

MODULE OUTLINE

This module outline is not prescriptive and is intended as a guide

Anatomy

Lectures

Gross anatomy- Osteology; Muscular System; Arthrology; Cardio Vascular System; Respiratory System; Digestive System; Genito-Urinary System; Endocrine System and Individual Endocrine Glands; Nervous System and its components; Special Sensory Organs; Lymphatic System; Surface Anatomy; Cross Sectional Anatomy;

Microanatomy- General Histology; Four Primary Tissues ; Histology of Various Organs/Organ Systems
Embryology and Genetics- General Embryology; Systemic Embryology; Human Genetics

Neuroanatomy

Practicals

Gross Anatomy- Upper Limb; Thorax; Abdomen; Pelvis; Lower Limb; Head & Neck

Neuro Anatomy- Gross specimens; Stained sections; Gross specimens; Stained sections

Demonstrations- Bones of skull and vertebral column and spinal cord; Cross-sectional anatomy;

Radiological anatomy-CT and MRI scan

Microscopic Anatomy- Routine and special stained slides; Electronmicrographs

Developmental Anatomy- Models; Slides

Genetics-Demonstration of normal karyotype and common abnormal conditions; Demonstration of techniques e.g FISH

Skills- Surface markings; Various Pulses; Muscle testing and movements at joints; Sternal puncture, pericardial tapping, liver biopsy; Venepuncture; ; Lumbar puncture; emergency tracheostomy

Biochemistry

Lectures

Introduction in Biochemistry; Biological Cell; Biomolecules, Enzymes; Metabolic pathways, their regulations and their metabolic interrelationship: carbohydrate metabolism, amino acid metabolism, lipid metabolism, regulation of metabolic pathways; Food assimilation and nutrition; hormones; molecular biology; pH, buffer, physiological buffer system; Immunology; Environmental Biochemistry; Cancer and Cancer Markers; Experimental Biochemistry; Diagnostic Biochemistry.

Practicals

Laboratory Instrumentation; Protein fractionation, denaturation, separation of proteins and amino acids; Colour reactions of amino acids and proteins; Estimation of blood analytes: glucose, total cholesterol and HDL cholesterol, uric acid, electrolytes, urea; Cerebrospinal fluid analyses; Gastric juice analyses; Urine analyses; Amniotic fluid analyses; Enzymes: amylase, lactate dehydrogenase and alkaline phosphatase; Liver function tests; Renal function tests; Gel electrophoresis of DNA; Immunodiffusion techniques, RIA and ELISA ; Case-oriented discussions (enzymes, metabolites, function tests)

Physiology

Lectures

General physiology, Nerve and Muscle, Blood, Respiratory System, Cardiovascular System, Gastrointestinal System, Nutrition, Environmental Physiology, Reproduction, Kidney, Neurophysiology: sensory system, motor system, visceral and motivational system, Biophysics; EEG, sleep and higher nervous functions, Special senses

Practicals

Haematology experiment, Clinical examination of cardiovascular system, respiratory system, sensory nervous system, motor nervous system, cranial nerves, Tests of hearing, vision, General demonstrations of E.C.G, ergography, perimetry, packed cell volume and E.S.R

Pharmacology

Lectures

Introductory topics to Pharmacology, Autonomic Nervous System & Peripheral Nervous System, Drug therapy for diseases of the Central Nervous System, Autacoids Drug treatments for diseases of the Cardiovascular System, Gastrointestinal and Respiratory System, Hormones, Chemotherapy, Miscellaneous topics: immunomodulators, drug therapy of glaucoma, cataract and treatment of poisoning

Practicals

Experimental pharmacology exercises using animal models, Prescription writing exercises, preparation and dispensing of powders, emulsions, ointments, mixtures, liniments, suppositories and syrups, Identification of commonly used items in pharmacology, Exercises on drug interactions

Forensic Medicine

Lectures

History of Forensic Medicine; Forensic Pathology: criminal procedures, thanatology, postmortem examination and its pathophysiology, infanticide; clinical forensic medicine: establishment of identity of living person, injuries, assault and hurt, sexual offences, impotence, virginity and defloration, abortion and battered baby syndrome; medical jurisprudence: Mauritius Medical Council, code of medical ethics, malpractice and consent; forensic psychiatry: mental disorders, diagnosis of insanity, admission and discharge of insane, Mc Naughten's rule; forensic sciences: DNA fingerprinting and profiling, HLA typing, Locard's exchange principle, Examination, preservation, despatch and identification of sample and its medicolegal aspects, hazards of blood transfusion; General Toxicology: History of toxicology and Poisons, Laws in relation to poisons and its medicolegal aspects, toxicokinetics and toxicodynamics, diagnosis in living and dead, medicolegal autopsy, preservation and dispatch of viscera; Clinical toxicology: types, clinical signs and symptoms, diagnosis, management and medicolegal aspects of poisons, food alteration; Environmental toxicology: toxic pollution of environment, its medico-legal aspects & toxic hazards of occupation and industry; Analytical toxicology: general principles of analytical toxicology and its application in management, prevention and control of poisoning, basic principles and functioning of GLC, TLC, Atomic Absorption Spectrophotometer, Spectrophotometer, Neutron Activation Analysis, Mass spectrometry and alcometer.

Practicals

Medico-legal report of an injured person due to mechanical violence; exhibits and postmortem examination report in suspected case of poisoning and viscera for chemical analysis; Estimation age of a person for medico-legal and other purposes; postmortem report in a case of death due to violence of any nature – road accident, fall from height, assault, factory accident, electrocution, burns & accident due to any other cause, fire arm injury, asphyxia, natural death & medical

negligence; Demonstration, identification, examination, interpretation and preparation of medico-legal aspects from examination of hair (human & animal) fibre, semen & other biological fluids, a particular stain is a blood and its species origin and ABO & RH blood groups of a person, skeletal remains, various specimen of injuries e.g. contusion, abrasion, laceration, firearm wounds, burns, head injury and fracture of a bone, weapons of medicolegal importance, the contents and structure of bullet & cartridges used, age of foetus by postmortem examination, an alleged accused in a rape/unnatural sexual offence, a victim of sexual offence/unnatural sexual offence, a drunk person, the common instrument used in analysis of poison & DNA profile, inference from common poisons, a person brought for medical examination in cases pertaining to police, judicial custody or referred by court of law and violation of human rights, inference from histopathological slides of Myocardial infarction pneumonitis, tuberculosis, brain infarct, liver cirrhosis, brain hemorrhage, bone fracture, pulmonary odema, brain odema, soot particles, diatoms & wound healing.

