DEPARTMENT OF SURGERY, DR.R.P.GOVT. MEDICAL COLLEGE,

KANGRA AT TANDA.

CURRICULUM AND SYLLABUS FOR MBBS GENERAL SURGERY

1. **GOAL:**

The broad goal of the teaching of undergraduate student in Surgery is to produce graduates capable of delivering efficient first contact surgical care.

1. **OBJECTIVES:**
2. **KNOWLEDGE:**

 At the end of the course , the student should be able to:

1. Describe etiology, pathophysiology , principales of diagnosis and management of common surgical problems including emergencies , in adults and children.
2. Define indications and methods for fluid and electrolyte replacement therapy including blood transfusion .
3. Define asepsis , disinfection and sterilization and recommended judicious use of antibiotics.
4. Describe common malignancies in the country and their management including prevention .
5. Enumerate different types of anaesthetic agent their indications, mode of administration, contraindications and side effects.
6. **SKILLS:**

 At the end of the course, the student should be able to:

1. Diagnose common surgical conditions both acute and chronic , in adult and children.
2. Plan various laboratory tests for surgical conditions and interpret the results.
3. Identify and manage patients of hemorrhagic, septicaemic and other types of shock.
4. Be able to maintain patent air-way resuscitate.
5. A critically injured patient
6. Patient with cardio-respiratory failure.
7. A drowning case.
8. Minor patients of head, chest, spinal and abdominal injuries, both in adults and children.
9. Provide primary care for a patient of burns.
10. Acquire principles of operative surgery, including pre-operative, operative and post operative care and monitoring.
11. Treat open wounds including preventive measures against tetanus and gas gangrene.
12. Diagnose neonatal and pediatric surgical emergencies and provide sound primary care before referring the patient to secondary/tertiary centres.
13. Identify congenital anomalies and refer them for appropriate management.

In addition to these he should have observed/assisted/performed the following:

1. Incision and drainage of abscess.
2. Debridement and suturing open wound.
3. Venesection.
4. Excision of simple cyst and tumours.
5. Biopsy of surface malignancy.
6. Catheterisation and nasogastric intubation .
7. Circumcision .
8. Meatotomy.
9. Vasectomy.
10. Peritoneal and pleural aspirations .
11. Diagnostic proctoscopy.
12. Hydrocele operation.
13. Endotracheal intubation.
14. Tracheostomy and cricothyreidotomy.
15. Chest tube insertion.

**c** **INTEGRATION :**

 The undergraduate teaching in surgery should be integrated at various stages with

 Different pre and other clinical departments.

1. **TEACHING LEARNING METHODS:**

 The following strategy is used for organizing teaching learning activities:

1. Lectures.
2. Integrated seminars during thr 6Th ,7th and 8th semesters.
3. Clinical teaching to a group of 12-15 students on surgical Inpatient Wards and OPD,s.
4. Clinical skill training to final year students and interns in minor OT, casualty theatre and main theatre.
5. **OBJECTIVES OF CLINICAL TRAINING**

At the end of clinical posting in surgery, a student should be able to:

. Elicit a detailed & relevant history

. Carry out a physical examination

. Identify patients problems

. Reach a differential diagnosis

. Formulate appropriate investigations

. Interpret the results of investigations

. Plan appropriate management

. Undertake some aspects of management

. Demonstrate adequate communication skills

1. **CURRICULUM OF CLINICAL POSTING**

Clinical posting will be of 26 weeks during from 3rd semester onward

**3rd Semester: 6 Weeks**

This is the first introductory posting in surgery to provide orientation, towards the general functioning of the department and the nature of clinical work performed in the department of surgery.

Clinical method in surgery for whole class will be taught for 2 weeks at the start of 3rd semester followed by 4 weeks bed side clinical teaching.

**6th Semester : 4 Weeks**

 There will be 4 weeks posting in the wards in batches of 12-15 students. In this posting student will be allotted beds in the wards. They will record history, do the physical examination and will present the cases to the teachers.

