

# Surgery & Allied Subjects

## Departmental Objectives

**The aim of this course is to provide community oriented & need based education so as to produce basic doctors who will be able to:**

- elicit a complete clinical history & physical findings and formulate diagnosis of common surgical problems prevalent in Bangladesh.
- carry out necessary investigations & interpret the results
- perform minor surgical procedures and treat minor surgical problems
- recognize the major surgical problems needing specialized care, initiate the primary treatment and refer to the appropriate centers
- diagnose and provide competent primary care in surgical emergencies.
- carry out the responsibility of management in common casualties or natural calamities to offer and arrange basic life support.
- take necessary preventive & prophylactic measures in surgical patients.
- be involved in continued care & rehabilitation of surgical patients.
- deliver health education in the community with emphasis on the preventive aspects of surgical disorders.
- demonstrate the right attitude in
  - Patient Care
  - Community health care
  - Continuing medical education & research
  - Observing the moral & legal codes of medical ethics

## List of Competencies to acquire abilities to :

### 1. Clinical –

- a. build rapport with patients, colleagues and supporting staffs of the hospital
- b. take detail relevant history
- c. conduct thorough clinical Examination
- d. decide on a provisional working diagnosis
- e. perform and/or order relevant investigations considering the cost effectiveness
- f. interpret common laboratory and imaging investigations
- g. calculate fluid and electrolyte requirements
- h. evaluate and make initial management of acute trauma patient
- i. adopt aseptic techniques and procedures and maintain principles of sterilization

### 2. Communication-

- a. obtain permission before any examination and clinical procedures
- b. obtain informed consent for surgical procedures including organ ablation.
- c. appreciate right to privacy and information about the disease and its consequence

### 3. Managerial-

- a. provide leadership during team work
- b. implement time management skills
- c. issue certificates ( discharge, death, medical and injury ).
- d. write notes ( case notes, operation notes, referrals )
- e. keep detail and systematic records and
- f. use computer and IT facilities.

#### 4. Manipulative and practical skills-

- a. adopt universal aseptic techniques in handling surgical patient
- b. start IV lines
- c. insert NG tubes
- d. introduce urethral catheter and perform supra-pubic cystostomy
- e. drain superficial abscess
- f. perform per-rectal examination
- g. achieve control external hemorrhage
- h. carry out initial management of wound
- i. repair minor wounds
- j. complete primary management of fractures and arrange transfer to appropriate centers.
- k. apply splints, slings, POP casts and slabs, tractions

### Distribution of teaching - learning hours Surgery & Allied Subjects

Subject	Lecture (in hours)				Tutoria l/Practi cal/Dem onstrati on	Integr ated teachin g	Clinical/Bedside teaching (in week)			Total Weeks	Block posting	Formative Exam	Summative Exam
	2 <sup>nd</sup> Phase	3 <sup>rd</sup> Phase	4 <sup>th</sup> Phase	Total			2 <sup>nd</sup> Phase	3 <sup>rd</sup> Phase	4 <sup>th</sup> Phase				
General Surgery	35	30	60	125	200	20	12+4	-	6	22	4 wks	Preparatory leave -15 days Exam time -15 days	Preparatory leave -15 days Exam time -30 days
Orthopaedics	5	10	30	45			-	4	4	8			
Radiology	-	-	5	5			1	-	-	1			
Radiotherapy	-	-	8	8			-	1	-	1			
Transfusion medicine	-	5	-	5			1	-	-	1			
Anesthesia	-	10	-	10			1	-	-	1			
Neurosurgery	-	2	5	7			-	1	-	1			
Pediatric Surgery	-	5	10	15			-	-	2	2			
Urology	-	5	10	15			-	-	2	2			
Burn Plastic Surgery	3	-	2	5			-	-	1	1			
Emergency & casualty	-	-	-	-			-	-	1	1			
Dentistry	-	-	-	-			1	-	-	1			
Ophthalmology	-	40 hrs		40			-	4	4	8			
Otolaryngology	-	40 hrs		40			-	4	4	8			
Total	300 hrs				200	20	20 wks	14 wks	24 wks	58wks	4wks		
<b>Grand total</b>	<b>520 hours</b>						<b>62 weeks</b>					<b>75 days</b>	

*(Time for exam, preparatory leave and formative & summative assessment is common for all subjects of the phase )*

## Teaching-learning methods, teaching aids and evaluation

Teaching Methods				Teaching aids	In course evaluation
Large group	Small group teaching	Self learning	Others		
Lectures	Tutorials, Problem Based Learning, Clinical demonstrations OPD / indoor Attending & observing minor operations Demonstrations of X-rays specimen, Observations in ICU, Postoperative ward, Case Presentation and discussion.	Assignment, Self study	Integrated teaching,  Visit to radiotherapy & nuclear medicine centre  Attend centers where investigations for hearing impairment, vertigo, Tinnitus are available.	Computer, Chalk & board, OHP, Multimedia, Photographs & Videos, Specimens, & Models, Plain & Contrast X-rays of Upper & lower GIT, I.V.U, Fractures Skull X-rays Sinogram & Fistulogram Ultrasonogrph , Abdomen HBS & Pancreas Urinary tract Scans, thyroid scans, , C.T. Scan , MRI, .	Item Examination Card final , Term Examination Term final (written, oral+ practical + clinical)

**Final professional examination :**

**Marks distribution for assessment of surgery**

**Total marks – 500** (Summative)

- Written = 200 ( Formative Assessment-20 +MCQ-40+ SAQ -140=200)
- Oral = 100
- Clinical = 100
- Practical = 100

**Related Equipments:**

<b>General surgery</b>	
I.V sets, butterfly needle & cannula, Transfusion sets, Feeding tubes, NG tube, Flatus tube , ‘T’ tube, Chest drain set, Endo-tracheal tube Blood bags, Stoma bags, Fluid bags,  BP blade and handle, surgical scissors, Needle holder, Surgical suture materials,  Sponge holding forceps , towel clip Alli’s tissue forces, artery forceps, Sinus forceps, dissecting forceps, Kocher’s artery forceps, kidney tray, gully pot, intestinal clamps, Deavers’ abdominal retractor, Morris abdominal retractor	Langhanbach’s retractor, Lane’s twin gastro jejunostomy clamp, proctoscope, metallic urethral dilators, nephrolithotomy forceps, Bone nibber, Osteotome, chisel, hammer, amputation saw,  Plaster of paris bandage, crape bandage. Splints & supporting aids- Cervial collar, Cricle brace, artificial limb, Anasthesia machine, Laryngoscope, airway tube, Umbo bag,
<b>ENTD</b>	
Thudicum nasal speculum, Killians self retaining nasal speculum, Lichwitz antrum puncture trocar and cannula, Higginson’s rubber syringe, Walsham’s forceps, Luc’s forceps, Tilley’s forceps, St Clair Thomson post nasal mirror, Jobson horne probe and ring curette, Tuning fork, Head mirror,	Boyle Davis mouth gag, Luc’s tongue depressor, Draffins bipod metallic stand, Eve’s tonsillar snare, St Clare Thomson Adenoid curette and cage, Trousseau’s tracheal dilator, Jackson’s metallic tracheostomy tube, Direct laryngoscope Chevalier Jackson’s oesophagoscope, Negus bronchoscope etc.
<b>Ophthalmology</b>	
Trial lens, trial frame, Eye speculums (Wire, Universal), DCR punch, Tonometer, Ophthalmoscope, Cat’s paw retractor, BP Blade & handle, Keratome, Squint hook	Iris repositor, lens dialer, two way cannula, chalazion clamp and scoop, corneal forceps, irrigating vectis, sac guard, sac dissector, lacrimal probe, punctum dialtor etc.

## Learning Objectives and Course Contents in Surgery

Learning Objectives	Contents	Teaching Hours
<p><b>A. Basic and Principles of Surgery</b></p> <p>Student should be able to:</p> <ol style="list-style-type: none"> <li>1. state the history , evolution and scope of Surgery</li> <li>2. assess and prepare patient for surgery</li> <li>3. understand the patho-physiology of trauma</li> <li>4. diagnose, treat and manage minor wounds</li> <li>5. diagnose, treat and manage surgical infections ( boil, abscess, carbuncle &amp; gangrene) .</li> <li>6. diagnose and provide basic treatment for shock &amp; haemorrhage.</li> <li>7. recognize all external hernias &amp; their complications &amp; initiate primary care for complicated hernias.</li> <li>8. recognize &amp; differentiate different types of burns and initiate primary care &amp; take measure to prevent complications.</li> <li>9. recognize fluid &amp; electrolytes imbalance states, investigate &amp; initiate appropriate therapy.</li> <li>10. recognize, &amp; investigate different types of skin ulcerations.</li> <li>11. recognize, investigate &amp; treat superficial skin tumour &amp; cysts</li> <li>12. take appropriate measures to prevent hospital infection.</li> <li>13. understand and comply with ethical principles in clinical practice</li> </ol>	<p><b>CORE</b></p> <p><b>Phase II</b></p> <ol style="list-style-type: none"> <li>1. History , evolution and scope of surgery</li> <li>2. Approach to a surgical patients</li> <li>3. Surgical diagnostic process and techniques</li> <li>4. Surgical Infection ( Boil , Furuncle, Abscess, Carbuncle , cellulites )</li> <li>5. Septicemia ( causes, complications and treatment )</li> <li>6. Sinus, Fistula and cysts</li> <li>7. Wounds ( classification and management )</li> <li>8. Ulcers , pressure sores</li> <li>9. Groin hernias</li> <li>10. Haemorrhage</li> <li>11. Shock</li> </ol>	20 hours
	<p><b>Phase III</b></p> <ol style="list-style-type: none"> <li>12. Metabolic response to injury</li> <li>13. Principles of Management of Trauma</li> <li>14. Management of a severely injured patient</li> <li>15. Fluid and electrolytes balance</li> <li>16. Enteral and Parenteral nutrition</li> </ol>	10 hours
	<p><b>Phase IV</b></p> <ol style="list-style-type: none"> <li>17. Pre operative assessment and preparation</li> <li>18. Tumours of skin</li> <li>19. Lymphadenopathy ( causes, investigations, diagnosis, biopsy )</li> <li>20. Surgical ethics</li> </ol>	10 hours
	<p><b>ADDITIONAL</b></p> <p>Organ transplantation</p>	

Learning Objectives	Contents	Teaching Hours
<p style="text-align: center;"><b>B. Systemic Surgery</b></p> <p><b>1. Alimentary System</b></p> <p>Student should be able to :</p> <ol style="list-style-type: none"> <li>1. investigate and diagnose the common surgical diseases of alimentary system and suggest management</li> <li>2. diagnose the acute conditions of alimentary system and initiate primary care</li> <li>3. identify the patient requiring specialty surgical intervention &amp; refer to appropriate centre</li> <li>4. take continued care of the operated patients</li> <li>5. recognise post operative complications &amp; take appropriate measures.</li> </ol>	<p><b>CORE</b></p> <p><b>Phase II</b>            Complications of Peptic ulcer            ( Perforation, Pyloric stenosis )            Upper G.I. Tract bleeding            Appendicitis            Intestinal obstruction;</p> <p><b>Phase III</b>            Abdominal trauma ( Diagnostic and Management principles )                Ruptured Spleen                Ruptured liver                Ruptured intestine</p> <p><b>Phase IV</b>            Tongue, Lip &amp; other oral lesions ( ulcer, cancer )            Oesophagus                Carcinoma oesophagus and stricture            Carcinoma stomach            Neoplasm of colon and rectum            Intestinal tuberculosis            Anal canal   Haemorrhoids, Fistula, Sinus &amp; Fissure,                                Carcinoma anus            Colostomy &amp; ileostomy ( indications and management )</p> <p>Abdominal incisions ( Tutorial )</p> <p><b>ADDITIONAL</b>            Abdominal abscess            Diseases of salivary glands            Hiatus hernia.</p>	<p>5 hours</p> <p>5 hours</p> <p>5 hours</p>

