

NAAC Criterion 2: Teaching Learning and Evaluation

2.6 Student Performance and Learning Outcomes

2.6.1: The Institution has stated the learning outcomes and graduate attributes as per the provisions of the Regulatory bodies and the University; which are communicated to the students and teachers through the website and other documents





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Relevant documents pertaining to learning outcomes and graduate attributes



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2.6.1 DOCUMENTS PERTAINING TO LEARNING OUTCOMES AND GRADUATE ATTRIBUTES (ALL COURSES)

ANATOMY

Subject specific objectives

Knowledge:

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

- Comprehend the normal disposition, clinically relevant interrelationships, functional and cross-sectional Anatomy of the various organs and structures of the body.
- Identify the microscopic structure and correlate elementary ultra structure of various organs and tissues with the functions as a prerequisite for understanding the altered state in various disease processes.
- Comprehend the basic structure and connections of the central nervous system to analyse the integrative and regulative functions of the organs and systems. He should be able to locate the site of gross lesions according to the deficits encountered
- Demonstrate knowledge of the basic principles and sequential development of the organs and systems; recognize the critical stages of development and the effects of common teratogens, genetic mutations and environmental hazards. He should be able to explain the developmental basis of the major variations and abnormalities.

C. Skills:

- At the end of the course the student should be able to –
- Identify and locate all the structures of the body and mark the topography of the Living Anatomy.
- Understand clinical basis of some common clinical procedures i.e. intramuscular and intravenous injection, lumbar puncture and kidney biopsy etc.
- Identify the organs and tissues under the microscope.
- Understand the principles of karyotyping and identify the gross congenital anomalies.
- Understand principles of newer imaging techniques and interpretation of CT scan, sonogram, MRI & Angiography.

D. Integration:

The teaching should be aligned and integrated horizontally and vertically inorgan systems with clinical correlation that will provide a context for the learner tounderstand the relationship between structure and function and interpret the anatomicalbasis of various clinical conditions and procedures.


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PHYSIOLOGY

Subject specific objectives

Knowledge:

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

- Describe the normal functions of all the systems, the regulatory mechanisms and interactions of the various systems for well-coordinated total body functions.
- Understanding the relative contribution of each organ system in the maintenance of the milieu interior (homeostasis)
- Explain the physiological aspects of the normal growth and development.
- Analyse the physiological responses and adaptation to environmental stress. Comprehend the physiological principles underlying pathogenesis and treatment of disease.
- Correlate knowledge of physiology of human reproductive system in relation to National Family welfare program.

Skills:

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

- Conduct experiments designed for study of physiological phenomenon. Interpret experimental/investigative data.
- Distinguish between normal and abnormal data derived as a result of clinical examination and tests, which he has performed and observed in the laboratory.
- Recognize and get familiar with newer computerized and advanced instruments like medspiror, semen quality analyser, EMG and TMT

Integration:

The teaching should be aligned and integrated horizontally and vertically in

organ systems in order to provide a context in which normal function can be correlated both with structure and with the biological basis, its clinical features. diagnosis and therapy.

BIOCHEMISTRY

Subject specific objectives:

Knowledge: At the end of the course, the student shall be able to

- Enlist and describe the cell organelles with their molecular and functional organization.



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- Delineate structure, function and interrelationships of various biomolecules and consequences of deviation from the normal.
- Understand basic enzymology and emphasize on its clinical applications wherein regulation of enzymatic activity is disturbed.
- Describe digestion and assimilation of nutrients and consequences of malnutrition.
- Describe and integrate metabolic pathways of various biomolecules with their regulatory mechanisms.
- Explain the biochemical basis of inherited disorders with their associated sequel.
- Describe mechanisms involved in maintenance in water, electrolyte and acid base balance and consequences of their imbalances.
- Outline the molecular mechanisms of gene expression and regulation, basic principles of biotechnology and their applications in medicine.

c. Skills: At the end of the course, the student shall be able to

- Make use of conventional techniques / instruments to perform biochemical analysis relevant to clinical screening and diagnosis;
- Analysis and interpret investigative data;
- Demonstrate the skills of solving scientific and clinical problems and decision making.

Integration: The teaching/learning programme should be integrated horizontally and vertically, as much as possible to enable learners to make clinical correlations and to acquire an understanding of the cellular and molecular basis of health and disease.

