Dr. M.G.R. EDUCATIONAL AND RESEARCH INSTITUTE
Deemed to be University

Maduravoyal, Chennai – 600 095, Tamilnadu, India
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University with Graded Autonomy Status

SYLLABUS & CURRICULUM
for
M.S. GENERAL SURGERY

2020 onwards

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M.S. GENERAL SURGERY

PREAMBLE

The purpose of PG education is to create specialists who would provide high quality health care and advance the cause of science through research & training. The purpose of this document is to provide teachers and learners illustrative guidelines to achieve defined outcomes through learning and assessment . A post graduate specialist having undergone the required training should be able to recognize the health needs of the community, should be competent to handle effectively medical / surgical problems and should be aware of the recent advances pertaining to his specialty. The PG student should be competent to provide professional services with empathy and humane approach. The PG student should acquire the basic skills in teaching of medical / para-medical students and is also expected to know the principles of research methodology and self-directed learning for continuous professional development

COURSE DESCRIPTION

COMPONENTS OF THE PG CURRICULUM

The major components of the PG curriculum shall be:

- Theoretical knowledge
- Practical/clinical Skills
- Training in Thesis.
- Attitudes, including communication.
- Training in research methodology.

GOAL

The goals of postgraduate training course in Surgery would be to train a MBBS doctor who will:

- ❖ Practice surgery efficiently and effectively, backed by scientific knowledge and skill base.
- ❖ Exercise empathy and a caring attitude and maintain high ethical standards.
- ❖ Continue to evince keen interest in continuing surgical education irrespective of whether he is in a teaching institution or is a practicing surgeon.
- ❖ Be a motivated 'teacher' – defined as a surgeon keen to share his knowledge and skills with a colleague or a junior or any learner.

SUBJECT SPECIFIC LEARNING OBJECTIVES

Clinical Objectives

At the end of postgraduate training, the PG student should be able to: -

i. Diagnose and appropriately manage common surgical ailments in a given situation.
ii. Provide adequate preoperative, post-operative and follow-up care of surgical patients.
iii. Identify situations calling for urgent or early surgical intervention and refer at the optimum time to the appropriate centres.
iv. Counsel and guide patients and relatives regarding need, implications and problems of surgery in the individual patient.
v. Provide and coordinate emergency resuscitative measures in acute surgical situations including trauma.
vi. Organize and conduct relief measures in situations of mass disaster including triage.

vii. Effectively participate in the National Health Programs especially in the Family Welfare Programs.

viii. Discharge effectively medico-legal and ethical responsibilities and practice his specialty ethically.

ix. Must learn to minimize medical errors.

x. Must update knowledge in recent advances and newer techniques in the management of the patients.

xi. Must learn to obtain informed consent prior to performance of operative procedure.

xii. Perform surgical audit on a regular basis and maintain records (manual and/or electronic) for life.

xiii. Participate regularly in departmental academic activities by presenting Seminar, Case discussion, Journal Club and Topic discussion on weekly basis and maintain logbook.

xiv. Demonstrate sufficient understanding of basic sciences related to his specialty.

xv. Plan and advise measures for the prevention and rehabilitation of patients belonging to his specialty.

RESEARCH

The student should:

i. Know the basic concepts of research methodology, plan a research project and knowhow to consult library.

ii. Should have basic knowledge of statistics.

TEACHING

The student should learn the basic methodology of teaching and develop competence in teaching medical/paramedical students.

PROFESSIONALISM

1. The student will show integrity, accountability, respect, compassion and dedicated patient care. The student will demonstrate a commitment to excellence and continuous professional development.
2. The student should demonstrate a commitment to ethical principles relating to providing patient care, confidentiality of patient information and informed consent.
3. The student should show sensitivity and responsiveness to patients' culture, age, gender and disabilities.

SUBJECT SPECIFIC COMPETENCIES

By the end of the course, the student should have acquired

- Knowledge (cognitive domain)
- Professionalism (affective domain)
- Skills (psychomotor domain)

1. Cognitive domain

At the end of post graduate course, candidate should be able to -

- ❖ Describe aetoiology, pathophysiology, principles of diagnosis and management of common surgical problems including emergencies, in adults and children.
- ❖ Demonstrate the theoretical knowledge of general principles of surgery and systemic surgery including disaster management.
- ❖ Should update themselves with recent advances.
- ❖ Demonstrate knowledge of applied aspects of basic sciences like applied anatomy, physiology, biochemistry, pathology, microbiology and pharmacology.

- ❖ Demonstrate the theoretical knowledge to choose, and interpret appropriate diagnostic and therapeutic imaging including ultrasound, Mammogram, CT scan, MRI and also bedside procedures.
- ❖ Demonstrate the knowledge of ethics, medico-legal aspects, communication skills, leadership skills and provide professional services with empathy and humane approach.
- ❖ Recognize conditions that may be outside the area of his specialty/competence and to refer them to the proper specialist.
- ❖ Advise regarding the operative or non-operative management of the case and to carry out this management effectively.
- ❖ Undertake audit, use information technology tools and carry out research, both basic and clinical, with the aim of publishing his work and presenting his work at various scientific forum

2. Affective domain

- ❖ Should be able to function as a part of a team, develop an attitude of cooperation with colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.
- ❖ Adopt ethical principles in all aspects of his surgical practice. Professional honesty and integrity are to be fostered. Surgical care is to be delivered irrespective of the social status, caste, creed or religion of the patient.
- ❖ Develop communication skills, in particular the skill to explain various options available in management and to obtain a true informed consent from the patient
- ❖ Respect patient's rights and privileges including patient's right to information and right to seek a second opinion

- ❖ Obtain informed consent for any examination/procedure and explain to the patient and attendants the disease and its prognosis with a humane approach
- ❖ Provide appropriate care that is ethical, compassionate, responsive and cost effective and in conformation with statutory rules.
- ❖ Apply high moral and ethical standards while carrying out human or animal research.

3. Psychomotor domain

- ❖ Perform a humane and thorough clinical examination , write a complete case record with all necessary details and arrive at a logical working diagnosis / differential diagnosis.
- ❖ Order appropriate investigations keeping in mind their relevance (need based).
- ❖ Choose, perform and interpret appropriate imaging in trauma - ultrasound FAST (Focused Abdominal Sonography in Trauma).
- ❖ Perform minor operative procedures and common general surgical operations independently and the major procedures under guidance.
- ❖ Provide basic and advanced lifesaving support services in emergency situations
- ❖ Provide required immediate treatment and comprehensive treatment taking the help of specialist as required.
- ❖ Perform minimally invasive surgery in appropriate clinical settings. Must have undergone basic training in operative laparoscopy related to general and GI Surgery.
- ❖ Undertake complete patient monitoring including the preoperative and postoperative care of the patient.
- ❖ Write a proper discharge summary with all relevant information.

SYLLABUS

COURSE CONTENTS

A Postgraduate student is expected to know the subject in depth and no fixed number of topics can be prescribed as course contents. Knowledge of recent advances and basic sciences as applicable to his/her specialty should get high priority. Competence in surgical skills commensurate with the specialty (actual hands – on training) must be ensured. A general surgeon should also have knowledge of some common problems in allied specialtiesand emphasis should be on the diseases/health problems most prevalent in that area.. Further he should be familiar with complications, current controversies and recent advances in these topics.