Learning Objectives	Contents	Teaching Hours
<p><b>2. Genito-Urinary System</b></p> <p>Student should be able to-</p> <ol style="list-style-type: none"> <li>1. diagnose common congenital G.U. anomalies &amp; advise / refer to appropriate centers</li> <li>2. diagnose and manage acute GU conditions like <ul style="list-style-type: none"> <li>• Acute retention of urine</li> <li>• Acute epididymo- orchitis</li> <li>• Torsion testis</li> <li>• Paraphimosis</li> <li>• Phimosis</li> <li>• Acute ureteric colic</li> <li>• Urosepsis</li> </ul> </li> <li>3. evaluation of scrotal swelling</li> <li>4. evaluate a case of haematuria</li> <li>5. order necessary investigations, and interpret the result of investigation &amp; suggest principles of management</li> <li>6. recognize a case of retention of urine , find out causes perform aseptic catheterization</li> <li>7. introduce suprapubic catheter</li> <li>8. describe the steps of circumcision</li> </ol>	<p><b>CORE</b></p> <p><b>Phase III</b></p> <ol style="list-style-type: none"> <li>1. Urinary symptoms &amp; definitions</li> <li>2. Urological investigations and their interpretations,</li> <li>2. Develpmental genitor-urinary anomalies</li> <li>3. Scrotal swelling <ul style="list-style-type: none"> <li>• Hydrocele</li> <li>• Scrotal cullulitis</li> </ul> </li> <li>4. Acute scrotal conditions <ul style="list-style-type: none"> <li>• Epididymo- orchitis</li> <li>• Torsion testis</li> </ul> </li> </ol> <p><b>Phase IV</b></p> <ol style="list-style-type: none"> <li>5 Urolithiasis ( Causes ,Diagnosis , Principles and modalities of treatment )</li> <li>6 Retention of urine ( acute and chronic</li> <li>7 Hydronephrosis</li> <li>8 UTI</li> <li>9 Urinary tract t injury. <ul style="list-style-type: none"> <li>• Renal injury</li> <li>• Urethral injury</li> </ul> </li> <li>10. Renal Neoplasm <ul style="list-style-type: none"> <li>• RCC</li> <li>• Wilm's Tumour</li> </ul> </li> <li>11 Testicular Tumour</li> <li>12 BPH</li> <li>13 Stricture urethra</li> </ol> <p><b><u>ADDITIONAL</u></b></p> <ul style="list-style-type: none"> <li>• Male infertility</li> <li>• Minimal Invasive Surgery in Urology</li> </ul>	<p>20 hours</p> <p>10 hours</p>

Learning Objectives	Contents	Teaching Hours
<p><b>3 Hepatobiliary &amp; Pancreas</b></p> <p>Student will be able to:</p> <ol style="list-style-type: none"> <li>1. diagnose, investigate cholecystitis, cholelithiasis &amp; Choledocholithiasis</li> <li>2. suspect pancreatitis; initiate primary case management &amp; suggest management</li> <li>3. investigate &amp; interpret the results in case of obstructive jaundice &amp; suggest appropriate treatment</li> <li>4. diagnose &amp; investigate suspected case of liver &amp; sub-phrenic abscess &amp; suggest appropriate treatment.</li> </ol>	<p><b><u>CORE</u></b>  <b>Phase II</b>  Cholelithiasis ( causes and complications )  Cholecystitis ( acute &amp; chronic )  Pancreatitis ( acute pancreatitis )</p> <p><b>Phase IV</b>  Obstructive jaundice  Pancreatic tumours  Liver abscess</p> <p><b><u>ADDITIONAL</u></b>  Hepatic neoplasm  Cysts of liver  Neoplasm of Gall Bladder</p>	<p>5 hours</p> <p>5 hours</p> <p>4 hours</p>
<p><b>4 Endocrine &amp; Breast</b></p> <p>Students will be able to:</p> <ol style="list-style-type: none"> <li>1. assess, investigate &amp; diagnose thyroid swelling &amp; thyrotoxicosis and suggest principles of management</li> <li>2. diagnose &amp; manage a case of breast abscess</li> <li>3. assess, investigate &amp; interpret the status and diagnose a case of breast lump &amp; suggest principles of treatment.</li> </ol>	<p><b><u>CORE</u></b>  <b>Phase IV</b></p> <p><b>Thyroid</b>  Goiter and Neoplasms of thyroid</p> <p><b>Breast</b>  Breast pain, Mastitis and Breast Abscess  Fibro-adenosis and Fibroadenoma  Carcinoma of breast</p> <p><b><u>ADDITIONAL</u></b>  Diseases of adrenal gland  Diseases of Parathyroid gland</p>	<p>4 hours</p> <p>4 hours</p> <p>2 hours</p>



Learning Objectives	Contents	Teaching Hours
<p><b>5 Chest</b></p> <p>Students will be able to:</p> <ul style="list-style-type: none"> <li>• assess &amp; diagnose traumatic haemopneumo-thorax, associated injuries &amp; introduce water seal drain in appropriate case.</li> </ul>	<p><b><u>CORE</u></b></p> <p><b>Phase IV</b> Chest injury ( Haemothorax, Pneumothorax )</p> <p><b><u>ADDITIONAL</u></b> Dysphagia Empyaema thoracis</p>	<p>3 hours</p>
<p><b>6. Cardio-vascular System</b></p> <p>Students will be able to:</p> <ol style="list-style-type: none"> <li>1. recognize chronic ischaemic conditions of limbs</li> <li>2. take appropriate preventive measures &amp; refer to specialised centre.</li> <li>3. take appropriate measure to prevent DVT</li> <li>4. recognize early cases of DVT</li> </ol> <p><b>7. Plastic &amp; Reconstructions</b></p> <p>Students will be able to</p> <ol style="list-style-type: none"> <li>1. manage Burn patient and minimize their complications</li> <li>2. take any major wound care</li> <li>3. suggest measures for con. External deformity &amp; disfiguration</li> </ol>	<p><b><u>CORE</u></b></p> <p><b>Phase III</b></p> <p>Vaso occlusive disorders Atherosclerosis, Buerger's disease Varicose vein Deep vein thrombosis</p> <p><b><u>ADDITIONAL</u></b> Pulmonary embolism Angeoplasty, CABG and cardiac surgery</p> <p><b><u>Core</u></b></p> <p><b>Phase II</b> Burn ( Causes , complications and management ) Skin grafting</p> <p><b>Phase IV</b> Skin tumours, Special area burn , Inhalation and electric burn</p>	<p>5 hours</p> <p>3 hours</p> <p>2 hours</p>

Learning Objectives	Contents	Teaching Hours
<p><b>8. Neuro surgery</b></p> <p>Students will be able to:</p> <ol style="list-style-type: none"> <li>1. provide primary care of head injury &amp; Spinal injury cases.</li> <li>2. take measures to prevent complications in neuro surgical patients.</li> <li>3. involve effectively in continued care &amp; rehabilitation of neuro surgical cases.</li> </ol>	<p><b><u>CORE</u></b>  <b>Phase III</b>  Head injury</p> <p><b>Phase IV</b>  Spinal injury  Paraplegia/hemiplegia</p> <p><b><u>ADDITIONAL</u></b>  Hydro cephalus  Tumours of brain  Tumours of spinal cord</p>	<p>2 hours</p> <p>5 hours</p>
<p><b>9. Operative Surgery</b></p> <p>Student should be able to perform:</p> <ol style="list-style-type: none"> <li>1. primary &amp; delayed primary &amp; Secondary suture closure of wounds</li> <li>2. Circumcision</li> <li>3. Vasectomy</li> <li>4. drainage of superficial Abscess</li> <li>5. Venesection</li> <li>6. Hydrocele operation</li> <li>7. excision of superficial cysts &amp; tumours</li> <li>8. dressing of surgical wounds</li> </ol>	<p><b><u>CORE</u></b>  <b>Phase III</b>  Principles of Asepsis &amp; Antisepsis  Pre-operative assessment &amp; preparation  Venesection  Circumcision  Operation for hydrocele  Repair of D.U perforation  Wound care</p> <p><b><i>Tutorials</i></b>  Universal precautions ( Scrubbing , gloving &amp; gowning )  O.T. environment &amp; behavior  Preoperative skin preparation and draping  Suturing materials ,Stitches</p>	<p>5 hours</p> <p>5 hours</p>

Learning Objectives	Contents	Teaching hours
<p>Student should be able to :</p> <ul style="list-style-type: none"> <li>assist in common major operations &amp; take post operative care</li> </ul>	<p><b>Phase IV</b></p> <p>Common Abdominal incision  Operation for inguinal hernia  Drainage of abscesses  Catheterisation , Supra-pubic cystostomy  Anastomosis  Appendicectomy  Cholecystectomy  Gastrojejunostomy  Basic principles of Laparoscopy.</p> <p><b>Additional</b>  Thyroidectomy, Nephrectomy, Mastectomy / Prostatectomy</p>	<p>10 hours</p>
<p><b>10. Orthopedic Surgery</b></p> <p>Student should be able to:</p> <ul style="list-style-type: none"> <li>apply ATLS protocol to provide resuscitation of polytrauma patient .</li> <li>manage simple and undisplaced fractures</li> <li>demonstrate skill in wound excision of open fractures .</li> <li>demonstrate skill in: <ul style="list-style-type: none"> <li>application of splints, slings , traction.</li> <li>application of plaster slab and cast</li> <li>manipulative reduction of common fracture and dislocation.</li> <li>aseptic technique of joint fluid aspiration .</li> </ul> </li> <li>diagnose and outline treatment for acute osteomyelitis and septic arthritis</li> <li>identify patient for referral to appropriate centre</li> <li>demonstrate knowledge and understanding of the basic principle of physiotherapy and rehabilitation.</li> </ul>	<p><b>CORE</b></p> <p><b>Phase II</b></p> <p><b>a) General Orthopaedics</b></p> <ul style="list-style-type: none"> <li>Introduction to orthopaedics</li> <li>Hard tissue trauma :- <ul style="list-style-type: none"> <li>Fracture classification</li> <li>Principal of management of open and closed fracture</li> <li>Fracture healing –nonunion, malunion, delayed union.</li> </ul> </li> <li>Infection of bone ( Acute and chronic osteomyelitis )</li> </ul> <p><b>Phase III</b></p> <p><b>b) Regional orthopedics</b></p> <p>Upper limb</p> <p>Colles' fracture      Supracondylar fracture  Clavicle fracture  Radius Ulna fracture ( Shaft )  Humerus fracture ( Shaft )</p> <p>Lower limb</p> <p>Fracture of Shaft of femur  Fracture of Tibia fibula</p>	<p>5 hours</p> <p>10 hours</p>

Learning Objectives	Contents	Teaching Hours
	<p><b>Phase IV</b>  <b>Regional Orthopaedics</b></p> <ul style="list-style-type: none"> <li>• Upper Limb Hand injuries and Hand Infection</li> <li>• Lower Limb Fracture of Neck of femur Fracture of Pelvis Ankle and foot injuries Amputations</li> </ul> <p>Additional Dislocation – Hip, Haemarthrosis</p> <ul style="list-style-type: none"> <li>• Soft tissue trauma ( muscle and tendon injuries, compartmental syndrome )</li> <li>• Infection of joint including osteoarticular tuberculosis</li> </ul> <p>b) Mass Casualty-ATLS, Disaster management.  c) Regional Orthopaedics</p> <p><b>Additional</b> Dislocation of shoulder and elbow</p> <p>d) Paediatric orthopaedics : Congenital anomaly talipes , CDH</p> <p>e) Bone tumors : Classification of bone tumor Common benign and malignant bone tumor – osteochondroma, Giant cell tumor , Osteosarcoma, Metastatic bone tumor .</p> <p>f) Spine : Tuberculosis of spine Vertebral fracture – ( primary management, transportation. Principles of definitive management )</p> <p><b>Additional</b> g) Tendinitis, Tenosynovitis , bursitis .</p>	15 hrs