PATHOLOGY

Subject specific objectives

Knowledge: At the end of one and half years, the student shall be able to

- Describe the structure and ultra structure of a sick cell, causes and mechanisms of cell injury, cell death and repair.
- Correlate structural and functional alterations in the sick cell.
- Explain the path physiological processes, which govern the maintenance of homeostasis, mechanisms of their disturbance and the morphological and clinical manifestation associated with it.
- Describe the mechanisms and patterns of tissue response to injury so as to appreciate the path physiology of disease processes and their application to clinical science.



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- Correlate the gross and microscopic alterations of different organ systems in common disease to the extent needed for understanding disease processes and their clinical significance.
- Develop an understanding of steps in neoplastic changes in the body and their effects in order to appreciate need for early diagnosis and further management of neoplasia.
- Understand mechanisms of common haematological disorders and develop a logical approach in their diagnosis and management.
- Develop understanding of the blood banking, blood donors & transfusion of blood & blood products, (components).
- Understand pathophysiology of infectious diseases in relation with tissue changes.
- Describe the various immunological reactions in understanding the disease process & tissue transplant.
- Develop an understanding for genetic disorders.
- Understand the vital organ function test of Kidney, liver & thyroid.

Skills: At the end of one and half years, the student shall be able to:

- Describe the rationale and principles of routine technical procedures of the diagnostic laboratory tests & perform it.
- Interpret routine diagnostic laboratory tests and correlate with clinical, haematological and morphological changes.
- Perform the simple bed-side tests on blood, urine and other biological fluid samples:
- Draw a rational scheme of investigations aimed at diagnosing and managing the cases of common disorders.
- Able to understand the microscopic and macroscopic features of common diseases.
- Develop different type of skills such as observation skills, communication skill and presentation skill.
- Understand biochemical/physiological disturbances that occur as a result of disease in collaboration with preclinical department.

MICROBIOLOGY

Subject specific objective:

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

- Explain how the different microorganisms can cause human infection.
- Understand commercial, opportunistic and pathogenic organisms and describe host parasite relationship.


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- Describe the characteristics (morphology, cultural characteristics, resistance, virulence factors, incubation period, mode of transmission etc.) of different microorganisms.
- Explain the various defence mechanisms of the host against the microorganisms which can cause human infection.
- Describe the laboratory diagnosis of microorganisms causing human infections and disease.
- Describe the prophylaxis for the particular infecting microorganisms

c. Skills: At the end of the course the student shall be able to

- Plan the laboratory investigations for the diagnosis of infectious diseases.
- Perform laboratory procedures to arrive at the etiological diagnosis of infectious diseases caused by bacteria, fungi, viruses and parasites including the drug sensitivity profile.
- Perform and interpret immunological and serological tests.
- Operate routine and sophisticated instruments in the laboratory.
- Develop microteaching skills and Pedagogy
- Successfully implement the chosen research methodology

PHARMACOLOGY

Subject specific objectives:

Knowledge: At the end of the course, the student shall be able to

- Describe the Pharmacokinetics and Pharmacodynamics of essential and commonly used drugs.
- Enlist the indications, contraindications, interactions and adverse reactions of commonly used drugs.
- Tailor the use of appropriate drugs in disease with consideration of its cost, efficacy and safety for individual needs and Mass therapy, under National Health Programs.
- Integrate the list of drugs of addiction and recommend the management of drug addiction.
- Explain pharmacological basis of prescribing drugs in special medical situations such as pregnancy, lactation, infancy, old age, renal damage, hepatic damage and immunocompromised patients.
- Explain the concept of rational drug therapy in clinical pharmacology.
- State the principles underlying the concept of 'Essential Drugs'.
- Evaluate the ethics and modalities involved in the development and introduction of new drugs.



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Skills: At the end of the course, the student shall be able to

- Prescribe drugs for common ailments.
- Identify adverse reactions and drug interactions of commonly used drugs.
- Interpret the data obtained from the experiments designed for the study of effect of drugs in various experimental and clinical studies.
- Analyse the information regarding common pharmaceutical preparations and critically evaluate drug formulations.
- Appraise the Principles of Clinical Pharmacy and Dispense the Medications giving proper instructions.

