

**Vinayaka Mission's Kirupananda Variyar  
Medical College & Hospitals, Salem – 636308.**

**FACULTY OF MEDICINE - I MBBS**

**COURSE OUTCOMES – HUMAN ANATOMY**

**COGNITIVE DOMAIN: (KNOWLEDGE)**

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

1. Describe the normal disposition, clinically relevant interrelationships, functional and cross sectional anatomy of the various structures in the body.
2. Describe the microscopic structure and correlate elementary ultrastructure of various organs and tissues and correlate the structure with the functions as a prerequisite for understanding the altered state in various disease process.
3. Describe the basic structure and connections of the central nervous system to analyse the integrative and regulative functions of the organs and systems
4. Locate the site of gross lesions according to the deficits encountered.
5. Demonstrate knowledge of the basic principles and sequential development of the organs and systems, recognise the critical stages of development and the effects of common teratogens.
6. Explain the developmental basis of the major variations and abnormalities.
7. Describe the principles of karyotyping.
8. Describe briefly, the principles of newer imaging techniques like Ultra sound, Computerised Tomography Scan & Magnetic Resonance Imaging.
9. Describe anatomical basis of some common clinical procedures i.e. intramuscular and intravenous injection, lumbar puncture, kidney biopsy etc.

**PSYCHOMOTOR DOMAIN: (SKILLS)**

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

1. Identify and locate all the structures of the body and mark the topography of the living anatomy.
2. Identify the organs and tissues under the microscope.
3. Identify a normal karyotype and interpret abnormal karyotypes and the gross congenital anomalies.
4. Interpret Plain and Contrast X-rays.
5. Analyse case studies and identify anatomical basis of clinical conditions.
6. Identify bones and describe skeletal system in detail.

## **AFFECTIVE DOMAIN (ATTITUDE AND COMMUNICATION SKILLS)**

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

1. Communicate effectively.
2. Work as a member of a team.
3. Complete and submit assignments in time.
4. Solve clinical problems with anatomical basis.
5. Follow work ethics.

## **INTEGRATION**

From the integrated teaching of other basic sciences, student will be able to relate the regulation and integration of the functions of the organs and systems in the body and thus interpret the anatomical basis of disease processes.

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**FACULTY OF MEDICINE - I MBBS**

**COURSE OUTCOMES – PHYSIOLOGY**

**COGNITIVE DOMAIN: (KNOWLEDGE)**

At the end of the course the student will be able to

1. Explain the normal functioning of all the organ systems and their interactions for well-coordinated total body function.
2. Assess the relative contribution of each organ system to the maintenance of the milieu interior.
3. Elucidate the physiological aspects of normal growth and development.
4. Describe physiological response and adaptations to environmental stresses.
5. List the physiological principles underlying pathogenesis and treatment of disease.

**PSYCHOMOTOR DOMAIN: (SKILLS)**

At the end of the course the student will be able to

1. Conduct experiments designed for study of physiological phenomena;
2. Interpret experimental/investigative data;
3. Distinguish between normal and abnormal data derived as a result of tests which he/she has performed and observed in the laboratory

**INTEGRATION**

At the end of integrated teaching the student will acquire an integrated knowledge of organ structure and function and its regulatory mechanisms.

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**FACULTY OF MEDICINE - I MBBS**

**COURSE OUTCOMES – BIOCHEMISTRY**

**COGNITIVE DOMAIN: (KNOWLEDGE)**

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

1. Describe the molecular and functional organization of a cell and list its sub-cellular components.
2. Delineate structure, function and inter-relationships of biomolecules and consequences of deviation from normal.
3. Summarize the fundamental aspects of enzymology and clinical application wherein regulation of enzymatic activity is altered.
4. Describe digestion and assimilation of nutrients and consequences of malnutrition.
5. Integrate the various aspects of metabolism and their regulatory pathways.
6. Explain the biochemical basis of inherited disorders with their associated sequelae.
7. Describe mechanisms involved in maintenance of body fluids and pH homeostasis.
8. Outline the molecular mechanisms of gene expression and regulation - the principles of genetic engineering and their application in medicine.
9. Summarize the molecular concepts of body defense and their application in medicine.
10. Outline the biochemical basis of environmental health hazards, biochemical basis of cancer and carcinogenesis.
11. Familiarize with the principles of various conventional and specialized laboratory investigations and instrumentation analysis and interpretation of a given data.
12. Demonstrate the ability to suggest experiments to support theoretical concepts and clinical diagnosis.