Learning Objectives	Contents	Teaching Hours
<p><b>11. Anaesthesiology</b></p> <p>Student should be able to :</p> <ul style="list-style-type: none"> <li>• be aware of the safety in Anaesthesia.</li> <li>• be aware of the possible complications &amp; management</li> <li>• demonstrate basic knowledge and perform Cardio-Pulmonary Resuscitation (CPR)</li> <li>• describe the scope of Anaesthesia in rural environment.</li> </ul> <p style="text-align: center;"><b>Practical Skills</b></p> <p>Student should be able to perform :</p> <ul style="list-style-type: none"> <li>• pre-operative assessment</li> <li>• induction</li> <li>• intubation</li> <li>• I/V line</li> <li>• artificial ventilation</li> <li>• post-operative room care</li> </ul>	<p><b><u>CORE</u></b></p> <ul style="list-style-type: none"> <li>a) Anaesthesia as a subject: its scope, outline- present &amp; future</li> <li>b) Anaesthesia Pharmacology: Drugs: induction, maintenance, muscle relaxants</li> <li>c) Intra-operative management</li> <li>d) Post-operative management and complication</li> <li>e) General Anaesthesia (G.A)</li> <li>f) Local/Regional anaesthesia</li> <li>g) Management of Pain (chronic)</li> <li>h) Intensive Care Unit (ICU)</li> <li>i) Cardio-Pulmonary Resuscitation (CPR)</li> </ul> <p><b>Exposure to practical procedures ( Tutorial ) :</b></p> <ul style="list-style-type: none"> <li>• Pre-operative assessment</li> <li>• Induction</li> <li>• Endo tracheal Intubation</li> <li>• CV line</li> <li>• Artificial ventilation</li> <li>• Face mask ventilation.</li> <li>• Recovery room experience</li> </ul>	<p>10 hours</p>



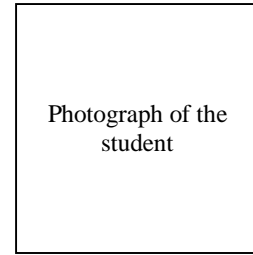
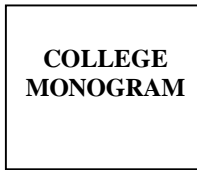
Learning Objectives	Contents	Teaching Hours
<p><b><i>Gastro intestinal system</i></b></p> <p>Student should be able to :</p> <ul style="list-style-type: none"> <li>• diagnose intestinal obstruction, perforation etc.</li> <li>• recognise indications and contra-indication for barium studies e.g. meal, swallow, follow-through &amp; enema.</li> <li>• make differential diagnosis of stones &amp; calcification on plain X-Ray.</li> <li>• diagnose gastric ulcer, duodenal ulcer, growth in the stomach, oesophageal cancer on barium studies.</li> <li>• interpret the finding of cholangiogram.</li> </ul>	<p><b><u>Core:</u></b></p> <ul style="list-style-type: none"> <li>• Plain X-ray findings of Acute abdomen.</li> <li>• Indications &amp; contraindications for barium studies. Hepatobiliary system Cholangiogram &amp; ERCP</li> <li>• USG of HBS and Pancreas</li> </ul> <p><b>Additional:</b> MRCP</p>	
<p><b><i>Skeletal system</i></b></p> <p>Student should be able to :</p> <ul style="list-style-type: none"> <li>• diagnose common fractures, dislocations &amp; bone tumours bone infections with the help of X-rays</li> </ul> <p><b><i>Excretory System</i></b></p> <p>Should be able to :</p> <ul style="list-style-type: none"> <li>• identify renal calculi in plain X-ray</li> <li>• understand USG &amp; IVU findings in renal stone and other renal diseases.</li> </ul>	<p><b><u>CORE</u></b></p> <ul style="list-style-type: none"> <li>• Diagnosis of common fractures of upper and lower limb</li> <li>• skull fractures</li> <li>• Spinal fractures and caries spine</li> <li>• osteomyelitis</li> <li>• common bone tumours</li> <li>• diseases of joints</li> <li>• dislocations</li> </ul> <p><b><u>CORE</u></b></p> <ul style="list-style-type: none"> <li>• X-ray KUB &amp; IVU</li> <li>• USG of Kidney, Ureter , Bladder and prostate</li> </ul>	

Learning Objectives	Contents	Teaching Hours
<p><b>13. Radiotherapy</b></p> <p>Students will be able to:</p> <ul style="list-style-type: none"> <li>• appreciate the role of radiotherapy in the management of cancer</li> <li>• demonstrate knowledge of radiation</li> <li>• identify different sources of radiation</li> <li>• refer the patients to radiotherapy department</li> <li>• recognize common radiation hazards after primary care</li> </ul> <p>Students will be able to:</p> <ul style="list-style-type: none"> <li>• recognise common cytotoxic drugs.</li> <li>• refer appropriate cases for chemotherapy.</li> <li>• recognise common complication &amp; offer primary care.</li> </ul>	<p><b><u>CORE</u></b></p> <p><i>Introduction to Radiotherapy</i></p> <p><b>Radiation oncology, basic principles and practices :</b></p> <ul style="list-style-type: none"> <li>• Aims of radiation oncology</li> <li>• Sources of radiation , Isotopes and their mechanism of action</li> <li>• Curative/Palliative radiotherapy</li> <li>• Radiosensitivity, radioresistance, radiocurability and normal tissue tolerance.</li> <li>• Common radiation reactions and management.</li> </ul> <p><b>Medical oncology, basic principles and practice :</b></p> <ul style="list-style-type: none"> <li>• Cell cycle and Mechanism of action of cytotoxic drugs</li> <li>• Clinical aspect of cancer chemotherapy</li> <li>• Complications of chemotherapy ( Infection and bleeding tendency )</li> <li>• Chemotherapy of common cancers,</li> <li>• Common Chemotherapeutic regimes</li> </ul>	<p>5 hours</p>



Learning Objectives	Contents	Teaching Hours
<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>• appreciate the role of doctors in prevention and early diagnosis of cancer &amp; referral of cancer patients.</li> <li>• take leadership in the community to offer rehabilitative support</li> <li>• offer follow up &amp; terminal care of cancer patients.</li> <li>• recognise clinical condition as which could be diagnosed by radio-isotope &amp; interpret the results.</li> <li>• recognise diseases requiring isotope therapy.</li> </ul>	<p><b>Prevention of common cancer :</b></p> <ul style="list-style-type: none"> <li>• Primary prevention , Secondary prevention</li> <li>• Early diagnosis</li> <li>• Referral to appropriate centre</li> </ul> <p><b>Palliative support and terminal care :</b></p> <ul style="list-style-type: none"> <li>• Follow-up of cancer patients and terminal care</li> </ul> <p><b>Nuclear Medicine, basic Principles and practice :</b></p> <ul style="list-style-type: none"> <li>• Radio-isotope in diagnosis</li> <li>• Radio-isotope in therapy</li> </ul>	<p>1 hour</p> <p>1 hour</p> <p>1 hour</p>





# CLASS PERFORMANCE RECORD CARD

## DEPARTMENT OF SURGREY ----- Medical College Bangladesh.

Name of the student: .....

Father's Name: .....

Address: -- Village/road with no.....

P.O: .....P.S: .....Dist: .....

Postal Code no.....Country: .....

Telephone No: .....Mobile No: .....

Batch..... Roll No: ..... Session..... Local Address: .....

Hostel:-..... Room No: .....

Year of admission in 1st year MBBS.....

Promoted to 3rd year: Jan/ July - Year.....

2nd Professional examination due in- Jan/ July- Year.....

2nd professional passed on Jan/July-Year.....

3<sup>rd</sup> Professional due on Jan/July, Year-----

3<sup>rd</sup> Professional Passed on Jan/July-----

Final Professional examination due in- Jan/ July- Year.....

For foreign students

Citizenship: .....

# SURGERY

Cl. Reg. No.	
Roll No.	
Group	
Batch	

Card No.	1 (One) :16 wk
Year	3rd year
Total marks	100
Pass marks	60%

Name of the student						
Period of placement	From :		To :		Unit :	
Professor / Associate Professor						
Academic Co-ordinator						

No.	CLINICAL	Satisfactory / Unsatisfactory	Marks	Signature
1.	Rapport development with patient and hospital supporting stuffs			
2.	History taking and writing (at least 10 different cases)			
3.	General examination and general principle of examination			
4.	Examination of swelling, ulcer, sinus, fistula, etc. (at least 10 different cases)			
5.	Examination of a) Inguino-scrotal swelling b) Vascular system			
6.	Examination of chronic abdominal conditions. (5 cases) a) G.I. tract condition <ul style="list-style-type: none"> <li>• Lumps in different quadrants.</li> <li>• Gastric outlet obstruction</li> </ul> b) Hepato biliary conditions c) Pancreatic conditions			
7.	Examination of acute abdominal conditions <ul style="list-style-type: none"> <li>• Acute Appendicitis</li> <li>• Perforation of the hollow viscus</li> <li>• Acute Pancreatitis</li> <li>• Intestinal obstruction</li> </ul>			
8.	Short cases in out patient clinics <ul style="list-style-type: none"> <li>• Lipoma, Neurofibroma</li> <li>• Cyst</li> <li>• Haemangioma</li> <li>• Inguinal Hernias ,Hydrocele</li> </ul>			

No.	PRACTICAL	Satisfactory / Unsatisfactory	Marks	Signature
1.	5-infusions are to be observed & recorded			
2.	10 I.M. injections are to be given & recorded			
3.	Observe Ryles tube introduction in 5 cases			
4.	10 X-rays are to be seen & findings recorded			
5.	6 operations are to attain & observe in OT & record			
6.	Specimen-Gallstone, G. Bladder, Appendix, Urinary stones			
7.	Instruments			
	<b>TUTORIAL</b>			
1.	Shock			
2.	Fluid electrolyte balance			
3.	Strelization, Tetanus, gas gangrene			
4.	Gangrene, Boil, abscess, crubucle, ulcers			
5.	Sepsis and asepsis in surgery			
6.	Preoperative & postoperative care			

**OFFICIAL RECORD**

**(To be completed by department of Surgery)**

Date of issue of Card			
Date of return of the Card			
Date of entry of the Result			
Date of issue of next Card			
Card No.			

Remarks and Counter signature of  
Unit Chief

Registrar  
Department of Surgery

## Neurosurgery (1wk )

No.	CLINICAL	Satisfactory / Unsatisfactory	Marks	Signature
1.	Examination of Neurosurgical patients			
2.	Examination of Hydrocephalus, Meningocele, Brain tumours, Extradural & Sub dural haemorrhage, Brain Abscess			
5.	Examination and assessment of Head injury patients.			
6.	PLID- Back pain			

### CARD COMPLETION EXAMINATION

Attendance		out of	
Total marks obtained in items		Percentage	
Marks obtained in card Completion		Percentage	
Remarks			
Unit chief of Orth-Surgery		Registrar Ortho- Surgical Unit	

OFFICIAL RECORD (To be completed by department of Surgery)			
Date of issue of Card			
Date of return of the Card			
Date of entry of the Result			
Date of issue of next Card			
Card No.			
Remarks and Counter signature of Academic Co-ordinator		Dealing Assistant Department of Surgery	

Cl. Reg. No.	
Roll NO.	
Group	
Batch	

Card no.	2(Two)-A
Year	4 <sup>th</sup> year
Total marks	100
Pass marks	60%

## ORTHOPAEDIC & TRAUMATOLOGY

Name of the student						
Period of placement	From:		To:		Unit:	
Professor/Associate Professor						
Academic coordinator						

	<b>CLINICAL</b>	Satisfactory/ Unsatisfactory	Marks	Signature
1.	General principle of Musculoskeletal history taking			
2.	General principle of Musculoskeletal examination			
3.	Clinical examination of Hand & Wrist, Elbow & Shoulder .			
4.	Clinical examination Hip, Knee, Foot & Ankle.			
5.	Examination of Bone disorders – Chronic pyogenic osteomyelitis, Bone tumours.			
6.	Examination of fractures & dislocations			
7.	Examination and assessment of polytrauma patient.			
8.	Examination of bones & joints deformity, club foot.			

