

GARDEN CITY UNIVERSITY

SEMESTER- V

Bachelor of Physiotherapy

Title of the course: Clinical Orthopaedics and Traumatology

CODE- 06ABPTR17511

CREDITS: 04

Unit 1. Fundamental concepts

1.1 History of orthopaedics, causes of injuries, classification of injuries, Soft tissue healing.

Unit 2. Traumatology

2.1 Fracture: definition, types, signs and symptoms. Fracture healing. Complications of fractures, Conservative and surgical approaches. Principles of management – reduction (open/closed, immobilization etc). Subluxation/dislocations – definition, signs and symptoms, management (conservative and operative).

2.2 Fractures and dislocations of upper limb, pelvis and lower limb, fracture of spine and rib cage, causes, clinical features, mechanism of injury, complications, conservative and surgical management.

Unit 3. Soft Tissue Injuries

3.1 Soft tissue injuries - define terms such as sprains, strains, contusion, tendinitis, rupture, tenosynovitis, tendinosis, and bursitis. Mechanism of injury of each, clinical features, managements- conservative and surgical.

UNIT 4. Deformities

4.1 Clinical features, complications, medical and surgical management of the congenital and acquired deformities.

UNIT 5. Disease of bones and joints and neuromuscular disorders

5.1 Disease of bones and joints:
causes, clinical features, complications, management- medical and surgical of the following conditions:

infective conditions, arthritic conditions, bone tumors, perthes disease, metabolic bone diseases.

5.2 Neuromuscular disorders: definition, causes, clinical feature, complications, management. (multidisciplinary approach) medical and surgical of the following: cerebral palsy, poliomyelitis, spinal dysraphism. ,leprosy.

UNIT 6. Inflammatory, degenerative conditions

6.1 Causes, clinical feature, complications, deformities, radiological features, management- conservative and surgical for the following conditions: osteoarthritis. rheumatoid arthritis. ankylosing spondylitis gouty arthritis. psoriatic arthritis. hemophilic arthritis. still's disease (juvenile rheumatoid arthritis). charcot's joints.

6.2 Connective tissue disorders- systemic lupus erythematosus, scleroderma, dermatomyositis, mixed connective tissue disease (MCTD)

UNIT 7. Amputations

7.1 Definition, levels of amputation of lower and upper limbs, indications, complications.

UNIT 8 . Cervical , Lumbar conditions

8.1 Pathology causes, clinical feature, patho-physiology, and investigations for the following conditions:
prolapsed intervertebral disc (PID), spinal canal stenosis, spondylosis (cervical and lumbar), spondylolysis, spondylolisthesis, lumbago/ lumbosacral strain, sacralisation

UNIT 9. Regional Conditions

9.1 Upper limb:

Shoulder: Periarthritic shoulder (adhesive capsulitis). Rotator cuff tendinitis. Supraspinatus Tendinitis. Infraspinatus Tendinitis. Bicipital Tendinitis. Subacromial Bursitis.

Elbow: Tennis Elbow. Golfer's Elbow. Olecranon Bursitis (student's elbow). Triceps Tendinitis.

Wrist and Hand: DeQuervain's Tenosynovitis. Ganglion. Trigger Finger/ Thumb. Mallet Finger, Carpal Tunnel Syndrome, Dupuytren's Contracture.

9.2 Pelvis and lower limb:

Pelvis IT Band Syndrome. Piriformis Syndrome. Trochanteric Bursitis.

Knee: Osteochondritis Dissecans. Prepatellar and Suprapatellar Bursitis. Popliteal Tendinitis. Patellar Tendinitis

Ankle and Foot: Plantar Fasciitis / Calcaneal Spur. Tarsal Tunnel Syndrome. Achilles Tendinitis. Metatarsalgia. Morton's Neuroma.

UNIT 10. Sports injuries

10.1 Introduction ,Types, Classification, Investigations , Management.

Title of the course: General Surgery and OBG

COURSE CODE: 06ABPTR17512

CREDITS: 04

UNIT 1. Fluid, Electrolyte and Acid-Base disturbances , reasons for surgery and thoracic trauma

1.1 Fluid, electrolyte and acid-base disturbances diagnosis and management , nutrition in the surgical patient , wound healing – basic process involved in wound repair, basic phases in the healing process, clinical management of wounds, factors affecting wound healing, Scars – types and treatment. Haemostasis – components, haemostatic disorders, factors affecting bleeding during surgery. Transfusion therapy in surgery – blood components, complications of transfusion , surgical Infections , general Post – operative complications and its management.

