DEPARTMENT OF PEDIATRICS, J.N.MEDICAL COLLEGE, A.M.U, ALIGARH

MINUTES
of the Ordinary meeting of the Board of Studies of the Department of Pediatrics held on 21.03.2017 at 2:00 p.m. in the Committee Room, Dean’s office.

The following members were present:-

- Prof. M.U. Rabbani (Assigned Member)
- Prof. A.K. Amitava (Assigned Member)
- Prof. Tabassum Shahab
- Prof. Kamran Afzal
- Dr. Zeeba Zaka-ur-Rab (Associate Professor)
- Dr. Uzma Firdaus, (Assistant Professor)
- Dr. Mohd. Kashif Ali (Assistant Professor)
- Dr. Shaad Abqari (Assistant Professor)
- Dr. Iraj Alam Khan Assistant Professor
- Dr. Fahre Alam (Senior Resident)
- Dr. Shahzad Alam (Senior Resident)
- Dr. Sharif Nawaz (Senior Resident)
- Prof. Farzana K. Beig (in the Chair)

The meeting was called to order by the Chairperson (Prof. Farzana K. Beig), the following agenda items were considered.

Item No. 1— Confirmed minutes of Special meetings of BOS held on
a) 03.12.2016,
b) 24.01.2017
c) 05.03.2017

Item No. 2— Approved the revised curriculum for undergraduates & Post graduates.

Item No. 3— It was decided that the post of Associate Professor in Neonatology should be maintained as it is without any change.

Item No. 4— One day CME’s on the following Topics:
- CME on Childhood Tuberculosis —— 27.08.2017
- CME on Thalassemia —— September 2017
- CME on Endocrinology —— October 2017
- CME on Nephrology —— February 2018 (1st week)
Item No. 35: Any other item

1. Increase of PG Seats in the Department from existing 6 MD (Pediatrics) & 12 DCH seats to 15 MD (Pediatrics).

2. Following additional Posts to be asked:
   a. Post of assistant Professor in Neonatology
   b. 2 Post of senior residents (One in Neonatology & One in Intensive Care Unit)

The Meeting came to an end with unanimous agreement on all the above agenda items.

(Prof. Farzana K. Begg)
Chairperson

Chairman
Department of Pediatrics
J.N. Medical College
AMU, Aligarh
DEPARTMENT OF PEDIATRICS
JAWAHARLAL NEHRU MEDICAL COLLEGE
AMU, ALIGARH

ORDINARY MEETING (BOS) HELD ON 16.11.2017 AT 2.30 PM

D.NO 968/Paed/2017

MINUTES

Minutes of the Ordinary meeting of Board of Studies (BOS) was held on 16.11.2017 at 2.30 p.m. at the Seminar Room of the Department.

The following were present:

- Prof. M.U. Rabbani (Assigned Member)
- Prof. S. Manazir Ali (Professor)
- Prof. Kamran Afzal (Professor)
- Dr. Zeeba Zaka-Ur-Rab (Associate Professor)
- Dr. Uzma Firdaus (Assistant Professor)
- Dr. Ayesha Ahmad (Assistant Professor)
- Dr. Mond Kashif Ali (Assistant Professor)
- Dr. Shaad Abqari (Assistant Professor)
- Dr. Shariq Nawaz (Senior Resident)
- Dr. M. Moaz. Kidwai (Senior Resident)
- Dr. Eeman Naim (Senior Resident)
- Prof. Farzana K. Beig (In Chair)

Chairperson welcomed the members.

Following points were discussed:

ITEM NO.1 Confirmed minutes of Board of Studies (BOS) meetings held on the following dates:

- BOS special meeting held on 23.09.2017
- BOS ordinary meeting held on 21.03.2017

ITEM NO.2 Passing list of examiners/Evaluators /Moderators for M.D Pediatrics (Batch - 2015) and DCH, Pediatrics (Batch – 2016) and M.D. Theses (Batch-2015) sent to controller of examination in confidential sealed envelope.

The board authorized the Chairperson to appoint alternative examiners in case of any problem with the proposed names.
OFFICE OF THE REGISTRAR
(ACADEMIC SECTION)
A.M.U., ALIGARH.

Dated: 11-05-2019

No. Acad./D-382/HZ

All members
Faculty of Medicine
A.M.U., Aligarh.

Kindly find enclosed herewith the final minutes of the Ordinary Meeting of the
Faculty of Medicine held on 16.02.2019

Encl: As above

(Khau Arqam Saifullah)
Deputy Registrar
(Academic)

Department of Pediatrics
J.N. Medical College
A.M.U., Aligarh
BOS held on 17.04.2017
BOS held on 11.09.2017
BOS held on 23.01.2017
BOS held on 27.03.2017
BOS held on 18.09.2017
BOS held on 10.01.2018
BOS held on 26.02.2018
BOS held on 21.03.2018
BOS held on 06.09.2018
BOS held on 15.10.2018

Considered and recommended to the Academic Council with the remark that 'Transmission Medicine' be read as 'Transfusion Medicine' recorded in the minutes of BOS held on 23.01.2017 under Item No.2 (1).

**Department of Paediatrics**
BOS held on 03.12.2016
BOS held on 24.01.2017
**BOS held on 21.03.2017**
BOS held on 23.09.2017
BOS held on 16.11.2017
BOS held on 11.08.2018
BOS held on 29.09.2018
BOS held on 16.11.2018
BOS held on 24.01.2019

Considered and recommended to the Academic Council

**Department of Paediatrics Surgery**
BOS held on 30.12.2017
BOS held on 20.01.2018
BOS held on 25.04.2018

Considered and recommended to the Academic Council

BOS held on 23.01.2017 (Referred back to BOS)

**Department of Pharmacology**
BOS held on 09.12.2016
BOS held on 24.01.2017 **(Referred back to BOS)**
BOS held on 30.01.2017
BOS held on 25.02.2017
BOS held on 28.03.2017
BOS held on 21.08.2017
BOS held on 13.11.2017
BOS held on 14.12.2017
BOS held on 30.01.2018
BOS held on 09.05.2018
BOS held on 13.08.2018
BOS held on 29.08.2018 **(Referred to Prof. Moinuddin, D/o Biochemistry for comments)**
BOS held on 14.11.2018

Considered and recommended to the Academic Council except BOS dated 24.01.2017 & 29.08.2018.
ALIGARH MUSLIM UNIVERSITY
ALIGARH

MINUTES
OF
THE ORDINARY MEETING OF THE
ACADEMIC COUNCIL
(No. 805)
HELD ON
SATURDAY, THE 3RD AUGUST, 2019
AT
11:00 a.m.

VENUE:
CONFERENCE ROOM
ADMINISTRATIVE BLOCK
ALIGARH MUSLIM UNIVERSITY
ALIGARH-202 002
Department of Paediatrics:
BOS held on 03.12.2016
BOS held on 24.01.2017
BOS held on 21.03.2017
BOS held on 23.09.2017
BOS held on 16.11.2017
BOS held on 11.08.2018
BOS held on 29.09.2018
BOS held on 16.11.2018
BOS held on 24.01.2019

Department of Paediatrics Surgery:
BOS held on 30.12.2017
BOS held on 20.01.2018
BOS held on 25.04.2018

Department of Pharmacology:
BOS held on 09.12.2016
BOS held on 30.01.2017
BOS held on 25.02.2017
BOS held on 28.03.2017
BOS held on 21.08.2017
BOS held on 13.11.2017
BOS held on 14.12.2017
BOS held on 30.01.2018
BOS held on 09.05.2018
BOS held on 13.08.2018
BOS held on 14.11.2018

Department of Physiology:
BOS held on 31.12.2016
BOS held on 24.01.2017
BOS held on 25.03.2017
BOS held on 12.08.2017
BOS held on 07.10.2017
BOS held on 14.12.2017
BOS held on 27.12.2017
BOS held on 11.06.2018
BOS held on 14.08.2018
BOS held on 15.09.2018
BOS held on 05.11.2018
BOS held on 05.01.2019
BOS held on 23.01.2019

Department of Plastic Surgery:
BOS held on 23.01.2017
BOS held on 08.02.2017
BOS held on 18.12.2017
BOS held on 24.03.2018
BOS held on 19.11.2018

Department of Psychiatry:
BOS held on 23.01.2017
BOS held on 18.02.2017
BOS held on 23.03.2017

Contd. on next page

[Signature]
Chairman
Department of Paediatrics
Allahabad Medical College

[Date Stamp]
### Teachers' Lectures

<table>
<thead>
<tr>
<th>S. No</th>
<th>Teachers</th>
<th>Lecture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Prof. Tabassum Shahab</td>
<td>05+1=06</td>
</tr>
<tr>
<td>2</td>
<td>Prof. S. Manazir Ali</td>
<td>10+1=11</td>
</tr>
<tr>
<td>3</td>
<td>Prof. Farzana K. Beig</td>
<td>10+1=11</td>
</tr>
<tr>
<td>4</td>
<td>Prof. Kamran Afzal</td>
<td>10+2=12</td>
</tr>
<tr>
<td>5</td>
<td>Dr. Zeba Zaka-ur-Rab</td>
<td>10+1=11</td>
</tr>
<tr>
<td>6</td>
<td>Dr. Uzma Firdaus</td>
<td>11+7=12</td>
</tr>
<tr>
<td>7</td>
<td>Dr. Ayesha Ahmad</td>
<td>11+1=12</td>
</tr>
<tr>
<td>8</td>
<td>Dr. M. Kashif Ali</td>
<td>10+2=12</td>
</tr>
<tr>
<td>9</td>
<td>Dr. Shaid Abqan</td>
<td>10+2=12</td>
</tr>
<tr>
<td>10</td>
<td>Dr. Iraj Alam Khan</td>
<td>11+1=12</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>98+13=111</td>
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</table>

