



# હેમચંદ્રાચાર્ય ઉત્તર ગુજરાત યુનિવર્સિટી

NAAC A (3.02) State University

પો.બો.નં.—૨૧, યુનિવર્સિટી રોડ, પાટણ (ઉ.ગુ.) ૩૮૪૨૬૫

ફોન: (૦૨૭૬૬) ૨૩૭૦૦૦, ૨૨૦૯૩૨

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## પરિપત્ર ક્રમાંક — ૫૮/૨૦૧૯

**વિષય:—** તૃતીય વર્ષ એમ.બી.બી.એસ. પાર્ટ – ૨ ના સર્જરી વિષયના અભ્યાસક્રમમાં ફેરફાર કરવા અંગે..

આ યુનિવર્સિટીની મેડીસીન વિદ્યાશાખા અંતર્ગત સંલગ્ન મેડીકલ કોલેજોના આચાર્યશ્રીઓને જણાવવાનું કે, તૃતીય વર્ષ એમ.બી.બી.એસ. પાર્ટ-૨ના સર્જરી વિષયનાં પ્રેક્ટીકલમાં ફેરફાર કરેલ સામેલ પરિશિષ્ટ મુજબનો અભ્યાસક્રમ મેડીકલની અભ્યાસ સમિતિના ઠરાવ અન્વયે વિદ્યાશાખાવતી માન. કુલપતિશ્રીએ કરેલ ભલામણ એકેડેમિક કાઉન્સિલએ તેની તારીખ: ૧૫/૦૨/૨૦૧૯ની સભાના ઠરાવ ક્રમાંક: ૧૧ થી મંજૂર કરેલ છે. જેનો અમલ કરવા સારૂ સંબંધિતોને આ સાથે મોકલવામાં આવે છે.

આ બાબતની સંબંધિત અધ્યાપકો તથા વિદ્યાર્થીઓને આપના સ્તરેથી જાણ કરવા વિનંતી છે.

નોંધ :- (૧) વિદ્યાર્થીઓની જરૂરીયાત માટે પરિપત્રની એક નકલ કોલેજના ગ્રંથાલયમાં મૂકવાની રહેશે.

(૨) ઉપરોક્ત પરિપત્ર યુનિવર્સિટીની વેબ સાઈટ [www.ngu.ac.in](http://www.ngu.ac.in) પર પણ ઉપલબ્ધ કરાવવામાં આવનાર છે.

બિડાણ : ઉપર મુજબ

સહી/—  
કુલસચિવવતી

નં.—એ કે / અ× સ / ૧૦૪૩૫/ ૨૦૧૯

તારીખ: ૨૭/૦૩/૨૦૧૯

પ્રતિ,

૧. સંલગ્ન મેડીકલ કોલેજોના ડીનશ્રીઓ
૨. ડૉ.અનિલ જે. નાયક, (ડીનશ્રી—મેડીસીન વિદ્યાશાખા), માન.કુલપતિશ્રી, હેમચંદ્રાચાર્ય યુનિવર્સિટી, મુ.—પાટણ તા.જિ—પાટણ.
૩. પરીક્ષા નિયામકશ્રી, હેમચંદ્રાચાર્ય ઉત્તર ગુજરાત યુનિવર્સિટી, પાટણ. (પાંચ નકલ)
૪. ગ્રંથપાલશ્રી, હેમ.ઉત્તર ગુજરાત યુનિવર્સિટી, પાટણ. (વિદ્યાર્થીઓના ઉપયોગ સારૂ રેકર્ડ ફાઈલ માટે)
૫. સિસ્ટમ એનાલીસ્ટશ્રી, કોમ્પ્યુટર (રીઝલ્ટ) સેન્ટર, હેમ.ઉ.ગુ.યુનિવર્સિટી, પાટણ. તરફ પરિણામ માટે તથા વેબસાઈટ પર મૂકવા સારૂ.
૬. માન.કુલપતિશ્રી/કુલસચિવશ્રીનું કાર્યાલય, હેમ.ઉત્તર ગુજરાત યુનિવર્સિટી, પાટણ.
૭. મુખ્ય હિસાબી અધિકારીશ્રી (મહેકમ), હેમચંદ્રાચાર્ય ઉત્તર ગુજરાત યુનિવર્સિટી, પાટણ તરફ → પરિપત્રની ફાઈલ અર્થે
૮. સંબંધિત ફાઈલે.



**HEMCHANDRACHARYA NORTH GUJARAT  
UNIVERSITY**

**NAAC A(30.2) STATE UNIVERSITY**

**FACULTY OF MEDICINE**

**THIRD YEAR M.B.B.S. PART-II**

**SYLLABUS**

# Curriculum

## Goal

The Broad goal of the teaching of undergraduate students in surgery is to produce graduates capable of delivering efficient first contact surgical care.

Surgery Includes orthopedics, anesthesiology and radio diagnosis & Dentistry as minor subjects

### **OBJECTIVES:**

#### **(A) KNOWLEDGE:**

At the end of the course, the student shall be able to

- 1) Describe Etiology, Patho-physiology, Principles 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, disinfections and sterilization and recommend judicious use of antibiotics,
- 4) Describe common malignancies in the country and their management including prevention;
- 5) Enumerate different types of anesthetic agents, their indications, and mode of administration, contraindications and side effects.

#### **(B) SKILLS:**

At the end of the course, the student shall 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 result;
- 3) Identify and manage patients of hemorrhagic, septicemic and other types of shock;
- 4) Be able to maintain patent air-way & Assessment & management of resuscitation;
- 5) Identify and manage a critically injured patient;
- 6) Manage patient with cardio-respiratory failure.
- 7) Manage a drowning case
- 8) Monitor patients of head, chest, spinal and abdominal injuries, both 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/territory center.
- 13) Identify congenital anomalies and refer them for appropriate management.

