



Department of Paediatrics & Neonatology



Study Guide

MBBS

**Sharif Medical and Dental College,
Lahore**



PREFACE

Dear students; this study guide is an effort from the department of Paediatrics and Neonatology to facilitate you in improving your understanding and knowledge of this subject and improving your learning as well as performance. This handbook is to make you familiar with the subject, learning objectives, detailed plans of lectures & clinical classes, assessments, and the course contents.

The noble purpose of making you a competent, responsible, knowledgeable, lifelong learner and ethical doctor will only be possible if you work hard and pay extra attention, take keen interest and make untiring efforts to understand and practice not only the subject of Paediatrics and Neonatology but your whole curriculum. You can make this possible with your discipline, punctuality, attention, dedication, and self-organization. You are always welcome to the department for anything concerning your understanding of the subject or any academic difficulty you face.

We from the department of Paediatrics and Neonatology, Sharif Medical and Dental College wish and pray for your success in future.

May Allah the Greatest of All, helps you and us in achieving this. Ameen.

Department of Paediatrics and Neonatology

Sharif Medical and Dental College Lahore



Vision & Mission of UHS

Qualitative and Quantitative Revolution in Medical Education and Research through Evolution and thereby improve Health Care delivery to Populace.

UHS shall be innovative global center of excellence in learning and research, supporting a community of scholars and professionals committed to serving society, promoting the development of students to reach their true potential in becoming competent, ethical, caring, and inquiring health professionals for the benefit of the country and the wider world.

Mission of SMDC

Sharif Medical & Dental College is dedicated to best serve the nation through preservation and dissemination of advanced knowledge and educating the students by latest trends in learning and research reaching levels pars excellence.

The Institution is committed to provide standardized quality medical education to its students by inculcating professional knowledge, skills and responsibilities in them with the aim of:

- Preparing them as modern physicians having initiative to act as future leaders in their respective fields and becoming lifelong learners.
- Encouraging the spirit of critical thinking through research and publication.
- Building up an understanding of the ethical values compatible with our religion, culture and social norms.
- Developing a sense of being responsible citizens of the society possessing professional competence and instilling in them the values of hard work and dedication thus preparing them to be accountable to the stakeholders and the state.

The Institution is devoted to keep abreast its faculty with the latest trends in Medical Education encompassing teaching/learning methodologies, assessment tools, research opportunities and professionalism to facilitate their professional development, competencies and commitment towards continues learning.

Our patient-centered mission is achieved by outstanding medical care & services in professional practice with due emphasis and focus on our local health needs.

Our mission further elaborate upon establishing academic and research facilities in areas of local demand under global gold standards and leading advancement in research, education & patient care.

Vision of SMDC

To be recognized for the provision of a safe and functional environment conducive to collaborative teaching & learning, comfortable working atmosphere, and conducting world class research through professionalism and excellence.

inquiring health professionals for the benefit of the country and the wider world.



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OUTCOMES OF SMDC MBBS PROGRAM

By the end of academic year final year student will have:

- **Knowledge**

1. Develop well-rounded and in-depth clinical knowledge specific to paediatrics, using the core patient presentations list as a guide
2. Formulate an age appropriate differential diagnosis
3. Demonstrate an understanding of behavior and child development, and its impact on health and illness

- **Skills**

4. Demonstrate the skills necessary to perform a complete and accurate pediatric history including prenatal, birth, developmental, dietary, immunization, and psychosocial histories
5. Demonstrate the skills necessary to perform a complete and accurate pediatric physical exam including but not limited to an age appropriate neurologic exam, and graph and interpret growth chart data.
6. Prescribe medications which are appropriate for weight and/or age

- **Attitude**

7. Demonstrate effective listening and communication skills with patients, families, and staff. (evaluated using 360 evaluations)
8. Demonstrate the behaviors befitting an ethical professional at all times as listed in institutional objectives. Specific to pediatrics the student will exhibit respect, humility, and a teachable attitude with faculty and staff.
9. Advocate for their patients by helping families access appropriate medical specialties and ancillary services like developmental therapies as needed.



