

MEDICINE AND ALLIED SPECIALTIES

Objectives:

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

1. Elicit clinical history, perform thorough physical examination, elicit physical signs, interpret findings, develop differential diagnoses and request relevant laboratory investigations.
2. Diagnose common clinical disorders with special reference to infectious diseases, nutritional disorders, lifestyle diseases, tropical and environmental diseases.
3. Plan relevant diagnostic and investigative procedures and be able to interpret them.
4. Outline the principles of management and prevention of common health problems affecting the community.
5. Plan and write prescription for comprehensive treatment using the principles of rational drug therapy
6. Provide first level care for common medical conditions and emergencies and recognize the timing and level of referral, if required.
7. Perform essential bedside procedures like venepuncture, SC and IM injections, biological fluid examinations.
8. Assist common bedside procedures like pleural aspiration, bone marrow aspiration and biopsy, lumbar puncture etc.
9. Resuscitate a patient efficiently by providing Basic Life Support in emergencies.
10. Develop an interest in the care for all types of patients.
11. Evaluate each patient as a person in society and not merely a collection of organ systems or symptoms and signs.
12. Discern the hopes and fears of patients, which underlie the symptom complexes and know how to handle these emotions, both in himself / herself and others.
13. Demonstrate skills in documentation of case details including epidemiological data.
14. Respect patients' rights and privileges including patients' right to information and right to seek a second opinion.
15. Demonstrate empathy and humane approach towards patients and their families and respect their sensibilities.
16. Demonstrate communication skills in interviewing patients, providing explanations to patients and families about the management and prognosis, providing counseling and giving health education messages to patients, families and communities.
17. Have an open attitude to the developments in Medicine so as to be aware of the need to keep abreast of new knowledge.
18. Learn and adopt new ideas and new situations where resources may be limited.
19. Comprehend, accept and manage the uncertainties in scientific knowledge and medical practice.
20. Understand the ethical and legal implications of his/her medical decisions.

Topics	Must know	Desirable to know
4. Fluid, Electrolyte and Acid-base Imbalance		
Fluid and electrolyte balance; acidosis and alkalosis in particular relevance to diarrhea, vomiting, dehydration, uremia and diabetic ketoacidosis	✓	
5. Poisonings, Stings and Bites		
General approach to the poisoned patient	✓	
Poisoning by specific pharmaceutical agents- organophosphorus compounds, methyl alcohol, narcotics, aluminium phosphide, sedatives/ hypnotics, other poisonings common locally	✓	
Drugs of misuse	✓	
Snake bite and Envenomation	✓	
Other bites and stings - scorpion, spider		✓
6. Specific Environmental and Occupation Hazards		
Heatstroke and hypothermia	✓	
Chemicals and pesticides	✓	
Drowning and near drowning	✓	
Electrical injuries	✓	
Radiation injury	✓	
Heavy metal poisoning	✓	
7. Immune Response and Infections		
Approach to infectious diseases - diagnostic and therapeutic principles	✓	
Immune defense mechanisms	✓	
Laboratory diagnosis of infections	✓	
Principles of immunization and vaccine use	✓	
Immunodeficiency disorders - acquired	✓	
Immunodeficiency disorders - congenital		✓
Clinical syndromes - diagnostic and therapeutic approach	✓	
<ul style="list-style-type: none"> • The febrile patient 		
<ul style="list-style-type: none"> • Fever and rash 		
<ul style="list-style-type: none"> • Fever of unknown origin 		
<ul style="list-style-type: none"> • Infective endocarditis 		
<ul style="list-style-type: none"> • Intra-abdominal infections and abscesses 		
<ul style="list-style-type: none"> • Acute infectious diarrhoeal diseases and food poisoning 		
<ul style="list-style-type: none"> • Sexually transmitted diseases - overview & clinical approach 		
<ul style="list-style-type: none"> • Infections of skin, muscle & soft tissues 		
<ul style="list-style-type: none"> • Osteomyelitis 		
<ul style="list-style-type: none"> • Hospital acquired infections 		
<ul style="list-style-type: none"> • Infections in immuno-compromised hosts 		