**In addition to the skills referred above in items (1) TO (13), he shall have observed/assisted/performed the following:**

- a. Incision and drainage of abscess
  - b. Debridement and suturing open wounds
  - c. Venesection
  - d. Excision of simple cyst and tumours
  - e. Biopsy of surface malignancy
  - f. Catheterization and nasogastric intubation
  - g. Circumcision
  - h. Meatotomy
  - i. Vasectomy
  - j. Peritoneal and pleural aspirations
  - k. Diagnostic proctoscopy
  - l. Hydrocele operation
  - m. Endotracheal intubation
  - n. Tracheostomy and cricothyroidotomy;
  - o. Intercostal Drainage
- 14) Diagnose with reasonable accuracy all surgical illnesses including emergencies
- 15) (a) Resuscitate a critically injured patient and a severe burn patient  
(b) Control surface bleeding and manage open wound.
- 16) (a) Monitor patients of head, spine, chest, abdominal and pelvic injury  
(b) Institute first line management of acute abdomen.

**(C) INTEGRATION:**

The undergraduate teaching in surgery shall be integrated at various stages with different pre and para and other clinical departments.

**(D) CURRICULUM:**

Basic principles and practice of surgery covering curative aspect ; clinical presentations; investigations; diagnosis; differential diagnosis and comprehensive treatment, conservative as well as operative treatment and post operative care; rehabilitative and preventive aspects of common surgical conditions of all systems and organs of the human body; Applied anatomy; applied physiology; pathology and orthopedics; understanding the disease process; operations for population control and family planning. The subjects enumerated below will be covered in didactic lectures and in ward clinics.

# **I.GENERAL PRINCIPLES**

## **IA.**

1. Wound healing and management, scars ,Hypertrophic scar and keloid. First aid management of severely injured patient.
2. Asepsis, antisepsis , sterilization.
3. Surgical sutures, knots, drains, bandages and splints.
4. Surgical infections and rational use of antibiotics; Causes of infection, prevention of infection, common organisms causing infection.
5. Boils, cellulitis, abscess, necrotizing fasciitis.
6. Tetanus and Gas gangrene with its Prevention and management.
7. Chronic specific infections; tuberculosis, Filariasis , and Leprosy.
8. Antibiotic therapy.
9. Hospital infection.
10. AIDS and Hepatitis B; Occupational hazards and prevention.

## **IB.**

1. Mechanism and management of missile, blast and gunshot injuries.
2. Surgical aspects of diabetes mellitus.
3. Bites and strings.
4. Organ transplantation – Basic principles.
5. Nutritional support to surgical patients.

# **II. RESUSCITATION**

1. Fluid and electrolyte balance.
2. Shock; aetiology ; patho physiology and management.
3. Blood transfusion; indication and hazards.
4. Common postoperative complications

# **III. COMMON SKIN AND SUBCUTANEOUS CONDITIONS**

1. Sebaceous cyst,dermoid cyst,lipoma,haemangioma,neurofibroma,premalignant conditions of the skin, basal cell carcinoma, squamous cell carcinoma , naevi and malignant melanoma.
2. Sinus and fistulae, pressure sores with its prevention and management.

# **IV. ARTERIAL DISORDERS**

1. Acute arterial obstruction; diagnosis and initial management; types of gangrene; diagnosis of chronic arterial insufficiency with emphasis on Buerger's disease, atherosclerosis and crush injuries.
2. Investigations in cases of arterial obstruction. Amputations;
3. Vascular injuries; basic principles of management.

## **V. VENOUS DISORDERS.**

1. Varicose veins; diagnosis and management ; deep Vein thrombosis; diagnosis and prevention, with principles of therapy; thrombophlebitis.

## **VI. LYMPHATICS AND LYMPH NODES.**

1. Diagnosis and principles of management of lymphangitis , lymphedema, acute and chronic lymphadenitis ; cold abscess , lymphomas, surgical manifestations of filariasis.

## **VII. BURNS.**

1. Causes, prevention and first aid management; patho physiology; assessment of depth and surface area, fluid resuscitation ;skin cover ; prevention of contractures.

## **VIII. SCALP, SKULL AND BRAIN.**

1. Wounds of scalp and its management ; recognition, diagnosis and monitoring of patients with head injury including unconsciousness; Glasgow coma scale, recognition of acute / chronic cerebral compression .

## **IX. ORAL CAVITY, JAWS, SALIVARY GLANDS.**

1. Oral cavity ;
2. (1). Cleft lip and palate; Leukoplakia ; retention cyst; ulcers of the tongue.  
(2). Clinical Features, diagnosis and basic principles of management of carcinoma lip, buccal mucosa and tongue, prevention and staging of oral carcinomas.
3. Salivary glands.  
(1). Acute sialoadenitis , neoplasm with its diagnosis and principles of treatment.  
(2). Epulis,cysts and tumors of jaw ; Maxillo - facial injuries ; salivary fistula.

## **X. NECK.**

1. Branchial cyst ; cystic hygroma.
2. Cervical lymphadenitis; Non-specific and specific, tuberculosis of lymph nodes, secondaries in neck
3. Thoracic outlet syndrome; diagnosis and principles of management.

## **XI. THYROID GLAND.**

1. Thyroid; Surgical anatomy; physiology; investigations of thyroid disorders; types, clinical features, diagnosis and principles of management of goitre, thyrotoxicosis , neoplasm,thyroglossal cyst and fistula.
2. Thyroiditis , Hypothyroidism.