**PSYCHOMOTOR DOMAIN: (SKILLS)**

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

- (1) Make use of conventional techniques / instruments to perform Biochemical analysis relevant to clinical screening and diagnosis.
- (2) Analyze and interpret investigative data.
- (3) Demonstrate the skills of solving scientific and clinical problems and decision making.

## **INTEGRATION**

With the knowledge acquired in Biochemistry the students will be able to integrate molecular events with structure and function of the human body in health and disease.

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**FACULTY OF MEDICINE - II MBBS  
COURSE OUTCOMES – MICROBIOLOGY**

**COGNITIVE DOMAIN: (KNOWLEDGE)**

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

1. State the infective microorganisms of the human body and describe the host parasite relationship.
2. List the pathogenic microorganisms (bacteria, viruses, parasites, fungi) and describe the pathogenesis of the diseases produced by them.
3. State or indicate the modes of transmission of pathogenic and opportunistic organisms and their sources including insect vectors responsible for transmission of infection.
4. Describe the mechanisms of immunity to infections.
5. Acquire knowledge on suitable antimicrobial agents for treatment of infections and scope of immune – therapy and different vaccines available for prevention of communicable diseases.
6. Apply methods of disinfection and sterilization to control and prevent hospital and community acquired infections.
7. Recommend laboratory investigations regarding bacteriological examination of food, water, milk and air.

**PSYCHOMOTOR DOMAIN: (SKILLS)**

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

1. Plan and interpret laboratory investigations for the diagnosis of infectious diseases and to correlate the clinical manifestations with the etiological agent.
2. Use the correct method of collection, storage and transport of clinical material for microbiological investigations
3. Identify the common infectious agents with the help of laboratory procedures and use antimicrobial sensitivity tests to select suitable antimicrobial agents.
4. Perform commonly employed bed-side tests for detection of infectious agents such as blood film for malaria, filaria, gram staining and AFB staining and stool sample for ova-cyst.

## **AFFECTIVE DOMAIN (ATTITUDE AND COMMUNICATION SKILLS)**

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

1. Function as a part of a team, develop an attitude of cooperation with colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.
2. Adopt ethical principles and maintain proper etiquette in dealings with patients, relatives and other health personnel and to respect the rights of the patient including the right to information and second opinion.
3. Develop communication skills to word reports and professional opinion as well as to interact with patients, relatives, peers and paramedical staff, and students for effective teaching.

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**FACULTY OF MEDICINE - II MBBS  
COURSE OUTCOMES – PATHOLOGY**

**COGNITIVE DOMAIN: (KNOWLEDGE)**

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

1. Describe the structure of a sick cell, mechanisms of cell degeneration, cell death and repair and be able to correlate structural and functional alterations.
2. Explain the pathophysiological processes which govern the maintenance of homeostasis, mechanisms of their disturbance and the morphological and clinical manifestations associated with it.
3. Describe the mechanisms and patterns to tissue response to injury such that she/he can appreciate the pathophysiology of disease processes and their clinical manifestations.
4. Correlate normal and altered morphology (gross and microscopic) of different organ systems in common diseases to the extent needed for understanding of disease processes and their clinical significance.

**PSYCHOMOTOR DOMAIN: (SKILLS)**

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

1. Describe the rationale and principles of technical procedures of the diagnostic laboratory tests and interpretation of the results.
2. Perform the simple bed-side tests on blood, urine and other biological fluid samples.
3. Draw a rational scheme of investigations aimed at diagnosing and managing the cases of common disorders;
4. Integrate biochemical/physiological disturbances that occur as a result of disease in collaboration with pre-clinical departments.