Department of Paediatrics  
J.N. Medical College  
AMU, Aligarh
# Pediatrics Syllabus for Undergraduate Students

## Vital Statistics

<table>
<thead>
<tr>
<th>S. No</th>
<th>Topics</th>
<th>No. of Lectures</th>
<th>Must Know</th>
<th>Desirable to know</th>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VITAL STATISTICS</td>
<td>1</td>
<td>YES</td>
<td></td>
<td>Dr. Ayesha Ahmad</td>
</tr>
<tr>
<td></td>
<td>GROWTH AND DEVELOPMENT</td>
<td></td>
<td></td>
<td></td>
<td>Dr. Ayesha Ahmad</td>
</tr>
<tr>
<td>2</td>
<td>Normal Growth</td>
<td>2</td>
<td>YES</td>
<td></td>
<td>Dr. Ayesha Ahmad</td>
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<tr>
<td>3</td>
<td>Disorders of Growth &amp; Development</td>
<td>1</td>
<td>YES</td>
<td></td>
<td>Dr. Ayesha Ahmad</td>
</tr>
<tr>
<td>4</td>
<td>Behavioral Disorders</td>
<td>1</td>
<td>YES</td>
<td></td>
<td>Dr. Ayesha Ahmad</td>
</tr>
<tr>
<td>5</td>
<td>Adolescent Growth &amp; Disorders of Puberty</td>
<td>1</td>
<td>YES</td>
<td></td>
<td>Dr. Ayesha Ahmad</td>
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<tr>
<td>6</td>
<td>Macronutrients</td>
<td>1</td>
<td>YES</td>
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<td>Dr. Ayesha Ahmad</td>
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<tr>
<td>7</td>
<td>Micronutrients</td>
<td>1</td>
<td>YES</td>
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<td>Dr. Ayesha Ahmad</td>
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<tr>
<td>8</td>
<td>Childhood Obesity</td>
<td>1</td>
<td>YES</td>
<td></td>
<td>Dr. Ayesha Ahmad</td>
</tr>
<tr>
<td>9</td>
<td>IMMUNIZATION</td>
<td>2</td>
<td>YES</td>
<td></td>
<td>Prof. Farzana K. Beig</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td>Prof. Tabassum Shahab</td>
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## Infectious Diseases

<table>
<thead>
<tr>
<th>S. No</th>
<th>Topics</th>
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<th>Must Know</th>
<th>Teachers</th>
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<tr>
<td>10</td>
<td>Tuberculosis</td>
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<td>YES</td>
<td>Prof. Farzana K. Beig</td>
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<tr>
<td>11</td>
<td>TB</td>
<td>1</td>
<td>YES</td>
<td>Prof. Farzana K. Beig</td>
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<tr>
<td>12</td>
<td>Diphtheria</td>
<td>1</td>
<td>YES</td>
<td>Dr. M. Kashif Ali</td>
</tr>
<tr>
<td>13</td>
<td>Pertussis</td>
<td>1</td>
<td>YES</td>
<td>Dr. M. Kashif Ali</td>
</tr>
<tr>
<td>14</td>
<td>Tetanus</td>
<td>1</td>
<td>YES</td>
<td>Dr. M. Kashif Ali</td>
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<tr>
<td>15</td>
<td>Common Exanthematous Fever (+Mumps)</td>
<td>2</td>
<td>YES</td>
<td>Dr. M. Kashif Ali</td>
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<tr>
<td>16</td>
<td>Enteric Fever</td>
<td>1</td>
<td>YES</td>
<td>Dr. M. Kashif Ali</td>
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<tr>
<td>17</td>
<td>Pyogenic Meningitis</td>
<td>1</td>
<td>YES</td>
<td>Prof. Farzana K. Beig</td>
</tr>
<tr>
<td>18</td>
<td>Encephalitis</td>
<td>1</td>
<td>YES</td>
<td>Dr. Iraj Alam Khan</td>
</tr>
<tr>
<td>19</td>
<td>Malaria</td>
<td>2</td>
<td>YES</td>
<td>Prof. Tabassum Shahab</td>
</tr>
<tr>
<td>20</td>
<td>HIV</td>
<td>1</td>
<td>YES</td>
<td>Prof. S. Manazir Ali</td>
</tr>
<tr>
<td>21</td>
<td>Polio And AFP</td>
<td>1</td>
<td>YES</td>
<td>Prof. S. Manazir Ali</td>
</tr>
<tr>
<td>22</td>
<td>Dengue</td>
<td>1</td>
<td>YES</td>
<td>Prof. Tabassum Shahab</td>
</tr>
<tr>
<td>23</td>
<td>Leptospirosis</td>
<td>1</td>
<td>YES</td>
<td>Dr. M. Kashif Ali</td>
</tr>
<tr>
<td>24</td>
<td>Intestinal Helminthias</td>
<td>1</td>
<td>YES</td>
<td>Dr. M. Kashif Ali</td>
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</table>

## Hematology

<table>
<thead>
<tr>
<th>S. No</th>
<th>Topics</th>
<th>No. of Lectures</th>
<th>Must Know</th>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>Causes Of Anaemia In Childhood (Based on Etiology And Morphology) + Nutritional Anemia</td>
<td>2</td>
<td>YES</td>
<td>Dr. Zeeba Ziika-ur-Rab</td>
</tr>
<tr>
<td>26</td>
<td>Hemolytic Anaemia</td>
<td>2</td>
<td>YES</td>
<td>Dr. Zeeba Ziiaka-ur-Rab</td>
</tr>
</tbody>
</table>

---

*Chairman*

*Department of Pediatrics*

J.N. Medical College

*J.U. Agher*
<table>
<thead>
<tr>
<th>Condition</th>
<th>Dr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leukaemia</td>
<td>Zeeba Zaka-ur-Rab</td>
</tr>
<tr>
<td>Lymphoma</td>
<td>Zeeba Zaka-ur-Rab</td>
</tr>
<tr>
<td>Aplastic Anaemia</td>
<td>Zeeba Zaka-ur-Rab</td>
</tr>
<tr>
<td>Approach to Bleeding Child</td>
<td>Zeeba Zaka-ur-Rab</td>
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</table>

**Respiratory System**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Dr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>URTI</td>
<td>Farzana K. Beig</td>
</tr>
<tr>
<td>LRTI &amp; Complications</td>
<td>Farzana K. Beig</td>
</tr>
<tr>
<td>Bronchial Asthma</td>
<td>Farzana K. Beig</td>
</tr>
<tr>
<td>Foreign body aspiration</td>
<td>Farzana K. Beig</td>
</tr>
<tr>
<td>Supportive Cystic Fibrosis, Bronchitis and Lungs abscess</td>
<td>M. Kashif Ali</td>
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</tbody>
</table>

**Gastrointestinal System**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Dr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diarrhoea &amp; Dehydration</td>
<td>Iraj Alam Khan</td>
</tr>
<tr>
<td>Acute Hepatitis</td>
<td>Iraj Alam Khan</td>
</tr>
<tr>
<td>Chronic Hepatitis</td>
<td>Iraj Alam Khan</td>
</tr>
<tr>
<td>Acute Liver Failure</td>
<td>Iraj Alam Khan</td>
</tr>
<tr>
<td>GI Bleeding + Portal Hypertension</td>
<td>Iraj Alam Khan</td>
</tr>
<tr>
<td>Abdominal TB</td>
<td>Iraj Alam Khan</td>
</tr>
<tr>
<td>Wilson disease</td>
<td>Iraj Alam Khan</td>
</tr>
</tbody>
</table>

**Central Nervous System**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Dr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurocysticercosis</td>
<td>Iraj Alam Khan</td>
</tr>
<tr>
<td>Seizure disorder + Status Epileptic</td>
<td>Kamran Afzal</td>
</tr>
<tr>
<td>Cerebral palsy</td>
<td>S. Manzir Ali/Dr. Uzma Firdaus</td>
</tr>
<tr>
<td>Microcephaly and macrocephaly</td>
<td>Iraj Alam Khan</td>
</tr>
</tbody>
</table>

**Cardiovascular System**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Dr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rheumatic fever (+ differentiation b/n rheumatic &amp; rheumatic arthritis)</td>
<td>Shaad Abqari</td>
</tr>
<tr>
<td>Rheumatic Heart disease + complications</td>
<td>Shaad Abqari</td>
</tr>
<tr>
<td>Congenital Heart Disease</td>
<td>Shaad Abqari</td>
</tr>
<tr>
<td>Congestive Cardiac Failure</td>
<td>Shaad Abqari</td>
</tr>
<tr>
<td>Kawasaki Disease</td>
<td>Shaad Abqari</td>
</tr>
<tr>
<td>Bacterial Endocarditis</td>
<td>Shaad Abqari</td>
</tr>
</tbody>
</table>