Topics	Must know	Desirable to know
8. Specific Infections - Epidemiology, clinical features, laboratory diagnosis, rational use of antimicrobial therapy against the following and their prevention:		
Protozoal infections		
Amoebiasis, Giardiasis, Malaria, Leishmaniasis Trichomoniasis	✓	
Toxoplasmosis, Trypanosomiasis	✓	
Bacterial infections :		
Common gram positive infections	✓	
Common gram-negative infections	✓	
Enteric fevers	✓	
Tetanus	✓	
Pertussis and diphtheria		✓
Legionella infections		✓
Botulism		✓
Gas gangrene, other clostridia infections		✓
Cholera	✓	
Shigellosis and bacillary dysentery		✓
Brucellosis		✓
Plague		✓
Leptospirosis	✓	
Donovanosis (Granuloma inguinale)		✓
Helicobacter Pylori		✓
Infections due to pseudomonas & other gram- negative bacteria	✓	
Anaerobic infections	✓	
Mycobacterial diseases		
Tuberculosis	✓	
Leprosy	✓	
Viral infections		
Common exanthemata e.g.Measles, mumps, rubella, varicella	✓	
Herpes simplex and herpes zoster	✓	
Influenza and other common viral respiratory infections	✓	
Human immunodeficiency virus (HIV)	✓	
Viral gastroenteritis	✓	
Dengue fever	✓	
Rabies	✓	
Viral encephalitis		✓
Infectious mononucleosis		✓

Topics	Must know	Desirable to know
Rickettsia, Mycoplasma & Chlamydial diseases		✓
Infections in immunocompromised host	✓	
Common fungal infections e.g. Candidiasis, Aspergillosis, Histoplasmosis, Cryptococcosis, Mucormycosis, Pneumocystis carinii	✓	
Common worm infestations e.g. hookworm, roundworm, thread worm	✓	
9. Cardiovascular system		
Clinical examination of the cardiovascular system	✓	
Functional anatomy, physiology and investigations	✓	
Major manifestations of cardiovascular disease	✓	
Chest pain, breathlessness, palpitation, Acute circulatory failure (cardiogenic shock) Presyncope and syncope, Cardiac arrest and sudden cardiac death, Abnormal heart sounds and murmurs		
ECG, x ray chest with reference to common CVS diseases	✓	
Acute and chronic congestive cardiac failure	✓	
Rheumatic fever and rheumatic heart disease	✓	
Valvular heart disease	✓	
Infective endocarditis	✓	
Coronary artery disease	✓	
Common congenital heart disease in the adults: ASD, VSD, PDA, TOF and coarctation of aorta	✓	
Cor pulmonale	✓	
Hypertension and hypertensive heart disease	✓	
Common cardiac arrhythmias	✓	
Deep vein thrombosis	✓	
Atherosclerosis and peripheral vascular disease		✓
Pericardial disease: pericardial effusion and cardiac tamponade	✓	
Aortic aneurysm		✓
Myocarditis and cardiomyopathy		✓
10. Respiratory system		
Clinical examination of the respiratory system	✓	
Respiratory physiology and diagnostic investigations - x ray chest, sputum examination, pulmonary function tests	✓	
Bronchoscopy		✓
Major manifestations of lung disease		
Cough, dyspnoea, chest pain, haemoptysis, the solitary radiographic pulmonary lesion, Acute and chronic respiratory failure	✓	
Upper respiratory infections	✓	
Pneumonias	✓	

