



---

# STUDY GUIDE

---

## MD PEDIATRICS COURSE

Department of Pediatrics & Child Health  
University of Child Health Sciences & The Children's  
Hospital, Lahore

# TABLE OF CONTENTS

## Contents

INTRODUCTION TO STUDY GUIDE .....	4
STUDY GUIDE MAP.....	5
LEARNING OUTCOMES.....	5
STRUCTURE OF FOUR YEARS OF MD PEDIATRICS.....	9
MODALITIES OF LEARNNG .....	11
LEGEND OF ICONS USED IN STUDY GUIDE.....	12
THEORETICAL MODULES.....	13
MODULE 01: Immunology .....	13
MODULE 02: Growth and Development.....	14
MODULE 03: Preventive and Social Pediatrics.....	15
MODULE 04: Pediatric Gastrointestinal tract and Hepatology.....	16
MODULE 05: Pediatric Nutrition .....	18
MODULE 06: Chromosomal Disorders/ Genetics .....	19
MODULE 07: Pediatric Infectious Diseases.....	20
MODULE 08: Pediatric Hematology/ Oncology .....	22
MODULE 09: Pediatric Endocrinology.....	24
MODULE 10: Pediatric Nephrology.....	26
MODULE 11: Pediatric Respiratory Tract diseases .....	28
MODULE 12: Pediatric Rheumatology .....	30
MODULE 13: Pediatric Diseases of Bones and Joints.....	31
MODULE 14: Pediatric Central Nervous System Diseases .....	32
MODULE 15: Pediatric Cardiovascular diseases .....	34
MODULE 16: Metabolic Disorders in Pediatrics.....	36
MODULE 17: Pediatric Neuromuscular Diseases.....	37
MODULE 18: Neonatology .....	38
CLINICAL MODULES.....	40
MODULE 1: History and General Physical Examination.....	40
MODULE 2: GI Tract, Hematology/ Oncology (Abdomen).....	41
<b>MODULE 3: Respiratory System</b> .....	42
MODULE 4: CNS (Motor, Sensory, Special Senses and Neuromuscular) .....	43
MODULE 5: Cardiovascular system.....	44
MODULE 6: Nephrology and Rheumatology .....	45
MODULE 7: Neonatology .....	46

Themes of Skills.....	47
Themes of Attitudes.....	48
Clinical Rotations.....	49
Mandatory Training Workshops .....	49
Log Book.....	49
Assessment .....	50
Student-Centered Integrated Assessment.....	50
Self-Assessment by the Students.....	50
Peer Assessment .....	50
Internal Assessment by the Faculty .....	50
Formative assessment .....	51
Summative assessment.....	51
Final Summative Exit Assessment: End of 4 year.....	51
Research Publications .....	53
Learning Resources .....	53

## **INTRODUCTION TO STUDY GUIDE**

Dear Post Graduate Resident,

Welcome to the MD Pediatrics Course. The Department of Pediatrics will be facilitating the course. There are four teaching units in the department to assist you in learning.

The purpose of the study guide is to help you learn the subject of Pediatrics. It is designed to help you manage your learning and access the resources available to you. It takes you through the general objectives of learning the subject, divides the subject into year wise study modules for easy learning and helps you understand the course work, clinical skills and attitudes that are desired of a good doctor.

This course of Pediatrics will help you in better understanding of the subject and its application to the patients. With a strong emphasis on early clinical exposure, small-group learning and community engagement, our curriculum addresses the full spectrum of pediatric care.

To ensure continuous learning and improvement, we have integrated robust methods of assessment, including regular evaluations, clinical skills assessments, and formative feedback. These tools enable residents to track their progress, identify areas for growth, and demonstrate mastery of pediatric medicine.

We hope the students take time out to go through the guide and to use it effectively to learn the subject of Pediatrics. We look forward to the feedback from the students and faculty so that the guide can be improved further.

For any assistance please do not hesitate to contact the department of Pediatrics. Alternatively, please feel free to visit the office of the Director of Medical Education for any issues that you face in learning of the subject or otherwise.

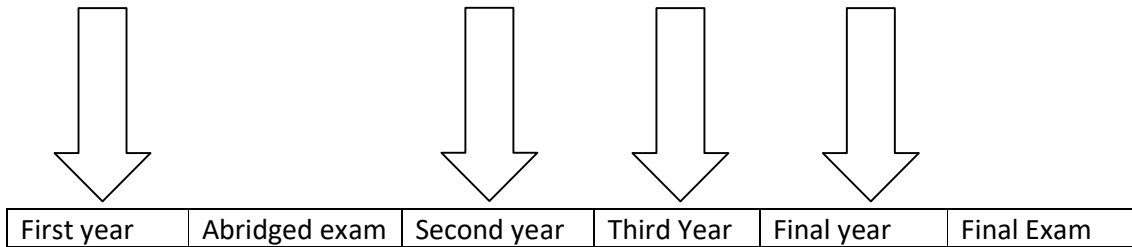
We hope that your training in pediatrics will equip you for practical life and enhance your clinical skills.

With compliments from:

Dean of Department of Pediatrics & Child Health &

Director, Medical Education, University of Child Health Sciences & The Children's Hospital,  
Lahore

## STUDY GUIDE MAP



Here you are going to study the general principles in Pediatrics along with OTHER Pediatric Specialties exposure. In four years of training, you are supposed to take active part in weekly teaching central roster, ward rotations and do relevant research as guided by your supervisor. You will undergo formative assessments after every ward rotation as part of your internal assessment. The assessments will be done in the form of MCQ's, TOACS, case presentations, long cases and short cases.

## LEARNING OUTCOMES

Following competencies are expected from a resident completing MD Pediatric training;

- Acquisition of basic knowledge of growth and development (physical, physiologic and psychosocial) of a child and of its birth clinical application from through adolescence.
- Identify social, economic, environmental, biological and emotional determinants of child and adolescent health, and institute diagnostic, therapeutic, rehabilitative, preventive and promotive measures to provide holistic care to children
- Acquisition of the knowledge necessary for the diagnosis and initial management of common pediatric acute and chronic illnesses.
- Structured didactic exposure and evaluation covering the full spectrum of outpatient care of the pediatric patient.
- An understanding of the influence of family, community and society on the child in health and disease.
- Gain experience in the day-to-day management of seriously ill children. This management will include:

- Monitoring patient medications
- Calculation of fluids and electrolytes, both deficit and maintenance
- Calculation and management of caloric intake
- Recording of output (urine and stool)
- Interpretation of laboratory and imaging studies
- Delivering "bad news"
- Discharge planning
- Be able to plan rehabilitation of children suffering from chronic illness and handicap, and those with special needs
- Demonstrate the ability to formulate a reasonable differential diagnosis based on the history obtained and the physical examination performed
- Development of communication skills that will facilitate the clinical interaction with children, adolescents and their families and thus ensure that complete, accurate data are obtained and perform an appropriate physical examination.
- Use developmental assessment as part of the physical examination for all age groups. This includes an understanding of the administration of, and limitations of, the developmental screening test; this includes an understanding of the importance of gestational age in the developmental assessment of young children
- Recognize the importance of determining the psychosocial condition (status) of the parents and the child
- Measure and understand the vital signs in children of various age groups · Routinely and accurately measure, record, and plot growth parameters on appropriate growth charts.
- Health supervision
  - Immunization information and advice
  - Safety issues
  - Dietary advice
  - Information on expected child-development
  - Age-appropriate behavioral concerns
- Identify common chromosomal disorders and is able to provide genetic counseling · Assess, classify and rehabilitate nutritional disorders in child