1.2 Reasons for Surgery, Types of anaesthesia and its effects on the patient, types of incisions; clips ligatures and sutures; general thoracic procedures – radiologic diagnostic procedures, endoscopy – types, biopsy – uses and types. overview and drainage systems and tubes used in surgery.

1.3 Causes, clinical presentation, diagnosis and treatment of the following thoracic trauma situations – airway obstruction, pneumothorax, hemothorax, cardiac tamponade, tracheobronchial disruption, aortic disruption, diaphragmatic disruption, oesophageal disruption, cardiac and pulmonary conditions.

UNIT 2. Disorders of the heart

2.1 Definition, clinical features, diagnosis and choice of management for the following disorders: congenital heart diseases – acyanotic congenital heart disease, cyanotic congenital heart disease , patent ductus arteriosus, coarctation of aorta, atrial septal defect, ventricular septal defect, tetralogy of fallot, transposition of great vessels

2.2 Acquired heart disease – mitral stenosis and insufficiency, aortic stenosis and insufficiency, ischemic heart disease – coronary artery disease, cardiac tumors.

UNIT 3. Diseases of the arteries and veins

3.1 Definition, Etiology, Clinical features, signs and symptoms, complications, management and treatment of following diseases: arteriosclerosis, atherosclerosis, aneurysm, buerger's disease, raynaud's disease, thrombophlebitis, deep Vein thrombosis, pulmonary embolism, varicose veins.

UNIT 4. Burns and grafts

4.1 Burns: definition, classification, causes, prevention, pathological changes, complications, clinical features and management.

4.2 Skin grafts – types, grafting procedures, survival of skin graft , flaps – types and uses of flaps.

UNIT 5. Surgical oncology

5.1 Cancer – definition, types, clinical manifestations of cancer, staging of cancer, surgical procedures involved in the management of cancer

UNIT 6. Thoracic surgeries

6.1 Thoracotomy – definition, types of incisions with emphasis to the site of incision, muscles cut and complications.

6.2 Lung surgeries : Pneumonectomy, lobectomy, segmentectomy – indications, physiological changes and complications ; thoracoplasty, pleurectomy, pleurodesis and decortication of the lung.

6.3 Cardiac surgeries – an overview of the cardio-pulmonary bypass machine – extracardiac operations, closed heart surgery, open heart surgery. transplant surgery – heart, lung and kidney – indications, physiological changes and complications.

6.4 Definition, indication, incision, physiological changes and complications following common operations like cholecystectomy, colostomy, ileostomy, gastrectomy, hernias, appendectomy mastectomy, neprectomy, prosectomy.

UNIT 7. Disorders of the Chest wall, lung and mediastinum

7.1 Definition, Clinical features, diagnosis and choice of management for the following disorders – chest wall deformities, chest wall tumors, spontaneous pneumothorax, pleural effusion, empyema thoracis, lung abscess, bronchiectasis, tuberculosis

7.2 Bronchogenic carcinoma, bronchial adenomas, metastatic tumors of the lung, tracheal stenosis, congenital tracheomalacia, neoplasms of the trachea, lesions of the mediastinum. carcinoma of the female breast.

UNIT 8. Ear Nose throat & ophthalmology

8.1 ENT: Common problems of ear, otitis media, Otosclerosis, functional achonia and deafness, management facial palsy classification, medical and surgical management of lower motor neuron type of facial palsy.

8.2 Ophthalmology: Ophthalmic surgical conditions, refraction's, conjunctivitis, glaucoma, corneal ulcer, iritis, cataract, retinitis, detachment of retina, defects of extra ocular muscles – surgical management.

8.3 Lens – Anatomy and physiology - cataract, anatomy & physiology of retina , refractive errors – contact lenses, diabetic retinopathy , anemia , optic nerve disc examination. optic neuritis.

UNIT 9. Female reproductive system and pregnancy

9.1 Anatomy and physiology of the female reproductive organs. puberty dynamics. menstrual cycle and its disorders. Hormonal disorders of females-obesity and female hormones. cancer of the female reproductive organs management infections and sexually transmitted disease in female . Menopause - its effects on emotions and musculoskeletal system.

9.2 Malnutrition and deficiencies in females. sterility-pathophysiology investigations-management. maternal physiology in pregnancy. Musculoskeletal disorders during pregnancy. prenatal complications-investigations- management

UNIT 10. Complicatoions in pregnancy

10.1 Child birth- stages - complications-investigations-management – pain relief in labour - purperium - post natal care. surgical procedures involving child birth.

10.2 Incontinence – types, causes, assessment and management. definition, indications and management of the following surgical procedures – hysterosalphyngography, dilatation and curettage, laproscopy, colposopy, hysterectomy.

