JSS ACADEMY OF HIGHER EDUCATION & RESEARCH
(DEEMED TO BE UNIVERSITY) MYSURU

JSS Academy of Higher Education & Research
(Deemed to be University)
Re-Accredited "A+" Grade by NAAC
Sri Shivarathreeshwara Nagara Mysuru - 570015, Karnataka

Regulation & Syllabus

MS GENERAL SURGERY

2020

MS General Surgery

GOAL: The goal of postgraduate training in M S General Surgery is to contribute a competent, confident and responsible surgeon to the field of surgery replete with necessary knowledge, skills and attitude to be a lifelong learner, teacher, researcher and good clinician rendering service to the stakeholders and serve the community.

PROGRAM OUTCOMES

PO1: Demonstrate the acquisition of comprehensive knowledge in basic general surgery concepts, their application in clinical practice and problem solving in difficult and special circumstances.

PO2: Demonstrate the acquisition of basic knowledge and understanding of various organ systems with implications of pathogenesis of different diseases on the overall patient treatment & outcome.

PO3: Demonstrate an ability in deciphering the concepts of surgery, imparting knowledge and skills while teaching general surgery to undergraduate students.

PO4: Demonstrate the acquisition of comprehensive firsthand knowledge in understanding various specific surgery subspecialities to deliver necessary secondary care and be able to refer the patient to appropriate centre for further management.

PO5: Demonstrate the acquisition of skills in performing various basic surgical procedures independently with utmost diligence to ethics, communication and attitude while rendering service to patients.

PO6: Demonstrate the acquisition of the comprehensive knowledge and skills required to participate in various TL methods.

PO7: Demonstrate the capability to conduct clinical and experimental research which have significant bearing on human health and patient care.

PO8: Demonstrate the capability to develop ideas and contribute towards generation of patents and copyrights related to the subject.

PO9: Demonstrate the acquisition of adequate management and leadership qualities to lead the team engaged in teaching, implementing national health programmes and research.

PO10: Demonstrate the ability to showcase/present innovations, skills at national and international levels being a lifelong learner.

COURSE OUTCOMES

Paper I: Basic Sciences

(Anatomy, Physiology, Biochemistry, Microbiology, Pathology and Pharmacology) as pertinent to subject, History of medicine , Health economics, Medical sociology, Computers, Environment protection , Surgical audit, evidence based surgical practice, quality assurance, advances in imaging technologies, Disaster management, mass casualties, Triage , O.T. design, technologies, equipment, Critical care in surgical practice, brain death & Cadaveric organ retrieval.

CO1: Demonstrate the acquisition of comprehensive knowledge of basic sciences in understanding the pathophysiology and deciding upon appropriate management strategies for common surgical illness.

CO2: Demonstrate the acquisition of basic understanding of various components of hospital administration in general surgical practice for holistic working milieu and judicious utilization of resources.

CO3: Demonstrate the acquisition of knowledge in basic sciences required to take measures about natural calamities, disaster, biohazards and environment protection.

CO4: Demonstration the acquisition of knowledge in organizational behaviour to facilitate the novel practices of organ transplant while applying oneself to medical sociology.

Paper II: Principles and Practice of Surgery

Principles of general surgery including neoplasia, common infections, burns and trauma of skin, subcutaneous tissues, extremities, cardiothoracic organs, neurological system including head and neck, urology, venous, arterial and lymphatic system.

CO1: Demonstrate the acquisition of knowledge in understanding the principles of management of general surgical diseases.

CO2: Demonstrate the acquisition of knowledge in diagnosis and treatment of common cardiothoracic diseases.

CO3: Demonstrate the acquisition of knowledge in management of common urological diseases.

CO4: Demonstrate the acquisition of comprehensive knowledge and skills related to advances in various diagnostic tests and treatment of various diseases in Venous, arterial & lymphatic system.

CO5: Demonstrate ability to analyze the difficulties in common surgical problem and synthesize treatment plans in their management.

CO6: Demonstrate an ability to translate the knowledge of general surgical concepts to defend, explain and justify the diagnosis and formulate an action plan in the treatment of patients with general surgical illness.

Paper III: Principles and practice of operative surgery.

Principles and practice of operative general surgery including diseases of salivary glands, breast, endocrine, abdominal wall and gastrointestinal system with considerations to pediatric surgery.

CO1: demonstrate an understanding of facts, techniques, rules and concepts involved in the practice of operative surgery maximizing patient safety.

