

CLINICAL TRAINING - GOALS AND OBJECTIVES

Module: Medicine

i) Goal:

The broad goal of the teaching of undergraduate students in Medicine is to have the knowledge, skills and behavioral attributes to function effectively as the first contact physician.

ii) Objectives:

a. Knowledge:

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

- (1) diagnose common clinical disorders with special reference to infectious diseases, nutritional disorders, tropical and environmental diseases.
- (2) outline various modes of management including drug therapeutics especially dosage, side effects, toxicity, interactions, indications and contra-indications.
- (3) propose diagnostic and investigative procedures and ability to interpret them.
- (4) provide first level management of acute emergencies promptly and efficiently and decide the timing and level of referral, if required.
- (5) recognize geriatric disorders and their management.

b. Skills:

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

- (1) develop clinical skills (history taking, clinical examination and other instruments of examination) to diagnose various common medical disorders and emergencies.
- (2) refer a patient to secondary and/or tertiary level of health care after having instituted primary care.
- (3) perform simple routine investigations like haemogram, stool, urine, sputum and biological fluid examinations.
- (4) assist the common bedside investigative procedures like pleural tap, lumbar puncture, bone marrow aspiration/biopsy and liver biopsy

Dermatology And Venerology (including HIV/AIDS)

i) Goal:

The aim of teaching the undergraduate student in Dermatology and Venerology including HIV/AIDS is to impart such knowledge and skills that may enable her/him to diagnose and treat common ailments and

to refer rare diseases or complications/unusual manifestations of common diseases, to the specialist.

ii) Objectives:

a. Knowledge:

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

(1) demonstrate sound knowledge of common diseases, their clinical manifestations, including emergent situations and of investigative procedures to confirm their diagnosis:

(2) demonstrate comprehensive knowledge of various modes of therapy used in treatment of respiratory diseases;

(3) describe the mode of action of commonly used drugs, their doses, side effects/ toxicity, indications and contra-indications and interactions;

(4) describe commonly used modes of management including the medical and surgical procedures available for the treatment of various diseases and to offer a comprehensive plan of management for a given disorder;

b. Skills:

The student should be able to:

(1) interview the patient, elicit relevant and correct information and describe the history in a chronological order.

(2) conduct clinical examination, elicit and interpret physical findings and diagnose common disorders and emergencies;

(3) perform simple, routine investigative and office procedures required for making the bed-side diagnosis, especially the examination of scrapings for fungus, preparation of slit smears and staining for certain conditions;

(4) take a skin biopsy for diagnostic purposes;

(5) manage common diseases recognizing the need for referral for specialized care, in case of inappropriateness of therapeutic response;

(6) assist in the performance of common procedures, like laryngoscopic examination, pleural aspiration, respiratory physiotherapy, laryngeal intubation and pneumo-thoracic drainage/aspiration.

Psychiatry

i) Goal:

The aim of teaching the undergraduate student in psychiatry is to impart such knowledge and skills that may enable him to diagnose and treat common psychiatric disorders, handle psychiatric emergencies and to refer complications/unusual manifestations of common disorders and rare psychiatric disorders to the specialist.

ii) Objectives:

a. Knowledge:

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

- (1) comprehend nature and development of different aspects of normal human behaviour like learning, memory, motivation, personality and intelligence;
- (2) recognize differences between normal and abnormal behaviour;
- (3) classify psychiatric disorders;
- (4) recognize clinical manifestations of the following common syndromes and plan their appropriate management of organic psychosis, functional psychosis, schizo-phrenia, affective disorders, neurotic disorders, personality disorders, psycho-physiological disorders, drug and alcohol dependence, psychiatric disorders of childhood and adolescence;
- (5) describe rational use of different modes of therapy in psychiatric disorders.

b. Skills:

The student should be able to:

- (1) interview the patient and understand different methods of communications in patient-doctor relationship;
- (2) elicit detailed psychiatric case history and conduct clinical examination for assessment of mental status;
- (3) define, elicit and interpret psycho-pathological symptoms and signs.
- (4) diagnose and manage common psychiatric disorders;
- (5) identify and manage psychological reactions and psychiatric disorders in medical and surgical patients in clinical practice and in community setting.