## **XII. PARATHYROID AND ADRENAL GLANDS.**

1. Clinical features and diagnosis of hyperparathyroidism, adrenal hyper function / hypo function.

## **XIII. BREAST.**

1. Surgical anatomy; nipple discharge; acute mastitis, breast abscess, mammary dysplasia, gynecomastia , fibroadenomas.
2. Assessment and investigations of breast lump.
3. Cancer breast; diagnosis, staging, principles of management.

## **XIV. THORAX.**

1. Recognition and treatment of pneumothorax , haemothorax, pulmonary embolism with its Prevention, recognition and treatment,, flail chest , Stove in chest ; Postoperative pulmonary complications.
2. Principles of management of pyothorax ; cancer lung.

## **XV. HEART AND PERICARDIUM.**

1. Cardiac tamponade
2. Scope of cardiac surgery.

## **XVI. OESOPHAGUS.**

1. Dysphasia; causes; investigations and principles of management.
2. Cancer esophagus; Principles of management.
3. Esophageal varices & haemetemesis with its management.

## **XVII. STOMACH AND DUODENUM.**

1. Anatomy; physiology, Congenital hypertrophic pyloric stenosis; aetiopathogenesis , diagnosis and management of peptic ulcer , cancer stomach; upper gastrointestinal hemorrhage with special reference of bleeding varices; duodenal ulcer with its complications and principles of management.

## **XVIII. LIVER.**

1. Clinical features, diagnosis an principles of management of amoebic liver abscess , hydatid cyst and portal hypertension ; liver trauma.
2. Surgical anatomy; primary and secondary neoplasm of liver.

## **XIX. SPLEEN.**

1. Splenomegaly; its causes, investigations and indications for splenectomy; splenic injury .

## **XX. GALL BLADDER AND BILE DUCTS.**

1. Anatomy , physiology and investigations of biliary tree; clinical features, diagnosis , complications and principles of management of cholelithiasis and cholecystitis; obstructive jaundice.
2. Carcinoma of gall bladder, choledochal cyst

## **XXI. PANCREAS.**

1. Acute pancreatitis; Clinical features, diagnosis, complications and management.
2. Chronic pancreatitis, pancreatic tumors.

## **XXII. PERITONEUM , OMENTUM , MESENTERY AND RETROPERITONEAL SPACE**

1. Peritonitis; Causes, recognition and principles of management , intraperitoneal abscesses
2. Laparoscopy and laparoscopic surgery.

## **XXIII. SMALL AND LARGE INTESTINES.**

1. Diagnosis and principles of treatment of; Intestinal amoebiasis, tuberculosis of intestine , carcinoma colon ; lower gastro-intestinal hemorrhage , enteric fever , parasitic infestations.
2. Ulcerative colitis, premalignant conditions of large bowel.

## **XXIV. INTESTINAL OBSTRUCTION.**

1. Types, aetiology, diagnosis and principles of management.

## **XXV. ACUTE ABDOMEN.**

1. Causes, approach , diagnosis and principles of management.

## **XXVI. APPENDIX.**

1. Diagnosis and management of acute appendicitis, appendicular lump and abscess.
2. Appendicular neoplasm



## **XXVII. RECTUM.**

1. Carcinoma rectum; diagnosis, clinical features and principles of management ;indications and management of colostomy.
2. prolapsed of rectum.

## **XXVIII. ANAL CANAL.**

1. Surgical anatomy, clinical features and principals management of fissure in ano , fistula in ano, perianal and ischiorectal abscess and hemorrhoids ; referral of anorectal anomalies.
2. Anal carcinoma.

## **XXIX. HERNIAS.**

1. Clinical features, diagnosis, complications and principles of management of umbilical , inguinal , epigastric and femoral hernia, ventral hernia, incisional hernia.
2. Omphalitis.
3. Umbilical fistulae , burst abdomen

## **XXX. GENITO – URINARY SYSTEM.**

1. Symptoms and investigations of the urinary tract.
2. Anuria; types ,causes, diagnosis & principals of management.

### **a. KIDNEY , URETER & BLADDER**

1. Investigations of renal mass; diagnosis and principles of management of urolithiasis, hydronephrosis, pyonephrosis, and perinephric abscess , congenital anomalies of kidney & Ureter and renal tumours.
2. Renal tuberculosis.
3. Bladder stones , bladder neoplasm , cystitis , diverticulum.

### **b. PROSTATE AND SEMINAL VESICLES**

1. Benign prostatic hyperplasia; diagnosis and management.

### **c. URETHRA AND PENIS**

1. Causes, Diagnosis and principles of management of Phimosis, paraphimosis and carcinoma penis; balano – posthitis.
2. Principles of management of urethral injuries.
3. Urethral strictures.

#### **d. TESTES AND SCROTUM**

1. Diagnosis and principles of treatment of undescended testis; torsion testis; Hydrocoele , hematocoele , pyocoele, varicocele , epididymo-orchitis and testicular tumours.