CO2: Demonstrate an understanding in the selection of appropriate operative surgery for the treatment of a disease by examining evidence, interpreting the information, estimating the risk benefit ratio with an appraisal to quality of work.

CO3: Demonstrate an understanding of knowledge in organizing preoperative plan by interpreting diagnostic investigations to decide on further judgement in operative surgery influencing positive postoperative outcome.

CO4: Demonstrate an acquisition of knowledge, facts and techniques of operative surgery prioritizing safety, efficacy with an attitude to improve by adapting and modifying.

CO5: Demonstrate an acquisition of knowledge in recommending a postoperative treatment plan and discuss with stakeholders in finding solutions/ alternative solutions of different outcomes of operative surgery.

Paper IV: Recent advances

Recent advances in guidelines of National health programmes for tuberculosis, HIV, leprosy, Occupational diseases, environmental pollution, biohazard management and sexually transmitted diseases. Recent advances in operative surgery including minimally invasive, robotics, endoscopic and

interventional radiology. Recent advances in diagnostics including histopathology, cytology, immunohistochemistry, molecular biology, genetics, microbiology relevant in general surgical practice. Recent advances in chemotherapy of neoplasia, antimicrobials and pharmacotherapy of general surgical practice.

CO1: Solve problems to new situations by applying acquired knowledge, recalling facts, terms and concepts of recent advances in National health programmes.

CO2: Make inferences and find evidence to support generalizations, identifying motives or causes by seminars, journal club, reviewing articles, interdepartmental meets and symposia on recent advances in surgery.

CO3: Demonstrate understanding of knowledge by comparing, contrasting and interpreting the different recent advances in diagnostics & surgery before recommending new modalities or alternate solutions in management of diseases.

CO4: Demonstrate an attitude of lifelong learning to adapt, while defending opinions and validity of ideas in recent advances in surgery.

CO5: Demonstrate acquisition of knowledge to prioritize from the array of methods by deducting obsolete treatment models and recommending newer treatment modalities justifying the quality of work based on a set of criteria.

OBJECTIVES

After completion of the course the postgraduate should:

1. Have mastered most of the competencies of general surgery, with cognizance of developments and advances in the field of General Surgery.
2. Be able to solve problems in various clinical settings by explaining the conceptual knowledge of surgery.
3. Be a researcher who states ideas and has a motive to discover the field of research in General Surgery.
4. Be an AVID[Advancement Via Individual Determination] teacher who shall have acquired the skills in teaching undergraduates of medical and allied professions.

5. Be able to demonstrate organizational behaviour in implementing health economics, material, personnel management, medical sociology and environmental protection.

After completing the three-year course in MS General surgery the student should have achieved competency in the following:

1. **Knowledge of General Surgery**
   Acquire competencies related to basic sciences and principles and practise of surgery, operative surgery with the recent advances.

2. **Practical and Clinical skills**
   Acquire proficiency in clinical examination and diagnostic procedures involved in the management of diseases of various systems of the body. Acquire skills required for efficient perioperative management of patients undergoing surgery.

3. **Organisational and problem-solving skills**
   Acquire knowledge and skills required in identifying situations calling for urgent or early surgical intervention and refer at optimum time to higher centre. Acquire problem solving methods in difficult situations and natural calamities. Demonstrate the importance of community health by effectively participating in Family Welfare and other National Health Programmes.

4. **Knowledge of evidence-based medicine and medicolegal domain**
   Acquire knowledge to perform surgical audit on regular basis and maintain records (manual and/or electronic) for life.

5. **Knowledge of preventive medicine and rehabilitation**
   Demonstrate sufficient understanding of basic sciences related to general surgery to plan and advise measure for prevention and rehabilitation of patients belonging to his/her speciality.

6. **Communication skills**
   Counsel and guide patients and relatives regarding need, implications and problems of surgery in the individual patient by obtaining informed consent prior to performance of operative procedure.

7. Training skill in Research Methodology

- Acquire skills in teaching, research methodology, epidemiology & basic information technology.
- Acquire knowledge in the basic aspects of Biostatistics and research methodology.
- Has knowledge to plan the protocol of a thesis, carry out review of literature, execution of research project and preparation of report.
- Has ability to use computer applications Microsoft office (Microsoft word, excel, power point), Internet, Searching scientific databases (e.g. PubMed, Medline, Cochrane reviews).
- Acquire skills in paper & poster preparation, writing research papers and Thesis.