Topics	Must know	Desirable to know
Bronchial asthma	✓	
Chronic obstructive pulmonary disease	✓	
Pulmonary tuberculosis: different presentations	✓	
Suppurative lung diseases: bronchiectasis, lung abscess	✓	
Pleural diseases - effusion, empyema, pneumothorax	✓	
Interstitial and infiltrative lung diseases	✓	
Common occupational lung diseases	✓	
Tumors of the bronchus and lung	✓	
Pulmonary vascular diseases	✓	
<ul style="list-style-type: none"> • Pulmonary hypertension • Pulmonary thromboembolism 		
Acute respiratory distress syndrome	✓	
Obstructive sleep apnoea		✓
Diseases of the nasopharynx, larynx and trachea		✓
Diseases of the mediastinum, diaphragm and chest wall		✓
11. Renal and genito-urinary system		
Renal physiology and common renal function tests: urine examination, renal function tests, common imaging methods	✓	
Major manifestations of renal and urinary tract disease : Dysuria, pyuria, urethral symptoms, disorders of urine volume, hematuria, proteinuria, oedema, incontinence, obstruction of the urinary tract	✓	
Acute renal failure	✓	
Chronic renal failure	✓	
Urinary tract infections and pyelonephritis	✓	
Congenital abnormalities of the kidneys and urinary system		✓
Glomerulonephritides and nephrotic syndrome	✓	
Tubulo-interstitial diseases		✓
Renal involvement in systemic disorders	✓	
Drugs and the kidney	✓	
Renal vascular diseases		✓
Urinary tract calculi and nephrocalcinosis	✓	
Tumors of the kidney and genitourinary tract		✓
Renal replacement therapy: basics		✓

Topics	Must know	Desirable to know
12. Gastrointestinal tract		
Clinical examination of the abdomen	✓	
Basic investigations: stool examination, role of imaging, endoscopy and tests of functions	✓	
Major manifestations of gastrointestinal disease		
Abdominal pain (acute and chronic), dysphagia, dyspepsia, vomiting, constipation, diarrhea, abdominal lump, weight loss, gastrointestinal bleeding-upper and lower, approach to the patient with gastrointestinal disease	✓	
Diseases of the mouth and salivary glands - oral ulcers, candidiasis, parotitis	✓	
Diseases of the oesophagus - GERD, other motility disorders, oesophagitis, carcinoma oesophagus	✓	
Diseases of the stomach and duodenum-gastritis, peptic ulcer disease, tumors of stomach	✓	
Disease of the small intestine	✓	
Acute gastroenteritis & food poisoning , acute, sub-acute and chronic intestinal obstruction, intestinal tuberculosis		
Inflammatory bowel disease		✓
Malabsorption syndrome		
Tumors of small intestine		
Disorders of the colon and rectum	✓	
Bacillary dysentery, amoebic colitis ,ulcerative colitisTumors of the colon & rectumIrritable bowel disease		
Abdominal tuberculosis :peritoneal,nodal, gastrointestinal	✓	
Ischaemic gut injury		✓
Anorectal disorders	✓	
Diseases of the peritoneal cavity :acute and chronic peritonitis, ascites	✓	
13 . Disease of pancreas		
Acute and chronic pancreatitis	✓	
Tumors of pancreas		✓
14. Hepatobiliary tract disease		
Clinical examination of the abdomen for liver and biliary disease	✓	
Functional anatomy, physiology , liver function tests, basics of role of imaging of the hepatobiliary disease	✓	
Major manifestations of liver disease	✓	
<ul style="list-style-type: none"> • 'Asymptomatic' abnormal liver function tests • Jaundice • Acute (fulminant) hepatic failure 		