Pathology

Lectures

General pathology- Introduction to pathology, basic fundamentals of the disease process, cell injury (reversible and irreversible), pathologic calcification, amyloidosis, the inflammatory process, wound healing, bone healing, circulatory disturbances, electrolyte imbalance, growth disturbances, neoplasia, carcinogenesis, immunopathology, infectious diseases (bacterial, viral, fungal, parasitic), genetic disorders, metabolic disorders, malnutrition, radiation injury, pigment and mineral metabolism disorders.

Systemic pathology- Cardiovascular pathology, respiratory pathology, urinary tract pathology, gastrointestinal pathology, hematopathology, hepatopathology, biliary tract pathology, pathologies of the lymphoreticular system, pathologies of the reproductive system, osteopathology, endocrine pathology, neuropathology.

Practicals

Features of common disorders, basic blood analysis procedures, indices calculation, basic blood tests, urine testing, handling of biological samples, biochemical analysis of common diseases, interpretation and reporting

Clinical Posting

Blood Bank and Hospital Laboratory postings (A 60 hour posting may be carried out if departments available)

Microbiology

Lectures

Introductory topics to microbiology, Introduction to Bacteriology, Bacterial Staining and Cultivation, Bacterial Identification, Virology, Laboratory Diagnosis of Viral Infection, Introduction to Mycology, Laboratory Methods for Diagnosis of Fungal Infections, Collection and Transport of Samples, Host-Parasite Relationship, Bacterial and Viral Genetics, Immunodiagnosis, Sterilization and Disinfection methods, Bacteriology of Water and Air; Gastrointestinal Infections Caused by Parasites, Infections of the Respiratory Tract, Urinary tract infections, Wound Infections/Anaerobic Infections/Fungal Infections, Enteric fever, Malaria, Sexually Transmitted Diseases, Congenital Infections, Miscellaneous topics (hospital infection, universal precautions, waste management)

Practicals

Microscopy and Micrometry, Bacteria Staining, Motility tests and Bacterial Identification, Laboratory Diagnosis of Viral Infections, Laboratory Diagnosis of Fungal Infections, Sterilization and Disinfection,

Stool Examination for Cysts, Stool examination for Intestinal Nematodes and Cestodes, Enterobacteriaceae, Laboratory Diagnosis of E.coli Infection and Shigellosis, Laboratory Diagnosis of Cholera, Laboratory Diagnosis for Food Poisoning, Laboratory Diagnosis of filariasis, Laboratory Diagnosis of Upper Respiratory Infections, Laboratory Diagnosis of Lower Respiratory Tract Infections, Laboratory Diagnosis of Tuberculosis, Laboratory Diagnosis of urinary tract infections, Laboratory Diagnosis of Wound Infection, Laboratory Diagnosis of Anaerobic Infections, Laboratory diagnosis of Malaria, Laboratory diagnosis of Leishmaniasis, Laboratory diagnosis of Enteric fever, Laboratory diagnosis of Meningitis, Laboratory diagnosis of sexually transmitted diseases (STD), Entomology

Health Technologies

Fundamentals of information & communications technology (ICT); Computing and IT skills (Using generic tools for documents drafting, data presentation, referencing suites, databases, optimizational use of search engines); enhanced medical education using ICT tools (Computer Assisted Learning (CAL); Anatomical interactive tools such as 3D Cadavers or Anatomage Table; Virtual patient application (tailored virtual case studies); BioDigital Human; medical mannequin simulators (simulation-based skill training); virtual microscopy); Technological modernization of medical treatment & interventions; Nanomedicine; Bio-engineering tools; Integration of ICT in the healthcare industry (Health Information Management System (HIMS) including EHR (Electronic Health Record), Health Information Exchange (HIE)); telemedicine, health informatics, eHealth strategies; ethics in eMedicine, Legislations & eGovernance in eHealth Services.

Community Medicine

Lectures

Environmental studies:- Environment: housing, physical environment inside and outside the home, family environment; Water; waste; Air pollution; green house effect; ozone layer; Noise & radiation pollution; Vectors of disease; Vector control and insecticidal resistance

Research methods & biostatistics (highlights new research methodology in medicine):- Probability versus statistics, ethical issues in research, literature review skills including didactic lecture on literature search from online databases (google scholar, pubmed, medline etc.), sampling strategies, descriptive statistics, inferential statistics, meta-analysis, survival analysis clinical biostatistics; Project Epidemiology & Study of communicable/non-communicable diseases:- Sources & techniques in epidemiological data, Data accuracy & validation, Qualitative statistical measures & parameters, Epidemic investigative methods

Occupational Health:- Occupational hazards & related diseases, psychosocial hazards, legislation & regulatory bodies

Geriatrics:- Geriatric medicine, diseases and disorders of the elderly, design of safe/supportive environment

Behavioral Sciences:- Culture, society & health; Role of family in health & disease; Health & illness behaviour; Social organisation and community participation; Measurement of socio-economic status & its relation to health & disease; Questionnaire / Interview schedule designing; Construction and pre-testing of questionnaire/ interview schedule; Attitudes: nature, development, methods to change; Measurement of attitudes; Questionnaire design to test attitudes

Health Education & National Health Programmes (including elements of Primary Health Care):- Health & public health educational dimensions; Communication skills; Community-driven educational sessions, Detrimental effects of drug abuse, Effective delivery of health information, National health

Health Administration & Economics:- Structural framework of primary healthcare system, Organization strategies, Disaster management methods, Health Economics, Economic evaluation in the, healthcare industry, Welfare economics, Pharmaceutical markets

Maternal & Child Health:- Pregnancy complications, Couple eligibility, Family planning strategies , spacing methods, abortion