No.	<b>PRACTICAL</b>	Satisfactory /Unsatisfactory	Marks	Signature
1	<b>ORTHOPAEDICS</b> a. Splint, Bandage, technique of immobilization-Plaster slab & cast. b. Observation of orthopaedics OT			
2	<b>CASUALTY</b> a. At least five emergency cases to be received at Emergency Department & recorded. b. At least five minor wounds to be repaired. c. At least three operations are to be assisted.			
3	<b>X-ray</b> of fractures, dislocations, tumours and osteomyelitis <b>Specimens</b> of Bone Tumours and Osteomyelitis Common Orthopaedic <b>Instruments</b>			
	<b>TUTORIAL</b>			
1	Fracture, Complication			
2	Dislocation, Subluxation			
3	Open fracture Management			

### CARD COMPLETION EXAMINATION

Attendance		Out of	
Total marks obtained in items		Percentage	
Marks obtained in card completion		Percentage	
Remarks			
<p>Professor of Orthopaedics</p> <p style="text-align: right;">Registrar (Ortho Unit- )</p>			



# ORTHOPAEDIC & TRAUMATOLOGY

Cl. Reg. No.	
Roll No.	
Group	
Batch	

Card No.	2 (Two)-B
Year	5 <sup>th</sup> year
Total Marks	100
Pass marks	60%

Name of the Student						
Period of placement	From:		To:		Unit:	
Professor/Associate Professor						
Academic coordinator						

N	CLINICAL	Satisfactory/ Unsatisfactory	Marks	Signature
1	Review on General principle of Musculoskeletal history taking&examination			
2	Clinical examination of upper & lower extremities.			
3	Principle of examination of muscles, tendons & joints instabilities.			
4	Examination of muscles, tendons & joints instabilities of Knee& Shoulder.			
	Examination of Spine& spinal cord injury.			
6	Examination of peripheral nerves.			
7	Long cases presentation & discussion.			
8	Short cases presentation & discussion.			

No.	<b>PRACTICAL</b>	Satisfactory/ Unsatisfactory	Marks	Signature
1	<b>ORTHOPAEDICS</b> a. Use of functional braces, Walking aids, Caliper. b. Observation of orthopaedics OT&Operations (At least five)			
2	<b>CASUALTY</b> a. At least five emergency cases to be received at Emergency Department & recorded. b. At least five minor wounds to be repaired. c. At least three operations are to be assisted.			
3	<b>X-ray</b> of fractures, dislocations, tumours and osteomyelitis <b>Specimens</b> of Bone Tumours and Osteomyelitis & others Common Orthopaedic <b>Instruments</b>			
	<b>TUTORIAL</b>			
1	Bone tumours & Osteomyelitis			
2	Children fractures & Compartment Syndrom			
3	Mass casualty & ATLS			

### **CARD COMPLETION EXAMINATION**

Attendance		Out of	
Total marks obtained in items		Percentage	
Marks obtained in card completion		Percentage	
Remarks			
Professor of Orthopaedics	Registrar Ortho unit---		

# SURGERY

Cl. Reg. No.	
Roll No.	
Group	
Batch	

Card No.	3 (Three) 6 wk
Year	5th year
Total marks	100
Pass marks	60%

Name of the student						
Period of placement	From :		To :		Unit :	
Professor / Associate Professor						
Academic Co-ordinator						

No.	CLINICAL	Satisfactory / Unsatisfactory	Marks	Signature
1.	Examination of neck swelling <ul style="list-style-type: none"> <li>• Lymph Nodes</li> <li>• Thyroid</li> <li>• Thyroglossal Cyst</li> </ul>			
2.	Examination of extremities for peripheral vascular conditions			
3.	Examination of chronic abdominal conditions. (5 cases) <ul style="list-style-type: none"> <li>a) G.I. tract condition               <ul style="list-style-type: none"> <li>• Lumps in different quadrants.</li> <li>• Gastric outlet obstruction</li> </ul> </li> <li>b) Hepato biliary conditions</li> <li>c) Pancreatic conditions</li> </ul>			
4.	Examination of acute abdominal conditions <ul style="list-style-type: none"> <li>• Acute Appendicitis, lump</li> <li>• Perforation of the hollow viscus</li> <li>• Acute Pancreatitis</li> <li>• Intestinal obstruction</li> </ul>			
5.	Examination of face & oral cavity			
6.	Examination of breast & axillary's lymph node (Benign & Malignant tumours)			
7.	Examination of anorectal condition			
8.	<b>UROLOGY(2 Wk)</b> Examination of Genitor-Urinary system <ul style="list-style-type: none"> <li>a. Hydronephrosis, Kidney tumours</li> <li>b. Bladder tumours</li> <li>c. BEP &amp; Carcinoma Prostate with Retention of Urine</li> <li>d. Scrotal Swellings, Epididymo orchitis</li> <li>e. Hypospedias, Phimosis, Para phimosis</li> </ul>			

	<b>PAEDIATRIC SURGERY (2 WK)</b>			
9.	Examination of Paediatric surgical cases <ul style="list-style-type: none"> <li>• Anorectal malformation</li> <li>• Hernias</li> <li>• Urogenital malformations</li> <li>• Congenital Hypertrophic Pyeloric stenosis</li> <li>• Cleft lip, palate.</li> <li>• Haemangioma, Cystic Hygroma, Branchial cyst</li> <li>• Neonatal Intestinal obstruction</li> </ul>			
10.	Short cases in out patient clinics <ul style="list-style-type: none"> <li>• Lipoma, Neurofibroma</li> <li>• Cyst</li> <li>• Haemangioma</li> <li>• Inguinal Hernias ,Hydrocele</li> <li>• Neck swellings</li> <li>• Breast tumours &amp; abscess</li> </ul>			
	<b>PRACTICAL</b>			
1.	Ten complete histories with clinical examination are to be taken & recorded			
2.	Three proctoscopic examination are to be done & recorded			
3.	Observe surgical dressings & stitch-usually in 3 cases.			
4.	Ten X-rays (Including Urological) are to be seen and findings recorded			
5.	Three operations are to be assisted			
6.	Observe & introduce urethral Catheter in 5 cases			
7.	Specimen-Ca-Breast, Prostate, Sequestrum, Stomach, Thyroid, testis, Gallstones & Urinary stones.			
	<b>TUTORIAL</b>			
1.	Gastro-intestinal bleeding			
2.	Acute abdomen			
3.	Surgical jaundice			
4.	Chronic abdominal condition			
5.	Burn, Fluid & electrolytes, Parenteral Nutrition			
6.	LUTS, Haematuria			
7.	Retention of urine			

<b>CARD COMPLETION EXAMINATION</b>			
Attendance		out of	
Total marks obtained in items		Percentage	
Marks obtained in card Completion		Percentage	
Remarks			
<div style="display: flex; justify-content: space-between; align-items: flex-end; padding: 10px;"> <span>Unit Chief of Surgery</span> <span>Registrar Surgical Unit</span> </div>			

<b>OFFICIAL RECORD</b> <b>(To be completed by department of Surgery)</b>			
Date of issue of Card			
Date of return of the Card			
Date of entry of the Result			
Date of issue of next Card			
Card No.			
<div style="display: flex; justify-content: space-between; align-items: flex-end; padding: 10px;"> <span>Remarks and Counter signature of Unit Chief of Surgery</span> <span>Registrar Department of Surgery</span> </div>			

# Ophthalmology

## Departmental Objectives

The objective of this course is to provide need-based education so as to produce a quality doctor who will be able to

- deal with common ocular ailments
- identify, give initial management & refer ocular emergency cases appropriately
- provide leadership in the sphere of primary eye care in the country as well as abroad.

To achieve the above mentioned departmental objectives, the following learning objectives will be required:

## List of Competencies to acquire:

1. Measure visual acuity of adult and children, a. unaided b. with pin hole c. with glass;
2. Examine color vision & examination of visual field (confrontation method)
3. Examine ocular movement and alignment; assessment of pupillary light reflex (direct and consensual)
4. Perform direct ophthalmoscopy.
5. Perform digital tonometry.
6. Perform Regurgitation test of lacrimal sac.
7. Perform Fluorescein dye test, irrigation of conjunctival sac & installation of eye drops/ointment.
8. Perform eversion of upper lid & removal of conjunctival foreign body.
9. Diagnose and give treatment of bacterial conjunctivitis, vitamin A deficiency disease (night blindness, Bitot's spot, xerophthalmia), initiate treatment of minor trauma, correction of simple presbyopia and referral of difficult cases.
10. Diagnose and initiate treatment and referral of ocular emergency cases:  
a. trauma, b. painful red eye. c. corneal ulcer/keratitis, d. corneal foreign body, e. acute dacryocystitis.
11. Diagnose and referral for specialist management: cataract, chalazion, pterygium, leucocoria of children, squint, cases with reduced vision

## Fundamentals and principles of ophthalmology

**Goal:** The students will have the overall understanding of external and internal ocular structures of the normal human eye and will be able to perform the eye examination in normal and disease conditions.

## Topic Specific objectives:

At the end of the teaching of the course the students will be able to:

- describe normal ocular anatomy.
- obtain detail ocular history.
- measure and record visual acuity in adults and children.
- assess pupillary reflexes.
- evaluate ocular motility.
- use the direct ophthalmoscope for gross assessment of red reflex, the optic disc and fundus examination.
- perform and evaluate visual fields by confrontation.

**Specific contents in this subject will include:****A. Ocular Anatomy.**

Students should be able to define gross anatomy of the eyeball& adnexa

1. Eyelids.
2. Extraocular muscles.
3. Lacrimal apparatus
4. Conjunctiva.
5. Cornea
6. Sclera.
7. Anterior chamber
8. Iris
9. Pupil.
10. Lens
11. Ciliary body
12. Posterior chamber
13. Vitreous cavity.
14. Retina
15. Optic disc.
16. Macula.
17. Choroid.
18. Optic nerve.

**Learning Objectives****A. Knowledge components:**

Students will be able to describe:

1. basic ocular anatomy
2. concept of measuring visual acuity without correction ,with pinhole and with correction
3. the importance of assessing ocular motility in the six cardinal positions of gaze and ocular alignment in primary position
4. the basic function of ophthalmoscope
5. importance of dilatation of pupil for fundus examination
6. abnormal fundal appearance in diabetic and hypertensive retinopathy
7. the concept of measuring intraocular pressure
8. the technique of determining the peripheral visual field by confrontation method
9. referral guideline

**B. Skill Components:**

At the end of the course, the students will able to demonstrate the skill of:

1. examination of each eye individually.
2. test V/A each eye individually and with pinhole.
3. evaluation of the position of the lids, and inspection of the conjunctiva, sclera, cornea and iris with a penlight.
4. examination of the pupil and assessment of the pupillary reaction.
5. ocular motility test in six positions and cover test
6. manual sac regurgitation test
7. assessment of intraocular pressure by digital method
8. performing visual field assessment by confrontation method
9. eversion of the upper lid and examine for the presence of foreign bodies
10. fluorescein dye test and its interpretation.
11. performing direct ophthalmoscopy and identify structures eg. optic disc, macula, and major vessels.

### **C. Attitude component:**

Students will show continuous interest in gaining information in the subject and at the end of the teaching; they will be able to demonstrate the following:

- a. A patient-centered role:
- b. Scientific Integrity:
- c. Ethical medical Professional Behavior:
- d. Dedication to Continuous Learning:

### **Learning will be facilitated by:**

Active participation in the

- a. Classroom discussion
- b. Completion of assignments
- c. Formal presentations in tutorials.
- d. Self-initiated independent thinking, presentation skill.

### **Evaluation:**

#### **Students will be evaluated by**

- a. Written examination(Short Essay test and MCQ test)
- b. Formal and informal observations by instructor
- c. Terms examinations
- d. Final assessment together with other topics in the final Professional MBBS examination.
- e. Class and ward attendance

### **Remediation during training:**

1. The course coordinator will review the student's performance and will:
  - i. Identify any specific deficits
  - ii. Document all areas requiring remediation or additional concentration.
  - iii. Provide additional recommendations for remediation of specific lackings.

### **Method of teaching:**

- a. Didactic lecture
- b. In-class group session
- c. Clinical class in the hospital out-patient, in-patient and Operation Theatre settings
- d. Problem based discussion.

### **Materials**

Models, power point presentation will be provided and students will get copies of handout whenever available.