The topics are considered as following -

Basic sciences include anatomy, physiology, biochemistry, microbiology and pathology, as found in current text books and as applied to the specialty .The stress is on applied anatomy of the parts dealt with by the surgeon as defined by the skills list; patho-physiology and surgical pathology.

General Surgery Topics include the following:

- History of surgery
- Clinical History and examination
- Rationale of diagnostic tests – Ordering diagnostic tests with prioritizing the needs, based on the clinical, hospital and the patient's socioeconomic condition
- Informed consent / Medico legal issues
- Medical sociology, doctor-patient relationship, family adjustments in disease, organizational behavior, conflict resolution
- Principles of surgical audit – Understanding the audit of process and outcome. Methods adopted for the same. Basic statistics

- Principles of evidence based medicine, Research methodology
- Biomedical statistics, clinical trials
- Medical ethics / Social responsibilities of surgeons
- Hazards in hospital and protection : AIDS, hepatitis B, tuberculosis, radiation, psychological
- Environment protection – bio-medical waste management
- Concept of essential drugs and rational use of drugs
- Use of computers in surgery
- Health insurance, Health Care financing
- Undertaking clinical audit
- Prospective data collection / writing case reports and clinical papers
- Giving presentations / Computer presentations
- Preoperative workup and postoperative care
- Principles of operative surgery like asepsis, antisepsis, sterilization, Universal precautions
- Surgical sutures, drains, prosthetic grafts
- Basic surgical instrumentation
- Surgical diathermy, lasers
- Wound management
- Triage and management of polytrauma
- Fluid and electrolyte balance / Acid – Base metabolism
- Blood transfusion
- Surgical infections
- Surgical nutrition
- Principles of oncology
- Laproscopy – principles, diagnostic and therapeutic benefits, complications, pneumoperitoneum.

- GI endoscopy – instrumentation, principles, diagnostic and therapeutic GI endoscopy including upper GI, lower GI and pancreato-biliary systems
- Principles of burn management
- Principles of fracture management
- Airway obstruction / management – principles of keeping the airway patent; mouth to mouth resuscitation; oropharyngeal airway; endotracheal intubation; crico-thyroidotomy; tracheostomy.
- Shock and Pulmonary failure – diagnosis; resuscitation; pharmacologic support; ARDS and its causes; prevention; 10entilator support.
- Anaesthesia – stages of anaesthesia; pharmacology of inhalational, intravenous and regional anaesthetics; muscle relaxants
- Assessment of trauma; Multiply injured patient/ closed abdominal and chest injuries / penetrating injuries; fractures pelvis; urological injuries; vascular injuries; trauma scores
- Acute abdomen – Appendicitis / Peritonitis / Perforated viscus / Intestinal obstruction
- Hernias – simple and complicated
- Common aerobic and anaerobic organisms and newer organisms causing infection
- Tetanus, gas gangrene treatment & prevention
- Chronic specific infections TB, Filariasis
- Boils, cellulites, abscess, narcotizing fascitis and synergistic infection
- Common skin and subcutaneous condition
- Sinus and fistulae, pressure sores
- HIV, AIDS and Hepatitis B & C, Nosocomial infections
- Consequences and management of bites and stings including snake, dog, human bites
- Mechanisms and management of missile, blast and gunshot injuries

- ❖ Leukoplakia, retention cysts, ulcers of tongue
- ❖ Oral malignancies, Salivary gland neoplasms
- ❖ Branchial cyst, cystic hygroma
- ❖ Cervical lymphadenitis nonspecific and tuberculous, metastatic lymph nodes and lymphomas. Thoracic outlet syndrome
- ❖ Critical care management
- ❖ Pain management
- ❖ Breast diseases
- ❖ Thyroid diseases
- ❖ Upper GI disease – oesophageal and gastro-duodenal disorders
- ❖ Hepato-biliary disease
- ❖ Pancreatic disease
- ❖ Colo-rectal disease / Anal disease
- ❖ Soft-tissue neoplasms
- ❖ Endocrine disease
- ❖ Brain death
- ❖ Cadaveric organ retrieval, Organ transplantation: Basic principles, relatedHuman Organ Transplant Acts, ethical and medicolegal aspects
- ❖ Prosthetic materials used in surgical practice
- ❖ Telemedicine, teleproctoring and e-learning
- ❖ Communication skills

The specialty topics include the following:

- ❖ **Neurosurgery**
  - ✓ Head and neck trauma; acute management and rehabilitation
  - ✓ Concept of brain death / medico-legal implications
  - ✓ Peripheral nerve injuries
  - ✓ Neoplasms of the brain and meninges

- ✓ Acute and chronic infections of the brain and meninges
- ✓ Hydrocephalus
- ✓ Spinal injuries
- ✓ Monitoring intracranial tension

❖ **Urology**

- ✓ Urological injuries
- ✓ Urothelial tumours / Chemotherapy
- ✓ Prostatic hypertrophy
- ✓ Hypospadias
- ✓ Pyleonephritis / perinephric abscess
- ✓ GU tuberculosis
- ✓ Scrotal disease
- ✓ Endourology
- ✓ Peritoneal dialysis / CAPD / haemodialysis
- ✓ Transplantation / harvesting kidney
- ✓ Urinary diversion
- ✓ Infertility / Vasectomy
- ✓ Pyeloplasty / hydronephrosis

❖ **Surgical Oncology**

- ✓ Imaging CT/ MRI CT guided FNAB/C
- ✓ Breast, thyroid and GI malignancies
- ✓ Head and neck tumours
- ✓ Chemotherapy / Adjuvant therapy
- ✓ Post excision reconstruction
- ✓ Radiotherapy

❖ Plastic Surgery

- ✓ Burns management
- ✓ Facial injuries
- ✓ Principles of tissue transfer
- ✓ Cleft lip and palate
- ✓ Congenital defects of hand
- ✓ Pressure sores
- ✓ Principles of microsurgery
- ✓ Hypospadias
- ✓ Details of skin flap
- ✓ Nerve repair
- ✓ Vascular repair
- ✓ Hand injuries / tendon injury

❖ Cardio-thoracic surgery

- ✓ Flail chest / thoracic trauma
- ✓ Bronchogenic carcinoma
- ✓ Lobectomies
- ✓ Pneumonectomy
- ✓ Endocarditis prophylaxis
- ✓ Pulmonary function tests
- ✓ Control of major haemorrhage
- ✓ Operations on the diaphragm
- ✓ Coronary artery disease
- ✓ Valvular heart disease
- ✓ Lobectomies and pneumonectomies
- ✓ Oesophageal disease
- ✓ Operations on thoracic aorta
- ✓ Mediastinal tumours

- ✓ Basics of congenital heart disease
- ✓ Video Assisted thoracoscopic surgery

❖ **Vascular Surgery**

- ✓ Vascular imaging
- ✓ AV malformations
- ✓ Exposure of major arteries and veins / vascular anastamosis
- ✓ Varicose veins
- ✓ Chronic venous insufficiency.
- ✓ Vascular emergencies – trauma, embolism
- ✓ Peripheral vascular disease – Atherosclerosis, arteritis
- ✓ Details of vascular prosthesis

❖ **Paediatric Surgery**

- ✓ Fluid and electrolyte management
- ✓ Preparation for surgery / postop care
- ✓ Hernias
- ✓ Spinal fusion defects
- ✓ Ventral defects
- ✓ Undescended testes
- ✓ Hypertrophic pyloric stenosis
- ✓ Hirshprung's disease
- ✓ Diaphragmatic hernia
- ✓ Tracheooesophageal fistula
- ✓ Anorectal anomolies
- ✓ Necrotising enteritis

❖ **Gynaecological Surgery**

- ✓ Pelvic inflammatory disease
- ✓ Ectopic pregnancy
- ✓ Ovarian Cysts
- ✓ Caesarean section
- ✓ Family planning

A student should be expert in good history taking, physical examination, providing basic life support and advanced cardiac life support, common procedures like FNAC, Biopsy, aspiration from serous cavities, lumber puncture etc. The student should be able to choose the required investigations.