Title of the course: General Medicine

COURSE CODE: 06ABPTR17513

CREDITS: 04

UNIT 1. Infection

1.1 Effects of infection on the body – pathology – source and spread of infection – vaccinations – generalized infections – rashes and infection – food poisoning and gastroenteritis – sexually transmitted diseases – hiv infections and aids.

UNIT2. Poisoning

2.1 Clinical features general management – common agents in poisoning, pharmaceutical agents, drugs of misuse, chemical pesticides and envenomation.

UNIT 3. Food and nutrition

3.1 Assessment – nutritional and energy requirements.

3.2 Deficiency diseases – clinical features and treatment; protein – energy malnutrition.

3.3 Clinical features and treatment: obesity and its related disorders: causes – complications – benefits of weight loss – management of obesity – diet, exercise and medications.

UNIT 4. Endocrine diseases

4.1 Common presenting symptoms of endocrine disease -classical disease presentations, clinical features and its management.

4.2 Diabetes Mellitus: etiology and pathogenesis of diabetes – clinical manifestations of the disease – management of the disease – complications of diabetes.

UNIT 5. Diseases of the blood

5.1 Examinations of blood disorders – clinical manifestations of blood disease; anemia – signs and symptoms – types and management.

5.2 Hemophilia - cause – clinical features severity of disease – management – complications due to repeated hemorrhages – complications due to therapy.

UNIT 6. Gastro intestinal diseases

6.1 Clinical manifestations of gastrointestinal disease – etiology, clinical features, diagnosis, complications and treatment of the following conditions: reflux oesophagitis, achlasia cardia, carcinoma of oesophagus, gi bleeding, peptic ulcer disease, carcinoma of stomach, pancreatitis, malabsorption syndrome, ulcerative colitis, peritonitis, infections of alimentary tract.

UNIT 7. Diseases of the Skin

7.1 Examination and clinical manifestations of skin diseases; causes, clinical features and management of the following skin conditions: leprosy, psoriasis, pigmentary anomalies, vasomotor disorders, dermatitis, coccal and fungal parasitic and viral infections.

UNIT 8. Paediatrics

8.1 Problems and management of LBW infants, perinatal problems and management, congenital abnormalities and management, respiratory conditions of childhood.

8.2 Cerebral Palsy – causes, complications, clinical manifestations, treatment. spina bifida – management and treatment.

8.3 Epilepsy – types, diagnosis and treatment, Recognizing developmental delay, common causes of delay.

8.4 Orthopedic and neuromuscular disorders in childhood, clinical features and management.

8.5 Sensory disorders – problems resulting from loss of vision and hearing learning and behavioral problems – hyperactivity, autism, challenging behaviours, educational delay, the clumsy child.

UNIT 9. Psychiatric Disorders

9.1 Classifications, Causes, Clinical manifestations and treatment methods used in Psychiatry.

9.2 Modalities of psychiatric treatment, Psychiatric illness and physiotherapy, Brief description of Etio-pathogenesis, manifestations, and management of psychiatric illnesses -. Anxiety neurosis, Depression, Obsessive compulsive neurosis, Psychosis, Maniac-depressive psychosis, Post-traumatic stress disorder, Psychosomatic reactions: Stress and Health, theories of Stress – Illness.

UNIT 10. Clinical manifestations of liver diseases

10.1 Aetiology, clinical features, diagnosis, complications and treatment of the following conditions: viral hepatitis, wilson's disease, alpha1-antitrypsin deficiency, tumors of the liver, gall stones, cholecystitis.

Title of the course: Community Medicine

COURSE CODE: 06ABPTR17514

CREDITS: 04

UNIT I: Health and disease

1.1 Definitions, concepts, dimensions and indicators of health, concept of well-being, spectrum and determinants of health, concept and natural history of disease, concepts of disease control and prevention, modes of intervention, population medicine, the role of socio-economic and cultural environment in health and disease

UNIT 2. Epidemiology

2.1 Definition and scope. principles of epidemiology and epidemiological methods: components and aims, basic measurements, methods, uses of epidemiology, infectious disease epidemiology, dynamics and modes of disease transmission, host defences and immunizing agents, hazards of immunization, disease prevention and control, disinfection. screening for disease: concept of screening, aims and objectives, uses and types of screening.

2.2 Epidemiology of communicable disease: respiratory infections, intestinal infections, arthropod-borne infections, zoonoses, surface infections, hospital acquired infections epidemiology of chronic non-communicable diseases and conditions: cardio vascular diseases: coronary heart disease, hypertension, stroke, rheumatic heart disease, cancer, diabetes, Obesity, blindness, accidents and injuries.

