021-22</b>
1. On Term Deposits:		
a) With Scheduled Banks	-	-
b) With Non-Scheduled Banks	-	-
c) With Institutions	-	-
d) Others	-	-
2. On Savings Accounts:		
a) With Scheduled Banks	44,733.00	682.00
b) With Non-Scheduled Banks	-	-
c) Post Office Savings Accounts	-	-
d) Others	-	-
3. On Loans:		
a) Employees/Staff	-	-
b) Others	-	-
4. Interest on Debtors and other Receivables	-	-
<b>TOTAL</b>	<b>44,733.00</b>	<b>682.00</b>

AO.,NDDTC,AIIMS

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2023**

<u>SCHEDULE 18 - OTHERS INCOME</u>	(Amount-Rs.)	
	2022-23	2021-22
1. Mise Receipts	85,008.00	-
2. Receipts 5% Admn. Cost form UNDCAP A/c	-	-
3. Overpaid Salary reoccupied from DDAP A/c	42,145.00	-
<b>TOTAL</b>	<b>127,153.00</b>	<b>-</b>

<u>SCHEDULE 19 - INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS &amp; WORK IN PROGRESS</u>	2022-23	2021-22
a) Closing stock	-	-
- Finished Goods	-	-
- Work-in-progress	-	-
b) Less: Opening Stock	-	-
- Finished Goods	-	-
- Work-in-progress	-	-
<b>NET INCREASE/(DECREASE) [a+b]</b>	<b>-</b>	<b>-</b>

<u>SCHEDULE 20 - ESTABLISHMENT EXPENSES</u>	2022-23	2021-22
Salaries	6,052,740.00	5,529,439.00
Salaries expenditure under 5% Admn. Cost received from UNDCAP A/C	-	-
Contribution to NPS	-	-
Contribution to Other Fund (Scheme Cell)	-	-
Staff Welfare Expenses	-	-
Expenses on Employees "":Retirement and Terminal Benefits"	-	-
Others (NPS & LSPC)	-	-
<b>TOTAL</b>	<b>6,052,740.00</b>	<b>5,529,439.00</b>

AO.,NDDTC,AIIMS

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF RECEIPTS AND PAYMENT FOR THE YEAR ENDED 31.3.2023**

<b>SCHEDULE 21 - OTHER ADMINISTRATIVE EXPENSES ETC.</b>	<b>2022-23</b>	<b>2021-22</b>
a) Purchase of Hospital Store (Material & Supply)	23,881,632.00	15,800,643.00
b) HOUSEKEEPING SERVICES (SAP)	-	-
c) Misc expenditure (Adj. of advances)	-	-
d) Wages for security and contractual staff	-	-
e) Electricity and power	-	-
f) Imrest adjusted (20-21)	-	-
g) Repairs and maintenance (AMC/CAMC)	-	-
h) Repairs and maintenance of Buildings	-	-
i) Rent, Rates and Taxes	-	-
j) Vehicles, Running and Maintenance	-	-
k) Postage, Telephone and Communication Charges	-	-
l) Printing and Stationary	-	-
m) Travelling and Conveyance Expenses	53,857,800.00	42,104,550.00
n) Transfer of funds to various centers	12,000.00	5,946,130.00
o) 5% of grant transferred to NDDTC	-	150,000.00
p) Expenditure under DST on line programme	-	-
q) Maintenance of Buildings (Minor Work RG)	222,947.00	52,033.00
r) Miscellaneous expenditure	-	-
s) Bank Charges (Current and Saving Account)	426,470.00	-
t) GST	-	-
u) Irrecoverable Balances Written-off	-	-
v) Balance amount Refund to Ministry of Finance	350,053.00	5,232,406.00
w) Freight and Forwarding Expenses	-	-
x) Vehicle Hiring	-	-
y) Advertisement and Publicity	-	-
z) Others (specify)(Contingency charge)(Adj. of advances)	-	-
<b>TOTAL</b>	<b>78,750,902.00</b>	<b>69,285,762.00</b>

Accounts Officer

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2023**

<b>SCHEDULE 21A - ADMINISTRATIVE EXPENSES ETC.</b>	<b>2022-23</b>	<b>2021-22</b>
a) HOUSEKEEPING SERVICES (SAP)	-	-
b) Misc expenditure (Adj. of advances)	-	4,000.00
c) Wages for security and contractual staff	-	-
d) Electricity and power	-	-
e) Imprest adjusted (22-23)	-	-
f) Repairs and maintenance (AMC/CAMC)	-	-
g) Repairs and maintenance of Buildings	-	-
h) Rent, Rates and Taxes	-	-
i) Vehicles, Running and Maintenance	-	-
j) Postage, Telephone and Communication Charges	-	-
k) Printing and Stationary	-	-
l) Travelling and Conveyance Expenses	-	-
m) Transfer of funds to various centers	53,857,800.00	42,104,550.00
n) 5% of grant transferred to NDDTC	12,000.00	5,946,130.00
o) Expenditure under DST on line programme	-	150,000.00
p) Maintenance of Buildings (Minor Work RG)	222,947.00	52,033.00
q) Miscellaneous expenditure	-	-
r) Bank Charges (Current and Saving Account)	426,470.00	-
s) GST	-	-
t) Irrecoverable Balances Written-off	-	-
u) Balance amount Refund to Ministry of Finance	350,053.00	5,232,406.00
v) Freight and Forwarding Expenses	-	-
w) Vehicle Hiring	-	-
x) Advertisement and Publicity	-	-
y) Others (specify)(Contingency charge)(Adj. of advances)	-	-
<b>TOTAL</b>	<b>54,869,270.00</b>	<b>53,489,119.00</b>

Accounts Officer

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED**

(Amount-Rs.)

	<b>2022-23</b>	<b>2021-22</b>
<b>SCHEDULE 21B - Material and Supplies</b>		
Hospital stores	23,881,632.00	15,800,643.00
<b>Total</b>	<b>23,881,632.00</b>	<b>15,800,643.00</b>

Accounts Officer

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2023**

(Amount-Rs.)

<b>SCHEDULE 22- EXPENDITURE ON GRANTS, SUBSIDIES ETC.</b>	<b>2022-23</b>	<b>2021-22</b>
a). Grants given to Institutions/Organizations	-	-
b). Subsidies given to Institutions/organisations	-	-
<b>Total</b>	<b>0</b>	<b>0</b>
<b>Note</b> - name of the Entities, their activities along with the amount of grants/subsidies are to be disclosed.		

<b>SCHEDULE 23- INTEREST</b>	<b>2022-23</b>	<b>2021-22</b>
a) On fixed Loans	-	-
b) On other Loans ( including Bank charges)	-	-
c) Others( Specify)	-	-
<b>Total</b>	<b>0</b>	<b>0</b>

AO.,NDDTC,AIIMS

**RESEARCH SECTION, AIIMS  
BALANCE SHEET AS ON 31-03-2023**

		(Amount-Rs.)	
<b>CORPUS/CAPITAL FUND AND LIABILITIES</b>	<b>Schedule</b>	<b>2022-23</b>	<b>2021-22</b>
Corpus/Capital fund and Liabilities			
Reserves and Surplus	1		
Earmarked / Endowment Fund	2	323,511,967	(58,830,103)
Secured Loans & Borrowings	3	1,132,898,882	1,229,205,621
Unsecured Loans & Borrowings	4		
Deferred Credit Liabilities	5		
Current Liabilities and Provisions	6	103,452,125	177,090,888
	7		
<b>TOTAL</b>		<b>1,559,862,974</b>	<b>1,347,466,406</b>
<b>ASSETS</b>			
Fixed Assets			
Investments from Earmarked / Endowment funds	8		-
Investments-others	9		-
Current Assets, Loan & Advances etc.	10		-
Misc. Expenditure	11	1,559,862,974	1,347,466,406
(to the extent not written off or adjusted)			-
<b>TOTAL</b>		<b>1,559,862,974</b>	<b>1,347,466,406</b>
Accounting policies and notes forming part of accounts	24		

