

FACULTY OF MEDICAL SCIENCES UNIVERSITY OF DELHI

Curriculum for MBBS in Medicine

Goal:

The broad goal of MBBS course in Medicine is for the students to acquire knowledge base, skills and behavioral attributes to function effectively as the first contact physician.

Departmental Objectives:

At the end of the MBBS course, the student should be able to possess knowledge, skills and behavioral attributes to:

1. Elicit a detailed and good 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, and 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, and 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 (BLS) 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. Be able to 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 counselling 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 to be adaptable to 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.
21. Introduction to alternative system of medicine, Yoga & useful medicinal plants.

Course Content

1. Clinical Methods in the Practice of Medicine

Course Contents	Must know	Desirable to know
Clinical approach to patients: The art of history taking & skill of examination in medicine, doctor-patient relationship, communication skills, doctor's responsibilities.	✓	
Clinical approach to disease and care of patients: Clinical diagnostic reasoning i.e. diagnostic possibilities based on interpretation of history, physical findings and laboratory investigations.	✓	
Principles of rational management: Keeping in mind the best evidence in favour of or against different remedial measures Evidence based Medicine (EBM)	✓	

2. Common Symptoms of Disease

Course Contents	Must know	Desirable to know
Pain: pathophysiology, clinical types, assessment and management.	✓	
Fever: clinical assessment and management	✓	
Cough, chest pain, dyspnoea, hemoptysis	✓	
Edema, anasarca, ascites	✓	
Pallor, jaundice	✓	
Bleeding	✓	
Anorexia, nausea and vomiting	✓	
Constipation and diarrhea	✓	
Hematemesis, melena and hematochezia	✓	
Common urinary symptoms – dysuria, pyuria, anuria,	✓	

oliguria, polyuria, nocturia, enuresis		
Body pains and joint pains	✓	
Headache, seizures, fainting, syncope, dizziness, vertigo	✓	
Disturbances of consciousness and coma	✓	
Weight loss and weight gain	✓	

Course Contents	Must know	Desirable to know
Clinical genetics – common types, clinical presentation, investigation and prevention of genetic diseases and genetic counseling	✓	
Medical disorders associated with pregnancy (specially anemia, hypertension, diabetes mellitus and heart diseases)	✓	

3. Nutrition and Nutritional Disorders

Course Contents	Must know	Desirable to know
Nutritional assessment & needs	✓	
Protein energy malnutrition	✓	
Obesity	✓	
Vitamin deficiency & excess	✓	
Mineral deficiency and excess	✓	
Diet therapy	✓	
Parental nutrition therapy		✓

4. Fluid, Electrolyte and Acid-base Imbalance

Course Contents	Must know	Desirable to know
Fluid and electrolyte balance; acidosis and alkalosis in particular relevance to diarrhea, vomiting, dehydration, uremia and diabetic ketoacidosis	✓	

5. Poisonings, Stings and Bites

Course Contents	Must know	Desirable to know
General approach to the poisoned patient	✓	
Poisoning by specific pharmaceutical agents – organophosphorus compounds, methyl alcohol, narcotics, aluminium phosphide, sedatives/hypnotics, other poisonings common locally (copper sulphate, Dhatura)	✓	
Drugs of misuse (alcohol/cannabis/cocaine)	✓	
Snake bite and Envenomation	✓	
Other bites and stings – scorpion, spider	✓	

6. Specific Environmental and Occupational Hazards

Course Contents	Must know	Desirable to know
Heatstroke and hypothermia	✓	
Chemicals and pesticides	✓	
Drowning and near drowning	✓	
Electrical injuries	✓	
Radiation injury		✓
Heavy metal poisoning		✓
High altitude illness	✓	

7. Immune Response and Infections

Course Contents	Must know	Desirable to know
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 • Fever and rash • Fever of unknown origin • Infective endocarditis • Intra-abdominal infections and abscesses • Acute infectious diarrhoeal diseases and food poisoning • Sexually transmitted diseases – overview & clinical approach • Infections of skin, muscle & soft tissues • Hospital acquired infections • Infections in immune-compromised hosts 	✓	

8. Specific Infections – Epidemiology, clinical features, laboratory diagnosis, rational use of antimicrobial therapy against the following and their prevention:

Course Contents	Must know	Desirable to know
Protozoal infections Amoebiasis, Giardiasis, Malaria, Leishmaniasis Trichomoniasis, Toxoplasmosis, Filariasis	✓	
Toxoplasmosis	✓	
Bacterial infections Common gram positive infections and gram-negative infections	✓	
Enteric fever	✓	
Tetanus	✓	
Meningococcal infections	✓	
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 (Typical & atypical)	✓	
Leprosy	✓	
Viral infections, Fungal, Spirochetal & Parasitic & others 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		✓
Rickettsia, Mycoplasma & Chlamydial diseases		✓
Fungal infections in immunocompromised host	✓	
Common fungal infections e.g. Candidiasis, Aspergillosis Histoplasmosis, Cryptococcosis, Mucormycosis, Pneumocystis carinii	✓	
Parasitic worm infestations e.g. hookworm, roundworm, thread worm, tapeworm	✓	
Spirochete: syphilis and non syphilitic	✓	

9. Cardiovascular system

Course Contents	Must know	Desirable to know
Functional anatomy, physiology and investigations	✓	
Clinical examination of the cardiovascular system	✓	
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	✓	
Investigative approach to common Cardiovascular diseases ECG, x ray chest, echocardiography	✓	
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 diseases, aortoarteritis		✓
Myocarditis and cardiomyopathy		✓

10. Respiratory system

Course Contents	Must know	Desirable to know
Respiratory physiology and diagnostic investigations – x ray chest, sputum examination, pulmonary function tests	✓	
Clinical examination of the respiratory system	✓	
Investigative approach to common respiratory diseases	✓	
Major manifestations of lung disease Cough, dyspnoea, chest pain, haemoptysis Acute and chronic respiratory failure	✓	
Upper respiratory infections	✓	
Pneumonias	✓	
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 a. Pulmonary hypertension b. 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 genitourinary system

Course Contents	Must know	Desirable to know
Renal physiology, common renal function tests urine examination, renal function tests and 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 nephritic 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	✓	

12. Gastrointestinal tract

Course Contents	Must know	Desirable to know
Clinical examination of the abdomen	✓	
Basic investigations: stool examination, role of imaging, endoscopy and tests of functions	✓	
Major manifestations of gastrointestinal diseases and approach to the patient with gastrointestinal disease Abdominal pain (acute and chronic), dysphagia, dyspepsia, vomiting, constipation, diarrhea, abdominal lump, weight loss, gastrointestinal bleeding upper and lower,	✓	
Diseases of the mouth and salivary gland – oral ulcers, candidiasis, parotitis	✓	
Diseases of the oesophagus – GERD, other motility disorders, oesophagitis, carcinoma oesophagus	✓	
Diseases of the stomach and duodenum and 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 colitis Tumors of the colon & rectum Irritable bowel disease	✓	
Abdominal tuberculosis: peritoneal, nodal, intestinal	✓	
Ischaemic gut injury		✓
Anorectal disorders	✓	
Diseases of the peritoneal cavity: acute and chronic peritonitis, ascites	✓	

13. Disease of pancreas

Course Contents	Must know	Desirable to know
Acute and chronic pancreatitis	✓	
Tumors of pancreas		✓

14. Hepatobiliary tract disease

Course Contents	Must know	Desirable to know
Functional anatomy, physiology, liver function tests, basics of role of imaging of the hepatobiliary disease	✓	
Clinical examination of the abdomen for liver and biliary diseases	✓	
Major manifestations of liver disease <ul style="list-style-type: none"> • 'Asymptomatic' abnormal liver function tests • Jaundice • Acute (fulminant) hepatic failure • Portal hypertension and ascites • Hepatic 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 and autoimmune diseases of liver		✓
cholecystitis (Acute and chronic), choletithiasis		✓

15. Endocrine and Metabolic disorders

Course Contents	Must know	Desirable to know
Diabetes mellitus: aetiopathogenesis, symptoms, diagnosis, management, recognition of acute and chronic complications, and immediate management of acute complications, special problems in management, Diabetic	✓	

Keto Acidosis (DKA), Hypoglycaemia, Hyperosmolar coma		
Hypo and hyperthyroidism – major manifestations, recognition, etiology, interpretation of thyroid function tests, Graves disease its treatment and complications	✓	
Iodine deficiency disorders, Goitre (diffuse and nodular)	✓	
Cushing’s syndrome and Addison’s disease – recognition, investigations and treatment	✓	
Growth disorders, Pituitary disorders: Acromegaly and Sheehan’s syndromes		✓
Calcium and phosphorus metabolism and metabolic bone disease, osteoporosis	✓	
Hypogonadism		✓
Hypothalamic disorders		✓
Hypoparathyroidism and hyperparathyroidism		✓