#### **XXXI PAEDIATRIC SURGERY**

1. Oesophageal atresia and Intestinal atresia.
2. Anorectal malformations.
3. Constipation in children ; Hirschsprung's disease , Acquired megacolon ,
4. Congenital diaphragmatic hernia
5. Extrophy of bladder , Epispadias complex and hypospadias
6. Spinal diastrophism and Hydrocephalus
7. Urinary tract infections in children – Vesicoureteral reflux , posterior urethral Valves, Vesico Ureteral Junction obstruction ; Duplex ureter, Obstructive uropathy in children ; Hydronephrosis, Hydroureteronephrosis.
8. Testicular Maldescent
9. Umbilical Hernia , Exompholos; Major/Minor
10. Wilm's Tumours ; Neuroblastoma, Ganglioneuromatoma , Ganglioneuroma. Endo – Dermal Sinus Tumours.
11. Hamartomas in Children ; Lymphangioma and Cystic hygroma , Haemangioma , Biliary Atresia and Surgical Jaundice

## **Surgery Books**

1. Charles V. Mann , R.C.G. Russel , Norman S. Williams, Bailey and Love's Short Practice of Surgery , 23<sup>rd</sup> Edition , 2000 Chapman and Hall.
2. K.Das; Clinical Methods in Surgery , 8<sup>th</sup> edition , 1968 , Suhas Kumar Dhar, Calcutta.
3. JSP Lumley; Hamilton Bailey's Physical Signs 18<sup>th</sup> Edn.
4. Somen Das ; A Practical Guide to Operative Surgery , 4<sup>th</sup> Edition , 1999 , S. Das , Calcutta.
5. SHORT CASES IN SURGERY – BHATTACHARYA
6. MANIPAL – MANUAL OF SURGERY
7. NAN – UNDERGRADUATE SURGERY
8. PARULEKAR – PRACTICAL SURGERY
9. PATEL – HANDBOOK OF SURGICAL INSTRUMENTS FOR UNDERGRADUATES
10. R.D.B'S – ART OF CLINICAL PRESENTATION IN SURGERY
11. R.D.B'S – ART OF STUDING SURGICAL PATHOLOGY
12. VAIDYA – CASSETTE CLINICAL IN GENERAL SURGERY (5-VOL SET)

## **REFERENCE TEXT BOOKS**

1. James Kyle ; Pye's Surgical Handicraft , Indian Edition , K.M. Varghese Company David C.
2. Sabiston ; Text Book of Surgery ; The Biological basis of Modern Surgical Practice , 15<sup>th</sup> edition , 1971 , W.B. Saunders.
3. Seymour I. Schwartz, G, Tom Shines , Frank C, Spencer , Wendy Cowles Husser ; Principles of Surgery , vol, 1 & 2 , 7<sup>th</sup> Edition , 1999 , Mc Graw Hill.
4. R.F. Rintoul ; Farqharson's Text Books of Operative Surgery , 8<sup>th</sup> Edition , 1995 , Churchill Livingstone.
5. Sir Charles Ilingworth , bruce m. Dick ; A text book of Surgical Pathology , 12<sup>th</sup> edition , 2979, Churchill Livingstone.
6. R.W.H.Macmann ; Last's Anatomy ; regional and applied ; 10<sup>th</sup> Edition , 1999 , Churchill Livingstone.

# ORTHOPAEDICIS:

## (a) KNOWLEDGE:

The student shall be able to:

- (1) Explain the principles of recognition of bone injuries and dislocation.
- (2) Apply suitable methods to detect and manage common infections of bones and joints.
- (3) Identify congenital skeletal anomalies and their referral for appropriate correction or rehabilitation.
- (4) Recognize metabolic bone diseases as seen in this country;
- (5) Explain etiology, manifestations, diagnosis of neoplasm affecting bones;

## (b) SKILLS:

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

- (1) Detect sprains and deliver first aid measures for common fractures and sprains and manage uncomplicated fractures of clavicle, Colles', forearm, phalanges etc.;
- (2) Use techniques of splinting, plaster, immobilization etc.;
- (3) Manage common bone infections; learn indications for sequestration, amputations and corrective measures for bone deformities.
- (4) Advise aspects of rehabilitation for Polio, Cerebral Palsy and Amputation.
- (5) Splinting (plaster slab) for the purpose of emergency splintage, definitive splintage and post operative splintage and application of Thomas splint;
- (6) Manual reduction of common fractures-phalangeal, metacarpal, metatarsal and Colles's fracture;
- (7) Manual reduction of common dislocations-interphalangeal, metacarpophalangeal, elbow and shoulder dislocations;
- (8) Plaster cast application for undisplaced fractures of arm, forearm, leg and ankle;
- (9) Emergency care of a multiple injury patient;
- (10) Precautions about transport and bed care of spinal cord injury patients.
- (11) Advise about prognosis of poliomyelitis, cerebral palsy, CTEV and CDH;
- (12) Advise about rehabilitation of amputees and mutilating traumatic and leprosy deformities of hand;
- (13) Drainage for acute osteomyelitis;
- (14) Sequestrectomy in chronic osteomyelitis;
- (15) Application of external fixation;
- (16) Internal fixation of fractures of long bones.

## (c) APPLICATION:

Be able to perform certain orthopaedic skills, provide sound advice on skeletal and related conditions at primary or secondary health care level.

## (d) INTEGRATION:

Integration with Anatomy; Surgery; Pathology; Radiology and Forensic Medicine is done.

**(e) CURRICULUM:**

The clinical term would be for a period of six weeks. Before the students are placed in the orthopaedic term, he would have done at least one surgical and one medical term.

About 30 lectures should be allocated for the graduates in this subject. The lectures should be divided approximately half each. i.e. 15 each for trauma and for cold (non-trauma) orthopaedics.