**JAO/AO**

**Accounts Officer**

**Associate Dean**

**Dean**

**RESEARCH SECTION, AIIMS**  
**INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31-03-2023**

		(Amount-Rs.)	
<b>INCOME</b>	<b>Schedule</b>	<b>2022-23</b>	<b>2021-22</b>
Income from Sales/Services	12		-
Grants/Subsidies	13	2,067,822,468	1,627,502,325
Fees/Subscriptions	14		
Income from Investments (Income on Invest. From earmarked/endow.Funds transferred to funds)	15		
Income for Royalty, Publication etc.	16		
Interest Earned	17	12,620,211	-
Other Income	18		
Increase/(decrease) in stock of Finished goods and works-in-progress	19		-
<b>TOTAL (A)</b>		<b>2,080,442,679</b>	<b>1,627,502,325</b>
<b>EXPENDITURE</b>			
Establishment Expenses	20	757,806,503	740,331,996
Other Administrative Expenses etc.	21	448,629,624	416,098,102
Material and supply	21B	491,664,483	543,639,921
Expenditure on Grants, Subsidies etc.	22		-
Interest	23		-
Depreciation (Net Total at the year-end - corresponding to Schedule 8)			
<b>TOTAL (B)</b>		<b>1,698,100,610</b>	<b>1,700,070,019</b>
<b>Balance being excess of Income over Expenditure (A-B)</b>			<b>(72,567,694)</b>
Transfer to Special Reserve (Specify each)		<b>382,342,069</b>	
Transfer to /from General Reserve			
<b>BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CORPUS/ CAPITAL FUND</b>		<b>382,342,069</b>	<b>(72,567,694)</b>

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**RESEARCH SECTION, AIMS  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2023**

	2022-23	2021-22
<b>SCHEDULE 1- CORPUS/CAPITLA FUND:</b>		
Balances as at the beginning of the year		-
Add : Contributions towards Corpus/Capital Fund		-
Less: Condemnation during the year		-
<b>BALANCE AS AT THE YEAR-END</b>		-
<b>SCHEDULE 2- RESERVES AND SURPLUS:</b>		
1. <u>Capital Reserve:</u>		2021-22
As per last Account		-
Addition during the year		-
Less: Deductions during the year		-
2. <u>Revaluation Reserve</u>		-
As per last Account		-
Addition during the year		-
Less: Deductions during the year		-
3. <u>Special Reserves</u>		-
As per last Account		-
Addition during the year		-
Less: Deductions during the year		-
4. <u>General Reserve</u>		-
As per last Account	(58,830,102.29)	13,737,591.96
Addition during the year		-
Less: Deductions during the year		-
Adjustment for Last Year	382,342,068.60	(72,567,694.25)
Less: Deductions during the year		-
<b>TOTAL</b>	<b>323,511,966.31</b>	<b>(58,830,102.29)</b>

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2023**

(Amount-Rs.)

<b>SCHEDULE 3 - EARMARKED/ENDOWMENT FUNDS</b>	<b>2022-23</b>	<b>2021-22</b>
a) Opening balance of the funds	1,229,205,622	1,606,574,887
b) Additions to the Funds:		368,393,013
Less: Amount returned to Funding Agency	(320,983,459)	91,296,558
ii. Income from investments made on account of funds		
iii. CSR Hospital Billing AIIMS		-
iv. Other additions (Unadjusted Balances)	663,836,677	
iv. Other Undajastment for Opening Bank Balance	-	(624,735,322)
iv. Other Undajastment for Difference In Opening Balance	(439,159,958)	(29,730,398)
<b>TOTAL (a+b)</b>	<b>1,132,898,883</b>	<b>1,229,205,622</b>
c) Utilisation/Expenditure towards objectives of funds		
i. <u>Capital Expenditure</u>		
- Fixed Assets		-
- Others		
ii. <u>Revenue Expenditure</u>		
- Salaries, Wages and allowances etc.		-
- Rent		-
- Other Administrative expenses		-
<u>Total</u>		-
<b>NET BALANCE AS AT THE YEAR-END (a+b-c)</b>		-

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2023**

<b><u>SCHEDULE 4-SECURED LOANS AND BORROWINGS:</u></b>	<b>2022-23</b>		<b>2021-22</b>	
1. Central Government			-	-
2. State Government			-	-
3. Financial Institutions			-	-
a) Term Loans			-	-
b) Interest accrued and due			-	-
4. Banks:				
a) Term Loans			-	-
- Interest accrued and due			-	-
b) Other Loans (specify)				
- Interest accrued and due			-	-
5. Other Institutions and Agencies			-	-
6. Debentures and Bonds			-	-
7. Others (Specify)			-	-
<b><u>TOTAL</u></b>			-	-

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2023**

	2022-23	2021-22
<b>SCHEDULE 5 - UNSECURED LOANS AND BORROWING</b>		
1. Central Government		-
2. State Government		-
3. Financial Institutions		-
4. Banks:		-
a) Term Loans		-
b) Other Loans (specify)		-
5. Other Institutions and Agencies		-
6. Debentures and Bonds		-
7. Fixed Deposits		-
8. Others (Specify)		-
<b>TOTAL</b>		-

**Note:** Amounts due within one year

	2022-23	2021-22
<b>SCHEDULE 6 - DEFERRED CREDIT LIABILITIES:</b>		
a) Acceptances secured by hypothecation of capital equipment and other assets		-
b) Others		-
<b>TOTAL</b>		-

**Note:** Amount due within one year

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2023**

<b>SCHEDULE 7 - CURRENT LIABILITIES AND PROVISIONS</b>	<b>2022-23</b>	<b>2021-22</b>
<b><u>A. CURRENT LIABILITIES AND PROVISIONS</u></b>		
1. Acceptances		-
2. Sundry Creditors:		-
i) For Goods		-
ii) Others	79,701,725.00	159,621,648.26
3. Advances Received		-
4. Interest accrued but not due on:		-
a) Secured Loans/borrowings		-
a) Unsecured Loans/borrowings		-
5. Statutory Liabilities:		-
a) Overdue	23,750,400	12,394,947.00
a) Others	-	5,074,293.00
6. Other current Liabilities		-
<b>TOTAL (A)</b>	<b>103,452,125.00</b>	<b>177,090,888.26</b>
<b><u>B. PROVISIONS</u></b>		
1. For Taxation		-
2. Gratuity		-
3. Superannuation/Pension		-
6. Accumulated Leave Encashment		-
6. Trade Warranties/Claims		-
6. Others (specify)		-
<b>TOTAL (B)</b>		-
<b>TOTAL (A+B)</b>	<b>103,452,125.00</b>	<b>177,090,888.26</b>

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**RESEARCH SECTION, AIIMS  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2023**

(Amount - Rs.)

<b>SCHEDULE-8 (Fixed Assets)</b>	<b>GROSS BLOCK</b>						<b>DEPRICIATION</b>			<b>NET BLOCK</b>	
	Cost/valuation As at beginning of the year	Additions during the year	Deductions during the year	Cost/ Valuation at the year end	As at the beginning of the year	On additions during the year	On Deductions during the year	Total up to the year-end	2022-23	2021-22	
<b>A</b>											
<b><u>FIXED ASSETS:</u></b>											
<b>1</b>											
<b><u>LAND:</u></b>											
a)	Freehold / Leasehold										
<b>2</b>											
<b><u>BUILDINGS:</u></b>											
a)	On Freehold Land										
b)	On Leasehold Land										
c)	Ownership Flats/ Premises										
<b>3</b>											
<b><u>PLANT MACHINERY &amp; EQUIPMENT</u></b>											
<b>4</b>											
<b><u>Vehicles</u></b>											
5	Furniture & Fixure										
6	Office Equipment										
<b>7</b>											
<b><u>Computer/Peripherals</u></b>											
<b>8</b>											
<b><u>Library Books</u></b>											
<b>TOTAL OF CURRENT YEAR</b>											

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2023**

<b>SCHECULE 9 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</b>	<b>2022-23</b>	<b>2021-22</b>
1. In Government Securities		-
2. Other approved Securities		-
3. Shares		-
4. Debenutres and Bonds		-
5. Subsidiaries and Joint Venutres		-
6. Others Fixed Deposits (Endowment fund)		-
7. Seed money for opening of Bank Account (Donation)		-
<b><u>TOTAL</u></b>		-

<b>SCHECULE 10 - INVESTMENTS - OTHERS</b>		
1. In Government Securities		-
2. Other approved Securities		-
3. Shares		-
4. Debenutres and Bonds		-
5. Subsidiaries and Joint Venutres		-
6. Others (NPS Fixed Deposit)		-
7. Investment of Donations		-
<b><u>TOTAL</u></b>		-

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2023**

<b>SCHEDULE II - CURRENT ASSETS, LOANS, ADVANCES ETC.</b>	<b>2022-23</b>	<b>2021-22</b>
<b>A</b>		
<b><u>CURRENT ASSETS:</u></b>		
1. <u>Inventories:</u>		
a) Stores and Spares		-
b) Loose Tools		-
c) Stock-in-trade		-
Finished Goods		-
Work-in-progress		-
Raw Material		-
2. <u>Sundry Debtors:</u>		
a) Debts Outstanding		-
b) Others (outside recoveries)		-
c) Misc. recoveries receivable from Centre		-
3. <u>Cash balances in hand (including cheques/ drafts and imprest)</u>		-
4. <u>Bank Balances:</u>		
a) <u>With Scheduled Banks:</u>		
On Current Accounts	999,383,798	96,456,315
On Deposit Accounts (FD)		
On Savings Accounts & FDR		
b) <u>With non-Scheduled Banks:</u>		
On FDRs	494,176,002	1,245,029,198
on FDRs Research Section		
On Savings Accounts		
5. <u>Post Office - Savings Accounts</u>		
<b>TOTAL (A)</b>	<b>1,493,559,800</b>	<b>1,341,485,513</b>