COMMONLY USED ABBREVIATIONS & LOGOS IN THE STUDY GUIDE

1. CBL: Case based learning
2. LGIS: Large group interactive session/Lecture
3. Mini-CEX: (minimal clinical evaluation exercise)
4. MIT: Modes of Information Transfer
5. MCQs: Multiple choice questions
6. OSCE: Objective structured clinical examination
7. OSPE: Objective Structured Practical Examination
8. SDL: Self-directed study
9. SAQs: Self assessment Questionnaire
- 10.SGD: Small group discussion



THE FACULTY OF DEPARTMENT OF PAEDIATRICS & NEONATOLOGY

Prof. Hamanyon Iqbal Khan

HEAD OF DEPARTMENT
MBBS, FCPS,

Dr. Nosheen Iftikhar

MBBS, FCPS
Associate Professor

Dr. Muhammad Akram

MBBS, FCPS, MRCP
Assistant Professor

Dr. Allah Nawaz Sultan

MBBS, FCPS
Assistant Professor

Dr. Atif Ashraf

MBBS, FCPS
Senior Registrar



COURSE OUTLINE

FOURTH YEAR MBBS

In fourth year, there will be one lecture every week and we will cover your syllabus of infectious diseases. During your clinical classes, you will be exposed to the patients in the ward and OPD, where you will develop your clinical competence like history taking, physical examination, investigations planning, management, communication skills, and professionalism.

FINAL YEAR MBBS

In final year MBBS, the students are expected to learn Paediatrics and Neonatology to the level that at the end of the session they should be able to diagnose a patient of common ailments, with the help of history and physical examination, can devise a plan of investigation, can effectively treat & rehabilitate, apprehend and prevent the common complications of that problem.

The teaching and learning of Paediatrics and Neonatology is planned in such a way that it will help in achieving all those learning outcomes which are mentioned in the curriculum. In the final year the topics included in the content of syllabus will be taught through lectures, short group discussion/ tutorial, bed side teaching and procedural skills will be taught by direct observation and simulation.



LECTURE PLANNER 4TH YEAR MBBS

No.	Topic/Assessment	Name of Tutor
1	Introduction to Paediatrics	Prof. Brig (R) Dr. Emran Roshan
3	Growth & development	Dr. Muhammad Akram
5	Diphtheria	Dr. Muhammad Akram
6	Measles	Dr. Muhammad Akram
7	Pertussis	Dr. Muhammad Akram
8	Tetanus	Dr. Muhammad Akram
9	Mumps	Dr. Muhammad Akram
10	Malaria	Dr. A N Sultan
11	Chicken Pox	Dr. Muhammad Akram
12	Rubella	Dr. Muhammad Akram
13	Poliomyelitis	Dr. A N Sultan
14	Acute Hepatitis	Dr. A N Sultan
15	Tuberculosis	Dr. A N Sultan
16	Acute Diarrhea	Dr. A N Sultan
17	Chronic Diarrhea	Dr. A N Sultan
18	Malnutrition	Dr. A N Sultan
19	Dengue Fever	Dr. A N Sultan
20	Enteric Fever	Dr. A N Sultan



LECTURE PLANNER FINAL YEAR MBBS

No.	Topic/Assessment	Name of Tutor
1.	Introduction to Pediatrics	Prof. Brig. R. Emran Roshan
2.	Introduction to Neonatology	Dr. Muhammad Akram
3.	Malnutrition-1	Dr. Nosheen Iftikhar
4.	Fetal circulation	Dr. Muhammad Akram
5.	Malnutrition-2	Dr. Nosheen Iftikhar
6.	Neonatal examination	Dr. Muhammad Akram
7.	Pyomeningitis-1	Dr. Nosheen Iftikhar
8.	Congenital Malformation-others	Dr. Muhammad Akram
9.	Congenital Malformation GIT	Dr. Muhammad Akram
10.	Congenital Malformations of CNS	Dr. Muhammad Akram
11.	Pyomeningitis-2	Dr. Nosheen Iftikhar
12.	Approach to Tachypnea in Newborn	Dr. Muhammad Akram
13.	Tuberculosis Meningitis	Dr. Nosheen Iftikhar
14.	RDS	Dr. Muhammad Akram
15.	Encephalitis	Dr. Nosheen Iftikhar
16.	Febrile Seizures	Prof. Brig. R. Emran Roshan
17.	Neonatal Hyperbilirubinemia 1	Dr. Muhammad Akram
18.	Neonatal Hyperbilirubinemia 2	Dr. Muhammad Akram
19.	Neonatal Seizures	Dr. Nosheen Iftikhar
20.	Growth & Development	Prof. Brig. R. Emran Roshan
21.	Hydrocephalus	Dr. Muhammad Akram
22.	Cerebral Palsy-1	Dr. Nosheen Iftikhar
23.	Birth Asphyxia 1	Dr. Muhammad Akram
24.	Cerebral Palsy-2	Dr. Nosheen Iftikhar
25.	Birth Asphyxia 2	Dr. Muhammad Akram
26.	Prematurity 1	Dr. Muhammad Akram
27.	Rheumatic fever 1	Prof. Brig. R. Emran Roshan
28.	Test CNS	