Nutrition:- Nutritional knoweldge, Nutritional assessment, Features of malnutrition, Designing diets, Disease-based nutrition

Rehabilitation:- Features of disabilities; Rehabilitation techniques & programmes, Barriers to rehabilitation

Counselling:- Theories of personality, Approaches to counseling, Framing addictions, Appraisal in counseling, Integrated approach, Mental & emotional disorder treatment

Clinical Posting

Common treatments & ailments in communal setups; psycho-social & medico-social issues of patients; differential diagnosis; investigation; Family Welfare planning strategies; General health & hygiene education; Primary response to medical complications; Conducting Epidemiological studies; Prevalence of diseases; Prevalance of accidents-related medical emergencies; Environmental Health & Occupational hazards; Food safety & hygiene concepts; Intervention trials & screening measures; Healthcare of the ageing population, vaccination practices

Ophthalmology

Lectures

Disorders of the Lid; Disorders of the Lacrimal Apparatus; Conjunctivitis & Ophthalmia Neonatorum; Trachoma & Other chronic conjunctivitis; Keratitis and corneal ulcers; Corneal ulcer; Scleritis & Episcleritis; Refractive Errors & Method of correction; Presbyopia, accommodation convergence; Congenital cataract; Senile cataract; Metabolic & complicated cataract; Primary Angle closure glaucoma; Congenital glaucoma; Primary Open angle glaucoma; Secondary glaucomas; Anterior uveitis; Posterior uveitis; Blindness prevalence, prevention & rehabilitation; Retinopathies, Hypertensive, Toxaemia & Pregnancy; Diabetic Retinopathy; Retinal Detachment, types, symptoms & pre-disposing factors; Endocrine ophthalmology; Retinal vascular disorders; Retinoblastoma & other ocular neoplasms; Binocular vision amblyopia & concomitant squint; Nutritional disorders; Incomitant strabismus; Visual acuity, pupillary path ways & cranial nerve palsies; Optic nerve lesions; Ocular emergencies (Traumatic); Ocular emergencies (Non-Traumatic); Minor ophthalmic surgery; General principles of Intra ocular surger; Eye banking & ethics in ophthalmology

Clinical Posting

Trachoma; Entropion / ectropion; Pterygium; Nasolacrimal Duct (NLD) block / Dacryocystitis; Conjunctivitis / allergic / acute; Corneal ulcer; Keratitis; Iridocyclitis; Angle closure glaucoma; Scleritis / episcleritis

Ophthalmology; Dark room; Refractive errors & presbyopia; Cataract – senile, Complicated, Post operative, Complications, Intraocular lenses; Basic sciences (Microbiology, Pharmacology, Pathology); Open angle glaucoma; Xerophthalmia; Corneal opacities; Ocular injury; Perforating / concussional injuries; Amaurosis fugax; Diabetic retinopathy; Hypertensive retinopathy; Anemic and other retinopathies; Indirect ophthalmoscopy; Orthoptics; Concomitant squint; Paralytic squint; Surgical Instruments; Investigative lab.procedures; Casualty & minor Operating Theatre(O.T); Main O.T

Otorhinolaryngology

Lectures

Ear- Surgical anatomy of the ear ,physiological consideration with special emphasis on the conduction and perception of sound ,Audiology and vestibulometry, Diseases of external auditory canal and different types of foreign bodies in the ear and their management e.g. wax and otomycosis.Inflammatory disorders of middle ear acute/ chronic otitis media (ASOM/ CSOM). With their complications and management.Secretory otitis media, otosclerosis, Stapedectomy Different types of deafness, causes and their management.Vertigo – causes, investigations and management; meniers diseases and acoustic neuroma Ototoxicity Noise induced hearing loss.Methods of screening a deaf child and their rehabilitation

Pharynx, Oesophagus Larynx- Brief anatomy of the pharynx and esophagus,Physiology of taste and deglutition .Functions of the sub epithelial lymphoid tissue around upper aero digestive tract.Common diseases of the pharynx with special emphasis on tonsils and adenoids.Laryngeal carcinoma, benign tumors, hoarseness, stridor and Dysphagia, their investigations and treatment.

Nose ,Hypopharynx,Neck -Brief anatomy of the nose and paranasal sinuses.Function of the nose, PNS and physiology of olfaction.Common injuries of the nose and mid facial fractures; Epistaxis – causes, investigations and management.Common diseases of nose and paranasal sinuses (PNS) – rhinitis (atrophic rhinitis), vestibulitis, sinusitis; Foreign body of nose – types and management-maggots in nose; Cysts and tumors of the nose and paranasal sinuses.Angiofibroma of the nasopharynx.Carcinoma nasopharynx; Nasal polyps; Deviated nasal septum

Clinical Posting

Clinical ward teaching; Out patient department (OPD); Xray/ Instruments And One Day Clinical Approach; Observing Some Operations. Group Discussion And Seminars (Horseness Of Voice, Complications Of Middle Ear Infection, Otosclerosis, Otomycosis, Foreign Body In Ear, Cerumen, Ototoxicity, Noise Induced Hearing Loss, Som, Subepithelial Lymphoid Tissue Around Upper Aerodigestive Tract, Tracheostomy)

Paediatrics

Lectures

Vital statistics; Growth and development; Nutrition(breastfeeding, infant feeding, weaning) and nutritional disorders: ((Protein energy malnutrition (PEM), rickets, vitamin A deficiency, iodine deficiency, iron deficiency)); Immunization; Infectious diseases - measles, tetanus, polio, diphtheria, whooping cough, aids , Malaria, enteric fever, tuberculosis, chicken pox, common skin infections; Hematology - anemias, thalassemia, leukemia, bleeding disorders; Respiratory system; Gastro Intestinal Tract Diarrheal diseases- abdominal pain, malabsorption, hepatitis, cirrhosis, acute liver failure; Central Nervous System; Cardiovascular system; Genito-Urinary system; Neurology: meningitis, febrile, convulsions, epilepsy, cerebral palsy, mental handicap, cerebral malaria, encephalitis; Cardiology: congenital heart diseases, rheumatic fever. Congestive cardiac failure, clinical assessment of a cyanotic neonate/infant; Nephrology: nephrotic syndrome, urinary tract infections, acute glomerulonephritis; Endocrinology: hypothyroidism, short stature, diabetes; Pediatrics Emergencies; Fluid-Electrolyte; dysentery, worm infestations, giardia, amoebiasis, rectal polyp; Genetics; Behavioral Problems- patterns of inheritance, Down's syndrome,Pediatrics Surgical Problems;

Neonatology:-

Resuscitation of new born, care of normal new born, birth asphyxia, premature and low birth weight babies, neonatal jaundice, neonatal sepsis, neonatal fits, respiratory distress of new born, common skin conditions of neonates; pyloric stenosis, myelomeningocele, hydrocephalus, common congenital

abnormalities and birth trauma; Investigation & management including neonatal intensive care unit (NICU) care.