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2023**

	2022-23	2021-22
(Amount in Rs.)		
<b>SCHEDULE 11- CURRENT ASSETS, LOANS, ADVANCES ETC. (Contd.)</b>		
<b>B LOANS, ADVANCES AND OTHER ASSETS</b>		
1. <u>Loans:</u>		
a) Staff		
b) Other Entities engaged in activities/objectives similar to that of Entity		
c) Other (Adv for purchase of iron and steel		
2. <u>Advances and other amounts recoverable in cash or in kind or for value to be received:</u>		
a) On Capital Account		
b) Prepayments		
c) Others (Advance Payments)	66,078,049	5,980,893.00
3. <u>Income Accrued:</u>		
a) On Investments from Earmarked / Endowment Funds		
b) On Investments - Others		
c) On Loans and Advances		
d) Others (includes income due unrealised - Rs.....)	225,125	
4. <u>Other Current Assets</u>		
<b>TOTAL (B)</b>	<b>66,303,174</b>	<b>5,980,893.00</b>
<b>TOTAL (A + B)</b>	<b>1,559,862,974</b>	<b>1,347,466,406.44</b>

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF INCOME AND EXPENDITURE FOR THE YEAR ENDED ON**  
**31-03-2023**

<b>SCHECULE 12 - INCOME FROM SALES / SERVICES</b>	<b>2022-23</b>	<b>2021-22</b>
<b><u>1) Income from Sales</u></b>		
1. Sale of Finished Goods		
2. Sale of Raw Material		
3. Sale of Scraps		
<b><u>2) Income from Services</u></b>		
a) Hospital receipts		
b) Professional / Consultancy Services		
c) Agency Commission and Brokerage		
d) Maintenance Services (Equipment/Property)		
e) Others (Specify) Hospital Receipt		
<b><u>TOTAL</u></b>		

<b>SCHECULE 13 - GRANTS /SUBSIDIES</b>	<b>2022-23</b>	<b>2021-22</b>
<b><u>(Irrevocable Grants &amp; Subsidies Received)</u></b>		
1. Central Government		
2. State Government(s)		
3. Government Agencies	2,067,822,468	1,627,502,324.67
4. Institutions/ Welfare Bodies		
5. International Organisations		
6. Others (Specify) PMJAY Transf. from Hospital		
<b><u>TOTAL</u></b>	<b>2,067,822,468.00</b>	<b>1,627,502,324.67</b>

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE**  
**PERIOD/YEAR ENDED 31-03-2023**

<b>SCHEDULE 14 - FEES/SUBSCRIPTIONS</b>		(Amount-Rs.)	
	2022-23	2021-22	
1. Tuition Fee			
2. Licence Fee			
3. Seminar/Program Fees			
4. Exam. Receipt			
5. Others (Specify) EHS			
<b>TOTAL</b>			
<b>SCHEDULE 15 - INCOME FROM INVESTMENTS</b>		<b>Investment from Earmarked Fund</b>	
(Income on Invest. From Earmarked/Endowment Funds transferred to Funds)		<b>2022-23</b>	<b>2021-22</b>
1. Interest			
a) On Govt. Securities			
a) Other Bonds/Debentures			
2. Dividends:			
a) On Shares			
a) On Mutual Fund Securities			
3. Rents			
4. Others (Specify)			
<b>TOTAL</b>		0	0
<b>TRANSFERRED TO EARMARKED/EDNOWNMENT FUNDS</b>			

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR**  
**ENDED 31-03-2023**

SCHEDULE 16 - INCOME FROM ROYALTY, PUBLICATION ETC.	2022-23	2021-22
1. Income from Royalty		
2. Income from Publications		
3. Others (specify)		
<b><u>TOTAL</u></b>		
<b>SCHEDULE 17 - INTEREST EARNED</b>		
1. On Term Deposits:		
a) With Scheduled Banks		
b) With Non-Scheduled Banks	12,620,211	
c) With Institutions		
d) Others		
2. On Savings Accounts:		
a) With Scheduled Banks		
b) With Non-Scheduled Banks		
c) Post Office Savings Accounts		
d) Others		
3. On Loans:		
a) Employees/Staff		
b) Others		
4. Interest on Debtors and other Receivables		
<b><u>TOTAL</u></b>	<b>12,620,211.00</b>	<b>-</b>

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31-03-2023**

<b>SCHEDULE 18 - OTHER INCOME</b>	<b>2022-23</b>	<b>2021-22</b>
1. Misc. Receipt		
2. Estb. Receipt (Scheme)		
3. Exam Section Receipt		
4. General Donations		
5. Research Other Income		
<b>TOTAL</b>		
<b>SCHEDULE 19 - INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS &amp; WORK IN PROGRESS</b>		
a) Closing stock	<b>2022-23</b>	<b>2021-22</b>
- Finished Goods		
- Work-in-progress		
b) Less: Opening Stock		
- Finished Goods		
- Work-in-progress		
<b>NET INCREASE/(DECREASE) [a+b]</b>		
<b>SCHEDULE 20 - ESTABLISHMENT EXPENSES</b>		
Salaries and Wages	715987912.9	715,873,381.00
Travelling Allowance	41818590	24,458,615.00
Contribution to Provident Fund		
Contribution to Other Fund (Scheme Cell)		
Staff Welfare Expenses (DLIS)		
Expenses on Employees ":Retirement and Terminal Benefits"		
Others (NPS )		
Leave Salary Pension Contribution		
<b>TOTAL</b>	<b>757,806,502.86</b>	<b>740,331,996.00</b>

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED**  
**31-03-2022**

<b>SCHEDULE 21 - OTHER ADMINISTRATIVE EXPENSES E</b>	<b>2022-23</b>	<b>2021-22</b>
a) Purchases of hospital stores		
b) Labour and processing expenses/Overheads	351,978,519.00	32,601,880.00
c) Cartage and Carriage Inwards		
d) Electricitiy and power		
e) Water charges		
f) Insurance		
g) Repairs and maintenance (AMC/CAMC)		
h) Repairs and mainteance of Buildings		
i) Rent, Rates and Taxes		
j) Vehicles, Running and Maintenance		
k) Postage, Telephone and Communication Charges		
l) Printing and Stationary		
m) Travelling and Conveyance Expenses		
n) Expenses on Seminar/Workshops		
o) Subscription Expenses		
p) Expenses on Fees		
q) bAuditors Remuneration		
r) Hospitality Expenses		
s) Professional Charges		
t) Provision for Bad and Doubtful Debts/Advances		
u) Irrecoverable Balances Written-off		
v) Packing Charges		
w) Hostel		
x) Bank Charges		1,234,228.42
y) Misc. Expenses	2,064,571.00	4,025,796.50
z) Others (specify)(Contingency charge)	94,586,534.04	378,236,197.00
<b>TOTAL</b>	<b>448,629,624.04</b>	<b>416,098,101.92</b>

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**ALL INDIA INSTITUTE OF MEDICAL SCEINCES**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED**  
**31-03-2022**

<b>SCHEDULE 21B - Material and Supplies</b>	<b>2022-23</b>	<b>2021-22</b>
Material and Supplies	331,975,079.00	512,394,650.00
Machinery and Equipments	159,689,404.00	31,245,271.00
<b>Total</b>	<b>491,664,483.00</b>	<b>543,639,921.00</b>

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**RESEARCH SECTION, AIIMS**

**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31-03-2022**

<b>SCHEDULE 22- EXPENDITURE ON GRANTS, SUBSIDIES ETC.</b>	<b>2022-23</b>	<b>2021-22</b>
a). Grants given to Institutions/Organizations		
b). Subsidies given to Institutions/organisations		
<b>Total</b>		-
<b>Note</b> - name of the Entities, their activities along with the amount of grants/subsidies are to be disclosed.		

<b>SCHEDULE 23- INTEREST</b>	<b>2022-23</b>	<b>2021-22</b>
a) On fixed Loans		
b) On other Loans ( including Bank charges)		
c) Others( Specify) Endowment intrest transfer to Research Section		-
<b>Total</b>		-

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RESEARCH SECTION  
ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, DELHI-110029

Schedule to the Accounts as at 31st March, 2023

**SCHEDULE 24 - . NOTES TO ACCOUNTS**

- (i) Grants are accounted on realization basis.
- (ii) The financial statements are prepared in the light of the provisions of Indian Accounting Standard 12 "Accounting for Government Grants".
- (iii) The Income/Revenue approach defined under the AS 12 has been followed in the preparation of these financial statements.
- (iv) The equipments purchased for the project are treated as revenue expenditure.