**Chairman**

Department of Paediatrics
J.N. Medical College
Allahabad
## Genitourinary System

<table>
<thead>
<tr>
<th>Disorder</th>
<th>1</th>
<th>YES</th>
<th>Prof. Kamran Afzal</th>
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</thead>
<tbody>
<tr>
<td>Nephrotic Syndrome</td>
<td>1</td>
<td>YES</td>
<td>Prof. Kamran Afzal</td>
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<tr>
<td>Acute Glomerulonephritis</td>
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<td>YES</td>
<td>Prof. Kamran Afzal</td>
</tr>
<tr>
<td>ARF CRF</td>
<td>2</td>
<td>YES</td>
<td>Prof. Kamran Afzal</td>
</tr>
<tr>
<td>UTI</td>
<td>1</td>
<td>YES</td>
<td>Prof. Kamran Afzal</td>
</tr>
<tr>
<td>HUS</td>
<td>1</td>
<td>YES</td>
<td>Prof. Kamran Afzal</td>
</tr>
<tr>
<td>Childhood Hypertension</td>
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<td>Prof. Kamran Afzal</td>
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## Endocrinology

<table>
<thead>
<tr>
<th>Disorder</th>
<th>2</th>
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<th>Dr. Ayesha Ahmad</th>
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</thead>
<tbody>
<tr>
<td>IDDM + DKA</td>
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<tr>
<td>IDD &amp; Hypothyroidism</td>
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## Neonatology

<table>
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<tr>
<th>Disorder</th>
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<th>YES</th>
<th>Prof. S. Manazir Ali/Dr. Uzma Firdaus</th>
</tr>
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<tbody>
<tr>
<td>61. Foetal physiology of normal pregnancy, identification of antepartum intrapartum and postpartum risk factors</td>
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<td></td>
<td></td>
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<tr>
<td>62. CARE OF NEWBORN.</td>
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<tr>
<td>63. High Risk Newborn, care of preterm &amp; LBW</td>
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<tr>
<td>64. Temperature maintenance of hypothermia + transport of sick neonates</td>
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<td>65. Neonatal resuscitation</td>
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<td>66. Birth Asphyxia</td>
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<tr>
<td>67. Neonatal infection</td>
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<td>68. Respiratory distress syndrome</td>
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<td>69. Neonatal jaundice</td>
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<td>70. Metabolic complications</td>
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<td>71. Birth injuries + HDN</td>
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<tr>
<td>72. Neonatal seizures</td>
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<tr>
<td>73. MAS</td>
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<tr>
<td>74. Neonates with congenital malformation</td>
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## Pediatric Emergencies

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<th>Dr. M. Kashif Ali</th>
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<tr>
<td>77. Shock &amp; anaphylaxis</td>
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<td>78. Fluids &amp; electrolytes</td>
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<td>79. Common childhood poisoning + snake/scorpion bite</td>
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<td>Normal Growth &amp; Development</td>
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<td>Adolescent Growth &amp; Disorders of Puberty</td>
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<td>Macronutrients</td>
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<td>Malnutrition and its Management</td>
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<td>Micronutrients</td>
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<td>Rickets Scurvey Hypervitaminosis A And D</td>
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<td>Complimentary feeding + IYCF</td>
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<td>19.</td>
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<td>Causes Of Anaemia In Childhood (Based on Etiology And Morphology)</td>
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<td>Dr. Zeeba Zaka -ur- Rab</td>
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<td>Hemolytic Anaemia</td>
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<td>Leukaemia</td>
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<td>Approach to Bleeding Child</td>
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<td>LRTI &amp; Complications</td>
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<td>Foetal physiology of normal pregnancy, identification of antepartum intrapartum and postpartum risk factors</td>
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<td>Care of Newborn, Normal variation, Gestational age assessment</td>
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TOTAL LECTURES 90+10 = 100

Chairman
Department of Pediatrics
J.N. Medical College
A.M.U., Azamgarh
# CLINICAL LECTURERS

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<tr>
<th>S. No</th>
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<tr>
<td>1</td>
<td>Clinical Approach to abdominal Pain (with ap ref to causes of constipation)</td>
<td>Prof. Tabassum Shahab/Dr. Iraj Alam Khan</td>
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<td>2</td>
<td>Clinical Approach to child with Hepatosplenomegaly</td>
<td>Prof S.M.Ali</td>
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<td>Approach to child with stridor/croup</td>
<td>Prof. Farzana. K. Beig/ Dr. M. Kashif Ali</td>
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<td>Clinical Approach to Child with Proteinuria</td>
<td>Prof. Kamran Afzal</td>
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<td>Clinical Approach to Child with Hematuria</td>
<td>Prof. Kamran Afzal</td>
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<td>Clinical Approach to Anaemia with/without lymphadenopathy and/or hepatosplenomegaly</td>
<td>Dr. Zeeba Zaka -Ur- Rab</td>
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<td>Approach to child with Development Abnormalities</td>
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<td>Clinical Approach to child with Coma</td>
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<td>Approach to child with wheezing</td>
<td>Dr. M. Kashif Ali</td>
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<td>10</td>
<td>Clinical Approach to Cyanotic Spell/other cardiac case</td>
<td>Dr. Shaad Abqari</td>
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SYLLABUS DCH 2017

(A) APPROACH TO CLINICAL PROBLEMS:

1. Growth and development. Short stature, obesity, precocious and delayed puberty, developmental delay, impaired learning.
3. Nutrition. Lactation management and complementary feeding, protein energy malnutrition (underweight, wasting, stunting) and micronutrient deficiencies, failure to thrive.
5. GIT and liver. Acute, persistent and chronic diarrhea, abdominal pain and distension, ascitis, vomiting, constipation, gastrointestinal bleeding, jaundice, hepatosplenomegaly and chronic liver disease, hepatic failure and encephalopathy.
10. Neurology. Limping child, convulsions, altered sensorium, abnormality of gait, intracranial space occupying lesion, paraplegia, quadriplegia, large head, small head, floppy infant, acute flaccid paralysis, cerebral palsy and other neuromotor disability, headache.
11. Endocrine. Thyroid swelling, ambiguous genitalia, obesity, short stature, diabetes and its complications, cushing syndrome.
12. Skin/Eye/ENT. Skin rash, pigmented lesions, pain/discharge from ear, hearing loss, epistaxis, refractory errors, blindness, cataract, eye discharge, redness, squint.
13. Miscellaneous. Habit disorders, hyperactivity and attention deficit syndrome, specific learning disorders, arthralgia, arthritis, multiple congenital anomalies.

(B) DISORDERS

(Definition, epidemiology, etiopathogenesis, presentation, complications, differential diagnosis, and treatment)

disorders, neurologic disorders, gastrointestinal disorders, renal disorders, malformations, thermoregulation and its disorders, understanding of perinatal medicine.

3. **Nutrition.** Maternal nutritional disorders: impact on fetal outcome, nutrition for the low birth weight, breast feeding, infant feeding including complementary feeding, protein energy malnutrition, vitamin and mineral deficiencies, trace elements of nutritional importance, obesity, adolescent nutrition, nutritional management in diarrhea, nutritional management of systemic illnesses (celiac disease, hepatobiliary disorders, nephrotic syndrome, congenital heart diseases), parenteral and enteral nutrition in neonates and children.

4. **Cardiovascular.** Congenital heart diseases (cyanotic and acyanotic), rheumatic fever and rheumatic heart disease, infective endocarditis, arrhythmias, diseases of myocardium (cardiomyopathy, myocarditis), diseases of pericardium, systemic hypertension, hyperlipidemia in children.

5. **Respiratory.** Congenital and acquired disorders of nose, infections of upper respiratory tract, tonsils and adenoids, obstructive sleep apnea, congenital anomalies of lower respiratory tract, acute inflammatory upper airway obstruction, foreign body in larynx, trachea and bronchi, subglottic stenosis (acute and chronic), bronchitis, bronchiolitis, aspiration pneumonia, GER, acute pneumonia, recurrent and interstitial pneumonia, suppurative lung disease, atelectasis, lung cysts, emphysema and hyper-inflation bronchial asthma, pulmonary edema, bronchiectasis, pleural effusion, pulmonary leaks.


7. **Nephrologic disorders.** Acute and chronic glomerulonephritis, nephrotic syndrome, hemolytic uremic syndrome, urinary tract infection, VUR and renal scarring, renal involvement in systemic diseases, renal tubular disorders, congenital and hereditary renal disorders, renal and bladder stones, posterior urethral valves, hydronephrosis, voiding dysfunction, enuresis, undescended testis, Wilm's tumor, fluid-electrolyte disturbances.

8. **Neurologic disorders.** Seizure and non-seizure paroxysmal events, epilepsy and epileptic syndromes of childhood, meningitis, brain abscess, coma, acute encephalitis and febrile encephalopathies, Guillain-Barre syndrome, neurocysticercosis and other neuro-infections, HIV encephalopathy, SSPE, cerebral palsy, neurometabolic disorders, mental retardation, learning disabilities, muscular dystrophies, acute flaccid paralysis and AFP surveillance, ataxia, movement disorders of childhood, CNS tumors, malformations.

10. **Endocrinology.** Hypopituitarism/hyperpituitarism, Diabetes insipidus, pubertal disorders, hypo- and hyper-thyroidism, hypo- and hyperparathyroidism, adrenal insufficiency, Cushing’s syndrome, adrenogenital syndromes, diabetes mellitus, hypogly-cemia, short stature, failure to thrive, gonadal dysfunction and intersexuality, pubertal changes and gynecological disorders.