**AFFECTIVE DOMAIN (ATTITUDE AND COMMUNICATION SKILLS)**

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

1. Develop an attitude of cooperation and interaction with clinician, patient and colleagues to provide the best diagnosis.
2. Follow ethical principles and maintain proper documents in dealing with patients and their relatives to respect the rights of the patients regarding the information.
3. Develop good communication skills to interact with the clinician & others, regarding reports & opinion.



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**FACULTY OF MEDICINE - II MBBS  
COURSE OUTCOMES – PHARMACOLOGY**

**COGNITIVE DOMAIN: (KNOWLEDGE)**

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

1. Describe the pharmacokinetics and pharmacodynamics of essential and commonly used drugs :
2. List of indications, contraindications, interactions and adverse reactions of commonly used drugs :
3. Indicate the use of appropriate drug in a particular disease with consideration to its cost efficacy and safety for
  - i. Individual needs
  - ii. Mass therapy under national health programme
4. Describe the pharmacokinetic basis, clinical presentations, diagnosis and management of common poisonings.
5. List the drugs of addiction and recommend the management.
6. Classify environmental and occupational pollutants and state the management issues.
7. Indicate causation in prescription of drugs in special medical situations such as pregnancy, lactation, infancy and old age.
8. Integrate the concept of rational drug therapy in clinical pharmacology
9. State the principles underlying the concept of “Essential Drugs”.
10. Evaluate the ethics and modalities in the development and introduction of new drugs.

**PSYCHOMOTOR DOMAIN: (SKILLS)**

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

1. Prescribe drugs for common ailments.
2. Recognize adverse reactions and interactions of commonly used drugs.
3. Observe experiments designed for study of effects of drugs, bioassay and interpretation of the experimental data.
4. Scan information on common pharmaceutical preparations and critically evaluate drug formulations.

## **AFFECTIVE DOMAIN (ATTITUDE AND COMMUNICATION SKILLS)**

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

1. Communicate with the patient with empathy and ethics on all aspects of drug use
2. Communicate with the patient regarding optimal use of a) drug therapy, b). devices and c) storage of medicines
3. Motivate patients with chronic diseases to adhere to the prescribed management by the health care provider.

## **INTEGRATION**

The students will be able to acquire practical knowledge of use of drugs in clinical practice through integrated learning with clinical departments and pre clinical departments.

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**FACULTY OF MEDICINE - II MBBS**

**COURSE OUTCOMES – FORENSIC MEDICINE**

**COGNITIVE DOMAIN: (KNOWLEDGE)**

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

1. Identify the basic medicolegal aspects of hospital and general practice.
2. Define the medicolegal responsibilities of a general physician while rendering community service either in a rural primary health centre or an urban health centre.
3. Appreciate the physician's responsibilities in criminal matters and respect for the codes of medical ethics.
4. Diagnose, manage and identify also legal aspects of common acute and chronic poisonings.
5. Describe the medicolegal aspects and findings of post-mortem examination in case of death due to common unnatural conditions & poisonings.
6. Detect occupational and environmental poisoning, prevention and epidemiology of common poisoning and their legal aspects particularly pertaining to Workmen's Compensation Act.
7. Describe the general principles of analytical toxicology.
8. Describe medical jurisprudence in view of the Consumer Protection Act – wherein doctors have been covered under its ambit. They have both rights as well as responsibilities. Under medical insurance acts of negligence covered as well as rights for effective service delivery.

**PSYCHOMOTOR DOMAIN: (SKILLS)**

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

1. Make observations and logical inferences in order to initiate enquiries in criminal matters and medicolegal problems.
2. Diagnose and treat common emergencies in poisoning and manage chronic toxicity.
3. Make observations and interpret findings at postmortem examination.
4. Observe the principles of medical ethics in the practice of his profession.

**INTEGRATION**

Students will be able to have an integrated approach towards allied disciplines like Pathology, Radiology, Forensic Sciences, Hospital Administration etc. for gaining practical knowledge regarding medicolegal responsibilities of physicians at all levels of health care. Integration with relevant disciplines will provide them with scientific basis of clinical toxicology e.g. medicine, pharmacology etc.