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**General Provident Fund section  
Receipt Payment for the financial year 2020-21**

Month	Receipt			Payment					Total payment	CB
	OB Cash book	Subscription Receipt	Invest. matured	Interest	Total receipt	GPF Payment	Investment	Commission		
Apr-22	100454272.00	50000000.00	14803465.00	165257737.00	123582597.00	79999996.00	0.00	203582593.00	106777949.07	
May-22	92041337.00	0.00	32239500.00	124280837.00	101104297.00	59999997.00	0.00	161104294.00	69954492.07	
Jun-22	87044052.00	320000000.00	78263410.00	485307462.00	122630408.00	0.00	0.00	122630408.00	432631546.07	
Jul-22	102277036.00	79999996.00	11233155.00	193510187.00	194949744.00	400000000.00	7665065.53	602614809.53	23526923.54	
Aug-22	97471385.00	84999998.00	58570417.00	241041800.00	103341898.00	99999995.00	0.00	203341893.00	61226830.54	
Sep-22	93878999.00	0.00	50960300.00	144839299.00	96146661.00	0.00	0.00	96146661.00	109919468.54	
Oct-22	93613340.00	0.00	57748000.00	151361340.00	95294349.00	0.00	0.00	95294349.00	165986459.54	
Nov-22	105076826.00	0.00	18805500.00	123882326.00	182814081.00	0.00	0.00	182814081.00	107054704.54	
Dec-22	74799928.00	16000000.00	68908300.00	303708228.00	84059858.00	79999996.00	0.00	164059854.00	246703078.54	
Jan-23	65116204.00	0.00	25681500.00	90797704.00	126489619.00	0.00	0.00	126489619.00	211011163.54	
Feb-23	62963287.00	339999983.00	48008577.00	450971847.00	175171153.00	350000000.00	0.00	525171153.00	136811857.54	
Mar-23	50305847.00	0.00	70760300.00	121066147.00	108664027.00	0.00	649.00	108664676.00	149213328.54	
<b>Total</b>	<b>1025042513.00</b>	<b>1034999977.00</b>	<b>535982424.00</b>	<b>2596024914.00</b>	<b>1514248692.00</b>	<b>1069999984.00</b>	<b>7665065.53</b>	<b>2591914390.53</b>		

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GPF SECTION											
GPF subscription received for the financial Year 2022-23											
Month	CASH SEC	AUDIT SEC.	CDER	CNC	RPC	IRCH	JHAJJAR	NDDTC	RESARCH	JPNATC	Total
April	34844572	23484306	864717	16627378	7055213	4401813	914150	1058560	179500	2135671	92443375
May	35251297	23288406	924717	16702742	7094547	4289813	916150	1138560	179500	2086171	92346903
June	35748670	23972176	924717	16794494	6875481	4376313	1009150	1108560	179500	2161171	93710033
July	35707894	23100126	908217	16762930	7052427	4306313	906150	1103160	179500	2139171	92839839
Aug	36441616	23367126	986217	17046208	7361026	4423143	906150	1098160	142500	2209171	97306317
Sep	36918517	22928009	991217	16488368	7497094	4376813	976150	1025780	142500	2168171	93837619
Oct	36964334	23012289	1021217	16532061	7553474	4430313	954150	1011980	124500	2175171	94064489
Nov	36840254	22440369	996217	16361351	7237325	4401813	904150	1011980	124500	2090171	93413130
Dec	36685980	11960729	600417	13435206	5764759	3259892	721650	818380	124500	1973727	75545240
Jan	34414892	11221369	533533	12589961	5350659	3345892	771650	806380	129500	1904227	71583178
Feb	32808559	8946457	533533	11698646	4935459	2961392	681650	686480	129500	1769227	65310903
Mar	31632095	8258958	533533	11096713	4766239	3006392	684650	686480	129500	1669227	62641287
<b>G. Total</b>	<b>424258680</b>	<b>225980320</b>	<b>9818252</b>	<b>182136058</b>	<b>78543703</b>	<b>47579902</b>	<b>10345800</b>	<b>11554460</b>	<b>1765000</b>	<b>24481276</b>	<b>1025042513</b>

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES , NEW DELHI**  
**BALANCE SHEET OF GENERAL PROVIDENT FUNDS FOR THE AIIMS AS ON 31st MARCH 2023**

<b>Liabilities</b>	<b>2022-23</b>	<b>2021-22</b>	<b>Assets</b>	<b>2022-23</b>	<b>2021-22</b>
Opening Balance(GPF)	7,918,037,352.00	7,552,212,622.00	Investment Opening Balance	7,404,521,098.00	7,097,988,997.55
			Less: Correction SAR	3,000,000.00	
GPF Sub. Recd. During the year	1,025,042,513.00	1,189,912,065.00	Add: investment made	1,069,999,984.00	646,730,243.72
Add: Interest Credited to GPF Account	553,464,626.00	542,403,363.00	Less: investment Maturity	1,034,999,977.00	340,198,143.00
			Less: Difference in Investment Value	144,544,581.00	
Less: Withdrawal /Payment	1,514,248,692.00	1,366,490,698.00	<b>Total</b>	7,291,976,524.00	7,404,521,098.27
Less: Correction SAR	3,000,000.00		Cash Book closing balance	149,213,328.54	145,102,805.00
Less: Difference in Investment Value	144,544,581.00		Add: excess of expenditure over income during the year 21-22	368,413,449.00	356,128,485.00
			Add: excess of expenditure over income during the year	25,147,916.53	12,284,964.00
<b>Total</b>	<b>7,834,751,218.00</b>	<b>7,918,037,352.00</b>	<b>Total</b>	<b>7,834,751,218.07</b>	<b>7,918,037,352.27</b>

<b>ALL INDIA INSTITUTE OF MEDICAL SCIENCES, NEW DELHI</b>				
<b>Receipts and Payment accounts of General Provident Funds for the Financial year 2022-23</b>				
<b>Receipts</b>	<b>2022-23</b>	<b>2021-22</b>	<b>Payments</b>	
Opening Balance	145102805	98095140	GPF Withdarwal	1514248692
Subscription/Receipts	1025042513	1189912065	Investment during the year	1069999984
Interest	535982424	530120818	Bank Charges	649
Investment Maturity	1034999977	340198143	Commission	7665065
			Closing Balance	149213329
<b>Total</b>	<b>2741127719</b>	<b>2158326166</b>	<b>Total</b>	<b>2741127719</b>
				<b>2158326166</b>

<b>INCOME AND EXPENDITURE STATEMENT OF GENERAL PROVIDENT FUNDS OF AIIMS FOR THE Financial year 2022-23</b>				
	<b>2022-23</b>	<b>2021-22</b>	<b>Income</b>	<b>2021-22</b>
<b>Expenditure</b>				
Interest paid on Subscription	553464626	542403363	Interest received	535982424
Bank Charges	649	2419	Add. adj.of subscription	
Commission	7665065.53			
Excess of income over expenditure			Excess of Exp. Over Income with Bank Charges	12284964
<b>Total</b>	<b>561130341</b>	<b>542405782</b>	<b>Total</b>	<b>561130341</b>
				<b>542405782</b>

AIIMS- DEPARTMENT OF GERIATRIC MEDICINE  
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, DELHI-110029

Balance Sheet as at 31st March, 2023

Particulars	Note No.	31-Mar-2023 (Rupees)	31-Mar-2022 (Rupees)
<b>CAPITAL AND LIABILITIES</b>			
Corpus Fund	2	1,304,614	2,513,451
		<b>1,304,614</b>	<b>2,513,451</b>
<b>Current Liabilities</b>			
Duties and Taxes	3	75	430
Sundry Creditors		-	23,369
Other Current Liabilities	4	148,897	(305,250)
		<b>148,972</b>	<b>(281,451)</b>
<b>TOTAL</b>		<b>1,453,586</b>	<b>2,232,000</b>
<b>ASSETS</b>			
<b>Non-Current Assets</b>			
Fixed Assets	5	1,329,487	1,329,487
		<b>1,329,487</b>	<b>1,329,487</b>
<b>Current Assets</b>			
Cash and Bank Balances	6	124,099	902,513
		<b>124,099</b>	<b>902,513</b>
<b>TOTAL</b>		<b>1,453,586</b>	<b>2,232,000</b>

Notes to Accounts & Significant Accounting Policies 1  
The notes referred to above are an Integral Part of the Financial Statements

JAO/AO

Accounts Officer

Chief (Geriatric Medicine)

