# NISHTARMEDICALUNIVERSITY

## MULTAN,PAKISTAN

# CURRICULUMOFMEDICINE

## MBBS PROGRAM

AcademicSession2026

**PreparedBy**
Departmentof Medicine
NishtarMedicalUniversity,Multan

# SECTIONI:PREAMBLE

## MessagefromtheViceChancellor

It gives me immense pleasure to welcome you to Nishtar Medical University. Nishtar Medical University is a premier, historical, and prestigious institution established in 1951-52. It holds a unique position among public sector universities as the first and currently the only medical university in South Punjab. It serves as an interface between healthcare provision and medical education. Its allied hospitals meet the healthcare needs of South Punjab and adjoining areas of Sindh, Baluchistan, and Khyber Pakhtunkhwa.

My aim is to develop Nishtar Medical University as a state-of-the-art medical university capable of nurturing undergraduate and postgraduate students through quality teaching and training. The university should promote research culture, ethical orientation, professionalism, leadership, and lifelong learning. The faculty of Nishtar Medical University remains committed to high standardsof teaching, training, research, and service delivery.

**Prof.Dr.MehnazKhakwani**
*ViceChancellor,NishtarMedicalUniversity*

## MessagefromthePrincipalNMC

Medical education is changing globally, and Nishtar Medical College is committed to academic excellence and student-centered learning in line with WFME and PM&DC expectations. The integrated modular curriculum reflects our commitment to producing graduates who are scientifically sound, clinically competent, critical thinkers, and empathetic professionals.

This prestigious institution aims to provide a learning environment that connects foundational science with early clinical exposure. This approach helps students translate theoretical knowledge into patient care from the early years of training.

**Prof.Dr.RashadQamarRao**
*Principal,NishtarMedicalCollege*

## MessagefromDeanBasicMedical Sciences

On behalf of the Faculty of Basic Medical Sciences, Nishtar Medical University, Multan, I am pleased to acknowledge the dedicated efforts of the faculty members and subject experts who have contributed to the revision of the curriculum for the 1st Year MBBS program. The revised curriculum has been prepared after careful deliberation in the meetings of the Board of Studies of all the department, incorporating the latest developments in medical education, national health priorities, and the evolving needs of pediatric care.

I extend my sincere gratitude to all members of the Board of Studies for their valuable input, constructive suggestions, and commitment to ensuring that this curriculum meets the highest standards of academic excellence and clinical relevance. Their collaborative spirit and professional dedication have been instrumental in finalizing this document.

This revised curriculum is presented with the expectation that it will serve as a comprehensive guide for students, equipping our graduates with the knowledge, skills, and professional values required to address the healthcare needs of children and contribute positively to the medicalprofession.

**Prof.Dr.Asghar Javaid**
*DeanofBasicMedical Sciences*

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## InstitutionalIdentityandProgramObjectives

TheMBBSprogramadoptsthevisionandmissionofNishtarMedicalUniversitytoguideits educational framework.

### VisionStatement:

Weenvisionhealthymankindenlightenedbymostaccomplished health professionals.

### Mission Statement:

Developapatientorientedmedicaluniversitythatproduceshealth professionals thriving for ethics, knowledge, skill and research.

## ProgramScope(MBBS):

TheMBBSprogrampreparesgraduateswithmedicalknowledge,clinicalskills,ethics,andpublic health orientation. The program scope extends beyond treatment of illness to disease prevention, health advocacy, research, and response to local and global health determinants.

## ProgramOutcomes(MBBS):

1. Applyfoundationalknowledgetoclinicalreasoningandmedicaldecision-making.
2. Demonstrateethicalandprofessionalbehaviourinacademicandclinicalsettings.
3. Engageinlifelonglearningandscientificinquiryinthemedicalfield.
4. Communicateeffectivelyandfunctionasateammemberininterdisciplinaryhealthcaresettin gs.
5. Recognizethebiologicalandclinicalfoundationsofcommonhealthproblemswithrelevanceto community health needs.

## CurricularBasis

### EducationalFoundation:

The NMU curriculum uses Constructivist and Behaviorist approaches with selected elements of Cognitivism. Students build knowledge on prior understanding and apply it to purposeful learning activities that require decision-making, problem-solving, and clinical judgment.

### CurricularStructure:

The curriculum follows an Integrated Modular System. It targets early integration from nesting to correlation, representing Level 7 of Harden's Integration Ladder. Foundational disciplines are retainedforsubjectmastery,whileteachingisorganizedaroundbodysystemsandclinicalthemes.

### SpiralIntegration:

Coreconceptsareintroducedatabasiclevelinearlyyearsandrevisitedlaterwithincreasingdepth, complexity, and clinical application across the five-year continuum.

## MBBSProgramCompetencies:

TheprogramoutcomesaremappedtothePM&DC7-StarDoctorattributestoensureregulatory graduate competencies are addressed.

| PM&DC7-StarDoctorAttribute | NMUProgramOutcomes (MBBS) |
|---|---|
| **1. Knowledgeable** | Recognize the biological and clinical foundations of common health problems with relevance to community health needs. |
| **2. Skillful** | Applyfoundationalknowledgetoclinicalreasoningand medical decision-making. |
| **3. Professional** | Demonstrateethicalandprofessionalbehaviourin academic and clinical settings. |
| **4.Scholarand Researcher** | Engage in lifelong learning and scientific inquiry in the medical field. |
| **5.Critical Thinker** | Applyfoundationalknowledgetoclinicalreasoningand medical decision-making. |
| **6.LeaderandRoleModel** | Communicateeffectivelyandfunctionasateammember in interdisciplinary healthcare settings. |
| **7.CommunityHealthPromoter** | Recognize the biological and clinical foundations of common health problems with relevance to community health needs. |

## StandardizedPolicies

- **Internal Assessment and Examination Policy:** The assessment structure comprises 20% Internal Assessment and 80% University Examination.
- **Attendance Policy:** A minimum of 75% attendance is mandatory for eligibility to appear in theexamination.
- **Research, Anti-Plagiarism, and Mentorship Frameworks:** Undergraduate Research Ethics, Anti-Plagiarism, and Student Mentorship/Counselling are governed by the institutional NMU policy manual, prepared in accordance with HEC and PM&DC guidelines.