8. Teaching General Surgery:

Attain proficiency by understanding the basic methodology of teaching and develop competency in teaching medical/paramedical students using different teaching and learning methods.

9. Professionalism

- Show integrity, accountability, respect, compassion and dedication for patient care and demonstrate an acquisition of commitment to excellence and continuous professional development while choosing treatment modalities and designing research plan.
- The student should demonstrate a commitment to ethical principles relating to providing patient care, confidentiality of patient information and informed consent.
- The student should show sensitivity and responsiveness to patients' culture, age, gender and disabilities while proposing a treatment modality for general surgical illness/diseases in the field of his/her speciality.

SUBJECT SPECIFIC COMPETENCIES

At the end of the course the student should have attained:

A. Cognitive domain

- Demonstrate knowledge of applied aspects of basic sciences like applied anatomy, physiology, biochemistry, pathology, microbiology and pharmacology.

- Demonstrate knowledge of the bedside procedures and latest diagnostics and therapeutics available.
- 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.
- Demonstrate the theoretical knowledge of systemic surgery including disaster management and recent advances.
- Demonstrate the theoretical knowledge to choose, and interpret appropriate diagnostic and therapeutic imaging including ultrasound, Mammogram, CT scan, MRI.
- Demonstrate the knowledge of ethics, medico-legal aspects, communication skills and leadership skills. The PG student should be able to provide professional services with empathy and humane approach.

B. 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.
- Always adopt ethical principles and maintain proper etiquette in dealings with patients, relatives and other health personnel and to respect the rights of the patient including the right to information and second opinion.
- Develop communication skills to word reports, obtain a proper relevant history and professional opinion as well as to interact with patients, relatives, peers and paramedical staff, and for effective teaching.
- 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.

C. Psychomotor domain

- Perform a humane and thorough clinical examination including internal examinations and examinations of all organs/systems in adults and children
- Write a complete case record with all necessary details.

- Arrive at a logical working diagnosis / differential diagnosis after clinical examination.
- 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 life saving 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 post operative care of the patient.
- Write a proper discharge summary with all relevant information.

PRACTISE BASED COMPETENCY

CLINICAL CASES AND SYMPTOM BASED APPROACH

Student should be expert in good history taking, physical examination, providing basic life support and advance cardiac life support, perform common procedures like FNAC, Biopsy, aspiration from serous cavity, lumbar puncture etc. The students should be able to choose required investigation to decide on further judgement in operative surgery influencing positive postoperative outcome.

1.Examination of palate, cheek, and floor of mouth

2. Examination of head and face

3. Examination of neck

4. Examination of thyroid gland

5. Examination of breast

6. Examination of swelling in inguino-scrotal region including hernias

7. Examination of male external genitalia

8. Examination of salivary glands

9. Examination of injuries and assessment of trauma as per ATLS protocol

10.Examination of chronic abdomen

11.Examination of acute abdomen

12.Workup and diagnosis of case of upper and lower gastro-intestinal bleeding

13. Examination of abdominal lump

14. Diagnosis and management of urological emergencies

15. Examination of urinary cases

SYLLABUS

GENERAL TOPICS

Section 1 Surgical basic principles:

1. History of medicine with special reference to ancient Indian texts
2. Medical sociology, doctor-patient relationship, family adjustments in disease, organizational behaviour, conflict resolution
3. Medical ethics
4. Sepsis - SIRS
5. Response to trauma
6. Wound healing
7. Fluid and electrolyte balance
8. Blood transfusion

Section 2 Perioperative management :

1. Newer antibiotics
2. Problem of resistance.

3. Nosocomial infection
4. Hazards in hospital and protection:
5. AIDS, hepatitis B, tuberculosis, radiation, psychological

Section 3 Trauma and critical care:

1. Critical care in surgical practice
2. Disaster management, mass casualties, Triage

Miscellaneous:

1. Health economics - basic terms, health insurance
2. Medical sociology, doctor-patient relationship, family adjustments in disease, organizational behaviour, conflict resolution
3. Computers - record keeping, computer aided learning, virtual reality, robotics
4. Environment protection - bio-medical waste management
5. Surgical audit, evidence based surgical practice, quality assurance
6. Concept of essential drugs and rational use of drugs
7. Procurement of stores and material & personal management
8. Research methodology - library consultation, formulating research, selection of topic, writing thesis protocol, preparation of consent form from patients
9. Bio-medical statistics, clinical trials
10. Consumer protection
11. Advances in imaging technologies
12. O.T. design, technologies, equipment
13. Brain death
14. Cadaveric organ retrieval

