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PAEDIATRICS
GUIDELINES FOR POST GRADUATE TRAINING
PROGRAMME

A PG student after undergoing the required training should be able to
deal effectively with a need of the community and should be competent
to handle all the problems related to his specialty including the recent
advances. He should also acquire skill in teaching of medical / Para-
medical students

Programme objectives

Goals:

- The goal of M.D. (Pediatrics) program is to provide training in
  pediatrics and Neonatology to produce competent specialists
  who are able to provide basic and specialty care of the highest
  order to neonates; children and adolescents at the community
  level and at primary, secondary and tertiary levels of
  healthcare, and to act as future trainers, teachers, and
  researchers in the field of pediatrics and Neonatology
- Recognizes the health needs of infants, children and
  adolescents and carries out professional obligations in keeping
  with principles of National Health Policy and professional
  ethics.
- Has acquired the competencies pertaining to pediatrics that are
  required to be practiced in the community and at all levels of
  health system.
- Has acquired skills in effectively communicating with the
  child, family and the community.
- Is aware of the contemporary advances and developments in
  medical sciences as related to child health.
- Is oriented to principles of research methodology.
- Has acquired skills in educating medical and paramedical
  professionals.

Specific learning objectives

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

- Recognize the key importance of child health in the context of
  the health priority of the country.
- Practice the specialty of pediatrics in keeping with the
  principles of professional ethics.
Identify social, economic, environmental, biological and emotional determinates of child and adolescent health, and institute diagnostic, therapeutic, rehabilitative, preventive and promotive measures to provide holistic care to children.

Recognize the importance of growth and development as the foundation of Pediatrics; and help each child realize her/his optimal potential in this regard.

Take detailed history, perform full physical examination including neurodevelopment and behavioral assessment and anthropometric measurements in the child and make clinical diagnosis.

Perform relevant investigative and therapeutic procedures for the pediatrics patient.

Interpret important imaging and laboratory results.

Diagnose illness in children based on the analysis of history, physical examination and investigate work up.

Plan and deliver comprehensive treatment for illness in children using principles of rational drug therapy.

Plan and advice measures for the prevention of childhood disease and disability.

Plan rehabilitation of children suffering from chronic illness and handicap, and those with special needs.

Manage childhood emergencies efficiently.

Provide comprehensive care to normal, ‘at risk’ and sick neonates.

Demonstrate skills in documentation of case details, and of morbidity and mortality data relevant to the assigned situation.

Recognize the emotional and behavioral characteristics of children, and keep these fundamental attributes in focus while dealing with them.

Demonstrate empathy and human approach towards patients and their families and keep their sensibilities in high esteem.

Demonstrate communication skills of a high order in explaining management and prognosis, providing counseling and giving health education messages to patients, families and communities.

Develop skills as a self-directed learner, recognize continuing educational needs; use appropriate learning resources, and
critically analyze relevant published literature in order to practice evidence-based pediatrics.

- Demonstrate competence in basic concepts of research methodology and Epidemiology.
- Facilitate learning of medical/nursing students, practicing physicians, paramedical health workers and other providers as a teacher-trainer.
- Play the assigned role in the implementation of national health programs, effectively and responsibly.
- Organize and supervise the desired managerial and leadership skills.
- Function as a productive member of a team engaged in health care, research and education.

Integration of Teaching

- Postgraduate Medical Education in broad specialities shall be of three years duration in the case of degree course and two years in the case of Diploma course after MBBS and in the of super specialities the duration shall be of 3 years after MD and 2 years for DCh
- Postgraduate curriculum shall be competency based.
- Learning in postgraduate programme shall be essentially autonomous and self-directed.
- A modular approach to the course curriculum is essential for achieving a systemic exposure to the various sub-specialties concerned with a discipline.
- Outreach and community services and training will be incorporated for the better understanding of the grass root problems.
- Basic understanding of the allied subjects and supersecialities through postings.
Skills
- History taking
- Examination.
- Bed side procedures
- Monitoring Skills:
  - Therapeutic and investigative skills:
    - Diagnostic
      - Bed side investigations
      - Interpretation of plain X-ray chest, abdomen, bone, head; ECG, ABG report CT scan.
    - Understanding of common EEG patterns, audiograms, Ultrasonographic abnormalities and isotope studies.

Postgraduate teaching programme
Formal Teaching sessions:
- In addition to bedside teaching rounds, in patients and out patient’s management, at least 5 hours of formal teaching per week are a must. The departments may select a mix of the following sessions:
  - Journal Club/Medical and perinatal Audit - Once a week
  - Seminar/Lecture - Once a week
  - Case Discussion - Twice a week
  - Progress of dissertation
  - Problem based learning
  - Micro teaching
  - Interdepartmental case/seminar - Once a week
  - (Cardiology, Pediatrics, Surgery etc)
  - Attend accredited scientific meetings (CME, symposia, and conferences)
  - Clinicopathological conferences
  - Clinicoradiological conferences
  - Mortality Review meetings
  - Guest lectures
  - Conferences
  - Participation in workshops
  - Presentation of papers
  - Teaching undergraduate students
  - Teaching postgraduate students and paramedical staff
- Use and maintenance of biomedical equipments and gadgets
- Counseling regarding performance of procedures, disease process and prognostication
- Assisting in diagnostic and therapeutic procedures
- Performing diagnostic and therapeutic procedures
- Patient/ Health education

**Rotations**
- The postgraduate student should rotate through all the clinical units in the department. In addition, following special rotations should be undertaken:
  **Must**
  - Neonatology - 6 months (maximum 9 months) (including perinatology)
  - Intensive care/Emergency - 3 months
  **Desirable**
  - Posting in Out Patient Services of the following specialties is recommended for the duration indicated below:
    - Skin
    - Pediatric surgery
    - physical Medicine and Rehabilitation Community
    - Pulmonology & radiology
    - Note: in addition the candidates may be sent to allied specialties such as cardiology, neurology etc.

