

## 1. Fellowship in Cardiac Anaesthesiology

### 1. Information Related to Course Content

#### Curriculum of Cardiac Anesthesia:

1. To produce competent super specialist Cardiac Anesthesiologists and to cater the need of the community.
2. To be aware of contemporary advances and development in the discipline concerned.
3. To practice at secondary and tertiary level of health care delivery system.
4. To provide the expertise with special skills and intensive monitoring in perioperative period for the needy patients in super specialty departments.
5. To provide structured training programme including academic activities in the form of the catered training, lectures, case discussions, journal review and mortality – morbidity meeting and to improve the knowledge and skill in the specialty.

The goals of educating the cardiac anesthesiologist fellow are

- (a) Mastery of the knowledge, skills, and techniques required to practice cardiac anesthesiology
  - (b) A working knowledge of the principles and concepts that underlie the practice, and
  - (c) To acquire judgment, expertise, and the ability to be a consultant to those who seek advice outside and inside the discipline of Cardiac anesthesiology.
- The student must also learn how to solve unforeseen problems and to answer important questions, in addition to mastering the technical skills and acquiring the available knowledge.

#### Teaching Scheme:

Goals and Objectives for The Operation theatre and cardiac recovery

##### A. Patient Care

The fellows will develop their skills in the compassionate, appropriate and effective care of patients presenting for cardiac surgery

The skills to be developed will include:

- I. Peripheral venous cannulation
- II. Peripheral arterial cannulation
- III. Femoral arterial cannulation
- IV. Central venous cannulation (e.g. internal jugular, external jugular)
- V. Cardiac-stable anesthetic induction and maintenance of patients with a variety of cardio-vascular illnesses, including
  - a. Ischemic heart disease
  - b. Pulmonary hypertension
  - c. Aortic valvular stenosis

- d. Mitral valvular disease
- e. Aortic disease
- VI. Management of heparinization and initiation of cardiopulmonary bypass.
- VII. Management of circulatory arrest with profound hypothermia.
- VIII. Management of separation from cardiopulmonary bypass, including providing inotropic support, vasodilator therapy and heparin reversal.
- IX. Management and diagnosis of post-cardiopulmonary bypass bleeding diathesis.
- X. Performing a safe, neat transport of the patient to the ICU for postoperative care.

#### B. Medical Knowledge

The fellow will expand their knowledge of cardiac physiology and the treatment of cardiovascular illness. They will also develop an understanding of the Cardiac surgical anaesthesia care of patients with cardiovascular disease. The suggested text books are Text book of Cardiac Anaesthesia by Kaplan, Text book of Pediatric Cardiac Anaesthesia by Carol Lake, Text book of Transesophageal Echocardiography by Perino & Reeves. They will learn indications for and basic interpretation of intraoperative transesophageal echocardiography (ventricular function, valvular function)

#### C. Practice-based Learning and Improvement

During the rotation the fellows will evaluate their own practice, with the goal of improvement, as well as the medical literature. They will become familiar with outcome studies regarding cardiac surgical care, including those involving “fast tracking”, perioperative beta blockade and “off-pump CABG”, valvular heart surgery, surgery for congenital heart disease. They will learn to apply their findings to their own scientific, “evidenced-based” practice. During the cardiac rotation fellows are expected to attend the monthly cardiac educational meeting where discussion of latest articles and controversial topics discussed between the CT surgery team and CT anaesthesia team.

#### D. Interpersonal Communication Skills

The fellows will develop their communication skills, both with surgical colleagues (in no type of surgery is close communication with surgeons more important than in cardiac anaesthesia) and patients. Cardiac surgical patients, in the preoperative period, are extremely vulnerable. Fellows will develop sensitivity to the fact that the patients suffer from a life-threatening illness and are about to undergo life-threatening surgery. They will also develop their skills in interacting with the patient’s family, nurses, and anaesthesia technicians.

#### E. Professionalism

Fellows will further develop their professionalism and, in particular, be indoctrinated to the “etiquette of the heart room”. This will include sensitivity to the high pressure environment of the heart room and the social and

emotional needs of the surgical team at various times of the surgery. In Addition fellows will be asked to give a lecture during the cardiac educational meeting where they will be evaluated on the presentation and their professionalism.

