

THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY

No. 69, ANNA SALAI, GUINDY, CHENNAI – 600 032.

POST GRADUATE DIPLOMA COURSES



DIPLOMA IN PAEDIATRICS (D.CH.)

CHAPTER I

GOALS AND GENERAL OBJECTIVES OF POSTGRADUATE MEDICAL EDUCATION PROGRAM

1. GOALS

The goal of postgraduate medical education shall be to produce competent specialist and /or Medical teacher:

- (i) who shall recognise 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;
- (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.

2. GENERAL OBJECTIVES

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

- i) Recognise the importance of the concerned speciality in the context of the health need of the community and the national priorities in the health sector.
- ii) Practice the speciality concerned ethically and in step with the principles of primary health care.
- iii) Demonstrate sufficient understanding of the basic sciences relevant to the concerned speciality.
- 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 speciality concerned on the basis of clinical assessment, and appropriately selected and conducted investigations.
- vi) Plan and advise measures for the prevention and rehabilitation of patients suffering from disease and disability related to the speciality.
- 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 behaviour in accordance with the societal norms and expectations.
- ix) Play the assigned role in the implementation of national health programmes, effectively and responsibly.
- x) Organise 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, recognise continuing educational needs; select and use appropriate learning resources.
- xii) Demonstrate competence in basic concepts of research methodology and epidemiology, and be able to critically analyse relevant published research literature.
- 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 health 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 programme so that he or she can direct the efforts towards the attainment of these competencies.

Source: Medical Council of India, Regulations on postgraduate medical education, 2016

THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY, CHENNAI

DIPLOMA IN PAEDIATRICS (DCH)

1. GOALS

The goals of postgraduate training in Paediatrics would be to train a basic medical graduate (MBBS)

- To practice as a Child Health specialist equipped with appropriate knowledge and skills necessary to care for the normal and sick child.
- To practice Child Health in the community (urban or rural) and to perform professionally at all levels of the existing health care system.
- To practice with empathy and the highest ethical standards of the profession.
- To continue to strive for excellence by continuing medical education throughout his or her professional career.
- To teach by sharing knowledge and skills with colleagues
- To research and find solutions to challenges in health care.

2. OBJECTIVES

The objectives to be fulfilled at the completion of the course are as follows:

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

• **Knowledge:**

- Describe, identify and monitor normal patterns of growth and development of children.
- Describe etio-pathogenesis, principles of clinical diagnosis, investigations and treatment of diseases of childhood.
- Demonstrate an understanding of Basic (Pre and Para-clinical) Sciences and its application to the normal and abnormal processes.
- Analyze clinical and investigation data approach and manage a health-related problem.
- Identify and understand socio-economic-environmental-cultural factors in health care.
- Recognize problems outside his or her abilities and appropriately refer.
- Update one's knowledge and skills by self directed learning and by participating in continued medical education programs utilizing media – spoken, written, Print and electronic.
- Teach and share knowledge and skills with colleagues.
- Audit and analyze work, assist in research and publish scientific articles in peer reviewed journals.

• **Skills:**

- Elicit an appropriate clinical history.
- Demonstrate appropriate clinical physical examination skills on children.
- Plan, decide upon and interpret appropriate cost effective investigations.
- Perform essential procedures both diagnostic and therapeutic.
- Manage, resuscitate and stabilize children in Pediatric or Neonatal emergencies.

- **Communication and attitudes:**
 - Communicate appropriately with guardians and children, assisting in their health care decision making.
 - Practice child health care at the highest ethical level, protecting the child at all costs.
 - Respect Patient's (and their guardian's) rights and professional relationships (Doctor-Doctor, Doctor-Nurse, Doctor-Patient, Doctor-Society).
 - Apply the highest level of ethics in Research, Publication, References and Practice of Paediatrics.

3. COMPONENTS OF THE PG CURRICULUM

The major components of the PG curriculum shall be:

- Theoretical knowledge
- Practical/clinical Skills

Students are encouraged to attend CME's, publish research papers and present posters, or platform presentations at State, National and International conferences.

- Attitudes, including communication.
- Training in medical ethics/bioethics and medico legal aspects is recommended
 - Students are encouraged to attend workshops/CME's on Bioethics conducted by the University and other reputed Institutions.
 - Medical ethics, Bioethics, moral and legal issues, Medical Audit are part and parcel of the curriculum and syllabus

4. THEORY SYLLABUS

Course Contents

Psychological Disorders

1. Assessment and Interviewing
2. Psychiatric considerations of CNS injury
3. Vegetative Disorders-Rumination, Pica, Enuresis, Encopresis, Sleep disorders
4. Habit Disorders
5. Mood Disorders
6. Anxiety Disorders
7. Disruptive Behavioral disorders
8. Suicide
9. Sexual behavior variations
10. ADHD
11. Psychosis
12. Autism
13. Psychological treatment
14. Poor Scholastic performance
15. Neurodevelopment dysfunction in school age child
16. Psychosomatic Illness
17. Learning Disorders