**i. Didactic Lectures – Trauma:**

- (1) Introduction including definition of various terms; scope of subject; brief history; classification of conditions and introduction to latest developments.
- (2) Bone and joint injuries- fractures; dislocation and sprains, definitions; terminology; epiphyseal injuries; healing of fractures.
- (3) Principles of management of severe trauma-aims of management and life saving measures; limb saving measures.
- (4) Treatment of fractures-principles; aims of treatment; operative management and rehabilitation and prevention of joint stiffness; compound fractures (open fractures); principles of management.
- (5) Complications of fractures – (a) injury to blood vessels (b) injury to nerves (c) delayed union, nonunion (d) myositis ossificans (e) avascular necrosis (f) Budeck's atrophy (g) fat embolism.
- (6) Joint injuries and soft tissue injuries – sprains; ruptures of ligaments and dislocation; traumatic synovitis; tendon ruptures and haemarthrosis.
- (7) Fractures of upper limb-supracondylar fractures of humerus. Colles' fracture.
- (8) Fractures of lowr limb-fractures of femoral neck; fractures of ankle joint and ligament injuries.
- (9) Injuries of the spine-cervical spine, Dorsal and lumbar spine; paraplegia.
- (10) Injuries of the knee joint – ligament injuries, meniscus injuries and internal derangement.
- (11) Peripheral nerve injuries-anatomy; effects; nerve degeneration and regeneration; classification and management.
- (12) Fracture-calvicle, forearm bones, femur, tibia, fibula.
- (13) Dislocation-shoulder, elbow and hip; habitual and recurrent dislocation of shoulder and patella.
- (14) Specific nerve injuries – brachial plexus; radial nerve, ulnar nerve, median nerve, plexus nerve, sciatic nerve, thoracic outlet syndrome.

**ii. Didactic lectures –non-trauma.**

- (1) Osteomyelitis – acute, chronic and pyoarthrosis.
- (2) Osteoarticulaer tuberculosis –introduction: Pathology; principles of management.
- (3) Tuberculosis joint and knee joint: tuberculosis of spine and Pott's paraplegia.
- (4) Arthritis-types and classification; rheumatoid arthritis-pathology;diagnosis and treatment.
- (5) Osteoarthritis-pathology;diagnosis and management-osteoarthritis of hip and knee.
- (6) Rickets-osteomalacia; hyperparathyroidism; genu vara; genu valga;
- (7) Poliomyelitis-cerebral palsy and spina bifida.
- (8) spondylosis-lumbar and prolapsed intervertebral disc, lumbar spinal canal stenosis and spondylolisthesis.
- (9) Cervical spondylosis.
- (10) Perthe's disease and epiphysitis-slipped upper-femoral epiphysis, congenital subluxation and dislocation of hip.
- (11) Congenital-club foot, flat foot.

- (12) Bone tumours- classification, general principles of management and secondary deposits in bones; amputation.
- (13) Tuberculosis-compound palmar ganglion.
- (14) Still's disease; other conditions related to rheumatoid arthritis.
- (15) neuropathic joint shoulder hand syndrome; tennis elbow; Carpal Tunnel syndrome. Trigger finger.
- (16) Scoliosis.
- (17) Flat foot-painful planter fasciitis; calcaneal spur; calcification at tendoachilles insertion.

### **iii. Tutorials:**

- (1) Traction-Splints (Bohler and Thomas): application; Splints; Arthrodesis etc.
- (2) Plaster of paris-plaster cast application, general principles.
- (3) Surgical instruments- pertaining to bone surgery & general set only (no specialized instruments).
- (4) Common fractures and demonstration of common clinical problems.
- (5) Covering important and common topics from the ones listed in clinical term.

## **ANESTHESIOLOGY:**

### **(i) GOAL:**

The broad goal of the teaching of undergraduate students in Anesthesiology is to provide and understanding of the natural history of anesthesia & its need for successful outcome of surgical procedure. To know the various types of anesthesia, its pre requisite investigations, safe dose & drugs in particular disease, immediate post anesthetic care etc.

### **(ii) OBJECTIVES:**

- (1) Perform pre-anesthetic check up and prescribe pre-anesthetic medications;
- (2) Perform venepuncture and set up intravenous drip;
- (3) Perform laryngoscopy and endotracheal intubation;
- (4) Perform lumbar puncture, spinal anesthesia and simple nerve blocks;
- (5) Conduct simple general anesthetic procedures under supervision;
- (6) Monitor patients during anesthesia and post-operative period;
- (7) Recognize and manage problems associated with emergency anesthesia;
- (8) Maintain anesthetic records;
- (9) Recognize and treat complication in post operative period;
- (10) Perform cardio-pulmonary brain resuscitation (C.P.B.R.) correctly, including recognition of cardiac arrest.

# **RADIO-DIAGNOSIS and RADIOTHERAPY:**

## **(A) RADIO-DIAGNOSIS AND IMAGING:**

### **(i) GOAL:**

The broad goal of teaching the undergraduate medical student in the field of Radio-diagnosis should be aimed at making the students realize the basic need of various radio-diagnosis tools in medical practice. They shall be aware of the techniques required to be undertaken in different situations for the diagnosis of various ailments as well as during prognostic estimations.

### **(ii) OBJECTIVES:**

#### **(a) KNOWLEDGE:**

The student shall be able to:

- 1) Understand basic of x-ray production its uses and hazards.
- 2) Appreciation and diagnosis of various radiological changes in disease conditions of chest and mediastinum, skeletal system, Gastro Intestinal Tract, hepatobiliary system and Genito Urinary (G.U.) system;
- 3) Learn about various imaging techniques, including isotopes , Computerized Tomography(C.T). Ultrasound (USG) system , M R I (Magnetic Resonance Image)

#### **(c) SKILLS:**

At the end of the course the student shall be able to:

- (1) Use basic protective techniques during various imaging (M.R.I.) and D.S.A.
- (2) Interpret common x-ray & radio-diagnostic techniques in various community situations.
- (3) Advise appropriate diagnostic procedures in specialized circumstances by appropriate specialists.
- (4) Handle all aspects of 'Emergency Room' Radiology like:
  - a. All acute abdominal conditions
  - b. All acute traumatic conditions with emphasis on head injuries
  - c. Differentiation between medical & surgical radiological emergencies
- (5) Basic hazards and precautions in Radiodiagnostic practices

## **RADIOLOGY-CURRICULUM:**

Teaching during the undergraduate term in the department of radiology usually comprises of two weeks and includes lectures in class-rooms; teaching in wards during the clinical terms along with clinical subjects will be by the teachers concerned on investigational procedures. The students are also given elementary knowledge of medicine and its value in diagnosis and therapy.