11. **Infections.** Bacterial, viral, fungal, parasitic, rickettsial, mycoplasma, Pneumocystis carinii infections, chlamydia, protozoal and parasitic, tuberculosis, HIV, nosocomial infections, control of epidemics and infection prevention.

12. **Emergency and critical care.** Emergency care of shock, cardio-respiratory arrest, respiratory failure, congestive cardiac failure, acute renal failure, status epilepticus, status asthmaticus, fluid and electrolyte disturbances and its therapy, acid-base disturbances, poisoning, accidents, scorpion and snake bites, raised intracranial tension.

13. **Immunology and rheumatology.** Arthritis (acute and chronic), connective tissue disorders, disorders of immunoglobulins, T and B cell disorders, immunodeficiency syndromes.

14. **ENT.** Acute and chronic otitis media, conductive/sensorineural hearing loss, post-diphtheritic palatal palsy, acute/chronic tonsillitis/adenoids, allergic rhinitis/sinusitis, foreign body.

15. **Skin diseases.** Exanthematous illnesses, vascular lesions, pigment disorders, vesicobullous disorders, infections: pyogenic, fungal and parasitic; Steven-Johnson syndrome, eczema, seborrheic dermatitis, drug rash, urticaria, alopecia, ichthyosis.

16. **Eye problems.** Refraction and accommodation, partial/total loss of vision, cataract, night blindness, chorio-retinitis, strabismus, conjunctival and corneal disorders, retinopathy of pre-maturity, retinoblastoma, optic atrophy, papilledema.

17. **Behavioral and psychological disorders.** Rumination, pica, enuresis, encopresis, sleep disorders, habit disorders, breath holding spells, anxiety disorders, mood disorders, specific learning disorders, temper tantrums, attention deficit hyperactivity disorder, infantile autism.

18. **Social pediatrics.** National health programs related to child health, child abuse and neglect, child labor, adoption, disability and rehabilitation, rights of the child, national policy of child health and population, juvenile delinquency.


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**C. SKILLS**

1. **History and examination.** History taking including psychosocial history, family history, birth history, immunization history, dietary and treatment history, physical examination including vital parameters, fundus examination, newborn examination, including gestation assessment; thermal
2. Bedside procedures

(a) Monitoring skills: Temperature recording, capillary blood sampling, arterial blood sampling.

(b) Therapeutic skills: Hydrotherapy, nasogastric feeding, endotracheal intubation, cardiopulmonary resuscitation (pediatric and neonatal), administration of oxygen, venepuncture and establishment of vascular access, administration of fluids, blood, blood components, parenteral nutrition, intraosseous fluid administration, intrathecal administration of drugs, common dressings, abscess drainage and basic principles of rehabilitation, peritoneal dialysis.

(c) Investigative skills: Lumbar puncture, ventricular tap, bone marrow aspiration, pleural, peritoneal, pericardial and subdural tap, biopsy of liver and kidney, collection of urine for culture, urethral catheterization, supra-pubic aspiration.

3. Bedside investigations. Hemoglobin, TLC, ESR, peripheral smear staining and examination, urine: routine and microscopic examination, stool micro-scopy including hanging drop preparation, examination of CSF and other body fluids, Gram stain, ZN stain, shake test on gastric aspirate.

4. Interpretation of X-rays of chest, abdomen, bone and head; ECG; ABG findings; CT scan.

5. Understanding of common EEG patterns, audiograms, ultrasonographic abnormalities and isotope studies.

6. Basic Sciences

Embryogenesis of different organ systems especially heart, genitourinary system, gastrointestinal tract, applied anatomy of different organs, functions of kidney, liver, lungs, heart and endocrinal glands. Physiology of micturi-tion and defecation, placental physiology, fetal and neonatal circulation, regulation of tempera-ture (especially newborn), blood pressure, acid base balance, fluid electrolyte balance, calcium metabolism, vitamins and their functions, hematopoiesis, hemostasis, bilirubin meta-bolism. Growth and development at different ages, puberty and its regulation, nutrition, normal requirements of various nutrients. Basic immunology, bio-statistics, clinical epidemiology, ethical and medicolegal issues, teaching methodology and managerial skills, pharmaco-kinetics of commonly used drugs, microbial agents and their epidemiology.

7. Community and Social Pediatrics

National health nutrition programs, nutrition screening of community, prevention of blindness, school health programs, health legislation, national policy on children, adolescence, adoption,
investigation of adverse events following immunization in the community, general principles of prevention and control of infections including food borne, waterborne, soil borne and vector borne diseases, reporting of tuberculosis cases and screening of contacts.

4. TEACHING PROGRAM

General Principles

- Acquisition of practical competencies being the keystone of postgraduate medical education, postgraduate training is skill oriented.

- Learning in postgraduate program is essentially self-directed and primarily emanating from clinical and academic work. The formal sessions are merely meant to supplement this core effort.

Formal Teaching Sessions

In addition to bedside teaching rounds, at least 5 hours of formal teaching per week are a must. The departments select a mix of the following sessions:

- Journal club
- Medical audit
- Seminar/lecture
- Case discussion
- Interdepartmental case/seminar
- [Cardiology, Pediatric surgery etc.]

Once a week
Once a week
 Twice a week
Once a month

Additional sessions on basic sciences, research methodology, teaching methodology, health economics, medical ethics and legal issues related to pediatric practice are held.

5. POSTINGS:

The postgraduate student should rotate through all the clinical units in the department. In addition, following special rotations should be undertaken:

Must:

- Neonatology Posting - 4 months [maximum 6 months]
- Pediatric Intensive Care Unit - 4 months (2 postings of 2 months each in consecutive years)
Posting in UNITS:

3 units – 2 postings of 2 months each in consecutive years. (3*2*2 = 12 months)

Diarrhoea postings: 2 postings of 2 months each in consecutive years (4 months)

ACMO: 1 month posting from Unit.

6. ASSESSMENT:

A summative assessment is done at the end of the session.

1. Ratio of marks in theory and practicals will be equal.
2. The pass percentage will be 50%.
3. Candidate will have to pass theory and practical examinations separately.

Theory examination:

Title:

1. Anatomy, Physiology, Pathology, Microbiology as Applied to Paed. Growth & Development - Paper I (50 marks)
2. Diseases of Children – Paper II (50 marks)
3. Nutrition and Nutritional Disorders – Paper III (50 marks)
4. Social & Preventive Pediatrics, Surgical Problems & Psychological Disorder – Paper IV (50 marks)

Clinical/Practicals (150 marks)

Viva voce (50 marks)

TOTAL MARKS: 400
DEPARTMENT OF PEDIATRICS
JAWAHARLAL NEHRU MEDICAL COLLEGE, AMU,
ALIGARH

POST GRADUATE CURRICULUM

Contents

1. Theory
2. Practical skills
3. Teaching program
4. Postings
5. Assessment
1 Theory

NORMAL GROWTH AND DEVELOPMENT

- Define the terminologies Growth and Development
- factors affecting normal growth and development
- patterns of growth in infants, children and adolescents
- methods of assessment of growth including use of WHO and Indian national standards.
- normal developmental milestones with respect to motor, behavior, social, adaptive and language
- methods of assessment of development
- Developmental assessment and interpretation

PROBLEM RELATED TO GROWTH

- Failure to thrive
- short stature

DEVELOPMENTAL DELAY AND CEREBRAL PALSY

- causes of developmental delay and disability including intellectual disability in children
- approach to a child with developmental delay
- management of cerebral palsy

SCHOLASTIC BACKWARDNESS, LEARNING DISABILITIES, AUTISM, ADHD

COMMON PROBLEMS RELATED TO BEHAVIOR

- thumb sucking
- feeding problems
- nail-biting
- breath holding spells
- temper tantrums
- pica
- fussy infant
- enuresis
- Encopresis

adolescent health & common problems

- stages of adolescence
- physical, physiological and psychological changes during adolescence (Puberty)
- general health problems
- Adolescent eating disorders (Anorexia nervosa, Bulimia)
- common mental health problems during adolescence
- objectives and functions of AFHS (Adolescent Friendly Health Services)
- obesity and other NCD in adolescents
- drug abuse
BREAST FEEDING

- cultural beliefs and practices of breastfeeding
- Physiology of lactation
- composition and types of breast milk
- advantages of breast milk
- correct technique of breastfeeding
- baby friendly hospital initiatives

COMPLIMENTARY FEEDING

- principles, the initiation, attributes, frequency, technique and hygiene related to complementary feed including IYCF
- common complimentary foods

NORMAL NUTRITION, ASSESSMENT AND MONITORING

- age-related nutritional needs
- tools and methods for assessment
- appropriate diet in health and disease
- etiopathogenesis, classify including WHO classification, clinical features, complication and management of severe acute malnourishment (SAM) and moderate acute Malnutrition (MAM)
- clinical approach to a child with SAM and MAM
- locally prepared therapeutic diets and ready to use therapeutic diets
- under nutrition as per IMNCI criteria

OBESITY IN CHILDREN

- common etiology, clinical features and management of obesity in children
- risk approach for obesity and Discuss the prevention strategies
- calculation of BMI, measurement of waist hip ratio, Identifying external markers like acanthosis, striae, pseudo-gynecomastia