SYSTEMIC SURGERY

Section 1 Surgical basic principles:

1. Wound healing including recent advances
2. Asepsis, antisepsis, sterilization and universal precaution
3. Fluid and electrolyte balance including acid – base disturbance, consequences, interpretation of blood gas analysis data and management
4. Rhabdomyolysis and prevention of renal failure
5. Shock (septicaemic, hypovolaemic, Neurogenic, anaphylactic), pathophysiology and management
6. Blood and blood components, transfusion indication, contraindication, mismatch and prevention and management of complications of massive blood transfusion

Section 2 Perioperative management:

1. Surgical infections, causes of infections, prevention Common aerobic and anaerobic organisms and newer organisms causing infection including Helicobacter Pylori Tetanus, gas gangrene treatment & prevention
2. Chronic specific infections TB, Filariasis
3. Boils, cellulites, abscess, necrotizing fasciitis and synergistic infection
4. Antibiotic therapy rationale including antibiotic prophylaxis, misuse, abuse
5. Hospital acquired nosocomial infection causes and prevention including MRSA etc.
6. HIV, AIDS and Hepatitis B & C, Universal precautions when dealing with patients suffering from these diseases
7. Common preoperative preparation (detailed preoperative workup, risk assessment according to the disease and general condition of the patient as per ASA grade) and detailed postoperative complications following major and minor surgical procedures Surgical aspects of diabetes mellitus particularly management of diabetic foot and gangrene, preoperative control of diabetes, consequences of hypo- and hyperglycaemia in a postoperative setting

Section 3 Trauma and critical care:

1) Consequences and management of bites and stings including snake, dog, human bites
2) Mechanisms and management of missile, blast and gunshot injuries

Section 4 Transplantation and Immunology:

Organ transplantation: Basic principles including cadaver donation, related Human Organ Transplant Acts, ethical and medicolegal aspects.

Section 5 Surgical oncology:

Management of soft tissue sarcoma

Section 6 Head and Neck:

1. Cleft lip and palate
2. Leucoplakia, retention cysts, ulcers of tongue
3. Oral malignancies
4. Salivary gland neoplasms
5. Branchial cyst, cystic hygroma
6. Cervical lymphadenitis nonspecific and tuberculous, metastatic lymph nodes and lymphomas.

Section 7 Breast:

1. Breast abscess
2. Management of nipple discharge
3. Clinical breast examination, breast self-examination
4. Screening and investigation of breast lump
5. Concept of Single Stop Breast Clinic
6. Cancer breast diagnosis, staging and multimodality management (common neoadjuvant and adjuvant and palliative chemotherapy

protocols and indications of radiation and hormonal therapy, pathology and interpretation of Tumour Markers, breast cancer support groups and counselling)

Section 8 Endocrine:

1. Diagnosis and principles of management of goitre
2. Thyroglossal cyst and fistula
3. Thyrotoxicosis
4. Thyroid neoplasms
5. Management of solitary thyroid nodule

Section 9 Oesophagus:

1. Cancer oesophagus: principles of management including importance of early detection and timely referral to specialist
2. Gastro-oesophageal reflux disease (GERD)

Section 10 Abdomen:

1. Achalasia cardia
2. Congenital hypertrophic pyloric stenosis
3. Aetiopathogenesis, diagnosis and management of peptic ulcer including role of H. Pylori and its diagnosis and eradication
4. Cancer stomach
5. Signs and tests of liver dysfunction
6. Amoebic liver abscess and its non-operative management
7. Hydatid cyst and its medical and surgical management including laparoscopic management
8. Portal hypertension, index of suspicion, symptoms and signs of liver failure and timely referral to a specialist centre