#### F. Systems Based Practice

The fellows will develop understanding of cardiac anaesthesia in the larger context of cardiac care in the hospital, community and nation. Principles of cost containment (drugs, ICU length of stay, for example) will be studied. Also, the changing population of cardiac surgical patients resulting from the increased use of less invasive procedures by cardiology will be appreciated. The potential contributions of the cardiac anaesthesiologist to the entire perioperative experience will be appreciated. These include preoperative preparation, intraoperative management and postoperative hemodynamic, respiratory and pain management.

#### **Rotation:**

- a) Cardiac Operation room
- b) Cardiac recovery and
- c) Cardiac intervention laboratory

#### **Specific duties of the Fellow**

A. Fellows are expected to see each patient and every cardiac or thoracic patient themselves preoperatively except under extraordinary circumstances.

B. It is expected that you completely prepare the heart room including all infusions prior to starting a case.

D. This is followed by the necessary line placement as required for each case.

E. Fellows are expected to help in taking Patient in the room, Cannulation, initiation and weaning off Cardiopulmonary bypass and Transport to ICU after completion of surgery,

F. CALL DUTIES

#### **Syllabus**

##### GENERAL

- History of Anaesthesia for cardiothoracic & vascular surgery
- Natural History of Cardiac & Pulmonary diseases
- Demography Diagnosis, Pre-Op. evaluation & Preparation for surgery

##### BASIC CURRICULUM

- Basic sciences include applied Anatomy, Physiology, Pharmacology, Physics, Biochemistry, microbiology, Coagulation studies.
- Monitoring
- Cardio Vascular diagnostic and therapeutic techniques
- Special consideration — Cardio pulmonary bypass
- Drugs related to anaesthesia of CPB, Pharmacokinetics during CPB  
Pulmonary life-Support — Advanced cardiac life support

- Infection Control
- Team work, Communication skills, Ethics, Medico legal Aspects of Cardio – Thoracic and Vascular Anaesthesia and Documentation.

#### Operative Observations

- Operative DIRECT CARE (Conduct of anaesthesia)
- Post-operative care and pain relief
- Research Projects/Exchange Programme with other Centers
- Examinations — Basic Sciences (Theory and Practical) Clinical Practice of Anaesthesia ,Allied Sciences & Recent advances

### **DETAILED SYLLABUS:**

#### I. BASIC SCIENCES

##### ANATOMY:

- Heart: Embryology, development of heart, pulmonary and vascular anatomy, coronary artery anatomy

##### PHYSIOLOGY:

- Cardiac: Cellular Physiology, Haemodynamics, Role of Autonomic nervous system on Cardiovascular Function, Cardiac functions, Action Potential
- Cardiac rhythm
- Blood Physiology, Coagulation
- Acid Base and Electrolyte Balance
- Pulmonary, Open & Closed chest ventilation. Ventilation / perfusion mismatch.
- Pulmonary airway mechanics, one lung ventilation.
- Thoracotomy and pulmonary physiology.
- Renal, Hepatic, CNS, Endocrine System, etc.
- Metabolic effects of surgery
- Endocrine response to anaesthesia and surgery
- CBF, ICP, autoregulation
- PFT and Interpretation

##### PATHOPHYSIOLOGY :

- Shock, Heart & Hemodynamic failure, Congenital defects, COPD, Cardiopulmonary reserves, acquired cardiac & pulmonary diseases.
- Vascular pathology
- Immunological and metabolic response during CPB.
- Total Circulatory Arrest.
- Altered Lung function, infection prevention,, diagnosis and management.

##### PHARMACOLOGY :

- Total circulatory arrest, Pharmacokinetics & Pharmacodynamics of Anaesthetic and Vasoactive drugs.
- Biochemical reactions and applied concepts.
- Drugs related to anaesthesia practice,
- Cardiovascular drugs.
- Antibiotics for ICU use Bronchodilator.

- Antiarrhythmic drugs, nitric oxide.

