



# Child Health Residency Program

## Oman Medical Specialty Board

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## *Contents*

<b><u>Topic</u></b>	<b><u>Page</u></b>
1. Program Overview and Objectives .....	2
2. Resident Admission Requirements .....	3
3. Program Structure .....	4
4. Overall Program Structure .....	5
5. Graded Responsibility for Each Academic Year .....	7
6. Specific Rotation Objectives .....	9
7. Educational Activities .....	26
8. Procedures .....	30
9. Cardio Pulmonary Resuscitation Training .....	31
10. Research Activities .....	31
11. Participating Centers & Rotations.....	32
12. Members of the Training Faculty .....	32
13. Evaluation and Promotion .....	32
14. Examination Outline .....	33
15. On call Duty Policy.....	34
16. Vacation .....	35
17. Transfer to Another Medical Specialty .....	35
18. Completion of Training and Certification .....	36
19. Appendix 1 – List of Training Faculty Members .....	37
20. Appendix 2 – Evaluation Forms .....	40
21. Appendix 3 – List of Didactic Lectures as per Specialty .....	43

## **Program Overview and Objectives**

The Child Health Training Program in Sultanate of Oman is organized under the auspices of Oman Medical Specialty Board (OMSB). It requires the successful completion of four years of full-time training in accredited centers and regular evaluations and formal examinations to ensure that candidates will obtain the knowledge, skills and experience required for the provision of high quality care in Child Health.

### **Mission Statement:**

To ensure that all Child Health trainees possess sound knowledge, skills and experience through uniform high quality training to enable them to be competent pediatricians providing the highest level of quality care in Oman.

### **General Objectives:**

- To develop sound knowledge in the principles and practice of Pediatrics and Neonatology
- To develop competence in taking history and performing complete physical examination.
- To develop the skills of summarizing a case and be able to formulate a sound working diagnosis, order appropriate laboratory tests logically and conservatively in order to make accurate diagnosis and formulate a sound management plan based on evidence-based practice
- To be able to provide continuous care to families on a long term basis when required
- To be able to recognize and manage effectively common emergency and life-threatening situations
- To be able to communicate effectively with colleagues and other health care team members both in Hospital and Community setups.
- To be able to accept, discuss and advise the physicians calling for referrals from the peripheral health care facilities
- To be able to effectively teach, train and supervise the work of junior colleagues and other health care staff
- To be able to effectively communicate with the family on various health care issues including the counseling on genetic diseases

- To be able to provide appropriate preventive, social and community care
- To be able to assume the role of a strong child advocate
- To be able to maintain good orderly and informative medical records
- To be able to educate and update himself/herself and others with the current and up-to-date knowledge and eagerly participate in the departmental and Hospital CME programs
- To be able to recognize various issues requiring medical research and develop an appropriate plan to conduct one
- To be punctual and able to attend to his duties promptly and willing to cooperate in performing extra duties without hesitation if required in times of untoward situations
- To develop high moral and ethical standards

## **Resident Admission Requirements**

- Resident must be a holder of Bachelors Degree in Medicine & Surgery or equivalent from a University recognized by the OMSB.
- Resident must have completed a year of internship.
- Resident must be of a good conduct & medically fit for the specialty chosen.
- Resident must provide three letters of recommendation from three consultants with whom he/she has worked commenting on his/her abilities.
- Resident must submit a letter of approval from his/her sponsor confirming permission to join the OMSB Specialty Training Program on full time basis for the entire period of training.
- Resident must pass the interview.

## Program Structure

The program extends over a period of four years. The first two years focus mainly on Basic Specialty Training and the following two years focus on Higher Specialty Training. Residents who fail to satisfy the conditions for completion of training and certification are allowed one extra year to fulfill those conditions. If still not fulfilled, they will be asked to leave the program.

The Academic year will commence on the 1<sup>st</sup> of September. Each Academic year will consist of 13 blocks and the duration of each block is 4 weeks. Each rotation will start on the 1<sup>st</sup> Saturday of the block and ends on the last Friday.

### Phase One: Basic Specialty Training

#### Year 1

<i>General Pediatrics</i>	6 blocks
<i>Neonatology</i>	3 blocks
<i>Accident &amp; Emergency</i>	2 blocks
<i>Ambulatory Pediatrics</i>	1 block
<i>Subspecialty</i>	1 block Hema/Onc

#### Year 2

<i>General Pediatrics &amp; High Dependency</i>	3 blocks
<i>Neonatology</i>	2 blocks
<i>Pediatric Intensive Care</i>	2 blocks
<i>Accident &amp; Emergency</i>	2 blocks
<i>Ambulatory Pediatrics</i>	1 block
<i>Subspecialty</i>	1 block

\* The Ambulatory rotation will be one block Well Baby Vaccination and Development Clinic and one block General Pediatric Clinic at a Primary Health Centre.