- Decide and implement suitable treatments considering safety, cost factors, complications and side effects
- Advise mothers with concerns regarding breastfeeding
- Experience the process of resuscitation and stabilization of the newborn
- Become familiar with the APGAR scoring system and its interpretation
- Gain experience in the diagnosis and management of fluid and electrolyte disturbances
- Describe the physical and behavioural signs of the child who has been physically or Sexually abused and his/her responsibilities for reporting these suspected events
- Demonstrate professionalism in relationships with the pediatric patient and family
- Self-analyze to become aware of personal biases or prejudices
- Respect the cultural differences found in varying patient populations
- Observe rules of privacy and confidentiality, particularly in regards to the adolescents
- Develop critical thinking skills and the ability to use evidence-based medicine
- Development of strategies for health promotion as well as disease and injury prevention
- Utilize community agencies, practicing physicians and community health care programs to facilitate optimal care
- Research a particular subject in depth and utilize appropriate learning resources including texts and Literature, consultation with peers, senior colleagues and/or allied professionals to communicate this clearly and effectually in writing.
- Develop positive attributes which will serve as the basis for a successful professional

**Procedural Skills:**

Residents must be able to perform competently all medical and invasive procedures essential for the practice of general and advanced pediatrics. This includes technical proficiency in taking informed consent, performing by using appropriate indications, contraindications, interpretations of findings and evaluating the results and handling the complications of the related procedures mentioned in the syllabus

**Additional Procedural Skills:** Residents should be instructed in additional procedural skills that will be determined by the training environment, residents' practice expectations, the availability of skilled teaching faculty, and privilege delineation.

**Interpretative skills:** Residents should be able to interpret basic as well as advanced laboratory data as related to the disorder/disease

**Research:** All residents in the categorical program are required to complete an academic outcomes-based research project during their training. This project can consist of original bench top laboratory research, clinical research or a combination of both. The research work shall be compiled in the form of a thesis, which is to be submitted for evaluation by each resident before end of the training. The designated Faculty will organize and mentor the residents through the process, as well as journal clubs to teach critical appraisal of the literature.

**Outpatient Experiences:**

Residents should demonstrate expertise in diagnosis and management of patients in acute care clinics and longitudinal clinic and gain experience in various paediatric sub-specialty disciplines like dermatology, physical medicine and rehabilitation, child psychiatry, preventive pediatrics, immunization, growth and nutrition

**Interdisciplinary Medicine:**

Adolescent Medicine, Emergency Medicine, General Surgery, Gynecology, Occupational Medicine, Ophthalmology, Orthopedics and Sports Medicine, Otolaryngology, Urology, Ophthalmology, Pediatric Radiology etc.

**Community Practice:**

Residents experience the practice of medicine in a non-teaching hospital setting. The rotation may be used to tryout a practice that the resident later joins, to learn the needs of referring physicians or to decide on a future career path.

## STRUCTURE OF FOUR YEARS OF MD PEDIATRICS

Program duration	Course contents	Assessment method
At the end of 1st year of program	Revision of core Pediatrics component including basic and clinical components. Basic knowledge and Acquiring skill related to the specialty according to the Course Module made. Workshops as described in course outline Clinical training Synopsis submission	<b><u>UNIVERSITY ABRIDGED EXAM</u></b>  <b>Total marks= 350</b>  <b>It includes:</b> Written = 300 marks (BCQ's = 150) Video projected clinical exam = 50 marks
At the end of 2nd year	Advanced training of clinical knowledge and skill in specialty according to the defined outcome. Clinical Training with compulsory/optional rotation in different specialties as required by the program. Workshops as described in course outline.	<b>Structured Internal assessment to be conducted by the department. This will include:</b>  Written exam TOACS/OSCE/LONGC ASE/SHORT CASE LOGBOOK and PORTFOLIO.
At the end of 3rd year of program	Advanced level of training with specialty rotation having emphasis on acquiring high level skills and competence in complex procedures as decided by the objectives. Thesis submission and evaluation OR 2 Papers published or in line of publication in a standard medical journal. Advanced clinical training with compulsory/optional rotations in different departments as required by the program. Workshops as described in course outline.	<b>Structured Internal assessment to be conducted by the department. This will include:</b>  Written exam TOACS/OSCE/LONGC ASE/SHORT CASE LOGBOOK and PORTFOLIO.

<p><b>At the end of 4th year</b></p>	<p><b>Training to act as an individual while managing patient or performing any task as defined by the objectives.</b></p> <p><b>Training to act as a teacher, researcher, leader and a player in a team.</b></p> <p><b>Overall development of a health care professional with all the set competencies of the program</b></p>	<p><b><u>EXIT LEVEL ASSESSMENT (ELA)</u></b></p> <p><b>Total marks: 1500</b></p> <p><b>This includes:</b></p> <p>Two written papers = 250 marks each</p> <p>Clinical, TOACS/OSCE &amp; ORAL = 500 marks,</p> <p>CIS = 100 marks</p> <p>Thesis examination = 400 marks.</p>
--------------------------------------	--	--

## MODALITIES OF LEARNING

- The structure of the Yearly modules taught in Pediatrics will be:
  - Bed side teaching including case presentation and devising plan of management
  - Long case rehearsal in the main morning class on Mondays
  - Short case rehearsal in the main morning class on Tuesdays
  - Mortality review meetings on Thursdays.
  - Ward class on every Friday. This includes:
    - Journal club
    - Long case
    - Short case
    - Presentations
  - Supervisor meetings every fortnightly
  - Clinicopathological conference (CPC) every Saturday.

## LEGEND OF ICONS USED IN STUDY GUIDE

The following icons have been used to help you identify the various experiences you will be exposed to.



Learning objectives






Assessments






Specific Learning Objectives

# THEORETICAL MODULES




## MODULE 01: Immunology

Title	Pediatrics	Student Notes
Target Students	First year	
<b>Course Title</b>	<b>Module 1: Immunology</b>	
 <p>Learning Objectives</p>	<p>To acquire appropriate knowledge, skills and attitude in relation to topics mentioned below:</p> <ul style="list-style-type: none"> <li>• Immunology</li> <li>• Vaccinations</li> <li>• Immunodeficiency</li> </ul>	
<p>Specific learning Objectives</p> 	<p>At the end of the module the students should be able to</p> <ul style="list-style-type: none"> <li>• Define immunization</li> <li>• Describe various vaccines available</li> <li>• Classify EPI schedule</li> <li>• Discuss newer vaccines</li> <li>• Classify Severe combined immunodeficiency</li> <li>• Discuss Acquired immune deficiency syndrome</li> <li>• Discuss DiGeorge syndrome</li> <li>• Describe clinical features and management of Ataxia-telangiectasia</li> <li>• Discuss Chronic granulomatous disease</li> </ul>	
Teaching & Learning Strategies (MIT)	<ul style="list-style-type: none"> <li>• IL, SGD, CBL</li> </ul>	
 <p>Assessments</p>	MCQs, TOACS	



## MODULE 02: Growth and Development


Title	Pediatrics	Student Notes
Target Students	First Year	
Course Title	Module 2: Growth and Development	
 <p>Outcomes</p>	<p>To understand and demonstrate the required knowledge, skill and attitude in relation to</p> <ul style="list-style-type: none"> <li>• Growth and development</li> </ul>	
<p>Specific learning Objectives</p> 	<p>At the end of the module the students should be able to</p> <ul style="list-style-type: none"> <li>• Define growth and development</li> <li>• Describe developmental milestones.</li> <li>• Plot on growth chart</li> </ul>	
<p>Teaching &amp; Learning Strategies (MIT)</p>	<ul style="list-style-type: none"> <li>• Lecture, small group discussion, CBL</li> </ul>	
 <p>Assessments</p>	<p>MCQs, TOACS</p>	