Module: Surgery

i) Goal:

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

ii) Objectives:

a. Knowledge:

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

(1) describe aetiology, pathophysiology, principles of diagnosis and management of common surgical problems including emergencies, in adults and children.

(2) define indications and methods for fluid and electrolyte replacement therapy including blood transfusion.

(3) define asepsis, disinfection and sterilization and recommended judicious use of antibiotics.

(4) describe common malignancies in the country and their management including prevention.

(5) enumerate different types of anaesthetic agents, their indications, mode of administration, contraindications and side effects.

b. Skills:

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

(1) diagnose common surgical conditions both acute and chronic, in adult and children.

(2) plan various laboratory tests for surgical conditions and interpret the results.

(3) identify and manage patients of hemorrhagic, septicaemic and other types of shock.

(4) be able to maintain patent air-way and resuscitate

i) a critically injured patient

ii) a patient with cardio-respiratory failure

iii) a drowning case

(5) monitor patients of head, chest, spinal and abdominal injuries, both in adults and children.

(6) provide primary care for a patient of burns.

(7) acquire principles of operative surgery, including pre-operative, operative and post operative care and monitoring.

(8) treat open wounds including preventive measures against tetanus and gas gangrene.

(9) diagnose neonatal and pediatric surgical emergencies and provide sound primary care before referring the patient to secondary/tertiary centres.

(10) identify congenital anomalies and refer them for appropriate management. in addition to these he should have observed/assisted/ performed the following:

1. Incision and drainage of abscess
2. Debridement and suturing open wound
3. Venesection
4. Excision of simple cyst and tumours
5. Biopsy of surface malignancy
6. Catheterisation and nasogastric intubation
7. Circumcision
8. Meatotomy
9. Vasectomy
10. Peritoneal and pleural aspirations
11. Diagnostic proctoscopy
12. Hydrocele operation
13. Endotracheal intubation
14. Tracheostomy and cricothyroidotomy
15. Chest tube insertion.

Radiology

i) Goal:

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

ii) Objectives:

a. Knowledge:

The student should be able to:

- (1) understand basics of X-ray production, its uses and hazards.
- (2) appreciate and diagnose changes in bones - like fractures, infections, tumours and metabolic bone

diseases.

- (3) identify and diagnose various radiological changes in disease conditions of chest and mediastinum, skeletal system, Gastro- Intestinal Tract (G.I T), Hepatobiliary system and Genito- Urinary (G.U) system.
- (4) learn about various imaging techniques, including isotopes, Computed Tomography (C.T), Ultrasound, (Magnetic Resonance Imaging (M.R.I) and Digital Subtraction Angiography (D.S.A)

b. Skill:

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

- (1) use basic protective techniques during various imaging procedures.
- (2) Interpret common X-ray, radio-diagnostic techniques in various community situations.
- (3) advise appropriate diagnostic procedures in specialized circumstances to appropriate specialists.

Radiotherapy

i) Goal:

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

ii) Objectives:

a. Knowledge:

The students should be able to:

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

b. Skill:

At the completion of the training programme, the student should be able to:

- (1) take a detailed clinical history of the case suspected of having a malignant disease.

- (2) assist various specialists in administration of anticancer drugs and in application and use of various radiotherapeutic equipment, while treating a patient.

Module: Obstetrics & Gynaecology

i) Goal:

The broad goal of the teaching of undergraduate students in Obstetrics and Gynaecology is that he/she should acquire understanding of anatomy, physiology and pathophysiology of the reproductive system and gain the ability to optimally manage common conditions affecting it.

ii) Objectives

a. Knowledge

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

- (1) Outline the anatomy, physiology and pathophysiology of the reproductive system and the common conditions affecting it.
- (2) detect normal pregnancy, labour puerperium and manage the problems he/she is likely to encounter therein.
- (3) list the leading causes of maternal and perinatal morbidity and mortality.
- (4) understand the principles of contraception and various techniques employed, methods of medical termination of pregnancy, sterilisation and their complications.
- (5) identify the use, abuse and side effects of drugs in pregnancy, premenopausal and post-menopausal periods.
- (6) describe the national programme of maternal and child health and family welfare and their implementation at various levels.
- (7) identify common gynaecological diseases and describe principles of their management.
- (8) state the indications, techniques and complications of surgeries like Caesarian section, laparotomy, abdominal and vaginal hysterectomy, Fothergill's operation and vacuum aspiration for medical termination of pregnancy (M.T.P).

b. Skills:

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

- (1) examine a pregnant woman; recognise high risk pregnancies and make appropriate referrals.
- (2) conduct a normal delivery, recognise complications and provide postnatal care.
- (3) resuscitate the newborn and recognise congenital anomalies.
- (4) advise a couple on the use of various available contraceptive devices and assist in insertion in and

removal of intra-uterine contraceptive devices.

