REGULATIONS AND CURRICULUM GOVERNING

FELLOWSHIP IN REGIONAL ANAESTHESIA PROGRAM

(2025-26)

Name of the Constituent Unit/Centre: Yenepoya Medical College



Deralakatte, Mangalore, Karnataka.

NOTIFICATION FROM THE UNIVERSITY

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OFFICE OF THE REGISTRAR

No.: 64-ACM/03/2025 Date: 25.09.2025

NOTIFICATION

Sub: Starting of Fellowship program in Regional Anaesthesia - reg.:-

Ref: 1. Resolution of the Academic Council at its 64th meeting held on 14.08.2025 vide agenda-03.
2. Resolution of the Executive Council at its 9th meeting held on 11.09.2025 vide agenda - 3

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Pursuant to the resolutions cited in the above references, Yenepoya (Deemed to be University) hereby notifies starting of a Fellowship program in Regional Anaesthesia in the department of Anaesthesia under the Faculty of Medicine with effect from the academic year 2025-26, along with the curriculum and regulations for the same with an intake of two seats per year.

REGISTRAR
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To:

PA to Vice Chancellor
Dean of Academics, Yenepoya (Deemed to be University)
Controller of Examinations
Dean, Faculty of Medicine
File Copy

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FELLOWSHIP IN REGIONAL ANAESTHESIA

Preamble

Regional anaesthesia (RA) has become a vital component of perioperative care, pain management, and enhanced recovery protocols. Despite its growing importance, there is a paucity of structured training programs in India. This fellowship, offered by Yenepoya (Deemed to be University), is designed to provide comprehensive training in ultrasound-guided and peripheral nerve stimulator-assisted regional anaesthesia techniques. It aims to produce independent, confident, and evidence-based practitioners capable of delivering high-quality patient care.

Scope and need for starting the course: With increasing demand for regional anaesthesia and acute pain management in trauma, orthopaedic, general, urologic, and paediatric surgeries, onco surgeries, as well as postoperative pain management, there is a pressing need to equip anaesthesiologists with specialized skills. This course bridges the gap between postgraduate education and practical expertise, supporting the institution's commitment to advanced medical education and quality healthcare.

For whom is it meant: Candidates with MCI/NMC-recognized postgraduate degrees in Anaesthesiology: MD, DNB, or DA.

Objectives/Outcomes of the course:

On completion of the fellowship, the candidate will be able to:

Perform a wide array of ultrasound-guided and nerve stimulator-assisted peripheral and truncal nerve blocks.

Demonstrate sound knowledge of applied anatomy, pharmacology, and equipment relevant to RA.

Integrate regional anaesthesia into perioperative care and acute pain services.

Participate in research, audits, and academic presentations.

Manage local anaesthetictoxicities , hematomas and block failures.

Lead a regional anaesthesia service in both teaching and non-teaching settings.

Duration of the course with credits: 13 months, full-time. Credits- 32.

Attendance requirements:

Minimum 80% attendance in clinical and academic sessions.

Active participation in teaching activities and emergency on-call services.

Attendance at one national or regional workshop/conference related to regional anaesthesia is encouraged.

Syllabus/Course content

1. Theory (Cognitive Domain):

Topic Area	Subtopics
Ultrasound & PNS Equipment	• Physics of ultrasound (frequency, attenuation, resolution) • Machine knobology and image optimization • Understanding and identification of artifacts • Principles and applications of Doppler in RA • Cleaning and sterilization protocols for equipment
Applied Anatomy &Sonoanatomy	• Surface and cross-sectional anatomy relevant to RA • Sonoanatomy of brachial plexus (interscalene, supraclavicular, infraclavicular, costoclavicular, axillary) • Sonoanatomy of lower limb nerves (femoral, sciatic, popliteal, saphenous, lumbar plexus) • Thoracic, abdominal wall, and paravertebral anatomy • Neuraxial sonoanatomy (spinal, epidural,

	caudal)
Applied Physiology	• Pain pathways and modulation • Mechanisms of nerve conduction and blockade • Physiology of the autonomic nervous system in RA • Pathophysiology of nerve injury and regeneration
Applied Pharmacology	• Pharmacokinetics and pharmacodynamics of local anaesthetics • Use and mechanisms of adjuvants (dexmedetomidine, clonidine, etc.) • Anticoagulation and regional anaesthesia guidelines • Sedative agents and their use during RA • Recognition and management of local anaesthetic systemic toxicity (LAST)
Pain Management	• Principles of acute pain management with RA • Chronic pain mechanisms and RA-based interventions • RA in enhanced recovery after surgery (ERAS) protocols
Specialty-Specific RA	• RA strategies for orthopaedic surgeries (limb blocks, neuraxial) • RA for general surgery including abdominal blocks (TAP, rectus sheath) • Paediatric regional anaesthesia considerations and techniques • Urologic and gynecologic procedures: caudal, spinal, epidural • Thoracic surgery: paravertebral, erector spinae, intercostal blocks
Complications	• Recognition and prevention of nerve injury • Causes and troubleshooting of block failure • Infection control and aseptic techniques • Diagnosis and management of LAST