### Phase Two: Higher Specialty Training (R3 & R4)

#### Year 3

<i>General Pediatrics</i>	4 blocks
<i>Neonatology</i>	3 blocks
<i>Pediatric intensive Care</i>	2 blocks
<i>Accident &amp; Emergency</i>	1 block

*Ambulatory Pediatrics* 1 block  
*Subspecialty* 2 blocks

**Year 4**

*General Pediatrics* 2 blocks  
*Pediatric intensive Care* 2 blocks  
*Neonatology* 1 block  
*Accident & Emergency* 2 blocks  
*Ambulatory Pediatrics* 1 block  
*Elective* 2 blocks  
*Subspecialty* 3 blocks

- \* *The Ambulatory rotation will be one block Pediatric Clinic at a secondary health care level (Baushar Poly Clinic) and one block Subspecialty clinics at Royal Hospital*
- \* *For the subspecialty rotations, Nephrology, Neurology and Cardiology are compulsory one block each.)*

**Overall View of Program Structure**

<b>Specialty</b>	<b>Year 1 (blocks)</b>	<b>Year 2 (blocks)</b>	<b>Year 3 (blocks)</b>	<b>Year 4 (blocks)</b>	<b>Total (blocks)</b>
<b>General Paeds</b>	6	3	4	2	15
<b>High Dependency</b>	--	2	--	--	2
<b>Neonatology</b>	3	2	3	1	9
<b>PICU</b>	--	2	2	2	6
<b>A&amp;E</b>	2	2	1	2	7
<b>Ambulatory</b>	1	1	1	1	4
<b>Subspecialty</b>	1	1	2	3	7
<b>Elective</b>	--	--	--	2	2

Year	Blocks in Each Specialty												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Year 1	General Pediatrics					Neona.			A&E		Amb	SS	
Year 2	Gen. Pediatrician				Neona.		PICU		A&E		Amb	SS	
Year 3	Gen. Pediatrician			Neona.			PICU		A&E	Amb	SS		
Year 4	Gen. Ped.	Neona	PICU		A&E		Amb	SS			Elective		

### **Compulsory Subspecialties**

These include one month Hematology/Oncology in phase one training and Cardiology, Neurology and Nephrology one month each in phase one or two training.

### **Other Subspecialties**

Residents may select, with the approval of the program director, any of the remaining subspecialties:

- Allergy/Immunology
- Endocrinology
- Gastroenterology
- Metabolic Disorders
- Infectious Disease
- Respiratory
- Rheumatology

The total time spent in any subspecialty rotation should not exceed two months.

## **Electives:**

Two elective rotations in Phase two of the program would be allowed. The resident will have a choice of either doing more of the previously mentioned subspecialties or other areas related to pediatrics such as Dermatology, ENT, Pediatric Surgery, Pediatric Radiology, Pediatric Psychiatry or a Research Project

## **The Mentor**

Each resident has an assigned mentor from the teaching faculty to provide advice, coaching, encouragement, feedback and support, in addition to discussing advanced training plans at the time of passing examination.

The mentor will also have an important role as an advocate of residents who have insufficient support from one or more supervisors.

## **Graded Responsibility for Each Academic Year**

### **Year 1 (R1)**

The year focuses on general pediatric care plus exposure to neonatal, ambulatory and emergency care.

Residents will fulfill the following responsibilities:

- Acquiring the experience and education related to all aspects of the care of the hospitalized pediatric patients.
  - Learning common pediatric disease, their diagnosis and management
  - Practicing good history taking and thorough physical examination in children of various age groups
  - Writing clear admission notes and discharge summaries.
  - Learning counseling on various patient management issues and breaking of bad news
  - Presenting efficiently in the morning meeting and hand-over rounds and participating in the departmental CME activities.
- Learning common pediatric ambulatory problems and participating in ambulatory pediatric patient care
- Getting exposed to patients with hematology/oncology problems and participating in their care

- Learning common neonatal problems, their diagnosis and management and participating in the care of normal and sick newborns
- Learning and managing common pediatric emergencies
- Learning and practicing various pediatric and neonatal procedures
- Complete BLS and NALS Courses
- Self-directed learning skills and preparation for examinations

## **Year 2 (R2)**

The year focuses on revising and updating the above issues and adopting a more decision making role in day-to-day practice. Residents will also get exposed to intensive pediatric care.

Residents will fulfill the following responsibilities in addition to solidifying the above:

- Time management and decision making
- Acquiring professional behavior and working as part of a team
- Supervising the work of interns and R1 residents
- Teaching interns and undergraduate students
- Learning to recognize an acutely sick child and to manage various problems in PICU setting
- Complete ACLS Course
- Conducting Ambulatory Clinics under supervision
- Learning to write medical reports and other communications
- Getting exposed to subspecialty training

By the end of this year, residents should be able to work as registrars in the Pediatric and Neonatal wards and the Accident and Emergency Department.

## **Year 3 (R3)**

The year focuses on taking higher responsibility in patient care and decision making and adopting a greater supervisory and teaching role to junior residents plus broadening knowledge through exposure to subspecialty rotations.

Residents will add on the following responsibilities to the above:

- More subspecialty training exposure to provide depth to their knowledge.
- Assuming a more independent role in patient care in outpatient, inpatient, emergency and ambulatory settings.

- Attending to referral cases from other units
- Teaching and supervising interns, R1 and R2 residents
- Designing a research project or audit with the assistance of a Senior Doctor
- Preparing residents duty roster and CME program calendar

#### **Year 4 (R4)**

The year focuses on achieving the role of an independent pediatrician making decision on all day-to-day patient management and administrative issues and functioning as a leader to junior residents. Residents will also have a wider exposure to subspecialty rotations.

Residents will add on the following responsibilities to the above:

- Conducting independent ward rounds and OPD clinic
- Assuming a more independent role in patient intensive care
- Attending refresher ACLS, BLS and NALS Courses if feasible
- Presenting a research project by the end of the year
- Formally teaching and supervising students, interns and junior residents
- Spending two rotations as elective time in any clinical or academic pursuit

By the end of this year, residents should be able to function as competent pediatricians providing the highest level of quality care.