FORENSIC MEDICINE AND TOXICOLOGY

Subject specific objectives:

Knowledge: At the end of the course, the student shall be able to

- Identify the basic Medico-legal aspects of hospital and general practice.
- Define the Medico-legal responsibilities of a general Physician while rendering community service either in a rural primary health centre or an urban health centre.
- Appreciate the Physician's responsibilities in criminal matters and respect for the codes of medical ethics.
- Diagnose, manage and identify legal aspect of common acute and chronic poisonings.
- Describe the Medico-legal aspects and findings of post-mortem examination in cases of death due to common unnatural conditions and poisonings.
- Detect occupational and environmental poisoning, prevention and epidemiology of common poisoning and their legal aspects particularly pertaining to Workmen's Compensation Act.
- Describe the general principles of analytical toxicology.

c. Skills: At the end of the course, the student shall be able to:

- As recommended by Medical Council of India Regulation, 1997 desirable for Bachelor of Medicine and Bachelor of Surgery (MBBS) Graduate for Forensic Medicine and Toxicology.
- Make observations and draw logical inferences in order to initiate enquiries in criminal matters and Medico-legal problems and be able to -
- Carry on proper Medico-legal examination and documentation/Reporting of Injury and Age.
- Conduct examination for sexual offences and intoxication.
- Preserve relevant ancillary materials for medico-legal examination.



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- Identify important post-mortem findings in common unnatural deaths.
- Diagnose and treat common emergencies in poisoning and chronic toxicity.
- Make observations and interpret findings at post-mortem examination.
- Observe the principles of medical ethics in the practice of his profession.

COMMUNITY MEDICINE

Subject specific objectives:

Knowledge: At the end of the course the student shall be able

- Explain the principles of sociology including demographic population dynamics.
- Identify social factors related to health, disease and disability in the context of urban and rural societies.
- Appreciate the impact of urbanization on health and disease.
- Observe and interpret the dynamic of community behaviours.
- Describe the elements of normal psychology and social psychology.
- Observe the principles of practice of medicine in hospital and community settings.
- Describe the health care delivery systems including rehabilitation of the disabled in the country.
- Describe the National Health Programmes with particular emphasis on maternal and child health programmes, family welfare planning and population control.
- Describe the epidemiological methods and techniques.
- Outline the demographic pattern of the country and appreciate the roles of the individuals, family, community and socio-cultural milieu in health and disease.
- Describe the health information systems.
- Acquire, understand, integrate, apply and manage information in context to health care problems and health care delivery system in various communities, health care settings and hospitals.
- Describe the principles and components of primary health care, National Rural Health Mission and the national health policies to achieve the goal of "Health for all" with regards to identify the environmental, bio-waste and occupational hazards and their control.
- Describe the importance of water and sanitation in human health.
- Describe the principles of health economics, health administration, health education in relation to community.
- Critically analyse the problem (s) and apply his/her knowledge to solve the problem in holistic manner.
- Describe and apply principles of prevention, promotion and maintenance of health.


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Skills: At the end of the course. the student shall be able to

- Use the principles and practice of medicine in hospital and community settings and familiarization with elementary practices.
- Use the Art of communication with patients including history taking and medico social work.
- Use epidemiology as a scientific tool to make rational decisions relevant to community and individual patient intervention.
- Organize health care services for vulnerable and disadvantages groups.
- Organize health care services in case of calamities.
- Collect, analyse, interpret and present simple community and hospital base data.
- Diagnose and manage common health problems (including communicable and non communicable diseases) 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-culture beliefs.
- Diagnose and manage common nutritional problems at the individual and community level.
- Plan, implement and evaluate a health education Programme with skill to use simple audio-visual aids.
- Interact with other members of the health care team and participate in the organization of health care services, health advocacy and implementation of national health programmes.
- Perform Administrative functions at health centres
- Observe the principles of medical ethics in the practice of his profession.

GENERAL MEDICINE

Subject specific objectives

Knowledge: At the end of the course, the student shall be able to:

- Diagnose common clinical disorders with special reference to infectious diseases, nutritional disorders, tropical and environmental diseases:
- Outline various modes of management including drug therapeutics especially dosage, side effects, toxicity. interactions, indications and contraindications;
- Propose diagnostic and investigative procedures and ability to interpret them;
- Provide first level management of acute emergencies promptly and efficiently and decide the timing and level of referral.
- if required: Recognize geriatric disorders and their management.


