

CURRICULUM VITAE



1. Name : Dr. Keshav Goyal
2. Designation : Professor
3. Department/Institute : Neurocritical Care,
Department of Neuroanaesthesiology and
Critical Care
All India Institute of Medical Science (AIIMS)
4. Date of Birth : 29/11/1978
5. Complete address : 115, JPN Apex Trauma Center, AIIMS,
New Delhi, INDIA
6. Phone : +91-9999079795; +91986888618 ; 01126594111
7. E-Mail : keshavgoyalster@gmail.com
8. Date of Joining AIIMS :10.03.2012
9. Date of posting to present dept.:10.03.2012
10. Present position : Professor

11. Education & Employment (Post-Graduation onwards & Professional Career)

S.No.	Institution/Place	Degree Awarded	Year	Field of Research
1.	Pt JNM Medical college, Raipur, CG, India	MD (Anaesthesiology)	2007	TIVA in day care surgeries
2.	AIIMS, New Delhi, India	DM (Neuroanaesthesiology and Neuro Critical Care)	2011	Craniosynostosis, Airway with awake Fiberoptic Bronchoscopy (FOB)
3.	Medanta-the Medicity	Associate consultant	Jan 2012- March2012	Traumatic Brain Injury (TBI)
4.	AIIMS, New Delhi, India	Assistant Professor	March 2012- June 2015	Neurocritical care, TBI, Cerebral autoregulation
5.	AIIMS, New	Associate Professor	July	TBI, Outcome

	Delhi, India		2015- June 2018	prognostication, Neurocritical care,
6.	AIIMS, New Delhi, India	Additional Professor	July 2018- November 2022	NCSE, Outcome prognostication, Cerebral auto regulation
7	AIIMS, New Delhi, India	Professor	July 2022-till now	Automated Pupillometry, NCSE, Multimodality Monitoring

1. Actively involved in care of Neurosurgery and Neurology patients in operation theatre and postoperative management in ICU at Neurosciences center and JPNATC.
2. Perioperative management of all trauma patients
3. Management of 20 bedded Neurocritical care unit at JPNATC as ICU in charge.

A. Employment and academic appointments:

(Starting with the most recent employment)

S. No.	Institution	Position	From (Date)	To (date)
1. 1.	AIIMS, New Delhi, India	Professor	July 2022	till now
2. 1.	AIIMS, New Delhi	Additional Professor	July 2018	June 2022
3. 2.	AIIMS, New Delhi	Associate Professor	July 2015	June 2018
4. 3.	AIIMS, New Delhi	Assistant Professor	March 2012	June 2015
5. 4.	Medanta-the Medicity	Associate consultant	Jan 2012	Mach 2012
6. 5.	AIIMS, New Delhi	Fellow	March 2008	Dec 2011

ADMINISTRATIVE ACHIEVEMENTS:

1. ICU administrative in charge for Trauma Neuro ICU
2. Secretary Treasurer of Neurocritical Society of India (NCSI) (2023-25) and past member of Board of directors.
3. Executive committee member of Indian Society of Neuroanaesthesiology and Critical Care (ISNACC) since 2022
4. Organizing Secretary of 3rd NCSI organized at New Delhi, India
5. National coordinator cum director of Acute Neuro Care (ANC) Course of NCSI & ISNACC
6. Past Trainee Education committee (TEC) member of SNACC
7. Member of organizing committee of 1st NCSI Conference
8. Committee member of ICU management committees of Neurocritical care ICU (Neurosurgery and Neurology ICUs) at Neurosciences center and Trauma Centre institute department activities like procurement of machinery and equipment, exam conduction as incharge and examiner, part of SPC and TSEC committees, ICU committee, Linen committee etc.

ACADEMIC APPOINTMENTS:

(State your academic achievements that are noteworthy for the year. This may include academic awards, admission to fellowships of academies etc.)