MICRONUTRIENTS IN HEALTH AND DISEASE

- Vitamins, Iron, Iodine, Calcium, magnesium

TOXIC ELEMENTS AND FREE RADICALS AND OXYGEN TOXICITY

- Lead Poisoning
- Kerosene aspiration
- Organophosphorus poisoning
- paracetamol poisoning
- Oxygen toxicity

FLUID AND ELECTROLYTE BALANCE

- fluid and electrolyte requirement in health and disease
- clinical features and complications of fluid and electrolyte imbalance and outline the management

INTEGRATED MANAGEMENT OF NEONATAL AND CHILDHOOD ILLNESSES (IMNCI)
GUIDELINE

THE NATIONAL HEALTH PROGRAMS

- goals, strategies and plan of action of NHM and other important national programs pertaining to maternal and child health including RMNCH A++, RBSK, RKSK, JSSK, mission Indradhanush and ICDS
- Reproductive Child Health (RCH) program
- Universal Immunization Program (UIP) and the National Immunization Program (NIP)

CHROMOSOMAL ABNORMALITIES

- Down Syndrome
- Turner Syndrome
- Klinefelter Syndrome

ENDOCRINOLOGY

- Hypothyroidism in children
- Diabetes mellitus in children
- Ambiguous Genitalia
- precocious and delayed Puberty
- Sexual Maturity Rating (SMR)

VACCINE PREVENTABLE DISEASES

- epidemiology, clinical features, clinical types, complications of Tuberculosis in Children and Adolescents
- diagnostic tools for childhood tuberculosis
- management of Tuberculosis as per National Guidelines
- preventive strategies adopted and the objectives and outcome of the National Tuberculosis Program
- newer diagnostic tools for Tuberculosis including BACTEC CBNAAT and their indications
- common causes of fever
- clinical features, complications and management of child with exanthematous illness like Measles, Mumps, Rubella & Chicken pox
- Diphtheria, Pertussis, Tetanus
- Typhoid
- Dengue, Chikungunya and other vector borne diseases
- Common Parasitic Infections, malaria, leishmaniasis, filariasis, helminthic infestations, amebiasis, giardiasis
- Rickettsial diseases

THE ROLE OF PHYSICIAN IN THE COMMUNITY

- medicolegal, socio- cultural and ethical issues as they pertain to health care in children

NEONATOLOGY

- Care of normal newborn
• Care of High risk newborn
• Neonatal Resuscitation
• Birth asphyxia- etiology, clinical features, management
• Respiratory distress in newborn- etiology, clinical features, management (Meconium Aspiration and Transient Tachypnea of Newborn)
• Birth Injuries
• Hemorrhagic Disease of Newborn
• Low birth Weight- clinical characteristics, complications, management (Preterm and SGA)
• Temperature regulation in neonates and neonatal hypothermia
• Neonatal hypoglycemia and neonatal hypocalcemia
• Neonatal seizures
• Neonatal sepsis- etiology, clinical features, management
• Perinatal infections- etiology, clinical features, management
• Neonatal hyperbilirubinemia
• Surgical conditions in newborn- TEF, esophageal atresia, anal atresia, cleft lip and palate, congenital diaphragmatic hernia and causes of acute abdomen
• IMNCI

GENITOURINARY SYSTEM

• UTI
• Acute glomerulonephritis (Post streptococcal Glomerulonephritis)
• Approach to a child with proteinuria
• Approach to a child with hematuria
• Acute Kidney Injury
• Chronic Kidney Disease
• Wilms tumor
• Pediatric Hypertension

Rheumatology

• Approach to common rheumatological disorders
• JIA
• SLE
• Vasculitis (Kawasaki disease, Henoch schonlein Purpura)

Cardiovascular System

• Acyanotic Congenital Heart Diseases: ASD, VSD, PDA- Hemodynamics and Pathophysiology
• Cyanotic Congenital Heart Disease; TOF- Hemodynamics and Pathophysiology
• Cardiac Failure in infants and children
• Acute Rheumatic fever
• Infective Endocarditis

DIARRHOEAL DISEASES AND DEHYDRATION

• Acute watery diarrhoea
• Persistant Diarrhoea
• Chronic Diarrhoea
• Dysentry

MALABSORPTION IN CHILDREN INCLUDING COELIAC DISEASE
• Acute hepatitis
• Fulminant Hepatic Failure
• Chronic Liver Failure

PEdiATRIC EMERGENCYs

• Common causes of morbidity and mortality in the under five children
• Cardiorespiratory arrest in children-etiopathogenesis, clinical approach and management
• Shock
• Status Epilepticus
• Management of an unconscious child (Raised ICP)
• Poisoning- Clinical presentation and management
• Triage

RespiRATORY SYSTEM

• Tonsillopharyngitis
• Acute Otitis Media
• Epiglottitis
• Acute Laryngotraceobronchitis
• Approach to a child with Stridor
• Foreign Body Aspiration in Infants and children
• Approach to a child with wheeze
• Lower respiratory tract infections- bronchiolitis, pneumonia
• Asthma

HEMATO-ONCOLOGY

• Approach to a child with anemia
• Iron deficiency anemia
• Vitamin B12 and Folate deficiency
• Hemolytic Anemias: Thalassemia Major, Sickle cell anemia, Hereditary spherocytosis, Autoimmune hemolytic anemia and hemolytic uremic syndrome.
• Approach to thrombocytopenia: Idiopathic thrombocytopenic Purpura
• Hemophilia
• Acute lymphoblastic Leukemia and Lymphomas

CENTRAL NERVOUS SYSTEM

• Neural tube defects: Causes, clinical features, types, and management
• Febrile Seizure
• Infantile hemiplegia
• Meningitis: Bacterial, Viral
• Tubercular Meningitis
• Mental Retardation
• Floppy Infant
• Cerebral Palsy
• Poliomyelitis
• Duchenne Muscular dystrophy
• Approach to a child with headache
ALLERGIC DISORDERS

- Allergic Rhinitis
- Atopic Dermatitis
2 PRACTICAL SKILLS

History and examination.

History taking including psychosocial history, physical examination including fundus examination, newborn examination, including gestation assessment; thermal protection of young infants, nutritional anthropometry and its assessment, assessment of growth, use of growth chart, SMR rating, developmental evaluation, communication with children, parents, health functionaries and social support groups; and genetic counseling.

Bedside procedures

(a) Monitoring skills: Temperature recording, capillary blood sampling, arterial blood sampling.

(b) Therapeutic skills: Hydrotherapy, nasogastric feeding, endotracheal intubation, cardiopulmonary resuscitation (pediatric and neonatal), administration of oxygen, venepuncture and establishment of vascular access, administration of fluids, blood, blood components, parenteral nutrition, intravenous fluid administration, intrathecal administration of drugs, common dressings, abscess drainage and basic principles of rehabilitation.

(c) Investigative skills: Lumbar puncture, ventricular tap, bone marrow aspiration, pleural, peritoneal, pericardial and subdural tap, biopsy of liver and kidney, collection of urine for culture, urethral catheterization, supra-pubic aspiration.

Bedside investigations.

Hemoglobin, TLC, ESR, peripheral smear staining and examination, urine: routine and microscopic examination, stool microscopy including hanging drop preparation, examination of CSF and other body fluids, Gram stain, ZN stain, shake test on gastric aspirate.

Interpretation of X-rays of chest, abdomen, bone and head; ECG; ABG findings; CT scan.

Understanding of common EEG patterns, audiograms, ultrasonographic abnormalities and isotope studies.
3. TEACHING PROGRAM

General Principles

- Acquisition of practical competencies being the keystone of postgraduate medical education, postgraduate training is skill oriented.

- Learning in postgraduate program is essentially self-directed and primarily emanating from clinical and academic work. The formal sessions are merely meant to supplement this core effort.

Formal Teaching Sessions

In addition to bedside teaching rounds, at least 5 hours of formal teaching per week are a must. The departments select a mix of the following sessions:

<table>
<thead>
<tr>
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<td>Case discussion</td>
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<tr>
<td>Interdepartmental case/seminar Cardiology, Pediatric surgery etc.</td>
<td>Once a month</td>
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Seminar topics (Suggested)

Growth and development. Short stature, obesity, precocious and delayed puberty, developmental delay, impaired learning.

Neonatology. Normal newborn, low birth weight newborn, sick newborn

Nutrition. Lactation management and complementary feeding, protein energy malnutrition (underweight, wasting, stunting) and micronutrient deficiencies, failure to thrive.

Cardiovascular. Murmur, cyanosis, congestive heart failure, systemic hypertension, arrhythmia, shock.

GIT and liver. Acute, persistent and chronic diarrhea, abdominal pain and distension, ascitis, vomiting, consti-pation, gastrointestinal bleeding, jaundice, hepatosplenomegaly and chronic liver disease, hepatic failure and encephalopathy.

Respiratory. Cough/chronic cough, noisy breathing, wheezy child, respiratory distress, hemoptysis.
Infections. Acute onset pyrexia, prolonged pyrexia with and without localizing sign, recurrent infections, nosocomial infections.

Hematuria/dysuria, bladder/bowel incontinence, voiding dys-functions, inguinoscrotal swelling, renal failure (acute and chronic).

Hematology. Lymphadeno-pathy, anemia, bleeding.

Neurology. Limping child, convulsions, abnormality of gait, intracranial space occupying lesion, paraplegia, quadriplegia, large head, small head, floppy infant, acute flaccid paralysis, cerebral palsy and other neuromotor disability, headache.

Endocrine. Thyroid swelling, ambiguous genitalia, obesity, short stature.