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c. Skills: At the end of the course, the student shall be able to

- Develop clinical skills (history taking, clinical examination and other instruments of examination) to diagnose various common medical disorders and emergencies;
- Refer a patient to secondary and/or tertiary level of health care after having instituted primary care;
- Perform simple routine investigations like hemogram, stool, urine, sputum and biological fluid examinations;
- Assist the common bedside investigative procedure like pleural tap, Lumbar puncture, bone marrow aspiration/biopsy and liver biopsy.

DERMATOLOGY

Subject specific objectives

Knowledge: At the end of the course of Dermatology the student shall be able to:

- Demonstrate sound knowledge of common diseases, their clinical manifestations including emergent situations and of investigative procedures to confirm their diagnosis
- Demonstrate comprehensive knowledge of various modes of therapy used in treatment of cutaneous, sexually transmitted diseases and leprosy
- Describe the mode of action of commonly used drugs, their doses, side effects/toxicity, indications and contra-indications and interactions
- Describe commonly used modes of management including the medical and surgical procedures available for the treatment of various diseases and to offer comprehensive plan of management for a given disorder

c. Skills: The student shall be able to

- Interview the patient, elicit relevant and correct information and describe the history in a chronological order;
- Conduct clinical examination, elicit and interpret physical findings and diagnose common disorders and emergencies.
- Demonstrate simple, routine investigative and laboratory procedures required for making the bed-side diagnosis, especially the examination of scrapings for fungus, preparation of slit smears and staining for AFB for leprosy patients and for STD cases and take a skin biopsy for diagnostic purposes.
- Manage common diseases and recognizing the need for referral for specialized care, in case of inappropriateness of therapeutic response.


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PSYCHIATRY

Subject specific objectives

Knowledge: At the end of the course the student shall be able to

- Understand the comprehensive nature & development of different aspects of
- Normal human behaviour like learning. Memory, motivation, personality &
- intelligence
- Recognize differences between normal & abnormal behaviour
- Classify psychiatric disorders
- Recognize clinical manifestations of the following common syndromes & plan their appropriate management of organic psychosis. Functional psychosis. Schizophrenia, affective disorders, neurotic disorders, personality disorders. Psycho physiological disorders, drug & alcohol dependence. psychiatric disorders of childhood & adolescence
- Describe rational use of different mode of therapy in psychiatric disorders

Skills: The student shall be able to:

- Interview the patient & understand different methods of communications in patient-doctor relationship
- Elicit detailed psychiatric case history & conduct clinical examination for assessment of mental status
- Define, elicit & interpret psychopathological symptoms & signs
- Diagnose & manage common psychiatric disorders
- Identify & manage common psychological reactions & psychiatric disorders in
- medical & surgical patients in clinical practice & in community setting

PEDIATRICS

Knowledge: At the end of the course, the students shall be able to

- Describe the normal Growth and Development during foetal life, Neonatal period. Childhood and Adolescence and the deviations thereof.
- Describe the common paediatric disorders and emergencies in terms of Epidemiology, Etiopathogenesis. Clinical manifestations.
- Diagnosis and also describe the rational therapy and rehabilitation services.
- Workout age related requirements of calories, nutrients, fluids. Dosages of drugs etc. in health and disease.
- Describe preventive strategies for common infectious disorders, Malnutrition. Genetic and Metabolic disorders. Poisonings. Accidents and Child abuse.
- Outline national programs related to child health including Immunization programs.


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Skills: At the end of the course, the students shall be able to

- Take detailed Paediatric and Neonatal history and conduct an appropriate physical examination of children and neonates. Make clinical diagnosis, conduct common bedside investigative procedures, interpret common laboratory investigations, plan and institute therapy.
- Take anthropometric measurements. Resuscitate newborn, prepare oral rehydration solution, perform tuberculin test, and administer vaccines available under current National programs. perform venesection, start intravenous fluids and provide nasogastric feeding
- Conduct diagnostic procedures such as lumbar puncture. Liver and kidney biopsy. Bone marrow aspiration. Pleural and ascetic tap.
- 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 about breastfeeding and Complementary feeding.
- Provide ambulatory care to all not so sick children. Identify indications for specialized/ inpatient care and ensure timely referral to those who require hospitalization.

GENERAL SURGERY

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

- Describe aetiology, path physiology. Principles of diagnosis and management of common surgical problems including emergencies in adult and children.
- Define indications and methods for fluid and electrolytes replacement therapy including blood transfusion.
- Define asepsis. Disinfection and sterilization and recommend judicious use of antibiotics.
- Describe common malignancies in the country and their management including prevention.
- Enumerate different types of anaesthetic agents. Their indications. Contraindications. Mode of administration, and side effects.