Social Issues

1. Adoption
2. Effects of a mobile society
3. Street Child
4. Impact of Violence
5. Child Care
6. Single parent child
7. Separation, death
8. Foster care
9. Abuse and Neglect
10. Child Labor
11. Media (TV, Movies) and its effect on the child

Children with Special Needs

1. Failure To Thrive – Problems, Approach and Evaluation
2. Children in Poverty
3. Developmental disabilities, Chronic Illness
4. Homeless children
5. Mental Retardation – Problems, Approach and Evaluation
6. Foster Children
7. Care of Child with fatal illness
8. Runaway Children

Nutrition

1. Nutritional Requirements- Water, energy, proteins, CHO, Fats, Minerals, Vitamins,
2. Diet/Nutrition Evaluation
3. Athletic Diet
4. Diet for later childhood and Adolescent
5. Infant and Child Feeding
6. Breast Milk Feeding, Human Lactation Management, BFHI
7. Nutrition Values of Indian Foods, Recipes
8. Weaning foods
9. Feeding through 1 and 2nd years
10. Nutritional Disorders Including Obesity
11. Protein Energy Malnutrition
12. Vitamin Deficiencies and Excess
13. Micro-nutrient Malnutrition
14. Nutrition in Special situations – LBW, Premature, IEM, Chronic illness, Surgery, Critically ill child
15. TPN

Patho-physiology of Body Fluids and Fluid therapy (Approach and Management)

1. Physiology of Fluids, Electrolytes and Acid Bases
2. Dehydration and fluid management
3. Dyselectrolytemia
4. Acid Base Disorders
5. Special Situations - Pyloric stenosis, CNS disorders, Burns, Peri-operative, Endocrine disorders, Renal Failure.

Acutely Ill Child

1. Evaluation in Emergency
2. Pediatric Anesthesia
3. Injury Control
4. Emergency Medical Services
5. Organization of a PICU/NICU
6. Pediatric Critical Care
7. Equipment for Intensive care
 - Respiratory Failure, Ventilation
 - Circulatory Failure and Shock(all types)
 - Acute Neurological Dysfunction- approach to a child with altered sensorium
 - Resuscitation – Basic and Advanced, NALS/PALS
 - Post Resuscitation stabilization
 - Cold/Heat Injury
8. Transportation of Sick Child/neonate
9. Post-operative supportive care

Emergencies/ Critical Care Paediatrics

1. Fluid abnormalities
2. Electrolyte abnormalities
3. Thermoregulation problems
4. Acute Renal failure
5. Hypertensive crisis
6. Congestive Cardiac failure
7. Cardiogenic shock
8. Pericardial tamponade
9. Cyanotic spells
10. Unstable and stable Arrhythmias
11. Vomiting and Diarrhea
12. Recognition of critical illness pediatric assessment Triangle
13. Stridor
14. Pulmonary edema-cardiogenic and non cardiogenic
15. Traumatic brain injury
16. Polytrauma
17. Diabetic ketoacidosis
18. GI Bleeds - Hematemesis, Melena, Hematochezia
19. Adrenal Crisis
20. Metabolic problems – hyperammonemia, lactic acidosis, acid base abnormalities, Hypoglycemia
21. Septicemic shock, Viral infections and shock
22. Pneumothorax, empyema, pleural effusion, ascites
23. Severe Anemia, Bleeding child, Neutropenia
24. Pain management, Drug therapy
25. ARDS
26. Respiratory Failure

27. Burns/ electrocution
28. Animal Bites
29. Preanesthetic check up PAC
30. Sick cell crisis, severe complicated malaria
31. Acute severe asthma, Bronchiolitis
32. Status epilepticus
33. Febrile seizure
34. Coma, Increased intra-cranial pressure
35. Cardiopulmonary resuscitation
36. Shock
37. Upper airway obstruction
38. Near drowning
39. Poisoning
40. Snake bite
41. Scorpion sting
42. Physical abuse
43. Sexual abuse

Human Genetics

1. Molecular Basis of Disorders
2. Molecular Diagnosis
3. Human Genome Project
4. Inheritance Patterns
5. Chromosomal/genetic clinical Abnormalities
6. Genetic Counseling
7. Dysmorphism
8. Gene therapy

Metabolic Disorders

1. Approach to IEM
2. Purine and pyrimidine metabolism defects
3. Amino acid Metabolic defects - Common
4. Porphyria
5. Amino acid Metabolic Defects – Rare
6. Lipid Metabolism - Common
7. Lipid Metabolism - Rare
8. CHO Metabolism – Common
9. CHO Metabolism – Rare
10. Mucopolysaccharidosis
11. Mucopolipidosis
12. Hypoglycemia

