

## MD ANAESTHESIOLOGY

### SYLLABUS

This is intended to guide only, and is not comprehensive. Newer developments in the specialty will be included from time to time.

- History of Anaesthesiology
- Basic sciences related to Anaesthesiology (Anatomy, Physiology, Pharmacology, Microbiology, Pathology, and Genetics)
- Medicine applied to Anaesthesiology
- Physics related to Anaesthesiology
- Biostatistics, research methodology
- Evidence based Medicine in Anaesthesiology
- Computer basics, internet
- Medical Record keeping & audit
- Uptake and distribution of Anaesthetic gases
- Equipments used in anaesthesia
- Medical gas plant & pipeline system
- Drugs & Gases used in Anaesthesia
- Medico legal aspects of Anaesthesia
- Pre Anaesthetic evaluation, preparation & Perioperative care
- General Anaesthesia including Endotracheal Anaesthesia
- Regional Anaesthesia
- Local Anaesthesia & Nerve blocks
- Intravenous Anaesthesia
- Outpatient Anaesthesia
- Obstetric analgesia
- Accidents, complications & sequelae of Anaesthesia
- Anaesthesia outside operation room
- Acid Base balance
- Fluid & Electrolyte balance
- Blood & blood products
- Airway management & resuscitation
- Cardiopulmonary resuscitation
- Critical care management
- Trauma management
- Oxygen & respiratory therapy
- Sterilization & care of operation theatre & equipments
- Safety of operation theatre environment
- Acute & chronic pain therapy
- Palliative care
- Disaster management
- Communication & Teaching skills
- Updating of recent advances in Anaesthesiology
- Anaesthetic management of Organ Transplantation
- Scope of Modern Anaesthetic practice

- Teaching Anaesthesia
- Sub specialty Anaesthetic management
- Ancilliary problems and responsibilities

### **Skills to be acquired**

- Basic Graduate skills:
- Insertion of IV lines
- Insertion of Nasogastric tube
- Monitoring vital signs
- Anaesthesia Skills:
- Basic airway management
- Difficuly airway management
- Orotracheal / Nasotracheal intubation
- Airway equipments
- Local anaesthesia
- Regional Anaesthesia
- Neuraxial blockade
- Intravenous Regional Anaesthesia
- Total intravenous Anaesthesia
- Monitored Anaesthesia Care
- General Anaesthesia
- Perioperative monitoring
- Critical Care procedures:
- Airway Management (Cricothyrotomy, tracheostomy)
- Fibreoptic bronchoscopy
- Arterial cannulation
- Central venous cannulation
- Pulmonary artery catheterisatiion
- Sampling & interpretation of ABG
- Fluid & Electrolyte management
- Ventilatory care
- Intercostal drainage
- Intensive Care Therapy
- Ultrasound and echo in ICU
- Emergency room procedures:
- Management of airway obstruction
- Cardiopulmonary resuscitation (BLS & ACLS)
- Management of cardiac failure
- Management of respiratory failure
- Management of shock
- Pain Therapy:
- Common modalities of acute & chronic pain therapy
- Perioperative pain management
- Labour analgesia
- TENS
- PCA

- Common nerve blocks
- Neurolytic & nerve ablation procedures
- Psychological aspects of pain therapy
- Palliative care

### **Learning Activity**

Every student shall actively participate in all the clinical, academic & teaching activities in the department. Periodic appraisal of both theory & clinical skills are to be done every 6 months by the senior faculty for which at least 50% marks are needed for appearing the final examination. Also the candidate should have at least 80% attendance in the clinical & academic activities of each year for appearing the examination.