1. **ENLS Instructor:** Successfully recertified in Neurocritical care society (USA) -run Emergency Neurological Life support (**ENLS**) *Instructor. Presently an instructor of the ENLS course.*
2. **BLS & ACLS instructor:** Successfully renewed **BLS** and advanced cardiac life support course (**ACLS**)instructor status from American Heart Association (AHA) on **Dec 2020**. Updated on the reviewed new guidelines. Member of core Faculties of AIIMS- runAHA certified advanced care life Support (BLS and ACLS) course.
1. **ATLS Instructor:** Successfully completed 10th edition ATLS update course, Active faculty of Advanced Trauma Life Support (**ATLS**) course; **ATLS id- 43100 – I/532171**
3. Independent Expert to certify Brain Stem Death at AIIMS, New Delhi, India. **ORBO/CNC/2016/4878/ Aug 2016**
4. **Course director cum Coordinator of Acute Neuro Care (ANC)** affiliated by National societies (NCSI & ISNACC). Conducted 25 courses till now in various parts of India
5. Member of core consensus committee of AIIMS Critical Care Course (ACCC) for Surgeons/ Interns.
6. Actively involved in research activities related to Neurocritical Care (Projects – 20, Thesis -9; Enclosure 1) and Publications >100 (**Enclosure 2**)
 1. Lectures (>100) presented delivered at CMEs, National and International conferences. Participated in many academic seminars and conferences held virtually.
Enclosure 3
1. Reviewer of various journals Journal of Neuroanaesthesiology and Critical Care (JNACC), Indian Journal of Critical care Medicine (IJCCM), Asian Journal of neurosurgery, Neurology India, BJA case reports, Neurosurgery Review, IJA, JOACP (Journal of anesthesia and clinical pharmacology), International Journal of Respiratory and Pulmonary Medicine etc.

13. Involved in teaching postgraduate, DM and senior residents of the department and participated in preparation and conduction of seminars, journal clubs and case presentations.
14. Teaching of Nursing staff, paramedical staff, paramilitary personnel, technicians of basic emergency care and mass casualty management.
15. As chief coordinator, BSC Technician course was conducted virtually and exam conducted.
16. As Director of Basic Emergency Critical Care Course (BECC) course. Teaching school children, police personnel. Paramilitary personnel in trauma care, basic life support (BECC) and disaster management.
17. Appointed as External Examiner of Madhya Pradesh medical Science University, Jabalpur (MP) for MD anaesthesiology and As subject expert, interview at Jammu and Kashmir UPSC staff Recruitment, November 2022 for Post of Lecturer Anaesthesiology at Government Medical College Jammu/Srinagar in Health & Education Department
18. Actively participated in COVID pandemic clinically and administratively from day 1 till now. Managed patients in **COVID ICU** at JPNATC and AB8.
19. Thesis evaluator for DM candidates (PGIMER, NIMHANS) and MD Candidates (Army hospital Research and Referral, Safdarjung Hospital, PGIMER, University of Delhi South Campus, Delhi)
20. MCQ preparation for postgraduate, DM, fellowship and non acad- senior resident exams.
21. **Examiner** for DM (Neuroanaesthesiology and Critical Care), Fellowship in Neurocritical care, MD (Anaesthesiology), BSC OT Technology.

Research and Publications:

B. Publications (Numbers only) ; Enclosure 2

Research Papers: 119

International: 70

National:49

Abstracts: 21

Others (Please specify), **Books:**

Manual: 1

Chapters in books:9

C. Research Support: Enclosure 1

Research specialization (Major scientific fields of interest):

1. Traumatic Brain Injury (TBI)
2. Neurocritical care
3. Outcome Prognostication
4. Acute Care of trauma and disaster patients

Ongoing and completed Research Projects

Serial No	Title	Source of Funding	Year	Total Amount
	Infrared pupillometry as a diagnostic tool in assessment of Non convulsive status epilepticus in severe TBI patients at level-1 trauma centre in India (ICMR adhoc project programme Project Id- 2021-13153/F1)	ICMR (Extramural Grant)	2022-24	INR 35 Lakhs
a. 1	Non-convulsive status Epilepticus (NCSE) IN Severe Traumatic Brain Injury(sTBI) Patients at level-I trauma center in India	ICMR	2021-23	INR 24, 31, 426
b.				
2.	Red Blood cell distribution width as a prognostic	Non-funded	2020	-

	marker in aneurismal subarachnoid hemorrhage (aSAH)			
3.	Red Blood cell distribution width as a prognostic marker in Acute Traumatic Brain Injury (TBI)	Non-funded	2020	-
4.	Assessment of cerebral autoregulation by near infrared spectroscopy (NIRS) in patients with Severe TBI	Intramural Fund	2015-2018 Completed	Rupees 5 lakhs
5.	Prognostic value of serially estimated serum procalcitonin in multiple trauma victims with and without head injury.	Non funded	Completed	Published
6.	Effect of Lidocaine infusion on hemodynamics and recovery in patients undergoing endoscopic pituitary surgery: A multicentre, Randomized control trial.	Non funded	2013-continuing	
7.	Non-neurological complications in patients of severe head injury.	Non funded	Completed	Published
8.	Serum lactate, base deficit and glucose levels as prognostic markers of severe traumatic brain injury	Non funded	Completed	