#### PHYSICS :

- Basic principles, analyzing, measuring & monitoring devices and its role in interpretation of the results.
- Equipment in OT, Equipment for transport of patients,
- ICU equipment
- Physics for ECHO

## II. CLINICAL SCIENCES

- Anaesthesia for Cardio-thoracic & Vascular Surgery:
- Anaesthesia for diagnostic procedures in adults & Paediatric age groups
- Anaesthesia for - Cardiac Surgery: For closed & Open heart surgery.
- Anaesthesia Vascular Surgery: Aortic surgery, carotid artery surgery.
- Anaesthesia for Thoracic procedures.

#### PAEDIATRIC:

- Basic haemodynamics, palliative procedures, Pre-op. preparations & special care in monitoring, Fluid balance & airway management
- Anaesthesia for neonatal simple & complex cardiac surgery
- Anaesthesia management for re-surgery
- Paediatric diagnostic procedures in Cath Lab & echocardiography
- Invasive therapeutic techniques like ASD devices, stent in major vessels, coil embolization.
- Paediatric lung surgery.

#### ADULT:

- Anaesthesia for ischemic heart disease, valvular heart disease, vascular disease, adult congenital heart surgery
- Electrophysiological & Arrhythmia surgery. Heart transplant, heart lung transplant, ventricular assist devices
- Anaesthetic techniques for pulmonary surgery: Diagnostic & elective. Emergency procedures for lung surgery. One - Lung anaesthesia and Ventilation, Physiology (gas exchange & airway dynamics).
- Anaesthesia during emergency surgery and cases directly emerging from Cath Lab after Cath Lab complication.
- Anaesthesia in patients for diagnostic & palliative procedures in Cardiology, Radiology, Cath Lab (outside operative rooms). Invasive cardiology procedure.
- Anaesthesia management of re-surgery.
- Management for Post Op. ventilation care, prolonged ventilation, weaning, Control of Pain - its techniques & agents. Postoperative pain management during ventilation care.
- PAC, Intra op. monitoring, Cardiac output and coagulation monitoring.
- Preoperative risk scores
- Acid base management (ph stat, alpha stat)

#### CARDIOPULMONARY BYPASS:

- Perfusion technology (principles, equipment, oxygenators, haemofiltration)
- Hypothermia, techniques & protocols
- Myocardial Protection
- Haemodilution
- Anticoagulation, Pharmacology, Monitoring methods
- Side-effects, complications & management of CPB.
- Vital organ system care -cerebral, cerebral protection ,cerebral monitoring, renal, hepatic protection.
- Total circulatory arrest, left heart bypass Anaesthesia management during CPB Pharmacokinetics & pharmacodynamics of drugs during CPB.

#### INTENSIVE CARE MANAGEMENT:

- Protocols for sub-system care, cerebral, Renal, Hepatic & others.
- Ventilatory Care, weaning of Ventilatory support. Parenteral Nutrition, control of infection.
- Renal failure, bedside dialysis techniques
- Postoperative management of single ventricular repair Hepatic failure
- ICU monitoring technique in postoperative pain management
- ICU Management, especially after neonatal surgery ventilatory support in neonates, ECMO programme for neonates and children
- Intensive coronary care
- Cerebral monitoring
- NIV Nutrition
- Sepsis, ARDS, antibiotics, antifungals, poisoning with cardiothoracic drugs

#### III ALLIED SCIENCES

- Relevant to practice of safe quality Cardiac Anaesthesia
- Cardiac Surgery: Surgical technique, curative surgery, Palliative procedures risk evaluation, Prognosis, Robotic surgery.
- Cardiology: Pre-op. evaluation, patho-physiology, Electrophysiology, Diagnostic Radiology Procedures-ECG, x-ray Angiography, Cardiac Cath. Echo-Cardiography, Nuclear studies, their interpretations & management Special procedures: Pacing, Cardioversion, PTCA, etc. Automated cardioverters, invasive procedures for arrhythmia i.e. ablation of abnormal pathway.
- Biotechnology : Various mechanical & electronic equip. Animal experiments, materials used for CPB techniques, VAD. IABP, Laser for TMR, ECMO
- Research Methodology
- Hospital Administration : Sterilization/Gas supply, equipment maintenance, ambient air control and infection control techniques in OT