	• Pneumothorax and other block-specific complications
Ethics & Communication	• Obtaining valid informed consent • Clear communication of risks, benefits, and alternatives • Ethical dilemmas and medico-legal responsibilities • Accurate documentation practices
Research Methodology	• Framing research questions and objectives • Conducting literature reviews • Study design (RCTs, observational studies, audits) • Basic biostatistics and interpretation of data • Manuscript writing and ethical publishing

2. Practical Skills (Psychomotor Domain):

Skill Area	Techniques
Basic Skills	Probe handling, image optimization, needle control
Block Techniques	Upper/lower limb, truncal, neuraxial blocks (USG & PNS)
Advanced Blocks	Paravertebral, QL, lumbar plexus, parasacral
Continuous Catheter Use	Insertion, securing, managing complications
Simulation & Cadaver Lab	Phantom models, quarterly cadaver-based dissection
Emergency Management	LAST protocol, block failure rescue strategies

3. Attitude and Professionalism (Affective Domain):

Communicating risks and benefits with patients

Ethical practice, documentation, and consent

Teamwork and leadership in operating theatres and acute pain services

Lifelong learning through self-audit and literature updates

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Program Outcomes

Core Clinical Competencies

PO#	Program Objectives	Program Specific Objectives
PO1	Develop knowledge in sonoanatomy and regional techniques	Demonstrate comprehensive knowledge of ultrasound anatomy and peripheral nerve blocks
PO2	Perform regional blocks safely and independently	Carry out basic and advanced RA procedures with precision and confidence
PO3	Ensure safe and ethical patient interaction	Explain procedures, manage expectations, and obtain informed consent
PO4	Manage RA-related complications	Recognize and respond to LAST, block failure, or inadequate analgesia
PO5	Apply RA in broader perioperative context	Integrate RA into ERAS pathways and multimodal analgesic strategies

Scholarly and Leadership Competencies

PO#	Program Objectives	Program Specific Objectives
PO6	Lead anaesthesia services and initiatives	Organize and guide RA services across diverse clinical contexts
PO7	Engage in quality improvement and audits	Plan and execute departmental audits and improvement plans
PO8	Foster research culture	Conduct and publish RA research in indexed journals
PO9	Promote peer and student learning	Mentor junior colleagues and lead educational sessions
PO10	Uphold professionalism and ethics	Demonstrate integrity, accountability, and commitment to best practices

TEACHING -LEARNING MODALITIES

Weekly didactic sessions and case-based discussions

Journal clubs (once a month)

Hands-on training under supervision (Monday–Saturday)

Simulation and phantom-based skill development

Cadaveric anatomy workshops (quarterly)

Logbook and e-portfolio with weekly reflections

Regular internal assessments and feedback

Teaching undergraduate/postgraduate trainees

Research Requirements

- Participation in two clinical audits
- Involvement in at least one research project with presentation/poster at a national/regional conference
- Submission of one manuscript to a peer-reviewed indexed journal (Scopus/PubMed preferred)

ASSESSMENT

Formative Assessment:

Monthly clinical performance reviews with structured feedback

Block skill assessment through Direct Observation of Procedural Skills (DOPS)

Direct Observation of Procedural Skills (DOPS) for core RA techniques

Mini-Clinical Evaluation Exercises (Mini-CEX) during perioperative patient encounters

Multisource feedback (faculty, peers, nursing staff) every quarter

Case-baseddiscussions and logbook evaluations

Participation in teaching activities, journal clubs, and simulations

Self-reflection entries in e-portfolio reviewed monthly by mentor

Summative Assessment:

Theory Examination (100 marks)

Short notes (10 × 10 marks)

Topics: Equipment, anatomy, physiology, pharmacology, surgical RA strategies, complications, recent advances

Practical Examination (100 marks)

Long case (30 min, 40 marks)

Two short cases (15 min each, 30 marks)

Structured viva (30 marks): interpretation of sonoanatomy, equipment, pharmacology

Pass Criteria:

Minimum 45% in each component (theory & practical); aggregate must exceed 50%

Reference books:

Hadzic's Textbook of Regional Anesthesia and Acute Pain Management

NYSORA RA Compendium

Raj's Practical Management of Pain

JOURNALS:

RAPM

Relevant regional anaesthesia journals and review article

Any other information:

Fellows will receive mentorship under faculty trained in regional anaesthesia.

Completion certificate will be issued upon successful fulfillment of academic, clinical, and assessment criteria.

Research involvement is mandatory.