Research Projects as Co- Investigator

Serial No	Title	Source of Funding	Year	Total Amount
1.	Comparing the use of needle guidance versus free hand technique in performing ultrasound guided central venous cannulation: A prospective randomized trial	Intramural funded	2017-continuing	Rs 5 lakh
2.	Proposal for center of advanced research (CAR) in Hospital acquired infection- Prevention and control	Extramural Funded	2019-Continuing	
3.	Detection of saline filled cuff by Ultrasonography for confirmation of correct endotracheal tube position in adult patients: A prospective observational study IEC-985/03.10.2020	Non- funded	2020-continuing	
4.	Assesment of effect of cerebral perfusion pressure augmentation in severe head injuries by monitoring of regional energy metabolism by cerebral microdialysis	Intramural Fund	Completed and Published	4.95 lakhs
5.	Does real time ultrasonography during bronchoscopy guided percutaneous tracheostomy confer any benefit: a preliminary Randomized controlled trial	Intramural Funded	Completed and Published	Rs 83000
6.	Comparing efficacy and safety	Intramural	Completed	INR

	of indigenous goggles with fan versus standard goggles in health care workers in Covid ICU: A pilot study	Grant		2,95,000
7.	Effect of decompressive craniectomy on jugular venous oximetry (SJVO ₂) in patients with severe Traumatic brain injury (TBI)	Intramural Funded	Continuing	Rs 5 lakh
8.	Cardiovascular complications after traumatic spinal cord injury.	Non funded	Completed	
9.	Comparison of fibreoptic endotracheal intubation with and without the use of air-Q as a conduit in patients with cervical spine injury: a pilot study.	Intramural Funded	2015- Continuing	Rs 2, 16,000
10.	To study the risk factors and causes of extubation failure in head injury patients.	Non funded	Completed	
11.	Effects of dexmedetomidine for ICU sedation in head injury patients.	Non funded	Completed	
12.	Prospective study on the effectiveness of chlorhexidine gluconate impregnated patch (BIOPATCH [®]) in reducing the incidence of central line associated bloodstream infection (CLABSI).	Non funded	Completed and Published	
13.	Surveillance of bloodstream	Non funded	Completed	

	infections (BSI) at a referral Indian hospital.			
14.	Optic Nerve Ultrasound in severe Traumatic Brain Injury(TBI)	DBT funded	Continuing	Rs 36, 07380

Mentoring the research projects : Thesis as Guide: Enclosure 1

1. Early Quantitative pupillometry as a predictor of long-term outcome in severe traumatic brain injury patients: A prospective observational study: **Dr Basav Kiran Namdar**
2. Prevalence of Augmented Renal Clearance in Pediatric Traumatic Brain Injury patients: **Dr Basav Kiran Namdar**
3. Comparative study of Automated Quantitative Pupillometry and clinical pupillometry in Neurocritical care: **Dr Mulaokar Mangesh Ganesh... Completed**
4. Lactate, Base deficit in prognosticating the outcome of severe Traumatic Brain Injury: **Dr Ratnesh Shukla.... Completed**

Thesis as Co-Guide:

1. 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: **Dr Uma Devi Manyam**
2. Comparing different types of laryngoscopes for endotracheal intubation in various difficult airway scenarios simulated using a high-fidelity airway mannequin model - an observational study : **Dr Rahul Sam... Completed**
3. Correlation of NIRS with Intraoperative Transfusion Trigger in Pediatric Patients Posted for Posterior Fossa Tumour Excision. **Dr Vatipalli Sameera Completed**
4. Effect of Neuroradiological interventions on regional cerebral oxygenation in patients with anterior circulation aneurysm: An observational study. **Dr Hirok Roy...Completed**
5. A comparison of the effectiveness of Dexmedetomidine versus propofol infusion for sedation during awake craniotomy. DM student:**Dr Suman Sokhal...Completed**