- (1) X-rays-production; uses and properties of x-rays' , dangers of radiation and the measures to be adopted for protection of patients and the medical personnel.
- (2) General Knowledge-use of X-ray machine in the department; X-ray films in use in different imaging modalities and dark room techniques.
- (3) CAT scan-physics; its role as an imaging modality.
- (4) Ultrasound-physics; its properties and uses.
- (5) Magnetic resonance imaging-physics and its uses.
- (6) Specialized procedures-practical training in Barium meal; Barium enema; IVP, myelography; arteriography etc.
- (7) Normal radiological anatomy-including cross sectional anatomy.
- (8) Radiological appearances-of common pathology during reporting session.

### **Didactic lecture-Following topics shall be covered in class rooms.**

- (1) Bones and joints-bone infections; vascular necrosis, bone tumours, skeletal disorders of metabolic and endocrinal origin.
- (2) Inflammatory diseases of lungs. Tumours of lungs & mediastinum.
- (3) Cardiovascular system – congenital heart disease, acquired heart diseases; diseases of pericardium.
- (4) G.I. Tract and abdomen-Barium meal, barium enema, acute abdomen.
- (5) Hepatobiliary system- diseases of liver, diseases of gall bladder, and pancreas, special emphasis on the role of ultrasound and CT in these diseases.
- (6) Urogenital system- renal calculi, renal infection, renal tumours, lower urinary tract obstruction, diseases of urinary bladder and prostate, diseases of uterus and adnexa.
- (7) Ear, nose and throat-pharynx and larynx, paranasal sinuses, mastoid.
- (8) Central nervous system – abnormal skull, inflammatory diseases of spine, myelography and spinal cord tumours; the role of newer imaging modalities e.g. CAT scan and MRI.
- (9) Obstetrics and gynaecological diseases – study of normal foetal development by Ultra Sound, early diagnosis of foetal anomalies and growth retardation, pelvimetry; hystero-salpingoaraphy, ultra sound in gynaecological disorders.



# RADIOTHERAPY

## (i) **GOAL:**

The broad goal of teaching the undergraduate medical students in the field of Radiotherapy is to make the students understand the magnitude of the ever-increasing cancer problem in the country. The students must be made aware about steps required for the prevention and possible cure of this dreaded condition.

## (ii) **OBJECTIVES:**

### (a) **KNOWLEDGE:**

- (1) Identify symptoms and signs of various cancers and their steps of investigations and management.
- (2) Explain the effect of radiation therapy on human beings and the basic principles involved in it.
- (3) Know about radio-active isotopes and their physical properties.
- (4) Be aware of the advance made in radiotherapy in cancer management and knowledge of various radio therapeutic equipment while treating a patient.

### (b) **SKILLS:**

At the completion of the training programmed & Examination, the student shall be able to:

- (1) Take a detailed clinical history of the case suspected of having a malignant diseases & possible use of radiotherapy to cure it.
- (2) Assist various specialists in administration of anticancer drugs; use of various radio therapeutic equipment, while treating a patient of cancer.

# SURGERY DEPARTMENT

## Surgical Unit Management

Total Unit – V

	<b>OPD</b>	<b>WARD</b>	<b>OT</b>
UNIT - I	Monday	Tuesday	Wednesday
UNIT- II	Tuesday	Wednesday	Thursday
UNIT- III	Wednesday	Thursday	Friday
UNIT - I	Thursday	Friday	Saturday
UNIT - IV	Friday	Saturday	Monday
UNIT - V	Saturday	Monday	Tuesday

Note: - Sunday emergency will be done by Rotation.

## Clinical Posting 5 :- Total 26 Weeks in General Surgery

Clinical Posting	Weeks	Semester
1 <sup>st</sup>	6	3 <sup>rd</sup> Semester II/I MBBS
2 <sup>nd</sup>	4	5 <sup>th</sup> Semester II/III MBBS
3 <sup>rd</sup>	4	7 <sup>th</sup> Semester III/I MBBS
4 <sup>th</sup>	6	8 <sup>th</sup> Semester III/II MBBS
5 <sup>th</sup>	6	9 <sup>th</sup> Semester III/II MBBS

Clinical Posting Schedule of Batches:

(Batch is known by year of Admission at 1<sup>st</sup> MBBS e.g. August 2012 major or minor)

Total students: divided into 3 Batches – A, B, C or Accordingly

Division of Batches (A, B, C,) subdivided into

A-1, A-2

B-1, B-2

C-1, C-2

### **Rotation:**

Posting Detail Unit Wise (Rotated every six months)

Clinical Posting	Batch (A-1,B-1,C-1)	Batch (A-2,B-2,C-2)
First Posting	Unit – 1	Unit – 2
Second Posting	Unit – 3	Unit – 4
Third Posting	Unit – 5	Unit – 1
Forth Posting	Unit – 2	Unit – 3
Fifth Posting	Unit – 4	Unit – 5

# **MBBS Clinical Posting Syllabus**

## **1<sup>st</sup> Posting (6 Weeks) – 3<sup>RD</sup> Semester**

- a) Introduction & visit of OPD , Surgical Department , Surgical Wards , Surgical OT , Surgical ICU , CSSD & Casualty & Dialysis center & Board Room, central of supply.
- b) History taking of a Surgical Patient in detail.
- c) OPD attendance and approach to patient according to history taking & communication methods.
- d) History taking of surgical patient by students.
- e) History review by Teachers.
- f) Antiseptic solution & aseptic precautions.
- g) Instruments used for dressings only.
- h) Definition concern to swelling & Ulcer.
- i) Subcutaneous Swellings like - Lipoma, Neurofibroma, Sebaceous Cyst, Dermoid Cyst, Ganglion , Abscess , Hemangioma , Lymphangioma , gynaecomastia etc
- j) Ulcer as a whole & wounds
- k) Clinical case presentation of ulcer & Swelling
- l) Ward Ending Exam.