- Microbiology-Infection control, prevention, diagnosis and management. Monitoring in Anaesthesia:
- Invasive & Non-Invasive monitoring techniques for Peri -operative period
- Understanding of basic concepts of monitoring
- Indications, cost effectiveness, complications
- Equipment usage & knowledge of accessories and their management
- Knowledge of the following monitoring:
  - Cardiac functions : ECG, ABP, Ventricular Pressures, Calculation of cardiac output, Vascular resistance, Flow, Echo, Dopplers& (CAT, PET, NMR)
  - Pulmonary functions : PFT which includes Blood gases, Acid-base and Pulmonary Airway mechanics. Coagulation Profile, Temperature, renal, B. Sugar and other biochemical monitoring
  - Neuromuscular blockade : Recent advances in monitoring. BIS cerebral oximetry, Evoked potential monitoring, CNS monitoring during CPB.
  - NIRS- Near Infrared Spectroscopy for monitoring in Anesthesia

#### RECENT ADVANCES:

- Knowledge of recent developments in field of Cardio thoracic & Vascular surgery
- Cardiology- PTCA, Balloon embolectomy etc.
- Heart - lung transplant - physiology, pharmacology (Anaesthetic consideration) - Donor - recipient Selection, Immunosuppression etc.
- Cardiac assist devices
- Artificial heart, IABP, LHAD
- Advances Pulm. support - ECMO, High frequency Ventilation
- Blood substitutes
- Current advances and concepts in drugs, equipments, and monitoring methods
- Recent advances in Radiology, Cardio Thoracic Surgery, Cardiology, Cardio Pulmonary Bypass in relation to Perioperative care of the patient in Cardio Thoracic and Vascular Anaesthesia.

#### **Expectation from the Fellow at the end of Post doctoral certificate course**

By the conclusion of your cardiac or and recovery posting, you should have a basic understanding of the following:

- Preoperative evaluation of a patient undergoing cardiac surgery
- The basic principles in providing a cardiac anesthetic
- The mechanics of the cardiopulmonary bypass pump, including pump oxygenation, CO<sub>2</sub> clearance, PH management, hypothermia, cardioplegia, complete and partial bypass, hormonal response to bypass, and hematologic response to bypass.

- The process of separation from cardiopulmonary bypass.
- Management of patients with ischemic heart disease.
- Management of patients with valvular heart disease.
- Management of patients with aortic injury
- The most commonly used drugs for cardiovascular support, vasodilatation, and dysrhythmia managing.
- Becoming efficient with all types of line placement.

**2. Duration:** 1 year.

### **3. Training Facilities**

The cardiac anaesthesia fellows undergo rigorous on the job training by regularly attending the cardiac surgical operating rooms where cardiac surgery is carried out. They are actively involved in the post operative care in the cardiac surgical recovery and step-down intensive care unit.

Regular lectures, presentations, seminars and case discussions are held in the dedicated seminar room which is equipped with state of the art audiovisual projection system.

The central skills Lab is also available to the cardiac anaesthesia fellows to learn on intubation, fibre optic bronchoscopy, central and arterial line placement on mannekins.

### **4. Teaching Faculty Details**

Name: - Dr. Chhaya Suryawanshi, Professor & Head of Department

Qualifications: – MD (Anaesthesia), Registration No. MMC: 69085

Dr. (Brig) Vipul Krishen Sharma, Professor & HOD Cardiac Anaesthesia

Qualifications: – MD, DNB (Anaesthesia), Registration No: MMC: 2012082411, NMC registration No: 13-13136

Dr. (Maj Gen) Shahbaz Hasnain, Professor Cardiac Anaesthesia

Qualifications: – MD (Anaesthesia), Registration No: MMC 2021118074

Dr. Raj Pedgaonkar, Assistant Professor Cardiac Anaesthesia

Qualifications: MD, DM (Cardiac Anaesthesia) Registration No: MMC 2017020278

### **5. Infrastructure Facilities**

The cardiac anaesthesia and cardiothoracic Surgery programme at Dr. D. Y. Patil Medical College Hospital and research centre has the following infrastructure facilities:



Two state of the art fully equipped modular cardiac surgical operation theatres (Maquet)

Including:

- Two GE Ohmeda Anaesthesia work stations (High end) Aesys CS<sup>2</sup>
- Two Maquet remote controlled operating tables
- Two sets of Maquet operating light systems
- Two Maquet Datascope Intra Aortic Balloon pump consoles
- Phillips advanced haemodynamic monitoring systems
- Edwards Vigileo Cardiac output monitoring system
- Two Stockert Cardiopulmonary bypass machines
- Echo Cardiography machine Phillips EpiqCVX-3D with Transesophageal and transthoracic and vascular linear echo probes and 3D echo facility
- Bedded fully monitored cardiac recovery with state of the art mechanical ventilators
- 3 Giraffe infant bassinets radiant warmers
- 8 bedded pediatric cardiac surgical ICU
- 6 Bedded step down Cardiac surgical ICU
- Fiberoptic bronchoscopes
- Video laryngo scopes Karl storz
- 2 Maquet ECMO machines
- Sorin XTRA Cell saver blood autotransfusion system

**6. Fee:** Rs. 60000/- (Rupees Sixty Thousand only)

### **3. Fellowship in Pain Management**

#### **1. Information Related to Course Content**

**Program goals:** Trainee must develop competency in managing patients with acute and chronic pain efficiently.

#### **Curriculum:**

Objectives

Physicians upon completing this entry-level pain curriculum will be able to:

1. Recognize pain medicine as a necessary field in clinical practice for acute and persistent (chronic) pain conditions
2. Understand the basic science of pain-processing components such as anatomy, physiology, and pharmacology
3. Identify clinical presentation of acute and persistent pain syndromes or conditions

4. Recognize the multidimensional aspects of the pain experience and its related management
5. Understand pain management options appropriate for individual patients according to medical condition, medicine availability, risk-benefit balance, cost-effectiveness, culture, mental status, and evidence of efficacy
6. Know the indications, contraindications, and risks of the primary elements of multimodal pain management
7. Learn effective interaction with multi-professional teams involved in practicing pain medicine
8. Practice pain medicine according to ethical principles

#### Curriculum Content Outline

1. Multidimensional Nature of Pain
  - a. Definition of pain
  - b. Biological significance of pain (survival value)
  - c. Relationship between acute and chronic pain
  - d. Distinction between nociceptive, nociplastic, and neuropathic pain
  - e. Pain as a public health problem
  - f. Epidemiology: Societal consequences
2. Ethical issues
  - i. The right to receive treatment for pain
  - ii. Pain disability and litigation
  - iii. Pain in children
  - iv. Pain and opiate dependence
  - v. Pain research in humans and animals
3. Basic sciences
  - i. Neuroanatomy and Neurophysiology of Pain
  - ii. Peripheral receptors, afferent fibers, transduction and transformation, peripheral sensitization
  - iii. Spinal terminations and spinal processing of nociceptive information, spinal reflexes, ascending tracts, transmitters (peptides and amino acids)
  - iv. Brainstem mechanisms of pain (autonomic reflexes, ascending reticular activating system)
  - v. Thalamic nuclei, nociceptive cortical network, cortical reorganization
  - vi. Descending control of nociceptive information and pain modulation
  - vii. Central sensitization
  - viii. Genetics in relation to pain mechanisms
4. Pharmacology of Pain
  - i. Basic pharmacology of local anesthetics
  - ii. Basic pharmacology of nonsteroidal anti-inflammatory agents
  - iii. Basic pharmacology of opioids
  - iv. Basic pharmacology of medicines licensed for neuropathic pain
  - v. Basic pharmacology of other relevant analgesic medicines
5. Psychology of Pain