## Learning Objectives and Course Contents in ophthalmology

Learning Objectives	Contents	Teaching Hours
<p>Student will be able to:</p> <ol style="list-style-type: none"> <li>1. describe the anatomy of orbit and its contents</li> <li>2. describe gross anatomy of the extra ocular muscles</li> <li>3. diagnose orbital cellulitis, proptosis, squint /deviation and asymmetry and refer to specialist care</li> <li>4. list the conditions for further referral to specialist care</li> </ol>	<p><b>Orbit:</b></p> <ol style="list-style-type: none"> <li><b>1. Gross Anatomy:</b> <ol style="list-style-type: none"> <li>a. Bones of the orbit constituting walls, roof and floor</li> <li>b. Contents of the orbit</li> </ol> </li> <li><b>2. Clinical examination of orbital disease:</b></li> <li><b>3. Orbital diseases:</b> <ol style="list-style-type: none"> <li>a. Orbital cellulitis</li> <li>b. Proptosis</li> </ol> </li> </ol>	<p>2 hrs</p>
<p>Students will be able to</p> <ol style="list-style-type: none"> <li>1. describe gross anatomy of the lid</li> <li>2. describe surgical steps of chalazion operation.</li> <li>3. demonstrate the skill of step wise clinical examination,</li> <li>4. describe diagnosis and treatment procedure of the followings; Stye, chalazion and blepharitis.</li> <li>5. identify and refer the following: Trichiasis, ptosis, ectropion, entropion, chalazion</li> <li>6. perform eversion of the lid.</li> </ol>	<p><b>Eye lids:</b></p> <ol style="list-style-type: none"> <li><b>1. Gross Anatomy of the eye lid &amp; its disease</b></li> <li><b>2. Clinical Examination procedure</b> <ol style="list-style-type: none"> <li>a. Corneal light reflex &amp; palpebral fissure height</li> <li>b. Visual inspection of eyelids and periocular area.</li> </ol> </li> <li><b>3. Diseases of Lid</b> <ol style="list-style-type: none"> <li>a. Malpositions.(definitions)               <ol style="list-style-type: none"> <li>i. Trichiasis</li> <li>ii. Ptosis</li> <li>iii. Ectropion</li> <li>iv. Entropion.</li> </ol> </li> <li>b. Inflammations.               <ol style="list-style-type: none"> <li>i. Stye</li> <li>ii. Chalazion</li> <li>iii. Blepharitis</li> <li>iv. Internal hordeolum</li> </ol> </li> </ol> </li> </ol>	<p>2 hrs</p>

Learning objectives	Contents	Teaching Hours
<p>Students will be able to :</p> <ol style="list-style-type: none"> <li>1. describe gross anatomy of conjunctiva</li> <li>2. name diseases of the conjunctiva</li> <li>3. describe surgical steps of pterygium operation.</li> <li>4. examine the conjunctiva</li> <li>5. diagnose and manage of viral, bacterial, allergic conjunctivitis &amp; ophthalmia Neonatorum</li> <li>6. diagnose pterygium and refer for surgical management</li> <li>7. remove superficial conjunctival foreign body</li> </ol>	<p><b>Conjunctiva:</b></p> <ol style="list-style-type: none"> <li><b>1. Gross Anatomy of the Conjunctiva &amp; its diseases:</b></li> <li><b>2. Examination procedure for conjunctiva</b></li> <li><b>3. Disease of conjunctiva:</b> <ol style="list-style-type: none"> <li>a. Conjunctivitis               <ul style="list-style-type: none"> <li>- Bacterial</li> <li>- Viral</li> <li>- Allergic</li> </ul> </li> <li>b. Ophthalmia neonatorum</li> <li>c. Trachoma (Gross idea)</li> <li>d. Pterygium</li> </ol> </li> <li><b>4. Precautionary measures:</b></li> </ol>	<p>2 hrs</p>
<p>Students will be able to:</p> <ol style="list-style-type: none"> <li>1. describe the anatomy of lacrimal apparatus</li> <li>2. describe production, and functions of tear.</li> <li>3. describe steps of sac patency test with interpretation</li> <li>4. describe symptoms, signs of lacrimal sac diseases.</li> <li>5. diagnose and manage lacrimal sac diseases.</li> <li>6. mention indication, contraindication and major complications of DCR and DCT</li> <li>7. perform digital regurgitation test</li> <li>8. perform digital massage in congenital nasolacrimal duct obstruction.</li> <li>9. initiate treatment of acute &amp; chronic dacryocystitis, and congenital nasolacrimal duct obstruction, and referred to an ophthalmologist</li> </ol>	<p><b>Lacrimal Apparatus:</b></p> <ol style="list-style-type: none"> <li><b>1. Gross Anatomy of the Lacrimal Apparatus &amp; its diseases:</b></li> <li><b>2. Physiology:</b> Function of tear.</li> <li><b>3. Examination Technique:</b></li> <li><b>4. Lacrimal sac disease:</b> <ol style="list-style-type: none"> <li>a. Acute dacryocystitis.</li> <li>b. Lacrimal sac abscess</li> <li>c. Chronic dacryocystitis.</li> <li>d. Congenital nasolacrimal duct obstruction</li> </ol> </li> </ol>	<p>2 hrs</p>

Learning objectives	Contents	Teaching Hours
<p>Students will be able to</p> <ol style="list-style-type: none"> <li>1. describe gross anatomy of the fibrous coat of the eye</li> <li>2. describe supply of nutrition to cornea and maintenance of its transparency</li> <li>3. describe steps of performing fluorescein dye test.</li> <li>4. describe Keratoplasty</li> <li>5. examine cornea</li> <li>6. perform fluorescein dye test (to detect corneal epithelial defect)</li> <li>7. remove superficial nonimpacted corneal foreign body</li> <li>8. diagnose, and initiating treatment of corneal ulcer, keratitis and appropriate referral</li> </ol>	<p><b>Cornea and sclera:</b></p> <ol style="list-style-type: none"> <li><b>1. Gross anatomy of cornea and sclera</b></li> <li><b>2. Physiology:</b> <ol style="list-style-type: none"> <li>a. Maintenance of nutrition&amp; transparency of cornea</li> <li>b. Function of cornea</li> <li>c. Tear film</li> </ol> </li> <li><b>3. Diseases of cornea</b> <ol style="list-style-type: none"> <li>a. corneal ulcer</li> <li>b. keratitis</li> <li>c. Keratoplasty (Gross idea)</li> </ol> </li> </ol>	<p>3 hrs</p>
<p>Student will be able to</p> <ol style="list-style-type: none"> <li>1. describe the parts of uveal tract.</li> <li>2. describe diseases of uveal tract, symptoms, signs and management of acute iritis &amp; endophthalmitis</li> <li>3. identify circumcorneal / ciliary congestion</li> <li>4. perform pupil examination</li> <li>5. identify ciliary tenderness</li> <li>6. diagnose, initiation of treatment of iritis, endophthalmitis and appropriate referral.</li> </ol>	<p><b>Uveal tract</b></p> <ol style="list-style-type: none"> <li><b>1. Gross Anatomy</b></li> <li><b>2. Diseases of uveal tract</b> <ol style="list-style-type: none"> <li>a. Anterior uveitis/uveitis</li> <li>b. Endophthalmitis</li> <li>c. Panophthalmitis</li> </ol> </li> </ol>	<p>2 hrs</p>

Learning objectives	Contents	Teaching Hours
<p>Students will be able to:</p> <ol style="list-style-type: none"> <li>1. describe clinical features of age related cataract</li> <li>2. describe stages of senile cataract</li> <li>3. mention indications of cataract surgery</li> <li>4. mention complications of untreated cataract</li> <li>5. perform the preoperative evaluation</li> <li>6. state ECCE, SICS and phaco surgery.</li> <li>7. mention Complications of cataract operation</li> <li>8. state Advantage of IOL implantation over spectacle</li> <li>9. demonstrate the skill of diagnosis of cataract and referral to proper ophthalmologist</li> </ol>	<p><b>Lens and cataract:</b></p> <ol style="list-style-type: none"> <li><b>1. Gross Anatomy:</b></li> <li><b>2. Physiology:</b> Accommodation</li> <li><b>3. Disease of the lens</b> <ol style="list-style-type: none"> <li>a. Cataract</li> <li>b. Pseudophakia</li> <li>c. Aphakia</li> </ol> </li> <li><b>4. Management of cataract:</b> <ol style="list-style-type: none"> <li>a. Cataract surgery (Gross idea)</li> <li>b. Intraocular lens and its advantage (Gross idea)</li> </ol> </li> <li><b>5. Referral criteria of a cataract case</b></li> </ol>	<p>3 hrs</p>
<p>Student will be able to:</p> <ol style="list-style-type: none"> <li>1. describe anatomy of the anterior chamber and anterior chamber angle</li> <li>2. describe production circulation and outflow of the aqueous humor</li> <li>3. define and classify glaucoma.</li> <li>4. describe Symptoms, signs and management of POAG, PACG and congenital glaucoma</li> <li>5. demonstrate the skill of: <ol style="list-style-type: none"> <li>a. taking history of glaucoma patients.</li> <li>b. digital tonometry.</li> <li>c. conformation test</li> <li>d. direct ophthalmoscopy</li> </ol> </li> <li>6. diagnose and provide initial management of PACG and early referral.</li> <li>7. counseling of all glaucoma patient regarding blinding nature of disease &amp; necessity of life long regular treatment &amp; follow up</li> </ol>	<p><b>Glaucoma:</b></p> <ol style="list-style-type: none"> <li><b>1. Gross Anatomy</b></li> <li><b>2. Physiology</b> <ol style="list-style-type: none"> <li>a) Production, circulation and outflow of the aqueous humor.</li> <li>b) Intra ocular pressure and factors influencing IOP.</li> </ol> </li> <li><b>3. Classification of glaucoma.</b></li> <li><b>4. Disease.(gross aspect)</b> <ol style="list-style-type: none"> <li><b>a) Primary angle closure glaucoma</b> i) Risk factors ii) Symptoms iii) Signs iv) Management</li> <li><b>b) Primary open angle glaucoma:</b> i) Risk factors ii) Symptoms</li> <li><b>c) Congenital glaucoma</b> <ol style="list-style-type: none"> <li>i) Genetics ii) Symptoms iii) Signs</li> </ol> </li> <li><b>d) Secondary Glaucoma:</b> Causes</li> </ol> </li> <li><b>6. Principles of Management:</b> <ol style="list-style-type: none"> <li>a. Pharmacological treatment. b. Surgical Management: c. Laser treatment</li> </ol> </li> </ol>	<p>4 hrs</p>

Learning objectives	Contents covered in this topic	Teaching Hours
<p>Student will be able to:</p> <ol style="list-style-type: none"> <li>1. describe the gross anatomy of the retina and its function</li> <li>2. describe the normal fundus.</li> <li>3. describe the fundal features of diabetic, hypertensive retinopathy.</li> <li>4. examine normal eye with use of direct ophthalmoscope</li> <li>5. identify or suspect vitreo retinal disorder and refer patient</li> </ol>	<p><b>Retina and vitreous:</b></p> <ol style="list-style-type: none"> <li><b>1. Gross Anatomy:</b> <ol style="list-style-type: none"> <li>i. Vitreous</li> <li>ii. Retina</li> </ol> </li> <li><b>2. Function of retina.</b> <ol style="list-style-type: none"> <li>i. Normal vision.(acuity of vision)</li> <li>ii. Color vision</li> </ol> </li> <li><b>3. Symptoms Suggestive of vitreo- retinal disorder.</b></li> <li><b>4. Examination of normal eye with direct ophthalmoscope.</b></li> <li><b>5. Fundal features of</b> <ol style="list-style-type: none"> <li>a. Diabetic retinopathy.</li> <li>b. Hypertensive retinopathy.</li> </ol> </li> <li><b>6. Referral criteria</b> <ol style="list-style-type: none"> <li>a. Abnormal red reflex of fundus</li> <li>b. Visual loss or symptoms</li> </ol> </li> </ol>	<p>3 hrs</p>
<p>Student will be able to:</p> <ol style="list-style-type: none"> <li>1. define the common refractive errors eg. myopia, hypermetropia &amp; astigmatism.</li> <li>2. define Aphakia and pseudophakia</li> <li>3. define presbyopia and describe the rule of thumb for correction of presbyopia</li> <li>4. demonstrate basic knowledge about contact lens and refractive surgery.</li> <li>5. define low vision and mention importance of low vision aid for rehabilitation.</li> <li>6. record visual acuity.</li> <li>7. do prescription of presbyopic glass as per rule of thumb and referring difficult patients to ophthalmologists.</li> <li>8. refer all cases for final correction by ophthalmologist</li> <li>9. detection of cases with low vision and refer to low vision aid centers</li> </ol>	<p><b>Refraction, Contact lens, Refractive Surgery and Low vision (Gross idea):</b></p> <ol style="list-style-type: none"> <li><b>1. Refractive status&amp; management</b> <ol style="list-style-type: none"> <li>a. Emmetropia.</li> <li>b. Myopia.</li> <li>c. Hypermetropia.</li> <li>d. Astigmatism.</li> <li>e. Presbyopia</li> <li>f. Aphakia-           <ol style="list-style-type: none"> <li>I. Spectacle correction</li> <li>II. Contact lens</li> <li>III. Intraocular lens and pseudophakia</li> <li>IV. <b>Refractive surgery</b> (Basic idea)</li> </ol> </li> </ol> </li> <li><b>6. Low vision.</b> Definition of low vision. Refer to low vision aid centre</li> </ol>	<p>3 hrs</p>