Fetus and Newborn

1. Mortality and morbidity
2. Newborn – history, examination, routine delivery care, nursery care, bonding

3. High risk pregnancies
4. Dysmorphology
5. Fetus
 - Growth/Development
 - Fetal distress
 - Maternal diseases
 - Maternal medications
 - Detection, treatment, prevention of fetal disease
 - Antenatal diagnosis
 - Fetal therapy
 - Antenatal therapy
 - Counseling
 - Teratogens, radiation
6. High risk infant
 - Multiple pregnancies
 - Prematurity
 - Postdated
 - IUGR/LBW
 - LFD
7. Congenital anomalies/ malformations
8. Birth injuries
9. Hypoxia - ischemia, asphyxia
10. Organization and levels of newborn care
11. Normal Newborn
12. Common problems in a normal newborn
13. Delivery room emergencies
14. Respiratory disorders
15. Oxygen therapy, toxicity
16. Ventilation
17. GI disturbances including NEC
18. Hyperbilirubinemia
19. Cardiac problems
20. PPHN
21. Blood disorders
 - Polycythemia
 - Anemia
 - Hemorrhagic disease of newborn
 - Hemolytic disease of newborn
 - Thrombocytopenia
22. Genitourinary disturbances
23. Metabolic disorders
24. Endocrine disorders- IDM, CAH
25. Ambiguous genitalia
26. Fluid and electrolytes in Newborn care
27. Nutrition and feeding the newborn – term/preterm, LBW, IUGR
28. Neonatal transport

29. Surgical problems

TEF

Anorectal malformations

Diaphragmatic Hernia/Eventration

Hirschsprung

Urogenital anomalies

NEC

Congenital Lobar Emphysema

Volvulus

30. Thermoregulation

31. Neonatal follow-up

Neonatal Infections

1. Epidemiology
2. Intrauterine infections
3. Viral Infections
4. Neonatal sepsis/meningitis
5. Pneumonia
6. UTI
7. Hepatitis
8. Nosocomial
9. Universal precautions
10. Prevention of infections
11. Therapy- antimicrobials, adjuvants

Adolescent Health

1. Epidemiology
2. Depression
3. Sexual development and SMR stages
4. Suicide
5. Deliveries of health care
6. Pregnancy
7. Contraception
8. STD
9. Menstrual problems
10. Substance abuse
11. Anorexia nervosa, bulimia
12. Sleep disorders
13. Skin/Orthopedics

Immunological system

1. Basics of Immunology
2. Approach to immunodeficiency
3. HIV
4. Bone marrow transplantation
5. Primary B cell diseases
6. Primary T cell diseases
7. Complement and phagocytic diseases
8. Chronic granulomatous disease
9. Chediak Higashi Disease
10. Neutrophil abnormalities
11. Adhesion disorders

Allergic disorders

1. Allergy and Immunological basis
2. Insect allergy
3. Diagnosis
4. Ocular allergy
5. Therapy – principles
6. Adverse food reaction
7. Allergic Rhinitis
8. Asthma
9. Atopic dermatitis
10. Urticaria, Angioedema
11. Anaphylaxis
12. Serum sickness
13. Adverse drug reactions

Rheumatology

1. Autoimmunity
2. Ankylosis spondylosis
3. Laboratory evaluation
4. Neonatal Lupus
5. JRA
6. Scleroderma
7. SLE
8. Mixed connective Tissue Disease
9. Vasculitis
10. Dermatomyositis
11. Erythema Nodosum
12. Behcet syndrome
13. Sjogren syndrome
14. Nonrheumatic conditions
15. Painsyndromes, panniculitis, polychondritis, amyloidosis

Infectious diseases

1. Fever
2. Clinical use of Micro Lab
3. Fever without a focus
4. Sepsis and Shock
5. CNS Infections
6. Pneumonia
7. Gastroenteritis
8. Osteomyelitis, Septic arthritis
9. Compromised host infections
10. Bacterial Infections
11. Anaerobic infections
12. Viral Infections
13. Mycotic infections
 - Candidiasis
 - Aspergillosis
14. Parasitic infections
 - Helminthiasis

15. Protozoal
 - Malaria
 - Kalaazar
 - Leishmania
 - Giardia
 - Amoeba
16. Antiparasitic drugs
17. Antimicrobials
18. Antivirals drugs, interferon
19. Preventive measures
 - Health advice for travelling
 - Infection control
20. Immunization
 - Principles
 - Schedules
 - Controversies
 - Standard and Optional Vaccines
 - Recent advances in Vaccines

Digestive system

- | | |
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| <ol style="list-style-type: none"> 1. Normal tract – Physiology, Anatomy, Development 2. Clinical features of Disorders 3. Disorders of Esophagus 4. Disorders of Stomach 5. Disorders of Intestines except Food allergy 6. Disorders of Pancreas 7. Disorders of Liver and biliary system <ul style="list-style-type: none"> Acute Hepatitis, Chronic Hepatitis, Cirrhosis, Metabolic Liver Diseases, Cholestatic liver disease, Neonatal Obstructive Cholangiopathy, Complications of Liver Disease – Portal Hypertension, Encephalopathy, Coagulopathy, 8. Disorders of Peritoneum 9. GI function tests 10. Approach to Malabsorption | <ol style="list-style-type: none"> 1. Food allergy |
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Respiratory system

1. Development and function
2. Congenital disorders of nose
3. Disorders of Upper Respiratory tract
4. Disorders of Lower respiratory tract
5. Hypoventilation
6. Pleural disorders
7. Chronic Respiratory Disease
 - Interstitial fibrosis, ILD, empyema,
 - lung abscess, bronchiectasis
8. Hypostatic pneumonia
9. Kyphoscoliosis
10. Recurrent Respiratory Disease
11. Ventilation
12. Central hyperventilation
13. Pulmonary Function tests
14. Obesity