- (5) perform pelvic examination, diagnose and manage common gynaecological problems including early detection of genital malignancies.
- (6) make a vaginal cytological smear, perform a post coital test and wet vaginal smear examination for Trichomonas vaginalis, moniliasis and gram stain for gonorrhoea.
- (7) interpret data of investigations like biochemical, histopathological, radiological, ultrasound etc.

Module: Community Medicine

i) Goal:

The broad goal of the teaching of undergraduate students in Community Medicine is to prepare them to function as community and first level physicians in accordance with the institutional goals.

ii) Objectives:

a) Knowledge:

At the end of the course, the student should be able to :-

- (1) describe the health care delivery system including rehabilitation of the disabled in the country;
- (2) describe the National Health Programmes with particular emphasis on maternal and child health programmes, family welfare planning and population control.
- (3) list epidemiological methods and describe their application to communicable and non-communicable diseases in the community or hospital situation.
- (4) apply biostatistical methods and techniques;
- (5) outline the demographic pattern of the country and appreciate the roles of the individual, family, community and socio-cultural milieu in health and disease.
- (6) describe the health information systems.
- (7) enunciate the principles and components of primary health care and the national health policies to achieve the goal of 'Health for All'.
- (8) identify the environmental and occupational hazards and their control.
- (9) describe the importance of water and sanitation in human health.
- (10) understand the principles of health economics, health administration, health education in relation to community.

b) Skills:

At the end of the course, the student should be able to :-

(1) use epidemiology as a scientific tool to make rational decisions relevant to community and individual patient intervention.

(2) collect, analyse, interpret and present simple community and hospital based data.

(3) diagnose and manage common health problems and emergencies at the individual, family and community levels keeping in mind the existing health care resources and in the context of the prevailing socio-cultural beliefs.

(4). diagnose and manage maternal and child health problems and advise a couple and the community on the family planning methods available in the context of the national priorities.

(5) diagnose and manage common nutritional problems at the individual and community level.

(6) plan, implement and evaluate a health education programme with the skill to use simple audio-visual aids.

(7) interact with other members of the health care team and participate in the organisation of health care services and implementations of national health programmes.

Module: Paediatrics

i) Goal:

The broad goal of the teaching of undergraduate students in Pediatrics is to acquire adequate knowledge and appropriate skills for optimally dealing with major health problems of children to ensure their optimal growth and development.

ii) Objectives:

a. Knowledge:

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

(1) describe the normal growth and development during foetal life, neonatal period, childhood and adolescence and outline deviations thereof.

(2) describe the common paediatric disorders and emergencies in terms of epidemiology, etiopathogenesis, clinical manifestations, diagnosis, rational therapy and rehabilitation.

(3) state age related requirements of calories, nutrients, fluids, drugs etc. In health and disease.

(4) describe preventive strategies for common infectious disorders, malnutrition, genetic and metabolic disorders, poisonings, accidents and child abuse.

(5) outline national programmes relating to child health including immunisation programmes.

b. Skills

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

(1) take a detailed pediatric history, conduct an appropriate physical examination of children including neonates, make clinical diagnosis, conduct common bedside investigative procedures, interpret common laboratory investigation results and plan and institute therapy.

(2) take anthropometric measurements, resuscitate newborn infants at birth, prepare oral rehydration solution, perform tuberculin test, administer vaccines available under current national programs, perform venesection, start an intravenous saline and provide nasogastric feeding.

(3) conduct diagnostic procedures such as lumbar puncture, liver and kidney biopsy, bone marrow aspiration, pleural tap and ascitic tap.

(4) distinguish between normal newborn babies and those requiring special care and institute early care to all new born babies including care of preterm and low birth weight babies, provide correct guidance and counselling in breast feeding.