29.	Prematurity 2	Dr. Muhammad Akram
30.	Epilepsy-1	Dr.Nosheen Iftikhar
31.	Duchenne Muscular Dystrophy	Dr.Nosheen Iftikhar
32.	Rheumatic fever 2	Prof. Brig. R. Emran Roshan
33.	Neonatal Sepsis 1	Dr. Muhammad Akram
34.	Epilepsy -2	Dr.Nosheen Iftikhar
35.	Test Neonatology	
36.	Test discussion	Dr. Muhammad Akram
37.	Tetralogy of Fallot 1	Prof. Brig. R. Emran Roshan
38.	UTI In Children 1	Dr.Nosheen Iftikhar
39.	Neonatal Sepsis 2	Dr. Muhammad Akram
40.	UTI In Children 2	Dr.Nosheen Iftikhar
41.	Tetralogy of Fallot 2	Prof. Brig. R. Emran Roshan
42.	CVS Test	
43.		
44.	Congestive Heart Failure 1	Prof. Brig. R. Emran Roshan
45.	Neonatal skin lesions	Dr. Muhammad Akram
46.	Congestive Heart Failure 2	Prof. Brig. R. Emran Roshan
47.	Acute Flaccid Paralysis	Dr.Nosheen Iftikhar
48.	Bronchopneumonia	Prof. Brig. R. Emran Roshan
49.	Bronchial Asthma 1	Prof. Brig. R.Emran Roshan
50.	Cushing Disease	Dr.Nosheen Iftikhar
51.	Bronchial Asthma 2	Prof. Brig. R.Emran Roshan
52.	Test Infectious diseases1	
53.	Diabetes Mellitus -1	Dr.Nosheen Iftikhar
54.	Anemia/ IDA 1	Prof. Hamanyon Iqbal
55.	Diabetes Mellitus -2	Dr.Nosheen Iftikhar
56.	Idiopathic thromboctypenic purpura	Prof. Hamanyon Iqbal
57.	IDA 2	Prof. Hamanyon Iqbal
58.	Thalassemia	Prof. Hamanyon Iqbal
59.	Acute Respiratory Infection	Dr. Muhammad Akram



60.	Pleural Effusion	Dr. Muhammad Akram
61.	Bleeding disorders	Prof. Hamanyon Iqbal
62.	Pancytopenia	Prof. Hamanyon Iqbal
63.	Broncholitis	Dr. Muhammad Akram
64.	Leukemias	Prof. Hamanyon Iqbal
65.	Acute Glomerulonephritis	Dr. Nosheen Iftikhar
66.	Test Respiratory system	
67.	Acute Diarrhoea-1	Dr. Nosheen Iftikhar
68.	Lymphoma	Prof. Hamanyon Iqbal
69.	Acute Diarrhoea- 2	Dr. Nosheen Iftikhar
70.	Chronic Diarrhoea	Dr. Nosheen Iftikhar
71.	Pneumothorax	Dr. Muhammad Akram
72.	Anemias in Paediatrics	Prof. Hamanyon Iqbal
73.	Nephrotic Syndrome-1	Dr. Nosheen Iftikhar
74.	ADHD	Dr. AN Sultan
75.	Nephrotic Syndrome-2	Dr. Muhammad Akram
76.	Myocarditis	Dr. Muhammad Akram
77.	Acute Kidney injury-1	Dr. Nosheen Iftikhar
78.	Acute Kidney injury 2	Dr. Nosheen Iftikhar
79.	GIT Test	
80.	Test discussion	Dr. Muhammad Akram
81.	Autism	Dr. AN Sultan
82.	November 21	
83.	Rickets -1	Dr. Nosheen Iftikhar
84.	Infective Endocarditis	Dr. Muhammad Akram
85.	Acute Viral Hepatitis 1	Dr. Muhammad Akram
86.	Chronic Kidney injury 1	Dr. Nosheen Iftikhar
87.	Acute Viral Hepatitis 2	Dr. Muhammad Akram
88.	Rickets -2	Dr. Nosheen Iftikhar
89.	Infective Endocarditis	Dr. Muhammad Akram
90.	Poisoning 1	Dr. AN Sultan