Skin/Eye/ENT. Skin rash, pigmen-tary lesions, pain/discharge from ear, hearing loss, epistaxis, refractory errors, blindness, cataract, eye discharge, redness, squint, proptosis.

Miscellaneous. Habit disorders, hyperactivity and attention deficit syndrome, arthralgia, arthritis, multi-ple congenital anomalies.
4. POSTINGS:

The postgraduate student should rotate through all the clinical units in the department. In addition, following special rotations should be undertaken:

Posting in UNITS

3 units (GENERAL PEDIATRICS)—2 postings of 2 months each in consecutive years. (3*2*2=12 months)

Diarrhoea postings/ OPD UNIT: 2 postings of 2 months each in consecutive years (4 months)

Neonatology Posting – 4 months (2 postings of 2 months each in consecutive years)

Pediatric Intensive Care Unit - 4 months (2 postings of 2 months each in consecutive years)

Emergency Posting: 1 month posting for each resident (from unit posting)
5. **ASSESSMENT:**

A summative assessment is done at the end of the session.

*Theory examination:*

**Title:**

1. Basic Sciences as applied to Pediatric Growth, Development & Surgical Problem - Paper I (100 marks)
2. Principles & Practice of Pediatrics – Paper II (100 marks)
3. Neonatology and Nutritional Disorders – Paper III (100 marks)
4. Recent advances in Pediatrics & Social Preventive Pediatrics & Psychology – Paper IV (100 marks)
3. Syllabus

General Guidelines. During the training period effort must always be made that adequate time is spent in discussing child health problems of public health importance in the country or a particular region.

3.1. Approach to Important Clinical Problems

3.1.1. Growth and development. Short stature, obesity, precocious and delayed puberty, developmental delay, impaired learning.


3.1.3. Nutrition. Lactation management and complementary feeding, protein energy malnutrition (underweight, wasting, stunting) and micronutrient deficiencies, failure to thrive.


3.1.5. GIT and liver. Acute, persistent and chronic diarrhea, abdominal pain and distension, ascitis, vomiting, constipation, gastrointestinal bleeding, jaundice, hepatosplenomegaly and chronic liver disease, hepatic failure and encephalopathy.

3.1.6. Respiratory. Cough/chronic cough, noisy breathing, wheezy child, respiratory distress, hemoptysis.


3.1.9. Hematooncology. Lymphadenopathy, anemia, bleeding.

3.1.10. Neurology. Limping child, convulsions, abnormality of gait, intracranial space occupying lesion, paraplegia, quadriplegia, large head, small head, floppy infant, acute flaccid paralysis, cerebral palsy and other neuromotor disability, headache.

3.1.11. Endocrine. Thyroid swelling, ambiguous genitalia, obesity, short stature.
3.1.12. **Skin/Eye/ENT.** Skin rash, pigmen-tary lesions, pain/discharge from ear, hearing loss, epistaxis, refractory errors, blindness, cataract, eye discharge, redness, squint, proptosis.

3.1.13. **Miscellaneous.** Habit disorders, hyperactivity and attention deficit syndrome, arthralgia, arthritis, multi-ple congenital anomalies.

3.2. Disorders

(Definition, epidemiology, etiopathogenesis, presentation, complications, differential diag-nosis, and treatment).

3.2.1. **Growth and development.** Principles of growth and development, normal growth and development in childhood and adolescence, deviations in growth and development, sexual maturation and its disturbances.

3.2.2. **Neonatology.** Perinatal care, normal newborn, care in the labor room and resuscitation, low birth weight, pre-maturity, newborn feeding, common transient phenomena, respiratory distress, apnea, infections, jaundice, anemia and bleeding disorders, neurologic disorders, gastrointestinal disorders, renal disorders, malforma-tions, thermoregulation and its dis- orders, understanding of perinatal medicine.

3.2.3. **Nutrition.** Maternal nutritional disorders: impact on fetal outcome, nutrition for the low birth weight, breast feeding, infant feeding including complementary feeding, protein energy malnutrition, vitamin and mineral defi-ciencies, trace elements of nutritional importance, obesity, adolescent nutri-tion, nutritional management in diarrhea, nutritional management of systemic illnesses (celiac disease, hepatobiliary disorders, nephrotic syndrome), parenteral and enteral nutrition in neonates and children.

3.2.4. **Cardiovascular.** Congenital heart diseases (cyanotic and acyanotic), rheumatic fever and rheumatic heart disease, infective endocarditis, arrhythmia, diseases of myocardium (cardio-myopathy, myocarditis), diseases of pericardium, systemic hypertension, hyperlipidemia in children.

3.2.5. **Respiratory.** Congenital and acquired disorders of nose, infections of upper respiratory tract, tonsils and adenoids, obstructive sleep apnea, congenital anomalies of lower respiratory tract, acute inflammatory upper airway obstruction, foreign body in larynx, trachea and bronchi, subglottic stenosis (acute and chronic), trauma to larynx, neoplasm of larynx and trachea, bronchitis.
bronchiolitis, aspiration pneumonia, GER, acute pneumonia, recurrent and interstitial pneumonia, suppurative lung disease, atelectasis, lung cysts, emphysema and hyper-inflation bronchial asthma, pulmonary edema, bronchiectasis, pleural effusion, pulmonary leaks, mediastinal mass.

3.2.6. **Gastrointestinal and liver diseases.** Diseases of mouth, oral cavity and tongue, disorders of deglutition and esophagus, peptic ulcer disease, H. pylori infection, foreign body, congenital pyloric stenosis, intestinal obstruction, malabsorption syndrome, acute and chronic diarrhea, irritable bowel syndrome, ulcerative colitis, Hirsch-sprung’s disease, anorectal mal-formations, liver disorders: hepatitis, hepatic failure, chronic liver disease, Wilson’s disease, Budd-Chiari syn-drome, metabolic diseases of liver, cirrhosis and portal hypertension.

3.2.7. **Nephrologic disorders.** Acute and chronic glomerulonephritis, nephrotic syndrome, hemolytic uremic syn-drome, urinary tract infection, VUR and renal scarring, renal involvement in systemic diseases, renal tubular disorders, congenital and hereditary renal dis-orders, renal and bladder stones, posterior ure-thral valves, hydronephrosis, voiding dysfunction, enuresis, undescended testis, Wilm’s tumor, fluid-electrolyte disturbances.

3.2.8. **Neurologic disorders.** Seizure and non seizure paroxysmal events, epilepsy and epileptic syndromes of childhood, meningitis, brain abscess, coma, acute encephalitis and febrile encephalo-pathies, Guillain-Barre syndrome, neurocysticercosis and other neuro-infestations, HIV encephalopathy, SSPE, cerebral palsy, neurometabolic disorders, mental retardation, learning disabilities, muscular dystrophies, acute flaccid paralysis and AFP surveillance, ataxia, movement disorders of child-hood, CNS tumors, malformations.

3.2.9. **Hematology and oncology.** Deficiency anemia, hemolytic anemia, aplastic anemia, pancytopenia, disorders of hemostasis, thrombocytopenia, blood component therapy, transfusion related infections, bone marrow transplant/ stem cell transplant, acute and chronic leukemia, myelodysplastic syndrome, Hodgkin disease, non-Hodgkin’s lymphoma, neuroblastoma, hyper-coagulable states.

3.2.10. **Endocrinology.** Hypopituitarism/hyperpituitarism, Diabetes insipidus, pubertal disorders, hypo- and hyper-thyroidism, hypo- and hyperparathyroidism, adrenal insufficiency, Cushing’s syndrome, adrenogenital syndromes, diabetes mellitus, hypogly-cemia, short stature, failure to thrive, gonadal dysfunction and intersexuality, pubertal changes and gynecological disorders.
3.2.11. **Infections.** Bacterial, viral, fungal, parasitic, rickettsial, mycoplasma, Pneumocystis carinii infections, chlamydia, protozoal and parasitic, tuberculosis, HIV, nosocomial infections, control of epidemics and infection prevention.

3.2.12. **Emergency and critical care.** Emergency care of shock, cardio-respiratory arrest, respiratory failure, congestive cardiac failure, acute renal failure, status epilepticus, fluid and electrolyte disturbances and its therapy, acid-base disturbances, poisoning, accidents, scorpion and snake bites.

3.2.13. **Immunology and rheumatology.** Arthritis (acute and chronic), connective tissue disorders, disorders of immunoglobulins, T and B cell disorders, immunodeficiency syndromes.

3.2.14. **ENT.** Acute and chronic otitis media, conductive/sensorineural hearing loss, post-diphtheritic palatal palsy, acute/chronic tonsillitis/adenoids, allergic rhinitis/sinusitis, foreign body.

3.2.15. **Skin diseases.** Exanthematous illnesses, vascular lesions, pigment disorders, vesicobullous disorders, infections: pyogenic, fungal and parasitic; Steven-Johnson syndrome, eczema, seborrheic dermatitis, drug rash, urticaria, alopecia, ichthyosis.

3.2.16. **Eye problems.** Refraction and accommodation, partial/total loss of vision, cataract, night blindness, chorio-retinitis, strabismus, conjunctival and corneal disorders, retinopathy of pre-maturity, retinoblastoma, optic atrophy, papilledema.

3.2.17. **Behavioral and psychological disorders.** Rumination, pica, enuresis, encopresis, sleep disorders, habit disorders, breath holding spells, anxiety disorders, mood disorders, temper tantrums, attention deficit hyperactivity disorder, infantile autism.

