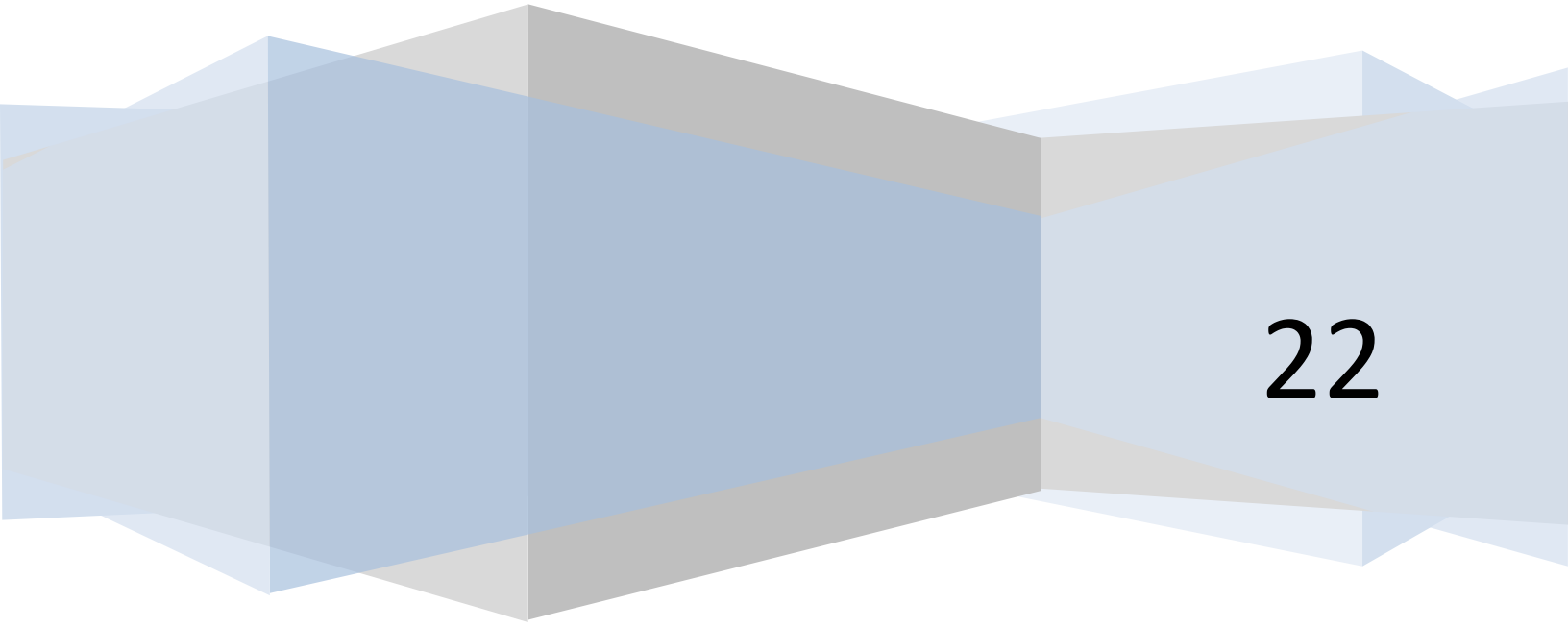
DEPARTMENT OF PEDIATRICS
RAWALPINDI MEDICAL UNIVERSITY

MD NEONATOLOGY

Curriculum of Two Year Residency in MD Neonatology at Rawalpindi Medical University



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FOREWORD

Rawalpindi Medical University (RMU) Rawalpindi started as Rawalpindi medical college on 18th March 1974. It was awarded university status in May 2017 by the president of Pakistan. Since then it is functioning with the vision to explicitly address academic and research needs in the field of health sciences and allied disciplines and to uplift their existing level to bring them on a par with the international standards. The mission of the University is to develop an intellectual nexus `to provide excellence and innovation in medical education and research in order to;

- Impart knowledge and skills to health care providers to enhance their competence in providing community oriented and multi -disciplinary patient -centered care
- Train and produce researchers and specialists in basic and clinical medical sciences
- Establish and maintain continuing professional development programs for the faculty
- Provide trained professionals and scientists/researchers for the field of Electro Medical/Bio - Medical disciplines
- Assure quality in health education and research at all levels

A university is the zenith of knowledge that imparts quality education and awards degrees for extensive educational attainments in various disciplines which results in development of intellectual community. Protection of traditional knowledge, making exploration about it and obtaining deep understanding of modern technology and research techniques are some of the responsibilities of any university.

RMU is running a number of courses in the field of health sciences in Rawalpindi. The list extends from undergraduate level courses up to the doctorate level both in basic, clinical and allied health sciences.

Since its inception, certain vital tasks were taken into serious consideration by RMU, for instance, curricula development and their up-gradation were among the most important ones besides introduction of contemporary educational programs. RMU has revised and finalized curricula for undergraduate Medical Education and Allied Health Sciences. Being the Vice Chancellor of a public sector health university, I believe, it is my duty to remain vigilant and committed to the cause of improvement of the conventional medical and allied health sciences' curricula on regular basis. This will help produce technically sound professionals with advanced knowledge and skills.

This document precisely briefs the details of updated curriculum for MD Neonatology as prepared by the Experts' Committee. I am pleased to acknowledge the efforts made by Dean of Pediatrics, Prof. Rai Muhammad Asghar. Contributions made by him will go a long way in the education and training of doctors in this field.

I hope, this course will be able to meet the needs of latest trends in Neonatology and will certainly produce competent high-level specialists in the field, which is the main objective of this programme

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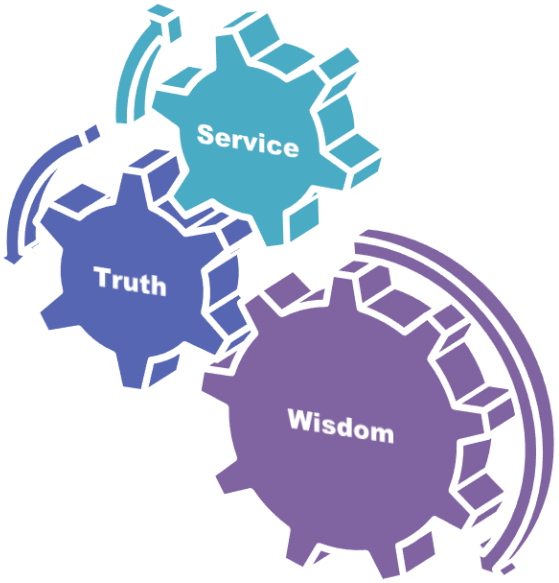
Motto



Vision

- To impart evidence based research oriented medical education
- To provide best possible patient care
- To inculcate the values of mutual respect and ethical practice of medicine

UNIVERSITY MISSION & VISION STATEMENT

Mission Statement

To impart evidence based research oriented health professional education in order to provide best possible patient care and inculcate the values of mutual respect, ethical practice of healthcare and social accountability.

Vision and Values

Highly recognized and accredited centre of excellence in Medical Education, using evidence-based training techniques for development of highly competent health professionals, who are lifelong experiential learner and are socially accountable.

Contributors List

Prof. Rai Muhammad Asghar **Professor of Pediatrics**
Dr. Kaneez Fatima **Senior Registrar, Paediatrics**
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Eligibility &Admission Criteria

Application for admission to MD Neonatology Programme will be invited through advertisement in print and electronic media mentioning the closing date of applications and date of entry examination.

Eligibility: The Applicant on the last date of submission of application for admission must fulfill the following:

1. MBBS or equivalent
2. MD Pediatrics or FCPS Pediatrics
3. Valid PMC Certificate
4. Entry test conducted by University Exam Cell (Passing percentage: 60%)
5. Interview

Registration & Enrollment:

- As per policy of Pakistan Medical Council, the number of PG Trainees / Students per supervisor shall be maximum 5 per annum
- Beds to trainee ratio at the approved teaching site shall be at least 5 beds per trainee
- The University will approve supervisors for MD Neonatology.

AIMS AND OBJECTIVES OF THE COURSE

AIMS:

The aim of 2 years residency program in neonatology is to equip medical postgraduates with relevant professional knowledge, skills and ethical values to enable them to apply their acquired expertise at specialist units.

GENERAL OBJECTIVES:

Following competencies will be expected from a student completing 2 years residency in MD Neonatology, trainee should be able to:

1. Discuss etiology, pathogenesis, epidemiology and management of disorders in Neonatology on topics mentioned in the list of course contents.
2. Discuss principles of basic sciences as applied to Neonatology such as hemorrhage, blood transfusion, shock, rehydration, infection, antibiotics/drug therapies, inflammation, repair and healing and sterilization of instruments.
3. Formulate a working diagnosis and consider differential diagnosis.
4. Decide and implement suitable treatments considering safety, cost factors, complications and side effects.
5. Perform routine neonatal clinical procedures under supervision.
6. Maintain follow-up of patients at appropriate intervals, recognizing new developments and/or complications and offering sensible management protocols.
7. Identify common neonatal problems in a scientific manner while keeping in mind the logical reasoning and a clear understanding of their impact on human mind and body.
8. Assess, classify and rehabilitate preterm baby.
9. Identify common chromosomal disorders and provide genetic counseling.

SPECIFIC OBJECTIVES

a. Neonatal Medicine Knowledge

1. The development of a basic understanding of core Neonatal Medicine concepts.
2. Etiology, clinical manifestation, disease course and prognosis, investigation and management of common neonatal diseases.

3. Scientific basis and recent advances in pathophysiology, diagnosis and management of neonatal diseases.
4. Spectrum of clinical manifestations and interaction of multiple neonatal diseases in the same patient.
5. Psychological and social aspects of neonatal illnesses.
6. Effective use and interpretation of investigation and special diagnostic procedures.
7. Critical analysis of the efficacy, cost-effectiveness and cost-utility of treatment modalities.
8. Patient safety and risk management
9. Medical audit and quality assurance
10. Ethical principles and medico legal issues related to neonatal illnesses.
11. Updated knowledge on evidenced-based medicine and its implications for diagnosis and treatment of neonatal patients.
12. Familiarity with different care approaches and types of health care facilities towards the patients care with neonatal illnesses, including convalescence, rehabilitation, palliation, long term care, and medical ethics.
13. Knowledge on patient safety and clinical risk management.
14. Awareness and concern for the cost-effectiveness and risk-benefits of various advanced treatment modalities.
15. Familiarity with the concepts of administration and management and overall forward planning for a general neonatal unit.

b. <u>Skills</u>

1. Ability to take a detailed history, gathers relevant data from patient's families and caregivers, assimilates the information to develop diagnostic and management plan.
2. Students are expected to effectively record an initial history and physical examination and follow-up notes as well as deliver comprehensive oral presentations to their team members based on these written documents.
3. Competence in eliciting abnormal physical signs and interpreting their significance.
4. Ability to relate clinical abnormalities with pathophysiologic states and diagnosis of diseases.
5. Ability to select appropriate investigation and diagnostic procedures for confirmation of diagnosis and patient management.
6. Residents should be able to interpret basic as well as advanced laboratory data as related to the disorder/disease.
7. Basic understanding of routine laboratory and ancillary tests including complete blood count, chemistry panels, ECG, chest x-rays, pulmonary function tests, and body fluid cell counts. In addition, students will properly understand the necessity of incorporating sensitivity, specificity, pre-test probability and Bayes laws/theorem in the ordering of individual tests in the context of evaluating patients' signs and symptoms.
8. The formulation of a differential diagnosis with up-to—date scientific evidence and clinical

judgment using history and physical examination data and the development of a prioritized problem list to select tests and make effective therapeutic decisions.

9. Assessing the risks, benefits, and costs of varying, effective treatment options; involving the parents/guardian in decision- making via open discussion; selecting drugs from within classes; and the design of basic treatment programs and using critical pathways when appropriate.
10. Residents must be able to perform competently all neonatal and invasive procedures essential for the practice of general neonatal medicine. This includes technical proficiency in taking informed consent, performing by using appropriate indications, contraindications, interpretations of findings and evaluating the results and handing the complications of the related procedures mentioned in the syllabus.
11. Residents should be instructed in additional procedural skills that will be determined by the training environment, residents practice expectations, the availability of skilled teaching faculty, and privilege delineation.
12. Skills in performing important bedside diagnostic and therapeutic procedures and understanding of their indications. Trainees should acquire competence through supervised performance of the required number of each of the following procedures during the 2-year training period and should record them in the Trainee's Log Book at least 10 times during the two-year training period:
    a. IV Cannulation
    b. Arterial Blood gases sampling
    c. Heel stick (Capillary blood sampling)
    d. Cardiopulmonary resuscitation
    e. Defibrillation/ Cardio version
    f. Central venous cannulation
    g. Laryngeal mask airway
    h. Marrow aspiration and trephine biopsy
    i. Abdominal paracentesis
    j. Pericardiocentesis
    k. Peritoneal dialysis
    l. Peripherally inserted central catheter
    m. Pleural tapping and biopsy
    n. Endotracheal intubation
    o. Ventricular tap
    p. Lumbar puncture
    q. Chest drain insertion
    r. Supra-pubic aspiration
    s. Intra-osseous infusion
    t. Cranial ultrasound
    u. Echocardiography
    v. EEG
13. Ability to present clinical problems and literature review in grand rounds and seminars.
14. Good communication skills and interpersonal relationship with patients, families, pediatric

colleagues, nursing and allied health professionals.