Clinical Posting

Case discussion of common OPD conditions, Ward, Nursery, Neonatology postings, Lumbar puncture. Observe passing of catheter. Observe pericardial tap

Orthopaedics

Lectures

Fracture:- Definition, Classification, Principles of Management; Fracture healing, delayed union; Classification & Management of open fractures; Management of fracture clavicle, dislocation shoulder & fracture shaft humerus; Classification of injuries around elbow & management of supracondylar fracture & dislocation of elbow; Monteggia fracture dislocation & fracture both bones of forearm; Volkamann's Ischaemic Contracture; Fracture of lower end of radius fracture scaphoid and metacarpals; Fracture pelvis & dislocation of hip; Fracture neck of femur; Fracture shaft of femur & tibia

Internal Derangements of Knee, Injuries of ankle & foot; Amputations;

Congenital malformations:- Congenital Talipes Equino Varus (CTEV) Torticollis; Congenital Dysplasia of hip (CDH), Pseudoarthrosis tibia;

Disorders of the hip: coxa vara, Perthes diseases;

Deformities of the spine;

Infections:- Acute Pyogenic Osteomyelitis; Chronic Pyogenic Osteomyelitis; Septic Arthritis;

Osteo-articular Tuberculosis:- General consideration & principles of management; Arthritis and Osteomyelitis; Tuberculosis Spine

Poliomyelitis

Bone Tumours:- Benign tumors; Malignant tumors

Arthritides:- Osteoarthritis; Rheumatoid Arthritis (RA), Systemic Lupus Erythematosus (SLE), Gout, Pseudo-gout, Ankylosing Spondylitis (AS), Psoriatic Arthritis (PsA), Gonorrhoea

Osteoporosis; Osteomalacia; Disc Disease; Injuries to spine and spinal cord

Clinical Posting

Bedside Manners; Orthopaedic history and examination; Orthopaedic case presentation; Application of splints and tractions; Application of plaster. Slabs and casts; care of traction, splints, casts and slabs; Manipulative reduction of common fractures and dislocations; Infiltration of tender periarticular lesions; Aseptic technique of joint fluid aspiration; OT exposures , OPD, Casualty and Emergency Ward, Ward Rounds; Seminar and Journal Club; Surgicopathological departmental conferences, Imaging (including X-rays, CT, MRI and Bone scans)

Physiotherapy

Lectures

Normal human movement; Neurologic mechanisms of normal and impaired posture, mobility and extremity function; Exercise testing, prescription, progression and expected outcomes; Effects of exercise in healthy individuals across the lifespan and in special populations; Physiotherapeutic diagnoses; Designing appropriate programs of prevention, treatment and exercise.

Clinical Posting

Physiotherapy unit posting

Physical medicine & rehabilitation (including occupational therapy)

Lectures: Neuromuscular Medicine; Pediatric Rehabilitation; Spinal Cord Injury; Sports Medicine;

Brain Injury; Musculoskeletal pain management; Surgical rehabilitation; Rheumatological rehabilitation; Amputee care; Electrodiagnostic medicine

Clinical Posting

Physical Medicine/ Occupational Therapy postings/ Orthosis unit

General Medicine

Lectures

Principles of prevention of disease; Principles of Geriatric Medicine; Care of terminally ill/dying patient; Clinical Pharmacology; Nutritional and metabolic disorders; Water, electrolyte and acid-base imbalance; Critical care Medicine; Pain management and palliative care; Medical Psychiatry; Poisonings; Specific environmental and occupational hazards; Immune response and Infections; Specific Infections - Epidemiology, clinical features, laboratory diagnosis, treatment and prevention; System-Based diseases:

Cardiovascular system:- Rheumatic fever and infective endocarditis; Valvular heart diseases. (Mitral valve,Aortic valve),Ischaemic heart disease; Angina

Myocardial infarction, Cardiac arrhythmias ,Atrial fibrillation ,Ventricular tachycardia ,Premature atrial and ventricular beats; Heart failure.Left ventricular failure; Congestive cardiac failure; Cor pulmonale.Congenital heart diseases (brief).Cyanotic/acyanotic heart diseases. Fallot's tetralogy, Atrial septal defect,Ventricular septal defect, Patent ductus arteriosus, Cardiomyopathies, Pericardial diseases; Constrictive pericarditis, Pericardial diseases, Pericardial effusion, Atherosclerosis/arteriosclerosis. Hypertension.

Peripheral vascular disease. Symptoms and signs, Arteriosclerosis, Acute & chronic ischaemia of the leg, Aneurysms, Buerger's disease, Raynaud's disease, varicose veins , Venous thrombosis

Respiratory system; Asthma, Pneumonia, Community acquired, Nosocomial

,Lobar and bronchopneumonia, Adult respiratory distress syndrome, Acute respiratory failure, Mechanical ventilation. Bronchiectasis. Chronic obstructive airway diseases. Chronic bronchitis; Emphysema

Interstitial lung diseases. Pulmonary thromboembolism. Acute cor pulmonale. Type-I and type-II respiratory failure; Pleural effusion. Pneumothorax. Tuberculosis; Tumors of the lung, Disorders of chest wall and pleura, Chest trauma, Deformities of the rib cage; Dry pleurisy, pleural effusion, empyema, pneumothorax.