**7th Semester : 4 Weeks**

Out of 4 weeks period students will be posted in OPD for 2 weeks where they will be told about management of outdoor patients. They will also learn the art of dressing and observe surgical procedures in minor OT for the remaining 2 weeks students will attend major OT. Here they will observe and assist major surgical procedures. They will also be made conversant with various anaesthetic techniques.

**8th Semester : 6 Weeks**

This is 6 weeks long posting in surgical wards. The learning objectives of this semester is to develop the competency in making a diagnosis, generating a diagnostic decision.

Plan and outlining the therapeutic decision. Students will prepare case sheets of such patients seen and presented by them and will get them signed by the concerned teacher. These case sheet are to be submitted before final examination.

**9th Semester : 6 Weeks**

This is again 6weeks long posting in surgical wards . The learning objectives of this semester are same as of 8th semester. The emphasis in this session will be further honing the skills of clinical examination, making clinical diagnosis and outlining the management.

**Note :**

1. During clinical posting in wards , greet the patient cheerfully and with a smile a introduce yourself. Seek patient,s permission for interrogation and examination(e.g. “ I am a 6th semester student of MBBS. Can I ask a few questions about your illness and can I examine you. This will help me in learning the diagnosis and in becoming a good doctor so that I may serve the society well”). Be extremely polite in your approach. If patient refuses simply thank him and go to a next one.
2. Please maintain a record of cases seen and surgical skills learnt in a dairy/ log book. You will be assessed on this.
3. **EXAMINATION REGULATIONS**

**Essentialities for qualifying to appear in professional examinations.**

The performance inessential components of training are to be assessed, based on :

1. **ATTENDANCE**

 75% of attendance in a subject for appearing in the examination is compulsory

Provided he/ she has 80% attendance in non lecture teaching i.g. seminars, group discussions tutorials, demonstrations, practical’s, Hospital ( Tertiary, Secondary, Primary) postings and bed side clinics, etc.

1. **INTERNAL ASSESSMENT:**
2. It shall be based on day to day assessment, evaluation of student assignment, preparation for seminar, clinical case presentation and ward leaving tests at the end of clinical postings.
3. Regular periodical theory and oral examinations shall be conducted throughout the course.
4. Weightage for the internal assessment shall be 20% of the total marks in each subject i.e.60 marks (Theory-30,Practical-30).
5. Student must secure at least 35% marks of the total marks fixed for internal assessment in a particular subject in order to be eligible to appear in final university examination of that subject.
6. **UNIVERSITY EXAMINATIONS:**

University examination will be in the form of theory and clinical (Practical) examination . Students are supposed to pass the theory and clinical examination separately .Pass marks are 50%.

Theory-Two Papers of 60 marks each 120 marks

Paper -I- General Surgery (Section- 1)

 Orthopedics (Section- 2)

Paper- II- General Surgery including

 Anaesthesiology, Dental diseases and Radiology.

(shall contain one question on basis science and allied subjects)

Oral(Viva) Interpretation of Investigative data 20 marks

Clinical (Bed Side) 100 marks

Internal Assessment (Theory-30,Practical-30) 60 marks

Total 300 marks

Paper 1 of Surgery shall have one section on Orthopedics. The questions on Orthopedic Surgery be set and assessed by examiners who are teachers in the Orthopedic Surgery.

1. **COURSE CONTENT**

Pathogenesis, causes, epidemiology, Clinical Presentation, and Investigations and management of the disease in the following systems:

1. **Skin:** Ulcers and wounds, wound infections, burns, skin infections(boils, carbuncle ,abscess) cysts (epidermoid cysts, dermoid), skin tumors (basal cell carcinoma, squamous cell carcinoma, melanoma).
2. **Head and neck region:** Congenital anomalies (cleft lip, cleft palate ,branchial cyst and fistula, thyroglossal cyst) swelling of parotid and submandibular glands, oral ulcers, leukoplakia, submucous fibrosis, lichen planus, common jaw tumors, squamous carcinoma of oral cavity, pharynx & larynx. Thyroid swelling (adenomatous goiter, graves disease, papillary and follicular thyroid cancer). Swellings of lymph nodes ( tuberculosis, lymphoma, metastatic carcinoma)
3. **Arteries:** Features of limb Ischaemia noninvasive vascular diagnostic tests, obliterative atheromatous disease, aneurysms, raynaud,s syndrome, arterial emboli.
4. **Veins:** Varicose veins, deep vein thrombosis, pulmonary embolism.
5. **Breast:**  Mastalgia, ANDI, fibroadenoma, cyst, breast abscess, cancer of the breast.
6. **Oesophagus:** Dysphagia, reflux, hiatus hernia, benign and malignant tumours.
7. **Stomach and Duodenum:** Peptic ulcer-stomach and duodenum, carcinoma of the stomach, gastritis.
8. **Small Intestine:** Small bowel obstruction, intestinal tuberculosis.
9. **Colon and Rectum:** Amoebic colitis, ulcerative colitis, colorectal cancer.
10. **Appendix:** Acuteappendicitis.
11. **Anus:** Haemorrhoids, pruritus ani, fissure-in-ano, anorectal abscesses, fistula-in-ano,

Cancer of the anus.

1. **Peritoneum and Intraperitoneal abscesses:** Peritonitis.
2. **Liver:** Hepatic trauma, abscesses, cancer.
3. **Biliary Tract:** Gall stone disease, carcinoma of the gallbladder.
4. **Pancreas:** Acute pancreatitis , pancreatic cancer.
5. **Acute Abdomen**
6. **Hernias of the** **Abdomen Wall:** Inguinal hernias, femoral hernia, umbilical and epigastric hernia.
7. **Urology :** Diagnostic studies and techniques in the urinary tract, trauma to the urinary tract, urinary calculi, urinary tract infection, prostatic hyperplasia, tumours of the kidney, epididymo-orchitis, hydrocele, tumours of the testicle, carcinoma of the penis.

**Principles of surgery**

1. Introduction & History of Surgery
2. Preparing patient for surgery and postoperative complications
3. Diagnostic and interventional radiology
4. Anesthesia and pain management
5. Fluid and electrolyte balance / acid base balance
6. Shock and management of hemorrhagic & hypovolemic shock
7. Blood transfusion and component therapy
8. Inflammation/ SIRS/MOF
9. Nutrition
10. Wound tissue repair and scars
11. Basic surgical skills and principles of laparoscopic surgery
12. Surgical wound infection and theatre technique
13. Infections: Tetanus, TB, Gas gangrene, Necrotizing fasciitis , Cellulites
14. AIDS & Surgery
15. Warfare Injuries
16. Emerging technologies in Surgery- Electronic robotics
17. Tumor Biology & Tumor Markers
18. Electrosurgery
19. Parasitic Disease: Ascariasis, Amoebiasis, Cysticercosis, Hydatid disease
20. Cysts, Ulcers & Sinuses
21. Transplantation
22. Principles of Oncology
23. Day Surgery and surgical Ethics
24. Surgical Audit
25. Evidence based Surgery

SKIN & SUBCUTANEOUS TISSUE

1. Skin : Callosities, Warts, Corns, Infection

VASCULAR DISORDER

1. Arterial Disorders
2. Venous Disorders
3. Lymphatic Disorders including lymphomas

TRAUMA

1. Introduction to Trauma
2. Assessment & Management of Trauma
3. Head Injury
4. Neck & Spine Injuries
5. Injuries to Face and Mouth
6. Injuries to Chest & Abdomen
7. Extremity Trauma
8. Burns
9. Disaster Management

HEAD , NECK & SPINE

1. Elective Neurosurgery
2. Cleft Lip Palate
3. Oropharynx , Larynx & Neck
4. Oropharyngeal Cancer
5. Salivary Glands
6. Branchial Apparatus and its anomalies