Learning objectives	Contents	Teaching Hours
<p>Students will be able to.</p> <ol style="list-style-type: none"> <li>1. name tumors affecting the eye and adnexa</li> <li>2. name the causes of leukocoria in children.</li> <li>3. describe stages, symptoms, signs and management of retinoblastoma</li> <li>4. diagnose Leukocoria and mention its importance for early referral</li> </ol>	<p><b>Leucocoria in children</b></p> <ol style="list-style-type: none"> <li>a. Cataract</li> <li>b. Retinoblastoma</li> <li>c. Endophthalmitis</li> <li>d. Persistent fetal vasculature(PVF/PHPV)</li> <li>e. Retinopathy of prematurity</li> </ol>	<p>1 hrs</p>
<p>Student will be able to:</p> <ol style="list-style-type: none"> <li>1. describe Strabismus.</li> <li>2. describe the importance of measuring visual acuity of children of two to five years old</li> <li>3. describe the causes of amblyopia in children</li> <li>4. describe the causes of Leukocoria</li> <li>5. demonstrate the skill of: <ol style="list-style-type: none"> <li>a. recording visual acuity in children</li> <li>b. ocular motility test</li> <li>c. recognize strabismus, nystagmus and amblyopia for immediate specialist referral.</li> </ol> </li> </ol>	<p><b>Ocular motility and paediatric ophthalmology:</b></p> <ol style="list-style-type: none"> <li><b>1. Gross Anatomy.</b> Extra-ocular muscles</li> <li><b>2. Amblyopia.-</b> Definition, cause &amp; impact</li> <li><b>3. Strabismus/squint:</b> Definition, cause, diagnosis, effects and management principle</li> <li><b>4. Nystagmus:</b> Definition &amp; identification</li> </ol>	<p>2 hrs</p>

Learning objectives	Contents	Teaching Hours
<p>Student will be able to:</p> <ol style="list-style-type: none"> <li>1. describe visual and pupillary, path ways.</li> <li>2. describe manifestations of III, IV &amp; VI cranial nerve palsy.</li> <li>3. describe Papilloedema</li> <li>4. record visual acuity.</li> <li>5. perform confrontation visual field testing in four quadrants for each eye.</li> <li>6. examine pupillary light reflex</li> <li>7. recognize and diagnose nystagmus.</li> <li>8. examine the optic disc with the direct ophthalmoscope</li> </ol>	<p><b>Optic Nerve and Neuro Ophthalmology:</b></p> <p><b>A. Gross Anatomy</b></p> <ol style="list-style-type: none"> <li>1. Visual path way.</li> <li>2. Pupillary Pathway</li> </ol> <p><b>B. Examination procedure:</b></p> <ol style="list-style-type: none"> <li>1. VA</li> <li>2. Visual field testing (confrontation)</li> <li>3. Pupillary light reflex.</li> <li>4. Direct Ophthalmoscopy</li> </ol>	<p>2 hrs</p>
<p>Student will be able to:</p> <ol style="list-style-type: none"> <li>1. describe types of ocular injury</li> <li>2. explain the effect of different types of ocular trauma</li> <li>3. mention criteria for referral of the patients</li> <li>4. demonstrate skill of: <ol style="list-style-type: none"> <li>a) examination of the eye to assess the effect of injury</li> <li>b) removal of superficial conjunctival, sub-tarsal and superficial corneal foreign body</li> <li>c) performing pad-bandage of the eye</li> <li>d) providing primary management of ocular trauma</li> <li>e) referring the patient after primary management to ophthalmologist /hospital</li> </ol> </li> </ol>	<p><b>Ocular trauma:</b></p> <ol style="list-style-type: none"> <li>1. Blunt injury (Details)</li> <li>2. Perforating Injury.</li> <li>3. Foreign Body:(Extra and intra ocular)</li> <li>4. Chemical Injury (details)</li> <li>5. Thermal injury (Basic idea)</li> <li>6. Radiation injury (Basic idea)</li> </ol>	<p>2 hrs</p>

Learning objectives	Contents	Teaching Hours
<p>Students will be able to:</p> <ol style="list-style-type: none"> <li>describe fundal change in hypertension</li> <li>describe fundal change in diabetes mellitus.</li> <li>describe ocular manifestation of vitamin-A deficiency and management.</li> <li>provide health education regarding importance of yearly eye checkup by ophthalmologist for prevention of blindness due to diabetes.</li> <li>demonstrate the skill of detecting disc oedema on fundus examination with direct ophthalmoscope</li> <li>recognize Bittot's spot, xerophthalmia and Kerotomalacia &amp; referral.</li> </ol>	<p><b>Ocular Manifestations of systemic diseases (Gross idea):</b></p> <ol style="list-style-type: none"> <li>Diabetes mellitus</li> <li>Hypertension</li> <li>Vitamin A Deficiency</li> <li>Auto-immune diseases (Basic idea)</li> <li>Tuberculosis</li> <li>AIDS</li> </ol>	<p>2 hrs</p>
<p>Student will be able to:</p> <ol style="list-style-type: none"> <li>describe etiology, magnitude and impact of blindness.</li> <li>demonstrate the concept of 'Primary Eye care'</li> <li>describe Ocular hygiene.</li> <li>describe diseases and conditions for referral.</li> <li>describe concept of school sight test.</li> <li>define low vision</li> <li>demonstrate gross idea about communicable and preventable eye diseases.</li> <li>perform school sight test</li> <li>identify cases of low vision and referral.</li> <li>implement "Primary Eye Care" concept at the place of work</li> <li>develop awareness about eye donation in the community.</li> <li>diagnose &amp; initiate initial management of ocular emergency</li> </ol>	<p><b>Miscellaneous &amp; Community eye care:</b></p> <ol style="list-style-type: none"> <li>Etiology and magnitude of blindness</li> <li>School sight test.</li> <li>Primary eye care</li> <li>Referral guide line</li> <li>Low vision and rehabilitation</li> <li>Outreach activities.</li> <li>Eye donation &amp; eye banking.</li> <li>Vision 2020, The right to sight (Gross idea)</li> <li>Ocular therapeutics</li> <li>Ocular emergency</li> <li>Sudden loss of vision</li> <li>Painful loss of vision</li> <li>Painless loss of vision</li> <li>Gradual dimness of vision</li> <li>Red eye</li> <li>Ocular effects of environmental change</li> </ol>	<p>5 hrs</p>



EXAMINATION SKILLS	Skills-		Assist	Observe
	Able to perform Independently	Able to Perform under Guidance		
1. Visual Acuity test and Use of pinhole (including light perception, projection)	✓			
2. Colour Vision test		✓		
3. Visual field by confrontation	✓			
4. Examination of ocular movements	✓			
5. Fluorescein staining to identify corneal abrasion		✓		
6. Pupillary size and reaction	✓			
7. Distant direct ophthalmoscopy on dilated pupils to diagnose lens opacities		✓		
8. Method of Direct ophthalmoscopy		✓		
9. Digital tonometry	✓			
10. Schiottz tonometry				✓
11. Regurgitation for NLD Block	✓			
12. Syringing				✓
13. Instillation of eye drops/ ointment	✓			
14. Irrigation of conjunctiva	✓			
15. Applying of patching	✓			
16. Epilation of cilia		✓		
17. Eversion of upper eye lid	✓			
18. Removal of corneal foreign body				✓
19. Cataract surgery				✓
20. Glaucoma surgery				✓
21. Chalazion/Stye				✓
22. Tarsorrhaphy			✓	
23. Assessment of Opacity in the media	✓			
24. Lacrimal Sac Surgery				✓

**DEPARTMENT OF OPHTHALMOLOGY  
CARD FOR EVALUATION**

First clinical Card (4<sup>th</sup> year)

Total Marks = 100

<b>Name of the student</b>			
<b>Roll No</b>		<b>Class</b>	
<b>Session</b>		<b>Batch</b>	
<b>Period of placement in Eye 4 weeks</b>			
<b>From</b>		<b>To</b>	

No.	Items	Day of teaching	Marks obtained	Teacher's Signature
1.	History taking	1 day		
2	Examination of the Eye: Adnexa, <b>Lid, Chalazion, Ext.Hordeolum, Int.Hordeolum</b> Visual Acuity (Adult & children unaided, with pinhole, with present glass), Ant. Segment. Ocular motility, Digital tonometry, Confrontation test.(Visual field test)	3 days		
3	Methods of application of ocular drugs: Eye Bandage, removal of sup. Corneal F.B, Irrigation of conj. Sac.	1 day		
4	'RED EYES' - case demonstrations. Including fluorescein dye test & ciliary tenderness.	2 day		
5	Trial box, Snellen's chart	1 day		
6	Regurgitation test, Sac Patency Test and Epiphora 3 cases	1 day		
7	Assessment	1 day		
8	Total	10 days		

<b>Total No. of attendance</b>	
<b>Marks obtained</b>	
<b>Comment</b>	
<b>Signature of the Registrar/RS</b>	<b>Signature of Head of the Department</b>

**DEPARTMENT OF OPHTHALMOLOGY  
CARD FOR EVALUATION**

Second clinical Card (5<sup>th</sup> Year )

Total Marks = 100

<b>Name of the student</b>			
<b>Roll No</b>		<b>Class</b>	
<b>Session</b>		<b>Batch</b>	
<b>Period of placement in Eye Ward 4 (four) weeks. ( ward + OPD )</b>			
<b>From</b>		<b>To</b>	

<b>Total No. of attendance</b>	
<b>Marks obtained</b>	
<b>Comment</b>	
<b>Signature of the Registrar/RS</b>	<b>Signature of Head of the Department</b>

**Teaching Hours**

No.	Items	Day of teaching	Marks obtained	Teacher's Signature
1.	History & Exam (Colour vision, Field of vision, pupillary light reflex)	4 days		
2.	Corneal ulcer, Corneal abrasion: Diagnosis and management.	2 days		
3.	Uveitis: Diagnosis and management.	2 days		
4.	Cataract diagnosis and management.	3 days		
5.	OT, surgical demonstration Chalazion, Stye, DCR, Cataract surgery with IOL implantation (SICS/ECCE/Phaco)	2 days		
6.	Glaucoma.	3 days		
7.	Ocular Injury, Conjunctival irrigation, Eversion of lid, Epilation	2 days		
8.	Ophthalmoscopy, Tonometry, Assessment of opacity in media	2 days		
9.	Dacryocystitis: Diagnosis & management.	2 days		
10.	Xerophthalmia, paediatric cases.	2 days		
11.	Assessment	2 days		
	<b>Total</b>	<b>26 days</b>		