### **Specific Rotation Objectives**

#### **Accident and Emergency**

##### **Main Objective:**

To acquire proficiency in assessment, resuscitation and management of pediatric emergency and trauma cases.

##### **Knowledge:**

- Pathophysiology and clinical approach to common pediatric emergency and trauma cases
- Cardiopulmonary resuscitation techniques
- Principles of transportation of the sick child

**Skills:**

- History and physical examination related to pediatric emergencies and trauma
- Airway management
- Proper evaluation and management of common acute emergencies in the A/E
- Assessment and decision when to admit or discharge a sick patient
- Effective communication with referring clinics or hospitals
- Gain expertise in various procedures in the A/E such as suturing, removal of foreign body, incision & drainage of abscess, insertion of intraosseous needles, gastric lavage, pleural drains and cervical spine immobilization --- etc
- Recognition and management of potential child protection issues

**Problems:**

- Cardiopulmonary arrest and resuscitation techniques
- Common pediatric emergencies
- Acute life threatening illness and death
- Approach to a child with multiple trauma
- Child Maltreatment
- Burns
- Snake and scorpion bites

**Ambulatory Pediatrics****Main Objective:**

To acquire proficiency in assessment and management of new patients, seen in an ambulatory clinic and their followup.

**Knowledge:**

- Normal Growth of infants and children and any deviations from those norms
- Basics of normal nutrition of infants and children
- Normal developmental milestones and principles of developmental assessment including hearing and vision checkup
- Biological and psychosocial factors affecting development and behavior
- The extended program of immunization (EPI) in Oman
- Pathophysiology of common pediatric conditions seen in ambulatory set-up

**Skills:**

- Proper history, examination and initiation of management of children seen in the ambulatory setting
- Assessing the medical and non-medical needs and formulating a follow-up plan of children with chronic conditions
- Recognizing and referring to other specialties when needed
- Counseling parents and addressing their concerns on different health issues including normal growth, development and behavior
- Assessing psychomotor development and recognizing any deviation from the norm
- Counseling parents regarding available community support and resources for the developmentally delayed child.

**Problems:**

- Malnutrition including Failure to Thrive & Obesity
- Common upper respiratory tract infections in infants and children
- Common ENT conditions
- Common eye conditions
- Common skin conditions
- Common Orthopedic conditions
- Common behavioral problems
- Children with special needs

**Cardiology****Main Objective:**

To have the knowledge and skills to be able to assess, initiate management and refer patients with cardiovascular conditions in emergency, inpatient and outpatient settings.

**Knowledge:**

- Anatomy, hemodynamics and electrophysiology of the normal heart and common congenital and acquired heart disease
- Fetal circulation and changes in circulation after birth
- Incidence and recurrence risk of congenital heart diseases
- Presentation of common heart disease
- Management of heart failure and common cardiac arrhythmias
- Problems encountered in children operated for common heart diseases

- Indication and interpretation of ECG and chest x-ray
- Indication of echocardiogram, exercise test, Holter monitoring, 24 hours BP monitoring and cardiac catheterization
- Indications, actions, side effects and interactions of commonly used cardiac medications

### **Skills:**

- History, Physical sign interpretation and management plan for common cardiac disease
- Differentiation between pathological and innocent murmurs
- Recording and interpretation of electrocardiogram
- Chest x-ray interpretation

### **Problems:**

- Common cyanotic and acyanotic congenital heart disease
- Cardiac murmurs
- Syncope
- Chest pain
- Endocarditis, myocarditis, and pericarditis
- Kawasaki disease
- Congestive heart failure
- Cardiac arrhythmias (SVT, VT, VF, AF)
- Rheumatic fever

## **Endocrinology**

### **Main Objective:**

To have the knowledge and skills to be able to assess, initiate management and refer patients presenting with diabetes, growth or endocrine presentations in emergency, inpatient and outpatient settings.

### **Knowledge:**

- Normal anatomy, physiology and relevant embryology of the endocrine glands
- Normal physical growth
- Physiology of normal and abnormal puberty
- Disorders of the endocrine glands causing under or over activity
- Indications and interpretation of endocrine test

- Pharmacology of commonly used drugs and hormones

**Skills:**

- History, physical examination and initiation of management related to endocrine problems
- Bedside measurement of Glucose
- Orchidometry
- Accurate weight and height measurements, BMI calculation and assessment of growth velocity.
- Assessment of puberty

**Problems:**

- Pituitary disorders
- Growth retardation/Short stature
- Thyroid disease and Goiter
- Adrenal disease
- Diabetes Mellitus and Diabetic Ketoacidosis
- Inappropriate ADH secretion & Diabetes Insipidus
- Pubertal disorders
- Ambiguous genitalia
- Hypo/Hypercalcemia
- Rickets

**Gastroenterology and Hepatobiliary System**

**Main objective:**

To have the knowledge and skills, to be able to assess, initiate management and refer patients with gastrointestinal or hepatic presentations in emergency, inpatient and outpatient settings.