## MODULE 03: Preventive and Social Pediatrics




Title	Pediatrics	Student Notes
Target Students	First year	
<b>Course Title</b>	<b>Module 3: Preventive and Social Pediatrics</b>	
 <p>Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>• Common Preventable Diseases</li> <li>• IMCI</li> <li>• ADHD, Autism</li> <li>• Poisoning</li> <li>• Encopresis, enuresis</li> </ul>	
<p>Specific learning Objectives</p> 	<p>At the end of the module the students should be able to</p> <ul style="list-style-type: none"> <li>• Discuss Pneumonia, Diarrhea, Sore throat, ear problem, fever, malaria, measles, malnutrition and anemia in detail</li> <li>• Describe the integrated management of childhood illness (IMCI)</li> <li>• Discuss the investigations and management</li> <li>• Define autism</li> <li>• Discuss management of attention deficit disorder</li> <li>• Discuss etiology of enuresis and encopresis</li> <li>• Discuss clinical assessment</li> <li>• Discuss management of enuresis, encopresis and pica</li> <li>• Discuss common poisoning in children</li> <li>• Enlist complications of common poisoning</li> <li>• Discuss management of common poisoning</li> </ul>	
Teaching & Learning Strategies (MIT)	<ul style="list-style-type: none"> <li>• IL, SGD, CBL</li> </ul>	
 <p>Assessments</p>	MCQS, TOACS	

## MODULE 04: Pediatric Gastrointestinal tract and Hepatology




Title	Pediatrics	Student Notes
Target Students	Second Year	
Course Title	Module 4: GIT	
 <p>Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>• Acute diarrhea</li> <li>• Chronic diarrhea</li> <li>• Mal-absorption / celiac disease</li> <li>• Inflammatory bowel disease</li> <li>• Acute hepatitis</li> <li>• Chronic hepatitis</li> <li>• Fulminant hepatic failure</li> <li>• Chronic liver disease</li> </ul>	
<p>Specific learning Objectives</p> 	<ul style="list-style-type: none"> <li>• Define acute diarrhea</li> <li>• Classify diarrhea</li> <li>• Enlist grades of diarrhea Discuss management according to dehydration</li> <li>• Classify chronic diarrhea Discuss management of different etiology that causes chronic diarrhea</li> <li>• Discuss clinical features of celiac disease Diagnosis &amp; management of etiology</li> <li>• Discuss clinical features of IBD</li> <li>• How to diagnose IBD Management and prognosis of IBD on the basis of clinical signs and symptoms</li> <li>• Define acute viral hepatitis</li> <li>• Enlist clinical features Discuss diagnosis &amp; management</li> <li>• Define acute viral hepatitis</li> <li>• Enlist clinical features of chronic hepatitis Discuss diagnosis &amp; management</li> <li>• Define fulminant hepatic failure</li> <li>• Describe various complications Discuss management criteria</li> <li>• Define chronic liver disease</li> <li>• Discuss general consideration &amp; etiology</li> <li>• Describe clinical features Discuss management &amp; prognosis</li> </ul>	
Teaching & Learning Strategies (MIT)	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Small group discussion</li> <li>• Case base learning</li> <li>• Case presentation/ bed side teaching</li> </ul>	

 <p>Assessments</p>	MCQs, TOACS, Case presentation	
--	--------------------------------	--



## MODULE 05: Pediatric Nutrition


Title	Pediatrics	Student Notes
Target Students	First year	
<b>Course Title</b>	<b>Module 5: Nutrition</b>	
 <p>Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>• Infant feeding (breast feeding + weaning)</li> <li>• PCM</li> <li>• Rickets</li> <li>• Vitamin A deficiency</li> </ul>	
<p>Specific learning Objectives</p> 	<ul style="list-style-type: none"> <li>• Principals of feeding</li> <li>• Discuss advantages of breast feeding</li> <li>• Discuss ideal time of weaning and its advantages</li> <li>• Define Protein calorie malnutrition</li> <li>• Classify different types of PCM</li> <li>• Discuss etiology &amp; risk factors of PCM</li> <li>• Discuss diagnostic criteria of PCM</li> <li>• Enlist management of PCM.</li> <li>• Enlist causes of Vit. A deficiency</li> <li>• Discuss the complications of vitamin A deficiency</li> <li>• Discuss treatment of vitamin A deficiency.</li> </ul>	
<p>Teaching &amp; Learning Strategies (MIT)</p>	<ul style="list-style-type: none"> <li>• Lecture with Audio Visual support</li> <li>• Case Presentation</li> <li>• Group discussion</li> <li>• Case base learning</li> </ul>	
 <p>Assessments</p>	<p>MCQs, Case presentations</p>	

## MODULE 06: Chromosomal Disorders/ Genetics



Title	Pediatrics	Student Notes
Target Students	First year	
<b>Course Title</b>	<b>Module 6: Chromosomal Disorders/Genetics</b>	
 <p>Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>• Patterns of inheritance</li> <li>• Chromosomal disorders/ Down's syndrome</li> </ul>	
<p>Specific learning Objectives</p> 	<ul style="list-style-type: none"> <li>• Classify different patterns of inheritance</li> <li>• Discuss clinical features &amp; management</li> <li>• Define Down syndrome</li> <li>• Enlist clinical features</li> <li>• Discuss genetic counseling and diagnosis</li> <li>• Discuss management of Chromosomal disorders</li> </ul>	
<p>Teaching &amp; Learning Strategies (MIT)</p>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Audio Visual support</li> <li>• Group discussion</li> <li>• Simulators / Role Play</li> <li>• Case base learning</li> <li>• Bedside Teaching</li> </ul>	
 <p>Assessments</p>	<p>MCQs, Case presentation</p>	


## MODULE 07: Pediatric Infectious Diseases

Title	Pediatrics	Student Notes
Target Students	First year	
<b>Course Title</b>	<b>Module 7: Infections</b>	
 <p>Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>• FUO</li> <li>• Tuberculosis</li> <li>• Diphtheria</li> <li>• Pertussis</li> <li>• Tetanus</li> <li>• Polio</li> <li>• Measles</li> <li>• Mumps/Rubella</li> <li>• Chicken pox</li> <li>• Malaria</li> <li>• Typhoid fever</li> <li>• Dengue fever</li> </ul>	
<p>Specific learning Objectives</p> 	<ul style="list-style-type: none"> <li>• Classify causes of Fever of Unknown Origin (FUO)</li> <li>• Discuss management criteria</li> <li>• Define tuberculosis</li> <li>• Etiology &amp; epidemiology of disease</li> <li>• Discuss clinical features of TB</li> <li>• Write diagnostic criteria of TB</li> <li>• Discuss Management protocol of tuberculosis.</li> <li>• Define Diphtheria</li> <li>• Describe etiology &amp; epidemiology of disease</li> <li>• Discuss clinical features of Diphtheria</li> <li>• Enlist investigations to diagnose diphtheria.</li> <li>• Describe treatment of diphtheria.</li> <li>• Define Pertussis</li> <li>• Describe Etiology &amp; epidemiology of pertussis</li> <li>• Discuss clinical features of pertussis.</li> <li>• Enlist important investigation to diagnose pertussis.</li> <li>• Describe management of pertussis.</li> <li>• Define Tetanus</li> <li>• Etiology &amp; epidemiology of disease</li> <li>• Discuss clinical features of tetanus</li> <li>• Discuss management of tetanus.</li> <li>• Define Polio</li> <li>• Etiology &amp; epidemiology of disease</li> <li>• Discuss clinical features and differential diagnosis of Polio.</li> <li>• Diagnostic criteria</li> <li>• Describe management of poliomyelitis.</li> <li>• Define Measles</li> </ul>	