Collaborative projects

S. No.	Title of the project	Collaborating department/institution	
1.	Effect of Lidocaine infusion on hemodynamics and recovery in patients undergoing endoscopic pituitary surgery: A multicentre, randomized control trial.	Department of Anaesthesiology, Health Sciences Centre, University of Manitoba, Winnipeg, Canada	
2.	Prospective study on the effectiveness of chlorhexidine gluconate impregnated patch (BIOPATCH [®]) in reducing the incidence of central line associated blood stream infection (CLABSI).	Department of Microbiology, JPNATC, AIIMS	
3.	Surveillance of blood stream infections (BSI) at a referral Indian hospital Surveillance of blood stream infections (BSI) at a referral Indian hospital	Department of Microbiology, JPNTC, AIIMS	
4.	Optic Nerve Ultrasound in severe Traumatic Brain Injury (TBI)	University of Michigan, Michigan, USA	
5.	A week in neurocritical care unit: Point prevalence observational study in Neurocritical care: PRINCE Study. IEC/NP-190/2014 RP -03/2014	Baylor School of Medicine, Houston, Texas.	Completed Published in Neurocrit care

Publications: Enclosure 2

1. Mishra RK., **Goyal K** et al. **Brain Regional Energy Metabolism in Patients with Traumatic Brain Injury: A Cerebral Microdialysis Guided Study.** February 2024 *Neurology India* 72(1):78-82 DOI:10.4103/neuroindia.NI_37_21.
2. **Goyal K**, Tomar GS, Sengar K, Singh GP, Aggarwal R, Soni KD, Mathur P, Kedia S, Prabhakar H. Prognostic Value of Serially Estimated Serum Procalcitonin Levels in Traumatic Brain Injury Patients with or Without Extra Cranial Injury on Early In-hospital Mortality: A Longitudinal Observational Study. **Neurocrit Care.** 2021 Feb;34(1):182-192. doi: 10.1007/s12028-020-01009-y
3. Mishra A, Kumar M, Kumar N, **Goyal K**, Dev Soni K, Yadav A, **Short-axis versus long-axis approach for ultrasound-guided vascular access: An updated systematic review and meta-analysis of randomised controlled trials.** *Indian Journal of Anaesthesia.* November 2023 *Indian Journal of Anaesthesia* 67(Suppl 4):S208-S217, DOI:10.4103/ija.ija_965_22.
4. **Goyal K**, Hazarika A, Khandelwal A, Sokhal N, Bindra A, Kumar N, Kedia S, Rath GP. Non-Neurological Complications after Traumatic Brain Injury: A Prospective Observational Study. **Indian J Crit Care Med.** 2018 Sep; 22(9):632-638
5. **Goyal K**, Prabhakar H, Chaturvedi A, Kumar R, Dash HH. Laryngeal Morbidity Associated with Fiberoptic Tracheal Intubation under General Anaesthesia with and without use of Muscle Relaxant. **J Anesth Clin Res.** 2014;5: 415. doi:10.4172/2155-6148.1000415
6. Chawla V, Aggarwal R, **Goyal K**, Sokhal N, Shetty G, Sharma AK, Lal P, Kumar S, Misra M, Kumar A **Implementing a Nationwide Simulation-Based Training Program in Managing Sick Surgical Patients.** *Indian Journal of Surgery* 85(6).2023 Dec, DOI:10.1007/s12262-023-03740-0.
7. **Goyal K**, Garg N, Bithal P. Central fever: a challenging clinical entity in neurocritical care. **J Neurocrit Care.** 2020;13(1):19-31.
8. **Goyal K**, Chaturvedi A, Prabhakar H. Factors affecting the outcome of patients undergoing corrective surgery for craniosynostosis – A retrospective analysis of 95 cases. **Neurol India.** 2011 Nov-Dec; 59(6):823-8.

9. **Goyal K**, Philip FA, Rath GP, Mahajan C, Sujatha M, Bharti SJ, Gupta N. Asystole during posterior fossa surgery: report of two cases. **Asian J Neurosurg** 2012; 7:87-9.
10. **Goyal K**, Khandelwal A, Kedia S. Multimodal Neuromonitoring: Current Scenario in Neurocritical Care. **J Neuroanaesth Crit Care** 2019; 06(02): 062-071. DOI: 10.1055/s-0039-169286
11. **Goyal K**, Mitra R, Kedia S. Mechanical ventilation in neurosurgical patients. **Indian J Neurosurg** 2013; 2:262-6.

