



Paediatrics & Neonatology

Description:

- Observe standard protocols and management practices in PICU and NICU settings.
- Attend and participate in the Neonatal Resuscitation Program (NRP) workshop.
- Watch critical care procedures including ABG analysis, endotracheal intubation, central/arterial/venous line insertions, and chest drain placements.
- Be present in delivery suites to observe neonatal resuscitation as per NRP guidelines.
- Take patient history and conduct physical examinations in both outpatient and inpatient pediatric settings.
- Learn how to order appropriate investigations, give bedside tutorials, and monitor patient progress under supervision.
- Observe common pediatric procedures such as urinary catheterization, phlebotomy, IV cannulation, lumbar puncture, and nasogastric tube placement.
- Participate in outpatient specialty clinics like immunization, nutrition, child guidance, rehabilitation, and high-risk pediatric follow-ups.
- Engage in bedside and OPD-based discussions on growth and developmental assessments.
- Assist in planning and discussing nutrition management for malnourished children.
- Monitor newborns in neonatal care and receive guidance on breastfeeding and proper latching techniques.
- Track infant growth metrics during visits to well-baby clinics.
- Maintain a logbook documenting clinic attendance and procedures observed during the rotation.

Modules:

Proposed Plan:

Clinical Upskilling- Each elective will be 6 weeks long consisting of 6 modules (1 week each), so that students can pick to choose:

Paediatrics

Module 1: - Neonatology- Premature & Low Birth Weight Neonate

- History taking- Maternal & Neonatal
- Assessment of Gestational Age & Neonatal Examination
- Problems encountered in Premature & LBW Neonates
- Respiratory Distress Syndrome & Hyaline Membrane Disease
- Feeding of Premature & LBW Neonates
- High Risk Screening & Follow up

Module 2: - Diarrhoeal Diseases in Children

- History Taking & Clinical Examination
- Approach to Acute Diarrhoea with Dehydration with special reference to the Cholera
- Persistent Diarrhoea
- Approach to Chronic Diarrhoea and its effect on protein-energy malnutrition
- Dysentery
- Prevention including vaccination for Rotavirus

Module 3: - Respiratory Disease in children

- History Taking & Clinical Examination
- Bronchiolitis
- Pneumonia
- Childhood Asthma
- Pulmonary and Extra-pulmonary Tuberculosis

Module 4: - Nutrition & Nutritional disorders in Children

- History taking & clinical examination
- Nutritional Assessment, Anthropometry & Growth Charts
- Malnutrition- Severe Acute Malnutrition & Moderate Acute malnutrition
- Micronutrient Deficiencies
- Childhood Obesity
- Diet & Treatment of nutritional disorders

Module 5: - Childhood Development Normal & abnormal

- History taking & clinical examination
- Development assessment
- Global Developmental delay
- Attention deficit hyperactive Disorder
- Autistic spectrum disorders
- Management

Module 6: -Infectious Diseases

- Mumps, Measles & Rubella
- Dengue fever & Dengue Haemorrhagic Fever
- Viral Hepatitis
- Diphtheria, Pertussis & Tetanus
- Typhoid
- Malaria

Duration: 6 Weeks

Schedule: Monday — Friday (20 Hours/Week)

Daily Contact: 4 Hours

Target Audience: Final Year MBBS Students

Pedagogical Framework

This curriculum follows Miller's Pyramid of Clinical Competence, moving from "Knows" (Didactic) to "Shows How" (Clinical Demonstration) and "Does" (Bedside Management).

Daily Structure (08:00 - 12:00)

- 08:00 -09:00 (Hour 1): Didactic Lecture / Interactive Seminar (Core Theory) ●
09:00 - 10:00 (Hour 2): Bedside Teaching / Ward Rounds (Clinical Application)
 - 10:00 - 11:00 (Hour 3): Skill Lab / Case Presentation / Guidelines Review
- 11:00 - 12:00 (Hour 4): Self-Directed Learning (SDL)

Week I: Neonatology (Premature & Low Birth Weight)

Learning Objective: Competency in assessing gestational age, managing thermal regulation, and initial stabilization of high-risk neonates.