Clinical cases and Symptoms-based approach to the patient with:

1. Ulcers in oral cavity
2. Solitary nodule of the thyroid
3. Lymph node in the neck
4. Suspected breast lump
5. Benign breast disease
6. Acute abdominal pain
7. Blunt Trauma Abdomen
8. Gall stone disease
9. Dysphagia
10. Chronic abdominal pain
11. Epigastric mass
12. Right hypochrondium mass
13. Right iliac fossa mass
14. Renal mass
15. Inguino-scrotal swelling
16. Scrotal swelling
17. Gastric outlet obstruction
18. Upper gastrointestinal bleeding
19. Lower gastrointestinal bleeding

20. Anorectal symptoms
21. Acute intestinal obstruction
22. Obstructive jaundice
23. Acute retention of Urine
24. Bladder outlet obstruction
25. Haematuria
26. Peripheral vascular disease
27. Varicose veins
28. New born with developmental anomalies
29. Hydronephrosis ,Pyonephrosis, perinephric abscess
30. Renal tuberculosis
31. Renal tumors
32. Carcinoma prostate
33. Genital tuberculosis in male

Essential Surgical Skills

Surgery is a skill-based discipline. The following list is drawn up with a view to specifying basic minimum skills to be acquired. While an attempt has been made to specify the year wise distribution of the learning of skills (in the latter part of this curriculum), it is recognized that the process is a continuous one. Skills in specialty subjects may be acquired both during the specialty postings and during the general surgical postings in the parent department, if the procedures are carried out. The list within the tables, indicates the surgical procedures that the students should, by the end of the course, be able to perform independently (PI) by himself/herself or should have performed with assistance (PA) during the course. The other categories of surgical procedures mentioned form a general guide for the procedures that the student should either have observed (O) or have assisted the operating surgeon (A)

a) Basic graduate skills

The student should have acquired the certain skills during his under-graduation and internship. These skills have to be reinforced at the beginning of the training periods These skills include:

Procedure	Category	Year	Number
Insertion of I.V. lines, nasogastric tubes, urinary catheters, etc.,	PI	I	50
Minor suturing and removal of sutures	PI	I	50
Removal of tubes and drains	PI	I	50
Routine wound dressings	PI	I	50

b) Ward Procedures

Ward work forms an important part of the training of the surgeon. In addition to the touting examination of the patient with proper recording of findings, diligent practice of the following is recommended.

Procedure	Category	Year	Number
Abdominal Paracentesis including Diagnostic Peritoneal Lavage	PI	I	5
Ability to teach UG's and Interns	PI	I	NA
Blood sampling – venous and arterial	PI	I	NA
Bone Marrow Aspiration	PI	I	2
Burns dressing	PI	II	10
Communication skills with patients, relatives, colleagues and paramedical staff	PI	I	NA*
Ordering of the requisite laboratory and Radiological investigations and Interpretation of the reports in light of the clinical picture	PI	I	NA

Proficiency in common ward procedures	PI	I	NA
Skills for Per-rectal examination and Proctoscopy	PI	I	NA
Thoracocentesis	PI	II	5
Universal precautions against communicable diseases	PI	I	NA
Venesection	PI	I+II+III	5

NA: Not Applicable

c) ICU Procedures

Procedure	Category	Year	Number
Insertion of Arterial lines	PI	II	10
Insertion of Central venous lines	PI	I	10
Insertion of Endotracheal tubes	PI	II	10
Insertion of Peritoneal Dialysis Catheters	A/PA	I,II,III	5
Intercostal Drainage	PI	II	5
Suprapubic Puncture/ Stab Cystostomy	PI	II	5
Tracheotomy	PI	I	2
Working Knowledge of Ventilators and various Monitors	PI	I	NA
Interpretation of Arterial blood gases	PI	I	NA
Correction of Electrolyte disturbances	PI	I	NA
Prescribing Parenteral & Enteral nutrition	PI	I	NA

d) Emergency Room Procedures

Procedure	Category	Year	Number
Application of Splints for Fractures	PI	I	NA
Arterial and Venous Lines	PI	I	NA
Assessment and initial management of Polytrauma	PI	I	NA
Cardiopulmonary Resuscitation	PI	I	NA
Management of Airway Obstruction	PI	I	NA
Management of Shock and Cardiac / Respiratory failure	PI	I	NA
Recognition and Initial management of Surgical Emergencies	PI	I	NA
Suturing Techniques	PI	I	NA

e) Pre-operative Workup

Procedure	**Category**	**Year**	**Number**
Ability for adequate pre-operative preparation in special situations like Diabetes, renal failure, cardiac and Respiratory failure etc. and risk Stratification	PI	I	NA
Communication skills with special reference to obtaining Informed Consent	PI	I	NA
Proper pre-operative assessment and preparation of patients including DVT prophylaxis, Blood transfusion and Antibiotics	PI	I	NA

f) Post-operative Care

Procedure	Category	Year	Number
Airway management	PI	I	NA
Basic Physiotherapy	PI	I	NA
Management of epidural analgesia	PI	I	NA
Management of Fistulae	PI	I	NA
Management of postoperative hypo and hypertension	PI	I	NA
Postoperative pain control	PI	I	NA
Skills for Nutritional rehabilitation of patients	PI	I	NA
Skills for proper Fluid & Antibiotic management	PI	I	NA
Stoma care	PI	I	NA

g) Minor O.T. procedures

Procedure	Category	Year	Number
Circumcision under Local Anesthesia	PI	I	5
Drainage of Abscesses	PI	I	5
FNAC	PI	I	5
Major dressings	PI	I	20
Minor Anorectal Procedures (Haemorrhoids – Banding, Cryotherapy, Suturing etc,; Anal dilatation and Fissures), Fistulectomy	PI	III	10
Minor Biopsies – Lymph node, ulcer, swellings etc.,	PI	I	20