Kidney and genitourinary system : Acute renal failure. Chronic renal failure. Nephrotic syndrome. Nephritic syndrome. Urinary tract infections, Infections of the kidneys Infections of the lower urinary tract, Inflammatory lesions of the kidneys. Introduction to dialysis & renal transplant. Drugs causing renal disease (brief). Polycystic kidneys. Renal vascular disorders.Renal artery stenosis, Renal vein thrombosis Tumours Hemolytic uremic syndrome.Prostatic diseases

Gastrointestinal tract: Diseases of the pancreas; Liver and Biliary tract disease; Oral cavity

Infections and inflammatory disorders Benign and malignant diseases Esophagus. Dysphagia with special reference to Ca esophagus,

Gastro oesophageal reflux disease (GERD),

Achalasia

,Candidiasis of oral cavity and esophagus Stomach

Gastritis.Peptic ulcer,Intestines ,Malabsorption syndromes.Tropicalsprue Coeliac

disease, Inflammatory bowel diseases. Ulcerative colitis Crohn's disease .Irritable bowel syndrome (IBS). Liver .Ascites.

Jaundice. Congenital hyperbilirubinaemia .Gilbert syndrome. Dubin Johnson syndrome. Rotor syndromes Haemolytic. Obstructive. Hepatitis. Viral, acute and chronic. Toxic Drugs. Auto immune hepatitis. Cirrhosis of liver. Hepatic encephalopathy. Carcinoma liver and transplant.

Acute and chronic pancreatitis. Upper gastro intestinal (GI) bleeding, lower GI bleeding. Drugs contraindicated in liver diseases

Endocrinology and Metabolism: Anterior pituitary. Growth hormone disorders. Acromegaly. Gigantism. Short stature Infertility, Diseases of hypothalamus and posterior pituitary. Empty sella syndrome

Diabetes insipidus

Syndrome of inappropriate anti diuretic hormone (ADH) secretion (SIADH). Thyroid gland.

Hyperthyroidism (thyrotoxicosis)

Hypothyroidism (myxedema, cretinism) Inflammatory lesions

Benign and malignant tumors .Adrenal Gland.

Cushing Syndrome

Aldosteronism Primary/Secondary. Hirsutism.

Addison's disease

Acute Addisonian crisis

Neurological Infections and inflammatory lesions Meningitis, Bacterial. Tuberculous, Viral .Brain abscess Encephalitis

Hydrocephalus, Epilepsy and other convulsive disorders o Cerebrovascular diseases (stroke). Ischemic ,Embolism ,Infarction, Haemorrhage ,Intra-cerebral ,Subarachnoid ,Dementia and Alzheimer's disease. Parkinson's disease and other movement disorders. Motor neuron disease. Multiple sclerosis. cranial nerve disorders. Transient mono-ocular blindness (amaurosis fugax). Trigeminal neuralgia. Facial palsy (Bell's). Vertigo, nystagmus, Spinal cord disorders. Spinal cord compression ,Hemiplegia, paraplegia, quadriplegia ,Myelitis. Spondylosis.

Syringomyelia and syringobulbia. Peripheral nerve disorders. Peripheral polyneuropathy. Gullian Barry syndrome, Mononeuritis multiplex.

o Space occupying lesions of brain and spinal cord. Muscular dystrophies, Myopathies, myasthenia gravis

Metabolic disorders: Hyperlipidemia

Hemochromatosis. Porphyrias

Wilson's disease

Gout and hypercalcemia Storage diseases.

Lipid. Leukodystrophies

- Niemann pick disease. Gaucher's disease. Glycogen.

- Fabry's disease. Hereditary connective tissue disorders Osteogenesis imperfecta.

Ehler's danl syndrome.

Chondrodysplasias. Marfan syndrome.

Alport syndrome.

Disorders of amino acid metabolism and storage Homocystinuria. Alkaptonuria.

Hartnup disease; Renal glycosuria Infectious diseases: Sepsis and septic shock, meningococcaemia .

Acute infectious diarrhoeal diseases and bacterial food

poisoning; Hospital acquired infections; Common disease syndromes caused by the following bacteria and their drug therapy; Pneumococci; Staphylococci; Streptococci; Hemophilis influenzae; Shigella; Gonococci; Pseudomonas; Tetanus; Enteric fever/salmonellosis; Cholera; Tuberculosis; Leprosy; Amoebiasis/giardiasis/trichomoniasis. Malaria; AIDS; Rabies; Infectious mononucleosis; Helminthic infestations Ascariasis; Hookworm; Whipworm (trichuriasis); Threadworm (enterobiasis); Taenia (tapeworm); Hydatid diseases

Haematology :Anaemias.

Iron deficiency ,Megaloblastic ,B-12 deficiency .Folic acid deficiency .Anaemia of chronic disorder.Haemolytic anaemia .Hereditary.Acquired oIntra-corporcular .Extra-corporcular.Aplastic anemia Haemoglobinopathies.Sickle cell syndromes.Thalassaemias Myeloproliferative diseases.Chronic myeloid leukemia (CML)Polycythemia vera.Myelofibrosis.Essential thrombocytosis.Leukemias.Acute Chronic Lymphomas ,Non-Hodgkin's ,Hodgkin's

Blood groups and blood transfusion.Bone marrow transplantation. Disorders of haemostasis. Thrombocytopenia. Idiopathic thrombocytopenic purpura (ITP). Von Willebrand's disease.Vessel wall disorders.Disorders of coagulation.Haemophilia.VitaminK deficiency.Disseminated intravascular coagulation (DIC). Anticoagulants Therapy • Heparin .Oral (warfarin etc.) Vit. K infusion.Antiplatelet drugs

Clinical Posting

OPDs, Wards rounds, History taking, Inspection, palpation, percussion, auscultation of chest.and abdomen, Neurological examination, Case discussions, Interpretation of related radiological and laboratory investigations. General medication and prescription writing in medicine.