## Disseminationofcurriculum&StudyGuide:

Comprehensive student study guides outlining learning objectives, teaching strategies, and assessment formats for all modules are officially published and distributed to enrolled students through the official Nishtar Medical University website at the start of the academic year.

## Proposed EducationalStrategies

To successfully deliver the integrated modular curriculum, the instructional methodology shifts from traditional passive teaching to active, student-centered learning. The selection of these educational strategies is highly dynamic and subject to contextual requirements, logistical feasibility, and the specific cognitive or psychomotor demands of each module.

- **Large Group Interactive Sessions (LGIS):** Traditional didactic lectures are replaced with interactive sessions. Faculty utilize questioning, think-pair-share techniques, and clinical case introductions to maintain engagement and promote higher-order thinking in largecohorts.
- **Case-Based Learning (CBL) & Problem-Based Learning (PBL):** Small group formats where students are presented with standardized clinical scenarios (e.g., a patient presenting with shortness of breath). These scenarios serve as the anchor for learning the underlying basic sciences, fostering clinical reasoning and problem-solving skills early in thecurriculum.
- **Small Group Discussions (SGD):** Facilitated by faculty, these sessions allow 15–20 students to collaborate, discuss complex topics, and clarify concepts, thereby enhancing communication and teamwork.
- **Early Clinical Exposure (ECE):** Introduced from Year 1, students visit hospital wards, clinics, or community health centers. This provides immediate context for their basicscience education and introduces them to the realities of patient care, empathy, and healthsystems.
- **Skill Lab & Practical Sessions:** Safe, simulated environments where students practice basic psychomotor and clinical skills (e.g., vital signs, spirometry, basic life support) using mannequins and standardized patients before interacting with real patients.
- **Self-Directed Learning (SDL):** Dedicated, timetabled hours provided to students to independently research, read, and reflect on specific topics. This strategy is critical for developing the lifelong learning skills required of a modern physician.

- **Clinical attachments** form a major teaching block in later years. Students rotate through wards, OPDs, emergency departments, and ICUs. They observe admissions, follow patient progress, and learn bedside examination from consultants and residents.
- **Ward rounds** are structured learning sessions. Students present patients, discuss differentials, and receive feedback on history and examination. This develops clinical reasoning and communication under supervision.
- **Outpatient department (OPD) exposure** allows students to see common diseases. They learn triage, follow-up care, and chronic disease management. Students observe doctor–patient interaction in real time.
- **Emergency department exposure** teaches acute care priorities. Students observe initial assessment, resuscitation steps, and rapid decision-making in trauma and medicalemergencies.
- **Community medicine field visits** take students outside hospitals. They visit primary health centers, rural health units, schools, and vaccination programs. They observe public health delivery, disease prevention, and health education activities.
- **Research and audit projects** are included in many universities. Students learn study design, data collection, analysis, and presentation. This builds evidence-based thinking and critical appraisal skills.
- **Faculty clinical learning sessions** and **bedside teaching sessions** focus on direct patient interaction. Teachers demonstrate examination techniques, then students practice under supervision on real patients.
- **Tutorials, demonstrations,** and **grand rounds** support deeper learning. Complex cases are discussed across specialties, linking pathology, imaging, and management in a singlesession.
- **Observations in operation theatres**. Students observe live surgeries in general surgery, gynecology,ENT,orthopedics,andotherspecialties.Theylearnaseptictechniques,surgical anatomy, instrument handling, and team roles in the OT. Some rotations include scrub-in observation,wherestudentsstandinsidethesterilefieldundersupervision.Thisbuildsearly familiarity with surgical environments and decision-making flow.

## ImplementationoftheCurriculum

The successful execution of an integrated curriculum requires robust governance, interdisciplinary collaboration, and strategic resource management.

- **Curriculum Governance:** The overarching implementation is governed by the Curriculum Committee and the Department of Medical Education (DME). The DME acts as the central coordinating body, ensuring that disciplinary silos are broken down and that teaching is aligned with the defined macro and micro-maps.
- **Module Management Teams:** For every block/module, a Module Director (or Focal Person) is appointed, supported by an interdisciplinary team comprising both basic science and clinical faculty. This team collaboratively designs the timetable, selects the clinical themes, and writes integrated assessments.

- **Centralized Timetabling:** The timetable is managed centrally to ensure a seamless narrative flow. Subjects are sequenced logically (e.g., normal anatomy followed immediately by relevant physiology and biochemistry, culminating in clinical correlation) rather than being taught in isolation.
- **Faculty Development:** Continuous pedagogical training is mandatory. Faculty are actively encouraged and supported to complete certifications in Health Professions Education (CHPE). Regular institutional workshops are conducted on interactive teaching methodologies, CBL facilitation, and the drafting of high-quality, clinically oriented MCQs and SEQs.
- **Infrastructure & Resource Allocation:** The institution commits to maintaining and upgrading essential infrastructure, including Wi-Fi-enabled campus spaces for SDL, fully equipped simulation laboratories, and small group tutorial rooms to support the active learning framework.