### **The following teaching activities are recommended:-**

- Topic presentations
- Subject seminars
- Multidisciplinary symposiums
- Journal clubs
- Case presentations
- Problem oriented case discussions
- Morbidity & mortality meetings
- Critical Evaluation of complications
- Inter departmental discussions
- Teaching skill development
- Research oriented training
- CME programmes & conferences (at least one participation / presentation by the candidate)

### **Thesis**

Candidate should carry out a research project under the guidance of a recognized postgraduate teacher. He should submit to the university, after institutional ethical committee clearance through head of the department, the title & synopsis of this within 6 months of joining the course, which has to be accepted by the university. 5 copies of the thesis have to be submitted to the university 6 months prior to the final examination. Approval of the thesis is a necessary precondition for appearing the university examination. Change of the selected topic or guide should be done only with prior permission of the university. Periodic presentations of the thesis is to be made in the department. Initially before submission to the university, then before finalisation for critical evaluation and another before final submission.

### **Log book**

Participation in various learning activities has to be recorded. This has to be periodically validated by the faculty. This has to be certified by the head of department and presented in the university practical examination.

*Defaulters:* They are to be counselled by the head of the department, guide & senior faculty. In spite of these, if the candidate fails to fulfill the requirements, he may be withheld from appearing the examination.

## **Year wise training schedule:-**

### **First year**

- Basic sciences related to Anaesthesiology: theory & relevant practical training from concerned departments
- Basic knowledge of Anesthesia & resuscitation
- Setting up of operation theatre & critical care unit
- Basics of computer, Internet, biostatistics, research methodology
- Ethical principles, Communication skills
- Medico legal aspects
- Research methodology
- Choosing thesis topic, submission of synopsis, collection of literature, conduct of pilot study
- Basic skills in CPR, simple anaesthetic procedures, perioperative care & ICU management
- Assist senior anaesthesiologist in major & complicated procedures
- Active participation of topic presentations & other departmental academic activities.

### **Second year**

- Thorough knowledge of scientific basis of Anaesthesia, critical care, resuscitation & pain management.
- Knowledge about allied specialties and its implications in anaesthesia.
- Setting up of operation theatre, monitors & ventilators
- Anaesthetising common cases independently
- Identifying problems which require help of senior personnel
- Detecting & managing perioperative problems
- Case presentations, seminars & journal presentations
- Attending CME/conference & presentation of scientific paper
- Thesis work, periodic reviews with interaction with guide. Preparation of Manuscripts

### **Third year**

- Well versed with knowledge of anaesthesiology & allied specialities
- Knowledge regarding recent advances in the subject
- Independent decision making regarding plan of anaesthesia & critical care management
- Competent in basic pain therapy & palliative care
- Help senior faculties in complicated procedures & resuscitation
- Leadership role in critical care & resuscitation team
- Good teaching & communication skills
- Skill in specialized procedures
- Complete thesis work

**Recommended books**

- Anatomy for Anaesthetists (Ellis)
- Drugs & Anaesthesia (Wood)
- Physics for the Anaesthetist (Muschin & McIntosh)
- Miller's Anaesthesia
- A practice of Anaesthesia (Wylie-Churchill-Davidson)
- Clinical Anaesthesia (Barash, Cullen, Stoelting)
- Anaesthesia & Co-existing diseases (Stoelting)
- Clinical Anaesthesiology (Morgan)
- Understanding Anaesthesia equipments (Dorsch & Dorsch)
- Kaplan's Cardiac Anaesthesia
- Thoracic Anaesthesia (Kaplan)
- Obstetric Anaesthesia (Chestnut)
- Pediatric Anaesthesia (Gregory)
- Neurosurgical Anaesthesia (Hunter)
- Benumof's Airway management
- Textbook of Pain (Cusine)
- Anaesthesia & Intensive care (Yeatis)
- Acute Pain (Raymond Sinatra)
- Medicine for Anaesthetists (Vickers)
- Monitoring in Anaesthesia & critical care medicine (Casey D Blitt)
- Management of Trauma ((Wilson & Walt)
- Textbook of Critical care (Fink)

**Journals**

- Indian journal of Anaesthesia
- Anaesthesia Analgesia
- British journal of anaesthesia
- Recent advances in Anaesthesiology
- Canadian journal of anaesthesia
- Acta Anaesthesia Scandinavia
- Indian journal of palliative care
- Indian journal of Critical care
- Anaesthesia & intensive care medicine
- Journal of Anaesthesiology Clinical pharmacology

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