AIIMS- DEPARTMENT OF GERIATRIC MEDICINE  
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, DELHI-110029

Statement of Income and Expenditure account for the year ended 31st March, 2023

Particulars	31-Mar-2023 (Rupees)	31-Mar-2022 (Rupees)
<b>I Income</b>		
Grant	2,589,929	-
Interest Income	3,747	56,546
<b>TOTAL</b>	<b>2,593,676</b>	<b>56,546</b>
<b>II Expenses</b>		
Salaries	1,671,523	1,772,389
Contingencies	704,814	35,827
Supplies & Materials	23,584	277,180
<b>TOTAL</b>	<b>2,399,921</b>	<b>2,085,396</b>
<b>III Surplus/ Excess of Income over Expenditure (I-II)</b>	<b>193,755</b>	<b>(2,028,850)</b>

Notes to Accounts & Significant Accounting Policies 1

The notes referred to above are an Integral Part of the Financial Statements

JAO/AO

Accounts Officer

Chief (Geriatric Medicine)

AIIMS- DEPARTMENT OF GERIATRIC MEDICINE  
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, DELHI-110029

Schedules to account for the year ended 31st March, 2023

Particulars	31-Mar-2023 (Rupees)	31-Mar-2022 (Rupees)
<b>2 Earmarked Funds</b>		
Opening Balance	2,513,451	4,542,301
Add: Surplus/Deficit for the year	193,755	(2,028,850)
Less: Unadjustment	(1,402,592)	
<b>TOTAL</b>	<b>1,304,614</b>	<b>2,513,451</b>
<b>3 Duties &amp; Taxes</b>		
TDS Payable	75	430
<b>TOTAL</b>	<b>75</b>	<b>430</b>
<b>4 Other Current Liabilities</b>		
EHS Payable	-	(2,900)
RDA Payable	-	(755)
Salaries Payable	148,897	(302,160)
SYS POT Fund Payable		565
<b>TOTAL</b>	<b>148,897</b>	<b>(305,250)</b>
<b>5 Fixed Assets</b>		
Computer	190,780	190,780
Furniture	817,833	817,833
Machinery and Equipments	194,513	194,513
Media Projector	105,361	105,361
Printer	21,000	21,000
<b>TOTAL</b>	<b>1,329,487</b>	<b>1,329,487</b>
<b>6 Cash and Bank Balances</b>		
Cash in Hand		-
State Bank Of India	124,099	902,513
<b>TOTAL</b>	<b>124,099</b>	<b>902,513</b>

JAO/AO

Accounts Officer

Chief (Geriatric Medicine)

AIIMS- DEPARTMENT OF GERIATRIC MEDICINE  
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, DELHI-110029

Schedule to the Accounts as at 31st March, 2023

1. NOTES TO ACCOUNTS

- (i) Grants are accounted on realization basis.
- (ii) The financial statements are prepared in the light of the provisions of Indian Accounting Standard 12 "Accounting for Government Grants".
- (iii) The Income/Revenue approach defined under the AS 12 has been followed in the preparation of these financial statements.
- (iv) The equipments purchased for the project are treated as revenue expenditure.

JAO/AAO

Accounts Officer

Chief (Geriatric Medicine)

**ENDOWMENT FUND**  
**RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**ANSARI NAGAR, DELHI-110029**

Balance Sheet as at 31st March, 2023

Particulars	Note No.	31-Mar-2023 (Rupees)	31-Mar-2022 (Rupees)
<b>CAPITAL AND LIABILITIES</b>			
Corpus Funds	2	98,218,945	93,148,478
		98,218,945	93,148,478
<b>Current Liabilities</b>			
Duties and Taxes			-
Sundry Creditors		20,497,499	21,188,799
Other Current Liabilities			-
		20,497,499	21,188,799
<b>TOTAL</b>		<b>118,716,444</b>	<b>114,337,277</b>
<b>ASSETS</b>			
<b>Non-Current Assets</b>			
Fixed Assets			-
Investments	3	96,066,813	94,566,812
		96,066,813	94,566,812
<b>Current Assets</b>			
Cash and Bank Balances	4	22,649,631	19,770,465
		22,649,631	19,770,465
<b>TOTAL</b>		<b>118,716,444</b>	<b>114,337,277</b>
Notes to Accounts & Significant Accounting Policies	1		
The notes referred to above are an Integral Part of the Financial Statements			
JAO/AAO		Accounts Officer	
Associate Dean		Dean	



**ENDOWMENT FUND**  
**RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**ANSARI NAGAR, DELHI-110029**

Statement of Income and Expenditure account for the year ended 31st March, 2023

Particulars	31-Mar-2023 (Rupees)	31-Mar-2022 (Rupees)
<b>I Income</b>		
Grant	4,577,116	-
Interest Income	4,277,143	3,223,349
<b>TOTAL</b>	<b>8,854,259</b>	<b>3,223,349</b>
<b>II Expenses</b>		
Expenditure from Endowment	4,034,961	188,800
<b>TOTAL</b>	<b>4,034,961</b>	<b>188,800</b>
<b>III Surplus/ Excess of Income over Expenditure (I-II)</b>	<b>4,819,297</b>	<b>3,034,549</b>

Notes to Accounts & Significant Accounting Policies 1  
The notes referred to above are an Integral Part of the Financial Statements

JAO/AO

Accounts Officer

Associate Dean

Dean

**ENDOWMENT FUND**  
**RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**ANSARI NAGAR, DELHI-110029**

Schedules to account for the year ended 31st March, 2023

Particulars	31-Mar-2023 (Rupees)	31-Mar-2022 (Rupees)
<b>2 Corpus Funds</b>		
Opening Balance (General)	93,148,478	89,113,929
Add: Additions During the Year	-	1,000,000
Add: Surplus/Deficit for the year	4,819,297	3,034,549
Add : Adjustment for Closing Balance as per Cash Book	251,170	
<b>TOTAL</b>	<b>98,218,945</b>	<b>93,148,478</b>
<b>3 Investments</b>		
FD (Union Bank)	-	17,500,000
FD (Meera Seth)	25,000,000	25,000,000
FD SBI	71,066,813	31,066,813
FD (Corporation Bank)	-	20,999,999
<b>TOTAL</b>	<b>96,066,813</b>	<b>94,566,812</b>
<b>4 Cash and Bank Balances</b>		
Cash in Hand		-
State Bank Of India	22,398,461	19,770,465
<b>Cash and Bank Closing Balance as per Bank</b>	<b>22,398,461</b>	<b>19,770,465</b>
Add: Adjustment for Closing Balance as per Cash Book	251,170	-
<b>Cash and Bank Closing Balance as Cash Book</b>	<b>22,649,631</b>	<b>19,770,465</b>
<b>JAO/AO</b>	Accounts Officer	
<b>Associate Dean</b>	Dean	

**ENDOWMENT FUND**  
**RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**ANSARI NAGAR, DELHI-110029**

**Schedule to the Accounts as at 31st March, 2023**

**1. NOTES TO ACCOUNTS**

- (i) Grants are accounted on realization basis.
- (ii) The financial statements are prepared in the light of the provisions of Indian Accounting Standard 12 "Accounting for Government Grants".
- (iii) The Income/Revenue approach defined under the AS 12 has been followed in the preparation of these financial statements.
- (iv) The equipments purchased for the project are treated as revenue expenditure.

JAO/AAO

Accounts Officer

Associate Dean

Dean

**RESEARCH DONATION**  
**RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**ANSARI NAGAR, DELHI-110029**

Balance Sheet as at 31st March, 2023

Particulars	Note No.	31-Mar-2023 (Rupees)	31-Mar-2022 (Rupees)
<b>CAPITAL AND LIABILITIES</b>			
Corpus Fund	2	14,027,729	13,920,792
		<b>14,027,729</b>	<b>13,920,792</b>
<b>Current Liabilities</b>			
Duties and Taxes		-	-
Sundry Creditors		-	-
Other Current Liabilities		-	-
		-	-
		-	-
		-	-
<b>TOTAL</b>		<b>14,027,729</b>	<b>13,920,792</b>
<b>ASSETS</b>			
<b>Non-Current Assets</b>			
Fixed Assets		-	-
Fixed Deposits		10,000,000	10,000,000
		10,000,000	10,000,000
<b>Current Assets</b>			
Cash and Bank Balances	3	4,027,729	3,920,792
		4,027,729	3,920,792
<b>TOTAL</b>		<b>14,027,729</b>	<b>13,920,792</b>

Notes to Accounts & Significant Accounting Policies 1  
The notes referred to above are an Integral Part of the Financial Statements

JAO/AO

Accounts Officer

Associate Dean

Dean

RESEARCH DONATION  
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, DELHI-110029