	<ul style="list-style-type: none"> <li>• Etiology &amp; epidemiology of disease</li> <li>• Discuss clinical features</li> <li>• Describe management of measles.</li> <li>• Define Mumps and Rubella</li> <li>• Etiology &amp; epidemiology of disease</li> <li>• Discuss clinical features of rubella</li> <li>• Describe management of rubella.</li> <li>• Define Chickenpox</li> <li>• Discuss etiology &amp; epidemiology of disease</li> <li>• Discuss clinical features of chickenpox.</li> <li>• Describe management of chickenpox.</li> <li>• Define Malaria</li> <li>• Discuss etiology &amp; epidemiology of disease</li> <li>• Discuss clinical features</li> <li>• Define Malaria</li> <li>• Etiology &amp; epidemiology of disease</li> <li>• Discuss clinical features</li> <li>• Describe management of malaria</li> <li>• Define Typhoid Fever</li> <li>• Describe etiology &amp; epidemiology of disease</li> <li>• Discuss clinical features and diagnostic criteria.</li> <li>• Describe treatment of typhoid fever.</li> <li>• Define Fever</li> <li>• Etiology &amp; epidemiology of disease</li> <li>• Discuss clinical features and diagnostic criteria</li> <li>• Describe treatment of dengue fever.</li> </ul>	
Teaching & Learning Strategies (MIT)	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Audio Visual support</li> <li>• Group discussion</li> <li>• CBL</li> </ul>	
 <p>Assessments</p>	MCQs, TOACS	

## MODULE 08: Pediatric Hematology/ Oncology

Title	Pediatrics	Student Notes
Target Students	Second year	
Course Title	<b>Module 08: Hematology/ Oncology</b>	
 <p>Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>• Anemias, bleeding disorders, childhood malignancies</li> </ul>	
<p>Specific learning Objectives</p> 	<ul style="list-style-type: none"> <li>• Define of anemia</li> <li>• Classify Anemia</li> <li>• Discuss Investigation &amp; management of anemia</li>   <li>• Define iron deficiency anemia.</li> <li>• Describe etiology of iron deficiency anemia.</li> <li>• Enlist important investigations to diagnose iron deficiency anemia.</li> <li>• Differential diagnosis &amp; management</li>   <li>• Define Hemolytic anemia</li> <li>• Discuss types of hemolytic anemia</li> <li>• General consideration &amp; pathophysiology</li> <li>• Describe clinical manifestations</li> <li>• Discuss management of common hemolytic anemias.</li> <li>• Describe different types of bleeding disorders</li> <li>• Discuss Clinical manifestation and differential diagnosis.</li> <li>• Describe management of common bleeding disorders</li>   <li>• Define acute leukemia</li> <li>• Discuss pathophysiology</li> <li>• Describe clinical manifestation and differential diagnosis of acute leukemia.</li> <li>• Discuss management plan.</li>   <li>• Define Lymphoma</li> <li>• Discuss pathophysiology</li> <li>• Describe clinical manifestation and differential diagnosis of lymphoma.</li> <li>• Discuss management of lymphomas</li> </ul>	
Teaching & Learning Strategies	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Audio Visual support</li> </ul>	




(MIT)	<ul style="list-style-type: none"><li>• Case Presentation</li><li>• Small group discussion</li><li>• Bedside teaching</li></ul>	
 Assessments	MCQs, Case presentation	

## MODULE 09: Pediatric Endocrinology

Title	Pediatrics	Student Notes
Target Students	Second year	
<b>Course Title</b>	<b>Module 09: Endocrinology</b>	
 <p>Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>• Diabetes mellitus</li> <li>• Hypothyroidism</li> <li>• Short stature</li> <li>• Parathyroid + calcium metabolism</li> </ul>	
<p>Specific learning Objectives</p> 	<ul style="list-style-type: none"> <li>• Define Diabetes Mellitus</li> <li>• Describe etiology &amp; pathophysiology</li> <li>• Discuss Clinical features of DM</li> <li>• Discuss the management protocol of DM.</li> <li>• Describe complication of IDDM.</li> </ul> <ul style="list-style-type: none"> <li>• Define Hypothyroidism</li> <li>• Describe etiology &amp; pathophysiology of hypothyroidism.</li> <li>• Discuss Clinical features</li> <li>• Describe the management of hypothyroidism. protocol</li> <li>• Enlist Complications of hypothyroidism.</li> </ul> <ul style="list-style-type: none"> <li>• Define short stature</li> <li>• Discuss diagnostic criteria</li> <li>• Discuss approach to management of a child with short stature.</li> </ul> <ul style="list-style-type: none"> <li>• Define Parathyroidism</li> <li>• Discuss etiology &amp; pathophysiology of hypo and hyperparathyroidism.</li> <li>• Discuss management of hypo and hypoparathyroidism.</li> </ul>	
Teaching & Learning Strategies (MIT)	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Case base leaning</li> </ul>	
 <p>Assessments</p>	MCQS	






## MODULE 10: Pediatric Nephrology

Title	Pediatrics	Student Notes
Target Students	Second year	
<b>Course Title</b>	<b>Module 10: Nephrology</b>	
 <p>Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>• Urinary tract infection</li> <li>• Nephritic syndrome</li> <li>• AGN</li> <li>• Acute renal failure</li> <li>• Chronic renal failure</li> </ul>	
<p>Specific learning Objectives</p> 	<ul style="list-style-type: none"> <li>• Define Urinary Tract Infection</li> <li>• Discuss different cause of UTI</li> <li>• Enlist complications and management protocol of UTI.</li>   <li>• Define Nephrotic Syndrome</li> <li>• Discuss causes of Primary &amp; Secondary Nephrotic syndrome</li> <li>• Discuss clinical features &amp; complications of Nephrotic syndrome.</li> <li>• Describe Investigations &amp; management of Nephrotic syndrome.</li>   <li>• Define AGN</li> <li>• Discuss clinical features &amp; complications of AGN.</li> <li>• Enlist important Investigations &amp;</li> <li>• Describe management of a patient with AGN.</li>   <li>• Define Acute Renal Failure (ARF)</li> <li>• Describe etiology of ARF.</li> <li>• Discuss clinical features &amp; complications OF ARF.</li> <li>• Describe management of ARF.</li> </ul>	
Teaching & Learning Strategies (MIT)	<ul style="list-style-type: none"> <li>• Lecture with Audio Visual support</li> <li>• Bed side teaching</li> <li>• Group discussion</li> <li>• Case base learning</li> <li>• Skill demonstration</li> <li>• One minute preceptor</li> </ul>	
	MCQs, Case presentation	