Topics	Must know	Desirable to know
<ul style="list-style-type: none"> • Portal hypertension and ascites • Hepatic (porto-systemic encephalopathy) 		
Hepatorenal failure		✓
Liver abscess- amoebic & pyogenic	✓	
Acute and chronic hepatitis -viral and toxic	✓	
Alcoholic liver disease	✓	
Cirrhosis of liver and chronic liver disease	✓	
Fatty liver and non alcoholic steatohepatitis		✓
Infiltrative diseases of liver		✓
Acute and chronic 'cholecystitis', cholelithiasis	✓	
Tumors of gall bladder and bile ducts		✓
15. Endocrine and Metabolic disorders		
Diabetes mellitus: aetiopathogenesis, diagnosis, management, recognition of acute and chronic complications, and immediate management of acute complications , special problems in management	✓	
Hypo and hyperthyroidism - major manifestations, recognition, interpretation of thyroid function tests	✓	
Iodine deficiency disorders	✓	
Cushing's syndrome and Addison's disease - recognition	✓	
Pituitary disorders: Acromegaly and Sheehan's syndromes		✓
Calcium and phosphorus metabolism: parathyroid and metabolic bone Disease	✓	
Hypogonadism		✓
Hypopituitarism and hyperpituitarism		✓
Hypothalamic disorders		✓
Hypoparathyroidism and hyperparathyroidism		✓
16. Hematological disorders		
Definition, prevalence, etiological factor, pathophysiology, pathology, recognition, investigations and principles of treatment of:	✓	
<ul style="list-style-type: none"> • Anemias: iron deficiency, megaloblastic and common haemolytic anemias (thalassemia, sickle cell and acquired hemolytic) • Common bleeding disorders (thombocytopenia and hemophilia) • Agranulocytosis and aplastic anemia 		
Leukemias: Recognition, diagnosis, differential diagnosis and broad principles of management	✓	
Lymphomas: Recognition , diagnosis , differential diagnosis and broad principles of management	✓	
Blood group and transfusion: Major blood group systems and histo compatibility complex, concepts of transfusion and component therapy;	✓	

Topics	Must know	Desirable to know
indications for transfusion therapy, precautions to be taken during blood transfusion, hazards of transfusion and safe handling of blood and blood products		
Disorders of coagulation and venous thrombosis	✓	
Bone marrow transplantation		✓
17. Disorders of the Immune System, Connective Tissue and Joints		
Introduction to the immune system and autoimmunity	✓	
Primary immune deficiency diseases		✓
HIV, AIDS and related disorders	✓	
Recognition of major manifestations of musculoskeletal disease: Joint pain, bone pain, muscle pain and weakness, regional periarticular pain, back and neck pain	✓	
Approach to articular and musculoskeletal disorders	✓	
Inflammatory joint disease	✓	
Infectious arthritis	✓	
Inflammatory muscle disease		✓
Osteoarthritis	✓	
Systemic connective tissue diseases - systemic lupus erythematosus, rheumatoid arthritis, progressive systemic sclerosis	✓	
Vasculitides		✓
Ankylosing spondylitis, reactive arthritis and undifferentiated spondyloarthropathy		✓
Sarcoidosis	✓	
Amyloidosis	✓	
Musculoskeletal manifestations of disease in other systems	✓	
Diseases of bone		✓
18. Neurological Diseases		
Clinical examination of nervous system	✓	
Functional anatomy, physiology and investigations : EEG, basics of brain and spinal cord imaging	✓	
Major manifestations of nervous system disease: Headache and facial pain, raised intracranial tension, faintness, dizziness, syncope & vertigo, sleep disorders, disorders of movement, ataxia, sensory disturbances (numbness, tingling and sensory loss), acute confusional states, coma and brain death, aphasia and other focal cerebral disorders, speech, swallowing and brain-stem disturbance, visual disturbances, sphincter disturbances	✓	
Migraine and cluster headaches	✓	
Seizures and epilepsy	✓	
Cerebrovascular disease	✓	
Dementias including Alzheimer's disease	✓	

Topics	Must know	Desirable to know
Acute and chronic meningitis	✓	
Viral encephalitis		✓
Diseases of cranial nerves		✓
Intracranial tumours		✓
Diseases of spinal cord -transverse myelitis and cord compression	✓	
Multiple sclerosis and other demyelinating diseases		✓
Parkinson's disease and other extrapyramidal disorders		✓
Cerebellar disorders	✓	
Motor neuron disease		✓
Peripheral neuropathy	✓	
Neurological manifestations of system diseases	✓	
Nutritional and metabolic diseases of the nervous system	✓	
Myasthenia gravis and other diseases of neuromuscular junction		✓
Diseases of muscle		✓
Recognition of brain death	✓	
19. Clinical Pharmacology and Therapeutics		
Principles of drug therapy	✓	
Adverse drug reactions	✓	
Drug interactions	✓	
Monitoring drug therapy	✓	
Rational prescription writing	✓	
Concept of essential drugs	✓	
20. Critical Care Medicine		
Physiology of the critically ill patient	✓	
Recognition of major manifestations of critical illness circulatory failure: shock, respiratory failure, renal failure, comasepsis, disseminated intravascular coagulation	✓	
General principles of critical care management	✓	
Scoring systems of critical care		✓
Outcome and costs of intensive care		✓
Ethical issues related to critical care	✓	
21. Pain Management and Palliative Care		
General principles of pain	✓	
Assessment and treatment of pain	✓	
Palliative care		✓
22. Geriatrics		
Principles of Geriatric Medicine:	✓	