Day	Topic Focus	Hour 1: Theory	Hour 2: Bedside/Ward	Hour 3: Skills/Case	Hour 4: Review/SDL
Mon	Basics & Assessment	Maternal & Neonatal History Taking essentials.	Ward: Performing the New Ballard Score assessment.	Skill Lab: Neonatal Resuscitation Program (NRP) basics.	SDL: APGAR Scoring & Thermoregulation.
Tue	Prematurity & LBW	Physiological handicaps of Preterm vs. I-BW vs. SGA.	NICU: Incubator care and monitoring of a preterm baby.	Case: Fluid and electrolyte calculation for LBW.	Logbook: Growth charts for preterms (Fenton).
Wed	Respiratory Distress	HMD/RDS: Pathophysiology and Surfactant therapy.	NICU: Observing CPAP/Ventilator settings.	x-Ray Interpretation: Ground glass appearance vs. TTN.	Quiz: Silverman-Andersen Retraction Score.
Thu	Neonatal Feeding	Enteral vs. Parenteral nutrition; KMC (Kangaroo Mother Care).	Post-natal Ward: Breastfeeding counseling & Technique check.	Case: TPN calculation & Spoon/Paladi feeding demo.	Guidelines: WHO LBW feeding guidelines.
Fri	Screening & Follow-up	High-risk screening (ROP, Hearing, Metabolic).	Follow-up Clinic: Neurodevelopmental follow-up.	Seminar: Discharge planning for the NICU graduate.	Weekly Assessment (MCQ/OSCE).

Week 2: Diarrhoeal Diseases

Learning Objective: Mastery of hydration assessment and management of acute vs. chronic diarrhea according to WHO/IMNCI guidelines.

Day	Topic Focus	Hour 1: Theory	Hour 2: Bedside/Ward	Hour 3: Skills/Case	Hour 4: Review/SDL
Mon	Approach & History	Pathophysiology of Diarrhea (Osmotic vs. Secretory).	Ward: Clinical assessment of dehydration status.	Skill Lab: NGT insertion; IV cannulation basics.	SDI: Stool microscopy interpretation.
Tue	Approach to Acute Diarrhoea with Dehydration with special reference to the Cholera	Management of Some vs. Severe Dehydration (Plans	ER/Ward: Managing a child on IV rehydration.	Workshop: ORS preparation & Zinc supplementation norms.	Case: Rotavirus diarrhea.
Wed	Dysentery	Etiology (Shigella, Amoebic) & Antibiotic stewardship.	Ward: Case presentation: Bloody diarrhea.	Guidelines: IMNCI algorithm for Dysentery.	SDI: Complications (HUS, Rectal Prolapse).
Thu	Persistent/Chronic	Persistent vs. Chronic: Definitions and Differential Diagnosis.	Ward: Examination for signs of micronutrient loss.	Case: Workup for Celiac disease/Cystic Fibrosis.	Diet Charting: Low lactose/lactose free diets.
Fri	Prevention & Public Health	Rotavirus Vaccine, WASH protocols.	Community: Health education simulation for mothers.	Seminar: Epidemiology of diarrheal mortality.	Weekly Assessment (Presentation).

Week 3: Respiratory Diseases

Learning Objective: Differentiating upper vs. lower airway disease and managing common respiratory emergencies.

Day	Topic Focus	Hour 1: Theory	Hour 2: Bedside/Ward	Hour 3: Skills/Case	Hour 4: Review/SDL
Mon	Examination	Respiratory System Examination (Inspection/Auscultation)	Ward: Identifying respiratory distress (Retractions/Grunt)	Skill Lab: Inhaler/Spacer technique; Oxygen delivery devices.	SDI: Pulmonary function tests basics.
Tue	Bronchiolitis & Pneumonia	Viral Bronchiolitis vs. Bacterial Pneumonia.	Ward: Auscultating wheeze vs. crepitations.	x-Ray Workshop: Lobar consolidation vs. Hyperinflation	Guidelines: WHO ARI Control Program.
Wed	Childhood Asthma	Asthma phenotypes and GINA guidelines.	Clinic: Assessing asthma control & trigger avoidance.	Case: Management of Acute Severe Asthma.	Logbook: Peak Flow Meter monitoring.
Thu	Pulmonary and Extra-pulmonary Tuberculosis	Pediatric Tuberculosis: Pulmonary & Extrapulmonary.	Ward: Case presentation: Pleural Effusion/Empyema.	Skill Lab: Thoracentesis (Mannequin); Mantoux test interpretation.	Guidelines: National TB Elimination Program.
Fri	Complications	Empyema thoracis management & complications.	Ward: Postprocedure care (ICD care).	Seminar: Cystic Fibrosis & Bronchiectasis overview.	Assessment (X-Ray Quiz).

Week 4: Nutrition & Nutritional Disorders

Learning Objective: Assessment of nutritional status and management of SAM (Severe Acute Malnutrition).