- i. Affective, cognitive, behavioral, and developmental aspects
  - ii. Pain attribution., self-esteem, self-efficacy, and perceived self-control
  - iii. Interpersonal issues, sick role, illness behavior (normal and abnormal), the role of the family
  - iv. The influence of political, governmental, and social welfare programs
  - v. Cultural differences in pain meanings and treatment approaches
  - vi. Illness behaviors associated with pain (denial and amplification)
  - vii. Pain as a coded message of psychosocial distress
6. Pain Assessment and Measurement
- a. The validity, reliability, sensitivity, specificity, and clinical utility of methods for:
    - i. The measurement of pain, disability, associated distress, and suffering
    - ii. Quantitative sensory testing in relation to specific mechanisms
    - iii. Assessment of pain relief and functional improvement (sleep, work, self-care, etc.)
7. Management of Pain
- a. General principles
    - i. The measurement, quantification, and recording of pain
    - ii. The multimodal approach (multidisciplinary pain clinics)
    - iii. The clinician-patient relationship
  - b. Clinical pharmacology
    - i. Nonsteroidal anti-inflammatory agents and antipyretics
    - ii. Systemic and spinal opioids, endorphins
    - iii. Local anesthetics
    - iv. Steroidal anti-inflammatory Drugs
    - v. Medicines indicated for neuropathic pain
    - vi. Other medicines active against neuropathic pain (e.g., anticonvulsants, antidepressants)
  - c. Psychotherapeutic and behavioral approaches
    - i. Individual, family, and group psychotherapy
    - ii. Cognitive-behavioral therapy
    - iii. Relaxation techniques (biofeedback, etc.)
    - iv. Hypnotherapy, operant approach, stress management
  - d. Physical therapy
    - i. Exercise and other active treatments
    - ii. Manual therapy and other physical medicine treatments
  - e. Neuromodulation techniques
    - i. Transcutaneous nerve stimulation
    - ii. Brain and spinal cord stimulation
    - iii. Acupuncture
    - iv. Pulsed radiofrequency
  - f. Nerve blocks (image guided)

- i. Local anesthetics
- ii. Neurolytic solutions
- iii. Ablative Radiofrequency
- 8. Clinical Conditions
  - a. Etiology, diagnosis, multidisciplinary management, economic impact, medico-legal, and compensation issues within:
    - i. Emergency-service pain
    - ii. Postoperative pain
    - iii. Chronic primary pain syndromes
    - iv. Chronic pain related to cancer or its treatment
    - v. Chronic postsurgical or posttraumatic pain
    - vi. Neuropathic pain
    - vii. Headache and facial pain syndromes
    - viii. Musculoskeletal pain
    - ix. Visceral pain
  - b. Specific pain issues related to:
    - i. Children and infants (signs of pain, evaluation and management, physiology, acute and chronic pain)
    - ii. Elderly
    - iii. Developmentally challenged
    - iv. Pregnancy, childbirth, and breastfeeding
    - v. The opioid tolerant patient
    - vi. Substance use disorders

**Skills to be achieved during the course:**

- 1) Developing diagnosis skills by attending OPD and learning algorithms
- 2) Medical managements
- 3) Physiotherapy and yoga
- 4) Knee- attending knee scopies, diagnosing lesions depending on patients presentation
- 5) Spine- Attending surgeries to learn anatomy, understanding the concepts of disc buldge, PID, Contained / noncontained disc
- 6) Headache – types and management
- 7) Arthritis- types and management
- 8) Plantar fasciitis, tennis elbow, golfers elbow
- 9) Causalgia , vitamin deficiencies
- 10) Trigeminal ganglion, pterygopalatine ganglion neuralgia and management
- 11) Plexus nerve blocks for various pain conditions
- 12) C arm / USG guided procedures
- 13) Shoulder- Anatomy and Pathology
- 14) Radiofrequency, ozone, PRP therapies
- 15) Spinal cord stimulation
- 16) CRPS 1 and 2
- 17) Failed back spine surgery syndromes

**Non Technical Skills**

- Orders and prioritizes appropriate investigations
- Principles of informed consent
- Principles of crisis management, conflict resolution, negotiation and debriefing
- Understand nonverbal communication with attendants of patients
- Research programmes

### **Teaching skills**

- Clinical core competency skills : development and assessment
- Research
- Organizing a CME
- Representation in conferences
- Writing a paper and basics of biostatistics, research methodology, ethics
- Medico legal aspects relevant to the discipline

### **2. Duration : 1 year**

### **3. Training Facilities**

- a) OPD - Twice a week
- b) Daily IPD round for patients referred for pain management

### **•Teaching and training activities**

The fundamental components of the teaching programme should include:

1. Case presentations & discussion- once a week
2. Seminar – Once a week
3. Journal club- Once a week
4. Round presentation - once a week
5. Faculty lecture teaching- once a month
6. Clinical Audit-Once a Month
7. One poster/paper presentation and one publication at least once during their training period in a recognized conference.