## CurriculumEvaluation&ContinuousQualityImprovement(CQI)

Curriculum evaluation is not a terminal event but a continuous, iterative process designed to identify gaps, reduce redundancies, and ensure the educational program remains responsive to evolving healthcare needs and PM&DC regulations.

- **Multi-SourceFeedbackMechanisms:**
    - **Student Feedback:** Anonymous, standardized evaluation forms are administered at the conclusion of every module to assess the clarity of objectives, the effectiveness of teaching strategies, and the fairness of assessments.
    - **Faculty Feedback:** Instructors provide structured feedback regarding logistical challenges, student engagement levels, and the effectiveness of horizontal/verticalintegration.
- **Assessment Analytics (Psychometrics):** The Department of Medical Education collaborates with the Examination Department to conduct post-hoc analyses of all major internal and university examinations. Metrics such as the Difficulty Index (p-value) and Discrimination Index (Point Biserial) are utilized to evaluate the reliability and validity of the curriculum's assessment tools.
- **Annual Curriculum Review:** At the end of each academic year, the CurriculumCommittee convenes to review all collected data (feedback, assessment outcomes, and external examiner reports). Modifications are formally proposed, debated, and implemented for the subsequent academic cycle.
- **Alignment with WFME Standards:** The evaluation process strictly monitors theprogram'scompliancewithPM&DCandWorldFederationforMedicalEducation(WFME) standards, ensuring that graduates meet national requirements and are eligible for international postgraduate opportunities.

## GlossaryofTerms

| Term | OperationalDefinition |
|---|---|
| **Block** | A major temporal division of the academic year containing one or more related modules, such as a block containing CVS and Respiration modules. |
| **Module** | A self-contained thematic unit of study integrating basic and clinical sciences around a body system or major theme, such as Blood and Immunity. |
| **Spiral** | A curricular design in which longitudinal themes are introduced at a basic level in early years and revisited with increasing complexity in later clinical years. |
| **Theme** | Thecentralclinical,physiological,orconceptualfocusorganizingasegmentofstudy. |
| **Anchor** | A primary clinical discipline, condition, or problem that grounds basic sciencelearning. |
| **Linker** | Aclinicalscenarioortopicusedtoconnectmultipledisciplineswithinan integrated teaching session. |

## Section2:CurriculumMapping

TheMBBScurriculumisorganizedthroughaspiralmodelacrossfiveacademic years.

The first two years represent **Spiral I**, where students develop core understanding of basic sciences through integrated system-based modules. Early clinical exposure, research, professionalism, communication, and leadership run throughout these years. Islamiat, Pakistan Studies, and Fehm-ul-Quran are also included as longitudinal components in Year 1 and Year 2.

The third and fourth years represent **Spiral II**, where students move toward paraclinical sciences, special pathology, and pre-clinical rotations. Basic science concepts are revisited with greater clinical relevance. Clinical clerkship, research, and PCL continue as year-long longitudinal themes.

The final year represents **Spiral III**, where learning is centered on supervised clinical clerkshipsand patient management. Students rotate separately through Medicine, Paediatrics, Surgery and Allied, and Gynaecology and Obstetrics.

This map shows that the curriculum progresses from foundational knowledge to applied clinical practice. It also highlights that longitudinal themes are not separate blocks. They continue acrossthe academic year and support the development of knowledge, skills, professionalism, communication, leadership, and research orientation.

## MBBSCurriculumMap

| Phase/SpiralLevel | MBBS Year | Block | | | |
|---|---|---|---|---|---|
| **Spiral I:** Basic Sciences &Early ClinicalExposure | **Year1** | **BlockI:**Foundation& MSK-I | **BlockII:** MSK-II& Bloodand Immunity | | **BlockIII:**CVS&Respiration |
| | | ClinicalClerkship,Research,PCL:Professionalism,Communication&Leadership | | | |
| | | Islamiat, Pakistan Studies, Fahm-ul-Quran | | | |
| | **Year2** | **BlockIV:**Neuroscience-I&Neuroscience-II | **BlockV:**SpecialSenses& Endocrine | | **BlockVI:**Genitourinary&GIT |
| | | ClinicalClerkship,Research,PCL:Professionalism,Communication&Leadership | | | |
| | | Islamiat, Pakistan Studies, Fehm-ul-Quran | | | |
| **Spiral II:**ParaclinicalSciences & Pre-ClinicalRotations | **Year3** | **BlockVII:**Fundamentals,Infectious Diseases & Chemotherapy | **BlockVIII:**Cardiovascular,Blood& Inflammation, Respiratory &Endocrinology | | **BlockIX:**CNS&GIT,Skin&Neoplasia |
| | | ClinicalClerkship,Research,PCL:Professionalism,Communication&Leadership | | | |
| | **Year4** | **Block X:**Hematopoeitic&lymphoid, Infectiousdiseaseepidemiology,Breast& genetics, Population dynamics & nutrition + Eye-I, ENT-I | **Block XI:**lung & renal system+ Environmental & occupational health, Hepatobiliary system & GIT Tumors, Biostatistics&Research+Eye-II,ENT-II | | **Block XII:** Reproductive system & Endocrine tumors, Study designs & medical ethics, musculoskeletal system, skin & CNS tumors, health system&noncommunicablediseases+ Eye-III & ENT-III |
| | | ClinicalClerkship,Research,PCL:Professionalism,Communication&Leadership | | | |
| **SpiralIII:** Clinical Clerkships | **Year5** | **ClerkshipRotation:**Medicine&Allied | **ClerkshipRotation:** Paediatrics | **Clerkship Rotation:** Surgery& Allied | **ClerkshipRotation:**Gynaecology& Obstetrics |

## SpiralProgressionMatrix(ThemeBased)

This framework illustrates the vertical linkage of the designated clinical themes across the curriculum. By keeping the progression generic to the domains of learning, it ensures comprehensive coverage of all relevant conditions within a system rather than prematurely narrowing the educational scope to a few specific diseases. Core concepts introduced at a foundational level in Spiral I are sequentially revisited in Spiral II (Paraclinical) and mastered in Spiral III (Clinical Clerkships).