3.2.18. **Social pediatrics.** National health programs related to child health, child abuse and neglect, child labor, adoption, disability and rehabilitation, rights of the child, national policy of child health and population, juvenile delinquency.

3.2.19. **Genetics.** Chromosomal disorders, single gene disorders, multifactorial/polygenic disorders, genetic diagnosis, and prenatal diagnosis.

3.2.20. **Orthopedics.** Major congenital ortho-pedic deformities, bone and joint infections: pyogenic, tubercular, and common bone tumors.
3.3. Skills

3.3.1. History and examination. History taking including psychosocial history, physical examination including fundus examination, newborn examination, including gestation assessment; thermal protection of young infants, nutritional anthropometry and its assessment, assessment of growth, use of growth chart, SMR rating, developmental evaluation, communication with children, parents, health function-aries and social support groups; and genetic counseling.

3.3.2. Bedside procedures

(a) Monitoring skills: Temperature record-ing, capillary blood sampling, arterial blood sampling.

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3.3.3. Bedside investigations. Hemoglobin, TLC, ESR, peripheral smear staining and examination, urine: routine and microscopic examination, stool micro-scopy including hanging drop prepara-tion, examination of CSF and other body fluids, Gram stain, ZN stain, shake test on gastric aspirate.

3.3.4. Interpretation of X-rays of chest, abdomen, bone and head; ECG; ABG findings; CT scan.

3.3.5. Understanding of common EEG patterns, audiograms, ultrasonographic abnormalities and isotope studies.

3.4. Basic Sciences

Embryogenesis of different organ systems especially heart, genitourinary system, gastro-intestinal tract, applied anatomy of different organs, functions of kidney, liver, lungs, heart and endocrinial glands. Physiology of micturi-tion and
defecation, placental physiology, fetal and neonatal circulation, regulation of temperature (especially newborn), blood pressure, acid base balance, fluid electrolyte balance, calcium metabolism, vitamins and their functions, hematopoiesis, hemostasis, bilirubin metabolism. Growth and development at different ages, puberty and its regulation, nutrition, normal requirements of various nutrients. Basic immunology, bio-statistics, clinical epidemiology, ethical and medico/legal issues, teaching methodology and managerial skills, pharmacokinetics of commonly used drugs, microbial agents and their epidemiology.

3.5. Community and Social Pediatrics

National health nutrition programs, nutrition screening of community, prevention of blindness, school health programs, prevention of sexually transmitted diseases, contraception, health legislation, national policy on children, adolescence, adoption, child labor, juvenile delinquency, government and non-government support services for children, investigation of adverse events following immunization in the community, general principles of prevention and control of infections including food borne, waterborne, soil borne and vector borne diseases, investigation of an outbreak in a community.

4. TEACHING PROGRAM

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- Acquisition of practical competencies being the keystone of postgraduate medical education, postgraduate training is skill oriented.

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Diarrhoea postings: 2 postings of 2 months each in consecutive years (4 months)

ACMO: 1 month posting from Unit.

THESIS

Objectives

By carrying out a research project and presenting his work in the form of thesis, the student will be able to:

(i) Identify a relevant research question; (ii) conduct a critical review of literature; (iii) formulate a hypothesis; (iv) determine the most suitable study design; (v) state
the objectives of the study; (vi) prepare a study protocol; (vii) undertake a study according to the protocol; (viii) analyze and interpret research data, and draw conclusions; (ix) write a research paper.

Guidelines

While selecting thesis topics, following should be kept in mind:

(i) The scope of study should be limited so that it is possible to conduct it within the resources and time available to the student; (ii) the emphasis should be on the process of research rather than the results; (iii) the research study must be ethically appropriate; (iv) the protocol, interim progress as well as final presentation must be made formally to the entire department; (v) only one student per teacher/thesis guide; (vi) there should be periodic departmental review of the thesis work as per following schedule:

- End of 1st year
- During 2nd year
- 6 months prior to examination
- Submission of protocol
- Mid-term presentation
- Final presentation and submission

General observations

- There should be a training program on research methodology for existing faculty to build their capacity to guide research.
- Within 2 months of thesis submission the candidate should be communicated the acceptance/rejection of the thesis.
- The thesis should be sent to at least 2 reviewers and rejected if only both reject it.

6. ASSESSMENT:

A summative assessment is done at the end of the session.

1. Ratio of marks in theory and practicals will be equal.
2. The pass percentage will be 50%.
3. Candidate will have to pass theory and practical examinations separately.

Theory examination:
Title:

1. Basic Sciences as applied to Pediatric Growth, Development & Surgical Problem - Paper I (100 marks)
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POST GRADUATE CURRICULUM

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• methods of assessment of development
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• causes of developmental delay and disability including intellectual disability in
  children
• approach to a child with developmental delay
• management of cerebral palsy

SCHOLASTIC BACKWARDNESS, LEARNING DISABILITIES, AUTISM, ADHD

COMMON PROBLEMS RELATED TO BEHAVIOR

• thumb sucking
• feeding problems
• nail-biting
• breath holding spells
• temper tantrums
• pica
• fussy infant
• enuresis
• Encopresis

ADOLESCENT HEALTH & COMMON PROBLEMS

• stages of adolescence
• physical, physiological and psychological changes during adolescence (Puberty)
• general health problems
• Adolescent eating disorders (Anorexia nervosa, Bulimia)
• common mental health problems during adolescence
- objectives and functions of AFHS (Adolescent Friendly Health Services)
- obesity and other NCD in adolescents
- drug abuse

BREAST FEEDING
- cultural beliefs and practices of breastfeeding
- Physiology of lactation
- composition and types of breast milk
- advantages of breast milk
- correct technique of breastfeeding
- baby friendly hospital initiatives

COMPLIMENTARY FEEDING
- principles, the initiation, attributes, frequency, technique and hygiene related to complementary feedi
  including IYCF
- common complimentary foods

NORMAL NUTRITION, ASSESSMENT AND MONITORING
- age-related nutritional needs
- tools and methods for assessment
- appropriate diet in health and disease
- etiopathogenesis, classify including WHO classification, clinical features, complication and
  management of severe acute malnourishment (SAM) and moderate acute Malnutrition (MAM)
- clinical approach to a child with SAM and MAM
- locally prepared therapeutic diets and ready to use therapeutic diets
- under nutrition as per IMNCH criteria

OBESITY IN CHILDREN
- common etiology, clinical features and management of obesity in children
- risk approach for obesity and Discuss the prevention strategies
- calculation of BMI, measurement of waist hip ratio, Identifying external markers like
  acanthosis, striae, pseudo-gynecomastia

MICRONUTRIENTS IN HEALTH AND DISEASE
- Vitamins, Iron, Iodine , Calcium, magnesium

TOXIC ELEMENTS AND FREE RADICALS AND OXYGEN TOXICITY
- Lead Poisoning
- Kerosene aspiration
- Organophosphorus poisoning
- paracetamol poisoning
- Oxygen toxicity

FLUID AND ELECTROLYTE BALANCE
- fluid and electrolyte requirement in health and disease
• clinical features and complications of fluid and electrolyte imbalance and outline the management

INTEGRATED MANAGEMENT OF NEONATAL AND CHILDHOOD ILLNESSES (IMNCI) GUIDELINE

THE NATIONAL HEALTH PROGRAMS

• goals, strategies and plan of action of NHM and other important national programs pertaining to maternal and child health including RMNCH A+, RBSK, RKSJ, JSSK, mission Indradhanush and ICDS
• Reproductive Child Health (RCH) program
• Universal Immunization Program (UIP) and the National Immunization Program (NIP)

CHROMOSOMAL ABNORMALITIES

• Down Syndrome
• Turner Syndrome
• Klinefelter Syndrome

ENDOCRINOLOGY

• Hypothyroidism in children
• Diabetes mellitus in children
• Ambiguous Genitalia
• precocious and delayed Puberty
• Sexual Maturity Rating (SMR)

VACCINE PREVENTABLE DISEASES

• epidemiology, clinical features, clinical types, complications of Tuberculosis in Children and Adolescents
• diagnostic tools for childhood tuberculosis
• management of Tuberculosis as per National Guidelines
• preventive strategies adopted and the objectives and outcome of the National Tuberculosis Program
• newer diagnostic tools for Tuberculosis including BACTEC CNAAAT and their indications
• common causes of fever
• clinical features, complications and management of child with exanthematos illness like Measles, Mumps, Rubella & Chicken pox
• Diphtheria, Pertussis, Tetanus
• Typhoid
• Dengue, Chikungunya and other vector borne diseases
• Common Parasitic Infections, malaria, leishmaniasis, filariasis, helminthic infestations, amebiasis, giardiasis
• Rickettsial diseases

THE ROLE OF PHYSICIAN IN THE COMMUNITY

• medicolegal, socio-cultural and ethical issues as they pertain to health care in children
NEONATOLOGY