15. Ability to mobilize appropriate resources for management of patients at different stages of neonatal illnesses, including critical care, consultation of relevant specialties and other disciplines, ambulatory and rehabilitative services, and community resources.
16. Competence in the diagnosis and management of emergency neonatal problems, in particular cardio respiratory problems, stroke, organ failures, infection and shock, gastrointestinal bleeding, metabolic and genetic disorders.
17. Competence in the diagnosis and management of acute and chronic neonatal problems as secondary care in regional/district hospital.
18. Diagnostic skills to effectively manage complex cases with unusual presentations.
19. Ability to implement strategies for preventive care and early detection of diseases in collaboration with primary and community care doctors.
20. Ability to understand neonatal statistics and critically appraise published work and clinical research on disease presentations and treatment outcomes. Experience in basic and/or clinical research within the training programme should lead to publications and/or presentation in seminars or conferences.
21. Practice evidence—based learning with reference to research and scientific knowledge pertaining to their discipline through comprehensive training in Research Methodology
22. Ability to recognize and appreciate the importance of cost-effectiveness of treatment modalities.
23. The identification of key information resources and the utilization of the neonatal literature to expand one's knowledge base and to search for answer to neonatal problems. They will keep abreast of the current literature and be able to integrate it to clinical practice

c. <u>Attitudes</u>

1. The well-being and restoration of health of patients must be of paramount consideration.
2. Empathy and good rapport with patient's family and relatives are essential attributes.
3. An aspiration to be the team leader in total patient care involving nursing and allied professionals should be developed.
4. The cost-effectiveness of various investigations and treatments in neonatal care should be recognized.
5. The privacy and confidentiality of patients and the sanctity of life must be respected.
6. The development of a functional understanding of informed consent, advanced directives, and the physician-patient relationship.
7. Ability to appreciate the importance of the effect of disease on the psychological and socio-economic aspects of individual patients and to understand patients' psycho-social needs and rights, as well as the neonatal ethics involved in patient management.
8. Willingness to keep up with advances in Neonatal Medicine.
9. Willingness to refer patients to the appropriate specialty in a timely manner.
10. The promotion of health via immunizations, periodic health screening, and risk factor assessment and modification.
11. Recognition that teaching and research are important activities for the advancement of the

profession.

d. Other Required Core competencies

1. PATIENT CARE

i. Residents are expected to provide patient care that is compassionate, appropriate and effective for the promotion of health, prevention of illness, treatment of disease and at the end of life.

ii. Gather accurate, essential information from all sources, including interviews, physical examinations, neonatal records and diagnostic/therapeutic procedures.

iii. Make informed recommendations about preventive, diagnostic and therapeutic options and interventions based on clinical judgment, scientific evidence, and patient preference.

iv. Develop, negotiate and implement effective patient management plans and integration of patient care.

v. Perform competently the diagnostic and therapeutic procedures considered essential to the practice of neonatal medicine.

2. INTERPERSONAL AND COMMUNICATION SKILLS

i. Residents are expected to demonstrate interpersonal and communication skills that enable them to establish and maintain professional relationships with patients, families, and other members of health care teams.

ii. Provide effective and professional consultation to other physicians and health care professionals and sustain therapeutic and ethically sound professional relationships with patients, their families, and colleagues.

iii. Use effective listening, nonverbal, questioning, and narrative skills to communicate with patient's families.

iv. Interact with consultants in a respectful, appropriate manner.

v. Maintain comprehensive, timely, and legible neonatal records.

3. PROFESSIONALISM

i. Residents are expected to demonstrate behaviors that reflect a commitment to continuous professional developmental, ethical practice, an understanding and sensitivity to diversity and a responsible attitude toward their patients, their profession, and society.

ii. Demonstrate respect, compassion, integrity, and altruism in relationships with patients, families, and colleagues.

iii. Demonstrate sensitivity and responsiveness to the gender, age, culture, religion, sexual preference, socioeconomic status, beliefs, behavior and disabilities of patients and professional colleagues.

iv. Adhere to principles of confidentiality, scientific/academic integrity, and informed consent.

v. Recognize and identify deficiencies in peer performance.

vi. Understand and demonstrate the skill and art of end of life care.

4. PRACTICE-BASED LEARNING AND IMPROVEMENT

i. Residents are expected to be able to use scientific evidence and methods to investigate, evaluate, and improve patient care practices.

ii. Identify areas for improvement and implement strategies to enhance knowledge, skills, attitudes and processes of care.

iii. Analyze and evaluate practice experiences and implement strategies to continually improve the quality of patient practice.

iv. Use information of technology or other available methodologies to access and manage information, support patient care decisions and enhance both patient's families and physician's education.

5. SYSTEMS-BASED PRACTICE

i. Residents are expected to demonstrate both an understanding of the contexts and systems in which health care is provided, and the ability to apply this knowledge to improve and optimize healthcare.

ii. Understands accesses and utilizes the resources, providers and systems necessary to provide optimal care.

iii. Understand the limitations and opportunities inherent in various practice types and delivery systems, and develop strategies to optimize care for the individual patient.

iv. Apply evidence-based, cost-conscious strategies to prevention, diagnosis, and disease management.

v. Collaborate with other members of the health care team to assist patients in dealing effectively with complex systems and to improve systematic processes of care.

e. METHODS OF TEACHING & LEARNING DURING COURSE CONDUCTION

A. CASE BASED LEARNING

Long and short case presentations*:* – Giving an oral presentation on ward rounds is an important skill for medical students to learn. After collecting the data, you must then be able both to document it in a written format and transmit it clearly to other health care providers. In order to do this successfully, you need to understand the patient's medical illnesses, the psychosocial contributions to their History of Presenting Illness and their physical diagnosis findings. You then

need to compress them into a concise, organized recitation of the most essential facts. The listener needs to be given all of the relevant information without the extraneous details and should be able to construct his/her own differential diagnosis as the story unfolds. Consider yourself an advocate who is attempting to persuade an informed, interested judge the merit so for argument, without distorting any of the facts. An oral case presentation is NOT a simple recitation of your write-up. It is a concise, edited presentation of the most essential information. Basic structure for oral case presentations includes Identifying information/chief complaint (ID/CC) ,History of present illness (HPI) including relevant ROS (Review of systems)questions only ,Other active medical problems , Medications/allergies/substance use (note: e. The complete ROS should not be presented in oral presentations , Brief social history (current situation and major issues only) . Physical examination (pertinent findings only), One line summary & Assessment and plan

Seminar Presentation: Seminar is held in a noon conference format. Upper level residents present an in-depth review of a medical topic as well as their own research. Residents are formally critiqued by both the associate program director and their resident colleagues.

Small Group Discussions/ Problem based learning/ Case based learning: Traditionally small groups consist of 8-12 participants. Small groups can take on a variety of different tasks, including problem solving, role play, discussion, brain storming, debate, workshops and presentations. Generally students prefer small group learning to other instructional methods. From the study of a problem students develop principles and rules and generalize their applicability to a variety of situations PBL is said to develop problem solving skills and an integrated body of knowledge. It is a student-centered approach to learning, in which students determine what and how they learn. Case studies help learners identify problems and solutions, compare options and decide how to handle a real situation.

Journal Club Meeting (JC):A resident will be assigned to present, in depth, a research article or topic of his/her choice of actual or potential broad interest and/or application. Two hours per month should be allocated to discussion of any current articles or topics introduced by any participant. Faculty or outside researchers will be invited to present outlines or results of current research activities. The article should be critically evaluated and its applicable results should be

highlighted, which can be incorporated in clinical practice. Record of all such articles should be maintained in there logbook.

Discussion/Debate: There are several types of discussion tasks which would be used as learning method for residents including: **guided discussion**, in which the facilitator poses a discussion question to the group and learners offer responses or questions to each other's contributions as a means of broadening the discussion's scope; **inquiry-based discussion**, in which learners are guided through a series of questions to discover some relationship or principle; **exploratory discussion**, in which learners examine their personal opinions, suppositions or assumptions and then visualize alternatives to these assumptions; and **debate** in which students argue opposing sides of a controversial topic. With thoughtful and well-designed discussion tasks, learners can practice critical inquiry and reflection, developing their individual thinking, considering alternatives and negotiating meaning with other discussants to arrive at a shared understanding of the issues at hand.

Clinico-pathological Conferences: The clinicopathological conference, popularly known as CPC primarily relies on case method of teaching medicine. It is a teaching tool that illustrates the logical, measured consideration of a differential diagnosis used to evaluate patients. The process involves case presentation, diagnostic data, discussion of differential diagnosis, logically narrowing the list to few selected probable diagnoses and eventually reaching a final diagnosis and its brief discussion. The idea was first practiced in Boston, back in1900 by a Harvard internist, Dr. Richard C. Cabot who practiced this as an informal discussion session in his private office. Dr. Cabot incepted this from a resident, who in turn had received the idea from a roommate, primarily a law student.

Morbidity and Mortality Conference (MM): The M&M Conference is held occasionally at noon throughout the year. A case, with an adverse outcome, though not necessarily resulting in death, is discussed and thoroughly reviewed. Faculty members from various disciplines are invited to attend, especially if they were involved in the care of the patient. The discussion focuses on how care could have been improved.

Clinical Case Conference: Each resident, except when on vacation, will be responsible for at least one clinical case conference each month. The cases discussed may be those seen on either the consultation or clinic service or during rotations in specialty areas. The resident, with the

advice of the Attending Physician on the Consultation Service, will prepare and present the case(s) and review the relevant literature

Follow up clinics: The main aims of our clinic for patients and relatives include (a) **Explanation of patient's stay in ICU or Ward settings:** Many patients do not remember their ICU stay, and this lack of recall can lead to misconceptions, frustration and having unrealistic expectations of themselves during their recovery. It is therefore preferable for patients to be aware of how ill they have been and then they can understand why it is taking some time to recover. (b) **Rehabilitation information and support:** We discuss with patients and relatives their individualized recovery from critical illness. This includes expectations, realistic goals, change in family dynamics and coming to terms with life style changes.(c) **Identifying physical, psychological or social problems** Some of our patients have problems either as a result of their critical illness or because of other underlying conditions. The follow-up team will refer patients to various specialties, if appropriate. (d) **Promoting a quality service**: By highlighting areas which require change in nursing and medical practice, we can improve the quality of patient and relatives care. Feedback from patients and relatives about their ICU & ward experience is invaluable. It has initiated various audits and changes in clinical practice, for the benefit of patients and relatives in the future.

Task-based-learning: A list of tasks is given to the students: participate in consultation with the attending staff, interview and examine patients, review a number of new radiographs with the radiologist.

Teaching in the ambulatory care setting: A wide range of clinical conditions may be seen. There are large numbers of new and return patients. Students have the opportunity to experience a multi-professional approach to patient care. Unlike ward teaching, increased numbers of students can be accommodated without exhausting the limited No. of suitable patients.

B. LEARNING IN THE HOSPITAL SETTINGS/BEDSIDE TEACHING:

Inpatient, outpatient and emergency department learning

Electives/ Specialty Rotations: In addition, the resident will elect rotations in a variety of electives including radiology, neonatal surgery, Cardiology, neurology and genetics. Residents

may also select electives at other institutions if the parent department does not offer the relevant specialty they want.

Evening Teaching Rounds: During these sign-out rounds, the inpatient Chief Resident makes a brief educational presentation on a topic related to a patient currently on service, often related to the discussion from morning report. Serious cases are mainly focused during evening rounds.

***Evidence Based Medicine (EBM)*:** Residents are presented a series of noon monthly lectures presented to allow residents to learn how to critically appraise journal articles, stay current on statistics, etc. The lectures are presented by the program director.

Peer Assisted Learning: Any situation where people learn from, or with, others of a similar level of training, background or other shared characteristic. Provides opportunities to reinforce and revise their learning. Encourages responsibility and increased self-confidence. Develops teaching and verbalization skills. Enhances communication skills, and empathy. Develops appraisal skills (of self and others) including the ability to give and receive appropriate feedback. Enhance organizational and team-working skills.

Skill teaching in ICU, emergency, ward settings & skill laboratory: Two hours twice a month should be assigned for learning and practicing clinical skills.

Bedside teaching rounds in ward: *"To study the phenomenon of disease without books is to sail an uncharted sea whilst to study books without patients is not to go to sea at all" Sir William Osler.* Bedside teaching is regularly included in the ward rounds. Learning activities include the physical exam, a discussion of particular medical diseases, psycho social and ethical themes, and management issues.

***Directly Supervised Procedures-(DSP)*:** Residents learn procedures under the direct supervision supervisor.

Self-directed learning: Self-directed learning residents have primary responsibility for planning, implementing, and evaluating their effort. It is an adult learning technique that assumes that the learner knows best what their educational needs are. The facilitator's role in self-directed learning is to support learners in identifying their needs and goals for the program, to contribute to clarifying the learners' directions and objectives and to provide timely feedback. Self-directed

learning can be highly motivating, especially if the learner is focusing on problems of the immediate present, a potential positive outcome is anticipated and obtained and they are not threatened by taking responsibility for their own learning.

C. E-LEARNING:

Audio visual laboratory: Audio visual material for teaching skills to the residents is used specifically in teaching neonatology procedure details.

E-learning/web-based medical education/computer-assisted instruction: Computer technologies, including the Internet, can support a wide range of learning activities from dissemination of lectures and materials, access to live or recorded presentations, real-time discussions, self-instruction modules and virtual patient simulations. distance-independence, flexible scheduling, the creation of reusable learning materials that are easily shared and updated, the ability to individualize instruction through adaptive instruction technologies and automated record keeping for assessment purposes.

D. COMMUNITY BASED LEARNING:

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

Community Based Medical Education: CBME refers to medical education that is based outside a tertiary or large secondary level hospital. Learning in the fields of epidemiology, preventive health, public health principles, community development, and the social impact of illness and understanding how patients interact with the healthcare system. Also used for learning basic clinical skills, especially communication skills.

E. RESEARCH BASED LEARNING:

Research based learning: All residents in the categorical program are required to complete an academic outcomes-based research project during their training. This project can consist of original bench top laboratory research, clinical research or a combination of both. The research work shall be compiled in the form of a article which is to be submitted for evaluation by each

resident before end of the training. The designated Faculty will organize and mentor the residents through the process, as well as journal clubs to teach critical appraisal of the literature.