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Blueprint and Model Question Paper

Theory (100 Marks)

Content Area	**Weightage**
Ultrasound & Equipment	15%
Applied Anatomy & Sonoanatomy	20%
Applied Physiology & Pharmacology	20%
Regional Anaesthesia Techniques	20%
Complications & Pain Management	10%
Ethics, Communication, Research, Advances	15%

Practical (100 Marks)

Assessment Component	**Weightage**
History Taking & Clinical Assessment	20%
Block Planning & Sonoanatomy ID	20%
Technique Performance/Skill OSCE	30%
Complication Management & Viva	15%
Communication, Consent & Ethics	15%

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Model Question Paper

Fellowship in Regional Anaesthesia
University Theory Examination
Maximum Marks: 100
Time: 3 Hours

Instructions:

- Answer all questions.
- Draw diagrams wherever applicable.
- Write answers clearly and legibly.
- Use separate sections for Part A and Part B.

Section A – Long Answer Questions (2 × 20 = 40 marks)

1. Describe the principles of ultrasound imaging in regional anaesthesia. Explain knobology, probe selection, common artefacts, and methods of image optimisation. (20 marks)

2. A 65-year-old diabetic male is posted for total knee replacement. Discuss the choice of regional anaesthesia techniques, their benefits in the context of ERAS, possible complications, and preventive strategies. (20 marks)

Section B – Short Answer Questions (6 × 10 = 60 marks)

3. Write a short note on the pharmacokinetics and systemic toxicity of local anaesthetics. (10 marks)

4. Enumerate and describe the sonoanatomy of the supraclavicular brachial plexus block. (10 marks)

5. Describe the technique and indications of the quadratus lumborum block. (10 marks)

6. What is LAST? Outline its diagnosis, prevention, and management protocol. (10 marks)

7. Discuss the components of informed consent specific to regional anaesthesia. (10 marks)

8. Outline the essential steps involved in conducting a regional anaesthesia-related clinical audit. (10 marks)

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Clinical Procedures Log

Procedure	Observed	Assisted	Performed Independently
Probe handling and image optimization			
Interscalene block			
Supraclavicular block			
Infraclavicular block			
Axillary block			
Femoral nerve block			
Sciatic nerve block			
Adductor canal block			
Popliteal block			
Transversus abdominis plane (TAP) block			
Rectus sheath block			
Ilioinguinal/iliohypogastric block			
Paravertebral block			
Erector spinae plane block			
Lumbar plexus block			
Parasacral block			
Caudal epidural block			
Spinal anaesthesia			
Epidural anaesthesia			

Continuous catheter placement			
Block rescue techniques			
Management of LAST			
Ultrasound-guided vascular access			
Pericapsular Nerve Group (PENG) block			
RISS (Retrolaminar In-plane Sub-Splenius) block			
Quadratus Lumborum (QL) block			
Costoclavicular block			
Ankle block			

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LOG BOOK
FELLOWSHIP IN REGIONAL ANAESTHESIA

DEPARTMENT OF ANAESTHESIOLOGY

YENEPOYA MEDICAL COLLEGE
A unit of Yenepoya (Deemed to be University)
University Road, Deralakatte, Mangaluru – 575018

PORTFOLIO

Name of the Fellow:

Department:

University Registration No:

STUDENT PROFILE

Name of the Department	
Name of the Student	
University Registration Number	
Batch	
Contact No	
Email ID	
Guardian/ Parent (Name & Contact)	
Name of the Guide	
Name of the Head of the Department	

Record of Daily Activities

Date	Patient (Name/ID)	Diagnosis	Block/Procedure (O/A/P)	Other Academic Activities	Supervisor's Signature

Seminars/Journal Club/Case Presentation

Sl. No	Topics	Date

Signature of the Faculty

Evaluation of Presentations

Sl. No	Criteria for marks	Max. Marks
1	Topic discussion with staff	1
2	Adequate introduction	2

3	Quality of content	3
4	Presentation quality	2
5	Discussion/Q&A	2

Grade:
A: 8-10
B: 5-7
C: 1-4

Reflections

Date	What Did I Learn?	What Went Well?	What Could Be Improved?	Plan for Improvement

Details of Research Project

Title of Project:
Name of Guide:
Duration:
Ethical Clearance: Protocol Number and Date

Periodic Progress Review

Date	Progress Details	Remarks	Guide Signature

CME/Conferences Attended and Presentations

S. No	Date	Type of Activity	Venue & Event	Faculty Signature

Procedure Log: RA Techniques

Procedure	Observed	Assisted	Performed Independently
Probe handling and image			

optimization			
Interscalene block			
Supraclavicular block			
Infraclavicular block			
Axillary block			
Femoral nerve block			
Sciatic nerve block			
Adductor canal block			
Popliteal block			
Transversus abdominis plane (TAP) block			
Rectus sheath block			
Ilioinguinal/iliohypogastric block			
Paravertebral block			
Erector spinae plane block			
Lumbar plexus block			
Parasacral block			
Caudal epidural block			
Spinal anaesthesia			
Epidural anaesthesia			
Continuous catheter placement			
Block rescue techniques			
Management of LAST			
Ultrasound-guided			

vascular access			
Pericapsular Nerve Group (PENG) block			
RISS (Retrolaminar In-plane Sub-Splenius) block			
Quadratus Lumborum (QL) block			
Costoclavicular block			
Ankle block			