**Knowledge:**

- Normal anatomy and physiology of the gastrointestinal tract, and hepatobiliary system.
- Pathophysiology of gastrointestinal and hepatic disorders
- Indications for diagnostic procedures including: endoscopy, plain abdominal x-rays, upper gastrointestinal and small bowel x-rays, contrast enema, abdominal ultrasound and CT scan, radionuclide scan, ph metry
- Indications of gastrostomy

**Skills:**

- History and physical examination and initiation of management related to gastrointestinal and hepatic problems
- Interpretation of abdominal x-rays
- Performing peritoneal tap
- Management of gastrostomies
- Recognizing surgical GI conditions

**Problems:**

- Common upper G.I conditions
- Common lower G.I conditions
- Common Hepatobiliary conditions
- Malabsorption
- Abdominal pain (acute / chronic)
- Jaundice
- Liver Failure (acute / chronic) and management
- Surgical GI Condition

**General Pediatrics, Inpatient Service****Main Objective:**

To acquire proficiency in the initial and day-to-day management of common pediatric problems and emergencies and seek appropriate consultation.

**Knowledge:**

- Impact of illness on a child's life and family
- Recommended nutritional requirements during infancy and childhood
- Pediatric fluid and nutritional therapy in various clinical situations
- Acid/base and electrolyte homeostasis
- Basic Life Support and Cardiopulmonary Resuscitation techniques
- Routes of administration and doses of commonly used drugs in pediatrics

**Skills:**

- History taking and physical examination in pediatrics
- Assessing and formulating a plan of management for common pediatric conditions

- Assessing nutritional status and caloric requirement in various clinical situations
- Assessing hydration status and fluid therapy
- Indications and interpretation of common laboratory investigations in pediatrics
- Gaining expertise in procedures common in the pediatric ward like: IV line insertion, lumbar puncture, arterial / venous puncture and sampling, urinary catheterisation and nasogastric tube insertion.
- Performing cardiopulmonary resuscitation
- Applying ethical considerations in interaction with children, caregivers and colleagues
- Acquiring written and verbal communication skills
- Acquiring counseling skills in the various clinical situations

**Problems:**

- Normal Growth and development
- Fluid therapy
- Basics of normal nutrition in infancy and childhood
- Acid base imbalance
- Electrolyte imbalance
- Communication skills and breaking bad news

**Genetics and Teratology**

**Main Objective:**

To be able to recognize and refer patients with common genetic disorders and dysmorphologies in inpatient and outpatient settings

**Knowledge:**

- Modes and molecular basis of inheritance
- Application of cytogenetics
- Indications and limitations of prenatal diagnosis
- Indications and limitations of screening programs for genetic disease
- Principles of assessment of dysmorphology and syndrome identification
- Application of molecular diagnosis
- Embryological basis of malformation
- Environmental factors in fetal development

**Skills:**

- History and physical examination related to genetic problems
- Construction and interpretation of a pedigree
- Ability to provide genetic counseling to a family / individual with a known genetic or inherited disorder, or referral to appropriate source

**Problems:**

- The dysmorphic child
- Exposure to a possible teratogen
- Common chromosomal abnormalities (e.g. Down syndrome, Turner syndrome, Fragile-X)

**Hematology/Oncology****Main Objective:**

To have the knowledge and skills to be able to assess and initiate management of patients with hematologic and oncologic disorders in emergency, inpatient and outpatient settings.

**Knowledge:**

- Embryology, physiology and pathophysiology of the hematopoietic system
- Pathophysiology of common hematological disorders in children
- Pathophysiology and classification of leukemias and lymphomas
- Pathophysiology of other common solid tumors in children
- Transfusion Medicine (Products available, indications, adverse reactions, principles of cross matching)

**Skills:**

- History, physical examination and initiation of management related to Hematology/Oncology problems
- Counseling, communication & breaking bad news
- Interpretation of common hematological tests
- Transfusion procedures including exchange transfusion
- BMA & Biopsy procedures & their interpretation
- Intrathecal administration of chemotherapy
- Central venous line (Port -A-Cath & Hickman catheter) access
- Follow up of post BM transplant patients

**Problems:**

- Child with pallor
- Hemoglobinopathies
  - Sickle cell disease and Thalassemias
- Child with bleeding tendency (purpura & bruising)
- Acute and chronic hemolytic anemias common in Oman
- Thrombotic Disorders
- Neutropenias, congenital and acquired
- Leukemia and Lymphomas
- Other solid tumors
- Bone marrow failure syndromes and pancytopenias

**Immunology and Allergy****Main Objective:**

To have the knowledge and skills to be able to assess, initiate management and refer patients with recurrent infections and allergic conditions in emergency inpatient and outpatient settings.

**Knowledge:**

- The normal host defenses and immune response
- Variations in normal immune response with age
- Pathophysiology of immunodeficiency states and autoimmune disease
- Basic diagnostic laboratory techniques involving the immune system
- Pathophysiology of allergic disorders
- Pharmacologic and immunologic therapy of allergic disorders
- Indications for and limitations of skin testing, RAST testing and challenge testing

**Skills:**

- History, physical examination and initiation of management related to immunity and allergy problems
- Observation and interpretation of skin tests

**Problems:**

- Recurrent infections and immunodeficiency syndromes
- Seasonal and non-seasonal rhinitis

- Anaphylactic shock
- Urticaria/ angioedema
- Drug allergy
- Insect stings
- Serum sickness
- Food allergy

## **Inborn Errors of Metabolism**

### **Main Objective:**

To have the knowledge and skills to be able to recognize, assess, initiate management and refer patients with metabolic presentations in emergency, inpatient and outpatient settings.