Psychiatry

Lectures

Introduction and classification of Psychiatric disorders; Aetiology of Psychiatric disorders; Schizophrenia, Bipolar disorders, Depression, Anxiety neurosis, phobia and OCD ,Hysterical neurosis (Conversion and Dissociative disorders); Personality disorders, Drug and Alcohol dependence,Psychiatric disorders of childhood and adolescence, Counselling and psychological therapies ,Psychological testing

Behavioural Sciences - Introduction: General introduction to Behavioural Psychology, Motivation, Emotion and its application to health, Learning and conditioning, Cognitive process and memory, Sensation, perception, illusion, memory process, short term and long term memory, causes of forgetting and methods to improve memory,Thinking and problem solving ,Intelligence,Personality (Principles of Personality development) and objective testing of Personality

Clinical Posting

OPD, Wards,Case discussion of common psychiatry conditions with diagnosis and management of common Psychiatric disorders. History taking in psychiatry. Clinical examination of patients .Counseling and psychoanalysis especially in patients with suicidal and homicidal attitude. Interpretation of related radiological and laboratory investigations; General medication and prescription writing in psychiatry

Dermatology & Venerology (Including HIV/AIDS)

Lectures

Infective dermatoses: Pyoderma, tuberculosis and leishmaniasis- Etiology, Clinical features, Diagnosis

and Treatment; Infective dermatoses: Viral and fungal infections- Etiology, Clinical features, Diagnosis and Treatment; Infestations: Scabies and pediculosis – Etiology, Clinical features, Diagnosis and Treatment; Melanin synthesis: Disorders of pigmentation (Vitiligo, Chloasma / Melasma)- Etiology, Clinical features, Diagnosis and Treatment; Allergic disorders: Atopic dermatitis and contact dermatitis – Etiology, Clinical features, Diagnosis and Treatment; Drug eruptions, urticaria, erythema multiforme, Steven's johnson syndrome and toxic epidermal necrolysis – Etiology, Clinical features, Diagnosis and Treatment; Vesiculo-bullous diseases: Pemphigus, Pemphigoid, Dermatitis herpetiformis – Etiology, Clinical features, Diagnosis and Treatment; Epidermopoiesis, Psoriasis, Lichen planus and Pityriasis rosea – Etiology, Clinical features, Diagnosis and Treatment; Pathogenesis, Classification and clinical features of leprosy, Reactions in leprosy; Diagnosis, treatment and control of leprosy; Syphilis – Etiology, Clinical features, Diagnosis and Treatment; Gonococcal and Non-gonococcal infections – Etiology, Clinical features, Diagnosis and Treatment; Chancroid, LGV, Donovanosis, Herpes proenitalis – Etiology, Clinical features, Diagnosis and treatment; Syndromic approach to the diagnosis and management of sexually transmitted diseases; HIV infection, Cutaneous manifestations of HIV infection and their management; Hereditary disorders: Ichthyosis, Albinism, Epidermolysis bullosa, Melanocytic naevi, Freckles and other naevi – Etiology, Clinical features, Diagnosis and Treatment; Dermatological Emergencies.

Clinical Posting

History taking in Dermatology .Clinical examination of various skin lesions. Interpretation of related radiological and laboratory investigations .General medication and prescription writing in Dermatology Procedures (Observe/ Assist): Scraping for fungus ,Use of magnifying glass ,Observe skin biopsy,

General Surgery

Lectures

Skin:- ulcers and wounds, wound infections, burns, skin infections (boils, carbuncle, abscess), cysts (epidermoid cyst, dermoid), skin tumors (basal cell carcinoma, squamous cell carcinoma, melanoma).

Head and Neck region:- congenital anomalies (cleft lip, cleft palate, branchial cyst and fistula, thyroglossal cyst) swellings of parotid and submandibular glands, oral ulcers, leukoplakia, submucous fibrosis, lichen planus, common jaw tumors, squamous carcinoma of oral cavity, pharynx & larynx.

Thyroid swellings (adenomatous goitre, Graves' Disease, papillary and follicular thyroid cancer). Swellings of lymph nodes (tuberculosis, lymphoma, metastatic carcinoma)

Arteries:- Features of limb Ischaemia, noninvasive vascular diagnostic tests, obliterative atheromatous disease, aneurysms, Raynaud's syndrome, arterial emboli.

Veins:- varicose veins, deep vein thrombosis , pulmonary embolism.

Breast:- mastalgia, ANDI, fibroadenoma, cyst, breast abscess, cancer of the breast.

Oesophagus:- dysphagia, reflux, hiatus hernia, benign and malignant tumours.

Stomach and duodenum: -Peptic ulcer- stomach and duodenum, carcinoma of the stomach, gastritis.

Small intestine:- Small bowel obstruction, intestinal tuberculosis.

Colon and rectum:- Amoebic colitis, Ulcerative colitis, colorectal cancer.

Appendix:- Acute appendicitis.

Anus:- Haemorrhoids, Pruritus ani, Fissure-in-ano, Anorectal abscesses, Fistula-in-ano, cancer of the anus.

Peritoneum and intraperitoneal abscesses: peritonitis.

Liver:- Hepatic trauma, abscesses, cancer.

Biliary tract:- gall stone disease, carcinoma of the gallbladder.

Pancreas:- Acute pancreatitis, pancreatic cancer.

Acute abdomen

Hernias of the abdominal wall:- Inguinal hernias, femoral hernia, umbilical and epigastric hernia.

Urology:- Diagnostic studies and techniques in the urinary tract, trauma to the urinary tract, urinary calculi, urinary tract infection, prostatic hyperplasia, tumours of the kidney, epididymo-orchitis, hydrocele, tumours of the testicle, carcinoma of the penis.