Professional Memberships

1. Neurocritical Care Society (NCS)
2. Neurocritical Care Society of India (NCSI)
3. Indian Society of Critical Care Medicine (ISCCM)
4. Indian Society of Neurosciences in anaesthesia and critical care (ISNACC)
5. Society of Neurosciences in anaesthesia and critical care (SNACC)
6. Neurological Society of India (NSI)
7. Neurotrauma Society of India (NTSI)
8. Indian Society of Anesthesiology (ISA)
9. Delhi Neurological Association (DNA)
10. Indian Society of Pain and Palliative Care
11. Emergency Neurologic Life support (**ENLS**) Instructor
12. Advanced Trauma Life Support (**ATLS**) instructor- **ATLS id- 43100 – I/532171**
13. Acute Neuro Care (ANC) National Coordinator
14. Basic Life support (**BLS**) instructor
15. Advanced Care Life Support (**ACLS**) instructor
16. AIIMS ultrasound Trauma life support (**AULTS**) instructor
17. AIIMS Basic Emergency care Course (**BECC**) instructor

Organised:

1. Course director cum National Coordinator of 1st Acute Neuro Care (ANC) Train the trainer (TOT) program affiliated by National society (ISNACC) and NCSI in NOV 2023 at JPNATC, AIIMS, NEW DELHI
2. Part of organizing committee and conducted physical ANC at various cities across India (Haryana (Gurugram), Kerala (Kottayam), Maharashtra (Wardha, Latur) for capacity building.
3. Organized Neuromonitoring Workshop during ISACON 2023 at JPNATC, AIIMS, New Delhi
4. Organizing Secretary of 1st ANC TOT Course November 2023 at JPNATC, New Delhi, India
5. Organizing Secretary of 3rd Annual Conference of Neurocritical Society of India (NCSI) at New Delhi , India
6. Member of organizing committee of 1st Annual Conference of Neurocritical Society of India (NCSI)
7. Part of organizing committee of AIIMS annual Neuroanaesthesia update 2017, ANLS, Cadaveric airway workshops and cadaveric pain workshops.

Awards and Honors

1. Awarded Presidential appreciation award for educational activities at national conference of Neurocritical Care Society of India (NCSI) 2023 at Gurugram, Haryana
2. Awarded **Young talent Hunt** by ISCCM at CRITICARE
3. Government of India National talent search Scholarship Recipient
4. Awarded Visiting Preceptorship in Neurological intensive care and Neuroanaesthesiology at **Cleveland Clinic**, Ohio, USA March 2018.
5. Awarded Honorary fellowship of Global association of physician of Indian Origin (**GAPIO**) for academic excellence.
6. **ISNACC Travel grant** 2018-19
7. **Best paper award at CRITICARE 2023-24,**
8. **Best Poster** award 2019-20 ISNACC

9. Independent Expert: Brain death certification at AIIMS
ORBO/CNC/2016/4878/ Aug 2016
10. **BLS and ACLS** Instructor: Renewed: **Nov 2018.**
11. **ATLS** Instructor: 10th Edition updated
12. **ENLS** Instructor: Recertified
13. **ANC** Instructor and Course Director
14. **BECC** Instructor and Course Director
15. **AUTLS** Instructor
16. Member of **Trainee Engagement Committee** of SNACC, USA
17. NANC- Refresher Course/ PG assembly AIIMS
18. **Reviewer** for IJA, IJCCM, JNACC, JOACP, BJA case reports, Neurosurgery Review
19. **Organizing Secretary of 3rd Annual Conference of Neurocritical Care Society of India (NCSI 2022) & 8TH AIIMS Neuroanaesthesiology and Neurocritical Care Update 2022**

Service: Contributions made towards the development of new unit/speciality/laboratory/facility/programs/therapeutic or diagnostic procedures developed or patents taken (enclosed evidence)]:

1. Proposed and prepared **Neurocritical Care Fellowship programme at AIIMS** as core faculty, running successfully for last 6 years.
2. Proposed and prepared **BSC OT Technology Course** as core faculty...Successfully running for last 3 years.
3. **AIIMS Neurological Life Support (ANLS)/ Acute Neuro Care (ANC): Patented**
Conceptualized this unique course for first responders best practices, evidence based by “*What to do and How to do*” concept. Successfully conducted as Course director of 1st (January 2017), 2nd (October 2017) and 3rd (March 2018) ANLS at JPNATC, New Delhi. Hyderabad, PGI, Chandigarh, NIMHANS, Artemis Guragaon (Virtual), AIIMS Bhatinda. 9 Courses till now..
Jangra K, Goyal K. ANC: An ISNACC Initiative for Management of Neurological Emergencies in Indian Context. SNACC newsletter. 2020
4. **Acute Critical Care Course (ACCC)**- A core consensus faculty of ACCC involved in beginning and developing the manual and the course at JPNATC, AIIMS. Introductory course: November 2014. 35 Courses since the and successfully running...
Sokhal N, Kumar A, Aggarwal R, Goyal K. et al. Acute critical care course for interns to develop competence. Natl Med J India. 2021 May-Jun; 34(3):167-170.
Kumar A, Sokhal N, Aggarwal R, Goyal K. et al Communication skills training through 'role play' in an acute critical care course. Natl Med J India. 2021 Mar-Apr; 34(2):92-94.

5. **Advanced Cardiac Life Support Course (ACLS)** – An ACLS instructor involved as core faculty in introducing ACLS course at AIIMS, New Delhi. First course: September 2015. Successfully running...
6. Started Neurocritical care facility at JPNATC, developed a dedicated unit to care Neurocritical trauma patients.
7. First faculty batch to have joined in Neuroanaesthesiology and neurocritical care at trauma center and contributed to regularize neurotrauma related patient care at JPNATC.
8. Began Pain clinic, PAC services at JPNATC for trauma patients.
9. Conceptualized **Cadaveric Airway Workshop** – 1st of its kind in India. **5** workshops till now.
10. **Cadaveric Pain workshop C –arm guided** started as core faculty. **3** courses till now.
11. Actively started and organized Yearly CME of the department “**Neuroanaesthesia and Neurocritical care update**” as Co- organizing secretary. Running 8th this year

Contributions in community & National programs: -

1. Taught Basic Life support and acute care to School Children, Teachers, Nurses, paramedics, Defence, CRPF, Police personnel.
2. Trained police and Maharashtra University of Health Sciences (MUHS), Nashik as preparedness and capacity building for kumbh Mela at Nashik, Maharashtra.
3. ATLS Instructor
4. BLS and ACLS instructor
5. ANC/ ENLS instructor
6. Organized Medical Camp at distant villages in collaboration with Parmarth Niketan Ashram, Rishikesh
7. Team Leader of the team appointed by JPNATC under EMR division of Ministry of Health to look after medical aid following cyclone LEHER.
8. Spreading awareness through Marathons and Cyclothons.

Teaching:

1. Proposed and prepared **Neurocritical Care Fellowship programme** and **BSC OT technology** as core faculty, running successfully for last 6 years and 3 years respectively.
2. Postgraduate and DM teaching –
 - a. Instrumental in successfully conducting **1st virtual examination** and setting virtual platform for smooth completion of seminars and case presentations in department during COVID.
 - b. Lecture, tutorial classes, Seminars, Journal clubs and clinical Neuroanaesthesia and Neurocritical care teaching in OT and ICU.
 - c. Examiner for DM Neuroanaesthesiology (AIIMS, PGI, NIMHANS), Neurocritical care fellowship and MD Anaesthesiology.
3. Nursing and technical staff teaching –Conducted workshops each for Nursing and technical staff at Neuroanaesthesia update.
4. Member of Trainee Engagement Committee of SNACC, USA
5. **Acute Neuro Care ANLS/ ANC** conceptualized for protocolized training of first responders during emergency neurological conditions. 9 courses
6. **Acute Critical Care Course (ACCC)** conceptualised and prepared manual as core consensus faculty for capacity building. 35 courses till now. Running Successfully.
7. ATLS, BLS, BECC, ACLS to medical fraternity, school children, Teachers, defence, CRPF and police personnel.
8. **Advanced Cardiac Life Support (ACLS)** begun in- house with the target of teaching protocolized care from the resident level. Running successfully.

Research –

1. **Two Extramural Funded (ICMR) funded projects** worth 60 lakhs and **1 Intramural funded Projects**– ongoing based on neuromonitoring and its application in prognosticating the outcome of brain injured patients.
2. **8 projects** as chief investigator in my area of interest mostly Neurocritical care and 13 Projects as Co-investigator.
3. **119 Publications** in peer reviewed national and international journals along with **9 chapters** in books and **16 abstracts**.

4. **9 theses** as Guide for DM students (Neuro Anaesthesiology and Critical care)

Place: New Delhi

Signature

Date: 15/4/2014