The training program would focus on knowledge, skills and attitudes (behavior). It is divided into theoretical, clinical and practical training in all aspects of the delivery of care. It also includes methodology of research and teaching.

**Theoretical:** The theoretical knowledge would be imparted to the candidates through discussions, journal clubs, symposia and seminars. The students are exposed to recent advances through discussions in journal clubs.

**Symposia:** Trainees would be required to present a minimum of 20 topics based on the curriculum over a period of one years to the combined class of teachers and students. A free discussion would be encouraged in these

symposia. The topics of the symposia would be given to the trainees with the dates for their presentation.

**Clinical:** The trainee would be attached to a faculty member to be able to pick up methods of history taking, examination, prescription writing and management.

**Bedside:** The trainee would work up cases, learn management of cases by discussion with faculty of the department.

**Journal Clubs:** This would be a weekly academic exercise. A list of suggested Journals is given towards the end of this document. The candidate would summarize and discuss the scientific article critically. A faculty member will suggest the article and moderate the discussion, with participation by other faculty members and resident doctors. The contributions made by the article in furtherance of the scientific knowledge and limitations, if any, will be highlighted.

### **Key accountability**

- 1) OPD
- 2) Preparation for interventional procedures
- 3) Keeping all patient's records
- 4) Follow up of patients
- 5) Helping in the OT
- 6) Daily compulsory duty (9am to 5pm) and emergency duties as per allotment
- 7) Case presentation once a week
- 8) Publication of one original article in indexed journal
- 9) Participation in PG activities

### **Rotation:**

- 1) Neuroanaesthesia
- 2) Orthopaedics
- 3) Radiology
- 4) Oncosurgery/ Oncomedicine

### **Log book**

- A candidate shall maintain a log book of operations (assisted / performed) during the training

Period, certified by the concerned post graduate teacher / Head of the department / Senior Consultant.

- The candidate will maintain the record of all academic activities undertaken by him/her in log book .

1. Personal profile of the candidate
2. Educational qualification/Professional data

3. Record of case histories
4. Procedures learnt
5. Record of case Demonstration/Presentations
6. Every candidate, at the time of practical examination, will be required to produce performance record (log book) containing details of the work done by him/her during the entire period of training as per requirements of the log book. It should be duly certified by the supervisor as work done by the candidate and countersigned by the administrative Head of the Institution.

**Examination:** At the end of tenure of fellowship there will be university exam (theory and practical) which will be conducted in presence of external examiner. Theory will consist of multiple choice questions. Practical will have one long, two short cases and Table viva.

#### **4. Teaching Faculty Details**

Name: - Dr. Chhaya Suryawanshi, Professor & Head of Department  
Anaesthesiology

Qualifications: – MBBS, MD Anaesthesia, Registration No. – 69085

Name: - Dr. Aparna Bagle, Professor Department of Anaesthesia

Qualifications: – MBBS, DA, DNB, Ph. D. & Fellowship in Pain Management (FIPM)

Registration No. – 89747,

Name:- Dr. Bhagyashree Soor, Assistant Professor Department of Anaesthesia

Qualifications: – MBBS, MD, DNB & Fellowship in Pain Medicine (FIPM)

Fellowship in Regional anaesthesia (FRA), Registration No. – 2014/08/3654

#### **5. Infrastructure Facilities**

- Clinical workload
- Well equipped OPD
- 2000 bedded IPD hospital
- Consultation/ Examination room
- Well equipped Operation Theatre/ Pain procedure room – Anaesthesiologist, facilities for monitoring and resuscitation, trained staff, trained radiographer
- Well equipped Recovery room
- Diagnostic facility – X-ray, CT, MRI, Sonography and laboratory
- Equipments – Fluoroscopy compatible table, radio protection shield, C-arm, USG machine
- Staff facility – access to computers and IT support
- Multi disciplinary team
  - a) Psychologist

- b) Staff/ Nurse
- c) Physiotherapy
- d) Pharmacy
- e) Orthotics
- f) Rehabilitation
- Simulation Lab
- Central and departmental library

**6. Fees:-** Rs. 1,00,000 /- (Rupees One Lakh Only)