## **Ophthalmology**

### **1. 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.

### **2. OBJECTIVES**

**2.1. Knowledge** At the end of the course, the student will 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 minimize the sequelae of such diseases.
5. Adverse drug reactions with special reference to ophthalmic manifestations.
6. Magnitude of blindness in India and its main causes.
7. National programme 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

**2.2. Skills** At the end of the course, the student will 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, Schiötz tonometry, staining for corneal pathology, confrontation perimetry, Subjective refraction including correction of various refractive errors, 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 sub conjunctival 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 checkup.
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.

### **2.3. Integration**

The undergraduate training in Ophthalmology will provide an integrated approach towards other disciplines especially neuro-sciences, Otorhino-laryngology, General Surgery and Medicine.

# ENT

## 1. GOAL

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

## 2. OBJECTIVES

### 2.1. Knowledge

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

2.1.1. Describe the basic pathophysiology of common ENT diseases and emergencies.

2.1.2. Adopt the rational use of commonly used drugs, keeping in mind their adverse reactions.

2.1.3. Suggest common investigative procedures and their interpretation.

### 2.2. Skills

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

2.2.1. Examine and diagnose common ENT problems including the premalignant and malignant disorders of the head and neck.

2.2.2. Manage ENT problems at the first level of care and be able to refer whenever necessary

2.2.3. Assist/carry out minor surgical procedures like ear syringing, ear dressings, nasal packing etc.

2.2.4. Assist in certain procedures such as tracheostomy, endoscopies and removal of foreign bodies.

### 2.3. Integration

The undergraduate training in ENT will provide an integrated approach towards other disciplines especially neurosciences, ophthalmology and general surgery

**VMKVMCH, Salem**  
**Department Of Community Medicine**  
**Course Outcomes**

**I. Cognitive Domain**

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. Enumerate various epidemiological methods
4. Describe the application of epidemiological methods to manage communicable and non-communicable diseases in the community or hospital situation.
5. Describe bio statistical methods and techniques
6. Discuss the demographic pattern of the country and appreciate the roles of the individual, family, community and socio-cultural milieu in health and disease.
7. Enumerate the different types of health information systems.
8. Enunciate the principles and components of primary healthcare and the national health policies to achieve the goal of 'Health for All'.
9. Explain the environmental and occupational hazards and their control measures.
10. Substantiate the importance of water and sanitation in human health.
11. Enumerate the principles of health economics, health administration, health education in relation to community.

**II. Psychomotor domain**

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

- A. Apply epidemiology as a scientific tool to make rational decisions relevant to community and individual patient intervention.
- B. Collect, analyze, interpret and present simple community and hospital based data.
- C. 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.
- D. 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.
- E. Apply bio statistical methods and techniques appropriately for inference of research activities.
- F. Diagnose and manage common nutritional problems at the individual and community level.

G. Plan, implement and evaluate a health education programme with the skill to use simple audio-visual aids.

H. Interact with other members of the health care team and participate in the organization of health care services and implementations of national health programmes.

### **III. Affective domain**

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

1. Communicate effectively.
2. Work as a member of a public health team.
3. Complete and submit research projects in time.
4. Solve clinical problems with community health perspective.
5. Work with ethical principles.

### **IV. Integration**

Develop capabilities of synthesis between cause of illness in the environment or community and individual health and respond with leadership qualities to institute remedial measures for this.



**Vinayaka missions kirubananda variyar medical college and hospital**

**Seeragapadi, Salem 636308**

**COURSE OUTCOME UNDERGRADUATE MBBS**

By the end of the course, the student will have acquired knowledge (cognitive domain), professionalism (affective domain) and skills (psychomotor domain) as given below:

**A. Cognitive domain**

By the end of the course, the student will have acquired knowledge about

- ✓ Cardio-vascular diseases, heart failure, arrhythmias, hypertension, coronary artery disease, valvular heart disease, infective endocarditis, diseases of the myocardium and pericardium and diseases of the aorta and peripheral vascular system.
- ✓ Respiratory diseases, asthma, Congenital Obstructive Pulmonary Disease (COPD), Pneumonia, pulmonary embolism, cystic fibrosis, obstructive sleep apnoea syndrome and diseases of the chest wall, pleura and mediastinum.
- ✓ Renal disorders, acid-base disorders, acute kidney injury, chronic kidney disease, tubulo-interstitial diseases, nephrolithiasis, Diabetes and the kidney, obstructive uropathy and treatment of renal failure.
- ✓ Gastro-intestinal diseases, motility disorders, diseases of the oesophagus, acid peptic disease, functional gastrointestinal disorders, diarrhea, irritable bowel syndrome, pancreatitis and diseases of the rectum and anus.
- ✓ Diseases of the liver and gall bladder, acute viral hepatitis, chronic hepatitis, alcoholic and non-alcoholic steatohepatitis, cirrhosis and its sequelae, hepatic failure and liver transplantation and diseases of the gall bladder and bile ducts.