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

- Diagnose common surgical conditions both acute and chronic. in adults and children.
- Plan various laboratory tests for surgical conditions and interpret the results.
- Identify and manage patients of haemorrhagic septicaemia and other types of shock.
- Be able to maintain patent air-way and resuscitate.


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- Monitor patient of head. Chest, spinal and abdominal injuries. both in adults and children.
- Provide primary care for a patient of burns.
- Acquire principles of operative surgery including preoperative. Operative and postoperative care and monitoring.
- Treat open wound including preventive measures against tetanus and gas gangrene.
- Diagnose neonatal and paediatric surgical emergencies and provide sound primary care before referring the patient to secondary/tertiary centres.
- Identify congenital anomalies and refer them for appropriate management

ORTHOPAEDICS (INCLUDING PHYSICAL MEDICINE & REHABILITATION)

Knowledge: The student shall be able to understand:

- The principles, diagnosis and primary management and be able to give appropriate referral for further definitive management of bones and joint injuries.
- Ontogenesis, manifestation and diagnosis, primary management and give their referral for appropriate correction or rehabilitation of common musculoskeletal disorders including infections of bones and joints; congenital skeletal anomalies, metabolic bone diseases and neoplasm affecting bones.

c. Skills: At the end of the course, the student shall be able to

- Detect soft tissue injuries such as sprains and strains.
- Detect common fractures of extremities.
- Deliver first aid measures for common fractures and sprains
- Deliver emergency measures to poly trauma patients.
- Manage uncomplicated fractures of clavicle. Forearm, phalanges etc.
- Use techniques of splinting such as application of Thomas splint. Plaster slab and casts. Immobilization by skin tractions etc. Learn indications for closed reductions. Open reductions. Internal fixation and external fixations of fracture.
- Manage common bone infection; learn indications for sequestration, amputation and corrective measures for bone deformities.
- Advice and counsel patient for rehabilitation for post traumatic, poliomyelitis, cerebral palsy and amputation.
- Be able to perform certain orthopaedic skills. Provide sound advice of skeletal and related conditions at primary or secondary health care level.



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OTO-RHYNOLARYNGOLOGY (ENT)

Knowledge: At the end of the course, the student shall be able to

- Describe the basic path physiology of common Ear, Nose & Throat (ENT) diseases & emergencies.
- Adopt the rational use of commonly used drugs keeping in mind their adverse reactions.
- Suggest common investigative procedures & their interpretation.

c. Skills: At the end of the course the student shall be able to:

- Examination & Diagnose common ENT problems including pre-malignant & Malignant disorders of the Head & Neck.
- Manage ENT problems at first level of care & be able to refer whenever necessary.
- Assist/carry out minor ENT procedures like ear syringing, ear dressing, nasal packing.
- Assist in certain procedures such as tracheotomy, endoscopy & removal of foreign bodies.

OPHTHALMOLOGY

Knowledge: At the end of the course, student shall have the knowledge of

- Common problems affecting the eye.
- Principles of management of major ophthalmic emergencies.
- Main systemic disease afflicting the eye.
- Effects of local and systemic diseases on patient's vision and the necessary action required minimizing the sequel of such diseases.
- Adverse drug reaction with special reference to ophthalmic manifestations.
- Magnitude of blindness in India and its main causes.
- National programme for control of blindness and its implementation at various levels.
- Eye care education for prevention of eye problems.
- Role of primary health centre in organization of eye camps.
- Organization of primary health care and the functioning of the ophthalmic assistant.
- Integration of the national programme for control of blindness with the other national health programmes.
- Eye bank organization.



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Skills

- Elicit a history pertinent to general health and ocular status.
- Assist in diagnostic procedures such as visual acuity testing, examination of eye. Schiottz tonometry. Staining of Corneal pathology, confrontation, perimetry, Subjective refraction including correction of Presbyopia and aphakia. Direct ophthalmoscope and conjunctival smear examination and Cover test.
- Diagnose and treat common problems affecting the eye.
- Interpret ophthalmic signs in relation to common systemic disorders.
- Assist/observe therapeutic procedures such as Subconjunctival injection. Corneal conjunctival foreign body removal, carbolic cautery for corneal ulcers, Nasolacrimal duct syringing and tarsorrhaphy
- Provide first aid in major ophthalmic emergencies.
- Assist to organize community surveys for visual check-up.
- Assist to organize primary eye care service through primary health centres.
- Use effective means of communication with the public and individual to motivate for surgery in cataract and for eye donation.
- Establish rapport with his seniors. Colleagues and paramedical workers. so as to effectively function as a member of the eye care team.