Topics	Must know	Desirable to know
Normal ageing	✓	
Clinical assessment of frail elderly	✓	
Decisions about investigations and rehabilitation	✓	
Major manifestations of diseases in elderly	✓	
Special issues for care of elderly	✓	
23. Medical Ethics		
Principles of medical ethics- Beneficence, non -maleficence, patient autonomy, equity Different concepts- health ethics, bioethics, public health ethics	✓	
Brief introduction to perspectives of medical ethics: Hippocratic Oath, declaration of Helsinki, WHO declaration of Geneva, International code of Medical Ethics (1983), Medical Council of India Code of Ethics	✓	
Ethics of the individual: Confidentiality, physician patient relationship, Patient autonomy, organ donation	✓	
Death and dying, and Euthanasia	✓	
Ethics of human life: In vitro fertilization, prenatal sex-determination, surrogate motherhood, genetic engineering	✓	
Professional ethics: Code of conduct, fee charging and splitting, allocation of resources in health care	✓	
Family and society in medical ethics: Family planning, Care of terminally ill/dying patient	✓	
Ethical work up of cases: Gathering information, gain confidentiality, shared decision making, informed consent	✓	
Research ethics: animal and experimental research, human experimentation, informed consent, drug trials	✓	
Practice of universal precautions	✓	
Bio medical waste: types, potential risks and their safe management	✓	
PEP Prophylaxis	✓	
Hand washing	✓	
23. Medical Psychiatry		
Classification of psychiatric disorders	✓	
Aetiological factors in psychiatric disorders	✓	
The clinical interview and mental state examination	✓	
Major manifestations of psychiatric illness	✓	
<ul style="list-style-type: none"> • Distrubed and aggressive behavior 	✓	
<ul style="list-style-type: none"> • Delusions and hallucinations 	✓	
<ul style="list-style-type: none"> • Depressive Symptoms 	✓	
<ul style="list-style-type: none"> • Anxiety symptoms 	✓	
<ul style="list-style-type: none"> • Deliberate self-harm and suicidal ideation 	✓	

Topics	Must know	Desirable to know
<ul style="list-style-type: none"> Alcohol misuse and withdrawal Misuse of drugs other than alcohol Medically unexplained physically symptoms and functional somatic syndromes Psychiatric and psychological aspects of chronic and progressive disease 	<ul style="list-style-type: none"> ✓ ✓ ✓ 	<ul style="list-style-type: none"> ✓
Clinical syndromes		
<ul style="list-style-type: none"> Organic brain syndromes Substance abuse-Alcohol-Drugs Bipolar disorders Depressive disorders Schizophrenia 	<ul style="list-style-type: none"> ✓ ✓ ✓ ✓ ✓ 	
Treatments used in psychiatry		
<ul style="list-style-type: none"> Psychological treatments Physical treatments 	<ul style="list-style-type: none"> ✓ ✓ 	
Neurotic, stress-related and somatoform disorders		
<ul style="list-style-type: none"> Anxiety Obsessive compulsive disorders Dissociative disorders 	<ul style="list-style-type: none"> ✓ ✓ ✓ 	
Sleep disorders	✓	
Legal aspects of psychiatry	✓	

Teaching and Learning methods

Lectures, Small group discussions, Seminars, Algorithms, Problem Based Learning, Videography, Integrated teachings and e-modules.

Skills

Skill labs, Role play, Problem based - paper and real cases, Integrated teaching and Field visits.