Reduction and plaster application of simple fractures and dislocations	PA	II	10
Removal of simple subcutaneous swellings	PI	I	10
Sigmoidoscopy and Upper G.I. endoscopy (preferable in and endoscopy room)	PA/A/O	II	10
Suturing Techniques	PI	I	20
Vasectomy	PI/PA	I	5
Wound debridement	PI	I	10

h) Major Operating room techniques

Procedure	**Category**	**Year**	**Number**
Instrument arrangement and trolley layout	PA	I	NA
Skills in Sterilization techniques, O.T.Layout and Asepsis	O	I	NA
Skin preparation – painting and draping	PI	I	NA
Techniques of scrubbing and gowning	PI	I	NA

i) General Surgical Operative Procedures

Procedure	**Category**	**Year**	**Number**
Appendicectomy	PA	I	10
Appendicectomy	PI	III	5
Cholecystectomy	PI and PA	III	1 and 3
Closure of Colostomy	PA	III	2

Closure of peptic ulcer / under-running bleeding ulcer / vagotomy drainage	PI	|||	3
Colostomy	PA	III	2
Cysts and sinuses of the neck	PA	III	2
Diagnostic laparoscopy	PA	III	3
Drainage of breast abscess / Excision of breast lump	PI	I	10
Groin Hernia repair	PI	II / III	5
Gynaecomastia	PA	III	2
Haemorrhoidectomy / Fissurectomy / Simple fistulectomy	See Minor OT procedures		
Hemicolectomy	PA	III	1
Herniotomy / Orchidopexy in children	PA	III	3
Laparotomy for abdominal trauma / splenectomy	PI	III	3
Laparotomy for intestinal obstruction / bowel resections / bowel anastomosis / Vagaotomy with Gastrojejunal anastomosis	PI	III	3
Management of complex wounds	PI	I	10
Mastectomy	PA/A	III	2
Opening and closing the abdomen	PI	I	5
Opening and closing the chest	PI	III / III	1
Parotidectomy	A	III	2
Release of bands and simple adhesive obstruction	PI	II	5
Thyroid lobectomy	PA	III	3

UGI endoscopy / Flexible sigmoidoscopy	A/O	II/III	10
Ventilation	PI	II	5
Wide excision of breast tumours / mastectomy / microdochectomy	PA	III	3
Gastrostomy / feeding jejunostomy	PA	III	3

j) Speciality Procedure

There may be repetition of some of the procedures listed under this category and those listed under General surgical procedures. Where different numbers are mentioned for the same/similar procedures between the general surgery and specialty lists, the higher number is applicable as the prescribed number. (Note that the total number is not the sum of the numbers mentioned for the same/similar procedures in the general surgery and specialty lists.)

Laparoscopy And GI Endoscopy

Procedure	**Category**	**Year**	**Number**
Diagnostic and therapeutic Upper and Lower GI endoscopy	PA	III	10
Diagnostic laparoscopy	PA	III	3
Diagnostic Upper GI endoscopy	PA	III	10
Laparoscopic Cholecystectomy	A	III	3

Neurosurgery

Procedure	**Category**	**Year**	**Number**
Craniotomy	A	II	2
Management of paraplegia	A	II	2
Peripheral nerve repair	A	II	2
Prevention of nerve injury – specific operations	A	II	2
Suturing complex scalp wounds	PI	II	2
Trephining	PA	II	2

Urology

Procedure	Category	Year	Number
Carcinoma penis	PA/A	II	3
Catheterization	PI	I	NA
Circumcision	PI	I	10
Diagnostic cystoscopy	PA/A	II	3
Inguinal Block Dissection	PA	II	1
Meatotomy	PI	II	3
Nephrectomy – partial / total	A	II	3
Nephrolithotomy	A	II	3
Orchidectomy	PA/A	II	3
Orchidopexy	A	II	3
Retroperitoneal lymph node dissection	O	II / III	1
Supra pubic cystostomy	PI	II	3
Total amputation of penis	A	II	1
TUR / Open prostatectomy	A	II	5
Ureterolithotomy	A	II	3
Urethral / Urogenital injuries	A	II	3
Urethral dilatation	PI	II	5
Varicocele	PA/A	II	3
Vasectomy	PI	I / II / III	10

Oncology

Procedure	Category	Year	Number
All radical operations – Breast, Thyroid, GI and Facio-maxillary malignancies	A	II	2 EACH
Breast lumpectomy	PI	II	5
Functional neck node dissection	A	II	3
Gastrectomy / Bowel resection	A	II	3
Imprint cytology	PA	II	3
Metastatic workup	PA	II	5
Stoma care	PI	II	5
Thyroid surgery	A	II	5
U/s guided biopsy	A/O	II	3

Plastic Surgery

Procedure	Category	Year	Number
Burn resuscitation	PI	I	5
Lip surgery	A	II	5
Local blocks in anaesthesia	PI	I	10
Minor hand injuries (specify)	PI	II	5
Nerve repair	A	II	2
Post excision reconstruction	A	II	2
Reimplantation of digits	O	II	1
Skin flap surgery	O	II	2
Split skin graft	PI	II	3
Stitch craft	PI	I	NA
Tendon repair	PA	II	2
Wound debridement	PI	I	10

Paediatric Surgery

Procedure	Category	Year	Number
Anorectal anomalies	A	II	2
Circumcision / meatoplasty	PA	II	10
Herniotomy	PA	II / III	2
Intercostal aspiration	PI	II	2
Laparotomy for peritonitis	PA	II	5
Lymph node biopsy	PI	II / III	5
Non operative treatment of volvulus	A/O	II	2
Orchidopexy	PA/A	II	5
Ostomies	PA	II	2
Paediatric emergencies	A/PA	II	10
Pyloromyotomy	PA/A	II / III	5

Cardiothoracic Surgery

Procedure	Category	Year	Number
Canulation of artery and vein	A	II	2
Chest injuries	PA	II /III	5
Empyema drainage / decortication	PI	II	2
Endotracheal intubation	PI	I	10
Intercostal drainage	PI	I	5
ITU duties	PI	II/III	NA
Lobectomies and pneumonectomies'	O	II	2
Oesophageal surgery	O	II/III	2
Opening and closing the chest	PA	II	2
Pericardiectomy	O	II	2
Removal of FBs	A	II / III	2
Remove pulse generator (pacing)	PA/A	II	1
Rib resection	PA	II / III	2
Tracheostomy	PI	III	5
Undertake sternotomies	PA	II / III	2
Vein and arterial harvesting	PA/A	II / III	2
Ventilator management	PA	I	10

Vascular Surgery

Procedure	Category	Year	Number
AV shunts for vascular access	PA	II / III	2
Bypass graft – prosthetic	A	II / III	2
Conservative amputations	PI	II / III	5
Embolectomy	PA	II / III	2
Post-traumatic aneurysms	A	II / III	2
Sympathectomy	PA	II / III	2
Use of heparin	PI	II / III	10
Varicose vein surgery	PI	II / III	2
Vascular suturing	PA	II / III	2
Vein graft	A/O	II / III	2
Vein patch repair	A/O	II / III	2

Teaching and Learning Activities

A postgraduate student should work in the institution full time and is not permitted to run a clinic/laboratory/nursing home while studying postgraduate course. Each year should be taken as a unit for the purpose of calculating attendance.

Every student shall attend teaching and learning activities during each year as prescribed by the department and not absent himself / herself from work without valid reasons.