Assessments		
-------------	--	--

## MODULE 11: Pediatric Respiratory Tract diseases




Title	Pediatrics	Student Notes
Target Students	Second year	
<b>Course Title</b>	<b>Module 11: Respiratory</b>	
 <p>Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>• Pneumonia + ARI</li> <li>• Pleural effusion</li> <li>• Empyema</li> <li>• Bronchial asthma</li> <li>• Bronchiolitis</li> <li>• Croup</li> <li>• Chronic / recurrent chest infection</li> </ul>	
<p>Specific learning Objectives</p> 	<ul style="list-style-type: none"> <li>• Discuss approach to a child with acute respiratory infection.</li> <li>• Enlist danger sign</li> <li>• Describe management protocol of a child with ARI</li>   <li>• Define Pleural Effusion / Empyema</li> <li>• Discuss clinical &amp; symptoms</li> <li>• Enlist investigations required to diagnose pleural effusion/pneumothorax.</li>   <li>• Define Bronchial Asthma</li> <li>• Discuss clinical &amp; symptoms of asthma.</li> <li>• Enlist investigations</li> <li>• Describe management of an asthmatic child</li>   <li>• Define Bronchiolitis</li> <li>• Discuss clinical &amp; symptoms</li> <li>• Enlist investigations</li> <li>• Describe management of an infant with bronchiolitis.</li>   <li>• Define Croup</li> <li>• Discuss clinical &amp; symptoms</li> <li>• Enlist investigations</li> <li>• Describe management of croup.</li>   <li>• Define Chronic / Recurrent Chest Infections</li> <li>• Discuss differential diagnosis.</li> </ul>	
Teaching & Learning Strategies (MIT)	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Small group discussion</li> <li>• Case Presentation</li> </ul>	

 Assessments	MCQs, Case presentation	



## MODULE 12: Pediatric Rheumatology


Title	Pediatrics	Student Notes
Target Students	Second year	
<b>Course Title</b>	<b>Module 12: Rheumatology</b>	
 <p>Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>• JRA</li> <li>• SLE</li> <li>• HSP</li> </ul>	
<p>Specific learning Objectives</p> 	<ul style="list-style-type: none"> <li>• Define JRA</li> <li>• Discuss prognosis and management of disease</li> <li>• Enlist clinical features</li> <li>• Define SLE</li> <li>• Enlist clinical features and major criteria</li> <li>• Discuss prognosis and management and prognosis of SLE</li> <li>• Define HSP</li> <li>• Etiology &amp; epidemiology</li> <li>• Enlist clinical features of HSP</li> <li>• Discuss prognosis and management of disease</li> </ul>	
<p>Teaching &amp; Learning Strategies (MIT)</p>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Small Group discussion</li> </ul>	
 <p>Assessments</p>	<p>MCQs, CASE PRESENTATION</p>	

## MODULE 13: Pediatric Diseases of Bones and Joints



Title	Pediatrics	Student Notes
Target Students	Third year	
<b>Course Title</b>	<b>Module 13: Bone and Joints</b>	
 <p>Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>• Osteomyelitis and septic arthritis</li> </ul>	
<p>Specific learning Objectives</p> 	<ul style="list-style-type: none"> <li>• Define Osteomyelitis &amp; Septic Arthritis</li> <li>• Enlist clinical features</li> <li>• Classification</li> <li>• Etiology &amp; epidemiology</li> <li>• Discuss prognosis and management of disease</li> </ul>	
<p>Teaching &amp; Learning Strategies (MIT)</p>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Audio Visual support</li> <li>• Small group discussion</li> </ul>	
 <p>Assessments</p>	<p>MCQs, TOACS, Case presentation</p>	

## MODULE 14: Pediatric Central Nervous System Diseases

Title	Pediatrics	Student Notes
Target Students	Third year	
Course Title	Module 14: CNS	
 <p>Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>• Meningitis</li> <li>• Encephalitis</li> <li>• Cerebral palsy</li> <li>• Epilepsy</li> <li>• Hemiplegia</li> <li>• Febrile fits</li> <li>• Brain tumours</li> <li>• Hydrocephalus</li> </ul>	
<p>Specific learning Objectives</p> 	<ul style="list-style-type: none"> <li>• Define Meningitis</li> <li>• Discuss incidence &amp; etiology</li> <li>• Discuss clinical features &amp; presentation of child</li> <li>• Enlist important investigations</li> <li>• Discuss differential diagnosis</li> <li>• Discuss complications and management of meningitis</li> </ul> <ul style="list-style-type: none"> <li>• Define Encephalitis</li> <li>• Describe incidence &amp; etiology</li> <li>• Discuss clinical features &amp; and differential diagnosis.</li> <li>• Enlist important different investigations to diagnose encephalitis.</li> <li>• Discuss differential diagnosis</li> <li>• Discuss management plan</li> </ul> <ul style="list-style-type: none"> <li>• Define Cerebral Palsy</li> <li>• Discuss etiology, clinical features &amp; presentation of child</li> <li>• Enlist important different investigations</li> <li>• Enlist differential diagnosis</li> <li>• Discuss detailed management plan</li> <li>• Enlist complications of the disease</li> </ul> <ul style="list-style-type: none"> <li>• Define Epilepsy</li> <li>• Incidence Discuss &amp; etiology, clinical features &amp; presentation of child</li> <li>• Enlist different investigations</li> <li>• Enlist differential diagnosis</li> <li>• Discuss detailed management plan.</li> <li>• Discuss complications of the disease</li> </ul>	

	<ul style="list-style-type: none"> <li>• Define Hemiplegia</li> <li>• Discuss etiology clinical features &amp; presentation of child</li> <li>• Enlist different investigations</li> <li>• Enlist differential diagnosis</li> <li>• Discuss detailed management criteria</li> <li>• Enlist important complications of the disease</li>   <li>• Define Febrile Fits</li> <li>• Discuss etiology, clinical features &amp; presentation of child</li> <li>• Discuss different investigations</li> <li>• Enlist differential diagnosis</li> <li>• Discuss detailed management criteria</li> <li>• Enlist important complications of the disease</li> <li>• Discuss incidence &amp; etiology of pediatric brain tumors.</li> <li>• Discuss clinical features &amp; presentation of child</li> <li>• Discuss different investigations</li> <li>• Enlist differential diagnosis</li> <li>• Discuss detailed management criteria</li> <li>• Enlist complications of the common brain tumors</li>   <li>• Define Hydrocephalus</li> <li>• Incidence &amp; etiology</li> <li>• Discuss clinical features &amp; presentation of child</li> <li>• Enlist differential diagnosis</li> <li>• Discuss detailed management plan.</li> <li>• Describe complications of the disease</li> </ul>	
Teaching & Learning Strategies (MIT)	<ul style="list-style-type: none"> <li>• IL, SGD</li> </ul>	
 <p>Assessments</p>	MCQs, case presentation	

## MODULE 15: Pediatric Cardiovascular diseases




Title	Pediatrics	Student Notes
Target Students	Third year	
<b>Course Title</b>	<b>Module 15: CVS</b>	
 <p>Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>• CCF</li> <li>• Congenital heart diseases</li> <li>• Myocarditis + cardiomyopathy</li> <li>• Rheumatic fever + RHD</li> <li>• shock</li> </ul>	
<p>Specific learning Objectives</p> 	<ul style="list-style-type: none"> <li>• Define Congenital Heart Disease (CHD)</li> <li>• Pathophysiology &amp; etiology</li> <li>• Discuss clinical features with signs &amp; symptoms</li> <li>• Mention diagnostic criteria</li> <li>• Describe detailed management</li> </ul> <ul style="list-style-type: none"> <li>• Define Myocarditis &amp; Cardiomyopathy</li> <li>• Pathophysiology &amp; etiology</li> <li>• Discuss clinical features with signs &amp; symptoms</li> <li>• Mention diagnostic criteria</li> <li>• Describe detailed management</li> </ul> <ul style="list-style-type: none"> <li>• Define Rheumatic Fever &amp; RHD</li> <li>• Pathophysiology &amp; etiology</li> <li>• Discuss clinical features with signs &amp; symptoms</li> <li>• Mention diagnostic criteria</li> <li>• Describe detailed management</li> </ul> <ul style="list-style-type: none"> <li>• Define Shock</li> <li>• Pathophysiology &amp; etiology</li> <li>• Discuss clinical features with signs &amp; symptoms</li> <li>• Mention diagnostic criteria</li> <li>• Describe detailed management</li> </ul>	
Teaching & Learning Strategies (MIT)	<ul style="list-style-type: none"> <li>• Small group discussion</li> <li>• Case base learning</li> <li>• Ward rotation /role play</li> <li>• One minute preceptor</li> </ul>	