GASTROINTESTINAL SYSTEM

1. Stomach and Duodenum: Congenital hypertrophic pyloric stenosis, Trichobezoar, Acute dilatation of stomach, Duodenal ileum, Peptic ulcer disease, Gastric neoplasms/ GIST.
2. Small Intestine: Tuberculosis, Crohn,s disease, Intestinal obstruction, Tumors.
3. Large Intestine: Hirschsprung,s disease/Megarectum/ Non-Megacolon, Diverticulosis,Ulcerative colitis and Tumors.
4. Appendix: Inflammation and Tumors.
5. Peritonitis: Classification, Etiology and Management.
6. Rectum and Anal Canal: Development, Surgical Anatomy, Lymphatic Drainage, Congenital Anomalies, Injuries, Foreign Bodies, Pruritis Ani, Fissure in Ano, Heamorrhoids, Incontinence, Strictures, Prolapse and Carcinoma Rectum and Anal Canal.
7. Gall Bladder: Development, Congenital Anomalies, Cholelithiasis and Cholecystitis, Choledochlithiasis, Choledochal Cyst, Stricture, Carcinoma, CBD and Gall Bladder Carcinoma.
8. Pancreas: Inflammation and Tumors.
9. Liver: Abscess, Hydatid Disease, Neoplasm.
10. Portal Hypertension and Surgical Spleen.

GENITO- URINARY SYSTEM

1. Kidney and Ureter: Development, Congenital Anomalies, Injuries, Urolithiasis, Hydronephrosis, Renal Tuberculosis, Pyonephrosis and Perinephric Abscess and Neoplasms.
2. Lower Urinary Tract: Injuries, Stricture Urethera, BEP & Prostatic Calculi, Carcinoma Prostate, Bladder Tumors and Carcinoma Penis.
3. Testis: Congenital Anomalies, Varicocele, Hydrocele, Idiopathic Gangrene, Scrotum and Tumors.
4. Male Infertility.

BREAST

1. Breast: Surgical Anatomy Lymphatic Drainage, Congenital Anomalies, Fibroadenosis.
2. Breast: Inflammation.
3. Breast: Benign Tumors &Cysts.
4. Breast: Malignant Tumors.
5. Breast: Reconstruction.

ENDOCRINAL SURGERY

1. Thyroid: Surgical Anatomy, Developmental Anomalies and Functions.
2. Thyroid: Euthyroid Conditions.
3. Thyroid: Dysfunctions.
4. Thyroid: Tumors.
5. Parathyroid and Adrenals : Surgical Diseases.

THORACIC SURGERY

1. Oesophagus: Development Congenital Anomalies, Injuries, Stricture, Cardia Achalasia, Reflux Oesophagitis and Tumors.
2. Diaphragm: Congenital Defects and Hiatus Hernia.
3. Heart: Cardiac Arrest, Valvular Heart Disease.
4. Chest: Empyema Thoracis,Chest Wall Tumors, Mediastinal Tumor.
5. Surgical Aspects of : Congenital and Acquired Heart Disease-Introduction.

NEUROSURGERY

1. Congenital Anomalies of Skull, Encephlocele, Hydrocephalus.
2. Spinal Dysrephism.
3. Intracranial space occupying Lesions.
4. Trauma.

PLASTIC SURGERY

1. Wounds and Scars
2. Burns
3. Skin grafting
4. Skin Cysts, Tumors, Precancerous Lessions, leprosy
5. Hand: Congenital Anomalies and Anatomy, Infections, Dupuytren,s Contracture and Injuries
6. Face: Congenital & Developmental Anomalies, Cleft Lip/ Palate and Injuries
7. Jaw Tumors
8. Oral cancer, Carcinoma Tongue, Carcinoma Lip
9. Congenital & Developmental Anomalies of Lower Urinary tract
10. Nerve Injury
11. Lymphedema & Filiariasis