15. Cystic Fibrosis
16. Obstructive sleep apnea
17. Pulmonary Hemosiderosis
18. Neuromuscular skeletal disorders
19. Cough Syncope
20. Bronchial Asthma

Cardiovascular System

1. Investigations –Lab, ECG, CXR, ECHO, Cath
2. Physiology and Pathophysiology of Transitional Circulation
3. Sick Sinus Embryology
4. Tumors of Heart
5. Congenital Heart Disease
 - Epidemiology
 - Approach
 - Cyanotic
 - Acyanotic
6. Heart Lung, Heart Transplants
7. Aneurysms and fistulae
8. Cardiac Arrhythmia
9. Acquired heart disease
 - Infective Endocarditis
 - Rheumatic Heart Disease
10. Diseases of the Myocardium – Myocarditis, Cardiomyopathy
11. Cardiac Therapeutics
12. Diseases of the pericardium

Blood

1. Development of Hematopoietic system
2. Elliptocytosis
3. Anemias
 - Inadequate production
 - Nutrition – Iron, Folate, B12
 - Bone Marrow failure
 - Hemolytic
 - Congenital and Acquired
4. Constitutional pancytopenia
5. Stomatocytosis
6. Other membrane defects
7. Polycythemia
8. Granulocyte transfusions
9. Pancytopenia
10. Blood and component transfusions
11. Thrombotic disorders
12. Hemorrhagic disorders – acquired and congenital
 - Physiology
 - Bleeding disorders
 - Coagulation disorders
13. Hypersplenism, trauma, splenectomy
14. Physiology and Disorders of the Spleen
15. Lymphatic vessel disorders
16. Lymphatics

Neoplasms

1. Principles of diagnosis
2. Epidemiology
3. Principles of treatment
4. Molecular pathogenesis
5. Leukemia
6. Soft tissue sarcomas
7. Lymphomas
8. Gonadal, germ cell tumours
9. Neuroblastoma
10. Liver neoplasm
11. Kidney tumors
12. GI neoplasm
13. Bone Neoplasms
14. Carcinomas
15. Retinoblastoma
16. Skin Cancer
17. Benign tumours

Nephrology

1. Structure and function of kidney
2. Hematuria and conditions
3. Membranous GN
4. HUS Evaluation
5. Lupus nephritis
6. MembranoProlif GN
7. Proteinuria
8. Chronic infectious GN
9. Nephrotic syndrome
10. Goodpasture
11. Acute Glomerulonephritis
12. Tubular disorders
 1. Function
 2. RTA
 3. DI
13. Renal Failure
14. RPGN
15. Renal Replacement therapy
16. Bartter syndrome Investigations
17. Interstitial nephritis
18. Toxic nephropathy
19. Cortical necrosis

Urological disorders

1. UTI
2. Congenital anomalies, dysgenesis kidney
3. Vesico-ureteral reflux
4. Bladder anomalies
5. Obstructions
6. Penis, urethra anomalies
7. Voiding dysfunction
8. Scrotal anomalies

9. Genitourinary trauma
10. Urolithiasis
11. Investigations – imaging, renal function tests
12. Neurogenic bladder

Gynecological problems

1. Menstrual Problems
2. Neoplasms
3. Vulvovaginitis
4. Breast Disorders
5. Developmental anomalies
6. Hirsutism, polycystic ovaries
7. A child with special Gynec needs
8. Gynec imaging
9. Athletic problems

Endocrine

1. Hypothalamus and pituitary
 - Hyperpituitarism
 - Hypopituitarism, Growth hormone
 - DI
 - ADH
 - Physiology of Puberty
 - Disorders of puberty
 - Precocious Puberty
 - Delayed puberty
2. Thyroid
 - Thyroid studies
 - Hypothyroidism
 - Thyroiditis
 - Goitre
 - Hyperthyroidism
 - Carcinoma of thyroid
3. Parathyroid and disorders
4. Diabetes mellitus
5. Tumours of testis/ovary
6. Multiple Endocrine Disorders
7. Adrenal Disorders
 - CAH
 - Cushing
 - Addisons
 - Excess mineralocorticoids
 - Feminizing adrenal tumours
 - Pheochromocytoma

CNS

1. Examination, Localization of lesions
2. Movement disorders
3. Congenital anomalies
4. Seizures
5. Headaches
6. Neurocutaneous disorders
7. Coma
8. Brain death
9. Head Injury

10. Neurodegenerative disorders- Approach, Grey/white
11. Acute Stroke
12. Brain abscess
13. Tumors
14. Spinal cord disorders
15. Investigations
16. Antiepileptic drugs
17. SSPE
18. Rabies Vaccine Encephalomyelitis,
19. Acute Demyelinating Encephalomyelitis
20. Approach, Investigations of UMN, LMN, Extrapyramidal, Cerebellar lesions
21. Cerebral Palsy
22. Neuroinfections
23. Encephalopathies