16. Hematological disorders

Course Contents	Must know	Desirable to know
Definition, prevalence, etiological factors, pathophysiology, pathology, recognition, differential diagnosis, 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) Agranulocytosis and aplastic anemia Common bleeding disorders (thrombocytopenia and hemophilia) 	✓	
Leukemias: Recognition, diagnosis, differential diagnosis and broad principles of management	✓	
Lymphomas: Recognition, diagnosis, differential diagnosis and broad principles of management	✓	
Multiple Myeloma	✓	
Blood group and transfusion: Major blood group systems and histo-compatibility complex, concepts of transfusion and component therapy; 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

Course Contents	Must know	Desirable to know
Introduction to the immune system and autoimmunity	✓	
Primary immune deficiency diseases		✓

HIV, AIDS and related disorders	✓	
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18. Connective Tissue and Joints

Course Contents	Must know	Desirable to know
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	✓	

19. Neurological Diseases

Course Contents	Must know	Desirable to know
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, dizziness, syncope & vertigo, sleep disorders, disorders of movement, ataxia, sensory disturbances (numbness, tingling and sensory loss), acute confusional states, loss of consciousness, coma and brain death, aphasia and other focal cerebral disorders, speech, swallowing, brain-stem disturbance, visual disturbances and sphincter disturbances	✓	
Migraine and cluster headaches	✓	

Seizures and epilepsy	✓	
Cerebrovascular disease	✓	
Dementias including Alzheimer's disease	✓	
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 systemic diseases	✓	
Nutritional and metabolic diseases of the nervous system	✓	
Myasthenia gravis and other disease of neuromuscular junction		✓
Diseases of muscle		✓
Recognition of brain death	✓	

20. Clinical Pharmacology and Therapeutics

Course Contents	Must know	Desirable to know
Principles of drug therapy	✓	
Adverse drug reactions	✓	
Drug interactions	✓	
Monitoring drug therapy	✓	
Rational prescription writing	✓	
Concept of essential drugs	✓	

21. Critical Care Medicine

Course Contents	Must know	Desirable to know
Physiology of the critically ill patient	✓	
Recognition of major manifestations of critical illness circulatory failure, shock, respiratory failure, renal failure, coma, sepsis, disseminated intravascular coagulation	✓	
General principles of critical care management	✓	

22. Pain Management and Palliative Care

Course Contents	Must	Desirable
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	know	to know
General principles of pain management	✓	
Assessment and treatment of pain	✓	
Palliative care	✓	

23. Geriatrics

Course Contents	Must know	Desirable to know
Principles of Geriatric Medicine	✓	
Normal ageing		✓
Clinical assessment of frail elderly	✓	
Decisions about investigations and rehabilitation	✓	
Major manifestations of diseases in elderly	✓	
Special issues for care of elderly	✓	
Drug therapy in elderly	✓	

24. Medical Ethics

Course Contents	Must know	Desirable to know
Principles of medical ethics – Beneficence, non – maleficences, 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	✓	

25. Mental health

Course Contents	Must	Desirable
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	know	to know
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"> • Disturbed and aggressive behaviour • Delusions and hallucinations • Depressive symptoms • Anxiety symptoms • Deliberate self-harm and suicidal intention • Alcohol misuse and withdrawal • Misuse of drugs other than alcohol • Medically unexplained physical symptoms and functional somatic syndromes • Psychiatric and psychological experts of chronic and progressive disease 	✓	
Clinical syndromes <ul style="list-style-type: none"> • Organic brain syndromes • Substance abuse • Alcohol • Drugs • Bipolar disorders • Depressive disorders • schizophrenia 	✓	
Neurotic, stress-related and somatoform disorders <ul style="list-style-type: none"> • Anxiety • Obsessive compulsive disorders • Dissociative disorders 	✓	
Treatments used in psychiatry <ul style="list-style-type: none"> • Psychotherapy, drug treatments, ECT 	✓	
Sleep disorders		✓
Legal aspects of psychiatry		✓
Health hazards of tobacco	✓	
Deaddiction	✓	

26 Communication Skills Training

Communication Skills Training Objectives

- * Raising Awareness
- * Understanding Communication Dynamics
- * Working with Body Language
- * Developing Listening and Responding Skills
- * Gaining Confidence
- * Dealing with Assumptions
- * Working with Differing Points of View
- * Understanding Patterns, Habits and Beliefs

- * Developing Individual Strengths and Qualities
- * Understanding Active vs Passive Choosing
- * Using Positive Reinforcement
- * Conflict Management
- * Being More InCharge

Communication Skills have to be developed, honed and added to on an on-going basis. They are at the heart of interpersonal skills and the greater your awareness of how it all works, the more effective your communication will be.