OPERATIVE SURGERY

1. Introduction principles, nomenclature, suture material type of knots/sutures
2. Sterilization asepsis and antisepsis
3. Preoperative care and complications
4. Postoperative care and complications
5. Biopsy and its types
6. Management of wound repair of various type of tissue viz nerve, tendon, artery and vein
7. Drainage of abscess viz paroted, breast and ischio-rectal
8. Spaces of hand and drainage of hand abscesses
9. Operation of various hernias
10. Abdominal incisions and exploratory laparotomy
11. Gasterostomy, Vagotomy, Gastrojejunostomy, Pyloroplasty & Partial Gasrectomy
12. Hemicolectomy, Colostomy, Caecostomy, Enterostomy, APR
13. Resection of bowel and anastomosis, operations for obstruction
14. Appendicectomy
15. Operations for liver abscess, hydatid disease, subphrenic/pelvic abscess, pseudopancreatic cyst
16. Cholecystectomy, choleccystostomy, biliary injuries and exploration of CBD
17. Basic of Laparoscopy & instruments
18. Operations for fistula in ano, haemorrhoids, rectal prolapsed
19. Catheterization, Urethral dilatation, Suprapubic cystolithotomy
20. Rupture urethra & uretheroplasty
21. Operations of prostate
22. Operations for hydrocele, varicocele, testicular tumor/orchidectomy
23. Operations for phimosis, paraphimosis, pinhole meatus (meatotomy), carcinoma penis
24. Vasectomy/recanalisation
25. Operations for Kidney
26. Operations for Ureter
27. Operations for Thyroid
28. Operations forvaricose veins
29. Operations for arterial thrombosis, repair of arterial injuries and lumbar and cervical sympathectomies
30. Tracheostomy
31. Intercoastal drainage and rib resection
32. Skin grafting, amputation and biopsy/release of contracture
33. Instruments
34. Operation for salivary gland
35. Operation for adrenals
36. Operation for cleft lip and palate
37. Operation of breast and axilla
38. Emergency Laprotomy

**CURRICULUM OF THEORY TEACHING**

**SEM-4** Principle of Surgery- Fluid & Electrolytes, Nutrition, Shock, Blood Transfusion, Basic Surgical Skill, Tissue Repair, Infections, Accident, Welfare Injuries Tumor Markers, Day care Surgery, Surgical Ethics.

**SEM-5** Skin Diseases, Lymphatic Diseases, Venous & Arterial Diseases, Lymphomas, Branchial Anomalies, Salivary Disease, Salivary Glands, stomach, Duodenum and Tumors.

**SEM-6** Small Intestinal Diseases, Large Intestinal Diseases, Tumors, Appendix and Peritonium, Rectum and Anal Canal including Congenital Anomalies, Benign Condictions and Tumors.

**SEM-7** Gall Bladder Diseases, Pancreatic Diseases, Liver Diseases, Portal Hypertension, Kidneys and Ureters-Stone, Tumors, Tuberculosis, Abscesses, Urinary Bladder, Unethra, Injuries of Urinary Tract, Carcinoma Penis.

**SEM-8** Tests Anomalies, Tumors, Hydrocele, (Male) Infertility, Breast-Anatomy, Anomalies, Benign Tumors and Malignant Tumors, Thyroid Anomalies Goiter, Tumors, Parathyroids, Adrenals, Oseophagus, Diaphragm and Heart, Chest Injuries, Empyema, Chest Wall+Mediastinal Tumors.

**SEM-9** Head Injury, Congenital Anomalies Skull, Hydrocephalus, Spine Diseases, ICSOL, Plastic Surgery-Burns, Hand Anatomy, Infections, Face Development and Facial Injury, Oral Cancers, Nerve Injuries.

Seminars will be held once a week starting from Semesters-6 till Semesters-9. The class will be of 2 hours duration.

Operative Surgery will be taught from Semesters-6 onward as a 1 hour duration class once a week till Semesters-9.

**MEDICAL SCHOOL TRANCRIPT**

As per the Medical Council of India Guidelines, The MMBS students will attend the Surgery from 3rd Semester to 9th Semester and during internship period as below:

1. Theory Lectures & Demonstration

From 3rd Semester to 9th Semester : 300 hrs

1. Clinical posting in Wards, OPD, Minor &

Major OT : 3 hrs. per day for 26 weeks

1. Internship Training : 2 months (inclusive of 2 wks

 Posting in Anaesthesia)