### **Knowledge:**

- The normal metabolic pathways of carbohydrate, fats and proteins
- Energy production pathways and mitochondrial functions
- Metabolism of complex substances and lysosomal functions
- Classification of Metabolic disorders
- Genetic basis of IEM
- Epidemiology of IEM
- Clinical recognition of IEM cases, ordering common tests and their interpretation
- Application of Tandem MS and GCMS in IEM diagnosis
- Screening for IEM and other genetic disorders
- Pharmacology of commonly used drugs
- Emergency management of IEM
- Clinical knowledge of common metabolic disorders

### **Skills:**

- History, physical examination and initiation of management related to metabolic problems
- Collection of Guthrie card specimen
- Interpretation of common metabolic investigations
- and Dietary evaluation, parental counseling and management

**Problems:**

- Clinical recognition of IEM in newborns and children
- Approach to and initial investigations of suspected inherited metabolic disease.

**Infectious Disease****Main Objective:**

To acquire the knowledge and skills to be able to assess and initiate management of patients with infectious conditions in emergency, inpatient and outpatient settings.

**Knowledge:**

- Clinical characteristics and epidemiology and pathogenicity of common infectious agents
- Common infectious conditions affecting children in Oman
- Mechanisms of infection, host defence and antimicrobial resistance
- Pharmacology of anti-microbial agents and interpretation of sensitivity tests
- Indications for and ability to prescribe appropriate first line anti-microbials
- Control of communicable disease, including: prevention and immunization
- Pathogenesis, clinical features, investigation and prevention of congenital infections.
- Healthcare associated infections and infection control

**Skills:**

- History, physical examination and initiation of management of problems related to infectious disease.
- Performing Tuberculin Skin Test and its interpretation.
- Interpretation of Gram Stain results.
- Procurement of appropriate specimens for diagnosis of infections
- Interpreting results of commonly used tests in infectious diseases, e.g. CSF, blood culture, urine culture, etc.
- Follow national guidelines on notification of infectious disease
- Prescribe the appropriate isolation practice for patient with transmissible agent.

**Problems:**

- Common infectious diseases (viral, bacterial, fungal, parasitic, protozoal)
- Infection in the immunocompromised host
- Fever without focus and fever of unknown origin

- Perinatal / congenital infections
- HIV Infection
- Life-threatening infections and septic shock
- Infections related to travel and their prevention

### **Intensive Care:**

#### **Main Objective:**

To acquire proficiency in assessment and initiation of management of critically ill children and to have the skills for airway management and cardiac resuscitation

#### **Knowledge:**

- Pathophysiology of altered consciousness, shock and cardiorespiratory failure
- Principles of mechanical ventilation
- Role of nutrition and fluid management in the critically ill patient
- Principles and techniques of cardiorespiratory monitoring
- Principles and logistics of interhospital transport of critically ill infants and children
- Principles of pre- and post-operative cardiac care
- Determination of brain death

#### **Skills:**

- History, physical examination and initiation of management related to intensive care problems.
- Recognition, stabilization and/or transfer of the critically ill child
- Pediatric Advanced Life Support: Airway management and cardiorespiratory resuscitation
- Intercostal chest drain insertion and management
- Access and care for indwelling catheters
- Care of a child with a tracheostomy tube
- Immobilization of acute injury including fractures

#### **Problems:**

- Cardiorespiratory arrest
- Shock
- Sepsis

- Respiratory failure
- Status epilepticus
- Coma
- Near drowning
- Poisoning and drug over dose

## **Neonatology:**

### **Main Objective:**

To acquire proficiency in assessment, resuscitation and management of emergency neonatal conditions and have the knowledge and skills to be able to assess and initiate management of common neonatal problems.

### **Knowledge:**

- Fetal growth, development and circulation
- Aspects of pregnancy and labor which affect the neonate
- Process of neonatal adaptation to extrauterine life
- Pathophysiology of shock, respiratory failure and principles of mechanical ventilation
- Medical and surgical emergencies.
- Neonatal growth, nutrition and metabolic problems
- Long term follow-up of the high-risk neonate
- Newborn screening

### **Skills:**

- History, physical examination and initiation of management related to neonatal problems
- Neonatal resuscitation and stabilization of the critically ill newborn
- Airway management including endotracheal intubation
- Fluid and electrolyte management and nutritional support
- Access and care of indwelling arterial and venous catheters, intercostal chest drain insertion and management
- Newborn circumcision

### **Problems**

- Neonatal hyperbilirubinemia
- Neonatal sepsis

- Perinatal asphyxia and birth trauma
- Fluid and electrolyte management
- Prematurity and Low Birth Weight
- Congenital Heart Disease
- Neonatal resuscitation
- Neonatal Surgical Problems
- Respiratory Distress
- Neonatal Seizures
- Feeding problems and nutritional support
- Inborn Errors of Metabolism
- Long term follow up of the preterm infant

### **Nephrology:**

#### **Main Objective:**

To acquire the knowledge and skills to be able to assess, initiate management and refer patients with genitourinary presentations in emergency, inpatient and outpatient settings.

#### **Knowledge:**

- Embryology and development of the genitourinary tract.
- Pathophysiology of renal disease.
- Renal blood flow and glomerular filtration rate.
- Indications and interpretations of renal function tests.
- Fluid and electrolyte acid base balance.
- Clinical evaluation of renal diseases including glomerular and tubular renal disease.
- Imaging of the kidney and urinary tract.
- Congenital structural anomalies of the urinary tract.