9. Obstructive jaundice with emphasis on differentiating medical vs surgical Jaundice, algorithm of investigation, diagnosis and surgical treatment options
10. Neoplasms of liver
11. Rupture spleen
12. Indications for splenectomy
13. Clinical features, diagnosis, complications and principles of management of cholelithiasis and cholecystitis including laparoscopic cholecystectomy
14. Management of bile duct stones including endoscopic, open and laparoscopic management
15. Carcinoma gall bladder, incidental cancer gallbladder, index of suspicion and its staging and principles of management
16. Choledochal cyst
17. Acute pancreatitis both due to gallstones and alcohol
18. Chronic pancreatitis
19. Carcinoma pancreas
20. Peritonitis: causes, recognition, diagnosis, complications and principles of management with knowledge of typhoid perforation, tuberculous peritonitis, postoperative peritonitis
21. Abdominal pain types and causes with emphasis on diagnosing early intraabdominal acute pathology requiring surgical intervention
22. Intestinal amoebiasis and other worm manifestation (Ascariasis) and their surgical complications (Intestinal Obstruction, perforation, gastrointestinal bleeding, involvement of biliary tract)
23. Abdominal tuberculosis both peritoneal and intestinal
24. Intestinal obstruction
25. Appendix: Diagnosis and management of acute appendicitis
26. Appendicular lump and abscess
27. Congenital disorders, Congenital megacolon
28. Colitis infective / non infective
29. Inflammatory bowel diseases
30. Premalignant conditions of large bowel
31. Ulcerative colitis
32. Carcinoma colon
33. Principles of management of types of colostomies
34. Congenital disorders, Anorectal anomalies
35. Prolapse of rectum

36. Carcinoma rectum
37. Anal Canal: surgical anatomy, features and management of fissures, fistula - in Ano.
38. Perianal and ischiorectal abscess
39. Haemorrhoids – Non-operative outpatient procedures for the control of bleeding (Banding, cryotherapy, injection) operative options - open and closed haemorrhoidectomy and stapled haemorrhoidectomy
40. Anal carcinoma
41. Clinical features, diagnosis, complication and principles of management of inguinal hernia including laparoscopic repair
42. Umbilical, femoral hernia and epigastric hernia
43. Open and Laparoscopic repair of incisional/primary ventral hernia

Section 11 Chest:

1. Recognition and treatment of pneumothorax, haemothorax
2. Pulmonary embolism: Index of suspicion, prevention/recognition and treatment
3. Flail chest, stove in chest
4. Postoperative pulmonary complication
5. Empyema thoracis Recognition of oesophageal atresia and principles of management
6. Neoplasms of the lung including its prevention by tobacco control

Section 12 Vascular:

1. Acute arterial occlusion, diagnosis and initiate management
2. Types of gangrene, Burger's disease and atherosclerosis
3. Investigations in case of arterial obstruction, amputation, vascular injuries: basic principles and management
4. Venous disorders: Varicose veins
5. Diagnosis, principles of therapy, prevention of DVT: basic principles and management
6. Lymphatic: Diagnosis and principles of management of lymphangitis and lymphedema

Section 13 Specialities in general surgery:

1. Burns: causes, prevention and management
2. Wounds of scalp and its management
3. Recognition, diagnosis and monitoring of patients with head injury, Glasgow coma scale
4. Undergo advanced trauma and cardiac support course (certified) before appearing in final examination
5. Recognition of acute cerebral compression, indication for referrals.
6. Urinary symptoms and investigations of urinary tract
7. Diagnosis and principles of management of urolithiasis
8. Lower Urinary tract symptoms or prostatism
9. Benign prostatic hyperplasia; diagnosis and management
10. Genital tuberculosis in male
11. Phimosis and paraphimosis
12. Carcinoma penis
13. Diagnosis and principles of treatment of undescended testis
14. Torsion testis
15. Hydrocele, haematocele and pyocele Varicocele: Diagnosis (Medical Board for fitness)
16. Varicocele: Diagnosis (Medical Board for fitness)
17. Acute and chronic epididymo-orchitis
18. Testicular tumours
19. Principles of management of urethral injuries

Miscellaneous:

1. Prosthetic materials used in surgical practice
2. Telemedicine, tele proctoring and e-learning
3. Communication skills
4. Surgical aspects of diabetes mellitus particularly management of diabetic foot and gangrene, preoperative control of diabetes, consequences of hypo- and hyperglycaemia in a postoperative setting
5. Common skin and subcutaneous condition

6. Sinus and fistulae, pressure sores

CERTIFIABLE SKILLS

Demonstrate following predominant Psychomotor domain competencies

Perform Independently:

- Demonstrate the analytical skills related to diagnostic tests in various systems of the body.
- Demonstrate different methods of teaching-learning and assessments.
- Make presentations of the subject topics for teaching and research outputs. Independently