A list of teaching and learning activities designed to facilitate students acquire essential knowledge and skills outlined is given below:

1. **Lectures :** Lectures are to be kept minimum and are restricted to teaching certain topics. They may be didactic or integrated.
    a) **Didactic Lectures:** Recommended for selected common topics for post graduate students of all specialties. Few topics are suggested as examples:
        1) Bio-statistics
        2) Use of library,
        3) Research Methods
        4) Medical code of Conduct and Medical Ethics
        5) National Health and Disease Control Programmes
        6) Communication Skills etc.

    These topics may preferably taken up in the first few weeks of the 1st year.

    b) **Integrated Lectures:** These are recommended to be taken by multidisciplinary teams for selected topics ,eg – Polytrauma, Endocrine disorders etc
2. **Journal Club** : Recommended to be held once a week. All the PG students are expected to attend and actively participate in discussion and enter in the

Log Book relevant details. Further, every candidate must make a presentation from the allotted journal(s), selected articles at least four times a year and a total of 12 seminar presentations in three years. The presentations would be evaluated using check lists and would carry weightage for internal assessment . A time table with names of the student and the moderator should be announced at the beginning of every year. [Checklist I]

3. **Subject Seminar:** Recommended to be held once a week. All the PG students are expected to attend and actively participate in discussion and enter in the Log Book relevant details. Further, every candidate must present on selected topics at least four times a year and a total of 12 seminar presentations in three years. The presentations shall be evaluated using check lists and would carry weightage for internal assessment [Checklist II]. A timetable for the subject with names of the student and the moderator should be scheduled at the beginning of every year.
4. **Student Symposium**: Recommended as an optional multidisciplinary programme. The evaluation may be similar to that described for subject seminar.
5. **Ward Rounds**: Ward rounds may be service or teaching rounds.
    a) Service Rounds: Postgraduate students and Interns should do every day for the care of the patients. Newly admitted patients should be worked up by the PGs and presented to the seniors the following day.
    b) Teaching Rounds : Every unit should have 'grand rounds' for teaching purpose. A diary should be maintained for day to day activities by the students.

    Entries of (a) and (b) should be made in the Log book.
6. **Clinico-Pathological Conference**: Recommended once a month for all post graduate students. Presentation be done by rotation. If cases are not

available due to lack of clinical postmortems, it could be supplemented by published CPCs.

7. **Inter Departmental Meetings**: Strongly recommended particularly with departments of Pathology and Radio-Diagnosis at least once a week. These meetings should be attended by post graduate students and relevant entries must be made in the Log Book.

   Pathology: A dozen interesting cases may be chosen and presented by the post graduate students and discussed by them as well as the senior staff of Surgery department. The staff of Pathology department would then show the slides and present final diagnosis. In these sessions the advance immuno-histo-chemical techniques, the burgeoning markers other recent developments can be discussed.

   Radio-diagnosis: Interesting cases and the imaging modalities should be discussed.

8. **Teaching Skills**: Post graduate students must teach under graduate students (Eg. medical, nursing) by taking demonstrations, bed side clinics, tutorials, lectures etc. Assessment is made using a checklist by surgery faculty as well students [Checklist V]. Record of their participation be kept in Log book. Training of post graduate students in Educational Science and Technology is recommended.

9. **Continuing Medical Education Programmes (CME)** : Recommended that at least 2 state level CME programmes should be attended by each student in 3 years.

10. **Conferences:** Attending conferences is optional. However it is encouraged.

    A postgraduate student of a postgraduate degree course in broad specialities/super specialities would be required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published/accepted for

publication/sent for publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.

Attendance : All the candidates joining the Post Graduate training programme shall work as 'Full Time Residents' during the period of training and shall attend not less than 80% (Eighty percent) of the imparted training during each academic year including assignments, assessed full time responsibilities and participation in all facets of the educational process.

Rotation and posting in other departments

The recommended period and timing of training in basic subjects, allied departments and specialty departments is given below.

In the first year, during the morning session, student should work in the parent department. It is recommended that 2 years and 6 months are spent in General Surgery and 6 months in allied and specialty departments. Depending on the time and opportunities available, some of the procedures listed for second year activity can be shifted either to the first or the third year. Students must be 'on call' on a regular basis. The total duration of postings in core and other specialties will be eight months.

Basic Science

Basic science should be an essential part of training. It should be done as concurrent studies during the 1st year of training. Atleast two hours daily may be in the first six months of the course. In the first year, during the morning session, time is spent in the parent department. In the afternoons basic science teaching relevant to surgery can be done in the respective departments.

Topics for study to include Anatomy, Physiology, Pathology, Microbiology, Pharmacology, Anaesthesia and Radiology

Pathology – Concurrent study - Recommend daily Grossing sessions, weekly Surgical pathology sessions and monthly CPCs.

Radiology – Concurrent study – adequate exposure to modern imaging modalities like u/s, CT, MRI and angiography.

Allied Specialty Training

Students are posted to core allied specialty subjects Viz. Anaesthesia and ICU for 15days and Orthopaedics including trauma (Accident and emergency) for 1 month during the second year of training. Posting to the Department of Obstetrics and Gynaecology for 15 days is optional. This posting may be in lieu of one of the other specialties (except the core specialties) depending on the choice of the candidate.

Other Surgical Speciality Subjects

Postings to other speciality departments will be during the second year. The departments and duration of postings are as under:

Department	Duration
❖ Paediatric surgery	1 month
❖ Plastic surgery	15 days
❖ Cardiothoracic & vascular surgery	15 days
❖ Neurosurgery	15 days
❖ Urology	1 month
❖ Oncology	1 month

Dissertation

Every candidate pursuing MD/MS degree course is required to carry out work on a selected research project under the guidance of a recognised post graduate teacher. The results of such a work shall be submitted in the form of a dissertation.

The dissertation is aimed to train a post graduate student in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, search and review of literature, getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, comparison of results and drawing conclusions.

Every candidate shall submit to the Registrar (Academic) of the University in the prescribed proforma, a synopsis containing particulars of proposed dissertation work within six months from the date of commencement of the course on or before the dates notified by the University. The synopsis shall be sent through the proper channel.

Such synopsis will be reviewed and the dissertation topic will be registered by the University. No change in the dissertation topic or guide shall be made without prior approval of the University.

The dissertation should be written under the following headings:

i. Introduction
ii. Aims or Objectives of study
iii. Review of Literature
iv. Material and Methods
v. Results
vi. Discussion
vii. Conclusion
viii. Summary
ix. References
x. Tables
xi. Annexures

The written text of dissertation shall be not less than 50 pages and shall not exceed 150 pages excluding references, tables, questionnaires and other annexures. It should be neatly typed in double line spacing on one side of paper (A4 size, 8.27" x 11.69") and bound properly. Spiral binding should be avoided. The dissertation shall be certified by the guide, head of the department and head of the Institution.

Four copies of dissertation thus prepared shall be submitted to the Registrar (Evaluation), six months before final examination on or before the dates notified by the University.

The dissertation shall be valued by examiners appointed by the University. Approval of dissertation work is an essential precondition for a candidate to appear in the University examination.