#### **Skills:**

- History, physical examination and initiation of management related to genitourinary problems.
- Interpretation of common abnormalities seen in urine microscopy and culture.
- Interpretation of common radiological investigations of the genitourinary tract
- Initiation and maintenance of peritoneal dialysis.

**Problems:**

- Hematuria.
- Proteinuria.
- Dysuria and UTI.
- Polyuria.
- Neurogenic bladder.
- Dysfunction of the bladder.
- Vesicoureteric reflux and obstructive uropathy.
- Enuresis.
- Acid base, fluid and electrolyte imbalance.
- Renal stones.
- Renal tumors.
- Acute and chronic renal failure.

**Neurology****Main Objective:**

To have the knowledge and skills to be able to assess, initiate management and refer patients with neurological presentations in emergency, inpatient and outpatient settings.

**Knowledge**

- Basic embryology, neuroanatomy and neurophysiology of the central nervous system.
- Congenital malformations and common pediatric neurologic problems
- Indications for and complications of the following investigations:
  - Lumbar puncture
  - EEG
  - Evoked potentials
  - Nerve conduction studies and electromyography
  - Skull and spine x-rays
  - Ultrasound Scan of the head and spine
  - CT scan, MRI
  - Radionuclear Scan of the head and spine
- Interpretation of CSF analysis
- Pharmacology of drugs used in neurologic and neuromuscular problems

**Skills:**

- History, physical examination and initiation of management related to neurological problems

**Problems:**

- Congenital malformations of the nervous system including the skull
- Neurocutaneous syndromes
- Developmental delay and regression
- Seizures, sudden loss of consciousness and other paroxysmal events
- Headaches and raised intracranial pressure
- Head trauma Cerebrovascular disease including intracranial hemorrhage and strokes
- Weakness and paralysis
- Disorders of peripheral nerves and muscles
- Cerebral palsy
- Raised intracranial pressure
- Common movement disorders and ataxia

**Respiratory****Main Objective**

To have the knowledge and skills to be able to assess, initiate management and refer patients with respiratory problems in emergency, inpatient and outpatient settings

**Knowledge:**

- Embryology, anatomy and pathophysiology of the respiratory system.
- Control of respiration
- Pharmacology of drugs used in respiratory diseases
- Role of: chest x-ray, bronchoscopy, lung biopsy, lung scintigraphy, sleep studies, apnea monitors, pulmonary function studies, sweat test, fluoroscopy, and CT scan of the chest

**Skills:**

- History, physical examination and initiation of management related to respiratory problems
- Interpretation of pulmonary function tests

- Demonstrate use of various devices: e.g. spacers, peak flow meters, metered dose inhalers
- Interpretation of chest X-rays
- Performance of chest physiotherapy
- Performance of diagnostic pleural aspiration.

### **Problems:**

- Cough, acute and chronic
- Dyspnea
- Asthma
- Pneumothorax
- Hemoptysis
- Wheezing
- Cystic fibrosis
- Pleural effusions
- Lower respiratory tract infection, including pneumonia and bronchiolitis
- Snoring and obstructive sleep apnea
- Congenital malformation of the respiratory system

### **Rheumatology:**

#### **Main Objective:**

To acquire the knowledge and skills to be able to assess, initiate management and refer patients with musculoskeletal problems in emergency, inpatient and outpatient settings.

#### **Knowledge:**

- Structure and function of bones, joints, skeletal muscle and connective tissue.
- Mechanism of immune response in rheumatic disease.
- Indications for laboratory tests used in rheumatic disease.
- Indications for radiological investigations in rheumatic diseases such as x-rays, bones scans, ultrasound and MRI imaging.
- Pharmacology of common anti-inflammatory drugs, corticosteroid and immunosuppressive drugs used in rheumatic diseases.
- Principle role and techniques used by physical and occupational therapist in evaluation and management of children with chronic rheumatic conditions.

- Understand the impact of chronic disease on normal growth, education and psychosocial development.

**Skills:**

- History, physical examination and initiation of management related to musculoskeletal problems
- Arthrocentesis and ability to interpret synovial fluid analysis.
- Perform systemic musculoskeletal examination.
- Radiological interpretation of bone x-rays.
- Recognize when to refer patients to pediatric rheumatologists or orthopedic surgeons.
- Be able to recognize presentations of other serious musculoskeletal pathologies such as inflammation, malignancy and infection.

**Problems:**

- Arthritis related to infections such as: septic arthritis, osteomyelitis, reactive arthritis, acute rheumatic fever, post-streptococcal reactive arthritis.
- Chronic arthritis (know the significant risk of associated uveitis).
- Systemic connective tissue disease such as SLE, juvenile dermatomyositis.
- Systemic vasculitis and its classification, non-inflammatory musculoskeletal pain conditions such as overuse syndromes, hypermobility syndromes, and soft tissue injuries.

## **Educational Activities**

- Morning Report
- Daily Inpatient Rounds
- Weekly Pediatric Grand Rounds
- Monthly Pediatric Journal Club
- Monthly Mortality and Morbidity Meetings
- Weekly Radiology Meetings
- Monthly Mock CPR Sessions
- Weekly didactic lectures by Senior Pediatricians
- Other Relevant Activities

Residents should attend at least 70% of the above activities in an academic year to be eligible for promotion from one level of training to a higher level.