OBSTETRICS AND GYNAECOLOGY

Knowledge: At the end of the course, the student shall be able to:

- Outline the anatomy, physiology and patho physiology of the reproductive system and the common conditions affecting it.
- Diagnose normal pregnancy, labour, puerperium and manage the problems he is likely to encounter therein.
- List of leading causes of maternal and perinatal morbidity and mortality.
- Understand the principles of contraception and various techniques employed, methods of medical termination of pregnancy, sterilization and their complications.
- Identify the use, abuse and side effects of drugs in pregnancy, peri- menopausal and post-menopausal periods.
- Describe the national programme of maternal and child health and family welfare and their implementation at various levels.
- Identify common gynaecological diseases and management.
- State the indications, techniques and complications of surgeries like Caesareansection, laparotomy, abdominal and vaginal hysterectomy, Fothergill's operation and vacuum
- Aspiration for Medical Termination of pregnancy (MTP) and minor surgeries like EB, D and C, Cervical Biopsy and Cervical encircilage.


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

- Take proper history and writing a good case sheet
- Writing a good discharge summary, proper referral letter
- Examination of patient and arrival at a diagnosis
- Planning for investigation and treatment
- Community orientation, participation in community health promoting and preventing programmes
- Examine a pregnant woman, recognize high- risk pregnancies and make appropriate referrals.
- Conduct a normal delivery, plot and inter pretepartogram
- Recognize complications and decision of referral, provide postnatal care,
- Resuscitate the newborn and recognize the congenital anomalies.
- Advise a couple on the use of various available contraceptive devices (student should see at least 5 Cu-T insertions and 5 cases of female sterilization operations.)
- Perform pelvic examination, diagnose and manage common. Gynaecological problems including early detection of genital malignancies.
- Make a vaginal cytological smear, perform a post coital test and wet vaginal smear examination for Trichomonas vaginalis, Moniliasis and gram stain for gonorrhoea, catheterization of urinary bladder
- Interpretation of data of investigations like biochemical, histopathological, radiological ultrasound etc.

MD/MS POSTGRADUATE MEDICAL EDUCATION PROGRAM

Learning Outcomes (generic and programme-specific) and Postgraduate Attributes as per the provision of Regulatory bodies

Goal: -

The goal of postgraduate medical education shall be to produce a competent specialist and / or a medical teacher as stated in the Post Graduate Medical Education Regulations 2000 and its amendments there of [May2018] -

- (i) Who shall recognize the health needs of the community, and carry out professional obligations ethically and in keeping with the objectives of the national health policy.
- (ii) Who shall have mastered most of the competencies, pertaining to the specialty, that are required to be practiced at the secondary and the tertiary levels of the health care delivery system.
- (iii) Who shall be aware of the contemporary advances and developments in the discipline concerned.



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(iv) Who shall have acquired a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology, and

(v) Who shall have acquired the basic skills in teaching of the medical and paramedical professionals.

General Objectives: -

At the end of the postgraduate training in the discipline concerned the student shall be able to:

i. Recognize the importance of the concerned specialty in the context of the health need of the community and the national priorities in the health sector.

ii. Practice the specialty concerned ethically and in step with the principles of primary health care.

iii. Demonstrate sufficient understanding of the basic sciences relevant to the concerned specialty.

iv. Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitative, preventive and promotive measures/strategies.

v. Diagnose and manage majority of the conditions in the specialty concerned on the basis of clinical assessment, and appropriately selected and conducted investigations.

vi. Plan and advice measures for the prevention and rehabilitation of patients suffering from disease and disability related to the specialty.

vii. Demonstrate skills in documentation of individual case details as well as morbidity and mortality data relevant to the assigned situation.

viii. Demonstrate empathy and humane approach towards patients and their families and exhibit interpersonal behavior in accordance with the societal norms and expectations.

ix. Play the assigned role in the implementation of national health programs, effectively and responsibly.

x. Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation.

xi. Develop skills as a self-directed learner; recognize continuing educational needs, select and use appropriate learning resources.

xii. Demonstrate competence in basic concept of research methodology and epidemiology, and be able to critically analyse relevant published research literature.