Clinical Posting

History taking; general evaluation of overall health; basic principles of examination of a lump; examination of hernia, hydrocoele and abdomen; examination of breast; examination of head and neck; evaluation of wounds, ulcers and sinuses; OT exposures , OPD, Casualty and Emergency Ward, Ward Rounds; Seminar and Journal Club; Surgicopathological departmental conferences, X-rays, MRI, CT Scans, Ultrasounds

Radiology

Lectures

Normal structures as they appear on imaging; Normal functional processes related to imaging investigations; Interpretation of basic imaging studies (CT, PET, MRI); Relate radiological reports to structures on images; Basic principles of radiation protection; Risks of Magnetic Resonance Imaging; Risks of Interventional procedures; Risks of contrast media; Safe, effective and appropriate patient referral; The doctor's role in limiting risk to patients; Indications and preparatory requirements for imaging studies, how often they are required, effects on patients and follow up care(where required); Limitations of Imaging techniques; Requirements of patients undergoing investigations; Informing and preparing patients to prepare adequately limit anxiety; Psychological issues raised by investigations and the invasive nature of some investigations; Principles and practice of informed consent; role of different staff groups in radiology; Nuclear medicine

Clinical Posting

Common emergency conditions on chest X-ray; Abdominal X-ray; Skeletal X-ray;

Major trauma CT

Imaging in common clinical scenarios:- Chest and cardiovascular disease; Gastro-intestinal Disease; Renal and Urological disease; Breast disease; Neurological disease; Musculoskeletal disease; Obstetric and Gynaecological disease; Multisystem disease; Disease in Childhood,

Radiotherapy

Lectures

General radiotherapy principles; Radiation physics; Radiobiology; Acute and after-effects of radiation; Management of early-stage breast cancer; Principles of use of anti-cancer drugs, Radio-isotopes in diagnosis and therapy.

Clinical Posting

Radiotherapy unit posting

Anaesthesiology

Lectures

Principles of acute medicine in managing the anesthetized patient; Applied physiology and applied pharmacology; Resuscitation (cardiopulmonary, cerebral, fluid and others); Care of the unconscious patient, including airway and ventilation management; Management of blood ,fluid, electrolyte balance , and metabolic disturbances in the surgical patient; Acute and chronic pain; Drug interactions in anaesthesia; Surgical and anesthetic risk evaluation; Preoperative preparation of

patients; Techniques of anesthesiology; Pharmacology of muscle relaxant, application and monitoring; Pharmacology : Basic / Applied of local anaesthetics : Various types of blocks advantages / Problems (main blocks. Local infiltration , Brachial Plexus, Caudal etc.)

Clinical Posting

Minor and major Operation Theatre postings; Nerve blocks; Spinal and regional Blocks; Intubation techniques, Ventilation; Pre-operative rounds; Pre-,intra and post operative care, ICU care

Dentistry

Lectures

Normal oral and dental anatomy and physiology; The clinical features of common oral and maxillofacial diseases; Interpretation of the results of common investigations; Diagnosis of clinically uncommon oral and maxillofacial diseases, including syndromes; Minimally invasive surgery; Principles of preparation of different restorative materials; Primary and secondary impressions in partial and complete denture construction; Principles of tooth preparation for different restorative materials; Classification of dental trauma; Tooth discoloration; Diagnosis of oral and maxillofacial surgical emergencies and Lifesaving first aid and basic life support; Community diagnosis and solutions to oral health problems

Clinical Posting

Dental OPDs and dental procedures; instrumentation

Obstetrics And Gynaecology

Lectures

Basic Sciences

Normal & abnormal development, structure and function of female & male urogenital systems and the female breast; Make Diagnosis and organize management of antenatal, intranatal and postnatal period of normal and abnormal pregnancy; Applied anatomy of the genito-urinary system, abdomen, pelvis, pelvic floor, anterior abdominal wall, upper thigh (inguinal ligament, inguinal canal, vulva, rectum and anal canal); Physiology of permatogenesis; Endocrinology related to male and female reproduction; Anatomy & Physiology of urinary & lower GI (Rectum / anal canal), tract; Development, structure & function of placenta, umbilical cord & amniotic fluid; Anatomical & physiological changes in female genital tract during pregnancy fistulae; Anatomy of fetus, fetal growth & development, fetal physiology & fetal circulation; Physiological & neuro-endocrinal changes during puberty disorders, adolescence, menstruation, ovulation, fertilization, climacteric & menopause; Gametogenesis, fertilization, implantation & early development of embryo; Normal pregnancy, physiological changes during pregnancy, labour & puerperium; Immunology of pregnancy; Lactation; Biochemical and endocrine changes during pregnancy, including systemic changes in cardiovascular, hematological, renal, hepatic and other systems. (Anaemia); Biophysical and biochemical changes in uterus and cervix during pregnancy & labour; Pharmacology of identified drugs used during pregnancy, labour, post partum period with reference to their mechanism of action, absorption, distribution, excretion, metabolism, transfer of the drugs across the placenta, effect of the drugs on the fetus, their excretion through breast milk; Mechanism of action, excretion, metabolism of identified drugs used in Gynaecology, including chemotherapeutic drugs; Role of hormones in Obstetrics & Gynaecology. Markers in Obstetric & Gynaecology – Non neoplastic and Neoplastic Diseases; Pathophysiology of ovaries, fallopian tubes, uterus, cervix, vagina and external genitalia in healthy and diseased conditions; Normal and abnormal pathology of placenta, umbilical cord, amniotic fluid and fetus; Normal and abnormal microbiology of the genital tract – bacterial, viral & parasitic infections responsible for maternal, fetal and gynaecological disorders; Humoral and cellular immunology in Obstetrics & Gynaecology; Physiology of normal pregnancy, diagnosis of

pregnancy, routine antenatal care, management of common symptoms in pregnancy, investigations to be carried out in pregnancy; Drugs prescription during pregnancy and lactation; Hypertensive disorders in pregnancy; Anemia in Pregnancy : Heart disease in pregnancy; Antepartum haemorrhage; Intrauterine Growth Restriction (IUGR); Antenatal Fetal Surveillance; Rhesus Negative Pregnancy; Disorders of liver, kidneys in pregnancy; Multiplepregnancy; Puerperium, and its complications; Perinatal and maternal mortality; Anatomy of fetal genital tract, and its variations, supports of uterus, developmental anomalies of uterus. Ectopic pregnancy; epidemiology, early diagnosis and management; Physiology of menstruation, common menstrual problem; Disorders of growth, amenorrhoeas; Fibroid uterus; Prolapse uterus; Vaginal discharge, sexually transmitted diseases; Precancerous lesions of female genital tract (cervix, vagina, vulva); Carcinoma Cervix, epidemiology, staging diagnostic procedure, treatment; Carcinoma Endometrium; Carcinoma ovary; Carcinoma vulva; Gestational Trophoblastic disease; Temporary and permanent methods of contraception; Menopause and related problems; Endometriosis; Genital Tract Fistulae; Adolescence, Pubertal changes, disorders of puberty; Contraception, Neonatology and Recent Advances; Contraception (Male & Female); Medical terminal of pregnancy – safe abortion – selection of cases, technique & management of complication of medical and surgical procedures, MTP law Medical abortion & Emergency Contraception; National health programmes; Social obstetrics and vital statistics; Ethics and medical jurisprudence

Clinical Posting

OPD's Wards and OT's, Labour Room, and Family Planning OPD and OT. Conduct of normal delivery, Making and repair of episiotomy, Insertion and removal of intrauterine device, Making of pap smear. Emergency coverage or all patients with Obst/Gynae problems attending casualty on days the unit is on call. The same unit also provides emergency consultation for the hospital and attached centers who may require O & G Consultation. Formalities and steps involved in making the correct death certificates, mortuary slips, medico-legal entries, requisition for autopsy.