91.	Hypothyroidism -1	Dr. Nosheen Iftikhar
92.	Hematology Test	
93.	Acute Diarrhoea-1	Dr. AN Sultan
94.	Poisoning 2	Dr. AN Sultan
95.	Hypothyroidism -2	Dr. Nosheen Iftikhar
96.	Acute Diarrhoea-2	Dr. AN Sultan
97.	Radiology in Pediatrics-1	Radiology Deptt.
98.	Short Stature-1	Dr. Nosheen Iftikhar
99.	Radiology in Pediatrics-2	Radiology Deptt.
100.	DDH	Dr. Muhammad Akram
101.	Short Stature-2	Dr. Nosheen Iftikhar
102.	Breath holding spells	Dr. Muhammad Akram
103.	Down Syndrome	Prof. Hamanyon Iqbal
104.	TEV	Dr Muhammad Akram
105.	Enuresis	Dr. AN Sultan
106.	Nephrology Test	
107.	Behavioral problems	Dr. AN Sultan
108.	Cardiomyopathy	Dr. Muhammad Akram
109.	Inguinal hernia	Dr Muhammad Akram
110.	Cirrhosis	Dr. AN Sultan
111.	Revision Lecture Nephrology -1	Dr. Nosheen Iftikhar
112.	Revision Lecture Nephrology -2	Dr. Nosheen Iftikhar
113.	Test Nephro	
114.	Revision Lecture Haematology/Oncology 1	Prof. Hamanyon Iqbal
115.	Revision Lecture Haematology/Oncology 2	Prof. Hamanyon Iqbal
116.	Test Haem/onco	
117.	Revision Lecture cardiology -1	Dr. Muhammad Akram
118.	Revision Lecture Cardiology -2	Dr. Muhammad Akram
119.	Test Cardiology	
120.	Revision Lecture GIT/Hepatology 1	Dr. Nosheen Iftikhar
121.	Revision Lecture GIT/Hepatology 2	Dr. AN Sultan



122.	Test	
123.	Revision Lecture CNS 1	Dr. Nosheen Iftikhar
124.	Revision Lecture CNS 2	Dr. Nosheen Iftikhar
125.	Test	
126.	Revision Lecture Resp 1	Dr. Muhammad Akram
127.	Revision Lecture Resp 1	Dr. Muhammad Akram
128.	Test	
129.	Send up	
130.	Test discussion	



CURRICULUM FOR PAEDIATRICS

List of suggested topics for teaching the undergraduates is given below:

- Common problems of children in Pakistan and statistics of Pakistani children.
- Clinical methods in Paediatrics.
- Nutrition (breast feeding, infant feeding, weaning) and nutritional disorders: (PEM, Rickets, Vitamin A deficiency, Iodine deficiency, Iron deficiency)
- Growth and Development.
- Common Pediatric infections: Measles, Tetanus, Polio, Diphtheria, Whooping cough, AIDS.
- Malaria, Enteric fever, Tuberculosis, Chicken pox, Common skin infections.
- Expanded Program on Immunization (EPI) . Newer vaccines.
- Diarrheal diseases.
- Acute respiratory infections (ARI).
- IMCI (integrated management of childhood illness).
- Neonatology: Resuscitation of new born, Care of normal new born, Birth asphyxia, Premature and Low birth weight babies, Neonatal jaundice, Neonatal sepsis, Neonatal fits, Respiratory distress of new born, Common skin conditions of neonates; Pyloric stenosis, Myelomeningocele, Hydrocephalus, Common congenital abnormalities and Birth trauma.
- Neurology: Meningitis, Febrile convulsions, Epilepsy, Cerebral palsy, Mental handicap, Cerebral malaria, Encephalitis
- Cardiology: Congenital heart diseases (Cyanotic and Acyanotic), Rheumatic fever. Congestive cardiac failure, Clinical assessment of a cyanotic neonate/infant.
- Haematology: Anaemias, Thalassemia, Leukemias, bleeding disorders.
- Nephrology: Nephrotic syndrome, Urinary tract infections, Acute Glomerulonephritis
- Endocrinology: Hypothyroidism, Short stature, Diabetes Mellitus
- Pulmonology: Croup, Asthma, Tuberculosis, Pneumonia, Pleural effusions, Bronchiolitis.



- Gastroenterology: Abdominal pain, Malabsorption, Hepatitis, Cirrhosis, Acute liver failure
- Diarrhea [Acute/ Chronic] ,Dysentery, Worm infestations, Giardiasis, Amoebiasis, Rectal polyp.
- Genetics: patterns of inheritance, Down's syndrome,
- Social pediatrics: Right of child, Child abuse, Enuresis, Encoparesis, Hyperactivity ,Dyslexia, Attention Deficit Disorder, Child safety
- Miscellaneous: Poisoning, Prevention of home accidents, Behavioral disorders.
- Pediatric surgery: Hernia, Intussusceptions, Intestinal obstruction, Talipes, Congenital dislocation of hip, Vesico ureteral reflux.