At the end of the course, post graduate students should be able to perform independently (including perioperative management) the following:

- Start IV lines and monitor infusions
- Start and monitor blood transfusion
- Venous cut-down
- Start and manage a C.V.P. line
- Conduct CPR (Cardiopulmonary resuscitation)
- Basic/ advance life support
- Endotracheal intubation
- Insert nasogastric tube
- Proctoscopy
- Urethral catheterisation
- Surgical management of wounds
- Biopsies including image guided
- Manage pneumothorax / pleural space collections
- Infiltration, surface and digital Nerve blocks
- Incise and drain superficial abscesses

- Control external haemorrhage
- Vasectomy (Preferably non-scalpel)
- Circumcision
- Surgery for hydrocele
- Surgery for hernia
- Surgery and Injection/banding of piles
- Management of all types of shock
- Assessment and management of burns
- Hemithyroidectomy
- Excision of thyroglossal cyst
- Excision Biopsy of Cervical Lymph node
- Excision of benign breast lump
- Modified Radical mastectomy
- Axillary Lymph node Biopsy
- Excision of gynaecomastia
- Excision of skin and subcutaneous swellings
- Split thickness skin graft
- Management of hernias
- Laparoscopic and open cholecystectomy
- Management of Liver abscess
- Appendectomy
- Management of intestinal obstruction, small bowel resection, perforation and anastomosis
- Colostomy

The student must have observed or assisted (the list is illustrative) in the following:

- Hartmann’s procedure for cancer rectum

- Splenectomy (emergency)
- Stomach perforation
- Varicose Vein surgery
- Craniotomy (Head Injury)
- Superficial parotidectomy
- Submandibular gland excision
- Soft tissue tumours including sarcoma
- Pancreaticoduodenal resection
- Hydatid cyst liver
- Pancreatic surgery
- Retroperitoneal operations

TEACHING AND LEARNING METHODS

	ACTIVITY	**FREQUENCY**	**MODERATOR**
1	SEMINAR	ONCE A WEEK	FACULTY
2	JOURNAL CLUB	ONCE A WEEK	FACULTY
3	INTER DEPARTMENTAL MEETS	ONCE A MONTH	FACULTY
4	REVIEW OF ARTICLES	ONCE A MONTH	FACULTY
5	SYMPOSIA	ONCE A MONTH	FACULTY
6	SKILL AND SIMULATION LAB	ONCE A MONTH	FACULTY
7	CASE BASED LEARNING	ONCE IN A TERM	FACULTY
8	SELF DIRECTED LEARNING	CONTINUOUS	FACULTY
9	WORKSHOPS	ONCE A TERM	FACULTY

1.CLINICAL POSTINGS

1) A major portion of posting should be in General Surgery. It should include inpatients, out-patients, ICU, trauma, emergency room and speciality clinics. Rotation of posting

ROTATION OF POSTING

1) Inter unit rotation in the department will be done with a student posted to each unit for a period of 2 months to 6 units.
2) Rotation in 6 sub specialities for period of 1 month not exceeding 6 months
3) District residency program for a period of 3 months.

2.CLINICAL MEETINGS

- Clinicopathological meet once in three months
- Clinical review meets
- Academic society meets once a month

3.Log book: Maintenance of Log book and Practical record

- A log book showing each day's work has to be maintained by the candidate, which shall be scrutinized by the Head of the Department every month.
- A list of the seminars and journal reviews that have been attended and participated by the student has to be maintained which should be scrutinized by the Head of the Department.
- A practical record has to be maintained by every candidate and duly scrutinized and certified by the head of the department and to be submitted to the external examiner during the final examination.

4.Thesis writing and research:

Thesis writing is compulsory.

The postgraduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.
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.
The student should know the basic concepts of research methodology, plan a research project, be able to retrieve information from the library.
The student should have a basic knowledge of statistics.
Department should encourage e-learning activities.

During the training programme, patient safety is of paramount importance; therefore, skills are to be learnt initially on the models, later to be performed under supervision followed by performing independently; for this purpose, provision of surgical skills laboratories in the medical colleges is mandatory.

ASSESSMENT

Assessment should be comprehensive & objective. It should address the stated competencies of the course. The assessment needs to be spread over the duration of the course.

FORMATIVE ASSESSMENT, i.e., assessment during the training would include: Formative assessment should be continual and should assess medical knowledge, patient care, procedural & academic skills, interpersonal skills, professionalism, self-directed learning and ability to practice in the system.