This iterative, spiral approach aligns with modern adult learning theories by gradually increasing both the cognitive load and the clinical responsibility. In Spiral I, students build a robust mental scaffolding of normal human biology. As they progress into Spiral II, they utilize this established framework to analyze pathological deviations, pharmacological interventions, forensicimplications, and broader public health impacts. Finally, in Spiral III, this accumulated theoretical knowledge is translated into advanced psychomotor skills, diagnostic reasoning, and ethical patient management directly at the bedside.

By continuously revisiting these overarching themes in a layered, progressive manner, the curriculum reinforces long-term memory retention, actively breaks down traditional disciplinary silos, and ensures a safe, competent transition from the classroom to independent clinical practice.

| Integrated Module/Themes | SpiralI(Years1&2) | SpiralII(Years3&4) | SpiralIII(Year5) |
|---|---|---|---|
| **Haematology/Blood& Immunity** Anaemia / Pallor, Bleeding&ThromboticDisorders, Infection,Transfusion Reaction | Normal gross structure, histology, embryology, physiologicalfunctions,andbiochemicalbasisof the hematopoietic and immune systems. | Pathological mechanisms, pharmacological interventions, and public health/preventive aspects of blood and immune disorders. | Clinical assessment, diagnostic reasoning,andtherapeuticmanagement of hematological and immunological conditions in medical clerkships. |
| **Musculoskeletal**Joint Pain,Backache, Bone Aches, MuscleWeakness, SkinRash/Itching | Normal structure, histology, embryological development, and biomechanical/biochemical foundations of the musculoskeletal and integumentary systems. | Pathophysiology of musculoskeletal and dermatological diseases, related pharmacology, forensic traumatology, and medicolegal aspects. | Clinical evaluation, diagnostic imaging interpretation, and surgical/medicalmanagement in orthopedics,dermatology, and rehabilitation. |
| **Cardiovascular**Chest Pain,Palpitations,ShortnessofBreath, BP (High/Low), LegPain/Oedema | Normal gross/microscopic anatomy,developmental embryology, physiological hemodynamics, and biochemical markers of the cardiovascular system. | Pathological alterations, systemic cardiovascular pharmacology, andpublic health epidemiology of cardiovascular diseases. | Patientevaluation,diagnosticreasoning, andcomprehensivemedicalandsurgical management of cardiovascular conditions in clinical rotations. |
| **Respiratory** Chest Wall Injury Shortness of Breath Cough&Haemoptysis Chest Pain | Normal structure, histology, embryology, pulmonary physiology, and biochemical basis of the respiratory system. | Pathophysiological mechanisms of respiratory diseases, respiratory pharmacology, and community medicine/environmentalhealthaspects. | Clinical assessment, diagnostic reasoning, and medical/surgical patient management in pulmonology and intensive care clerkships. |
| **Neurosciences**Headache,Numbness/TinglingParaplegia,HemiplegiaSyncope, | Normal neuroanatomy, histology,neurodevelopment, neurophysiology, and biochemical basis of the central and peripheral nervous systems. | Neuropathology, neuro-pharmacology, forensic psychiatry, and public health impacts of neurological and psychiatricdisorders. | Clinical neurological examination, diagnostic reasoning, and therapeuticmanagement in neurology,neurosurgery, and psychiatry clerkships. |

| Integrated Module/Themes | SpiralI(Years1&2) | SpiralII(Years3&4) | SpiralIII(Year5) |
|---|---|---|---|
| Coma& Head Injury<br>Seizures, Tremors<br>DisturbedMood/Sleep | | | |
| **GIT &Hepatology**Difficulty/Pain in Swallowing,<br>Vomiting Pain Abdomen<br>Diarrhoea&Constipation<br>Jaundice<br>Distension<br>BleedingperRectum | Normal structure, histology, embryological development, gastrointestinal physiology, and biochemical metabolism. | Pathological mechanisms, gastrointestinal pharmacology, and public health/preventive aspects of GI and hepatobiliary diseases. | Clinical assessment, diagnostic reasoning, and comprehensive medical and surgical management in gastroenterology and general surgeryclerkships. |
| **Renal &Genitourinary**Dysuria,<br>Flank Pain<br>UrineOutputvariationsIncontinence<br>FacialSwelling&Oedema | Normal structure, histology, embryology, renal physiology, and biochemical basis of the excretory and genitourinary systems. | Renal and genitourinary pathology, relevant pharmacology, and public health/preventive aspects of renaldiseases. | Clinical evaluation, diagnostic reasoning, and therapeutic management in nephrology and urology clerkships. |
| **Endocrine&Reproductive**<br>Tall/ShortStature<br>Goitre<br>ExcessiveThirst/Urination<br>Weight Gain<br>Pregnancy &Child BirthInfertility&Contraception,Scanty/Heavy Menses | Normal structure, histology, embryology, physiological regulation, and biochemical basis of the endocrine and reproductive systems. | Pathophysiology of endocrine and reproductive disorders, relevant pharmacology, and communitymedicine (maternal and populationhealth). | Clinical assessment, diagnostic reasoning, and medical/surgical management in endocrinology, obstetrics, and gynecology clerkships. |

| | | | |
|---|---|---|---|
| **PCL** (Professionalism, Communication,Leadership) | Normal baseline of medical ethics, basic communication models, and fundamental principles of professionalism. | Application of bioethics in research, handling medicolegal scenarios, and communication in complex situations (e.g., breaking bad news). | Leadership in clinical teams, ethicaldecision-making in patient management, and advancedprofessional communication inclerkships. |