Assessments

MCQs, TOACS



## MODULE 16: Metabolic Disorders in Pediatrics


Title	Pediatrics	Student Notes
Target Students	Third year	
<b>Course Title</b>	<b>Module 16: Metabolic Disorder</b>	
 <p>Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>• Inborn error of metabolism</li> <li>• Galactosemia + glycogen storage disease</li> <li>• mucopolysaccharidoses</li> </ul>	
<p>Specific learning Objectives</p> 	<ul style="list-style-type: none"> <li>• Define Inborn Errors of Metabolism (Approach)</li> <li>• Discuss general consideration &amp; etiology</li> <li>• Write clinical features &amp; investigations</li> <li>• Describe treatment</li> <li>• Mention complications &amp; prognosis of the disease</li> <li>• Define Galactosemia + Glycogen Storage Disease</li> <li>• Discuss general consideration &amp; etiology</li> <li>• Write clinical features &amp; investigations</li> <li>• Describe treatment</li> <li>• Mention complications &amp; prognosis of the disease</li> <li>• Define Mucopolysacchroidosis</li> <li>• Discuss general consideration &amp; etiology</li> <li>• Write clinical features &amp; investigations</li> <li>• Describe treatment</li> <li>• Mention complications &amp; prognosis of the disease</li> </ul>	
<p>Teaching &amp; Learning Strategies (MIT)</p>	<ul style="list-style-type: none"> <li>• Small group discussion</li> <li>• Case base learning</li> <li>• Ward rotation /role play</li> <li>• One minute preceptor</li> </ul>	
 <p>Assessments</p>	<p>MCQs, TOACS</p>	

## MODULE 17: Pediatric Neuromuscular Diseases

Title	Pediatrics	Student Notes
Target Students	Third year	
<b>Course Title</b>	<b>Module 17: Neuromuscular</b>	
 <p>Outcomes</p>	<ul style="list-style-type: none"> <li>• Muscular dystrophies AFP/GBS</li> </ul>	
<p>Specific learning Objectives</p> 	<ul style="list-style-type: none"> <li>• Define Muscular Dystrophies</li> <li>• Discuss general consideration &amp; etiology</li> <li>• Write clinical features &amp; investigations</li> <li>• Describe treatment</li> <li>• Mention complications &amp; prognosis of the disease</li> <li>• Define AFP / GBS</li> <li>• Approach to a child with acute flaccid paralysis</li> <li>• Discuss general consideration &amp; etiology</li> <li>• Write clinical features &amp; investigations</li> </ul>	
<p>Teaching &amp; Learning Strategies (MIT)</p>	<ul style="list-style-type: none"> <li>• Small group discussion</li> <li>• Case base learning</li> <li>• Ward rotation /role play</li> <li>• One minute preceptor</li> </ul>	
 <p>Assessments</p>	<p>MCQs, TOACS</p>	




## MODULE 18: Neonatology

Title	Pediatrics	Student Notes
Target Students	Third year	
Course Title	<b>Module 18: Neonatology</b>	
 <p>Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>• Prematurity, birth asphyxia, sepsis, jaundice, Neonatal Seizures</li> </ul>	
<p>Specific learning Objectives</p> 	<ul style="list-style-type: none"> <li>• Define Prematurity</li> <li>• Discuss Incidence and etiology</li> <li>• Describe complications of prematurity</li> <li>• Assess gestational age by Ballard Scoring</li> <li>• Manage a case of prematurity</li>   <li>• Define Jaundice</li> <li>• Discuss classification of direct &amp; indirect hyperbilirubinemia</li> <li>• Discuss investigation &amp; management of jaundice neonatorum.</li> <li>• Discuss Complications of jaundice.</li>   <li>• Define Neonatal Sepsis</li> <li>• Discuss predisposing &amp; environmental factors leading to neonatal sepsis.</li> <li>• Describe etiology &amp; clinical features of neonatal sepsis.</li> <li>• Discuss diagnostic criteria &amp; investigations for sepsis.</li> <li>• Write detailed management</li>   <li>• Define Birth Asphyxia</li> <li>• Describe etiology &amp; clinical features of HIE.</li> <li>• Discuss diagnostic criteria &amp; investigations of HIE.</li> <li>• Describe management of a case of birth asphyxia.</li>   <li>• Define Neonatal Seizures</li> <li>• Discuss predisposing &amp; environmental factors</li> <li>• Discuss diagnostic criteria &amp; investigations</li> <li>• Write detailed management of neonatal seizures.</li>   <li>• Define Respiratory Distress in the Newborn</li> </ul>	




	<ul style="list-style-type: none"> <li>• Discuss etiology &amp; clinical features</li> <li>• Discuss diagnostic criteria &amp; investigations</li> <li>• Write detailed management plan for a neonate presenting with respiratory distress.</li> </ul>	
Teaching & Learning Strategies (MIT)	<ul style="list-style-type: none"> <li>• Small group discussion</li> <li>• Case base learning</li> <li>• Ward rotation /role play</li> <li>• One minute preceptor</li> </ul>	
 <p>Assessments</p>	MCQs, TOACS	

# CLINICAL MODULES




## MODULE 1: History and General Physical Examination

Title	Pediatrics	Student Notes
Target Students	Final year	
<b>Course Title</b>	<b>Module 1: History and General Physical Examination</b>	
Duration	14 hours	
 <p>Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>History taking and General Physical Examination</li> </ul>	
<p>Specific learning Objectives</p> 	<ul style="list-style-type: none"> <li>To understand the key components of pediatrics history taking and its applications</li> <li>Perform GPE, relevant to case as indicated by history</li> <li>Perform anthropometry</li> <li>Demonstrate examination of Eye, ears, nose, face &amp; mouth.</li> </ul>	
Teaching & Learning Strategies (MIT)	<ul style="list-style-type: none"> <li>CBL, Bed side teaching</li> </ul>	
 <p>Assessments</p>	MCQ's, TOACS, CASE PRESENTATION	




## MODULE 2: GI Tract, Hematology/ Oncology (Abdomen)

Title	Pediatrics	Student Notes
Target Students	Final year	
<b>Course Title</b>	<b>Module 2: GIT, Hematology and Oncology</b>	
Duration	6.5 hours	
 <p>Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>• Diarrhea – acute &amp; chronic</li> <li>• Chronic liver disease</li> <li>• Malnutrition / Rickets</li> <li>• Acute hepatitis</li> <li>• Thalassemia</li> <li>• Anemia</li> <li>• ITP – Plastic anemia</li> <li>• Leukemia – Lymphoma</li> <li>• Abdominal Mass</li> </ul>	
<p>Specific learning Objectives</p> 	<ul style="list-style-type: none"> <li>• Demonstrate history taking and GIT examination relevant to case.</li> <li>• Discuss diagnosis and differential diagnosis based on history and examination</li> <li>• Investigate common gastroenterological disorders</li> <li>• Discuss complication of common pediatric gastroenterological disorders.</li> <li>• Manage common pediatric gastroenterological diseases</li> </ul>	
<p>Teaching &amp; Learning Strategies (MIT)</p>	<ul style="list-style-type: none"> <li>• CBL, Bed side teaching</li> </ul>	
 <p>Assessments</p>	<p>TOACS, MCQ;s, CASE PRESENTATION</p>	