PROGRAM DETAILS:

Duration of program: 2 years

Course words:

Modules

Examination annually

Research:

Article/ articles/publications as per HEC/PMC requirement

Rotations:

	Department	Duration
1st Year	Neonatal Emergency	4 weeks
	Radiology	4 weeks
	Pediatric Surgery	4 weeks
2nd Year	Genetics	2 weeks
	Pediatric Neurology	2 weeks
	Pediatric Cardiology	4 weeks

Mandatory Workshops:

1) **Basic Workshop – three**
   a) Communication Skills
   b) Computer Skills and IT
   c) Research Methodology and Biostatistics
2) **Skill Workshops – three**
   a) Neonatal Resuscitation Workshop
   b) BLS/PALS
   c) Mechanical ventilation

A CRISP DETAIL ABOUT MODERN TOOLS OF ASSESSMENT INTENDED TO BE USED FOR THE COURSE

- **360-DEGREE EVALUATION INSTRUMENT-MULTI-SOURCE FEEDBACK (MSF):**

  360-degree evaluations consist of measurement tools completed by multiple people in a person's sphere of influence. Evaluators completing rating forms in a 360-degree evaluation usually are superiors, peers, subordinates, and patients and families. Most 360-degree evaluation processes use a survey or questionnaire to gather information about an individual's performance on several topics (e.g., teamwork, communication, management skills & decision-making). Most 360-degree evaluations use rating scales to assess how frequently a behavior is performed (e.g., a scale of 1 to 5, with 5 meaning "all the time" and 1 meaning "never"). The ratings are summarized for all evaluators by topic and overall to provide feedback. Evaluators provide more accurate and less lenient ratings when the evaluation is intended to give formative feedback rather than summative evaluations. A 360-degree evaluation can be used to assess interpersonal and communication skills, professional behaviors, and some aspects of patient care and systems-based practice.

- **CHART STIMULATED RECALL ORAL EXAMINATION (CSR)**

  In a chart stimulated recall (CSR) examination patient cases of the examinee (resident) are assessed in a standardized oral examination. A trained and experienced physician examiner questions the examinee about the care provided probing for reasons behind the work-up, diagnoses, interpretation of clinical findings, and treatment plans. The examiners rate the examinee using a well-established protocol and scoring procedure. In efficiently designed CSR oral exams each patient case (test item) takes 5 to 10 minutes. A typical CSR exam is two hours with one or two physicians as examiners per separate 30 or 60-minute session. These exams assess clinical decision-making and the application or use of medical knowledge with actual patients.

- **CHECKLIST EVALUATION**

  Checklists consist of essential or desired specific behaviors, activities, or steps that make up a more complex competency or competency component. Typical response options on these forms are a check ( ) or "yes" to indicate that the behavior occurred or options to indicate the completeness (complete, partial, or absent) or correctness (total, partial, or incorrect) of the action. The forms provide information about behaviors but for the purpose of making a judgment about the adequacy

of the overall performance, standards need to be set that indicate, for example, pass/fail or excellent, good, fair, or poor performance. Checklists are useful for evaluating any competency and competency component that can be broken down into specific behaviors or actions. Documented evidence for the usefulness of checklists exists for the evaluation of patient care skills (history and physical examination, procedural skills) and for interpersonal and communication skills. Checklists have also been used for self-assessment of practice-based learning skills (evidence-based medicine). Checklists are most useful to provide feedback on performance because checklists can be tailored to assess detailed actions in performing a task.

- **GLOBAL RATING OF LIVE OR RECORDED PERFORMANCE**

  Global rating forms are distinguished from other rating forms in that (a) a rater judges general categories of ability (e.g. patient care skills, medical knowledge, interpersonal and communication skills) instead of specific skills, tasks or behaviors; and (b) the ratings are completed retrospectively based on general impressions collected over a period of time (e.g., end of a clinical rotation) derived from multiple sources of information (e.g., direct observations or interactions; input from other faculty, residents, or patients; review of work products or written materials). All rating forms contain scales that the evaluator uses to judge knowledge, skills, and behaviors listed on the form. Typical rating scales consist of qualitative indicators and often include numeric values for each indicator, for example, (a) very good = 1, good =2, fair = 3, poor =4; or (b) superior =1, satisfactory =2, unsatisfactory =3. Written comments are important to allow evaluators to explain the ratings. Global rating forms are most often used for making end of rotation and summary assessments about performance observed over days or weeks. Scoring rating forms entails combining numeric ratings with comments to obtain a useful judgment about performance based upon more than one rater.

- **OBJECTIVE STRUCTURED CLINICAL EXAMINATION (OSCE)**

  In an objective structured clinical examination (OSCE) one or more assessment tools are administered at 12 to 20 separate standardized patient encounter stations, each station lasting 10-15 minutes. Between stations candidates may complete patient notes or a brief written examination about the previous patient encounter. All candidates move from station to station in sequence on the same schedule. Standardized patients are the primary assessment tool used in OSCEs, but OSCEs have included other assessment tools such as data interpretation exercises using clinical

cases and clinical scenarios with mannequins, to assess technical skills. OSCEs have been administered in most of the medical schools worldwide, many residency programs, and by the licensure board examinations. The OSCE format provides a standardized means to assess: physical examination and history taking skills; communication skills with patients and family members, breadth and depth of knowledge; ability to summarize and document findings; ability to make a differential diagnosis, or plan treatment; and clinical judgment based upon patient notes.

- **PROCEDURE, OPERATIVE OR CASE LOGS**

Procedure, operative, or case logs document each patient encounter by medical conditions seen, surgical operation or procedures performed. The logs may or may not include counts of cases, operations, or procedures. Patient case logs currently in use involve recording of some number of consecutive cases in a designated time frame. Operative logs in current use vary; some entail comprehensive recording of operative data by CPT code while others require recording of operations or procedures for a small number of defined categories. Logs of types of cases seen or procedures performed are useful for deter Mining the scope of patient care experience. Regular review of logs can be used to help the resident track what cases or procedures must be sought out in order to meet residency requirements or specific learning objectives. Patient logs documenting clinical experience for the entire residency can serve as a summative report of that experience; as noted below, the numbers reported do not necessarily indicate competence.

- **PATIENT SURVEYS**

Surveys of patients to assess satisfaction with hospital, clinic, or office visits typically include questions about the physician's care. The questions often assess satisfaction with general aspects of the physician's care, (e.g., amount of time spent with the patient, overall quality of care, physician competency (skills and knowledge), courtesy, and interest or empathy). More specific aspects of care can be assessed including: the physician's explanations, listening skills and provision of information about examination findings, treatment steps, and drug side effects. A typical patient survey asks patients to rate their satisfaction with care using rating categories (e.g., poor, fair, good, very good, excellent) or agreement with statements describing the care (e.g., "the doctor kept me waiting," --Yes, always; Yes, sometimes; or No, never or hardly ever). Each rating is given a value and a satisfaction score calculated by averaging across responses to generate a single score overall or separate scores for different clinical care activities or settings. Patient feedback accumulated

from single encounter questionnaires can assess satisfaction with patient care competencies (aspects of data gathering, treatment, and management; counseling, and education; preventive care); interpersonal and communication skills; professional behavior; and aspects of systems-based practice (patient advocacy; coordination of care). If survey items about specific physician behaviors are included, the results can be used for formative evaluation and performance improvement. Patient survey results also can be used for summative evaluation, but this use is contingent on whether the measurement process meets standards of reliability and validity.

- **PORTFOLIOS**

  A portfolio is a collection of products prepared by the resident that provides evidence of learning and achievement related to a learning plan. A portfolio typically contains written documents but can include video- or audio-recordings, photographs, and other forms of information. Reflecting upon what has been learned is an important part of constructing a portfolio. In addition to products of learning, the portfolio can include statements about what has been learned, its application, remaining learning needs, and how they can be met. In graduate medical education, a portfolio might include a log of clinical procedures performed; a summary of the research literature reviewed when selecting a treatment option; a quality improvement project plan and report of results; ethical dilemmas faced and how they were handled; a computer program that tracks patient care outcomes; or a recording or transcript of counseling provided to patients. Portfolios can be used for both formative and summative evaluation of residents. Portfolios are most useful for evaluating mastery of competencies that are difficult to evaluate in other ways such as practice-based improvement, use of scientific evidence in patient care, professional behaviors, and patient advocacy. Teaching experiences, morning report, patient rounds, individualized study or research projects are examples of learning experiences that lend themselves to using portfolios to assess residents.

- **RECORD REVIEW**

  Trained staff in an institution's medical records department or clinical department perform a review of patients' paper or electronic records. The staff uses a protocol and coding form based upon predefined criteria to abstract information from the records, such as medications, tests ordered, procedures performed, and patient outcomes. The patient record findings are summarized and compared to accepted patient care standards. Standards of care are available for more than 1600

diseases on the Website of the Agency for HealthCare Research and Quality (http://www.ahrq.gov/).Record review can provide evidence about clinical decision-making, follow-through in patient management and preventive health services, and appropriate use of clinical facilities and resources (e.g., appropriate laboratory tests and consultations). Often residents will confer with other clinical team members before documenting patient decisions and therefore, the documented care may not be directly attributed to a single resident but to the clinical team.

- **SIMULATIONS AND MODELS**

Simulations used for assessment of clinical performance closely resemble reality and attempt to imitate but not duplicate real clinical problems. Key attributes of simulations are that: they incorporate a wide array of options resembling reality, allow examinees to reason through a clinical problem with little or no cueing, permit examinees to make life-threatening errors without hurting a real patient, provide instant feedback so examinees can correct a mistaken action, and rate examinees' performance on clinical problems that are difficult or impossible to evaluate effectively in other circumstances. Simulation formats have been developed as paper-and-pencil branching problems (patient management problems or PMPs), computerized versions of PMPs called clinical case simulations (CCX®), role-playing situations (e.g., standardized patients (SPs), clinical team simulations), anatomical models or mannequins, and combinations of all three formats. Mannequins are imitations of body organs or anatomical body regions frequently using pathological findings to simulate patient disease. The models are constructed of vinyl or plastic sculpted to resemble human tissue with imbedded electronic circuitry to allow the mannequin to respond realistically to actions by the examinee. Virtual reality simulations or environments (VR) use computers sometimes combined with anatomical models to mimic as much as feasible realistic organ and surface images and the touch sensations (computer generated haptic responses) a physician would expect in a real patient. The VR environments allow assessment of procedural skills and other complex clinical tasks that are difficult to assess consistently by other assessment methods. Simulations using VR environments have been developed to train and assess surgeons performing arthroscopy of the knee and other large joints, anesthesiologists managing life-threatening critical incidents during surgery, surgeons performing wound debridement and minor surgery, and medical students and residents responding to cardio-pulmonary incidents on a full-size human mannequin. Written and computerized simulations have been used to assess clinical

reasoning, diagnostic plans and treatment for a variety of clinical disciplines as part of licensure and certification examinations. Standardized patients as simulations are described elsewhere.

- **STANDARDIZED ORAL EXAMINATION**

The standardized oral examination is a type of performance assessment using realistic patient cases with a trained physician examiner questioning the examinee. The examiner begins by presenting to the examinee a clinical problem in the form of a patient case scenario and asks the examinee to manage the case. Questions probe the reasoning for requesting clinical findings, interpretation of findings, and treatment plans. In efficiently designed exams each case scenario takes three to five minutes. Exams last approximately 90 minutes to two and one-half hours with two to four separate 30 or 60-minute sessions. One or two physicians serve as examiners per session. An examinee can be tested on 18 to 60 different clinical cases. These exams assess clinical decision-making and the application or use of medical knowledge with realistic patients. Multiple-choice questions are better at assessing recall or understanding of medical knowledge.

- **STANDARDIZED PATIENT EXAMINATION (SP)**

Standardized patients (SPs) are well persons trained to simulate a medical condition in a standardized way or actual patients who are trained to present their condition in a standardized way. A standardized patient exam consists of multiple SPs each presenting a different condition in a 10-12 minute patient encounter. The resident being evaluated examines the SP as if (s) he were a real patient, (i.e., the resident might perform a history and physical exam, order tests, provide a diagnosis, develop a treatment plan, or counsel the patient). Using a checklist or a rating form, a physician observer or the SPs evaluate the resident's performance on appropriateness, correctness, and completeness of specific patient care tasks and expected behaviors (See description of Checklist Evaluation…). Performance criteria are set in advance. Alternatively or in addition to evaluation using a multiple SP exam, individual SPs can be used to assess specific patient care skills. SPs are also included as stations in Objective Structured Clinical Examinations (See description of OSCE).SPs have been used to assess history-taking skills, physical examination skills, communication skills, differential diagnosis, laboratory utilization, and treatment. Reproducible scores are more readily obtained for history-taking, physical examination, and communication skills. Standardized patient exams are most frequently used as summative performance exams for clinical skills. A single SP can assess targeted skills and knowledge.

- **WRITTEN EXAMINATION (MCQ)**

A written or computer-based MCQ examination is composed of multiple-choice questions (MCQ) selected to sample medical knowledge and understanding of a defined body of knowledge, not just factual or easily recalled information. Each question or test item contains an introductory statement followed by four or five options in outline format. The examinee selects one of the options as the presumed correct answer by marking the option on a coded answer sheet. Only one option is keyed as the correct response. The introductory statement often presents a patient case, clinical findings, or displays data graphically. A separate booklet can be used to display pictures, and other relevant clinical information. In computer-based examinations the test items are displayed on a computer monitor one at a time with pictures and graphical images also displayed directly on the monitor. In a computer-adaptive test fewer test questions are needed because test items are selected based upon statistical rules programmed into the computer to quickly measure the examinee's ability. Medical knowledge and understanding can be measured by MCQ examinations. Comparing the test scores on in-training examinations with national statistics can serve to identify strengths and limitations of individual residents to help them improve. Comparing test results aggregated for residents in each year of a program can be helpful to identify residency training experiences that might be improved.

- **MINI-CLINICAL EVALUATION EXERCISE (Mini-CEX)**

This tool evaluates a clinical encounter with a patient to provide an indication of competence in skills essential for good clinical care such as history taking, examination and clinical reasoning. The trainee receives immediate feedback to aid learning. The can be used at any time and in any setting when there is a trainee and patient interaction and an assessor is available.