Monitoring Learning Progress

It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only helps teachers to evaluate students, but also students to evaluate themselves. The monitoring be done by the staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment be done using checklists that assess various aspects.

The learning out comes to be assessed should included: (i) Personal Attitudes, (ii) Acquisition of Knowledge, (iii) Clinical and operative skills, (iv) Teaching skills and (v) Dissertation.

Personal Attitudes. The essential items are:

- ❖ Caring attitudes
- ❖ Initiative
- ❖ Organisational ability
- ❖ Potential to cope with stressful situations and undertake responsibility
- ❖ Trust worthiness and reliability
- ❖ To understand and communicate intelligibly with patients and others
- ❖ To behave in a manner which establishes professional relationships with patients and colleagues
- ❖ Ability to work in team
- ❖ A critical enquiring approach to the acquisition of knowledge

The methods used mainly consist of observation. It is appreciated that these items require a degree of subjective assessment by the guide, supervisors and peers.

Acquisition of Knowledge : The methods used comprise of `Log Book' which records participation in various teaching / learning activities by the students. The

number of activities attended and the number in which presentations are made are to be recorded. The log book should periodically be validated by the supervisors. Some of the activities are listed. The list is not complete. Institutions may include additional activities, if so, desired.

Journal Review Meeting (Journal Club): The ability to do literature search, in depth study, presentation skills, and use of audio- visual aids are to be assessed. The assessment is made by faculty members and peers attending the meeting using a checklist . [Model Checklist I]

Seminars / Symposia*:* The topics should be assigned to the student well in advance to facilitate in depth study. The ability to do literature search, in depth study, presentation skills and use of audio- visual aids are to be assessed using a checklist. [Model Checklist II]

Clinico-Pathological conferences : This should be a multidisciplinary case study of an interesting case to train the candidate to solve diagnostic and therapeutic problems by using an analytical approach. The presenter(s) are to be assessed using a check list similar to that used for seminar.

Surgical Audit: Periodic morbidity and mortality meeting be held. Attendance and participation in these must be insisted upon. This may not be included in assessment.

Clinical Operative skills

Day to Day work : Skills in outpatient and ward work should be assessed periodically. The assessment should include the candidates' sincerity and punctuality, analytical ability and communication skills [Model checklist III]

Clinical meetings : Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list [Model checklist IV]

Clinical and Operative skills : The candidate should be given graded responsibility to enable learning by apprenticeship. The performance is assessed

by the guide by direct observation. Particulars are recorded by the student in the log book. [Table no 3]

Teaching skills : Candidates should be encouraged to teach undergraduate medical students and paramedical students, if any. This performance should be based on assessment by the faculty members of the department and from feedback from the undergraduate students [Model checklist V]

Dissertation in the Department : Periodic presentations are to be made in the department. Initially the topic selected is to be presented before submission to the University for registration, again before finalisation for critical evaluation and another before final submission of the completed work [Model checklist VI & VII]

Periodic tests*:* The departments may conduct three tests, two of them be annual tests, one at the end of first year and the other in the second year. The third test may be held three months before the final examination. The tests may include written papers, practicals / clinicals and viva voce.

Work diary / Log Book- Every candidate shall maintain a work diary and record his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. Special mention may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any conducted by the candidate.

Records: Records, log books and marks obtained in tests will be maintained by the Head of the Department and will be made available to the University or MCI.

Log book

The log book is a record of the important activities of the candidates during his training, Internal assessment should be based on the evaluation of the log book. Collectively, log books are a tool for the evaluation of the training programme

of the institution by external agencies. The record includes academic activities as well as the presentations and procedures carried out by the candidate.

Format for the log book for the different activities is given in Tables 1,2 and 3 Copies may be made and used by the institutions.

Procedure for defaulters: Every department should have a committee to review such situations. The defaulting candidate is counselled by the guide and head of the department. In extreme cases of default the departmental committee may recommend that defaulting candidate be withheld from appearing the examination, if she/he fails to fulfill the requirements in spite of being given adequate chances to set himself or herself right.

Scheme of Examination

i) Theory

There shall be four question papers, each of three hours duration. Each paper shall consist of 10 short essay questions carrying 10 marks each .Total marks for each paper will be 100. Questions on recent advances may be asked in any or all the papers. Details of distribution of topics for each paper will be as follows:

Paper I : Basic Sciences

Paper II : Principles and Practice of Surgery

Paper III : Principles and practice of Operative Surgery

Paper IV : Recent Advances in Surgery

Note: The distribution of chapters / topics shown against the papers are suggestive only.

THEORY EXAMINATION

There shall be four question papers, each of three hours duration. Each paper shall consist of 10 short essay questions carrying 10 marks each .Total marks for each paper will be 100.

Paper I	= 100 Marks
Paper II	= 100 Marks
Paper III	= 100 Marks
Paper IV	= 100 Marks
Total	**400 Marks**

ii) **Clinical** **200 marks**

There shall be one long case and two short cases to be examined and presented by each candidate.

Type of cases

Long case	1	100 marks
Short cases	2 (2 x 50)	100 marks

iii) **Viva voce** **100 marks**

1) Viva-voice Examination: (80 marks)

All examiners will conduct viva-voice conjointly on candidate's comprehension, analytical approach, expression and interpretation of data. It includes all components of course contents. In addition candidates may be also be given case reports, charts, gross specimens, Histopathology slides, X-rays, ultrasound, CT scan images, etc., for interpretation. Questions on operative surgery and use of instruments will be asked. It includes discussion on dissertation also.

2) Pedagogy Exercise: (20 marks)

A topic be given to each candidate in the beginning of clinical examination. He/she is asked to make a presentation on the topic for 8-10 minutes.

Maximum marks for M.S. General Surgery	Theory	Practical & Viva	Grand Total
	400	300 (Practical – 200 & Viva – 100)	700

MARKS QUALIFYING FOR A PASS

Obtaining a minimum of 40% marks in each theory paper and not less than 50% cumulatively in all the four papers for degree examination. Obtaining of 50% marks in Practical examination shall be mandatory for passing the examination as a whole in the degree examination.

Format of Model Check Lists

Check List -I. MODEL CHECK-LIST FOR EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the Student: **Name of the Faculty/Observer:**

Date:

Sl. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Article chosen was					
2.	Extent of understanding of scope & objectives of the paper by the candidate					
3.	Whether cross references have been consulted					
4.	Ability to respond to questions on the paper / subject					
5.	Audio-Visual aids used					
6.	Ability to defend the paper					
7.	Clarity of presentation					
8.	Any other observation					
	Total Score					

Check List - II.
MODEL CHECK-LIST FOR EVALUATION OF
SEMINAR PRESENTATIONS

Name of the Student: **Name of the Faculty/Observer:**
Date:

Sl. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good
1.	Whether cross references have been consulted					
2.	Completeness of Preparation					
3.	Clarity of Presentation					
4.	Ability to answer questions					
5.	Time scheduling					
6.	Appropriate use of Audio-Visual aids					
7.	Overall Performance					
8.	Any other observation					
	Total Score					

Check List - III

MODEL CHECK LIST FOR EVALUATION OF CLINICAL WORK IN WARD / OPD

(To be completed once a month by respective Unit Heads including posting in other departments)