# OPERATIONALCURRICULUM
# FINALYEARMBBSPEDIATRI
# C MEDICINE

| |
|---|
| IntroductiontoPediatrics |
| Growth&Development |
| Neonatology |
| InfectiousDisease |
| Hematology&Oncology |
| Nutrition |
| CVS |
| GIT |
| RespiratorySystem |
| Neurology |

| |
|---|
| Endocrinology |
| Poisoning |
| Nephrology |
| Musculoskeletal |
| Genetics |
| PediatricPsychiatry |
| Dermatology |
| Inbornerrorsofmetabolism/immunologicaldisorders |
| PediatricSurgery |

# OPERATIONALCURRICULUM FINALYEARMBBSPEDIATRIC MEDICINE

## PAEDIATRICS

Thecourseoutlineisasfollows:

Listofsuggestedtopicsforteachingtheundergraduatesisgivenbelow,however the individual faculties can alter/add topics as per their discretion in respective institution:

- CommonproblemsofchildreninPakistanandstatisticsof Pakistani children
- ClinicalmethodsinPaediatrics
- Nutrition(breastfeeding,infantfeeding,weaning)andnutritionaldisorders:(PEM, rickets,vitamin A deficiency, iodine deficiency, iron deficiency )
- Growthanddevelopment.
- Commonpediatricinfections:measles,tetanus,polio,diphtheria, whoopingcough,aids
- Malaria,entericfever,tuberculosis,chickenpox,common skin infections
- Expandedprogramofimmunization(EPI).newervaccines
- Diarrhealdiseases.
- Acuterespiratoryinfections(ARI).
- IMCI(integratedmanagementofchildhoodillness).
- Neonatology:resuscitationofnewborn,careofnormalnewborn,

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,commoncongenitalabnormalitiesand birth trauma.

• Neurology:meningitis,febrile,convulsions,epilepsy,cerebralpalsy, mental handicap, cerebral malaria, encephalitis

• Cardiology: congenital heart diseases [VSD, PDA, TOF, ASD],rheumaticfever.Congestivecardiacfailure,clinicalassessmentofacyanotic neonate/infant.

• Hematology:anemias,thalassemia,leukemias,bleedingdisorders.

• Nephrology:nephroticsyndrome,urinarytractinfections,acute glomerulonephritis

• Endocrinology:hypothyroidism,shortstature,diabetes

• Pulmonology:croup,asthma,tuberculosis,pneumonias,pleural effusions.

• Gastroenterology:abdominalpain,malabsorption,hepatitis,cirrhosis, acuteliverfailure

• Diarrhea[acute/chronic]dysentery,worminfestations,giardia, amoebiasis,rectalpolyp.

• Genetics:patternsofinheritance,Down'ssyndrome,

• Socialpediatrics:rightofchild,childabuse,enuresis,encopresis, hyperactivity

• Dyslexia,attentiondeficitdisorder

• Miscellaneous:poisoning,preventionofhomeaccidents,behavioral disorders.

• Pediatricsurgery:hernia,intussusceptions,intestinalobstruction,Tallipes, congenital dislocation of hip, Vesico ureteral reflux.

## SKILLS:

1. Studentswilldemonstratehisabilitytoobtainarelevantclinical history from a parent or an older child.
2. Studentwilldemonstratehisabilitytoperformadequateclinical examination of a child of any age (including newborn).
3. Studentwillbeabletointerpretclinicalandlaboratorydatatoarriveata diagnosis.
4. Studentwillbeabletoadviseappropriatenutritionalmeasuresfor healthyandsickchildren(Breastfeeding,avoidanceofbottle,proper weaning)
5. Studentwillbeabletocounseltheparentsonhealthpromotiveanddiseasepreventivestrategiesforthechilde.g.immunizationprocedures;hand washing)
6. Studentwillbeabletorecognizeandmanagecommonhealth problems of children.

7. Studentwillrecognizethedangersignsofdiseaseinchildrenandbe abletoappropriatelyreferchildrenwithseverediseasetoappropriate specialists/hospitals.
8. Studentwilldemonstratehisabilitytoperformessentialclinical procedures relevant to children e.g.
ƒResuscitationof newborn.ƒBasiccardio-pulmonaryresuscitation.
ƒAnthropometricmeasurements.
ƒMeasuringbloodpressure
ƒStartingintravenouslines/drawbloodsample
ƒAdministrationofoxygentherapyƒGivingnebulizertherapy [bronchodilator]
ƒUseofgrowthchart

## OBSERVETHEFOLLOWINGSKILLS:

1. Lumbarpuncture
2. Bonemarrowaspiration
3. Suprapubicpuncture
4. Subduraltap
5. Thoracentesis
6. Pericardiocentesis
7. Liverbiopsy
8. Renalbiopsy
9. Observepassingofcatheter
10. Observepericardialtap

## RECOMMENDEDBOOKS:

1. **TextbookofPaediatrics**byPervaizAkbar
2. **EssentialsofPaediatrics**byNelson.LatestEdition.
3. **OnlineJournalsandReadingMaterials**throughHECDigitalLibraryFacility

## A. Lectures:

| | |
|---|---|
| **Neonatology** | |
| | HemolyticDiseaseofNewborn |
| | TorchInfection |

| | |
|---|---|
| **CVS** | CyanoticheartDiseases |
| | AcyanoticHeartDiseases |
| | RheumaticheartDisease |

| | |
|---|---|
| **RespiratorySystem** | Pneumonia |
| | Croup |
| | T.B |
| | Asthma |
| | Epiglottitis |