Following procedures will be assessed through Mini CEX

1st year

Ballard scoring	LBW (IUGR/Premature)
Neonatal sepsis	Respiratory Distress Syndrome
Neonatal jaundice	Necrotizing Enterocolitis
Congenital Hip dislocation	Disorders of sex development
RDS	Hydrocephalus
Meconium Aspiration Syndrome	Hypothyroidism
Infant of diabetes mother LGA	

2nd year

Air leak syndrome	Intracranial hemorrhage
Acute kidney injury	Intestinal obstruction/Ileus
Bronchopulmonary dysplasia/ Chronic lung disease	Tracheoesophageal fistula
Inborn errors of metabolism	Hydrops fetalis
Duct dependent cardiac lesions	Congenital TORCH infections

- **DIRECT OBSERVATION OF PROCEDURAL SKILLS (DOPS)**

A DOPS is an assessment tool designed to evaluate the performance of a trainee in undertaking a practical procedure, against a structured checklist. The trainee receives immediate feedback to identify strengths and areas for development. Following procedures will be assessed through DOPS

1st year

IV Cannulation	Umbilical vein/arterial catheterization
ABGS Sampling	Supra pubic aspiration
ETT insertion	Intra osseous infusion
Needle thoracostomy	Ventricular Tap
Lumber puncture	Heel stick (capillary blood sampling)
Paracentesis	Therapeutic hypothermia

2nd year

Cranial ultrasound	Pericardiocentesis
Echocardiography	Peripherally inserted central catheter
Intercostal drainage insertion	EEG
Cardioversion	Bedside ultrasound
Laryngeal mask airways	Peritoneal dialysis

- **CASE-BASED DISCUSSION (CbD)**

The CbD assesses the performance of a trainee in their management of a patient to provide an indication of competence in areas such as clinical reasoning, decision-making and application of medical knowledge in relation to patient care. It also serves as a method to document conversations about, and presentations of, cases by trainees. The CbD should focus on a written

record (such as written case notes, out-patient letter and discharge summary). A typical encounter might be when presenting newly referred patients in the out-patient department.

- **ACUTE CARE ASSESSMENT TOOL (ACAT)**

  The ACAT is designed to assess and facilitate feedback on a doctor's performance during their practice on the Acute Medical Take. Any doctor who has been responsible for the supervision of the Acute Medical Take can be the assessor for an ACAT.

- **TEACHING OBSERVATION (TO)**

  The Teaching Observation form is designed to provide structured, formative feedback to trainees on their competence at teaching. The Teaching Observation can be based on any instance of formalized teaching by the trainee who has been observed by the assessor. The process should be trainee-led (identifying appropriate teaching sessions and assessors).

- **DECISIONS ON PROGRESS (ARCP)**

  The Annual Review of Competence Progression (ARCP) is the formal method by which a trainee's progression through her/his training programme is monitored and recorded. ARCP is not an assessment – it is the review of evidence of training and assessment. The ARCP process is described in A Reference Guide for Postgraduate

  Specialty Training in the UK (the "Gold Guide" – available from www.mmc.nhs.uk). Deaneries are responsible for organizing and conducting ARCPs. The evidence to be reviewed by ARCP panels should be collected in the trainee's e-Portfolio.

SUMMATIVE ASSESMENT SCHEDULE:

	Total Marks	Theory	Clinical			Research
		MCQs	OSCE	Short Case	Long Case	
1st year	350	200 Two Papers 1 mark for each MCQ	150 15 stations 10 mark each			
2nd Year	750	200 Two papers 1 mark each MCQ	150 15 stations 10 marks each	200 Four short cases 50 marks each	100 One long case	100 30 marks for presentation 70 marks for discussion

First Year MD Neonatology Curriculum

Sr. No	Contents	Duration of Module	Percentage Weightage
1.	Foundation Module History taking Clinical examination Time management & Decision making and clinical reasoning	02 weeks	6
2.	Perinatology Module: Development, function and pathology of placenta Abnormalities of fetal growth- IUGR Still births Neonatal and perinatal epidemiology Maternal medical disorders of fetal significance Hypertensive complications of pregnancy	02 weeks	4
3.	Human genetics Module: Prenatal diagnosis Dysmorphic infant	01 week	5
4.	Fluid, electrolyte and acid base balance Module	01 week	7
5.	Respiratory system Module: Lung development Neonatal pulmonary physiology Neonatal respiratory therapy Respiratory disorders in term infants Respiratory disorders in preterm infants	02 weeks	12
6.	Introduction to biostatistics & research	01 week	4
7.	Cardiovascular system: Developmental biology of the heart Cardiovascular compromise in the newborn (Shock, PPHN, PDA in the preterm infant, Duct dependent lesions)	02 weeks	8
8.	High risk newborn care Module: Newborn resuscitation Neonatal transport Extremely low birth weight and late preterm infants	02 weeks	4
9.	Immunology & Hematology Module Fetal & placental immunology Specific immunological deficiencies Immunization Hematological system and disorders of bilirubin metabolism:	02 weeks	7

	Developmental aspects of erythropoiesis, platelets and granulocytopoiesis Neonatal platelet and erythroid disorders Neonatal indirect hyperbilirubinemia and kernicterus		
10.	Infections Module : Viral infections in fetus and newborn General diagnostic approach (Hepatitis B,C, TORCH, Varicella, Zika virus) Prevention of viral infections	01 week	5
11.	Central Nervous System Module: Central nervous system development and malformations Brain injury in the term and preterm infant Neonatal seizures	02 weeks	11
12.	Gastrointestinal & Hepatobiliary system Module: Development and structural anomalies of GIT (Pyloric atresia, pyloric stenosis, esophageal atresia and stenosis, duodenal atresia, meconium ileus and plug, volvulus, Hirschsprung disease, intussusception, neonatal GER, short bowel syndrome, necrotizing enterocolitis) Cholestatic liver diseases Biliary atresia Alagille syndrome, alpha 1 antitrypsin deficiency, progressive, intrahepatic cholestasis, congenital hepatic fibrosis Storage disorders: Galactosemia ,glycogen storage disease, tyrosinemia, maple syrup disease	04 weeks	8
13.	Renal and genitourinary system Module: Renal development Developmental abnormalities of genitourinary system Acute and chronic renal failure UTI and vesicoureteral reflux	02 weeks	5
14.	Endocrine system Module: Developmental endocrinology Disorders of calcium and phosphorous metabolism Disorders of adrenal gland	02 weeks	5
15.	Skeletal System Module Skeletal dysplasia Connective tissue disorders	01 week	5
16.	Opthalmology Module: Leukocoria Eye discharge and conjunctivitis	01 week	4

Placement in curriculum: 1 Module Title: Foundation Module code: FN-01 Module Duration: Two Weeks					
Topic	**Learning Objectives** **At the end of this session residents will be able to**			**Mode Of Information Transfer**	**Assessment Tools**
	Knowledge	Skills	Attitude		
Introduction/ History taking Examination of the newborn infant Time management and decision making	• Take complete history of patients presenting with common neonatal illnesses • Explain the risk factors in mothers affecting the outcome. • Discuss the clinical presentation, and plan management of neonatal illnesses. • Understand the principles and the rationale of immunization program including EPI • Describe normal neonatal examination findings • Explain the abnormalities on physical examination • Estimate the gestational age of neonatal infant using ballard scoring system • Discuss clinical features and relevant investigations. • Plan treatment of the specific illness. • Demonstrate effective clinical problem solving and judgment to address problems of the infant and family	• Elicit a maternal, perinatal, neonatal and family history that is relevant, concise and accurate to context for the purpose of diagnosis and management. • Perform a focused physical examination of the infant that is relevant, accurate and adapted to the patients clinical status and gestational age for the purpose of diagnosis management and disease prevention • Application of ballard scoring system for estimation of gestational age. • Recommend or select medically appropriate investigations of mother, fetus or infant, including diagnostic imaging and genetic testing, in a resource effective and ethical manner, taking into consideration, special circumstances that apply to the infant with following implications • Assessment of critically ill infant • Use of invasive and non-invasive diagnostic tests and procedures. • Assessment of pain and distress in infants. • Interpret available data and integrate antenatal and postnatal information to generate differential diagnosis and management plan.	• Counsel parents regarding congenital anomalies, high risk pregnancies and extremely preterm births. • Discuss and inform the family about diagnosis and management plan.	Seminar, SGD, bedside teaching, OPD and Emergency	MCQs SAQs OSCE Long Case Mini-CEX DOPS

Placement in curriculum:2 Module Title : Perinatology Module code: PN-01 Module Duration: Two Weeks					
Topic	**Learning Objectives** **At the end of this session residents will be able to**			**Mode Of Information Transfer**	**Assessment Tools**
	Knowledge	Skills	Attitude		
Perinatology Development, function and pathology of placenta Abnormalities of fetal growth- IUGR Still births Neonatal and perinatal epidemiology Maternal medical disorders of fetal significance Hypertensive complications of	• Demonstrate appropriate and timely application of preventive and therapeutic intervention relevant to neonatal – prenatal medicine • Describe and manage abnormalities of fetal growth • Describe and manage Impact of maternal therapy on infant • Describe and assess factors affecting perinatal mortality and morbidity • Evaluate the outcomes from neonatal care quality indicators • Discuss and manage	• Perform techniques of resuscitation and post resuscitation stabilization, vascular access, temp regulation, continuous cardio respiratory monitoring and apply principles of neonatal transport	• Liaison by telephone with transport services regarding the transfer of sick neonates	Seminar, SGD, bedside teaching, OPD and Emergency	MCQs SAQs OSCE Long Case Mini-CEX DOPS

Placement in curriculum:3 Module Title : Genetics Module code: GN-01 Module Duration: One Weeks					
Topic	**Learning Objectives** **At the end of this session residents will be able to**			**Mode Of Information Transfer**	**Assessment Tools**
	Knowledge	Skills	Attitude		
Human genetics: Prenatal diagnosis Dysmorphic infant	• Identify trisomies like Down, Edward and Patau syndrome and Noonan syndrome, Turner syndrome, William syndrome Di-George syndrome, VACTER and VACTERAL	• Manage initial and subsequent problems of above mentioned syndromes		Seminar, SGD, bedside teaching, OPD and Emergency	MCQs SAQs OSCE Long Case Mini-CEX DOPS

Placement in curriculum:4 Module Title : Fluid, Electrolyte and Acid Base Balance Module code: FEA-01 Module Duration: One Weeks					
Topic	**Learning Objectives** **At the end of this session residents will be able to**			**Mode Of Information Transfer**	**Assessment Tools**
	Knowledge	Skills	Attitude		
Fluid, electrolyte and acid base balance	• Discuss fluid and electrolyte imbalance and plan management • Discuss the types of acidosis and alkalosis and its management	• Interpret blood gases and acid base disorder • Correct the abnormalities of acid base and blood gases by manipulating the ventilator settings		Seminar, SGD, bedside teaching, OPD and Emergency	MCQs SAQs OSCE Long Case Mini-CEX DOPS

Placement in curriculum:5 Module Title : Respiratory System Module code: RESP-01 Module Duration: Two Weeks					
Topic	**Learning Objectives** **At the end of this session residents will be able to**			**Mode Of Information Transfer**	**Assessment Tools**
	Knowledge	Skills	Attitude		
Respiratory system **Lung development** **Neonatal pulmonary physiology** **Neonatal respiratory therapy** **Respiratory disorders in term infants** **Respiratory disorders in preterm infants** **Respiratory distress** **Pulmonary hemorrhage** **Persistent pulmonary hypertension** **Chronic lung disease of newborn**	• Compose lung development and physiology and correlate abnormalities with clinical disorders • Describe respiratory disorders in term and preterm infants • Applies knowledge of sedation, muscle relaxants and pulmonary vasodilators in babies • Manage pulmonary hemorrhage • Describe the pathophysiology of chronic lung disease, plan management at hospital and post discharge oxygen therapy at home • Assess indication of extracorporeal membrane oxygenation and the referral process.	• Administer surfactant when indicated, • Apply non - invasive and invasive mechanical ventilation including high frequency oscillatory ventilation (HFOV).		Seminar, SGD, bedside teaching, OPD and Emergency	MCQs SAQs OSCE Long Case Mini-CeX DOPS

Placement in curriculum:6 Module Title : Introduction to biostatistics and research Module code: BIOR-01 Module Duration: One Weeks					
Topic	**Learning Objectives** **At the end of this session residents will be able to**			**Mode Of Information Transfer**	**Assessment Tools**
	Knowledge	Skills	Attitude		
Introduction to biostatistics and research	• Describe the basics of biostatistics • Compose the importance of bio medical research • Apply the ethics in health research • Know how to search the literature • Formulate to write a scientific paper • Design a scientific presentation	• Apply the knowledge to formulate synopsis and research work		Seminar, SGD	MCQs SAQs

Placement in curriculum:7 Module Title : Cardiovascular System Module code: CVS-01 Module Duration: Two Weeks					
Topic	**Learning Objectives** **At the end of this session residents will be able to**			**Mode Of Information Transfer**	**Assessment Tools**
	Knowledge	Skills	Attitude		
Developmental biology of the heart **Cardiovascular compromise in the newborn** **Shock, PPHN, PDA in the preterm infant, Duct dependent lesions** **ECG** **ECHO**	• Relate developmental biology of heart and cardiovascular compromise in the newborn, • Detect and manage cardiogenic shock, PPHN, PDA in preterm infant, duct dependent lesions • Describe normal and abnormalities in ECG • Identify the place of echocardiographic assessment in congenital heart disease in newborns.	• Apply treatment options for closure of PDA • Interpret ECG findings, treat arrhythmias in neonates • Detect common congenital heart defects in newborns by echocardiography		Seminar, SGD, bedside teaching, OPD and Emergency	MCQs SAQs OSCE Long Case Mini-CeX DOPS