General Principles
Internal Assessment should be frequent, cover all domains of learning

and used to provide feedback to improve learning; it should also cover professionalism and communication skills. The Internal Assessment should be conducted in theory and clinical examination.

Quarterly assessment during the MS training should be based on following educational activities:

1. Journal based / recent advances learning
2. Patient based /Laboratory or Skill based learning
3. Self-directed learning and teaching
4. Departmental and interdepartmental learning activity
5. External and Outreach Activities / CMEs

The student to be assessed periodically as per categories listed in postgraduate student appraisal form (Annexure I).

SUMMATIVE ASSESSMENT, ie., assessment at the end of training

The summative examination would be carried out as per the Rules given in **POSTGRADUATE MEDICAL EDUCATION REGULATIONS, 2000.**

The examination will be in three parts:

1. Thesis

Every post graduate student shall carry out work on an assigned research project under the guidance of a recognised Post Graduate Teacher, the result of which shall be written up and submitted in the form of a Thesis. Work for writing the Thesis is aimed at contributing to the development of a spirit of enquiry, besides exposing the candidate to the techniques of research, critical analysis, acquaintance with the latest advances in medical science and the manner of identifying and consulting available literature.

Thesis shall be submitted at least six months before the Theory and Clinical / Practical examination. The thesis shall be examined by a

minimum of three examiners; one internal and two external examiners, who shall not be the examiners for Theory and Clinical examination. A candidate shall be allowed to appear for the Theory and Practical/Clinical examination only after the acceptance of the Thesis by the examiners.

2. Theory

The examinations shall be organised on the basis of 'Grading'or 'Marking system' to evaluate and to certify candidate's level of knowledge, skill and competence at the end of the training. Obtaining a minimum of 50% marks in 'Theory' as well as 'Practical' separately shall be mandatory for passing examination as a whole. The examination for MS shall be held at the end of 3rd academic year. An academic term shall mean six month's training period.

Theory shall consist of four papers of 3 hours each.
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

3. Clinical / Practical and viva voce Examination

Clinical examination shall be conducted to test the knowledge, skills, attitude and competence of the post graduate students for undertaking independent work as a specialist/Teacher, for which post graduate students shall examine a minimum one long case and two short cases.

The Oral examination shall be thorough and shall aim at assessing the post graduate student's knowledge and competence about the subject, investigative procedures, therapeutic technique and other aspects of the specialty, which form a part of the examination.

Assessment may include Objective structured clinical examination. (OSCE)

Oral/Viva-voce examination needs to assess knowledge on X-rays, instrumentation, operative procedures. Due weightage should be given

to Log Book Records and day to-day observation during the training.

Recommended Reading:

Books (latest edition)

1. Text Book of Surgery, by Christopher Davis
2. ASI Text Book of Surgery
3. Surgery of Colon, Rectum and Anal canal, by Goligher J C
4. Schwartz Text Book of Surgery
5. Textbook on Laparoscopic Surgery
6. Trauma (Mattox)
7. Recent Advances in Surgery
8. Year Book of Surgery
9. Surgical Clinics of North America
10. Short practice of Surgery by Bailey and Love
11. A manual of clinical Surgery, by S Das
12. Hamilton Bailey's demonstration of clinical signs
13. Pye's Surgical Handicraft

Journals

03-05 international Journals and 02 national (all indexed) journals

Annexure I

Postgraduate Students Appraisal Form

Pre / Para /Clinical Disciplines

Name of the Department/Unit:

Name of the PG Student:

Period of Training: FROM……TO……

Sr No.	Particulars	Not Satisfactory	Satisfactory	More than Satisfactory	Remarks
		1 2 3	4 5 6	7 8 9	
1.	Journal based/ recent advances learning				
2.	Patient based/ Laboratory or skill-based learning				
3.	Self-directed learning and teaching				
4.	Departmental and interdepartmental learning activity				
5.	External and outreach activities/ CMEs				
6.	Thesis/ Research work				
7.	Log book maintenance				

Publications Yes/No

Remarks*_____

_____

_____

*REMARKS: Any significant positive or negative attributes of a postgraduate student to be mentioned. For score less than 4 in any category, remediation must be suggested. Individual feedback to postgraduate student is strongly recommended.

SIGNATURE OF ASSESSEE SIGNATURE OF CONSULTANT SIGNATURE OF HOD