Statement of Income and Expenditure account for the year ended 31st March, 2023

Particulars	31-Mar-2023 (Rupees)	31-Mar-2022 (Rupees)
I Income		
Interest Income	231,937	2,417,288
<b>TOTAL</b>	<b>231,937</b>	<b>2,417,288</b>
II Expenses	-	-
<b>TOTAL</b>	<b>-</b>	<b>-</b>
III Surplus/ Excess of Income over Expenditure (I-II)	231,937	2,417,288

Notes to Accounts & Significant Accounting Policies 1  
The notes referred to above are an Integral Part of the Financial Statements

JAO/AO

Accounts Officer

Associate Dean

Dean

**RESEARCH DONATION**  
**RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**ANSARI NAGAR, DELHI-110029**

Schedules to account for the year ended 31st March, 2023

Particulars	31-Mar-2023 (Rupees)	31-Mar-2022 (Rupees)
<b>2 Corpus Fund</b>		
Opening Balance	13,920,792	11,503,504
Add: Surplus/Deficit for the year	231,937	2,417,288
Less : Adjustment for Closing Balance as per Cash Book	(125,000)	
<b>TOTAL</b>	<b>14,027,729</b>	<b>13,920,792</b>
<b>3 Cash and Bank Balances</b>		
Cash in Hand		-
State Bank Of India	4,152,729	3,920,792
<b>Cash and Bank Closing Balance as per Bank</b>	<b>4,152,729</b>	<b>3,920,792</b>
Add: Adjustment for Closing Balance as per Cash Book	(125,000)	-
<b>Cash and Bank Closing Balance as Cash Book</b>	<b>4,027,729</b>	<b>3,920,792</b>

JAO/AAO

Accounts Officer

Associate Dean

Dean

**RESEARCH DONATION**  
**RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**ANSARI NAGAR, DELHI-110029**

Schedule to the Accounts as at 31st March, 2023

**1. NOTES TO ACCOUNTS**

- (i) Donations are accounted on realization basis.
- (ii) The financial statements are prepared in the light of the provisions of Indian Accounting Standard 12 "Accounting for Government Grants".
- (iii) The Income/Revenue approach defined under the AS 12 has been followed in the preparation of these financial statements.
- (iv) The equipments purchased for the project are treated as revenue expenditure.

**Jr Accounts Officer**

**Accounts Officer**

## 13.2. Audit Report

### **Draft Separate Audit Report of the Comptroller & Auditor General of India on the Accounts of All India Institute of Medical Sciences (AIIMS),**

#### **New Delhi for the year ended 31 March 2023**

1. We have audited the attached Balance Sheet of All India Institute of Medical Sciences (AIIMS). New Delhi, as at 31 March 2023, and the Income & Expenditure Account for the year ended on that date under Section 19(2) of the Comptroller and Auditor General's (Duties, Powers & Conditions of Service) Act, 1971 read with section 18 (2) of the AIIMS Act, 1956. These financial statements are the responsibility of the AIIMS management. Our responsibility is to express an opinion on these financial statements based on our audit.
2. This Separate Audit Report contains the comments of the Comptroller and Auditor General (CAG) of India on the accounting treatment only with regard to classification, conformity with the best accounting practices, accounting standards and disclosure norms, etc. Audit observations on financial transactions with regard to compliance with the Law, Rules & Regulations (Propriety and Regularity) and efficiency-cum-performance aspects, etc., if any, are reported through inspection Reports/ CAG's Audit Reports separately.
3. We have conducted our audit in accordance with auditing standards generally accepted in India. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements. An audit includes examining, on a test basis, evidences supporting the amounts and disclosure in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management as well as evaluating the overall presentation of financial statements. We believe that our audit provides a reasonable basis for our opinion.
4. Based on our audit, we report that:
  - i. We have obtained all the information and explanations, which to the best of our knowledge and belief were necessary for the purpose of our audit;
  - ii. The Balance Sheet, Income & Expenditure Account and Receipts & Payments Account dealt with by this report have been drawn up in the uniform format of accounts approved by the Ministry of Finance, Government of India
  - iii. In our opinion, proper books of accounts on double entry system of accounting and other relevant records have been maintained by the AIIMS in so far as it appears from our examination of such books.
  - iv. We further report that:

#### **A. Balance Sheet**

##### **A.1 Liabilities**

##### **A.1.1 Current Liabilities & Provisions**

- A.1.1.1 AIIMS is operating a bank account in which recoveries from the bills of the suppliers such as income tax and GST are being kept for further depositing to the respective authorities, however, it has been noticed that as on 31.03.2023 an amount of Rs 13.95 crore was available in this account. As this bank account had not been included in the annual accounts of AIIMS (main) accounts, resulting into the understatement of current assets and current liability by Rs 13.95 crore.
- A.1.1.2 During 2022-23, Dr Rajendra Prasad Centre for Ophthalmic Sciences (RPC) received Rs 7.00 crore from AIIMS main and Rs 4.66 crore was transferred by the RPC's TSA to SBI Account under the head Grants-in-Aid. This total amount of Rs 11.66 crore was received for the salary and was to be utilised during 2023.24. Audit noticed that amount was not shown as unspent grant as on 31.03.2023 under the current liability. Moreover, it has excluded the above amount from current assets, as the balance under current assets in annual accounts was shown after reducing the cash book balance by Rs 11.66 crore. Thus the receipt was kept outside of the annual accounts of the centre which was irregular. This has resulted in understatement of current liability as well as current assets by Rs 11.66 crore.
- A.1.1.3 An amount of Rs 35.82 lakh has been depicted as receipts under Employees' Insurance Scheme (EIS) during the year and payments under this head has been depicted as nil. However, as per records an amount of Rs 32.53 lakh was paid by the Institute to LIC. As the payment of the EIS dues paid to LIC during the year was booked under expenditure of the AIIMS, therefore the current liability is overstated by Rs 32.53 lakh and the expenditure is also overstated by like amount.



## **A.2. Assets**

### **A.2.1 Fixed Assets**

- A.2.1.1 During the year 2021-22, Dr Rajendra Prasad Centre for Ophthalmic Sciences (RPC) sold condemned material for Rs 1.90 lakh. The original cost of these condemned items was Rs 5.80 crore and no depreciation was charged during the life span of these assets. During the audit of previous year accounts, audit noted that the cost of these sold items were not deducted from the fixed assets and in compliance of audit observation. AIIMS replied that necessary rectification would be carried out in the Annual Accounts of Financial Year 2022-23. Further, during the audit of annual accounts for the year 2022-23, it has been noticed that only Rs 2.70 crore was deducted from fixed assets against actual cost of Rs 5.80 crore. The details of this figure was not made available to audit. This resulted in overstatement of fixed assets by Rs 3.10 crore and overstatement of corpus fund by the same amount.
- A.2.1.2 National Drug Dependence Treatment Centre (NDDTC) sold condemned material during the year 2022-23 for Rs 0.48 lakh. The original cost of these condemned items were Rs 87.36 lakh and no depreciation was charged during the life span of these assets. Audit however noticed that only Rs 32.01 lakh were deducted from fixed assets against original cost of Rs 87.36 lakh. The details of the figure was not made available to audit. This resulted in overstatement of Fixed Assets and overstatement of Corpus/Capital fund by Rs 55.35 lakh.

### **A.2.2 Current Assets**

#### **A.2.2.1 Understatement of current assets-Rs 36.00 crore**

An amount of Rs 36.00 crore received from the Ministry for construction of 150 bedded critical care and Infectious Diseases Block. This amount was further released by the institute to the CPWD as advance payment for construction of the same Institute, however, did not include the amount in the balance sheet of the Institute as on 31.03.2023. This resulted into the understatement of the Current Assets (Capital Advance) as well as Capital Fund by Rs 36.00 crore.

#### **A.2.2.2 Understatement of current assets by Rs 0.13 crore**

Cardio-Thoracic & Neuro Sciences Centre (CNC) has been operating point of sale (POS) bank account in which all receipts during the year 2022-23 from POS machines available in AIIMS are being credited and subsequently forwarded to the various centres of AIIMS. Audit noticed that balance in POS bank account was Rs 20.50 lakh however only Rs 7.64 lakh was shown under Schedule - 11 (Current Assets). This resulted in understatement of current assets by Rs 12.86 lakh and understatement of current liabilities by the same amount.

#### **A. 2.2.3 Overstatement of closing balance-Rs 1.74 crore**

An amount of Rs 1.74 crore on account of CGHS has been included in the total amount of closing balance of the bank accounts as 31.03 .2023 in the current assets (AIIMS main), however, no such bank account was in operation during 2022-23. This amount was actually receivable from CGHS on account of treatment done to CGHS payments. The incorrect classification led to overstatement of Bank Balance and understatement of the relevant head in Current Assets by Rs 1.74 crore.