Neuromuscular

1. Evaluation, investigations of muscle
2. Development disorders
Muscular Dystrophies, Congenital Myopathy, Myositis
3. Endocrine disorders
4. Neuromuscular transmission and motor neuron
5. Metabolic Abnormalities
6. GB syndrome
7. Motor sensory neuropathy
8. Bell's Palsy
9. Autonomic disorders
10. Floppy Infant
11. Myasthenia Gravis

Eye

1. Examination of eye
2. Refraction, accommodation
3. Diseases of Eye movement and alignment disorders
4. Vision
5. Diseases of Conjunctiva - Conjunctivitis
6. Pupils and iris
7. Diseases of Lens - Cataracts
8. Lids
9. Diseases of Optic nerve – Papillitis, Neuritis,
 - Papilledema
10. Diseases of Cornea – Clouding
11. Uveal tract
12. Vitamin A deficiency
13. Retina and vitreous
14. Lacrimal problems - Dacrocystitis
15. Glaucoma
16. Retinopathy of Prematurity
17. Orbital abnormalities
18. VER
19. Injuries to eye

Ear

1. Clinical manifestations
2. Congenital malformations
3. Hearing loss
4. Inner ear discharge
5. External Otitis
6. Trauma
7. Otitis media
8. Tumors
9. BAER

Skin

1. Morphology
2. Cutaneous defects
3. Evaluation
4. Hypersensitivity
5. Principles of therapy
6. Epidermis disorders
7. Diseases of the neonate
8. Keratinization disorders
9. Ectodermal dysplasias
10. Dermis disorders
11. Vascular disorders
12. Subcutaneous disorders
13. Cutaneous nevi
14. Sweat glands
15. Pigment Disorders
 - Hyperpigmentation
 - Hypopigmentation
16. Vesiculobullous disease
17. Eczema
18. Hair
19. Nail
20. Mucous Membrane
21. Tumors
22. Cutaneous Infections – Bacterial, Viral, Fungal
23. Arthropod bites, infestations
24. Acne
25. Nutritional diseases
26. Drug Reactions

Bone/Joint

1. Evaluation
2. Sports medicine
3. Diseases of Foot, toes
4. Pseudoachondroplasia
5. Torsional, angular deformities
6. Diagnosis, assessment of genetic and skeletal disorders
7. Leg length discrepancy
8. Dysplasias- Thantophoric, diastrophic, camptomelic
9. Diseases of Knee

10. Ellis van Creveld
11. Diseases of Hip
12. Osteochondrodysplasia
13. Diseases of Spine
14. Inherited osteoporosis
15. Diseases of Neck
16. Upper limb
17. Hypophosphatasia
18. Arthrogryposis
19. Primary Chondrodystrophy
20. Common Fractures
21. Idiopathic hypercalcemia
22. Arthritis – approach, investigations, Management
23. Hyperphosphatasia
24. Congenital Dislocation of Hip
25. Osteomyelitis
26. Septic Arthritis
27. Rickets – Nutritional and non nutritional

Genetic skeleton

1. Lethal and nonlethal bone dysplasias
2. Achondroplasia
3. Osteopetrosis
4. Marfans

Metabolic Bone disease

1. Bone and vitamin D
2. Familial Hypophosphatemia
3. Rickets – Nutritional and non nutritional

Unclassified disease

1. SIDS
2. Sarcoidosis
3. Histiocytosis
4. Progeria
5. Cystic fibrosis
6. Chronic fatigue syndrome

Environmental

1. Lead poisoning
2. Chemical pollutants
3. Envenomation
4. Radiation
5. Mercury
6. Mammalian bites
7. Nonbacterial poisoning
8. Common Poisonings – OP, Kerosene, Phenobarbitone, Iron, etc

HEALTH STATISTICS, NATIONAL PROGRAMS

ORGANIZATION OF OFFICE PRACTICE

Equipment, Documentation, Records, Space and functioning

RECENT ADVANCES IN PAEDIATRICS - ALLIED SUBJECTS

Anatomy

Applied Embryology, Development of major organ systems

Physiology

Applied Physiology with regard to major organ systems

Biochemistry

Biochemical basis of diseases in children – Nutritional and metabolic

Pathology

Pathophysiology of diseases in children, Pathogenesis, Basic Histopathology

Microbiology

Clinical Microbiology applied to investigations for diseases in childhood, serology, staining, cultures

Pharmacology

Clinical Pharmacology, Therapeutics of childhood diseases, drug interactions, Rational drug therapy, Adverse Drug Reactions.

Community Medicine

Health Care Delivery Systems – structure and function, Health Statistics, National Programs

Pediatric Surgery

Recognition and referral of surgical conditions in Paediatrics

Radiology

Clinical Indications and interpretations of Xray, Ultrasound, CT, MRI

MEDICAL ETHICS

Doctors and health professionals are confronted with many ethical problems. It is, therefore necessary to be prepared to deal with these problems. To accomplish this **ethical sensitisation** should be achieved by lectures or discussion on ethical issues, clinical case discussion of cases with an important ethical component and by including ethical aspects in discussion in all case presentation, bedside rounds and academic postgraduate programmes.