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| **Neurology** | |
| | |
| | |
| | Hydrocephalus,Floppyinfant |
| | DMD,Myastheniagravis |
| | Poliomyelitis |

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|---|---|
| **Poisoning** | ApproachtoaChildwithsuspicionofpoisoning |
| | IronPoisoning |
| | Organophosphorus |
| | KeroseneOilPoisoning |
| | paracetamolPoisoning |

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|---|---|
| | LeadPoisoning |

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|---|---|
| **Nephrology** | CongenitalUrinaryTractabnormalities |
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| | |
|---|---|
| **PediatricPsychiatry** | ADHD,Autismspectrum<br>Disorders) |

## B. Self-Learning/TopicpresentationbyStudents

1) ChildRights,abuse&neglect
2) Rabies
3) Cardiomyopathy
4) AddisonDisease
5) SLE
6) CushingSyndrome
7) BreastFeeding
8) Ped.Dermatology
9) Ped.Psy
10) Growthanddevelopment
11) Asthma
12) Acutediarrhoea
13) DehydrationplanA,B,C
14) ITP
15) Hemophilia
16) Bleedingdisorder
17) 10stepsofmalnutritionmanagement
18) Developmentmilestonesandgrowthcharts
19) DifferencebetweenPneumoniaandbronchiolitis
20) Tuberculosis
21) Shortstature
22) Hypoand hyperthyroidism
23) ApproachtochildwithShock
24) ApproachtoachildwithHeartFailure
25) Malaria
26) Dengue
27) EntericFever
28) Chickenpox
29) Measles
30) StatusEpilepticusmanagement

## C. WardClassTopics

1) Growthcharts
2) EPIProgram
3) IMNCIProgram
4) NeonatalResuscitation
5) NutritionalAnemia
6) RecommendedNutritional&FluidRequirements
7) HeartFailure
8) ApproachtoVomitingandPainAbdomen

9) UpperRespiratorytractinfections
10) Microcephaly
11) Geneticcounselling
12) SystemExaminationMethods
13) Approachtohemolyticdisorders(Thalessemia,SCD,HereditarySpherocytosis)
14) Approachtoleukaemia(ALL&AplaticAnemia)
15) Pneumoniaandbronchiolitis
16) WilsonDisease
17) BuddChiariSyndrome
18) PersistantJaundice
19) ApproachtoChronicDiarrhea(CeliacDisease,Giardiasis,CowmilkproteinAllergy)
20) Approachtoprematurechildwithitscomplications
21) Approachtonewbornwithrespiratorydistress(BA,RDS,MAS,Congenitalpneumoniaandpulmonaryhypertension,CCAM)
22) Approachtoneonatalseizures
23) Meningoencephalitis
24) GuillianBarreSyndrome
25) Febrileseizures
26) Cerebralpalsy
27) DiabetesMellitis,DKAandtheirmanagement
28) Rickets
29) Downsyndrome
30) TurnerSyndrome
31) Pertussis
32) Diphtheria
33) AcuteViralHepatitis
34) Mumps
35) ScarletFever
36) AKI
37) CKD
38) NephroticSyndrome
39) Glomerulonephritis

**IntroductiontoPediatrics&Growth&Development**

| Lectures | WardTeaching | Self-Learning | Skills |
|---|---|---|---|
| | **EPIProgram**Overview ofpediatrics&health indicators | **Tannerstaging** | **Historytaking** |
| | **IMNCIProgram** Assessmentof Growth | | **Takingvitalsigns** |
| | DevelopmentalAssessment in Children | | **Anthropometry** |
| | | | **Headtotoeexamination** |
| | | | **Assessment ofdevelopmentalmilestones in children** |
| | | | **Growthcharts** |

## Neonatology

| Lectures | WardTeaching | Self-Learning | Skills |
|---|---|---|---|
| Introduction& CareofNewborn /NewbornPhysiology | NeonatalResuscitation | Counsellingofbreast feeding | Neonatalanthropometric measurements |
| | Prematurity<br>NeonatalJaundice | Twinpregnancy | Assessmentofprimitive reflexes |
| | Respiratorydistress innewborns(RDs,<br>TTN,MAS<br>Studentswilldemonstrate his ability to obtain a relevant clinicalhistoryfromaparent. | Necrotizingenterocolitis | Neonatal**headtotoe examination** |
| | BirthAsphyxiaStudentwilldemonstratehisabilitytoperformadequateclinicalexaminationofachildofanyage (including newborn). | IVH | Resuscitationofnewborn |
| | NeonatalsepsisStudentwillbeabletointerpretclinicalandlaboratorydatatoarriveatadiagnosis. | Definitions(LGA,SGA, Post-term, preterm) | Administrationofoxygen therapy |
| | JNN<br>Studentwillbeabletoadvise appropriate nutritional measures for healthy and sick children(Breastfeeding,avoidanceof bottle, properweaning) | | |
| | Hemolytic DiseaseofNewbornStudentwillbeabletocounsel the parents on health promotive and disease preventive strategies for the child e.g.immunizationprocedures; handwashing) | | |

| | | | |
|---|---|---|---|
| | Apnea,Hemorrhagic Disease of<br>Newborn<br>IDM | | |
| | NeonatalSeizuresHypoglycemia/Hypocalcemiain neonates | | |
| TorchInfection | Anemiainneonates | | |