Placement in curriculum:8 Module Title : High Risk Newborn Care Module code: HRN-01 Module Duration: Two Weeks					
Topic	**Learning Objectives** **At the end of this session residents will be able to**			**Mode Of Information Transfer**	**Assessment Tools**
	Knowledge	Skills	Attitude		
Newborn resuscitation: **High risk newborn care** **Neonatal transport** **Extremely low birth weight and late preterm infants**	• Describe principles and technique of newborn resuscitation in operating and delivery room and apply mode of ventilation (oxygen via nasal cannula, HHHFNC, CPAP, Ventilator). • Describe the risk factors for extremely low birth weight babies Manage acute and long term complications of Extremely low birth weight and late preterm infants	•Follow Principle of neonatal resuscitation •Detect and correct complications of Extremely low birth weight and late preterm infants	• Counsel Parent s regarding the complications of prematurity • Engage multidisciplinary discharge planning for neonates with complex needs	Seminar, SGD, bedside teaching, OPD and Emergency	MCQs SAQs OSCE Long Case Mini-CEX DOPS

Placement in curriculum:9 Module Title : Immunology and Hematology Module code: IH-01 Module Duration: Two Weeks					
Topic	**Learning Objectives** **At the end of this session residents will be able to**			**Mode Of Information Transfer**	**Assessment Tools**
	Knowledge	Skills	Attitude		
Immunology of fetus and newborn: **Maternal and placental immunology** **Specific immunological deficiencies** **Immunization** **Hematological system and disorders of bilirubin metabolism:** **Developmental aspects of erythropoiesis, platelets and granulocytopoiesis** **Neonatal platelet and erythroid disorders** **Neonatal indirect hyperbilirubinemia and kernicterus**	•Illustrate immunology of fetus and newborn •Apply maternal and placental immunological functions •Specify maternal and placental immunological defects •Classify and manage immunological deficiencies of newborn (SCIM, agammaglobulinemia) etc •Immunization of mother and newborn for preventable diseases •Analyze hematological disorders of newborn including platelet, erythroid and granulocytes. •Detect causes and manage Neonatal indirect hyperbilirubinemia, manage kernicterus and plan hearing assessment	• Manage immunological deficiencies of newborn (SCIM, agammaglobulinemia) etc. • Immunization of mother and newborn for preventable diseases • Arrange and supervise an exchange transfusion for hemolytic disease	• Counsel the family regarding Immunization of mother and newborn for preventable diseases	Seminar, SGD, bedside teaching, OPD and Emergency	MCQs SAQs OSCE Long Case Mini-CEX DOPS

Placement in curriculum:10 Module Title : Infections Module code: INF-01 Module Duration: One Weeks					
Topic	**Learning Objectives** **At the end of this session residents will be able to**			**Mode Of Information Transfer**	**Assessment Tools**
	Knowledge	Skills	Attitude		
Infections: **Viral infections in fetus and newborn** **General diagnostic approach (Hepatitis B,C ,TORCH, Varicella, Zika virus)** **Prevention of viral infections**	• Recognize and manage viral infections of fetus and newborn • Diagnose and manage HBV, varicella in perinatal era and TORCH and zika virus in neonatal period • Apply principles of prevention of viral infections form mother to fetus	• Administer prophylaxis against hepatitis B & Varicella Zoster virus	• Arrange follow up for affected newborn babies	Seminar, SGD, bedside teaching, OPD and Emergency	MCQs SAQs OSCE Long Case Mini-CEX DOPS

Placement in curriculum:11 Module Title : Central Nervous System Module code: CNS-01 Module Duration: Two Weeks					
Topic	**Learning Objectives** **At the end of this session residents will be able to**			**Mode Of Information Transfer**	**Assessment Tools**
	Knowledge	Skills	Attitude		
Neurological system: **Central nervous system development and malformations** **Brain injury in the term and preterm infant** **Neonatal seizures**	•Detect central nervous system malformations and application of neuroimaging •Classify and manage hypoxic ischemic encephalopathy •Plan therapeutic hypothermia •Detect cause and manage neonatal seizures	•Perform cranial ultrasound and EEG	•Communicate to parents the long term outcomes and morbidity for a neonate with periventricular hemorrhage	Seminar, SGD, bedside teaching, OPD and Emergency	MCQs SAQs OSCE Long Case Mini-CEX DOPS

Placement in curriculum:12 Module Title : Gastrointestinal and Hepatobiliary System Module code: GIT & HEP-01 Module Duration: Four Weeks					
Topic	**Learning Objectives** **At the end of this session residents will be able to**			**Mode Of Information Transfer**	**Assessment Tools**
	Knowledge	Skills	Attitude		
Gastrointestinal system: Development and structural anomalies of GIT (Pyloric atresia, pyloric stenosis, esophageal atresia and stenosis, duodenal atresia, meconium ileus and plug, volvulus, Hirschsprung disease, intussusception, neonatal GER, short bowel syndrome, necrotizing enterocolitis) Disorders of liver: cholestatic liver diseases Biliary atresia Alagille syndrome, alpha 1 antitrypsin deficiency, progressive intrahepatic cholestasis, congenital hepatic fibrosis	• Diagnose , Differentiate and manage developmental anomalies of GIT (Pyloric atresia, pyloric stenosis, esophageal atresia and stenosis, duodenal atresia, meconium ileus and plug, volvulus, Hirsch sprung disease, intussusception, neonatal GER, short bowel syndrome, necrotizing enterocolitis) • Manage complications of surgeries • Detect and manage cholestatic liver disorders (biliary atresia, Alagille syndrome, alpha 1 antitrypsin deficiency, progressive intrahepatic cholestasis, congenital hepatic fibrosis)	• Manage complications of surgeries • Manage the pre- and post- operative care of babies with gastrointestinal and hepato biliary disease • Investigates and Assess when to refer a baby with hepatobiliary disease	•Communicate to parents the long term outcomes and morbidity for a neonate with periventricular hemorrhage	Seminar, SGD, bedside teaching, OPD and Emergency	MCQs SAQs OSCE Long Case Mini-CEX DOPS

Placement in curriculum:13 Module Title : Renal & Genitourinary System Module code: R & GS-01 Module Duration: Two Weeks					
Topic	**Learning Objectives** **At the end of this session residents will be able to**			**Mode Of Information Transfer**	**Assessment Tools**
	Knowledge	Skills	Attitude		
Renal and genitourinary system: Renal development Developmental abnormalities of genitourinary system Acute and chronic renal failure UTI and vesicoureteral reflux	• Detect renal and genitourinary system abnormalities and radio imaging • Diagnose and manage Congenital nephrotic syndrome, acute and chronic renal failure • Treat UTI and vesicoureteral reflux	• Manage and assess patients for referral to specialist care.		Seminar, SGD, bedside teaching, OPD and Emergency	MCQs SAQs OSCE Long Case Mini-CEX DOPS

Placement in curriculum:14 Module Title : Endocrine System Module code: ENDO-01 Module Duration: Two Weeks					
Topic	**Learning Objectives** **At the end of this session residents will be able to**			**Mode Of Information Transfer**	**Assessment Tools**
	Knowledge	Skills	Attitude		
Endocrine system: Developmental endocrinology Disorders of calcium and phosphorous metabolism Disorders of adrenal gland	• Compose developmental endocrinology, and its disorders. • Detect and manage disorders calcium, magnesium and phosphorus, hypernatremia, hyponatremia, hyperkalemia, hypokalemia	•Manage appropriate referrals for babies with disorders of sexual differentiation (ambiguous genitalia)	•Counsel parents about sick day management for CAH disorder	Seminar, SGD, bedside teaching, OPD and Emergency	MCQs SAQs OSCE Long Case Mini-CEX DOPS

Placement in curriculum:15 Module Title : Skeletal System Module code: SK-01 Module Duration: One Weeks					
Topic	**Learning Objectives** **At the end of this session residents will be able to**			**Mode Of Information Transfer**	**Assessment Tools**
	Knowledge	Skills	Attitude		
Skeletal dysplasia and heritable connective tissue disorders developmental dysplasia of hip joint	• Identify and plan investigation for differentiating skeletal dysplasia (achondroplasia, MPS, Metaphyseal, epiphyseal skeletal dysplasia) and connective tissue disorders(OI, Ehlar Danlos, Marfans etc)	• Perform Barlow and Ortolani test	•Explains the screening process and follow-up of babies with developmental dysplasia of hip joint	Seminar, SGD, bedside teaching, OPD and Emergency	MCQs SAQs OSCE Long Case Mini-CEX DOPS

Placement in curriculum:16 Module Title : Ophthalmology Module code: OPTH-01 Module Duration: One Weeks					
Topic	**Learning Objectives** **At the end of this session residents will be able to**			**Mode Of Information Transfer**	**Assessment Tools**
	Knowledge	Skills	Attitude		
Eye and vision disorders: Leukocoria Eye discharge and conjunctivitis	•Diagnose and plan treatment for eye and vision disorders, Detect and manage causes of leukocoria, congenital cataract, retinoblastoma, and vitreous anomaly •Classify and treat eye discharge and conjunctivitis •Manage nasolacrimal duct obstruction	•Manage referral to the specialized clinic		Seminar, SGD, bedside teaching, OPD and Emergency	MCQs SAQs OSCE Long Case Mini-CEX DOPS

SECOND YEAR MD NEONATOLOGY

No.	Contents	Duration of Module	Percentage weightage
1	Foundation Module Perinatology Neonatal followup End of life care	02 weeks	6
2	Human genetics Module: Human genetics Metabolic disorders Chromosomal disorders	01 week	5
3	Infections module Congenital infections Healthcare associated infections Fungal infections in neonatal ICU	02 weeks	5
4	Respiratory system Module: Acute complications of respiratory support Ventilation and oxygen associated neurological sequale Disorders of diaphragm and pleural cavity Surgical disorders of chest and airway	02 weeks	12
5	Cardiovascular system Module: Congenital cyanotic and acyanotic heart diseases Fetal and neonatal echocardiography Arrhythmias	02 weeks	8
6	Central nervous system Module: Neuroprotective strategies for newborn Neuroimaging	02 weeks	11
7	Neonatal neuromuscular disorders Module: Primary muscle disorders Congenital muscular and myotonic dystrophies Congenital myopathies Motor neuron disease Peripheral neuropathy	01 week	5
8	Gastrointestinal and hepatobiliary Module : Abdominal wall defects Pre and post op care Disorders of liver,cholestatic liver disease Vascular malformations Liver masses	02 weeks	8
9	Hematological System Module: Neonatal anemia Polycythemia and methemoglobenemia	02 weeks	7

	Neonatal transfusion guidelines		
10	Renal and genitourinary system Module: Glomerulonephritis and disorder of tubular function Vesicoureteric reflux Neonatal hypertension	02 weeks	5
11	Endocrinology Module: Disorders of sexual differentiation Disorders of thyroid gland Disorders of carbohydrate metabolism	01 week	5
12	Congenital malignant disorders Module Spectrum of malignancies in neonaters and genetic predisposition Neuroblastoma,leukemia,congenital solid tumors diagnosis and treatment	01 week	5
13	Craniofacial and orthopedic Module: Disorders of first and second brachial arches Neonatal osteomyelitis and septic arthritis	01 week	4
14	Dermatology Module: Bacterial,viral and fungal skin infections Common newborn dermatoses Cutaneous congenital defects	01 week	4
15	Special senses module : Motility abnormalities and nystagmus Ptosis Nasolacrimal abnormalities Ear and hearing disorders	02 weeks	6
16	Nutrition module: Breastfeeding Enteral and parenteral nutrition in high risk neonates Complications of parenteral nutrition	01 week	4

Detail of each module

Placement in curriculum: 1 Module Title: Foundation Module Module code: FN-02 Module Duration: Two weeks					
Topic	**Knowledge**	**Skill**	**Attitude**	**Mode Of Information Transfer**	**Assessment Tools**
Perinatology: Prenatal drug exposure Teratogenic drugs Antepartum fetal assessment Complicated deliveries	• Elicit history regarding prenatal drug exposure. • Understand and apply principles of prenatal screening and diagnosis. • Compose and manage various conditions on antepartum fetal assessment and complicated deliveries.	• Manage neonates affected by maternal substance misuse		Small group discussion Bedside teaching	SAQs MCQs OSCE
Neonatal follow-up	• Diagnose and appropriately refer babies with neurodevelopmental problem detected during follow up • Support and mange family and babies with feeding difficulties	• Performed a structured neurological assessment on follow-up		OPD clinic Case base discussion	MCQs
End of life care	• Applies the principles of palliative care, use of pharmacological agents within end-of-life care • Applies knowledge of major ethical issue in neonatology • Documents appropriate records following a neonatal death and for review process of confidential enquiry reports	• Manage and support the family of a dying baby	• Counsel and obtain consent for neonatal post-mortem examination	Small group discussion Bedside teaching	MCQs

Placement in curriculum: 2 Module Title: Genetics Module code: GN-02 Module Duration: One weeks					
Topic	**Knowledge**	**Skill**	**Attitude**	**Mode Of Information Transfer**	**Assessment Tools**
Human genetics: Metabolic disorders Chromosomal disorders	• Identify and manage metabolic disorders (amino acid and organic acid disorders, disorders of ammoni and carbohydrate metabolism, disorders of fatty acid oxidation, peroxisomal disorders and storage disorders. • Identify various deletion syndromes like chromosome 1p deletion syndrome, Wolf Hirsch-horn syndrome, Cri du chat syndrome. • Recognize and manage disorders of imprinted syndromes (Prader-Willi syndrome, Beckwith-Wiedemann syndrome, Russel silver syndrome).	• Manage process of screening investigation for inborn errors of metabolism • Investigate and treat disorders of carbohydrate metabolism, hypoglycemia hyperinsulinism and hyperglycemia		Small group discussion E-learning, audiovisual laboratory	DOPS, MINI CEX MCQs SAQs