- ✓ Haematologic diseases - haematopoiesis, anaemias, leucopenia and leucocytosis, myeloproliferative disorders, disorders of haemostasis and haemopoietic stem cell transplantation.
- ✓ Oncology - epidemiology, biology and genetics of cancer, paraneoplastic syndromes and endocrine manifestations of tumours, leukemias and lymphomas, cancers of various organ systems and cancer chemotherapy.
- ✓ Nutritional diseases - nutritional assessment, enteral and parenteral nutrition, obesity and eating disorders.
- ✓ Endocrine - principles of endocrinology, diseases of various endocrine organs including diabetes mellitus.
- ✓ Connective tissue diseases - approach to the patient with rheumatic diseases, osteoarthritis, rheumatoid arthritis, spondyloarthropathies, systemic lupus erythematosus (SLE), polymyalgia, rheumatic fibromyalgia and amyloidosis.
- ✓ Infectious diseases - Basic consideration in Infectious Diseases, clinical syndromes, community acquired clinical syndromes. Nosocomial infections, Bacterial diseases - General consideration, diseases caused by gram – positive bacteria, diseases caused by gram - negative bacteria, miscellaneous bacterial infections, Mycobacterial diseases, Spirochetal diseases, Rickettsia, Mycoplasma and Chlamydia, viral diseases, DNA viruses, DNA and RNA respiratory viruses, RNA viruses, fungal infections, protozoal and helminthic infections .
- ✓ Neurological diseases, headache, seizure disorders and epilepsy, coma, disorders of sleep, cerebrovascular diseases, Parkinson's disease and other movement disorders, motor neuron disease, meningitis and encephalitis, peripheral neuropathies, muscle diseases, diseases of neuromuscular transmission and autonomic disorders and their management.
- ✓ Dermatology - Structure and functions of skin, infections of skin, papulosquamous and inflammatory skin rashes, photo-dermatology, erythroderma, cutaneous manifestations of systematic diseases, bullous diseases, drug induced rashes, disorders of hair and nails, principles of topical therapy.

## B. Affective Domain:

1. Will be able to function as a part of a team, develop an attitude of cooperation with colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.
2. Always adopt ethical principles and maintain proper etiquette in dealings with patients, relatives and other health personnel and to respect the rights of the patient including the right to information and second opinion.
3. Develop communication skills to word reports and professional opinion as well as to interact with patients, relatives, peers and paramedical staff.

## C. Psychomotor domain

By the end of the course, the student will be able to perform and assist

- Injection I/V, I/M, S/C, intradermal
- Oxygen therapy
- Urinary catheterisation – collection and samples of blood
- Placement of I/V lines/fluids/blood/blood products, cutdown, CVP assessment
- N/G tube passing and feeding, Stomach wash
- Foley's catheter/Red rubber catheter, IOP record maintenance
- Endotracheal tube placement
- Endotracheal suction/maintenance of airway/nursing on side etc.
- Aspiration of fluids (Pleural, Pericardial, Peritoneal, Knee)
- Lumbar puncture
- O2 therapy

- Nebulisation
- ECG taking/reading
- X-ray chest reading
- Barium series
- Bone and joint X-ray reading for medical problems  
(Rheumatoid arthritis, osteoarthritis, collapse vertebra,  
caries spine, multiple myeloma, cervical rib etc.)
- Preparing a patient for endoscopies, upper and lower GIT