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xiii. Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians and paramedical health workers.

xiv. Function as an effective leader of a team engaged in health care, research or training.

Statement of the Competencies

Keeping in view the general objectives of postgraduate training, each discipline shall aim at development of specific competencies, which shall be defined and spelt out in clear terms. Each department shall produce a statement and bring it to the notice of the trainees in the beginning of the program so that he or she can direct the efforts towards the attainment of these competencies.

Components of the PG Curriculum

The major components of the PG curriculum shall be:

- Theoretical knowledge
- Practical/clinical Skills
- Training in writing thesis/research articles
- Attitudes, including communication.
- Training in research methodology, medical ethics & medico legal aspects
- Teaching skills to the undergraduates, juniors and support teams

Source: Medical Council of India, Regulations on Postgraduate Medical Education, 2000.

Course Duration

M.D. / M.S. Degree Courses:

The course of study shall be for a period of 3 completed years including examinations.(MCI PG REG 2000 10:1)

Training Method;

The postgraduate training for degree shall be of residency pattern. The post graduate shall be trained with graded responsibilities in the management and treatment of patients entrusted to his/her care.

The participation of the students in all facets of educational process is essential. Every candidate should take part in seminars, group discussions grand rounds, case demonstration, clinics, journal review meetings, CPC and clinical meetings.

Every candidate should be required to participate in the teaching and training program of undergraduate students. Training should include involvement in laboratory and experimental work, and research studies.


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Basic medical sciences students should be posted to allied and relevant clinical departments or institutions. Exposure to applied aspects of their learning should be addressed. Similarly, clinical subjects' students should be posted to basic medical sciences and allied specialty departments or institutions.

Attendance, Progress and Conduct;

A candidate pursuing degree course should work in the concerned department of the institution for the full period as a full-time student.

No candidate is permitted to run a clinic/laboratory/nursing home while studying postgraduate course

Each year shall be taken as a unit for the purpose of calculating attendance.

Every student shall attend symposia, seminars, conferences, journal review meetings, grand rounds, CPC, case presentation, clinics and lectures during each year as prescribed by the department and not absent himself / herself from work without valid reasons.

Every Candidate is required to attend a minimum of 80% of the training during each academic year of the post graduate course.

This shall include assignments, assessment of full-time responsibilities and participation in all facets of educational process. Provided further, leave of any kind shall not be counted as part of academic term without prejudice to minimum 80% attendance of training period every year. Leave benefits shall be as per university rules.

A post graduate student pursuing degree course in broad specialties, MD, MS required to present one poster presentation, read one paper in national/state conference and to present one research paper which should be published/accepted for publication/sent for publication during the period of his postgraduate studies so as to make him/her to be eligible to appear at the university degree examinations. (MCI, PG 2000, 13.9)

Any student who fails to complete the course in the manner stated above shall not be permitted to appear for the University Examinations.

Monitoring Progress of Studies;

The learning process of students should be monitored through continuous appraisal and regular assessment. It not only helps teachers to evaluate students, but also students to evaluate themselves.

The monitoring is done by the staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment done by using checklists that assess various aspects.


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The learning outcomes to be assessed include:

- Personal Attitudes,
- Acquisition of Knowledge,
- Clinical and operative skills, skills of performing necessary tests/experiments
- Teaching skills.
- Documentation skills

Personal Attitudes:

The essential items are:

- Caring attitude, empathy
- Initiative in work and accepting responsibilities
- Organizational ability
- Potential to cope with stressful situations and undertake graded responsibility
- Trustworthiness and reliability
- To understand and communicate intelligibly with patients and others
- To behave in a manner which establishes professional relationships with patients and colleagues
- Ability to work in team
- A critical enquiring approach to the acquisition of knowledge

The Methods used mainly consist of observation. Any appropriate methods can be used to assess these.

It is appreciated that these items require a degree of subjective assessment by the guide, supervisors and peers.

However, every attempt should be made to minimize subjectivity.

Acquisition of Knowledge:

Lectures: Lectures/theory classes as necessary may be conducted. It is preferable to have one class per week if possible. They may be employed for teaching certain topics. Lectures may be didactic or integrated.

The following selected common topics for post graduate students of all specialties to be covered are suggested here.

These topics can be addressed in general with appropriate teaching-learning methods centrally or at departmental level.