**Postgraduate Examination**
- The post graduate examination shall be in three parts:-
  - Thesis, to be submitted by each candidate at least 6 months before the date of commencement of the theory examination.
  - Theory: There shall be four theory papers for M.D
  - & three papers for DCH

**Practicals**
- FOR M.D-
  - Case 1
  - Case II (Newborn)
  - Case III
  - Case IV (Ambulatory/ Emergency Care)
  - Viva on defined areas by each examiner separately
For DCH

- Case I
- Case II (Newborn)
- Case III
- Viva on defined areas by each examiner separately

**Paper I**

Basic Sciences Chromosomal disorders, single gene disorders, multi/actor disorders/ polygenic, genetic diagnosis, and prenatal diagnosis. Embryogenesis of different organ system especially heart, genitourinary system, gastrointestinal tract, applied anatomy of different organs, functions of kidney, liver, lungs, heart and endocrinal glands. Physiology of micturition and defecation, placental physiology, fetal and neonatal circulation, regulation of temperature (esp. newborn), blood pressure, acid base balance, fluid electrolyte balance, calcium metabolism, vitamins and their functions, hematopoisis, hemostasis, bilirubin metabolism, growth and development at different ages, puberty and its regulation, nutrition, normal requirements of various nutrients, basic immunology, bio- statistics, clinical epidemiology, ethical and medico-legal issues, teaching methodology and managerial skills. Pharmacokinetics of commonly used drugs, microbial agents and their epidemiology.

**Paper II**

**Neonatology and Community Paediatrics.**

Neonatology: The fetus and neonatal infant


**Preventive pediatrics**

**Social paediatrics**

**Paper III**
**General Pediatrics including advances in Pediatrics**
**Nutrition**
management. Infant feeding and weaning foods.
Pathological features of various nutritional disorders. Planning of diet during illness.

Growth and development

Infectious diseases and immunization

Genetics
**Immunological system and its disorders**

**Psychological Behavioral manifestations disorders.**

**Rheumatic diseases and connective tissue disorder or childhood:**
Etiology, pathogenesis, manifestation, laboratory diagnosis and management of Rheumatic diseases in childhood and adolescents. Congenital and acquired disorders of eye, ear, nose, throat, skin, bones and joints.

**Development of diagnostic approach for and interpretation of symptomatology and clinical sings in adolescents.**

**Paper IV**
**General Pediatrics including Recent Advances:**

**Neurology: Central and peripheral Nervous System-**
Development of the brain, spinal cord and peripheral nervous system and their anomalies. Neurological evaluation of newborns, infants and children. Etiology, pathophysiology, pathogenesis, clinical features and management of various diseases affecting central nervous system and peripheral nervous system. Seizures in childhood. Neuromuscular diseases - etiology, clinical features, pathophysiology and management.
Nephrology and genitourinary tract

Hematology and Neoplastic diseases
Physiology of erythopoiesis, leucopoiesis and physiology of hemostasis Etiology, pathophysiology, pathogenesis, clinical features and management of haematological and oncological diseases. Laboratory diagnosis and other relevant diagnostic and therapeutic modalities in hematological and oncological disorders. Pharmacotherapy of Hematological and Oncological diseases. Component therapy in Pediatric Practice.

Endocrine system
Synthesis, physiology functions and pharmacological actions of various hormones. Disorders of the endocrine glands. Pubertal development and its disorders.

Gastrointestinal tract
Respiratory system:

Cardiovascular system:

Research
All the postgraduate students will be exposed to Research Methodologies through their participation in the Journal Club & research projects

Assessment
- During the course all the PG students are required to maintain a detailed logbook.
- Day to day activities like professionalism, communication skills and counseling abilities are observed and feedback is given to the students.
Six monthly examinations are conducted and the papers of the students are evaluated. Papers are discussed in detail.

Six monthly progress report is maintained.

Dissertations are assessed periodically and feedback given.

Preliminary Examination is conducted 3 months before the final examination.

Final examination is conducted and overall performance of the student is assessed.

For MD

Paper-I Basic Sciences & Embryology 3 Hrs 100 Marks
Paper-II Neonatology and Community Pediatrics
Paper-III Systemic Pediatrics 3 Hrs 100 Marks
Paper-IV Recent advance and allied 3 Hrs 100 Marks
Total Marks 400 Marks

(Questions should be self explanatory & exhaustive)

For DCH Examination, Paper I, II and III are similar to M.D. except for the fact that allied subjects are included in Paper III.

Pattern of Theory Papers : for (M.D. & DCH)

a) Section 1 : 2 LAQ 25 x 2 = 50
b) Section 2 : 5 Short Questions 10 x 5 = 50
Total 100

Practical :

For MD

Clinical Cases :

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<tr>
<td>Short case</td>
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<td>50 Marks each = 150</td>
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<td>25 Marks each = 100</td>
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Total 400 Marks

58
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<tr>
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<tr>
<td>Short case</td>
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