#### **A. 2.2.4 Understatement of current assets by Rs 0.33 crore**

As per bank reconciliation statement of account of National Drug Dependence Treatment Centre, opening balance of the cash book of March 2023 was Rs 28.38 lakh. During March 2023, cheques amounting to Rs 32.62 lakh were cancelled and written back in cash book and due to this the closing balance of cash book, as on 31.03.2023, was Rs 60.99 lakh. Audit however noticed that closing balance under Current Assets in Schedule - 11 was shown as Rs 28.38 lakh instead of cashbook balance of Rs 60.99 lakh. This resulted in understatement of current assets and understatement of Liabilities (corpus/capital fund) by Rs 32.62 lakh.

## **B. Income & Expenditure Accounts**

### **B.1 Overstatement of Income**

In the March end of the financial year 2022-23, three centres i.e. Cardio-thoracic & Neuro Sciences Centre (CNC), Jai Prakash Narayan Apex Trauma Centre (JPNATC) and National Cancer Institute (NCI), Jhajjar had transferred Rs 10.72 crore (CNC Rs 0.11 crore. JPNATC- Rs 6.58 crore and NCI-Rs 4.03 crore) from their Treasury Single Accounts to the accounts for payment of the salary for the month of March 2023, payable in the April 2023, however the amounts has not been depicted as unspent balance as on 31 March 2023. This resulted into the overstatement of Income and understatement of Current Liability by by Rs 10.72 crore.

### **B.2 Overstatement of Income**

AIIMS is maintaining a revolving fund in which receipts on account of various tests are credited and expenditure on account of procurement of laboratory chemicals/consumables are being made from this account.

During the year 2022-23, an adverse balance of Rs 4.09 crore under the head “Revolving Fund” is depicted as closing balance in the Schedule - 7 (Current Liabilities). However, during the year AIIMS had reported receipts of Rs 10.46 crore under revolving fund and expenditure of Rs 7.30 crore was incurred from this fund. Audit noted that AIIMS had booked the receipts under the head hospital receipts as income of the AIIMS instead in the correct head (Revolving Fund). This resulted into the overstatement of Income and understatement of Current Liabilities by Rs 10.46 crore.

### **B.3 Overstatement of income by Rs 0.02 crore**

National Drug Dependence Treatment Centre (NDDTC) transferred grant to various centres during previous years under United Nations Drugs Control Programme (UNDCP) account. Out of that, an amount of Rs 2.28 lakh was refunded by these centres to NDDTC as unutilized grant. Audit noticed that the above amount was shown as income under UNDCP account. This resulted in overstatement of income and overstatement of Reserve and surplus by Rs 2.28 lakh.

### **B.4 Overstatement of expenditure-Rs 2.21 crore**

An amount of Rs 2.21 crore has been depicted as interest transferred to the Ministry in schedule- of the annual accounts of AIIMS main. This interest was earned by the AIIMS in previous years, therefore booking of the payment of interest in current year resulted into the overstatement of expenditure and understatement of surplus by Rs 2.21 crore.

### **B.5 Overstatement of expenditure by Rs 0.03 crore**

UNDCP received grant of Rs 6.00 lakh from Indian Council of Social Science Research (ICSSR) out of which only Rs 2.50 lakh was utilized and after completion of the project, the remaining amount of Rs 3.50 lakh was refunded to ICSSR in October 2022. Audit noticed that the refund was booked as expenditure during the year instead of reducing the income by that amount. This resulted in overstatement of expenditure and understatement of Reserve and surplus by Rs 3.50 lakh

## **C. General**

### **C.1 Difference between the figures in Annual Accounts and the figure as per records/files**

- (i) As on 01 April 2022, an amount of Rs 8.27 lakh has been depicted as liability under the head ‘Post-partum programme’ in Schedule -7 (Other Current Liabilities) and there is no receipts and payments during the year, thus the liability as on 31 March 2023 is also unchanged as Rs 8.27 lakh. Scrutiny of records revealed that as on 01 April 2022 there was opening balance of Rs 6.66 lakh and during the year expenditure was Rs 2.30 lakh, leaving the closing balance as on 31 March 2023 as Rs 4.36 lakh. The difference needed to be reconciled.
- (ii) An amount of Rs 36.09 crore has been included in the total amount of Rs 556.59 crore depicted in the annual accounts of AIIMS (main). Geriatric Block as other “current liability”. This amount has also been depicted as current asset as closing balance, however, as per actual records (bank statement and bank reconciliation statement) only Rs only. Reasons for the same were called for but awaited till completion of the audit.
- (iii) Under Schedule 3 -Earmarked/Endowment funds, of the RPC. the closing balance for the year 2021-22 has been shown as Rs 9.81 crore. The opening balance for the year 2022-23 has been shown as Rs 18.25 crore. It may be reconciled.

### **C.2 Previous year figures not brought forward correctly**

An amount of Rs 3721859816.40 has been shown as opening balance of General Reserve in Schedule-2 of the Annual Account (consolidated) of the Institute. However previous year closing balance of this head was Rs 3721844150 . The difference of Rs 15666.40, may be reconciled.

An amount of Rs 36741353789 has been shown as opening balance of Plant Machinery & Equipment of Fixed Assets in Schedule-8 of the Annual Account (consolidated) of the Institute. However, previous year closing balance of this head was R. 36741338125 . The difference of Rs 15664 , may be reconciled.

**C.3** Schedule 8 - Fixed Assets of the annual accounts of the AIIMS (Main) and other centres of the AIIMS disclosed assets valued at Rs 7237.83 crore as on 31 March 2023. However, an Assets Register required to be maintained in Form GFR 22 under General Financial Rules 2017 has been maintained by the AIIMS only for the assets acquired during 2020-21, 2021-22 and 2022-23. In the absence of Assets Register for all the assets, the value of assets acquired prior to 2020-21, could not be verified in audit.

**C.4** An amount of Rs 1149.50 crore has been depicted as other advances in the schedule-11B-Loans, Advances and other Assets. Out of the total amount of Rs 1149.50 crore, Rs 1125.10 crore pertains to AIIMS (Main). Out of

these advances 118 numbers of advances amounting to Rs 311.54 crore are very old and figuring in the annual accounts without any addition/adjustments during the year 2022-23 also. The details are as mentioned below:

- i) 41 numbers of Advances amounting to Rs 38.27 crore are being reflected continuously in the current assets without any change in the figure i.e. there is no addition/ adjustment in the advances for more than seven years.
- ii) 31 numbers of advances amounting to Rs 19.60 crore are being reflected continuously in the current assets without any change in the figure i.e. there is no addition or adjustment in the advances for six years
- iii) 18 numbers of advances amounting to Rs 160.77 crore are being reflected continuously in the current assets without any change in the figure i.e. there is no addition or adjustment in the advances for five years.
- iv) 13 numbers of advances amounting to Rs 22.22 crore are being reflected continuously in the current assets without any change in the figure i.e. there is no addition or adjustment in the advances for four years.
- v) 15 numbers of advances amounting to Rs 70.68 crore are being reflected continuously in the current assets without any change in the figure i.e. there is no addition or adjustment in the advances for three years.

**Similar observation was issued to the AIIMS during previous years.**

**C.5** An amount of Rs 615.89 crore has been depicted as other current liabilities in the Schedule-7, it included Rs 556.59 crore pertaining to the AIIMS (Main). Out of the total amount of Rs 556.59 crore, Rs 229.04 crore has been depicted as liabilities on account of Research (Rs 115.79 crore), Scheme Cell (Rs 0.01 crore) and Non-institute Schemes (Rs 113.24 crore). The detail of the amount has not been provided to Audit.

**C.6** An amount of Rs 615.89 crore has been depicted as “other current liabilities and provision” in Schedule-7 of the AIIMS accounts. Out of the total amount of Rs 615.89 crore, Rs 556.59 crore pertains to AIIMS (main). Examination of these liabilities revealed that in 18 numbers of items of liabilities, the amount of liability is unchanged from the period from three to seven or more years as detailed below:

- i) eight numbers of liabilities having amounts of Rs 0.56 crore is showing without any addition or adjustments from more than eight years in Schedule 7 of the current liabilities
- ii) three numbers of liability having amount of Rs 0.43 crore is showing in the account without any addition/ adjustment from seven years
- iii) two number of liabilities having amount Rs 5.87 crore is showing in the account without any addition/adjustment from six years
- iv) One liability having unadjusted amount of Rs 5.62 crore is showing in the account without any addition/ adjustment from five years
- v) Three numbers of liabilities having unadjusted amount of Rs 1.89 crore are showing in the account without any addition/adjustment from four years
- vi) One liability having unadjusted amount of Rs 113.24 crore is showing in the account without any addition/ adjustment from three yeaRs

Similar observation (Comment No B.6) was issued to AIIMS on accounts of AIIMS for the year 2021-22. However, no remedial action has been taken by the AIIMS.