- History of medicine with special reference to ancient Indian medicine
- Basics of health economics and health insurance


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- Medical sociology, Doctor –Patient relationship, role of family in disease
- Professionalism & Medical code of Conduct and Medical Ethics
- Research Methods, Bio-statistics
- Use of library, literature search, use of various software and databases.
- Responsible conduct of research
- How to write an article, publication ethics and Plagiarism
- Journal review and evidence-based medicine
- Use of computers & Appropriate use of AV aids
- Rational drug therapy
- National Health and Disease Control Programmes
- Roles of specialist in system-based practice
- Communication skills.
- Bio medical waste management
- Patient safety, medical errors and health hazards
- Patient's rights for health information and patient charter.

These topics may preferably take up in the first few weeks of the 1st year commonly for all new postgraduates and later in 2nd year or 3rd year as required during their progression of the programme.

The specialty wise topics can be planned and conducted at departmental level.

Integrated teaching:

These are recommended to be taken by multidisciplinary teams for selected topics, eg. Jaundice, Diabetes mellitus, thyroid diseases etc. They should be planned well in advance and conducted.

Journal Review Meeting (Journal club):

The ability to do literature search, in depth study, presentation skills, use of audio – visual aids, understanding and applying evidence-based medicine are to be focused and assessed. The assessment is made by faculty members and peers attending the meeting using a checklist.

Seminars / symposia:

The topics should be assigned to the student well in advance to facilitate in depth study. The ability to do literature search, in depth study, presentation skills and use of audio –visual aids are to be assessed using a checklist.

Clinico-Pathological conferences:


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This should be a multidisciplinary case study of an interesting case to train the candidate to solve diagnostic and therapeutic problems by using an analytical approach. The presenter(s) are to be assessed using a check list similar to that used for seminar.

Medical Audit: Periodic morbidity and mortality meeting be held. Attendance and participation in these must be insisted upon. This may not be included in assessment.

Clinical Skills: Day to Day Work: Skills in outpatient and ward work should be assessed periodically. The assessment should include the candidates' sincerity and punctuality, analytical ability and communication skills.

Clinical Meetings:

Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list.

Group discussions:

Group discussions are one of the means to train and assess the student's ability to analyse the given problem or situation, apply the knowledge and make appropriate decisions. This method can be adopted to train and assess the competency of students in analysing and applying knowledge.

Death review meetings/Mortality meetings:

Death review meetings are important method for reflective learning. A well conducted morbidity and mortality meetings bring about significant reduction in complications, improve patient care and hospital services. They also address system related issues. Monthly meetings should be conducted with active participation of faculty and students. Combined death review meetings may be required wherever necessary.

Clinical and Procedural Skills:

The candidate should be given graded responsibility to enable learning by apprenticeship. The performance is assessed by the guide by direct observation. Particulars are recorded by the student in the log book.

Teaching Skills:

Candidates should be encouraged to teach undergraduate medical students and paramedical students, if any. This performance should be based on assessment by the faculty members of the department and from feedback from the undergraduate students.

Attitude and Communication skills:

Candidates should be trained in proper communication skills towards interaction and communication with patients, attendees and society in general.


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There should be appropriate training in obtaining proper written informed consent, discussion and documentation of the proceedings. Structured training in various areas like consent, briefing regarding progress and breaking bad news are essential in developing competencies.

Variety of teaching;

Learning methods like Role play, video-based training, standardized patient scenarios, reflective learning and assisting the team leader in all these areas will improve the skills.

Assessment can be done using OSCE simulated scenarios and narratives or any appropriate means. Training to work as team member, lead the team whenever situation demands is essential. Mock drills to train and assess the readiness are very helpful.

Work diary / Log Book:

Every candidate shall maintain a Work Diary/Log Book and record his/her participation in the training programs conducted by the department such as journal reviews, seminars, etc.

Special mention may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, conducted by the candidate.

A well written and validated Log Book reflects the competencies attained by the learner and points to the gap which needs address. This Log Book shall be scrutinized by concerned teachers periodically and certified, by the Head of Department and Head of the Institution, and presented during University Practical / Clinical examination.

Periodic tests:

In case of degree courses of three years duration (MD/MS), the concerned departments may conduct periodic tests. The tests may include written papers, practical / clinical and viva voce.

One of these practical/clinical tests should be conducted by OSPE (objective structured practical examination or OSCE (objective structured clinical examination) method.


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