Placement in curriculum: 3 Module Title: Infections Module code: INF-02 Module Duration: Two weeks					
Topic	**Knowledge**	**Skill**	**Attitude**	**Mode Of Information Transfer**	**Assessment Tools**
Infections: Congenital infections Healthcare associated infections Fungal infections in neonatal ICU	• Recognize and manage congenital infections (congenital toxoplasmosis, syphilis, malaria, HIV and tuberculosis). • Define, diagnose and manage healthcare associated infections (nosocomial blood stream infections, UTI, Ventilator associated pneumonia). • Manage various local and disseminated fungal infections.	• Manage neonate with multi resistant infection including MRSA , CONS.		Small group discussion Audio-visual lab Seminars	0SCE MCQs SAQs DOPS, MINI CEX

Placement in curriculum: 4 Module Title: Respiratory system Module code: RESP-02 Module Duration: Two weeks					
Topic	**Knowledge**	**Skill**	**Attitude**	**Mode Of Information Transfer**	**Assessment Tools**
Respiratory system: Acute complications of respiratory support Ventilator and oxygen associated neurological sequelae Disorders of diaphragm and pleural cavity Surgical disorders of chest and airway	• Diagnose and manage acute complications of respiratory support. • Diagnose and refer various surgical disorders of chest and airway.	• Perform intercostal • Drainage tube for pneumothorax • Perform emergency needle thoracotomy • Apply indication for respiratory syncytial virus prophylaxis		Bedside teaching	MCQs DOPS, MINI CEX

Placement in curriculum: 5 Module Title: Cardiovascular system Module code: CVS-02 Module Duration: Two weeks					
Topic	**Knowledge**	**Skill**	**Attitude**	**Mode Of Information Transfer**	**Assessment Tools**
Cardiovascular system: Congenital cyanotic and acyanotic heart diseases Fetal and neonatal echocardiography Perinatal arrhythmias	• Classify and manage congenital cyanotic and acyanotic diseases. • Plan and perform fetal and neonatal echocardiography. • Classify and manage perinatal arrhythmias.	• Perform bedside echocardiography to detect common lesion • Interpret arrhythmias on ECG and manage them		Bedside learning Clinical rotations Seminars	MCQs SAQs DOPS, MINI CEX Short case Long case

Placement in curriculum: 6 Module Title: Central Nervous System Module code: CNS-02 Module Duration: Two weeks					
Topic	**Knowledge**	**Skill**	**Attitude**	**Mode Of Information Transfer**	**Assessment Tools**
Neurological system: Neuroprotective strategies for newborn Neuroimaging	• Demonstrate and apply various neuroprotective strategies for newborn. • Preform cranial ultrasonography. • Detect abnormalities on cranial CT scan and MRI of neonates. • Identify implication of and mange post-hemorrhagic ventricular dilatation, periventricular leukomalacia	• Perform therapeutic hypothermia and Neuroprotective strategies for hypoxic ischemic encephalopathy • Detect abnormality on cranial CT scan MRI of neonates	• Counsel parents about long term outcome for neonates with neurological disorder	Bedside teaching Small group discussion Audiovisual lab	DOPS, MINI CEX OSCE Short case Long case

Placement in curriculum: 7 Module Title: Neonatal neuromuscular disorders Module code: NMD-02 Module Duration: One weeks					
Topic	**Knowledge**	**Skill**	**Attitude**	**Mode Of Information Transfer**	**Assessment Tools**
Neonatal neuromuscular disorders: Primary muscle disorders Congenital muscular and myotonic dystrophy Congenital myopathies Motor neuron disease Peripheral neuropathies	• Discuss primary muscle disorders. • Identify and manage congenital muscular dystrophy, myotonic dystrophy and myopathies. • Detect and manage motor neuron disease and peripheral neuropathies.	• Arrange physiotherapy and rehabilitation clinic for muscular disorder	• Counsel parents about long term follow-up	Small group discussion Self-directed learning	MCQs SAQs OSCE

Placement in curriculum: 8 Module Title: Gastrointestinal & Hepatobiliary System Module code: G & HEP-02 Module Duration: Two weeks					
Topic	**Knowledge**	**Skill**	**Attitude**	**Mode Of Information Transfer**	**Assessment Tools**
Gastrointestinal system Abdominal wall defects	• Identify and describe umbilical cord abnormalities (non-coiled umbilical cord, single umbilical artery, umbilical vessel dilatations, umbilical cord cysts and umbilical cord hematomas). • Detect and refer abdominal wall defects (Omphalocele, Gastroschisis, Bladder exstrophy, Prune belly syndrome, Diastasis recti, inguinal and umbilical hernia, hydrocele)	• Pre and postoperative care of the newborn	• Liaison with specialized department	Small group discussion Bedside teaching Department Rotation training	SAQs MCQs OSCE
Disorders of liver: cholestatic liver diseases Vascular malformations Liver masses.	• Diagnose and manage cholestatic liver diseases. • State and identify liver malformations and masses.	• Interpret HIDA scan and MRI abdomen	• Liaison with specialized department	Small group discussion E-learning Seminars	DOPS, MINI CEX OSCE

Placement in curriculum: 9 Module Title: Hematological system Module code: HEM-02 Module Duration: Two weeks					
Topic	**Knowledge**	**Skill**	**Attitude**	**Mode Of Information Transfer**	**Assessment Tools**
Hematological system: Neonatal anemia, polycythemia and methemoglobinemia Neonatal transfusions guidelines	• Detect causes and manage neonatal anemia, polycythemia and methemoglobinemia. • Enlist and apply neonatal transfusion guidelines.	• Arrange blood transfusion and granulocyte colony stimulating factor • Manage transfusion Reaction		Small group discussion Problem based learning	MCQs SAQs DOPS, MINI CEX

Placement in curriculum: 10 Module Title: Renal and Genitourinary System Module code: R & GS-02 Module Duration: Two weeks					
Topic	**Knowledge**	**Skill**	**Attitude**	**Mode Of Information Transfer**	**Assessment Tools**
Renal and genitourinary system: Glomerulonephritis and disorders of tubular function Vesicoureteral reflux Neonatal hypertension	• Describe glomerulonephritis and detect tubular disorders. • Classify and manage VUR • Detect causes and manage neonatal hypertension	• Manage acute renal failure in the neonate including dialysis • Manage antenatally diagnose renal disorders following birth • Arrange urgent nephro-urology referrals for complicated renal tract disorder		Small group discussion E-learning webinar	MCQs SAQs Short case

Placement in curriculum: 11 Module Title: Endocrinology Module code: ENDO-02 Module Duration: One weeks					
Topic	**Knowledge**	**Skill**	**Attitude**	**Mode Of Information Transfer**	**Assessment Tools**
Endocrine disorders: Disorders of sexual differentiation Disorders of thyroid gland Disorders of carbohydrate metabolism	• Discuss disorders of sexual development. • Identify and manage thyroid disorders and disorders of carbohydrate metabolism.	• Manage appropriate referrals for babies with disorders of sexual differentiation (ambiguous genitalia)	• Counsel parents for long term follow-up in endocrinology clinic	Bedside learning Small group discussion seminars	MCQs SAQs OSCE DOPS, MINI CEX short cases

Placement in curriculum: 12 Module Title: Congenital Malignant Disorders Module code: CMD-02 Module Duration: Two weeks					
Topic	**Knowledge**	**Skill**	**Attitude**	**Mode Of Information Transfer**	**Assessment Tools**
Congenital malignant disorders: Spectrum of malignancies in neonates and genetic predisposition Neuroblastoma, Leukemia, Congenital solid tumors diagnosis and treatment	• Diagnose and refer various malignancies of neonatal age group.	• Interpret investigation and radio imaging for appropriate diagnoses and referral		Small group discussion Self directed learning	MCQs SAQs

Placement in curriculum: 13 Module Title: Craniofacial and Orthopedic Conditions Module code: C & OC-02 Module Duration: One week					
Topic	**Knowledge**	**Skill**	**Attitude**	**Mode Of Information Transfer**	**Assessment Tools**
Craniofacial and orthopedic conditions: Disorders of first and second brachial arches Neonatal osteomyelitis and septic arthritis	• Identify craniofacial abnormalities (Micrognathia, orofacial clefting, craniosynostosis, disorders of first abd second brachial arch) • Describe management of osteomyelitis and septic arthritis	• Manage osteomyelitis and septic arthritis		Bedside teaching Small group discussion	OSCE SAQs Mini CEX

Placement in curriculum: 14 Module Title: Dermatological condition Module code: DERMA-02 Module Duration: One week					
Topic	**Knowledge**	**Skill**	**Attitude**	**Mode Of Information Transfer**	**Assessment Tools**
Dermatological condition: Bacterial, Viral and fungal skin infections Common newborn dermatoses Cutaneous congenital defects	• Detect and manage bacterial, viral and fungal skin infections in neonates. • Interpret common newborn dermatoses • Identify and refer cutaneous congenital defects	• Treat bacterial, viral and fungal skin infections in neonates	• Liaison for referral of Cutaneous congenital defects to specialized clini	Bedside teaching E-learning Audio visual	MCQs SAQs OSCE

Placement in curriculum: 15 Module Title: Special senses Module Code:SENSE-02 Module Duration: Two week					
Topic	**Knowledge**	**Skill**	**Attitude**	**Mode Of Information Transfer**	**Assessment Tools**
Eye and vision disorders: Motility abnormalities and nystagmus Ptosis and nasolacrimal abnormalities	• Detect nystagmus, ptosis, motility and nasolacrimal duct abnormalities	• Arrange follow-up in specialized clinic		Bedside teaching Small group discussion	DOPS, MINI CEX OSCE
Ear and Hearing disorders	• Identify hearing disorders • Enlist methods of newborn hearing screening • Enlist risk factors for permanent hearing loss • Refer for expert management	• Hearing assessment and interpretation of BERA result • Refer for expert management		Small group discussion Self directed learning	MCQs SAQs

Placement in curriculum: 16 Module Title: Nutrition Module code:NUTRI-02 Module Duration: One week					
Topic	**Knowledge**	**Skill**	**Attitude**	**Mode Of Information Transfer**	**Assessment Tools**
Nutrition: Breastfeeding Enteral and parenteral nutrition in the high risk neonate	• Signify importance of breas feeding , its contraindicatio • Apply protocols of enteral feedings in preterm neonate • Initiate parenteral nutrition i the high risk neonate and tre its complications	• Assess and mange complications of parenteral Nutrition i the high risk neonate	• Counsel mother for breast feeding	Small group discussion Bedside teaching	MCQs SAQs Short case

SECTION – III

RESEARCH &ARTICLE WRITING

Total of one year will be allocated for work on a research project with article writing. Project must be completed and article be submitted before the end of training. Research can be done as one block in 1st year of training or it can be stretched over two years of training in the form of regular periodic rotations during the course as long as total research time is equivalent to one calendar year.

Research Experience

The active research component program must ensure meaningful, supervised research experience with appropriate protected time for each resident while maintaining the essential clinical experience. Recent productivity by the program faculty and by the residents will be required, including publications in peer-reviewed journals. Residents must learn the design and interpretation of research studies, responsible use of informed consent, and research methodology and interpretation of data. The program must provide instruction in the critical assessment of new therapies and of the medical literature. Residents should be advised and supervised by qualified staff members in the conduct of research

Clinical Research

Each resident will participate in at least one clinical research study to become familiar with

1. Research design
2. Research involving human subjects including informed consent and operations of the Institutional Review Board and ethics of human experimentation
3. Data collection and data analysis
4. Research ethics and honesty
5. Peer review process

This usually is done during the consultation and outpatient clinic rotations

MANDATORY WORKSHOPS

S. No.	NAME OF THE WORKSHOP	LEARNING OBJECTIVES	TOPICS TO BE COVERED
1.	**Biostatistics & Research Methodology 3(days)**	• To understand the basics of Bio-Statistics • To critique why research is important? • To discuss the importance of Selecting a Field for Research • To prepare oneself for Participation in National and International Research • To prepare oneself for Participation in Pharmaceutical Company Research • To interpret the importance of research ideas & Criteria for a good research topic • To discuss Ethics in Health Research • To learn to write a Scientific Paper • To learn to make a Scientific Presentation • To learn to make a purposeful literature search	1. Introduction to Bio-Statistics 2. Introduction to Bio- Medical Research Why research is important? 3. What research to do? i. Selecting a Field for Research ii. Drivers for Health Research iii. Participation in National and International Research iv. Participation in Pharmaceutical Company Research v. Where do research ideas come from vi. Criteria for a good research topic 4. Ethics in Health Research 5. Writing a Scientific Paper 6. Making a Scientific 7. Presentation & Searching the Literature
2.	**Introduction to computer/ Information (2 days)**	• By the end of this workshop student should be able to: • Appropriately start up and shut down your computer. • Navigate the operating system and start applications. • Perform basic functions of file management. • Perform basic functions in a word processor and spreadsheet. • Manage print settings and print documents. • Receive and send email. • Use a web browser to navigate the Internet. • work with windows, toolbars, and command menus • perform basic word processing and graphic tasks • make a Power Point presentation • explore Web browsing basics • back up files • save, copy, and organize your work • to enter data accurately in software of Statistical Package for Social Sciences resolution	• Creating spreadsheets in Microsoft Excel. • Typing text numbers and dates into a worksheet. • Easy formulas. • Easy formatting. • Charting your data. • Making and saving changes to your workbook. • Printing a worksheet. • Printing • Print preview. • Print settings. • Managing the print queue. • Using Email • The Outlook mail screen elements. • Composing and sending an email message. • Managing the Inbox. • Accessing the Internet • Going to a specific website and bookmarking. • Understanding how to search/Google effectively. • Copy and paste Internet content into your documents and emails. • Stopping and refreshing pages. • Demystifying the Cloud. • Understanding social media platforms such as Facebook and Twitter. • Computer security best practices. • Statistical Package for Social Sciences • general understanding for data entry
3.	**Communication skills (3 days)**	• To learn to break a bad news • To discuss the importance of • Medical Ethics, Professionalism and • Doctor-Patient Relationship • Hippocratic Oath • To learn to take an informed	• Use of Non-medicinal Interventions in Clinical • Practice Communication Skills • Counseling • Informational Skills • Crisis Intervention/Disaster • Management Conflict Resolution

		• consent • To illustrate the importance of • confidentiality • To summarize Ethical Dilemmas in a • Doctor's Life	• Breaking Bad News

MD NEONATOLOGY

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RAWALPINDI

ENROLMENT DETAILS

Program of Admission_____

Session_____

Registration / Training Number_____

Name of Candidate_____

Father's Name_____

Date of Birth _____/_____/ _____ CNIC No._____

Present Address_____

_____

Permanent Address_____

_____

E-mail Address_____

Cell Phone_____

Date of Start of Training_____

Date of Completion of Training_____

Name of Supervisor_____

Designation of Supervisor_____

Qualification of Supervisor_____

Title of department /Unit _____

Name of Training Institute /Hospital_____

INTRODUCTION OF LOGBOOK:

A structured book in which certain types of educational activities and patient related information is recorded, usually by hand. Logbooks are used all over the world from undergraduate to postgraduate training, in human, veterinary and dental medicine, nursing schools and pharmacy, either in paper or electronic format .