Methods	Total
Lectures	40 hours
Ward Teaching	8 weeks

# **Otorhinolaryngology & Head-Neck Surgery**

## **Departmental Objectives**

The aim is to teach undergraduate medical students so as to produce need based community oriented doctors who will be capable of :

1. diagnosing and managing common ENT & Head-Neck disorders.
2. referring complicated ENT and head-neck disorders to appropriate centres if and when necessary
3. managing common emergencies in ENT & head-neck disease
4. giving preventive advice on certain aspects of ENT & head-neck diseases

**To achieve above mentioned departmental objectives the following learning objectives should be achieved:**

1. The art of appropriate history taking
2. Should perform primary ENT & head-neck examination procedure
3. Should use the aural speculum, nasal speculum, tongue depressor, laryngeal mirror, tuning fork and head mirror/light, otoscope & other instruments as listed in the enclosure
4. Should be able to describe the clinical application of basic anatomy & physiology of Ear, Nose and Throat
5. Should be able to describe the pathology of common ENT disorders & disorders of the Head-Neck region
6. Should list commonly used drugs and describe their adverse effects
7. Should recommend common investigative procedures and special investigation (CT, MRI, and sonography, etc)

Learning Objectives and Course Contents in Otorhinolaryngology & Head-Neck Surgery

Learning Objectives	Contents	Teaching Hours
<p>Students will be able to:</p> <ol style="list-style-type: none"> <li>1. demonstrate the applied Anatomy of ear.</li> <li>2. demonstrate the applied Physiology of ear.</li> <li>3. take History of ear diseases</li> <li>4. conduct clinical hearing test and value the significance of audiometry and caloric test.</li> <li>5. diagnose various ear diseases by clinical examination (FB, Otitis Externa, Traumatic Tympanic membrane perforation, ASOM, CSOM, Otosclerosis.</li> <li>6. remove impacted wax, foreign body, Aural toileting</li> <li>7. diagnose ear diseases and Its complications and refer to appropriate hospital when needed. e.g.- perichondritis otосclerosis extra and intracranial complications of middle ear diseases</li> <li>8. make D/D of earache</li> <li>9. differentiate safe from unsafe variety of CSOM.</li> </ol>	<p><b><u>EAR</u></b></p> <p><b>CORE</b></p> <ol style="list-style-type: none"> <li>1. applied Anatomy of ear</li> <li>2. applied Physiology of ear:- hearing, Balance</li> <li>3. congenital diseases of ear-Preauricular sinus</li> <li>4. causes of earache</li> <li>5. causes of deafness</li> <li>6. diseases of ext. ear-Furuncle, Otitis externa ,Otomycosis, Foreign body,Trauma,Perichondritis of pinna</li> <li>7. diseases of middle ear-ASOM, CSOM, OME, Otosclerosis.</li> <li>8. diseases of internal Ear-Meniere’s disease, Labyrinthitis.</li> <li>9. Tuning fork test, Audio metry, Caloric test</li> <li>10. micro ear surgery-Myringotomy Myingoplasty &amp; different types of mastoidectomies.</li> <li>11. neurootological complications: Lateral sinus thrombosis, general idea about intra cranial complications of ASOM &amp; CSOM.</li> </ol> <p><b><u>Additional:</u></b></p> <ol style="list-style-type: none"> <li>12. causes of Vertigo &amp;Tinnitus</li> <li>13. management of deafness.</li> </ol>	

Learning Objectives	Contents	Teaching Hours
<p><b>Student will be able to :</b></p> <ol style="list-style-type: none"> <li>1. describe applied anatomy and applied physiology of nose.</li> <li>2. manage epistaxis</li> <li>3. remove FB and reduction of Fracture nasal bone.</li> <li>4. diagnose nasal diseases by clinical examinations</li> <li>5. refer the patient to specialized ENT centre</li> <li>6. apply ANS Pack.</li> <li>7. history taking of disease of Nose and PNS.</li> </ol>	<p style="text-align: center;"><b><u>NOSE</u></b></p> <p><b>CORE:</b></p> <ol style="list-style-type: none"> <li>1. Anatomy of nose</li> <li>2. Physiology of nose</li> <li>3. Epistaxis.</li> <li>4. FB nose, Fracture nasal bone</li> <li>5. Nasal allergy</li> <li>6. Nasal polyp</li> <li>7. Rhinitis, Sinusitis</li> <li>8. DNS, septal perforation, septal abscess, septal haematoma</li> <li>9. Nasal papilloma, rhinosporidiosis.</li> <li>10. Atrophic rhinitis</li> <li>11. Nasopharyngeal angiofibroma and naso-pharyngeal carcinoma.</li> <li>12. Sino-nasal malignancy</li> </ol> <p><b>Additional</b></p> <p>Headache</p> <p>Tumours of nose and PNS</p> <p>Common nasal and sinus Operation:-</p> <p style="padding-left: 40px;">Polypectomy</p> <p style="padding-left: 40px;">SMR, Septoplasty</p> <p style="padding-left: 40px;">Caldwell Luc operation</p> <p style="padding-left: 40px;">BAWO</p>	

Learning Objectives	Contents	Teaching Hours
<p><b>Student will be able to :</b></p> <ol style="list-style-type: none"> <li>1. Describe anatomy of oral cavity, pharynx, larynx and oesophagus.</li> <li>2. Describe Physiology of deglutition.</li> <li>3. Make D/D of white patches, ulcers in oral cavity, Leukoplakia and Sorethroat.</li> <li>4. Diagnose Diphtheria and refer it to appropriate hospital</li> <li>5. Diagnose acute &amp; recurrent tonsillitis, adenoids,</li> <li>6. Describe indications of adenotonsillectomy and principles of post operative management and contraindications.</li> <li>7. Diagnose complications of adenotonsillectomy and its management</li> <li>8. List D/D of dysphagia.</li> <li>9. List D/D of hoarseness of Voice.</li> <li>10. List D/D of Stridor</li> <li>11. Describe indications of tracheostomy &amp; its steps, postoperative management and complications.</li> </ol>	<p style="text-align: center;"><b>Mouth cavity, pharynx, larynx and esophagus</b></p> <p><b><u>CORE</u></b></p> <ol style="list-style-type: none"> <li>1. Anatomy of oral cavity, pharynx, larynx and Oesophagus</li> <li>2. Physiology of salivation, deglutition and functions of larynx, pharynx.</li> <li>3. Diseases of oral cavity Congenital anomalies like Hare lip, cleft palate White patch-oral cavity, oral ulceration, Leukoplakia and neoplasm.</li> <li>4. Acute &amp; recurrent tonsillitis faucial diphtheria.</li> <li>5. Adenoids</li> <li>6. Tonsillectomy and adenoidectomy</li> <li>7. Peritonsillar abscess, retro pharyngeal abscess, parapharyngeal abscess.</li> </ol> <p><b>Larynx</b></p> <p>Acute Epiglottitis, Acute Laryngo tracheo bronchitis  Acute &amp; chronic laryngitis  Papillomalarynx  Stridor  Causes of hoarseness of voice  Tracheostomy  Carcinoma-larynx.  Foreign Body larynx, trachea, bronchus.</p>	

Learning Objectives	Contents	Teaching Hours
	<p style="text-align: center;"><b><u>Pharynx</u></b></p> <p>FB Malignancy of Pharynx</p> <p style="text-align: center;"><b><u>Oesophagus</u></b></p> <p>PV syndrome Dysphagia Foreign Body Benign &amp; malignant lesion of Oesophagus (strictures, rupture)</p> <p style="text-align: center;"><b><u>Head-Neck</u></b></p> <ol style="list-style-type: none"> <li>1. Applied anatomy of salivary glands, Thyroid &amp; Parathyroid glands</li> <li>2. Physiology of salivary glands, Thyroid &amp; Parathyroid glands</li> <li>3. Salivary gland diseases</li> <li>4. Thyroid and parathyroid diseases</li> <li>5. Neck mass</li> <li>6. Congenital sinus &amp; cyst of head neck (Thyroglossal cyst, Branchial cyst, Branchial sinus)</li> </ol> <p style="text-align: center;"><b><u>General Idea about head neck malignancies</u></b></p>	



## Integrated Teaching

Topic	Learning Objective	Teaching Aids	Assessment	Department
<ul style="list-style-type: none"> <li>Otogenic and Rhinogenic extra-cranial &amp; intra-cranial complications</li> </ul>	Student will be able to: <ul style="list-style-type: none"> <li>state the causes of extra-cranial &amp; intra-cranial complications of ASOM and CSOM</li> <li>describe the symptoms &amp; signs of acute mastoiditis, facial palsy, labyrinthitis lateral sinus thrombosis.</li> <li>Investigate &amp; interpret the results of investigation.</li> <li>treat different complications (gross idea)</li> </ul>	Video cassette film of C.T. Scan, X-ray, Diagram, Otoscope, Hammer, Cotton, Pin & Patients. Tongue depressor, PNS mirror, laryngeal mirror Nasal speculum. (Nice to know fundoscopy) Ophthalmoscope	Performance, Interpretation, Short Question, Modified short Question, MCQ	ENT & Neuro Surgery
<ul style="list-style-type: none"> <li>Facio-Maxillary Neoplasm</li> </ul>	State common causes of maxillary swelling/carcinoma of Maxilla.		Practical Exam OSCE	ENT & Eye

### Teaching Methods:

- Lecture/ Mini Lecture
- Tutorial/ Demonstration - Video
- Case presentation- Subject – Operation- Programe side Teaching Theatres
- Discussion, Visit to RHC / Specialised Centre (If available)

### Teaching Hours for Otorhinolaryngology & Head-Neck Surgery

Methods	Total
Lectures	40 hours
Ward Teaching	8 weeks

**CARD SYSTEM FOR WARD & OUTDOOR DUTIES**

Clinical Card in Otorhinolaryngology & Head-Neck Surgery

(4 weeks in 4<sup>th</sup> year and 4 weeks in 5<sup>th</sup> year - Total marks = 100)

<b>Name of the student</b>			
<b>Roll No</b>		<b>Class</b>	
<b>Session</b>		<b>Batch</b>	
<b>Period of placement in ENT Outdoor /Ward</b>			
<b>From</b>		<b>To</b>	

**4<sup>th</sup> - YEAR**

No.	Item	Date of teaching & learning	Marks obtained	Signature of teacher
1.	History taking, examination & investigations of ear diseases			
2.	History taking, examination & investigations of diseases of nose & Paranasal Sinuses.			
3.	History taking, examination and investigation of diseases of pharynx, larynx & Oesophagus			
4.	Examination of Head-Neck & differential diagnosis of neck swellings.			
5.	Observe 10 cases of discharging ears and establish diagnosis			
6.	Observe 10 cases of deafness and establish diagnosis			
7.	Observe 10 cases of nasal obstruction & establish diagnosis. Learn all about septal deviation			
8.	Observe 5 cases of nose bleeding and learn nasal packing			
9.	Observe 5 cases of wax in ears and learn toileting			
10.	Observe 10 cases of neck swellings and establish diagnosis			

**5<sup>th</sup> - Year**

No.	Items	Date of teaching & learning	Marks obtained	Signature of teacher
1.	Observe 5 cases of Recurrent tonsillitis tonsillectomy, also learn pre & postoperative management.			
2.	Observe cases of Peritonsillar abscess/ retropharyngeal abscess. Establish diagnosis. Learn principles of management			
3.	Observe 10 cases of hoarseness of voice. Establish diagnosis & learn principles of treatment			
4.	Observe instruments for laryngoscopy, oesophagoscopy & bronchoscopy. Learn procedures of each			
5.	Observe 5 cases of tracheostomy. Learn technique of pre & post-operative management			
6.	Observe 2 antral washout operation. Learn instruments & principles of operation. See 3 cases of FB Nose. Learn technique of removal.			
7..	Observe 5 cases of dysphagia. Learn management. Learn all about nasogastric feeding			
8.	Observe 10 cases of Head & Neck swellings Establish diagnosis.			
9.	Observe ENT X-rays. Interpret common findings			

<b>Total Number of attendance</b>		<b>Out of</b>	
<b>Punctuality</b>			
<b>Attitude to learning</b>			
<b>Relationship with staff &amp; patients</b>			
<b>Percentage of marks obtained in items examination</b>			
<b>Signature of Professor / Associate Professor</b>	<b>Date :</b>		