Course content should include *definition of Medical Ethics*, difference between medical ethics and bio-ethics, major Principles of Medical Ethics, the Hippocratic oath, the Declaration of Helsinki, the WHO Declaration of Geneva, International code of Medical Ethics (1993), Medical Council of India Code of Ethics, *Profession Ethics* (Code of conduct, Contract and confidentiality, Malpractice and Negligence) prolongation of life and euthanasia

Legal and Ethical Medicine

Rights and protection of children, Consumer Protection Act, Basic Principles of Ethics

I. Postgraduate skills

Please note code:

PI: Perform Independently

PA: Perform with assistance

List of PI Skills

Clinical History and Physical examination
Human Lactation management (counseling and practical skills)
Neonatal resuscitation
Pediatric resuscitation
Teaching encounters
Intravenous injections
Intravenous cannulation
Lumbar puncture
Test dose
Infusions
Blood transfusions
Neonatal Exchange transfusions
ABG
Central line, CVP
Intraosseous
Bone marrow aspiration, trephine biopsy
Pleural tap
Paracentesis – diagnostic and therapeutic
Mantoux test
DPT, OPV, Measles vaccination
Sampling for Fluid cultures
Liver biopsy
Neonatal, Pediatric Partial exchange

Respiratory management (All PI)

Nebulization
Inhaler therapy
Oxygen delivery

Critically Ill child (All PI)

Monitoring a sick child
Pulse oximetry
Infant feeding tube/ Ryles tube, stomach wash
Urinary catheterization
Restraining a child for a procedure
ORS and ORT
Prognostication

Laboratory- Diagnostic (All PI)

Urine Protein, sugar, microscopy
Peripheral bloods smear
Malarial smear
Ziehl Nielson smear – sputum, gastric aspirate

Grams smear – CSF, pus
Stool pH, reducing substances, microscopy
KOH smear

Neonatal tests (All PI)

Apt test
Shake test

Clinical Assessment skills (All PI)

Clinical History and Physical examination
Anthropometry
Dietary recall, calorie and protein estimation
Nutritional advice
Gestational assessment
Neurological examination of newborn
Primitive reflexes
Fundoscopy
Otoscopy
Examination of external genitalia – male and female
Tanner's SMR scales
DST or Baroda scales, TDS
Amiel Telson's angles
Per rectal examination

Interpretation (All PI)

Clinical History and Physical examination
Blood, Urine, CSF and Fluid investigations – hematology, biochemistry
Chest Xray
ECG
ABG interpretation
Abdominal Xray
Bone and joint Xray
CT scan Brain
Barium studies
IVP, VUR studies
Ultrasound abdomen
Neurosonogram

Communication skills

All PI:

- Clinical History and Physical examination
- Communicating health, disease
- Communicating about a seriously ill or mentally abnormal child
- Communicating death
- Informed consent
- Empathy with a family
- Referral letters, Replies
- Discharge summaries
- Death Certificates
- Pre-counseling for HIV
- Post counseling for HIV
- Basic Pedagogy sessions – teaching students, adults
Lectures, bedside clinics, discussions
- Medline search, internet, Computer usage

List of Observations:

Genetic counseling
Classification of diseases

List of PA skills:

Sedation
Analgesia
Brain death
Intercostal tube placement with underwater seal

List of PA skills:

Peritoneal dialysis
Subdural, Ventricular tap

4. TEACHING LEARNING ACTIVITIES

Methods suggested for Pediatric Postgraduate Training Programs:

- **Didactic Lectures:** (Faculty lectures)

Objective: To introduce a broad-based concept in an important area of learning to orient the postgraduate student.

Examples: Potential introductory topics to Paediatrics like Fluid and Electrolytes, Early recognition of Shock and Respiratory Failure, DTTU management, Recent advances, Basic Science/ Concepts and ARI program.

Frequency: Three times a week during the introductory phase of the first one-two months of the new postgraduates joining the course. Following this period of orientation, it does not serve a purpose of self-directed learning and is best avoided as a regular activity except as an exceptional guest lecture.

- **Seminars:**

Objective: To enable a student to study in depth an important area of learning important to the training of the student.

Examples: Examples of potential seminar topics would be Protein Energy Malnutrition, Pediatric Tuberculosis, Pediatric HIV, Bronchial Asthma, Chronic Liver Disease and its complications.

Frequency: Once a week. Topic to be shared among students and to be equally distributed depending upon the number of postgraduate students in the department.

- **Journal Club:**

Objective: To appreciate and enable the critical analysis of scientific literature published in peer reviewed journals – studies, reviews.

Examples: Articles like the study on prophylactic Zidovudine to HIV positive pregnant women in prevention of vertical transmission to the fetus, Digoxin versus Captopril in VSD in CCF, etc.

Frequency: Ideally, once in 1-2 times per month.

- **Undergraduate Teaching Clinics**

Objective: To teach effectively undergraduate and colleagues utilizing simple educational methods.

Examples: Bedside Clinic, Didactic lecture, skill workshop (e.g. NALS, PALS)

Frequency: During teaching undergraduate in the department each postgraduate should have a minimum of 2 opportunities per year after the first year of the postgraduate course is completed.

- **Bedside Clinics**

Objective: To learn bedside techniques - interview, physical examination, analysis, diagnostic decision making, investigation decisions, treatment and communication.