Name of the Student: **Name of the Unit Head:**
Date:

Sl. No.	Points to be considered:	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Regularity of attendance					
2.	Punctuality					
3.	Interaction with colleagues and supportive staff					
4.	Maintenance of case records					
5.	Investigations work up					
6.	Bedside manners					
7.	Rapport with patients					
8.	Counseling patient's relatives for blood donation or Postmortem and Case follow up.					
9.	Overall quality of Ward work					
	Total Score					

Check List – IV

EVALUATION FORM FOR CLINICAL PRESENTATION

Name of the Student: **Name of the Faculty:**

Date:

Sl. No.	Points to be considered	Poor 0	Below Average 1	Average 2	Above Average 3	Very Good 4
1.	Completeness of history					
2.	Whether all relevant points elicited					
3.	Clarity of Presentation					
4.	Logical order					
5.	Mentioned all positive and negative points of importance					
6.	Accuracy of general physical examination					
7.	Whether all physical signs elicited correctly					
8.	Whether any major signs missed or misinterpreted					
9.	Diagnosis: Whether it follows follows logically from history and findings					
10	Investigations required ▪ Complete list					
	▪ Relevant order					
	▪ Interpretation of investigations					
9.	Ability to react to questioning Whether it follows logically from history and findings					
10.	Ability to defend diagnosis					
11.	Ability to justify differential diagnosis					
12.	Others					
	Grand Total					

Check List - V

MODEL CHECK LIST FOR EVALUATION OF TEACHING SKILL PRACTICE

Sl. No.		Strong Point	Weak Point
1.	Communication of the purpose of the talk		
2.	Evokes audience interest in the subject		
3.	The introduction		
4.	The sequence of ideas		
5.	The use of practical examples and/or illustrations		
6.	Speaking style (enjoyable, monotonous, etc., specify)		
7.	Attempts audience participation		
8.	Summary of the main points at the end		
9.	Asks questions		
10.	Answers questions asked by the audience		
11.	Rapport of speaker with his audience		
12.	Effectiveness of the talk		
13.	Uses AV aids appropriately		

Check list VI

MODEL CHECK LIST FOR DISSERTATION PRESENTATION

Name: **Faculty/observer:**
Date:

Sl. No.	Points to be considered divine	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Interest shown in selecting a topic					
2.	Appropriate review of literature					
3.	Discussion with guide & other faculty					
4.	Quality of protocol					

Checklist-VII

CONTINUOUS EVALUATION OF DISSERTATION WORK BY GUIDE / CO-GUIDE

Name of the Student: **Name of the Faculty/Observer:**
Date:

Sl. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Periodic consultation with guide/co-guide					
2.	Regular collection of case material					
3.	Depth of analysis / discussion					
4.	Departmental presentation of findings					
5.	Quality of final output					
5.	Others					
	Total Score					

Model Checklists for Assessment of Scientific Papers for Publication

Sl. No.	Criteria	Distribution of Marks	Marks awarded
1.	Originality	10	
2.	Clarity & Quality of presentation	10	
3.	Relevance	10	
4.	Review of Literature	10	
5.	Quantum of works involved	15	
6.	Methodology, Sensitivity, sample size, controlled, not controlled study etc.	25	
7.	Advancement in knowledge	10	
	Total	90	

Signature of the Evaluator _

Name _

Designation _

LOG BOOK

Table 1 : Academic activities attended

Name: **Admission Year:**

College:

Date	Type of Activity Specify Seminar, Journal Club, Presentation, UG teaching	Particulars

LOG BOOK

Table 2 : Academic presentations made by the student

Name: **Admission Year:**

College:

Date	Topic	Type of Presentation Specify Seminar, Journal Club, Presentation, UG teaching etc.

LOG BOOK

Table 3 : Diagnostic and Operative procedures performed

Name: **Admission Year:**

College:

Date	Name	ID No.	Procedure	Category O, A, PA, PI*

*** Key:**

O - Washed up and observed

A - Assisted a more senior Surgeon

PA - Performed procedure under the direct supervision of a senior surgeon

PI - performed independently

Model Overall Assessment Sheet

Name of the College: **Academic Year:**

Sl. No	Faculty Member & Others	Name of Student and Mean Score									
		A	B	C	D	E	F	G	H	I	J
1											
2											
3											
4											
5											
Total Score											

Note: Use separate sheet for each year.

Recommended books and Journals

Text books

1. Charles V. Mann, R.C.G. Russell, Norman S. Willians, Bailey and Love's Short Practice of Surgery, 37th Edition, Chapman & Hall

2. David C. Sabiston : Text book of Surgery : The Biological Basis of Modern Surgical Practice, 15th Edition, 1971, W.B. Saunders

3. Seymour I. Schwarts, G. Tom Shines, Frank C. Spencer, Wendy Cowles Husser : Principles of Surgery, Vol. 1 & 2, 7th Edition, 1999, Mc.Graw Hill

4. JSP Lumley : Hamilton Bailey's Physical Signs, 18th Edition, 1997, Butterworth/Heinemann.

5. R.W.H. McMinn : Last's Anatomy : Regional and Applied, 10th Edition, 1999, Churchill Livingstone

6. Sir Charles Illingworth, Bruce M. Dick, A Text Book of Surgical Pathology, 12th Edition, 1979, Churchill Livingstone.

7. K.Das : Clinical Methods in Surgery, 8th Edition, 1968, Suhas Kumar Dhar, Calcutta

8. R.F. Rintoul :Farqharson's Text Book of Operative Surgery, 8th Edition, 1995, Churchill Livingstone

9. SomenDas : A practical Guide to Operative Surgery, 4th Edition, 1999, S. Das, Calcutta.

10. Pankaj Patel, V.V.Dewoodkar, Handbook of Surgical Instruments for Undergraduates, 1992, Bhalani publishing, House

11. R.A.Jamieson and A.W.Kay : Text book of Surgical Physiology, Lavingstone.

12. James Kyle :Pye's Surgical Handicraft, Indian Edition, K.M. Varghese Company.

Reference text books

1. William F. Ganong : Review of Medical Physiology, 2000, Lange Medical Publication
2. Roshan LallGupta : Year Book of Surgery, (Series) Jaypee Brothers
3. Roshan LallGupta : Recent advances in Surgery, (Series) Jaypee Brothers
4. I. Taylor and C.D. Johnson : Recent Advances in Surgery, (Series) Churchill Livingstone.
5. Lloyd M. Nyhus, Robert J.Baker and Joseph E. Fischer : Mastery of Surgery Vol. 1 & 2, 3rd Edition, 1997, Little Brown & Company.
6. Peter J.Morris and Ronald A Malt : Oxford Text Book of Surgery, Vol. 1 & 2, 1994, Oxford University Press
7. Charles Rob and Rodney Smith : Operative Surgery (All Volumes), 2nd Edition, 1971, Butterworths.
8. C.Palanivelu : Art of Laparoscopic Surgery, 1999, Paras Publishing
9. Michael J. Zinner, Seymour I. Schartz and HaroidEllis :Maingot's abdominal operations, Vol. 1 & 2, 10th Edition, 1997, Prentice Hall International.
10. Kevin G. Burnand and Anthony E. Young : The New Aird's companion to surgical studies, 1992, Curchill Livingstone.
11. Guyton : Text Book of Medical Physiology, 9th Edition, 1998, W.B. Saunders.
12. Hamilton Bailey : Emergency Surgery, 1999, Butterwoth
13. Cuschiery : Essentials of Surgical Practice, 3rd Edition, 1995, K.M. Verghese Company
14. Goliger : Surgery of the Anus, Ractum and Colon.
15. Lee Mcgregor : Synopsis of Surgical Anatomy, 12th (Indian) Edition, 1998, K.M. Verghese Company
16. W.T. Irvine : Modern Trends in Surgery, Series, Butterworths