## **Instruments**

1. Ear speculum
2. Otoscope
3. Nasal speculum (Thudicum)
4. Antrum puncture trocar and cannula (Lichwitz)
5. Tongue depressor (Luc's)
6. PNS mirror
7. Laryngeal mirror
8. Boyle Davis mouth gag
9. Adenoid curette with / without cage (St Clare Thomson)
10. Tracheostomy tube-metallic/PVC
11. Laryngoscope
12. Oesophagoscope
13. Bronchoscope
14. Head light/mirror
15. Tuning Fork

## **Operative Procedures**

- a. Tonsillectomy
- b. Adenoidectomy
- c. Septoplasty/SMR
- d. Caldwell-Luc operation
- e. Myringoplasty
- f. Mastoidectomy
- g. Thyroidectomy
- h. Salivary gland excision
- i. Biopsy for diagnosis of carcinoma of tongue, oral lesions etc
- j. Direct laryngoscopy
- k. Neck node biopsy
- l. Antral washout

## **X-ray**

- m. X-ray paranasal sinus (occipito-mental view)
- n. X-ray nasopharynx – lateral view
- o. X-ray mastoid
  - Towne's view
- p. X-ray neck
  - Lateral view
  - Ba swallow x-ray of esophagus

Nice to know

CT scan /MRI

FOL – Fibre Optic Laryngoscopy

**CLINICAL PLACEMENT OF STUDENTS DURING PHASE II, III & IV ( for 62 weeks)**

WEEKS	PHASE II 20 WEEKS	WEEKS	PHASE III 14 WEEKS	WEEKS	PHASE IV 12+12 + 04 WEEKS
01-16	Surgery indoor -12 wks Surgery opd- 04 wks	01-04	Othopaedics & traumatology		1 <sup>st</sup> term
17	Anaesthesia	05-08	Ophthalmology	01-04	Orthopedics
18	Blood transfusion	09-12	Entd	05-08	Ophthalmology
19	Radiology	13	Radiotherapy	09-12	Entd
20	Dentistry	14	Neurosurgery		2 <sup>nd</sup> & final term
Card completion exam at the end of rotation & Term exam at 41 <sup>st</sup> week		Term exam at 41 <sup>st</sup> week		01-06	Surgery
				07-08	UROLOGY
				09-10	PAEDIADRIC SURGERY
				11	EMERGENCY & CASUALTY
				12	BURN & PLASTIC SURGERY
				04 weeks	BLOCK POSTING
					Final assessment

**Time schedule for the lecture classes (number)**

DICIPLINE	2ND PHASE	3RD PHASE	4TH PHASE	TOTAL
Gen Surgery	35	30	60	120
Orthosurgery	5	10	30	30
Radiology	0	0	5	5
Radiotherapy	0	0	8	8
Transfusion Medicines	0	5	0	5
Anaesthesia	0	10	0	10
Neurosurgery	0	2	5	7
Paediatric Surgery	0	5	10	15
Urology	0	5	10	15
Burn Plastic Surgery	3	0	2	5
	<b>38</b>	<b>57</b>	<b>125</b>	<b>220</b>

## **LARGE GROUP TEACHING**

All lectures should be interactive one.

It should be directed to develop analytical and problem solving attitude.

Student should be encouraged to adopt self-directed learning.

### **Clinical Teaching and tutorials**

- Students are to attend the wards as per placements twice in a day in morning and evening sessions as fixed by the respective college authority.
- They must be well dressed along with apron & nameplate.
- They will carry stethoscope, percussion hammer, pencil torch and measuring tape and other necessary clinical examination tools .
- During their ward visit, they will examine patients and try to make working diagnosis and write the history as per prescribed format.
- They will go through hospital documents and look what necessary measures and decision has been taken to follow the management of the patient in the ward.
- They will observe and practice techniques of IV & IM injection, infusion, dressing of the wounds. Student will also attend the operation theater and observe the instruments and equipments used in the operation theater.
- They will observe the techniques of different anaesthesia and the drugs used, techniques of hand scrubbing, gowning gloving, scrubbing and draping of operation field, making incisions, haemostasis, saturating technique and wound repair.
- Students performance will be assessed by item examinations, ward and term examinations.

## **Integrated teaching-**

It should be run throughout the year under a centrally prepared routine involving as many as specialties possible. There should be at least once in a month, duration of the program will be 02.30hours 12 noon to 2.30pm.

## **Following topics are being proposed from the department of surgery-**

1. Jaundice
2. Vomiting
3. Per rectal bleeding
4. Abdominal pain
5. Multiple Trauma
6. Respiratory distress
7. Surgical complications of Diabetes Mellitus
8. Extra pulmonary Tuberculosis
9. Endoscopic diagnostic and therapeutic procedures
10. Documentation and record keeping
11. Communication Skills ( Counselling, Breaking bad News )
12. Rehabilitation after trauma and ablative procedures

## **Assessment-**

### **1. Internal assessment: (Marks for formative assessment)**

- a. Items & Card completion examination ,
- b. Year final assessment at the end of Phase-II & III (written)
- c. Final assessment examination ( similar to final professional examination )  
at the end of block posting. (Medicine, Surgery, Obs & Gynae)

### **2. Final professional MBBS Examination:**

- a. **Written:** (MCQ- 20; SAQ- 4 X 17.5 =70) each paper  
Time allocation: MCQ- 30 minutes; SAQ/SEQ – 02hrs 30minutes.
  - i. Paper – I SAQ consists of 4 groups.
    1. Group -1:- Principles of surgery, Vascular Diseases, Anaesthesia, Radiology,  
Radiotherapy, Blood Transfusion.
    2. Group -2:- GIT, Paediatric surgery, Operative Surgery.
    3. Group -3:- HBS & Pancreas, Urology, Breast, Endocrine.
    4. Group - 4 :- Orthopaedics & Traumatology, Neurosurgery, Chest disease  
There will be 06 questions in each group and out of those 05 are to be answered carrying 3.5 marks each.  
Each group will contain compulsory 01 problem solving and 02 analytical questions.
  - ii. Paper –II (Ophthalmology-- MCQ-10 & SAQ-35; ENTD-- MCQ-10 & SAQ-35)
    1. Group-1and group 2 Ophthalmology
    2. Group-3 and Group 4 ENTD
  - iii Questions will be of  
recall type- 30%,  
understanding or data interpretation type- 30% and  
problem solving type- 40%
  - iv Question should cover the whole syllabus .  
80% of the questions should preferably be from core content  
and 20% from additional content of course.

**b. OSPE –**

- i. Stations will be constructed centrally by two experience examiners nominated and supervised by chairman of the examination committee of the respective university.
- ii. Each station will of 3 minutes time and marks will be allocated according to rules mentioned in the subject concerned.
- iii. All the examinee under each university will appear in OSCE/OSPE exam in their respective centers on a same date and time scheduled by University for a particular subject.
- iv. OSPE examination of Surgery, Ophthalmology and ENT D will be in two different days.
- v. Answer scripts of OSPE will be divided among the examiners for evaluation and the marks are to be submitted prior to final day of the oral examination scheduled in the respective centre.
- vi. Every examination center should be prepared for testing competencies including different procedure stations, data analysis, counseling, displaying x-ray, specimens and instruments.
- vii. Station setup
  1. Total 20 stations will be made comprising 10 from Surgery,
  2. 5 Ophthalmology and
  3. 5 ENT stations.

Out of those, at least two stations from surgery, one from Ophthalmology and one from ENT will be procedural station.

ix Marks allocation

Surgical stations are- (10 x 6 = 60 marks)

	<b>No.</b>
a. Plain x-ray	-1
b. Contrast x-ray	-1
c. Orthopaedic X-ray	-1
d. Specimen	-1
e. Instrument/s	-1
f. Appliances (Catheter, tubes, stoma or reservoir bags etc)	-1
g. Data interpretation	-1
h. Procedure stations	-2
i. Splint/bandage	-1
4. Ophthalmology -5 and ENT-5 stations are- (5+5) x4 = 40 marks)	
	<b>No.</b>
a. Instrument station	= 1
b. X-ray station/ Specimen	= 1
c. Clinical photograph/ tracing	= 1
d. Procedure	= 1



**c. Structured Oral Examination. (SOE)**

**Paper-1** (General surgery and allied)

Marks-30X2=60

- i. Two separate boards comprising one internal and one external examiner will assess written scripts, oral, practical and clinical examination.
- ii. There are two other reserve examiners in each internal and external pool.
- iii. Out of four examiner one will preferably be an orthopaedician.
- iv. There will be four boxes covering questions on surgery and allied specialties assigned for each examiner.
- v. Each box will contain at least 20 sets of questions.
- vi. A set of question will contain 3 small questions of three-difficulty level (Must Know, Better to Know & Nice to Know)
- vii. Content of the box-
  1. Box-1:- Principles of surgery, Vascular Diseases, Anaesthesia, Radiology, Radiotherapy, Blood Transfusion.
  2. Box-2:- GIT, Paediatric surgery, Operative Surgery.
  3. Box-3:- HBS & Pancreas, Urology, Breast, Endocrine.
  4. Box-4 :- Orthopaedics & Traumatology, Neurosurgery, Chest disease.

**Paper –II** (Ophthalmology and ENT D)

Marks 20X 2= 40

- i. Two separate boards for each specialty comprising one internal and one external examiners will assess written scripts, oral, practical and clinical examination.
- ii. There will be one reserve examiner in each specialty.
- iii. Instruments and x-rays will not be examined in viva board.
- iv. Each student will be allocated 15 minutes
- v. Problem solving skills / Judgment of knowledge should be examined
- vi. The question and answer will be constructed by the examiners in advance
- vii. Question is typed in a card and put in box of defined domain
- viii. A number of questions from each topic should be constructed covering the content area.
- ix. Content will be changed on alternate days
- x. The candidate randomly selects one card from each box and answer.
- xi. The candidate should answer selected number of question in the board
- xii. The examiner read the question, repeat it if necessary or the candidate reads the question if allowed.
- xiii. When candidate answers the questions, the examiner will put a tick in appropriate site on a prepared rating scale

**d. Clinical examination of surgery**

- i. Surgery -60
  1. Short cases 3 x 10 =30
  2. One Long case- 30.
- ii. Ophthalmology cases -2 x 10=20
- iii. ENT D cases- 2 x 10=20

**Mark distribution of oral, clinical and practical examination in surgery in final professional examination**

<b>Subject</b>	<b>Oral</b>	<b>Practical/OSPE</b>	<b>Clinical</b>	<b>Total</b>
Surgery	30+30	30+30	30+30	180
Ophthalmology	20	20	20	60
ENTD	20	20	20	60
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>300</b>

- ❑ There will be separate Answer Script for MCQ
- ❑ Pass marks 60 % in each of theoretical, oral, practical and clinical
- ❑ Oral, Clinical & Practical Examination will be in 2 days,  
One day- G. Surgery, another day- Ophthalmology + ENT.

**FINAL PROFESSIONAL EXAMINATION**  
**Assessment of Surgery**  
**(MARKS DISTRIBUTION)**

Components	Marks On each component	Sub total Marks	Total Marks
<b><u>Written examination</u></b>			
<b><u>Formative assessment marks</u></b>			
General Surgery	10		
Ophthalmology	05	20	20
ENT	05		
<b><u>Written</u></b>			
Paper – I: General Surgery : (MCQ+SAQ)	(20+70)	90	
Paper – II: Ophthalmology: (MCQ+SAQ)	(10+35)	45	180
ENT : (MCQ+SAQ)	(10+35)	45	

<b><u>Oral, Clinical &amp; Practical</u></b>			
<b>General Surgery</b> (Oral+ Clinical+ Practical)	(60+60+60)	180	
<b>Ophthalmology</b> (Oral+ Clinical+ Practical)	(20+20+20)	60	300
<b>ENT</b> (Oral+ Clinical+ Practical)	(20+20+20)	60	
<b>Oral examination should be structured.</b>			
<b>Grand Total Marks</b>			500