Examples: Child with hemiplegia, hepatosplenomegaly, anemia, jaundice, etc.

Frequency: Once in a week is the minimum as it forms the basis of good clinical training activities.

- **Mortality Review Meeting**

Objective: To analyze, discuss and learn from mortalities.

Frequency: Once in a month preferably in the first week to allow the previous months mortality to be presented for discussion.

- **Grand Rounds**

Objective: To improve on bedside techniques – interview, physical examination, analysis, diagnostic decision making, investigation decisions, treatment, communication.

Examples: The child with pyrexia of unknown origin, undiagnosed hepato-splenomegaly, multi-systemic disease.

Frequency: Once in a week.

- **Inter-departmental Meetings**

Objective: To experience inter-departmental cooperation and develop a healthy professional respect for each others opinions in addition to the subject learning experience.

Methodology: Case discussions or students present investigations to members of all faculty. The discussion is a learning experience and improves communications between departments.

Examples: Chest X-rays of a complicated bronchopneumonia progressing to an empyema, CT scans of intra-cranial pathology, Tracheo-esophageal fistulae and supportive care.

Frequency: Once or twice in a month and rotated between departments – Radiology, Pediatric Surgery, Cardiology, Nephrology, Neurology, Clinical Hematology, etc.

- **Clinical Pathological Conference CPC**

Objective: To analyze clinical material to reach a differential diagnosis and correlate with the pathological biopsy findings.

Frequency: Once in two months.

- **Records Round**

Objective: To appreciate the importance of documentation of facts and record keeping.

Methodology: Faculty in the presence of the team scrutinizes random case records. History sheets, doctor order sheets, progress sheets and discharge summaries are discussed.

Frequency: Once a week with the entire team present at the session.

6. STRUCTURED TRAINING PROGRAM

DCH – Post Graduates Postings – 2 Years Course (2017-18)

I Year Postings

Paediatric Medical Ward	- 6 Months
New born postings	- 3 Months
Paediatric Emergency Medicine	- 1 Month
Paediatric Intensive Medical Care Unit	- 1 month
PPC / SHC /School Health	- 15 Days
Nutrition/Immunisation clinic	- 15 Days

II Year Postings

Paediatric Medical Ward	- 6 Months
Pediatric Emergency Medicine	- 1 Month
Pediatric Intensive Care Unit	- 1 Month

Recommended Special postings

Cardiology	- 15 Days
Neurology	- 15 Days
Gastroenterology / ORT Centre	- 15 Days
Pulmonology	- 15 Days
Haematology	- 15 Days
Nephrology	- 15 Days
Pediatric surgery	-15 Days
Endocrinology	- 15 Days

If any speciality is not available in the parent institution the postgraduate may be posted in the general pediatric ward during that period.

7. Evaluation of the candidates in both theory and practicals will help the candidate in improvement of his/her knowledge, skills and attitude.

Theory exams and practical exams can conducted once in 6 months.

8. COMPETENCY ASSESSMENT:

1) OVERALL:

- a) Communication / commitment / Contribution /
Compassion towards patients and Innovation 0 0 - 5 marks
b) Implementation of newly learnt techniques 0

2) Number of cases presented in Clinical Meetings/
Journal clubs/seminars - 5 marks

3) Number of Posters/Papers presented in Conferences/
Publications and Research Projects - 5 marks

4) No. of Medals / Certificates won in the conference /
Quiz competitions and other academic meetings with details - 5 marks

Total -----
20 marks

PG CLINICAL COURSES

VIVA including Competency Assessment - 80 marks (60 + 20)

Log Book - 20 marks

ASSESSMENT SCHEDULE IS AS FOLLOWS

Year of study	Period				Total Max. 20 marks
I year	Upto Dec	10 marks	Upto June	10 marks	20 marks
II year	Upto Dec	10 marks	Upto June	10 marks	20 marks
	AVERAGE				20 marks

9. PUBLICATION IN UNIVERSITY JOURNAL OF MEDICAL SCIENCES:

Regarding submission of articles to the University Journal of Medical Sciences for all the PG Degree/Diploma courses, it is mandatory that the students have to submit at-least one research paper. Case Reports are not considered as Research Paper

10. THEORY EXAMINATION

Paper I: Basic sciences and Neonatology
Paper II: General and Community Pediatrics
Paper III Systemic Pediatrics

Question Paper pattern: PAPER I, II & III

Elaborate on 2 x 15 = 30

Write notes on 10 x 7 = 70

Total = 100 marks

11. CLINICAL EXAMINATION

Particulars.	Max. Marks.
Clinical Case I 1 x 40 = 40 marks Case II (New born) 1 x 40 = 40 marks Case III, IV (Ambulatory) 2 x 40 = 80 marks	160
Ward Rounds / Spotters - 2 x 10 marks	20
OSCE – 5 stations x 4 marks	20
Viva-Voce	80
Log Book	20
Total	300
Minimum for Pass	150

12. Log book: The post graduate students shall maintain a record (log) book of the work carried out by them and the training program undergone during the period of training.