SKILLS:

1. Student will demonstrate his/her ability to obtain a relevant clinical history from a parent or an older child.
2. Student will demonstrate his/her ability to perform adequate clinical examination of a child of any age (including newborn).
3. Student will be able to interpret clinical and laboratory data to arrive at a diagnosis.
4. Student will be able to advise appropriate nutritional measures for healthy and sick children (Breast feeding, avoidance of bottle, proper weaning)
5. Student will be able to counsel the parents on health promotive and disease preventive strategies for the child (e.g. immunization procedures; hand washing)
6. Student will be able to recognize and manage common health problems of children.
7. Student will recognize the danger signs of disease in children and be able to appropriately refer children with severe disease to appropriate specialists/hospitals.
8. Student will demonstrate his ability to perform essential clinical procedures relevant to children e.g.
 1. Resuscitation of newborn.
 2. Basic Cardio-pulmonary resuscitation.
 3. Anthropometric measurements.



4. Measuring blood pressure.
5. Starting intravenous lines/ draw blood sample.
6. Administration of oxygen.
7. Giving nebulizer therapy [bronchodilator].
8. Use of Growth charts.

OBSERVE THE FOLLOWING SKILLS:

1. Lumbar puncture
2. Bone marrow aspiration
3. Supra pubic puncture
4. Subdural tap
5. Thoracocentesis
6. Liver biopsy
7. Renal biopsy
8. Observe passing of Foleys Catheter
9. Observe pericardial tap



CLINICAL TEACHING:

Clinical teaching of students of 4th & final year MBBS is done at the affiliated hospitals.

1. Sharif Medical City Hospital, Raiwind Road, Lahore.
2. Ittefaq Hospital Trust, Model Town Lahore.

Clinical Teaching Strategies:

- **Out Patient department Teaching**
- **Ward Teaching**
 - History taking
 - Clinical methods
 - Bedside teaching
 - Ward rounds
 - Case presentation by the students
 - Case discussions
- **Clinical Tutorials**
- **Clinico-pathological Conference**
- **OSCE/OSPE Examination Practice**
- **Clinical Cards/Log book**, to document and monitor clinical training.

Clinical Classes:

Clinical classes are meant to develop clinical orientation, and approach in a medical student to make him, knowledgeable and expert in dealing with patients in all aspects including, history taking, general & systematic physical examinations, investigations, treatment, rehabilitations, counselling, follow-ups, and possible complications. Students are taught how to manage a patient as a whole, not the concerned disease only.

In department of Paediatrics and Neonatology, students will visit the hospital five days a week on a specified time for approximately 08 weeks. The details of important topics to be covered in these classes are given below:

- History taking (already taught in 4th year) will be revised and polished almost daily.
- General physical examination
- Examination of the Abdomen
- Examination of the Chest
- Examination of the CVS
- Examination of the Nervous system
- Examination of the locomotor system
- Case presentations/ discussions as long case



- Common investigations
- Medical instruments
- Medical procedures
- OSCE
- Format of final Clinical Examination

FEEDBACK

The teaching faculty will give constructive feedback on the performance of the students. This will be individual in clinical classes and collective in class tests and ward tests (however students who fail to perform well in tests or those who want to know about their performance may be given individual feedback). Students should take all the feedbacks in positive spirit & attitude to find out the level of their performance, areas where they need improvements and suggestions and guidance from the teachers, how to improve the weaknesses etc. the sole purpose of feedbacks is to improve the learning of students.

ATTENDANCE

- Students are required to ensure maximum attendance in all sections including lectures and clinical classes.
- Minimum attendance to qualify for appearing in final professional examination is 75% of lectures and clinical classes. But this is not the desired level. All students should make sure that they attend the classes 100%, except some unavoidable circumstances. Because missing one lecture or clinical class means one has missed a topic, a disease or an important aspect of the subject.
- If a student is continuously absent for 07 days or more, his /her name will be struck off from the college, and he /she will have to get re-admission after consideration by the administration.



Continuous Internal Assessment

- Internal assessment carries 10% weightage in final professional examination. It will be decided by the performance of student in the whole academic year.



RECOMMENDED BOOKS:

- 1. **Text book of Paediatrics** by Pervaiz Akbar Khan
- 2. **Essentials of Paediatrics** by Nelson. Latest Edition.
- 3. **Online Journals and Reading Materials** through HEC Digital Library Facility