- Care of normal newborn
- Care of High risk newborn
- Neonatal Resuscitation
- Birth asphyxia- etiology, clinical features, management
- Respiratory distress in newborn- etiology, clinical features, management (Meconium Aspiration and Transient Tachypnea of Newborn)
- Birth Injuries
- Hemorrhagic Disease of Newborn
- Low birth Weight- clinical characteristics, complications, management (Preterm and SGA)
- Temperature regulation in neonates and neonatal hypothermia
- Neonatal hypoglycemia and neonatal hypocalcemia
- Neonatal seizures
- Neonatal sepsis- etiology, clinical features, management
- Perinatal infections- etiology, clinical features, management
- Neonatal hyperbilirubinemia
- Surgical conditions in newborn- TEF, esophageal atresia, anal atresia, cleft lip and palate, congenital diaphragmatic hernia and causes of acute abdomen
- IMNCI

GENITOURINARY SYSTEM

- UTI
- Acute glomerulonephritis (Post streptococcal Glomerulonephritis)
- Approach to a child with proteinuria
- Approach to a child with hematuria
- Acute Kidney Injury
- Chronic Kidney Disease
- Wilms tumor
- Pediatric Hypertension

Rheumatology

- Approach to common rheumatological disorders
- JIA
- SLE
- Vasculitis (Kawasaki disease, Henoch schonlein Purpura)

Cardiovascular System

- Acyanotic Congential Heart Diseases: ASD, VSD, PDA- Hemodynamics and Pathophysiology
- Cyanotic Congential Heart Disease; TOF- Hemodynamics and Pathophysiology
- Cardiac Failure in infants and children
- Acute Rheumatic fever
- Infective Endocarditis

DIARRHOEAL DISEASES AND DEHYDRATION

- Acute watery diarrhoea
- Persistant Diarrhoea
- Chronic Diarrhoea
- Dysentry
MALABSORPTION IN CHILDREN INCLUDING COELIAC DISEASE

- Acute hepatitis
- Fulminant Hepatic Failure
- Chronic Liver Failure

PEDIATRIC EMERGENCIES

- Common causes of morbidity and mortality in the under five children
- Cardiorespiratory arrest in children-etiopathogenesis, clinical approach and management
- Shock
- Status Epilepticus
- Management of an unconscious child (Raised ICP)
- Poisoning- Clinical presentation and management
- Triage

RESPIRATORY SYSTEM

- Tonsillopharyngitis
- Acute Otitis Media
- Epiglottitis
- Acute Laryngotracheobronchitis
- Approach to a child with Stridor
- Foreign Body Aspiration in infants and children
- Approach to a child with wheeze
- Lower respiratory tract infections: bronchiolitis, pneumonia
- Asthma

HEMATO-ONCOLOGY

- Approach to a child with anemia
- Iron deficiency anemia
- Vitamin B12 and Folate deficiency
- Approach to thrombocytopenia: Idiopathic thrombocytopenic Purpura
- Hemophilia
- Acute lymphoblastic Leukemia and Lymphomas

CENTRAL NERVOUS SYSTEM

- Neural tube defects: Causes, clinical features, types, and management
- Febrile Seizure
- Infantile hemiplegia
- Meningitis: Bacterial, Viral
- Tubercular Meningitis
- Mental Retardation
- Floppy Infant
- Cerebral Palsy
- Poliomyelitis
- Duchenne Muscular dystrophy
- Approach to a child with headache

ALLERGIC DISORDERS

- Allergic Rhinitis
- Atopic Dermatitis
2 PRACTICAL SKILLS

History and examination. History taking including psychosocial history, physical examination including fundus examination, newborn examination, including gestation assessment; thermal protection of young infants, nutritional anthropometry and its assessment, assessment of growth, use of growth chart, SMR rating, develop-mental evaluation, communication with children, parents, health function-aries and social support groups; and genetic counseling.

Bedside procedures

(a) Monitoring skills: Temperature record-ing, capillary blood sampling, arterial blood sampling.

(b) Therapeutic skills: Hydrotherapy, nasogastric feeding, endotracheal intubation, cardiopulmonary resuscita-tion (pediatric and neonatal), adminis-tration of oxygen, venepuncture and establishment of vascular access, administration of fluids, blood, blood components, parenteral nutrition, intraosseous fluid administration, intrathecal administration of drugs, common dressings, abscess drainage and basic principles of rehabilitation.

(c) Investigative skills: Lumbar puncture, ventricular tap, bone marrow aspira-tion, pleural, peritoneal, pericardial and subdural tap, biopsy of liver and kidney, collection of urine for culture, urethral catheterization, supra-pubic aspiration.

Bedside investigations. Hemoglobin, TLC, ESR, peripheral smear staining and examination, urine: routine and microscopic examination, stool micro-scopy including hanging drop prepara-tion, examination of CSF and other body fluids, Gram stain, ZN stain, shake test on gastric aspirate.

Interpretation of X-rays of chest, abdomen, bone and head; ECG; ABG findings; CT scan.

Understanding of common EEG patterns, audiograms, ultrasonographic abnormalities and isotope studies.
3. TEACHING PROGRAM

General Principles

- Acquisition of practical competencies being the keystone of postgraduate medical education, postgraduate training is skill oriented.

- Learning in postgraduate program is essentially self-directed and primarily emanating from clinical and academic work. The formal sessions are merely meant to supplement this core effort.

Formal Teaching Sessions

In addition to bedside teaching rounds, at least 5 hours of formal teaching per week are a must. The departments select a mix of the following sessions:

<table>
<thead>
<tr>
<th>Journal club/ Medical audit</th>
<th>Once a week</th>
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<tbody>
<tr>
<td>Seminar/lecture</td>
<td>Once a week</td>
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<tr>
<td>Case discussion</td>
<td>Twice a week</td>
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<tr>
<td>Interdepartmental case/seminar Cardiology, Pediatric surgery etc.]</td>
<td>Once a month</td>
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Seminar topics (Suggested)

*Growth and development.* Short stature, obesity, precocious and delayed puberty, developmental delay, impaired learning.

*Neonatology.* Normal newborn, low birth weight newborn, sick newborn

*Nutrition.* Lactation management and complementary feeding, protein energy malnutrition (underweight, wasting, stunting) and micronutrient deficiencies, failure to thrive.

*Cardiovascular.* Murmur, cyanosis, congestive heart failure, systemic hypertension, arrhythmia, shock.

*GIT and liver.* Acute, persistent and chronic diarrhea, abdominal pain and distension, ascitis, vomiting, constipation, gastrointestinal bleeding, jaundice, hepatosplenomegaly and chronic liver disease, hepatic failure and encephalopathy.

*Respiratory.* Cough/chronic cough, noisy breathing, wheezy child, respiratory distress, hemoptysis.
**Infections.** Acute onset pyrexia, prolonged pyrexia with and without localizing sign, recurrent infections, nosocomial infections.

Hematuria/dysuria, bladder/bowel incontinence, voiding dys-functions, inguinoscrotal swelling, renal failure (acute and chronic).

**Hematology.** Lymphadeno-pathy, anemia, bleeding.

**Neurology.** Limping child, convulsions, abnormality of gait, intracranial space occupying lesion, paraplegia, quadriplegia, large head, small head, floppy infant, acute flaccid paralysis, cerebral palsy and other neuromotor disability, headache.

**Endocrine.** Thyroid swelling, ambiguous genitalia, obesity, short stature.

**Skin/Eye/ENT.** Skin rash, pigmen-tary lesions, pain/discharge from ear, hearing loss, epistaxis, refractory errors, blindness, cataract, eye discharge, redness, squint, proptosis.

**Miscellaneous.** Habit disorders, hyperactivity and attention deficit syndrome, arthralgia, arthritis, multi-ple congenital anomalies.
4. POSTINGS:

The postgraduate student should rotate through all the clinical units in the department. In addition, following special rotations should be undertaken:

Posting in UNITS

3 units (GENERAL PEDIATRICS) – 3 postings of 2 months each in consecutive years. (3*2*2=12 months)

Diarrhoea postings/ OPD UNIT: 3 postings of 2 months each in consecutive years (4 months)

Neonatology Posting – 6 months (3 postings of 2 months each in consecutive years)

Pediatric Intensive Care Unit - 6 months (3 postings of 2 months each in consecutive years)

Emergency Posting : 1 month posting for each resident
5. THESIS

Objectives

By carrying out a research project and presenting his work in the form of thesis, the student will be able to:

(i) Identify a relevant research question; (ii) conduct a critical review of literature; (iii) formulate a hypothesis; (iv) determine the most suitable study design; (v) state the objectives of the study; (vi) prepare a study protocol; (vii) undertake a study according to the protocol; (viii) analyze and interpret research data, and draw conclusions; (ix) write a research paper.

Guidelines

While selecting thesis topics, following should be kept in mind:

(i) The scope of study should be limited so that it is possible to conduct it within the resources and time available to the student; (ii) the emphasis should be on the process of research rather than the results; (iii) the research study must be ethically appropriate; (iv) the protocol, interim progress as well as final presentation must be made formally to the entire department; (v) only one student per teacher/thesis guide; (vi) there should be periodic departmental review of the thesis work as per following schedule:

- End of 1st year
- During 2nd year
- 6 months prior to examination

Submission of protocol
Mid-term presentation
Final presentation and submission

6. ASSESSMENT:
A summative assessment is done at the end of the session.

Theory examination:

Title:

1. Basic Sciences as applied to Pediatric Growth, Development & Surgical Problem - Paper I (100 marks)
2. Principles & Practice of Pediatrics – Paper II (100 marks)
3. Neonatology and Nutritional Disorders – Paper III (100 marks)
4. Recent advances in Pediatrics & Social Preventive Pediatrics & Psychology – Paper IV (100 marks)