Periodic review of Log book have to be done in the Department by guide/HOD once in every 6 months

13. VIVA All examiners will conduct viva-voce conjointly on candidate's comprehension, analytical approach, expression and interpretation of data. It includes all components of course contents. In addition candidates may also be given case reports, charts, gross specimens, pathology slides, instruments, X- rays, ultrasound, CT scan images, for interpretation.

VIVA including Competency Assessment - 80 Marks (60 + 20)

14. OSCE :

- DRUGS,
- LAB DATA,
- EMERGENCY,
- IMNCI
- CLINICAL SIGN DEMONSTRATION (MANNED STATION) / COUNSELING

15. RECOMMENDED BOOKS AND JOURNALS

Texts:

Essential

1. Nelson's Textbook of Paediatrics, Harcourt Asia Saunders
2. Cloherty's Manual of Neonatal Care
3. Meharban Singh's Care of the Newborn
4. Harriat Lane
5. Manual of Pediatric Therapeutics, Little Brown's Children's Hospital, Boston.
6. O.P. Ghai's Textbook of Paediatrics

Reference:

1. Rudolf's Paediatrics, Appelton and Lange
2. Forfar and Arneil's Textbook of Paediatrics, ELBS
3. Frank Oski's Principles and Practice of Paediatrics
4. Avery's Disease of the Newborn
5. Robertson's Textbook of Neonatology
6. Illingworth's The normal child
7. Guha's Textbook of Neonatology
8. IAP Textbook of Paediatrics
9. Nadas' Pediatric Cardiology
10. Perloff's Approach to Congenital Heart Disease
11. Moss and Adam's Heart Disease in Infants, children and Adolescent
12. Miller's Blood Diseases of Infancy and Childhood
13. DeGruchy's Clinical Hematology in Medical Practice
14. Barret and Holiday's Pediatric Nephrology
15. Caffey's Pediatric X-Ray diagnosis
16. Alleyne's Protein Energy Malnutrition
17. Miller, Tuberculosis
18. Vimlesh Seth, Tuberculosis
19. Swanson's Pediatric Surgery
20. Cherry and Feigen's Pediatric Infectious Diseases
21. Fenichel's Pediatric Neurology
22. Kendig's Respiratory Diseases in Paediatrics
23. Alex Mowat's Liver Disease in Children
24. Roger's Pediatric Critical Care
25. H.P.S. Sachdev's Principles of Pediatric and Neonatology Emergencies
26. Smith's Recognition patterns of Human Malformations

**** Note : The editions are as applicable and the latest editions shall be the part of the syllabi.**

16. INDEXED JOURNALS

1. Indian Paediatrics
2. Indian Journal of Paediatrics
3. Pediatric Clinics of North America
4. New England Journal of Medicine
5. Lancet
6. British Medical Journal
7. Journal of Paediatrics
8. Archives Disease of Childhood and Adolescence
9. Paediatrics
10. Perinatal Clinics of North America
11. Indian Journal of Practical Paediatrics

Reference Series

1. Suraj Gupta's Recent Advances in Paediatrics
2. David's Recent Advances in Paediatrics
3. Advances in Paediatrics
4. Year Book of Paediatrics

ADDITIONAL READING

1. Indian Council of Medical Research, "Ethical Guidelines for Biomedical Research on Human Subjects", I.C.M.R, New Delhi, 2000.
2. Code of Medical Ethics framed under section 33 of the Indian Medical Council Act, 1956. Medical Council of India, Kotla Road, New Delhi.
3. Francis C M, Medical Ethics, J P Publications, Bangalore, 1993.
4. Indian National Science Academy, Guidelines for care and use of animals in Scientific Research, New Delhi, 1994.
5. Internal National Committee of Medical Journal Editors, Uniform requirements for manuscripts submitted to biomedical journals, N Engl J Med 1991; 424-8
6. Kirkwood B R, Essentials of Medical Statistics , 1st Ed., Oxford: Blackwell Scientific Publications 1988.
7. Mahajan B K, Methods in Bio statistics for medical students, 5th Ed. New Delhi, Jaypee Brothers Medical Publishers, 1989.
8. Compendium of recommendations of various committees on Health and Development (1943-1975). DGHS, 1985 Central Bureau of Health Intelligence, Directorate General of Health Services, min. of Health and Family Welfare, Govt. of India, Nirman Bhawan, New Delhi. P - 335.
9. National Health Policy, Min. of Health & Family Welfare, Nirman Bhawan, New Delhi, 1983
10. Srinivasa D K et.al, Medical Education Principles and Practice, 1995. National Teacher Training Centre, JIPMER, Pondicherry

LOG BOOK

Table 1 : Academic activities attended

Name:

Admission Year:

College:

Date	Type of Activity Specify Seminar, Journal Club, Presentation, UG Teaching	Particulars

LOG BOOK

Table 2 : Academic presentations made by the student

Name:

Admission Year:

College:

Date	Name	ID No.	Diagnostic and Therapeutic Procedures	Category O, A, PA, PI*

- * Key:**
- O - Washed up and observed
 - A - Assisted a more senior faculty
 - PA - Performed procedure under the direct supervision
of a senior faculty
 - PI - performed independently