Practical procedures for graduates

At the end of the MBBS Programme, Graduating students will be able to perform the following procedures:

Procedure

Description in lay terms

DIAGNOSTIC PROCEDURES

1. Measuring body temperature

... using an appropriate recording device.

2. Measuring pulse rate and blood pressure

... using manual techniques and automatic electronic devices.

3. Trans-cutaneous monitoring of oxygen saturation

Applying, and taking readings from, an electronic device which measures the amount of oxygen in the patient's blood.

4. Venepuncture

Inserting a needle into a patient's vein to take a sample of blood for testing, or to give an injection into the vein.

5. Managing blood samples correctly

labelled correctly and sent to the laboratory promptly and in the correct way. Taking measures to prevent spilling and contamination.

Making sure that blood samples are placed in the correct containers, and that these are

6. Taking blood cultures

Taking samples of venous blood to test for the growth of infectious organisms in the blood. Requires special blood containers and laboratory procedures.

7. Measuring blood glucose

Measuring the concentration of glucose in the patient's blood at the bedside, using appropriate equipment and interpreting the results.

8. Managing an electrocardiograph (ECG) monitor

Setting up a continuous recording of the electrical activity of the heart. Ensuring the recorder is functioning correctly, and interpreting the tracing.

9. Performing and interpreting a 12-lead electrocardiograph

Recording a full, detailed tracing of the electrical activity of the heart, using a (ECG) machine recorder (electrocardiograph). Interpreting the recording for signs of heart disease

10. Basic respiratory function tests

Carrying out basic tests to see how well the patient's lungs are working (for example, how much air they can breathe out in one second).

11. Urine multi dipstick test

Testing a sample of urine for abnormal contents, such as blood or protein. The urine is applied to a plastic strip with chemicals which change colour in response to specific abnormalities

12. Advising patients on how to collect a mid-stream urine specimen

Obtaining a sample of urine from a patient, usually to check for the presence specimen of infection, using a method which reduces the risk of contamination by skin bacteria.

13. Taking nose, throat and skin swabs

Using the correct technique to apply sterile swabs to the nose, throat and skin

14. Nutritional assessment

Making an assessment of the patient's state of nutrition. This includes an evaluation of their diet; their general physical condition; and measurement of height, weight and body mass index.

15. Pregnancy testing

Performing a test of the urine to detect hormones which indicate that the patient is pregnant.

THERAPEUTIC PROCEDURES

16. Administering oxygen

Allowing the patient to breathe a higher concentration of oxygen than normal, via a face mask or other equipment.

17. Establishing peripheral intravenous access and setting up an infusion; use of infusion devices

'cannula'), to allow fluids to be infused into the vein (a 'drip'). Connecting the tube to a source of fluid. Appropriate choice of fluids and their doses. Correct use of electronic devices which drive and regulate the rate of fluid administration.

Puncturing a patient's vein in order to insert an indwelling plastic tube (known as a

18. Making up drugs for parenteral administration

Preparing medicines in a form suitable for injection into the patient's vein. May involve adding the drug to a volume of fluid to make up the correct concentration for injection.

19. Dosage and administration of insulin and use of sliding scales

solution to use, and how it should be given (for example, into the skin, or into a vein). Use of a 'sliding scale' which links the number of units to the patient's blood glucose measurement at the time.

Calculating how many units of insulin a patient requires, what strength of insulin

20. Subcutaneous and intramuscular injections

Giving injections beneath the skin and into muscle.

21. Blood transfusion

(including correct identification of the patient and checking blood groups). Observation for possible reactions to the transfusion, and actions if they occur.

Following the correct procedures to give a transfusion of blood into the vein of a patient

22. Male and female urinary catheterisation

Passing a tube into the urinary bladder to permit drainage of urine, in male and female patients.

23. Instructing patients in the use of devices for inhaled medication

Providing instructions for patients about how to use inhalers correctly, for example, to treat asthma.

24. Use of local anaesthetics

Using drugs which produce numbness and prevent pain, either applied directly to the skin or injected into skin or body tissues.

25. Skin suturing

Repairing defects in the skin by inserting stitches (normally includes use of local anaesthetic).

26. Wound care and basic wound dressing

Providing basic care of surgical or traumatic wounds and applying dressings appropriately.

27. Correct techniques for 'moving and handling', including patients

Using, or directing other team members to use, approved methods for moving, lifting and handling people or objects, in the context of clinical care, using methods that avoid injury to patients, colleagues, or oneself.

GENERAL ASPECTS OF PRACTICAL PROCEDURES

28. Giving information about the procedure, obtaining and recording consent, and ensuring appropriate aftercare

Making sure that the patient is fully informed, agrees to the procedure being performed, and is cared for and watched appropriately after the procedure.

29. Hand washing (including surgical 'scrubbing up')

Following approved processes for cleaning hands before procedures or surgical operations.

30. Use of personal protective equipment (gloves, gowns, masks)

Making correct use of equipment designed to prevent the spread of body fluids or cross-infection between the operator and the patient.

31. Infection control in relation to procedures

Taking all steps necessary to prevent the spread of infection before, during or after a procedure.

32. Safe disposal of clinical waste, needles and other 'sharps'

Ensuring that these materials are handled carefully and placed in a suitable container for disposal.