## InfectiousDisease

| Lectures | WardTeaching | Self-Learning | Skills |
|---|---|---|---|
| | Measles,Mumps,<br>RubellaEPIProgram | Rabies | |
| ChickenPox | Studentswilldemonstrate his ability to obtain a relevant clinicalhistoryfromaparen toranolder child. | Parasiticinfections | Startingintravenouslines/dr aw blood sample |
| | MalariaStudentwilldemonstr atehisabilitytoperformadequ ateclinicalexaminationofachil dofanyage (including newborn). | Aids | Givingnebulizertherapy [bronchodilator] |
| | DiphtheriaStudentwillbeabletoi nterpretclinicalandlaboratoryd atatoarrive atadiagnosis. | CommonSkininfections | Observationoflumbar puncture |
| | EntericFeverStudentwillbeableto adviseappropriate nutritional measures for healthy and sick children(Breastfeeding,avoidanc eofbottle, proper weaning) | | Observationofthoracentesis |
| r | DenguefeverStudentwillbe abletocounsel the parents on health promotive and disease preventivestrategiesforth echilde.g.immunization procedures;handwashing) | | |
| | Polio/AFPStudentwillbe able torecognizeandmanagecom mon healthproblemsofchildren | | |

| | | | |
|---|---|---|---|
| Tetanus | Studentwillrec ognizethedang ersignsofdiseas ein children and be able to appropriatelyreferchildre nwithseverediseaseto appropriatespecialists/ho spitals | | |
| | PertussisStudentwilldemon stratehis ability to perform essential clinicalproceduresrelevantt ochildren e.g. | | |

## Hematology&Oncology

| Lectures | WardTeaching | Self-Learning | Skills |
|---|---|---|---|
| Thalassemia | BleedingDisorder | Bloodtransfusion | Lymphnodeexamination |
| Hemophilia | Lymphoma | Plateletstransfusion | Observationofbone marrow aspiration |
| ITP | Studentswilldemonstrate his ability to obtain a relevant clinicalhistoryfromaparen toranolder child. | Neuroblastoma | |
| Leukemia | Studentwilldemonstratehisa bilitytoperformadequateclini calexaminationofachildofany age (including newborn). | Wilmstumor | |
| AplasticAnemia | Studentwillbeabletointerpretc linicalandlaboratorydatatoarr ive atadiagnosis. | DIC | |
| | Studentwillbeabletoadvis e appropriate nutritional measures for healthy and sick children(Breastfeeding,av oidanceof bottle, properweaning) | Sicklecellanemia | |
| | Irondeficiencyanemia | | |

## Nutrition

| Lectures | WardTeaching | Self-Learning | Skills |
|---|---|---|---|
| | MalnutritionBreastfeeding | VitaminAdeficiency | Assessmentofmicro nutrientsdeficiencysigns |
| | Infantfeeding | Iodinedeficiency | AssessmentofMUAC+skinf old thickness |
| | Weaning | Obesity | |

## CVS

| Lectures | WardTeaching | Self-Learning | Skills |
|---|---|---|---|
| **Cyanoticheart Diseases** | **Hypertension** | **Cardiomyopathies** | **ClinicalmethodsofCVS** |
| AcyanoticHeart Diseases | **HeartFailure** | **Myocarditis** | **Observationofpericardiocentesis** |
| Rheumaticheart Disease | **InterpretationofPaediatricECG** | **Arrythmias** | |
| | | **Infectiveendocarditis** | |

## RespiratorySystem

| Lectures | WardTeaching | Self-Learning | Skills |
|---|---|---|---|
| Pneumonia | Pleuraleffusion | Laryngitis | Examinationofrespiratory system |
| Croup | Pneumothorax | Tonsillitis | Observationofchest intubation |
| T.B | ManagementofCOVID | Allergicrhinitis | Observationofpleuraltap |
| Asthma | InterpretationofchestX-ray | Pharyngitis | |
| | BronchiolitisCysticFibrosis | Otitismedia | |
| Epiglottitis | | Bronchiolitis | |

## Neurology

| Lectures | WardTeaching | Self-Learning | Skills |
|---|---|---|---|
| | MeningitisCerebralmalaria | Pediatricstroke | ExaminationofCNS |
| | FebrilefitsEncephalitis | Headache | Observationoflumbar puncture |
| | CerebralpalsyMetabolicfits | | Observationoffundoscopy |
| Hydrocephalus, Floppy infant | AFP | | |
| DMD,Myasthenia gravis | Brainabscess | | |
| Epilepsy | GBS | | |

## Endocrinology

| Lectures | WardTeaching | Self-Learning | Skills |
|---|---|---|---|
| | **CAH,ambiguous genitaliaGrowthhormonedeficiency** | **Precociouspuberty** | **Assessmentofboneage** |
| | **Hyperthyroidism Addisondisease** | **Delayedpuberty** | **Assessmentofupperlower segment** |
| | **Hypothyroidism MilwaukeeprotocolofDM** | **Cushingsyndrome** | **Assessmentofmidparental height** |
| | **ShortstatureDietchart** | **Diabetesinsipidus** | **Examinationthyroid** |
| **Pediatricdiabetesmellitus** | | | |

## Nephrology

| Lectures | WardTeaching | Self-Learning | Skills |
|---|---|---|---|
| Congenitalurinary tractabnormalities | RTA | Renalstone | Observationofrenalbiopsy |
| UTI | Bartersyndrome | Renalcolic | Observationofperitoneal dialysis |
| | ARF/AKIHypertension | | Observationofhemodialysis |
| | Nephroticsyndrome | | |
| | CKD | | |
| | Nephriticsyndrome | | |

## Poisoning

| Lectures | WardTeaching | Self-Learning | Skills |
|---|---|---|---|
| Ironpoisoning | Approachtoachildwithsuspicionofpoisoning | Causticingestion | Saving and sending ofsamplesfortoxicology screening |
| Organophosphorus | Generalmanagementofchildwithpoisoning | SnakeBite | |
| Keroseneoil poisoning | | | |
| Paracetamol poisoning | | | |
| | Leadpoisoning | | |