Day	Topic Focus	Hour 1: Theory	Hour 2: Bedside/Ward	Hour 3: Skills/Case	Hour 4: Review/SDL
Mon	Assessment	Anthropometry: Weight, Height, MUAC, BMI, Z scores.	OPD: Plotting WHO Growth Charts.	Skill Lab: Proper technique for height/length measurement.	SDL: Stunting vs. Wasting concepts.
Tue	PEM / Malnutrition	Classification (Gomez, IAP, WHO) & Pathophysiology.	Ward: Clinical signs of Kwashiorkor (Edema) vs. Marasmus.	Case: Calculating protein/caloric gap.	Logbook: 24hour dietary recall.
Wed	SAM Management	WHO 10 steps of SAM Management.	NRC (Nutrition Rehab): F-75/F100 preparation.	Case: Managing complications (Hypoglycemia/Hypothermia).	Guidelines; Ready-to-Use Therapeutic Food (RUTF).
Thu	Micronutrients	Iron, Vitamin A, Vitamin D, Zinc deficiencies.	Ward: Examining for Bitot spots, Rickets, Anemia.	Lab: Iron profile interpretation; Peripheral smear.	SDL: Anemia Mukht Bharat / National programs.
Fri	Obesity & Diet	Childhood Obesity: Metabolic Syndrome risks.	OPD: Diet counseling for obesity.	Seminar: Balanced diet for different age groups.	Weekly Assessment (Diet Calculation).

Week 5: Childhood Development

Learning Objective: Differentiating normal variants from pathological delays and approaching behavioral disorders.

Day	Topic Focus	Hour 1: Theory	Hour 2: Bedside/Ward	Hour 3: Skills/Case	Hour 4: Review/SDL
Mon	Normal Development	Milestones: Gross/Fine Motor, Social, Language.	OPD/Crèche: Observing normal milestones in varied ages.	Workshop: Developmental Screening Tests (e.g., Denver II/TDSC).	SDL: Primitive reflexes timeline.
Tue	Developmental Delay	Global Developmental Delay (GDD): Approach & Etiology.	Neuro Clinic: Examination of a child with Cerebral Palsy/GDD.	Microcephaly vs. Macrocephaly workup.	Logbook: Drawing a family pedigree.
Wed	ADHD	Attention Deficit Hyperactivity Disorder: DSM-5 criteria.	Child Guidance Clinic: History taking for behavioral issues.	Role Play: Counseling parents of a child with ADHD.	Guidelines: Vanderbilt Assessment Scale.
Thu	Autism (ASD)	Autism Spectrum Disorders: Red flags.	Clinic: Observing interaction deficits/stereotypies.	Screening: MCHAT questionnaire usage.	SDL: Therapies (Occupational/Speech).
Fri	Management	Early Intervention Services & Multidisciplinary approach.	Rehab Center: Visit to observe physiotherapy/OT.	Seminar: Intellectual Disability.	Weekly Assessment (Developmental Milestone Video Quiz).

Week 6: Infectious Diseases

Learning Objective: Diagnosis and public health management of common pediatric infections and vector-borne diseases.

Day	Topic Focus	Hour 1: Theory	Hour 2: Bedside/Ward	Hour 3: Skills/Case	Hour 4: Review/SDL
Mon	Viral Exanthems	Measles, Mumps, Rubella, Varicella.	Isolation Ward: Identifying rashes (Maculopapular vs. Vesicular).	Visual Quiz: Differentiating viral rashes.	SDL: Vitamin A in Measles; MMR Complications.
Tue	Dengue	Dengue Fever vs. DHF vs. DSS (Pathophysiology).	Ward: Monitoring warning signs; Fluid management charts.	Case: Interpretation of Haematocrit/Platelet trends.	Guidelines: WHO Dengue Classification (2009 vs 1997).
Wed	Malaria & Typhoid	Malaria (Severe vs. Uncomplicated) & Enteric Fever.	Ward: Examination for hepatosplenomegaly.	Lab: Peripheral smear for MP; Widal/Typhidot interpretation.	SDL: Drugresistant malaria; Typhoid complications.
Thu	Vaccine Preventable	Diphtheria, Pertussis, Tetanus (Clinical features).	Ward/PICU: Recognizing "Bull neck" or Whooping cough.	Immunization Clinic: Cold chain management; Catchup vaccination.	Guidelines: National Immunization Schedule.
Fri	Viral Hepatitis	Hep A, B, c, E in children.	Ward: Approach to Jaundice in older children.	Case: Fulminant Hepatic Failure recognition.	Final Module Exam: Comprehensive MCQ & OSCE