**C.7** During the previous year, a difference of Rs 0.30 crore in the book balance and actual balance of investment as on 31-03-22 was pointed out. Institute during current year has made an adjustment entry, by reducing of investment as well as corpus by Rs 0.30 crore without any assessment of the reasons for the difference in actual balance and book balance of the investments.

**C.8** The institute has not prepared the consolidated receipts and payments accounts for the year 2022-23. Similar observation (Comment No. B.7) was issued to AIIMS on accounts of AIIMS for the year 2021-22. However, no remedial action has been taken by the AIIMS.

**C.9** The Cardio-thoracic & Neuro Sciences Centre (CNC) received Rs 1.50 crore for Lung transplant programme under the head creation of capital assets. Out of above, an expenditure of Rs 1.74 lakh was incurred during the year 2022.23 and it was booked under the head revenue expenditure. The reason for diversion of capital grant for general/revenue expenditure was not provided to audit.

**C.10** As per records of Cardio Thoracic & Neuro Sciences Centre (CNC) closing balance under the head patient treatment (CGHS) was Rs 51.14 lakh. However, in Schedule-11 (Current Assets, Loans, Advances, etc.) of annual accounts of CNC, the same have been shown as Rs 34.72 lakh. The differential amount of Rs 16.42 lakh has been added in the balance shown under the head “Others” and it has been shown as Rs 48.87 lakh instead of Rs 32.45 lakh.

This has resulted in misclassification of receivable by Rs 16.42 lakh. Also, the above has resulted in understatement of balance under the head CGHS by Rs 16.42 lakh and overstatement of balance under the head “Others” by the same in Schedule -11 of annual accounts.

**C.11 Adverse Balances**

- i) An adverse balance of Rs 178,29,058 has been depicted under the head cochlear patient treatment account under “other current liabilities” AIIMS main accounts. No details/reasons for such adverse balance was provided.
- ii) At the closure of the financial year 2022-23, cash book of AIIMS (main) Account no. 10874584010 reflected minus balance of Rs 55.01 crore. It means that expenditure have been incurred without having sufficient funds. Examination further revealed that this adverse balance was continuously figuring from August 2022. This reflected the weakness of internal control mechanism.
- iii) An adverse balance of Rs 40892404 has been depicted in the other current liabilities of AIIMS main accounts. This was due to the booking of receipts of Rs 10.46 crore of revolving fund under hospital receipts.
- iv) An adverse balance of Rs 10214062/- under the head “outside recovery” was as per closing balance of the previous year. Institute did not take any action for finding the reasons for the same and the same figure as adverse balance is in the current year also.
- v) An amount of Rs (-1474097/-) has been depicted as Loan to staff under Schedule 11-B loan advances and other assets under Current Assets. This was highlighted in the previous year also but it had not been reconciled during the current year. No details/reasons for such adverse balance was provided.

**C.12** During the year 2022-23, Centre for Dental Education & Research incurred an expenditure of Rs 9.32 lakh under the head ‘Web & Mobile App Project’. The above expenditure was however booked under the head ‘National Oral Health Programme’ (NOHP) instead of ‘Web & Mobile App Project’. This has resulted in misclassification of expenditure between various earmarked funds by Rs 9.32 lakh. Further, this misclassification of expenditure has resulted in negative balance under the NOHP head, which was irregular.

**C.13** An amount of Rs 14.45 crore has been depicted as “Difference in Investment Value” in the liability side of the balance sheet of GPF as on 31 March 2023. The reasons and justification of this adjustment were not provided by the Institute, therefore the audit could not certify the correctness of the adjustment entry.

**C.14** Four numbers of the Category II Investments are in loss as on 31 March 2023

ISIN Name	Free balance	Investment value	Current balance value	Loss as on 31.03.2023
PFCL 7.20 10082035	7.20	40000000	38400000	1600000
PFCL 7.40 08052030	65	65000000	64025000	975000
THDC 7.39 25082031	140	140000000	137676000	2324000
THDC 7.45 20012031	90	90000000	88038000	1962000
			<b>Total</b>	<b>6861000</b>

The details of these investments were called for from the Institute, but were not provided.

**C.15 Issues related to the Research Cell**

AIIMS has prepared its consolidated annual accounts since the financial year 2020-21 excluding the accounts of National Drug Dependence Treatment Centre, United Nations Drugs Control Programme and Research Section. These accounts should also be merged in the consolidated accounts. During the audit, scrutiny revealed following discrepancies in the accounts of Research Section:

- (i) The research section has shown income of Rs 206.78 crore under grant/subsidies. Out of this, Rs 3.92 crore were received as overhead charges. These overhead charges should only have been shown under income and rest of the amount should have been added in earmarked funds. Thus, the income was overstated by Rs 202.86 crore.
- (ii) Cash book balances could not be verified in audit as balances in Schedule-11 had been depicted after consolidating 14 bank accounts. However, copy of BRS and calculation of the same was not provided to audit.

- (iii) Value of FDs under Schedule-11 has been shown as Rs 49.42 crore. Physical verification of FDs revealed that total value is Rs 47.75 crore. Similarly, Research section of AIIMS has shown fixed deposit amounting to Rs 9.61 crore under investment in Endowment fund account, however, as per information provided by the research section the total value of FDs is Rs 8.04 crore. The reason for the above difference was not explained to audit. Hence, there was a cumulative difference of Rs 3.24 crore between FDs shown in annual Accounts and FDs physically available with the section.
- (iv) The interest earned on FDs has not been taken as income during the year. The detail of the actual amount of interest during the year was called for by the audit. However, the same was not provided to audit.
- (v) There was an adjustment for difference in opening cash balance on 1 April 2022. The detail of the same was not provided to audit.
- (vi) The research section has been regularly procuring fixed assets out of its own income and as such, during 2022-23, fixed assets amounting to Rs 21.84 lakh were procured by them. These assets need to be depicted in Shcedule-8. The research section, however, never depicted the same under Schedule-8 of the Annual Accounts.
- (vii) There was no detail available with the section regarding Assets procured from earmarked/project fund.

Thus on the basis of the above-mentioned facts, the accounts of the Research section did not provide true and fair picture of the affairs of the research cell of the AIIMS

**C.16** Provision for retirement benefit was not made on actuarial basis as per as 15

**C.17 Non accounting of closing stock**

AIIMS as per its accounting policy is not accounting for closing stock of stores and supplies in the accounts and treated it as final expenditure at the time of payment. This has the impact of substantial value of store and supplies remaining out of accounts. Thus, the non-inclusion of consumables in the Current Assets has resulted in understatement of Current Assets and overstatement of Expenditure to the same extent. Similar observation (Comment No. B. 12) was issued to AIIMS on accounts of AIIMS for the year 2021-22. However, no remedial action has been taken by the AIIMS.

**C.18 Depreciation** - AIIMS has started charging depreciation on fixed assets from the financial year 2020-21 and no depreciation has been charged on the fixed assets acquired prior to the year 2020-21. In this regard, audit could not verify the correctness of closing balance of Fixed Assets as depicted in the Annual Accounts.

**D. Grant-in-aid**

AIIMS had received grants-in-aid from the Ministry of Health & Family Welfare during 2022-23. The details of funds received and expenditure thereof are given below:

(₹ in crore)

Particulars	Receipt during the year	Expenditure	Unspent Balance
Salary	2300	2243.00	57
General	1300	1322	(22)
Capital	450	325	125
SAP	7	8.13	
HEFA Loan (Principal and Interest)	293.79	294.29	
<b>Total</b>	<b>4350.79</b>	<b>4192.42</b>	<b>158.37</b>

The excess expenditure in the head 'General' was met out from the internal receipts/resources of the AIIMS and in the heads 'SAP' and 'HEFA Loan' the excess expenditure has been met out from previous years balances.

For and on behalf of C&AG of India

Place: New Delhi

Date:

Sd/  
(Rajiv Kumar Pandey)  
Director General of Audit  
(Central Expenditure)

## **Annexure**

### **1. Adequacy of internal audit system**

Details of total number of units planned and actually audited during the year 2022-23 were not provided by the institute. There was no internal audit manual.

### **2. Adequacy of Internal Control System**

- i. 62 paras of external audit for the period from 1996-98 to 2018-19 were outstanding as on 31 March 2023.
- ii. The AIIMS was not maintaining fixed assets register as per the prescribed format for the assets acquired up to year 2019-20.

### **3. System of physical verification of Assets**

The physical verification of fixed assets has been conducted up to 2022-23

### **4. System of physical verification of inventory**

The physical verification of inventory like books and publications, stationery and other consumables has been conducted up to 2021-22.

### **5. Regularity in payment of dues**

As per accounts, no payments for over six months in respect of statutory dues were outstanding as on 31 March 2023.





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