## **2<sup>nd</sup> Posting (4 Weeks) – 5<sup>th</sup> Semester**

- a) History taking revision.
- b) Suture materials
- c) Hernia & Groin Swelling - Indirect Inguinal Hernia, Direct inguinal hernia , Femoral hernia, Epigastric hernia , Incision hernia , Umbilical hernia .. etc
- d) Hydrocele & other scrotal swelling
- e) Bed side teaching.
- f) Clinical case presentation of hernia & hydrocele.
- g) Ward ending Exam

## **3<sup>rd</sup> Posting (6 Weeks) – 7<sup>th</sup> Semester**

- a) History taking revision
- b) Thyroid Swelling
- c) Salivary gland Swellings
- d) Neck Swelling Like ; Sublingual swelling, Cystic hygroma, Thyroglossal cyst, Lymphnode swelling, Branchial cyst, Carotid artery aneurysm , Carotid body tumor, Ranula , Cold abscess etc
- e) Undescended testis
- f) Bed side teaching
- g) Clinical case presentations.
- h) I V Fluids
- i) Instruments
- j) Ward procedures like, Ryle's tube, ICD, Catheters, I V Canula etc.
- k) Ulcer & Swelling revision
- l) Ward Ending Exam

#### **4<sup>th</sup> Posting (6 Weeks) – 8<sup>th</sup> Semester**

- a) Peripheral vascular (Arterial) disease & Amputation stump
- b) Varicose veins
- c) Lymphatics
- d) Breast Lesions – Benign & Malignant with Breast reconstruction
- e) Penile lesions
- f) Bed side teaching.
- g) Clinical case presentations.
- h) Burns & Skin Grafting
- i) X-ray & Surgical Organ Specimens
- j) Thyroid , Parotid , neck swelling revision.
- k) Ward Ending Exam

#### **5<sup>th</sup> Posting (4 Weeks) – 9<sup>th</sup> Semester**

- a) Abdominal Lump Including –
  - Hepatomegaly
  - Splenomegaly
  - Renal lump
  - Ovarian Cyst
  - RIF Lump , etc
  - Aortic aneurysm
- b) Surgical Jaundice
- c) Soft tissue sarcoma
- d) Diabetic foot
- e) Abdominal (Gastro intestinal) Stoma eg. Colostomy / ileostomy
- f) Bed side teaching
- g) Clinical case Presentation
- h) Long cases & short cases introduction
- i) Revision
- j) Ward Ending Exam

## **A. Syllabus for IIIrd MBBS: Theory – General Surgery**

**A1. First Internal examination: One Theory Paper – 3 Hours Duration- Total 60 Marks  
(To be conducted in the beginning of 8<sup>th</sup> Semester)**

1. Wounds ,tissue repair, scar, wound infections
2. Critical care , fluid, electrolyte and acid base balance , blood transfusion, Shock
3. Nutritional support and rehabilitation
4. AIDS , special infections
5. Special precaution
6. Tumors, cysts, ulcers , sinus
7. Salivary glands
8. Transplantation
9. Plastic and reconstructive surgery and skin lesions
10. Burns
11. Arterial , venous and lymphatic disorders
12. Accidents , warfare and emergency and trauma
13. Head injury & Brain pathology as well as Spine
14. Hand and foot , nerves
15. Radiology : diagnostic
16. Anesthesia and resuscitation

**A2. Second internal examination : One Theory Paper – 3 Hours Duration – Total 60 Marks  
(To be conducted in the beginning of 9<sup>th</sup> semester)**

1. Thorax
2. Endocrine - Thyroid ,Parathyroids ,adrenals
3. Breast
4. Gastro Intestinal tract
5. Genitourinary system
6. Hernias
7. Abdominal wall
8. Umbilicus
9. Pediatric surgery
10. Day care surgery
11. Surgical Audit
12. Newer technologies in surgery.

## **A3. Syllabus distribution For Preliminary & University Examination.**

### **Theory**

#### **Paper I:**

##### **Section I:**

1. General surgery. (Including Ulcers & Swellings)
2. Head and neck except thyroid  
(Including Head Injury)

##### **Section II:**

1. Orthopedics only.

#### **Paper –II:**

##### **Section I:**

1. Gastrointestinal tract
2. Endocrine - Thyroid, Para-thyroids, Adrenals
3. Breast
4. Pediatric surgery
5. Hernia, Umbilicus, Abdominal wall

##### **Section II:**

1. Genito-urinary system
2. Recent advances
3. Anesthesia
4. Chest
5. Hand and foot
6. Radiology & radiotherapy
7. Dentistry
8. Miscellaneous

## A. Structure of Paper:

**B1. For Internal examination: For each exam will have one paper : Time Duration 3 hours - 60 Marks**

1. Two Internal Theory Examinations
2. One paper for each Examination
3. 1<sup>st</sup> internal examination conducted at the Beginning of 8<sup>th</sup> Semester
4. 2<sup>nd</sup> internal examination conducted at the Beginning of 9<sup>th</sup> Semester

**B2. For Preliminary exam : Each papers will have 3 Hours time - 60 marks each paper**

1. **Two papers** – Paper - I & Paper - II, with each paper on two consecutive days.
2. Each paper having two sections - Section – I & II
3. Paper I / section - II – Orthopedics only
4. Paper pattern is the same as university exam.