## MODULE 3: Respiratory System

Title	Pediatrics	Student Notes
Target Students	Final year	
<b>Course Title</b>	<b>Module 3: Respiratory System</b>	
Duration	7 hours	
 <p style="text-align: center;">Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>• Pneumonia / Bronchiolitis / Bronchial Asthma</li> <li>• TB / Cystic Fibrosis</li> <li>• Pleural effusion / Pneumothorax</li> </ul>	
<p>Specific learning Objectives</p> 	<ul style="list-style-type: none"> <li>• Demonstrate history taking and respiratory examination relevant to case.</li> <li>• Discuss diagnosis and differential diagnosis based on history and examination</li> <li>• Investigate common pediatric respiratory disorders</li> <li>• Discuss complication of common pediatric respiratory disorders.</li> <li>• Manage common pediatric respiratory diseases</li> </ul>	
<p>Teaching &amp; Learning Strategies (MIT)</p>	<ul style="list-style-type: none"> <li>• CBL, Bed side teaching</li> </ul>	
 <p>Assessments</p>	<p>MCQ's, TOACS, CASE PRESENTATION</p>	




## MODULE 4: CNS (Motor, Sensory, Special Senses and Neuromuscular)

Title	Pediatrics	Student Notes
Target Students	Final year	
<b>Course Title</b>	<b>Module 4: CNS</b>	
Duration	8 hours	
 <p>Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>• Meningitis / Encephalitis / TBM</li> <li>• Cerebral Palsy</li> <li>• Epilepsy / Febrile fits</li> <li>• Hydrocephalus / Meningocele / CVA</li> <li>• Acute flaccid paralysis</li> <li>• Duchene Muscular Dystrophy</li> </ul>	
<p>Specific learning Objectives</p> 	<ul style="list-style-type: none"> <li>• Demonstrate history taking and neurological examination relevant to case.</li> <li>• Discuss diagnosis and differential diagnosis based on history and examination</li> <li>• Investigate common pediatric neurological disorders</li> <li>• Discuss complication of common pediatric neurological disorders.</li> <li>• Manage common pediatric neurological diseases</li> </ul>	
<p>Teaching &amp; Learning Strategies (MIT)</p>	<ul style="list-style-type: none"> <li>• CBL, Bed side teaching</li> </ul>	
 <p>Assessments</p>	<p>TOACS, CASE PRESENTATION</p>	




## MODULE 5: Cardiovascular system

Title	Pediatrics	Student Notes
Target Students	Final year	
<b>Course Title</b>	<b>Module 5: CVS</b>	
Duration	8 hours	
 <p>Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>• RHD /Rheumatic fever</li> <li>• VSD / PDA</li> <li>• TOF / TGA</li> <li>• Infective endocarditis</li> </ul>	
<p>Specific learning Objectives</p> 	<ul style="list-style-type: none"> <li>• Demonstrate history taking and cardiovascular examination relevant to case.</li> <li>• Discuss diagnosis and differential diagnosis based on history and examination</li> <li>• Investigate common pediatric congenital and acquired cardiovascular disorders</li> <li>• Discuss complication of common pediatric CVS disorders.</li> <li>• Manage common pediatric CVS diseases</li> </ul>	
Teaching & Learning Strategies (MIT)	<ul style="list-style-type: none"> <li>• CBL, Bed side teaching</li> </ul>	
 <p>Assessments</p>	TOACS, CASE PRESENTATION	

## MODULE 6: Nephrology and Rheumatology

Title	Pediatrics	Student Notes
Target Students	Final year	
<b>Course Title</b>	<b>Module 6: Rheumatology and Renal System</b>	
Duration	6.5 hours	
 <p>Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>• SLE</li> <li>• JIA</li> <li>• Osteomyelitis</li> <li>• Septic arthritis</li> <li>• Acute / chronic renal failure</li> <li>• AGN</li> <li>• Nephrotic syndrome</li> <li>• UTI</li> </ul>	
 <p>Specific learning Objectives</p>	<ul style="list-style-type: none"> <li>• Demonstrate history taking and musculoskeletal examination relevant to case.</li> <li>• Discuss diagnosis and differential diagnosis based on history and examination</li> <li>• Investigate common pediatric rheumatologic disorders</li> <li>• Discuss complication of common pediatric rheumatologic disorders. Manage common pediatric rheumatologic diseases</li> <li>• Perform neonatal reflexes</li> <li>• Perform development assessment.</li> <li>• Discuss different developmental parameters</li> <li>• Demonstrate growth chart plotting</li> <li>• Discuss diagnosis and differential diagnosis based on examination findings</li> </ul>	
Teaching & Learning Strategies (MIT)	<ul style="list-style-type: none"> <li>• CBL, Bed side teaching</li> </ul>	
 <p>Assessments</p>	TOACS, CASE PRESENTATION	

## MODULE 7: Neonatology

Title	Pediatrics	Student Notes
Target Students	Final year	
<b>Course Title</b>	<b>Module 7: Neonatology</b>	
Duration	6.5 hours	
 <p>Outcomes</p>	<p>To understand and demonstrate appropriate skills and attitude in relation to</p> <ul style="list-style-type: none"> <li>• Neonatal Sepsis</li> <li>• Neonatal Jaundice</li> <li>• Prematurity</li> <li>• Birth Asphyxia</li> </ul>	
<p>Specific learning Objectives</p> 	<ul style="list-style-type: none"> <li>• Demonstrate history taking and musculoskeletal examination relevant to case.</li> <li>• Discuss diagnosis and differential diagnosis based on history and examination</li> <li>• Investigate common neonatal disorders</li> <li>• Discuss complication of common neonatal diseases.</li> <li>• Manage common neonatal diseases</li> <li>• Perform neonatal reflexes</li> <li>• Discuss diagnosis and differential diagnosis based on examination findings</li> </ul>	
Teaching & Learning Strategies (MIT)	<ul style="list-style-type: none"> <li>• CBL, Bed side teaching</li> </ul>	
 <p>Assessments</p>	TOACS, CASE PRESENTATION	

## Themes of Skills

In every module skills required are mentioned. To highlight the requirement a separate list of skills which you are expected to learn is given below. Procedural Skills will be assessed on manikins/ patients

Sr.	Skills Topic
01.	History taking
02.	Physical Examination
03	Communication skills
04	BLS protocols
05	IV cannulation
06	Venous sampling
07	Nasogastric tube insertion
08	Nebulization
09	Lumber puncture
10	Observing passing of urine catheter
11	Pleural tap
12	Peritoneal tap

## Themes of Attitudes

Attitude is a collection of behaviors. "Attitude is a learned predisposition to respond in a favourable or unfavourable manner towards people, an object, an idea or a situation" - - Martin Fishbein. Attitudes are based on predispositions and emotions and result in specific human behaviors. They are very difficult to learn. However observation and mentoring for attitudes or giving them weightage as in exams can influence learning of attitudes.