Logbooks provide a clear setting of learning objectives and give trainees and clinical teachers a quick overview of the requirements of training and an idea of the learning progress. Logbooks are especially useful if different sites are involved in the training to set a (Minimum) standard of training. Logbooks assist supervisors and trainees to see at one glance which learning objectives have not yet been accomplished and to set a learning plan. The analysis of logbooks can reveal weak points of training and can evaluate whether trainees have fulfilled the Minimum requirements of training.

Logbooks facilitate communication between the trainee and clinical teacher. Logbooks help to structure and standardize learning in clinical settings. In contrast to portfolios, which focus on students' documentation and self- reflection of their learning activities, logbooks set clear learning objectives and help to structure the learning process in clinical settings and to ease communication between trainee and clinical teacher. To implement logbooks in clinical training successfully, logbooks have to be an integrated part of the curriculum and the daily routine on the ward.
Continuous measures of quality management are necessary.

Reference

BraunsKS,NarcissE,SchneyinckC,BöhmeK,Brüstle P, Holzmann UM, etal. Twelve tips for successfully implementing logbooks in clinical training. Med Teach. 2016 Jun 2; 38(6): 564–569.

INDEX: ***LOG OF***

SECTION-1

MORNING REPORT PRESENTATION/CASE PRESENTATION (LONG AND SHORT CASES)

SR#	DATE	REG# OF PATIENT	DIAGNOSIS & BRIEF DESCRIPTION	SIGNATURES OF THE SUPERVISOR

SECTION-2

TOPIC PRESENTATION/SEMINAR

SR#	DATE	NAME OF THE TOPIC & BRIEF DETAILS OF THE ASPECTS COVERED	SIGNATURES OF THE SUPERVISOR

SECTION-3

JOURNAL CLUB

SR#	DATE	TITLE OF THE ARTICLE	NAME OF JOURNAL	DATE OF PUBLICATION	SIGNATURES OF THE SUPERVISOR

SECTION-4

PROBLEM CASE DISCUSSION

SR #	DATE	REG.# OF THE PATIENT DISCUSSED	DIAGNOSIS	BRIEF DESCRIPTION OF THE CASE	SIGNATURES OF THE SUPERVISOR

SECTION-5

DIDACTIC LECTURE/INTERACTIVE LECTURES

SR #	DATE	TOPIC & BRIEF DESCRIPTION	NAME OF THE TEACHER	SIGNATURES OF THE SUPERVISOR

SECTION- 6

RECORD OF TOTAL EMERGENCY CASES SEEN ON EMERGENCY CALL DAYS

SR.#	DATE	TOTAL NUMBER OF CASES ATTENDED	SIGNATURES OF THE SUPERVISOR
1			
2			
3			
4			
5			
6			
7			
9			
10			
11			
12			
13			
14			
15			
16			
17			

SECTION-6

EMERGENCY CASES

(Repetition of cases should be avoided)

SR#	DATE	REG # OF THE PATIENT	DIAGNOSIS	MANAGEMENT	PROCEDURES PERFORMED	SIGNATURES OF THE SUPERVISOR

SECTION-7

RECORD OF TOTAL INDOOR CASES ON CALL DAYS AND WARDS

SR.#	DATE	TOTAL NUMBER OF CASES ATTENDED	SIGNATURES OF THE SUPERVISOR
1			
2			
3			
4			
5			
6			
7			
9			
10			
11			
12			
13			
14			
15			
16			
17			

SECTION-7

INDOOR PATIENTS

(Repetition of cases should be avoided)

SR#	DATE	REG # OF THE PATIENT	DIAGNOSIS	MANAGEMENT	PROCEDURES PERFORMED	SIGNATURES OF THE SUPERVISOR

SECTION-8

RECORD OF TOTAL OPD /CLINICAL CASES SEEN ON OPD DAYS

SR.#	DATE	TOTAL NUMBER OF CASES ATTENDED	SIGNATURES OF THE SUPERVISOR
1			
2			
3			
4			
5			
6			
7			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

SECTION-8

OPD AND CLINICS (Repetition of cases should be avoided)

SR#	DATE	REG # OF THE PATIENT	DIAGNOSIS	MANAGEMENT	SIGNATURES OF THE SUPERVISOR

SECTION-9

PROCEDURES

SR.#	DATE	REG NO. OF PATIENT	NAME OF PROCEDURE	OBSERVED/ASSISTED PERFORMED UNDER SUPERVISION/ PERFORMED INDEPENDENTLY	PLACE OF PROCEDURE	SIGNATURES OF THE SUPERVISOR

SECTION-10

MULTI DICIPLINARY MEETINGS

SR#	DATE	BRIEF DESCRIPTION	SIGNATURES OF THE SUPERVISOR

SECTION-11

CLINICOPATHOLOGICAL CONFERENCE

SR#	DATE	BRIEF DESCRIPTION OF THE TOPIC/CASE DISCUSSED	SIGNATURES OF THE SUPERVISOR

SECTION-12

MORBIDITY/MORTALITY MEETINGS

SR#	DATE	REG. # OF THE PATIENT DISCUSSED	BRIEF DESCRIPTION	COMMENTS/ SUGGESTIONS	SIGNATURES OF THE SUPERVISOR

SECTION-13

HANDS ON TRAINING/WORKSHOPS

SR#	DATE	TITLE	VENUE	FACILITATOR	SIGNATURES OF THE SUPERVISOR

SECTION-14

PUBLICATIONS

S.NO.	NAME OF PUBLICATION	TYPE OF PUBLICATION ORIGINAL ARTICLE/ EDITORIAL/ CASE REPORT ETC	NAME OF JOURANL	DATE OF PUBLICATION	PAGE NO.	SIGNATURES OF THE SUPERVISOR

SECTION-15

MAJOR RESEARCH PROJECT DURING MD TRAINING/ANY OTHER MAJOR RESEARCH PROJECT

S. NO.	RESEARCH TOPIC	PLACE OF RESEARCH	NAME AND DESIGNATION OF SUPERVISOR OTHER THAN MD SUPERVISOR UNDER WHOM RESEARCH WAS CONDUCTED	BRIEF DETAILS	SIGNATURES OF THE SUPERVISOR

SECTION-16

WRITTEN ASSESSMENT RECORD

S. No.	TOPIC OF WRITTEN TEST/ EXAMINATION	TYPE OF THE TEST MCQS OR SEQS OR BOTH	TOTAL MARKS	MARKS OBTAINED	SIGNATURES OF THE SUPERVISOR

SECTION-17

CLINICAL ASSESSMENT RECORD

SR.#	TOPIC OF CLINICAL TEST/ EXAMINATION	TYPE OF THE TEST& VENUE OSPE, MINICEX, CHART STIMULATED RECALL, DOPS, SIMULATED PATIENT, SKILL LAB e.t.c	TOTAL MARKS	MARKS OBTAINED	SIGNATURES OF THE SUPERVISOR

SECTION-18

EVALUATION RECORDS

Photocopy of consolidated evaluation record at the end of each block should be pasted here)

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MENTOR / SUPERVISOR EVALUATION OF TRAINEE

Resident's Name: _____

Evaluator's Name(s): _____

Hospital Name: _____

Date of Evaluation: _____

☐ Traditional Track (10% Clinic) ☐ Primary Care Track (20% Clinic)

1	Unsatisfactory
2	Below Average
3	Average
4	Good
5	Superior

Please circle the appropriate number for each item using the scale above.

Patient Care	Scale				
1. Demonstrates sound clinical judgment	1	2	3	4	5
2. Presents patient information case concisely without significant omissions or digressions	1	2	3	4	5
3. Able to integrate the history and physical findings with the clinical data and identify all of the patient's major problems using a logical thought process	1	2	3	4	5
4. Develops a logical sequence in planning for diagnostic tests and procedures and Formulates an appropriate treatment plan to deal with the patient's major problems	1	2	3	4	5
5. Able to perform commonly used office procedures	1	2	3	4	5
6. Follows age appropriate preventative medicine guidelines in patient care	1	2	3	4	5
Medical Knowledge	**Scale**				
1. Uses current terminology	1	2	3	4	5
2. Understands the meaning of the patient's abnormal findings	1	2	3	4	5
3. Utilizes the appropriate techniques of physical examination	1	2	3	4	5
4. Develops a pertinent and appropriate differential diagnosis for each patient	1	2	3	4	5
5. Demonstrates a solid base of knowledge of ambulatory medicine	1	2	3	4	5
6. Can discuss and apply the applicable basic and clinically supportive sciences	1	2	3	4	5
Professionalism	**Scale**				
1. Demonstrates consideration for the patient' s comfort and modesty	1	2	3	4	5
2. Arrives to clinic on time and follows clinic policies and procedures	1	2	3	4	5
3. Works effectively with clinic staff and other health professionals	1	2	3	4	5
4. Able to gain the patient's cooperation and respect	1	2	3	4	5
5. Demonstrates compassion and empathy for the patient	1	2	3	4	5
6. Demonstrates sensitivity to patient's culture, age, gender, and disabilities	1	2	3	4	5
7. Discusses end-of-life issues (DPOA, advanced directives, etc.) when appropriate	1	2	3	4	5

1

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Interpersonal and Communication Skills	Scale				
1. Demonstrates appropriate patient/physician relationship	1	2	3	4	5
2. Uses appropriate and understandable layman's terminology in discussions with patients	1	2	3	4	5
3. Patient care documentation is complete, legible, and submitted in timely manner	1	2	3	4	5
4. Recognizes need for behavioral health services and understands resources available	1	2	3	4	5
Systems-based Practice	**Scale**				
1. Spends appropriate time with patient for the complexity of the problem	1	2	3	4	5
2. Able to discuss the costs, risks and benefits of clinical data and therapy	1	2	3	4	5
3. Recognizes the personal, financial, and health system resources required to carry out the prescribed care plan	1	2	3	4	5
4. Demonstrates effective coordination of care with other health professionals	1	2	3	4	5
5. Recognizes the patient's barriers to compliance with treatment plan such as age, gender, ethnicity, socioeconomic status, intelligence, dementia, etc.	1	2	3	4	5
6. Demonstrates knowledge of risk management issues associated with patient's case	1	2	3	4	5
7. Works effectively with other residents in clinic as if a member of a group practice	1	2	3	4	5
Practice-Based Learning and Improvement	**Scale**				
1. Locates, appraises, and assimilates evidence from scientific studies	1	2	3	4	5
2. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies to assess diagnostic and therapeutic effectiveness of treatment plan	1	2	3	4	5
3. Uses information technology to access information to support diagnosis and treatment	1	2	3	4	5

Comments

Total Score _____/165

_____ _____ _____ _____

Resident's Signature **Date** **Evaluator's Signature** **Date**

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Patient Medical Record / Chart Evaluation Proforma

Name of Resident

Location of Care or Interaction
(OPD/Ward/Emergency/Endoscopy Department)

S#		Poor	Fair	Good	V. Good	Excellent
1.	Basic Data on Front Page Recorded	O	O	O	O	O
2.	Presenting Complaints written in chronological order	O	O	O	O	O
3.	Presenting Complaints Evaluation Done	O	O	O	O	O
4.	Systemic review Documented	O	O	O	O	O
5.	All Components of History Documented	O	O	O	O	O
6.	Complete General Physical Examination done	O	O	O	O	O
7.	Examination of all systems documented	O	O	O	O	O
8.	Differential Diagnosis framed	O	O	O	O	O
9.	Relevant and required investigations documented	O	O	O	O	O
10.	Management Plan framed	O	O	O	O	O
11.	Notes are properly written and eligible	O	O	O	O	O
12.	Progress notes written in organized manner	O	O	O	O	O
13.	Daily progress is written	O	O	O	O	O
14.	Chart is organized no loose paper	O	O	O	O	O
15.	Investigations properly pasted	O	O	O	O	O
16.	Abnormal findings in investigations encircled.	O	O	O	O	O
17.	Procedures done on patient documented properly	O	O	O	O	O
18.	Medicine written in capital letter	O	O	O	O	O
19.	I/v fluids orders are proper with rate of infusion mentioned	O	O	O	O	O
20.	All columns of chart complete	O	O	O	O	O

Poor: 0, Fair: 1, Good: 2, V.Good: 3, Excellent: 4

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Preview Form

RESIDENT EVALUATION BY NURSE / STAFF

Please take a few minutes to complete this evaluation form. All information is confidential and will be used constructively. You need not answer all the questions

Name of Resident*

Location of care or interaction: *(OPD/Ward/Emergency/Endoscopy Department)*

Your position (Nurse, Ward Servant, Endoscopy Attendant)

S#	PROFESSIONALISM	Poor	Fair	Good	V Good	Excellent	Insufficient Contact
1.	Resident is Honest and Trustworthy	❍	❍	❍	❍	❍	❍
2.	Resident treats patients and families with courtesy, compassion and respect	❍	❍	❍	❍	❍	❍
3.	Resident treats me and other member of the team with courtesy and respect	❍	❍	❍	❍	❍	❍
4.	Resident shows regard for my opinions	❍	❍	❍	❍	❍	❍
5.	Resident maintains a professional manner and appearance	❍	❍	❍	❍	❍	❍
INTERPERSONAL AND COMMUNICATIONS SKILLS							
6.	Resident communicates well with patients, families, and members of the healthcare team	❍	❍	❍	❍	❍	❍
7.	Resident provides legible and timely documentation	❍	❍	❍	❍	❍	❍
8.	Resident respect differences in religion, culture age, gender sexual orientation and disability	❍	❍	❍	❍	❍	❍
SYSTEMS BASED PRACTICE							
9.	Resident works effectively with nurses and other professionals to improve patient care.	❍	❍	❍	❍	❍	❍
PATIENT CARE							
10.	Resident respects patient preferences	❍	❍	❍	❍	❍	❍
11.	Resident is reasonable accessible to patients	❍	❍	❍	❍	❍	❍
12.	Resident take care of patient comfort and dignity during procedures.	❍	❍	❍	❍	❍	❍
PRACTICE BASED LEARNING AND IMPROVEMENT							
13.	Resident facilitates the learning of students and other professionals	❍	❍	❍	❍	❍	❍
COMMENTS							
14.	Please describe any praises or concerns or information about specific incidents	❍	❍	❍	❍	❍	❍

THANK YOU for your time and thoughtful input. You play a vital role in the education and training of the internal medicine residents.