### B3. Theory Paper pattern for Preliminary & University Exam

Question	Section –I		Marks
1.	Write Notes	2 of 3	2 X 6 = <b>12</b>
2.	Write short notes	3 of 4	3 X 4 = <b>12</b>
3.	Write short notes	2 of 3	2 X 3 = <b>6</b>
	Or Multiple choice question (MCQ)	Or 6 of 6	Or 6 X 1=6
<b>Section –II</b>			
4.	Write Notes	2 of 3	2 X 6 = <b>12</b>
5.	Write short notes	3 of 4	3 X 4 = <b>12</b>
6.	Write in 2–3 sentences	6 of 6	6 X 1 = <b>6</b>
	Or Multiple choice question (MCQ)	Or 6 of 6	Or 6 X 1=6

**NB :** Paper I/Section I. – **Q. 3** → Head injury & Brain pathology as well as Spine related only.

Paper II/Section II. – **Q. 5** → Chest, Anaesthesia, Radiology & Dental related only



## C. Internal Assessment Pattern :

### C-1.

Ward ending exam at end of each posting.

Clinical Case	<b>20</b> marks
Table	<b>10</b> marks
Total <b>30</b> marks of each clinical posting	
Total <b>5</b> Posting - Total <b>150</b> Marks	

Theory examination:-

1 <sup>st</sup> Internal – <b>60</b> marks
2 <sup>nd</sup> Internal - <b>60</b> marks

**Best one** of two will be considered for internal assessment for Theory Internal Marks – Total **60** Marks

### C-2.

#### **Preliminary Exam & University Theory & Practical examination Exam Pattern**

<b>Theory</b>		
Paper – 1		<b>60</b> Marks
Paper – 2		<b>60</b> Marks
<b>Practical</b>		<b>Practical Total</b>
1. Long Case-Surgery = <b>30</b> Marks		
2. Short Case- Surgery = <b>15</b> Marks		
-----		
3. Objective Structured Clinical Examination (OSCE) = <b>20</b> Marks (5 Marks each Clinical Case) Total <b>4</b> Clinical Case for OSCE	<b>75</b> Marks	<b>100</b> Marks
-----		
4. Table-I – Surgery (Structured) = <b>10</b> Marks		
5. Ortho Case + Ortho Table	<b>25</b> Marks	
* Viva Table -2, Surgery – Theory Table (Structured)	<b>20</b> Marks	<b>20</b> Marks

- **\*NB : Viva Table -2** Marks will be added in the theory marks.
- Internal assessment for surgery will include Dental, Casualty, Radiology, Anesthesia and Orthopedics posting.

### C-3. Internal Marks Calculation

		<b>Marks</b>	
		<b>Practical</b>	<b>Theory</b>
<b>I.</b>	<b>Internal Exam</b>		
	(1). Surgery	05  (1 marks for each clinical posting as per ward ending exam)	05  (Internal Theory exam 1 & 2 ) Best one of the two
	(2). Orthopedic	03	03
	(3). Anesthesia	02	03
	(4). Radiology	03	02
	(5). Dentistry	02	02
	<b>Total</b>	<b>15</b>	<b>15</b>
<b>II.</b>	<b>Preliminary Exam</b>	10	10
<b>III.</b>	<b>Attendance</b>	05  (attendance of 5 clinical posting)	05  (attendance for theory lectures)
	<b>Grand total ( I + II + III )</b>	<b>30 Marks</b>	<b>30 Marks</b>

### C-4. Eligibility Criteria to Appear in University Exam

	<b>Eligible Criteria</b>
Presence	Minimum <b>75 %</b> of Combined Clinical postings + Theory lectures
Internal Marks	Minimum <b>35 %</b> Marks Combined Practical exam + Internal theory exam
<b>NB :</b> Eligible Criteria to appear in Uni. Exam is for Internal Marks is Minimum <b>35 %</b> Marks.	

### **C-5. Passing Criteria. (in Uni.)**

<b>No.</b>	<b>Exam</b>	<b>Minimum Marks Required</b>
<b>1</b>	<b>Theory + Viva Table (120) + (20) = 140 Marks</b>	<b>50 % ( 70 Marks )</b>
<b>2</b>	<b>Practical (100 marks)</b>	<b>50 % (50 Marks)</b>
<b>3</b>	<b>Grand Total Theory + Practical + Internal (Theory + Practical ) (140) + (100) + (60) = 300 Marks</b>	<b>50 % (150 Marks ) (with fulfilling criteria 1 &amp; 2 )</b>

**N.B.**

**Pass :- A Candidate must obtain 50% in aggregate with a minimum of 50% in theory including oral viva table & minimum of 50 % in practical.**

## Department of Surgery – Clinical Posting record

Posting in	Duration	Dates From to	Attendance	Assessment/ Ward ending
Ist	6 Week			
Remarks			Signature of Unit Head	
IIInd	4 Week			
Remarks			Signature of Unit Head	
IIrd	6 Week			
Remarks			Signature of Unit Head	
IVth	6 Week			
Remarks			Signature of Unit Head	
Vth	4 Week			
Remarks			Signature of Unit Head	

FINAL REMARKS:

### Completion Certificate

This is to certify that .....has completed the academic schedule of Surgery Department Satisfactorily/Unsatisfactorily.

Date:

Head of Department  
Department Surgery