UNIT 3. Public health

3.1. Public health administration- an overview of the health administration set up at central and state levels. the national health programme-highlighting the role of social, economic and cultural factors in the implementation of the national programmes. health problems of vulnerable groups- pregnant and lactating women, infants and pre-school children, occupational groups.

3.2 Health programmes in India: vector borne disease control programme, national leprosy eradication programme, national tuberculosis programme, national AIDS control programme, National programme for control of blindness, iodine deficiency disorders (IDD) programme, universal immunisation programme, reproductive and child health programme, national cancer control programme, national mental health programme. national diabetes control programme, national family welfare programme, national sanitation and water supply programme, minimum needs programme.

UNIT 4. Demography and family planning

4.1 Demographic cycle, Fertility, Family planning-objectives of national family planning programme and family planning methods, A general idea of advantage and disadvantages of the methods.

4.2 Preventive medicine in obstetrics, paediatrics and geriatrics: MCH problems, Antenatal, Intranatal and post-natal care, care of children, child health problems, rights of child and national policy for children, MCH services and indicators of MCH care, social welfare programmes for women and children, preventive medicine and geriatrics.

UNIT 5. Nutrition and Health

5.1 Classification of foods, nutritional profiles of principal foods.

5.2 Nutritional problems in public health, community nutrition programmes.

UNIT 6. Environment and health

6.1 Components of environment, water and air pollution and public health. pollution control, disposal of waste, medical entomology.

6.2 Disaster Management: natural and man-made disasters, disaster impact and response, relief phase, epidemiologic surveillance and disease control, nutrition, rehabilitation, disaster preparedness.

UNIT 7. Mental Health

7.1 Characteristics of a mentally healthy person, types of mental illness, causes of mental ill health, prevention, mental health services, alcohol and drug dependence. emphasis on community aspects of mental health.

UNIT 8. Occupational health

8.1 Occupational environment, occupational hazards, occupational diseases, prevention of occupational diseases. social security and other measures for the protection from occupational hazard accidents and diseases. details of compensation acts.

UNIT 9. Hospital waste management

9.1 Sources of hospital waste, health hazards, waste management.

UNIT 10. Health education

10.1 Aims and objectives ,approaches to health education, models of health education ,contents of health education ,principles of health education, principles and process of communication ,methods and tools of health education, role of profession in health education ,health education team, elements of planning a health education program.

**Title of the course: Evaluation methods and diagnostic imaging for physiotherapist
(Skill Enhancement Course)**

COURSE CODE: 06ABPTR17531

CREDITS: 02

UNIT 1. Assessment and evaluation in Physiotherapy.

- 1.1. Basic demographic data and chief complaint.
- 1.2. Subjective assessment, types of history taking.
- 1.3. Objective assessment.
- 1.4 Importance of diagnosis and setting treatment plans and goals.

UNIT 2. Radiography and Ultrasound.

- 2.1. Equipment components and procedures for radiography.
- 2.2. Benefits versus risks, costs, indications and contraindications of radiography.
- 2.3. Normal X-ray findings.
- 2.4 Instrumentation used in ultrasound and procedure used for scanning.
- 2.5. Indications and contra indications and benefits versus risks and costs.
- 2.6 Normal findings in ultrasound imaging.

Unit 3. Computed Tomography (CT) and Magnetic Resonance Imaging (MRI)

- 3.1. Instrumentation for computed tomography.
- 3.2. Indications and contra indications, benefits versus risks, costs, reading a normal CT.
- 3.3 Instrumentation for MRI.
- 3.4 Indications, contra indications, benefits versus risks and costs, reading a normal MRI.

UNIT 4. Endoscopy, Mammography, Fluoroscopy and Nuclear Medicine.

- 4.1. Equipment used for Endoscopy. Indications and contra indications. Findings in endoscopy. Benefits versus risks and costs.
- 4.2. Equipment used for mammography. Indications and contra indications. Findings in mammography. Benefits versus risks and costs.
- 4.3. Equipment used for fluoroscopy. Indications and contra indications. Findings in fluoroscopy. Benefits versus risks and costs.

4.4. Equipment used for nuclear medicine. Indications and contra indications, findings in nuclear medicine. Benefits versus risks and costs.

UNIT 5. Laboratory investigations.

5.1. Basic hematological tests.

5.2. Arterial blood gas analysis, equipment used, procedure, indication and contraindication, benefits, normal findings.

5.3. Lumbar puncture definition, equipment used, procedure, indication and contraindication, benefits, normal findings.

Title of the course: Clinical Education

COURSE CODE: 06ABPTR17515

CREDITS: 06

In Clinical Education, the students will be posted in different departments in hospitals. They will be indulged in taking assessment, examination, diagnosis and physiotherapy treatment under the supervision of concerned faculties.