Poor: 0, Fair: 1, Good: 2, V. Good: 3, Excellent: 4

Total Score _____/56

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Patient Evaluation of Trainee

Trainee Name: _____

Date of Evaluation: _____

1	Strongly Disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

Please circle the appropriate number for each item using this scale. Please provide any relevant comments on the back of this form.

	This Trainee:	Scale				
1.	Introduces him/herself and greets me in a way that makes me feel comfortable. ڈاکٹر صاحب نے خود کو متعارف کرایا اور خوش اسلوبی سے پیش آئے	1	2	3	4	5
2.	Manages his/her time well and is respectful of my time. ڈاکٹر صاحب نے میرے اور اپنے وقت کا خیال رکھا۔	1	2	3	4	5
3.	Is truthful, upfront, and does not keep things from me that I believe I should know. ڈاکٹر صاحب نے میرے مرض کی صورتحال پوری سچائی سے بیان کی۔	1	2	3	4	5
4.	Talks to me in a way that I can understand, while also being respectful. ڈاکٹر صاحب نے میرے احساسات کا خیال رکھا اور عزت سے میرا علاج کیا۔	1	2	3	4	5
5.	Understands how my health affects me, based on his/her understanding of the details of my life. ڈاکٹر صاحب نے میرے علاج میں میری صحت پر ذاتی زندگی کو مدنظر رکھا۔	1	2	3	4	5
6.	Takes time to explain my treatment options, including benefits and risks. ڈاکٹر صاحب نے میرے مرض کے علاج کے فوائد اور نقصانات کو تفصیلاً بیان کیا۔	1	2	3	4	5

Total Score _____/30

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Resident/Fellow Evaluation of Faculty Teaching

Evaluator: _____

Evaluation of: _____

Date:_____

Evaluation information entered here will be anonymous and made available only in aggregated form.

S#		Strongly Disagree	Disagree Moderately	Disagree Slightly	Agree Slightly	Agree Moderately	Strongly Agree
	PATIENT CARE						
1.	Teaches current scientific evidence for daily patient management*						
2.	Explains rationale behind clinical judgements/decisions*						
3.	Teaches clear diagnostic algorithms*						
4.	Teaches clear treatment algorithms*						
	PATIENT CARE - OPERATIVE AND PROCEDURAL SKILLS						
5.	Teaches operative/procedural skills during cases*						
6.	Allows learners to perform operative/procedural skills when appropriate*						
	MEDICAL KNOWLEDGE						
7.	Teaches relevant pathophysiology needed to evaluate patient medical conditions*						
8.	Teaches how/when to use-order-perform procedures/tests*						
9.	Teaching content adds significantly to my medical knowledge						
10.	Teaches the use of literature / evidence based medicine to support clinical decisions/teaching points*						

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PRACTICE-BASED LEARNING & IMPROVEMENT/TEACHING							
11.	Asks questions about differential diagnosis*						
12.	Teaches trainees when to consider referrals/consults with other specialists*						
13.	Actively teaches trainees in clinical settings/labs*						
INTERPERSONAL & COMMUNICATION SKILLS							
14.	Motivates learners to expand medical knowledge*						
15.	Stimulates critical thinking*						
16.	Encourages questions*						
17.	Teaches at the appropriate level for the trainee*						
18.	Provides feedback specific enough to be helpful*						
PROFESSIONALISM							
19.	Demonstrates respect for trainees of all levels*						
20.	Does not belittle/ publicly humiliate learners*						
21.	Teaches professional behavior with respect to patient care.*						
22.	Exhibits professional behavior with respect to patient care*						
23.	Role models professional behavior*						
SYSTEMS-BASED PRACTICE							
24.	Teaches cost/benefit decision making*						
25.	Teaches how to call on resources in the system to provide optimal health care*						
26.	Role models the necessity of working in inter-professional teams to enhance patient safety/outcomes.*						

Strongly Disagree: 0, Disagree Moderately: 1, Disagree Slightly: 2, Agree Slightly: 3, Agree Moderately: 4, Strongly Agree: 5

Total Score _____ / 130

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FINAL Evaluation Scoring Sheet

Name of Resident	Name of Supervisor	Year of Training

Date _____

Duration of Assessment _____

Specialty _____

Hospital _____

Unit _____

	Faculty #1 (165)	Faculty #2 (165)	Faculty #3 (165)	Average Score	Patient # 1 (30)	Patient # 2 (30)	Patient # 3 (30)	Medical Record Performa #1 (80)	Medical Record Performa #2 (80)	Medical Record Performa #3 (80)	Staff # 1 (56)	Staff #2 (56)	Staff #3 (56)
Medical Patient Care (30)				___/30									
Medical Knowledge (30)				___/30									
Professionalism (35)				___/35									
Interpersonal and Communication Skills (20)				___/20									
System Based Practice (35)				___/35									
Practice Based Learning and Improvement (15)				___/15									
Overall Rating													
Average:	_____/165				___/30			___/80			___/56		

Grand Total

_____/331

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Logbook *complete* ☐ *incomplete* ☐

Portfolio *complete* ☐ *incomplete* ☐

Leave /absentees: _____

Comments

_____

_____

_____

_____

Supervisor Name (1) _____ *Supervisor Name (2)* _____ *Head of Unit* _____

Sign & Stamp _____ *Sign & Stamp* _____ *Sign & Stamp* _____

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RESIDENT SELF-ASSESSMENT PROFORMA

Resident Name_____ **Date** _____

Year of Training _____ **Hospital Name**_____ **Unit** _____

❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
Not Applicable	I rarely demonstrates (<25% of the time)	I do this Sometimes (25-50% of the time)	I do this most of the time (50-75% of the time)	I do this all the time (>75% of time)

1.	I am able to acquire accurate and relevant histories from my patients in an efficient, prioritized and hypothesis driven fashion.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
2.	I am able to seek and obtain appropriate, verified, and prioritized data from secondary sources (e.g. family, records and pharmacy)	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
3.	I am able to perform accurate physical examinations that are appropriately targeted to the patient's complaints.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
4.	I am able to synthesize all available data, including interview, physical exam, and preliminary lab data to define each patient's central clinical problem.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
5.	I am able to develop prioritized differential diagnoses, evidence based diagnostic and therapeutic plans for common conditions in Internal Medicine patients.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
6.	I am able to recognize situations with a need for urgent or emergent medical care, including life threatening conditions.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
7.	I am able to recognize when to seek additional guidance.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
8.	I am able to provide appropriate preventive care.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
9.	I am able to manage patients with common clinical disorders in the practice of outpatient internal medicine with minimal supervision.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
10.	I have performed several invasive procedures and documented them in my New Innovations log.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
11.	I demonstrate sufficient knowledge to diagnose and treat common conditions that require hospitalization.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
12.	I understand the indications for and the basic interpretation of common diagnostic tests.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
13.	I have reviewed my in service exam scores and believe my medical knowledge is where it should be for my level of training.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
14.	I am able to identify clinical questions as they emerge	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4

	in patient care activities.					
15.	I am responsive to feedback from all members of the healthcare team including faculty, residents, students, nurses, allied health professionals, patients and their advocates.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
16.	I am an active participant in teaching rounds and intern report.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
17.	I effectively use verbal and non verbal skills to create rapport with patients and their advocates.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
18.	I communicate effectively with other caregivers to ensure safe transitions in care.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
19.	My patient presentations on rounds are organized, complete and succinct.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
20.	I am able to communicate the plan of care to all the members of the healthcare team.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
21.	My documentation in the medical record is accurate, complete and timely.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
22.	I accept personal errors and honestly acknowledge them.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
23.	I demonstrate compassion and respect to all patients.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
24.	I complete my clinical, administrative and academic tasks promptly.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
25.	I maintain patient confidentiality	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
26.	I log my duty hours regularly and make every effort not to violate the rules	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
27.	When I feel I am too fatigued to work safely, I understand that I can call the chief medical residents for back-up.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
28.	I understand the unique roles and services provided by the workers in the local health delivery system (social workers, case managers, dept of public health etc...)	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
29.	I am able to identify, reflect on, and learn from critical incidents and preventable medical errors.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
30.	I do my best to minimize unnecessary care including tests, procedures, therapies and consultations.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4

Please identify three specific clinical skills that you have improved over the past six months:

Please set three specific goals for the next six months:

Signature _____ Date _____

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DIRECT OBSERVATION OF PROCEDURAL SKILLS (DOPS)

Please complete the questions using a cross ☒ Please use black ink and CAPITAL LETTERS

Doctor's Name: _____

PMDC Number: _____

Clinical setting:	A&E ☐	OPD ☐	In-patient ☐	Acute Admission ☐	Other		
Procedure number ☐☐							
Assessors position:	Consultant ☐	SpSR ☐	SpR ☐	Specialty doctor ☐	Nurse ☐	Other ☐	
Number of previous DOPS observed by assessor with any trainee	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5-9 ☐	>9 ☐
Number of times procedure performed by trainee:	0 ☐	1-4 ☐	5-9 ☐	>10 ☐	**Difficulty of procedure:**	Low ☐	Average ☐ High ☐

Please grade the following areas	Well below expectations	Below Expectations	Borderline	Meets Expectations	Above Expectations	Well above expectations	U/C*
	1	2	3	4	5	6	
1 Demonstrate understanding of indications, relevant anatomy, technique of procedure	☐	☐	☐	☐	☐	☐	☐
2 Obtains informed consent	☐	☐	☐	☐	☐	☐	☐
3 Demonstrates appropriate preparation pre-procedure	☐	☐	☐	☐	☐	☐	☐
4 Appropriate analgesia or preparation pre-procedure	☐	☐	☐	☐	☐	☐	☐
5 Technical ability safe sedation	☐	☐	☐	☐	☐	☐	☐
6 Aseptic technique	☐	☐	☐	☐	☐	☐	☐
7 Seeks help where appropriate	☐	☐	☐	☐	☐	☐	☐
8 Post procedure management	☐						
9 Communication skills	☐	☐	☐	☐	☐	☐	☐
10 Consideration of Patient/professionalism	☐	☐	☐	☐	☐	☐	☐
11 Overall ability to perform procedure	☐	☐	☐	☐	☐	☐	☐

* U/C Please mark this if you have not observed the behaviour and therefore feel unable to comment.

Please use this space to record areas of strength or any suggested development

U/C

Anything especially good?	**Suggestions for development:**

Have you had training in the use of this assessment tool? ☐ Face to face ☐ Have read guidelines ☐ Web/ CD-Rom

Time taken for observation: (in minutes) ☐☐

Time taken for feedback ☐☐

Assessors signature:

Date (mm/yy) ☐☐ / ☐☐

Assessor's Name: _____

*if appropriate

Please note failure of return of all completed forms to your administrator is a probity issue

Acknowledgement: Adapted with permission of the American Board of internal Medicine

SpSR - Specialty Senior Registrar

SpR - Specialty Registrar

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CASE BASED CLINICAL EVALUATION OF TRAINEE

Resident's Name: _____

Evaluator's Name(s): _____

Hospital Name: _____

Date of Evaluation: _____

☐ Traditional Track (10% Clinic) ☐ Primary Care Track (20% Clinic)

1	Unsatisfactory
2	Below Average
3	Average
4	Good
5	Superior

Please circle the appropriate number for each item using the scale above.

History	Scale				
1. Introduces himself and greet the patient.	1	2	3	4	5
2. Listen to the patient problems.	1	2	3	4	5
3. Shows politeness and empathy	1	2	3	4	5
4. Gathers proper information of present and past history	1	2	3	4	5
Physical Examination	**Scale**				
1. Physical examination done correctly	1	2	3	4	5
2. Pick physical signs correctly	1	2	3	4	5
3. Relevant examination done in detail	1	2	3	4	5
4. Interpret physical signs correctly	1	2	3	4	5
Assessment Plans	**Scale**				
1. Can list a logical differential diagnosis	1	2	3	4	5
2. Defend the diagnosis logically	1	2	3	4	5
3. Identifies patient active problems	1	2	3	4	5
Interpretation and Correlation of Laboratory and Imaging Data	**Scale**				
1. Can order logical and relevant investigations	1	2	3	4	5
2. Correctly interpret investigations (Laboratory and Imaging)	1	2	3	4	5
3. Formulate a logical management plan	1	2	3	4	5
4. Treatment plan is logical and relevant	1	2	3	4	5
5. Able to write a proper prescription	1	2	3	4	5