## Musculoskeletal

| Lectures | WardTeaching | Self-Learning | Skills |
|---|---|---|---|
| | **JIASLE** | **Reactivearthritis** | **Examinationof musculoskeletalsystem** |
| **Rickets** | **HSP** | **Osteomyelitis** | **Physicalexaminationfor rickets** |
| | **Clubfoot** | **Septicarthritis** | |
| | **DDH** | | |

## Genetics

| Lectures | WardTeaching | Self-Learning | Skills |
|---|---|---|---|
| Introduction togenetics+Modeof Inheritance | Patternsofinheritance | | Examinationofasyndromicba by |
| Downsyndrome | Geneticcounselling | | |
| Turnersyndrome | | | |

## PediatricPsychiatry

| Lectures | WardTeaching | Self-Learning | Skills |
|---|---|---|---|
| Overview&Differential DiagnosisCommon PediatricPsychiatricIllnesses (PICAnocturnalenuresis,encopresis, ADHD, AutismspectrumDisorders ) | Behaviordisorders | Rightsofchild | DSMcharts |
| | Dyslexia | Childabuse | |
| | | Childneglect | |

## Dermatology

| Lectures | WardTeaching | Self-Learning | Skills |
|---|---|---|---|
| Eczema | **Managementofpatientswith burn** | **Disorderofnails** | **Observationofskinbiopsy** |
| Stevenjohnson syndrome | | **Disorderofhairs** | |
| Infectionsofskin (Scabies) | | **Skintumors** | |

## Inbornerrorsofmetabolism/immunologicaldisorders

| Lectures | WardTeaching | Self-Learning | Skills |
|---|---|---|---|
| **ApproachtoIEM** | **Ureacycledefects** | | **Howtotakebloodgases sample** |
| **Approachtostorage disorders** | **Organicacidemias** | | |
| **Approach toimmunodeficiency disorder** | | | |

## PediatricSurgery

| Lectures | WardTeaching | Self-Learning | Skills |
|---|---|---|---|
| Hernia | Congenitaldislocationofhip | | Examinationoflump |
| Intussusception | Vesicoureteralreflux | | Perrectalexamination |
| Clubfoot | Cleftlip | | Examinationofback |
| TEF | Cleftpalate | | |
| Neuraltubedefects | Hirschsprungdisease | | |

# LECTUREOUTLINE

| Sr.No | Topic | Facilitator |
|---|---|---|
| 1. | Neonatology | Dr. Afaq Chishti |
| 2. | Nephrology | Dr. Faisal Mehar |
| 3. | Gastroenterology | Dr.Saima Zahid |
| 4. | Poisoning | Dr.Afsheen |
| 5. | Psychiatry | Dr. Abrar |
| 6. | CVS | Dr. Javaria Rasheed |
| 7. | Hematology Oncology | Dr. Sulaiman Sheikh |
| 8. | Neurology | Dr. Rabia Bashir |
| 9. | Respiratory | Dr. Amna Wajdan |

# CurriculumOutline

## PediatricUnit–I

- RespiratorySystem
- Gastrointestinal System
- IEM/ImmunologicalDisorders
- HematologyandOncology
- Neonatology
- GrowthandDevelopment
- Nutrition
- Clinical Examination Methods

## PediatricUnit–II

- GPE
- Infections
- Genetics
- Cardiology
- NeuromuscularSystem
- Nephrology
- Toxicology
- ClinicalExaminationMethods

| **DATE** | **CLINICALMETHODS**TIMEALLOCATED 1 HOUR,15MIN | **CASEPRESENTATION**TIMEALLOCATED1 HOUR,15 MIN | **TOPIC PRESENTATION**TIMEALLOCATED 1 HOUR | **EVENING/ EMERGENCY DUTY**TIMEALLOCATED2HOURS | **REMARKS** |
|---|---|---|---|---|---|
| | Pulse | | | | |
| | BP,JVP | | | | |
| | Inspection+ palpation | | | | |
| | Auscultation | | | | |
| | Auscultation | | | | |
| | Revision | | | | |
| | Highermental functions+speech | | | | |
| | Cranialnerves | | | | |
| | Cranialnerves | | | | |
| | Motor system | | | | |
| | Sensorysystem | | | | |
| | Cerebellarsystem | | | | |
| | Signsofmeningeal irritation | | | | |
| | Developmental assessment | | | | |
| | Revision | | | | |
| | Revision | | | | |
| | Inspection | | | | |
| | Palpation | | | | |
| | Percussion | | | | |
| | Percussion | | | | |
| | Auscultation | | | | |
| | Revision | | | | |

| **DATE** | **CLINICALMETHODS**TIME ALLOCATED 1HOUR,15MIN | **CASEPRESENTATION**TIME ALLOCATED1 HOUR,15 MIN | **TOPIC PRESENTATION**TIMEALLOCATED 1 HOUR | **EVENING/ EMERGENCY DUTY**TIMEALLOCATED2HOURS | **REMARKS** |
|---|---|---|---|---|---|
| | Vitals&anthropometric measures | | | | |
| | Examinationof hands,face&neck | | | | |
| | Examination oflymphnodes,feet &back | | | | |
| | Revision | | | | |
| | Vitals,Examsofhead& chest | | | | |
| | Examofabdomen &back | | | | |
| | Neonatalreflexes | | | | |
| | Revision | | | | |
| | Oralcavity | | | | |
| | Inspection | | | | |
| | Palpation | | | | |
| | Palpation | | | | |
| | Percussion+ auscultation | | | | |
| | Revision | | | | |

## RECOMMENDEDBOOKS:

1. **Textbookofpaediatrics**byPervaizAkbar
2. **EssentialsofPaediatrics**byNelson.LatestEdition.