Sr.	Attitude
01.	<b>Appearance of a doctor – professional dress up</b>
03	<b>Body language – Behave with dignity</b>
04	<b>Respectful to patient</b>
05	<b>Empathetic &amp; humane</b>
06	<b>Listen &amp; examine (thorough)</b>
07	<b>Informed consent</b>
08	<b>Privacy - Covering the patient</b>
09	<b>Counseling &amp; communication</b>
10	<b>Hard working</b>
11	<b>Documentation</b>

## **Clinical Rotations**

1. Clinical rotations during a 4-year training program are meant for specific, subject-based knowledge, skill and attitude in order to learn different competencies.
2. There will be three mandatory rotations out of the available specialties in children hospital, Lahore, while a rotation of perinatology may need a gynecology and obstetrics department of another teaching hospital.
3. A total of 6 rotations, 2-months each shall be allowed out of which 3 will be mandatory as requirement of training and a criterion to sit in the exit exam.

## **Mandatory Training Workshops**

Workshops are meant to give hands-on training on the competencies required during the educational program. These workshops are mandatory for all the post graduate residents. Every student will have following 4 workshops during semester II, III and IV.

1. Research methodology and biostatistics
2. Communication skills
3. BLS (Basic Life Support)
4. Professionalism, Ethics & leadership

## **Log Book**

Residents are required to keep a logbook, which must be regularly signed by their supervisor. A comprehensive and properly certified logbook is essential for eligibility to take the MD Pediatric examination. The logbook should detail a sufficient number of diagnostic and therapeutic procedures observed and carried out, along with their indications, any complications, and result interpretations. Additionally, it should cover routine and emergency patient management, case presentations in CPCs, participation in journal club meetings, and engagement in literature review.

## **Assessment**

It will consist of action and the professional growth oriented student-centered integrated assessment, with additional components of the internal assessment, formative assessment and summative assessment.

### **Student-Centered Integrated Assessment**

It views trainees as decision makers in need of information about their own performance, integrated assessment is meant to student's responsibility to decide what to evaluate as well as how to evaluate, it encourages students to "own" the evaluation and to use it as a basis for self-improvement. Therefore, it tends to be growth oriented, student controlled, collaborative, dynamic, contextualized, and flexible and action oriented.

It will be based on:

- Self-assessment by the trainees
- Peer assessment
- Internal assessment by the faculty.

### **Self-Assessment by the Students**

Each learner will be provided a predesigned self-assessment form to evaluate his/her level of comfort and competency in dealing with different types of education related situations. It will be the responsibility of the student to correctly identify his/her areas of weakness and to take appropriate measures to address to these weaknesses.

### **Peer Assessment**

The trainees will be expected to evaluate their peers after the monthly small group meetings. These should be followed by constructive feedback accordingly and should be non-judgmental in nature. This will enable students to become good mentors in the future.

### **Internal Assessment by the Faculty**

The students are encouraged to confront their weaknesses and to remove them rather to hide them from their teachers. It will be based on:

- Discipline and Punctuality
- Behavior and patient care
- Professionalism and Participation in interactive sessions
- End of rotation assessment

## Formative assessment

- Formative Assessment: End-of-rotation test, Workplace-based assessment (MiniCEX, DOPS, 360<sup>0</sup> Evaluation). Long cases and short cases

This will be helpful to improve the existing instructional methods and course contents in use. Feedback will be given to the students to improve their shortcomings and deficiencies.

## Summative assessment

### Abridged Examination (At the end of 1<sup>st</sup> year Program) MD Pediatrics

#### Total Marks: 350

All candidates admitted in MD Pediatrics course shall appear in Abridged Examination at the end of first calendar year.

#### Abridged Examination: M.D. Pediatrics

Written Exam = 300 Marks

Video Projected Clinical Examination = 50 Marks

**Total = 350 Marks**

Written Paper: 150 MCQs Single best type with 2 marks each MCQ.

**Total = 300 Marks**

#### Video Projected Clinical Exam (VPCE) 50 Marks

The VPCE will consist of 25 videos/ Slides of clinical material and scenarios from General Pediatrics and related areas. Each Video/ slide will have one question and carry 2 marks for correct and 0.5 deduction for each incorrect.

### Final Summative Exit Assessment: End of 4 year

#### Final MD Pediatrics

#### Total Marks: 1500

All candidates admitted in MD course shall appear in Final examination at the end of structured training program (end of 4th calendar year).

There shall be two written papers of 250 marks each, Clinical, TOACS/OSCE & ORAL of 500 marks, CIS of 100 marks and thesis examination of 400 marks.

#### TOPICS INCLUDED IN PAPER 1

1. Pediatric Cardiology (20 MCQs)
2. Pediatric Pulmonology (20 MCQs)

- |  |           |
|--|-----------|
| 3. Pediatric Gastroenterology & Hepatology | (20 MCQs) |
| 4. Pediatric Hematology & Oncology         | (20 MCQs) |
| 5. Pediatric Neurology                     | (20 MCQs) |

**TOPICS INCLUDED IN PAPER 2**

- |   |           |
|---|-----------|
| 1. Pediatric Nephrology                     | (20 MCQs) |
| 2. Neonatology                              | (20 MCQs) |
| 3. Developmental Pediatrics                 | (15 MCQs) |
| 4. Pediatric Endocrinology                  | (15 MCQs) |
| 5. Pediatric Dermatology                    | (10 MCQs) |
| 6. Pediatric Rheumatology                   | (05 MCQs) |
| 7. Pediatric Psychiatry                     | (05 MCQs) |
| 8. Pediatric Ophthalmology & Otolaryngology | (10MCQs)  |

**COMPONENTS OF FINAL EXAMINATION**

**Theory**

<b><u>Paper I</u></b>	<b><u>250 Marks</u></b>	<b><u>3 Hours</u></b>
5 SEQs	50 Marks	
100 MCQs	200 Marks	
<b><u>Paper II</u></b>	<b><u>250 Marks</u></b>	<b><u>3 Hours</u></b>
5 SEQs	50 Marks	
100 MCQs	200 Marks	

The candidates, who pass in theory papers, will be eligible to appear in the clinical, TOACS/OSCE & ORAL.

**Clinical, TOACS/OSCE & ORAL 500 Marks**

Four short cases	<b>200 Marks</b>
One long case	<b>100 Marks</b>
TOACS/OSCE & ORAL	<b>200 Marks</b>
<b>Continuous Internal Assessment</b>	<b>100 Marks</b>
<b>Thesis Examination</b>	<b>400 Marks</b>

All candidates admitted in MD courses shall appear in thesis examination at the end of 4th calendar year of the MD program. The examination shall include thesis evaluation with defense.

## Research Publications

1. The university endorse and support research activities and profound commitment is required and appreciated from faculty as well as from students.
2. MD trainees will have to publish two original articles in Y or higher category journal as mandatory requirement. (Acceptance of an article for publishing will also be acknowledged). Writing one 'Audit report' will also be a mandatory eligibility criterion for sitting in exit exam, although its publication will not be essential.
3. The trainees will have to submit the thesis before their exit exam.



## Learning Resources

### Recommended Books:

1. **Essential of Pediatrics by Nelson (Latest edition)**
2. **Textbook of Pediatrics by Pervaiz Akbar**
3. **Illustrated Textbook of Pediatric**
4. **Hutchinson's Clinical Examination**
5. **Macleod's Clinical Examination**

**Lectures**

**Handouts**

**Journals**

**Library**

**Internet (online journals and reading materials through HEC digital library facility).**

**Mannequins**

**Bedside Teaching**