(5). provide ambulatory care to all sick children, identify indications for specialized/inpatient care and ensure timely referral of those who require hospitalization.

Module: Orthopaedics

i) Goal:

The broad goal of teaching students orthopaedics is to enable them to acquire orthopaedics skills and perform certain orthopaedic procedures, provide sound advice about skeletal and related conditions at primary or secondary health care level.

ii) Objectives:

a. Knowledge:

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

(1) explain the principles of recognition of bone injuries and dislocation.

(2) apply suitable methods to detect and manage common infections of bones and joints.

(3) identify congenital, skeletal anomalies and their referral for appropriate correction or rehabilitation.

(4) recognize metabolic bone diseases as seen in this country.

(5) explain etiogenesis, manifestations, diagnosis of neoplasm affecting bones.

b. Skills

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

1. Detect sprains and deliver first aid measures for common fractures and sprains and manage uncomplicated fractures of clavicle, Colle's, forearm, phalanges etc.
2. Perform techniques of splinting, plaster, immobilization etc.
3. Manage common bone infections; learn indications for sequestration, amputations and corrective measures for bone deformities.
4. Undertake rehabilitation for Polio, Cerebral Palsy and Amputation.

Module: Ophthalmology

i) Goal:

The broad goal of the teaching of students in ophthalmology is to provide such knowledge and skills to the students that shall enable him to practice as a clinical and as a primary eye care physician and also to function effectively as a community health leader to assist in the implementation of National

Programme for the prevention of blindness and rehabilitation of the visually impaired.

ii) Objectives

a. Knowledge:

At the end of the course, the student should have knowledge of:

- (1) common problems affecting the eye:
- (2) principles of management of major ophthalmic emergencies
- (3) main systemic diseases affecting the eye
- (4) effects of local and systemic diseases on patient's vision and the necessary action required to minimise the sequelae of such diseases;
- (5) adverse drug reactions with special reference to ophthalmic manifestations;
- (6) magnitude of blindness and its main causes;
- (7) national programmes of control of blindness and its implementation at various levels
- (8) eye care education for prevention of eye problems
- (9) role of primary health centre in organization of eye camps
- (10) organization of primary health care and the functioning of the ophthalmic assistant.
- (11) integration of the national programme for control of blindness with the other national health programmes;

(12) eye bank organization

b. Skills:

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

- (1) elicit a history pertinent to general health and ocular status;
- (2) assist in diagnostic procedures such as visual acuity testing, examination of eye, Schiottz tonometry, Staining for Corneal pathology, confrontation perimetry, Subjective refraction including correction of presbyopia and aphakia, direct ophthalmoscopy and conjunctival smear examination and Cover test.
- (3) diagnose and treat common problems affecting the eye;
- (4) interpret ophthalmic signs in relation to common systemic disorders;
- (5) assist/observe therapeutic procedures such as subconjunctival injection, Corneal/Conjunctival foreign body removal, Carbolic cautery for corneal ulcers, Nasolacrimal duct syringing and tarsorrhaphy;
- (6) provide first aid in major ophthalmic emergencies;
- (7) assist to organise community surveys for visual check up;
- (8) assist to organise primary eye care service through primary health centres;
- (9) use effective means of communication with the public and individual to motivate for surgery in cataract and for eye donation;
- (10) establish rapport with his seniors, colleagues and paramedical workers, so as to effectively function as a member of the eye care team.

Module: Otorhinolaryngology

i) Goal:

The broad goal of the teaching of undergraduate students in Otorhinolaryngology is that the undergraduate student have acquired adequate knowledge and skills for optimally dealing with common disorders and emergencies and principles of rehabilitation of the impaired hearing.

ii) Objectives

a. Knowledge

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

- (1) describe the basic pathophysiology of common otorhinolaryngological (ENT) diseases and emergencies.

(2) adopt the rational use of commonly used drugs, keeping in mind their adverse reactions.

(3) suggest common investigative procedures and their interpretation.

b. Skills

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

(1) examine and diagnose common ENT problems including the pre-malignant and malignant disorders of the head and neck.

(2) manage ENT problems at the first level of care and be able to refer whenever necessary.

(3) assist/carry out minor surgical procedures like ear syringing, ear dressings, nasal packing etc.

(4) assist in certain procedures such as tracheostomy, endoscopies and removal of foreign bodies.