Communication skills

While eliciting clinical history and performing physical examination

Communicating health, and disease

Communicating about a seriously ill or mentally abnormal

Communicating death

Empathy with patient and family members

Referral letters, and replies

Discharge summaries

Death certificates

Pre-test counseling for HIV

Post-test counseling for HIV

Health education - prevention of common medical problems, promoting healthy  
life-style, immunization, periodic health screening, counseling skills in risk

factors for common malignancies, cardiovascular disease, AIDS

Dietary counseling in health and disease

Co-coordinating care - team work

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**GENERAL SURGERY INCLUDING PAEDIATRIC SURGERY**

**1.1. GOAL**

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

**1.2. OBJECTIVES**

**1.2.1. 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.

**1.2.2. 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:
  - 4.1. a critically injured patient
  - 4.2. Patient with cardio-respiratory failure

4.3. 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/she 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.

## **2. ORTHOPEDICS**

### **2.1. OBJECTIVES**

#### **2.1.1. Knowledge**

The student should be able to:

- 1.Explain the principles of recognition of bone injuries and dis-location.
- 2.Apply suitable methods to detect and manage common infec-tions of bones and joints.
- 3.Identify congenital, skeletal anomalies and their referral for ap-propriate correction or rehabilitation.
- 4.Recognize metabolic bone diseases as seen in this country.
- 5.Explain etiogenesis, manifestations, diagnosis of neoplasm af-fecting bones.

#### **2.1.2. Skills**

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

- 1.Detect sprains and deliver first aid measures for common frac-tures and sprains and manage uncomplicated fractures of clavicle, Colles's, forearm, phallanges etc.
- 2.Techniques of splinting, plaster, immobilization etc.
- 3.Management of common bone infections, learn indications for sequestration, amputations and corrective measures for bone de-formities.
- 4.Aspects of rehabilitation for Polio, Cerebral Palsy and Amputation.

#### **2.1.3. Application**

Be able to perform certain orthopedic skills, provide sound advice of skeletal and related conditions at primary or secondary health care level.

#### **2.1.4. Integration**

Integration with anatomy, surgery, pathology, radiology and Fo-rensic Medicine is done.

## **4.DEPARTMENT OBJECTIVES**

### **4.1. General Surgery**

### **4.2. Orthopedics**

At the end of the training the student should be able to de-cribe the aetiology, pathophysiology, principles of diagnosis and management of common orthopaedic problems including emergencies.



# V.M.K.V. MEDICAL COLLEGE & HOSPITAL, SALEM

## COURSE OUTCOMES – UG (MBBS)

### DEPARTMENT OF O&G

#### A. Cognitive Domain

At the end of course the students will 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 Caesarean section, Laparotomy, abdominal and vaginal hysterectomy, Fothergill's operation and vacuum aspiration for M. T. P.

#### B. Psychomotor Domain:

At the end of course the students will be able to:

1. Examine a pregnant women; recognize high risk pregnancies and make appropriate referrals.
2. Conduct a normal delivery, recognize complications and provide postnatal care.
3. Resuscitate the newborn and recognize congenital anomalies.
4. Advise a couple on the use of various available contraceptive devices and assist in insertion in and removal of intra – uterine connancies.
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. Interpretation of data of investigations like biochemical, histopathological, radiological, ultrasound etc.

### **C. Attitudes**

At the end of course, the students will be able to:

1. Communicate effectively with the patients.
2. Work as team member in the labour ward
3. Assist the lead surgeon in the operation theatre.
4. Counsel the post partum patients for contraception.

**DEPARTMENT OF PAEDIATRICS**

**COURSE OUTCOMES - UG (MBBS)**

**1. KNOWLEDGE**

At the end of the course, the student will 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.

**2. SKILLS**

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

1. Take a detailed paediatric 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 programmes, 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 newborn 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 specialised/inpatient care and ensure timely referral of those who require hospitalisation.

### **3. AFFECTIVE DOMAIN:**

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

1. Function as a part of team, develop an attitude of cooperation with colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.
2. Always adopt ethical principles and maintain proper etiquette in dealing with patients, relatives and other health personnel and to respect the rights of patient including the right to information and second opinion.
3. Develop communication skills to word reports and professional opinion as well as to interact with patients, relatives, peers and paramedical staff, and for effective teaching.