Reference books

1. Irving Taylor, Timothy G. Cooke and PerraGuillou : Essential General Surgical Oncology, 1996, Churchil Livingstone.

2. James A, O'Neil, Marc I. Owe, Jay L. Grosfeld, Eric W. Fopnkalsrud and Amold G. Coran : Pediatric Surgery, Vol.1 & 2, 5th Edition, 1998, Mosby

3. Anthony S. Fauci and Others : Harrison's Principles of Internal Medicine, Vol. 1 & 2, 14th Edition, 1998, Mc Graw Hill

4. Sheila Sherlock and James Dooley : Diseases of the Liver and Biliary System, 10th Edition, 2000, Blackwell Scientific Publication

5. Incent J. Devita, Samuel Hellman and Steven A. Roseberg, Cancer : Principles and Practice of Oncology, 6th Edition, 2000, Lippincott

6. Blumgart : Surgery of Liver &Bilary Tract, Vol. 1 & 2, 2nd Edition, 1994, Churchill Livingstone

7. Campbell and Smith : Urology, Vol. 1,2 & 3, 5th Edition, 1986, W.B. Saunders

8. Smith : General Urology

9. Grab and Smith : Plastic Surgery, 5th Edition, 1997

Journals for reference

Indian Journal of Surgery

British Journal of Surgery

American Journal of Surgery

Surgery International

New England Journal of Medicine

Surgery, Gynaecology& Obstetrics

Year Book of Surgery

Surgical Clinics of North America

Lancet

British Medical Journal

Urological Clinics of North America

Indian Journal of Medical Research

Additional reading

1. Compondium of Recommendations of Various Committees on Health and Development (1943-1975) DGHS, 1985Central Bureau of Health Intelligence, Directorate General of Health Services, Min. Of Health and Family Welfare, Govt. Of Indian, Nariman Bhawan, New Delhi, P – 335

2. National Health Policy : Min. of Health & Family Welfare, Nirman Bhawan, New Delhi, 1983

3. SamoshKumar : The Elements of Research, writing and editing 1994, Dept. Of Urology, JIMPER, Pondicherry

4. Srinivasa D K etal : Medical Education Principles and Practice, 1995. National Teacher Training Centre, JIPMER, Pondicherry

5. Indian Council of Medical Research : "Policy Statement of Ethical considerations involved in Research on Human Subjects", 1982, I.C.M.R., New Delhi.

6. Code of Medical Ethics framed under section 33 of the Indian Medical Council Act, 1956. Medical Council of India, Kotla Road, New Delhi.

7. Francis C M : Medical Ethics, Jaypee Publications, Bangalore, 1993.

8. Indian National Science Academy, Guidelines for care and use of animals in Scientific Research, New Delhi, 1994.

9. Internal National Committee of Medical Journal Editors, Uniform requirements for manuscripts submitted to biomedical journals, N Engl J Med 1991, 424-8

10. Kirkwood B.R.: Essentials of Medical Statistics, 1st Ed., Oxford, Blackwell Scientific Publications 1988.

11. Mahajan B.K. : Methods in Bio-statistics for Medical Students, 5th Edition, New Delhi, Jaypee Brothers Medical Publishers, 1989.

12. Raveendran B Gitanjali : A Practical approach to PG dissertation, New Delhi, Jaypee Publications, 1998.

13. R.K. Chaube : Consumer Protection Act and Medical Profession, 1st Edition, 1999, Jaypee Brothers.

MEDICAL ETHICS
Sensitisation and Practice

Introduction

There is now a shift from the traditional individual patient, doctor relationship, and medical care. With the advances in science and technology and the needs of patient, their families and the community, there is an increased concern with the health of society. There is a shift to greater accountability to the society. Doctors and health professionals are confronted with many ethical problems. It is, therefore necessary to be prepared to deal with these problems. To accomplish the Goals stated in Chapter I and to develop human values it is urged that ***ethical sensitisation*** be achieved by lectures or discussion on ethical issues, clinical case discussion of cases with an important ethical component and by including ethical aspects in discussion in all case presentation, bedside rounds and academic postgraduate programmes.

Course Contents

1. *Introduction to Medical Ethics*
   What is Ethics
   What are values and norms
   Relationship between being ethical and human fulfillment
   How to form a value system in one's personal and professional life
   Heteronomous Ethics and Autonomous Ethics
   Freedom and personal Responsibility

2. *Definition of Medical Ethics*
   Difference between medical ethics and bio-ethics
   Major Principles of Medical Ethics 0

Beneficence	=	fraternity
Justice	=	equality
Self determination (autonomy)	=	liberty

3. *Perspective of Medical Ethics*
   The Hippocratic oath
   The Declaration of Helsinki
   The WHO Declaration of Geneva
   International code of Medical Ethics (1993)
   Medical Council of India Code of Ethics

4. *Ethics of the Individual*
The patient as a person
The Right to be respected
Truth and Confidentiality
The autonomy of decision
The concept of disease, health and healing
The Right to health
Ethics of Behaviour modification
The Physician – Patient relationship
Organ donation

5. *The Ethics of Human life*
What is human life
Criteria for distinguishing the human and the non-human
Reasons for respecting human life
The beginning of human life
Conception, contraception
Abortion
Prenatal sex-determination
In vitro fertilization (IVF), Artificial Insemination by Husband (AIH)
Artificial Insemination by Donor (AID),
Surrogate motherhood, Semen Intrafallopian Transfer (SIFT),
Gamete Intrafallopian Transfer (GIFT), Zygote Intrafallopian Transfer (ZIFT),
Genetic Engineering

6. *The Family and Society in Medical Ethics*
The Ethics of human sexuality
Family Planning perspectives
Prolongation of life
Advanced life directives – The Living Will
Euthanasia
Cancer and Terminal Care

7. *Profession Ethics*
Code of conduct
Contract and confidentiality
Charging of fees, Fee-splitting
Prescription of drugs
Over-investigating the patient
Low – Cost drugs, vitamins and tonics
Allocation of resources in health cares
Malpractice and Negligence

8. *Research Ethics*
Animal and experimental research / humanness
Human experimentation
Human volunteer research – Informed Consent
Drug trials

9. *Ethical workshop of cases*
Gathering all scientific factors
Gathering all human factors
Gathering all value factors
Identifying areas of value – conflict, Setting of priorities,
Working out criteria towards decisions

Recommended Reading

Francis C.M., **Medical Ethics**, 1 Ed, 1993, Jaypee Brothers, New Delhi, p 189.