Each resident should present the following minimum educational activities/clinical year:

- a) 1 Journal Club
- b) 1 Grand Round
- c) 1 Mortality Review
- d) Attend twice CPR Mock

The members of the Scientific Committee in both Royal Hospital and SQUH will work together to make sure that the residents would not duplicate some activities (e.g. doing 2 Journal Clubs) while missing the other activities (e.g. mortality review...etc).

### **Core & Subspecialty Curriculum Lectures:**

In addition to the above teaching activities, residents will have two protected hours of teaching once a week from 2 - 4 pm. Teaching activities will stop during Eid and official holidays, the holy month of Ramadan and two months in the summer (June & July).

The following topics will be covered:

#### **Year One**

Normal growth & development

Fluid therapy

Evaluation of the nutritional status of infants and children and calculation of their nutritional requirement

Approach & management of a child with failure to thrive

Immunization in Oman

Neonatal Hyperbilirubinemia

Common pediatric clinical emergencies

Common pediatric surgical emergencies

Common infectious disease affecting children

Approach to a septic child

Neonatal Sepsis

Assessment of development, hearing and vision

Approach to a child with pallor

Management of acid base imbalance

Management of electrolyte imbalance

Seizures in children

Hyper/ Hypocalcemia  
Neonatal respiratory distress  
Approach to a child with hematuria  
Approach to a child with vomiting  
Approach to a wheezing child  
Approach to a child with acyanotic heart disease  
Approach to a child in shock  
Perinatal asphyxia and birth trauma  
Approach to a dysmorphic child  
Communication skills and breaking bad news  
Approach to a child with bleeding tendency  
Approach to a child in coma  
Approach to a child with diarrhea, acute/chronic  
Prematurity and low birth weight

## **Year Two**

Acute life threatening illness and death  
Life threatening infections in children  
Respiratory failure  
Neonatal Surgical problems  
Rickets  
Introduction to metabolic disease  
Approach to chronic cough  
Approach to a child with cyanotic heart disease  
Approach to a child with hypertension  
Approach to a child with jaundice  
Anaphylactic shock and urticaria  
Fever without focus and fever of unknown origin  
Approach to a child with multiple trauma  
Diabetes Mellitus and Diabetic Ketoacidosis  
Hypoglycemia  
Bronchial asthma  
Neonatal feeding problems and nutritional support  
Hemoglobinopathies: Sickle Cell Disease & Thalassemia  
Approach to a child with primary and secondary headache  
Approach to a child with chronic arthritis  
Near drowning  
Heart failure in children  
Approach to genetic counseling  
Growth retardation/short stature  
UTI  
Approach to a child with abdominal pain, acute/chronic  
Acute and chronic hemolytic anemias common in Oman  
Advanced airway management  
Approach to a floppy child and acute flaccid paralysis

### **Year Three**

Management of common arrhythmias in children  
Long term followup of the preterm child  
Poisoning and drug overdose  
Perinatal and congenital infections  
Common ENT conditions in children  
Common Eye conditions in children  
Approach to a child with goiter  
Approach to a child with hematemesis  
Leukemia and Lymphoma  
Biostatistical methods and interpretation  
Pneumonia and its complications  
Cardiac causes and management of syncope  
Approach to a child with non-progressive encephalopathy  
Common metabolic disorders, presentation, diagnosis, and long term management  
Near drowning  
Common genetic disorders in children  
Common Orthopedic conditions in children  
Common skin conditions in children  
Renal tubulopathies  
Systemic Lupus Erythematosus  
Congenital and acquired neutropenias  
Atopy and Allergic rhinitis  
Cystic Fibrosis  
Inappropriate ADH Secretion and Diabetes Insipidus  
Common childhood neuromuscular disorders  
Approach to a child with bleeding PR  
Clinical Epidemiology  
Neonatal Screening Program  
Approach to a child with proteinuria  
Infective Endocarditis in children

### **Year Four**

Approach to a child with developmental delay/mental retardation  
Approach to a child with progressive encephalopathy  
Interpretation of Pulmonary Function Tests  
Research methodology  
Snake and scorpion bites  
Pubertal disorders, delayed / precocious puberty  
Common solid tumors in children  
Infection in the immunocompromised host  
Renal failure, acute/chronic  
Liver failure, acute/chronic  
Principles of critical paper review  
Juvenile dermatomyositis & juvenile scleroderma  
Immunodeficiency syndromes

Congenital and chronic lung disease  
Approach to a child with brain stem and movement disorders  
Common post cardiac-operative complications and their management  
Lysosomal Storage Disease  
Approach to a child with ambiguous genitalia  
Bone marrow failure syndrome and pancytopenia  
Renal stones  
Common G.I surgical conditions  
Infections related to travel and their prevention  
Approach to a child with recurrent infections  
Obstructive sleep disordered breathing  
Anaphylactic shock and urticaria  
Approach to a child with cerebrovascular accident  
Approach to a child with burns  
Malabsorption  
Thrombotic disorders  
HIV infection

## **Procedures**

Throughout their training, the residents are expected to perform satisfactorily, supervised by a senior doctor, the following procedures:

Abdominal paracentesis  
Administration of intradermal, subcutaneous, intramuscular or intravenous injections  
Arterial/venous sampling  
Bag and mask ventilation  
Bed-side measurement of glucose  
Circumcision of a newborn  
Electrocardiogram  
Endotracheal intubation  
Exchange transfusion  
Foreign body removal  
Gastric lavage  
Incision and drainage of an abscess  
Intercostal chest tube insertion and aspiration  
Intraosseous needle insertion  
Lumbar puncture  
Nasogastric tube insertion  
Percutaneous long- line insertion

Peripheral arterial / venous cannulation  
Pneumothorax needle aspiration  
Routine testing of urine  
Suprapubic aspiration of urine  
Suturing of simple cuts and wounds  
Tracheostomy tube insertion/change  
Umbilical artery and venous cannulation and sampling  
Urinary catheterization

### **Procedures Related to Subspecialty Rotations**

Administration of surfactant  
Arthrocentesis  
Basic lung function tests  
Bone marrow aspiration  
Bone marrow biopsy  
Guthrie card specimen  
Intrathecal administration of chemotherapy  
Tuberculin Skin Test  
Procedures performed should be documented in the resident's log book with the supervisor's signature.

### **Cardio Pulmonary Resuscitation (CPR) Training**

Successful completion of Basic Life Support, Pediatric Advanced Life Support and Neonatal Resuscitation Courses is mandatory for the promotion from phase one to phase two of the training (R2 to R3).

Attendance of other conferences and workshops related to the residents training are encouraged.

### **Research Activities**

Residents should present a paper or a poster in the final year to encourage research.

## **Participating Centers and Rotations**

Currently the Division of Child Health (Royal Hospital) and the Child Health Department (Sultan Qaboos University Hospital) are the only accredited centers for training.

## **Members of the Training Faculty**

Members of the training faculty should fulfill the following criteria:

- Hold an accredited post-graduate certificate in pediatrics
- Have at least 5-year work experience in pediatrics
- Approved by the Scientific Committee of the Child Health Residency Program  
(for the name list, see Appendix 1)

## **Evaluation and Promotion**

- The academic year rotations will be given to the residents in advance.
- Residents will be spending their training periods between the accredited centres as per the Scientific Committee recommendations.
- The resident must complete 75% of the training period in each rotation for it to be valid and must attend at least 70% of the teaching activities in that academic year to be eligible for promotion.
- Monthly evaluations of the residents' performance by the supervising consultant using the approved evaluation forms will be sent to the program director.
- The 6 month and end of academic year reports by the program director will be sent to the Scientific Committee for approval and the final report will be submitted to the OMSB and the resident's sponsor.
- Annual examinations will be conducted for evaluation of the residents.
- Part One examination will be conducted after two years of training.
- Part Two (final) examination will be conducted after four years of training.
- The resident shall be promoted from one level to the next (e.g. R1 to R2) based on:
  - The total average of the periodical evaluation reports, representing 40% of the total evaluation

- The result of end of year examination representing the other 60%
- The resident must score a minimum overall average of 60%

Successful completion of Basic Life Support, Pediatric Advanced Life Support and Neonatal Resuscitation Courses is mandatory for the promotion from phase one to phase two of the training (R2 to R3)

(For evaluation forms see Appendix 2)

## **Examination Outline**

### **1) End of Year Exam**

#### **The format of the exam**

##### **a) Written Exam**

- A written examination of MCQ (Multiple Choice Question) type consists of 100 single best answers.
- The exam will be taken in May of each year but for those candidates who failed the 1<sup>st</sup> attempt may retake exam in August.
- The duration of exam is 2 hours.
- The passing mark for the exam, are as follows:
 

R1	40%
R2	50%
R3	55%
R4	65%

##### **b) Observed clinical history and physical exam**

- Each resident will undergo a supervised clinical exam.
- The duration of the exam is one hour.
- The exam can be taken at any time of the year but before the written exam.
- The passing mark of the exam is 60%.

## **2) OMSB Examination**

All residents are expected to pass Arab Board Part I / MRCPPH Part I by end of Second Year. If resident is unable to pass the exam at end of expected time, he will be given an extra year to do so and will be allowed to progress to R3 level. However, failure to pass the exam in the extra time allotted will result in failure to progress from R3.

## **3) Future Prospective:**

### **OMSB BOARD EXAMINATION**

- The exam will take place at the end of 4<sup>th</sup> year.
- The resident has to pass part I exam before taking the part II exam/final exam.
- The exam will consist of 3 parts:
  1. 15 OSCE stations.
  2. Written MCQ 250 (single best answer type) for 2.5 hours
  3. Essay Type: Short answers
- The passing mark is 65%.
- The residents are given 3 attempts to successfully pass the exam.
- Residents who failed the exam may retake within 6 months.
- The OSCE Exam can be adopted from MRCP Part II format.

### **On-Call Duty Policy**

- The resident must not take more than one in-house call every 4 days averaged over a month, and maximum of seven in-house calls a month.
- A resident's shift must not exceed consecutive 24 hours and the resident should make sure that he/she hands over his/her patients to the next on duty group by 11AM.
- The weekend call must not exceed twice a month and each weekend call must be one day long - 24 hours - only.
- The resident should not take more than one home call every 3 days, and a maximum of 10 calls per month.

## Vacations

- The resident shall be entitled an annual leave of 4 weeks in addition to a maximum of 10 days in lieu of Eid holidays, official holidays and emergency leaves if required to work during these holidays. Leaves during a rotation should not exceed 25% of the total duration of that rotation.
- The training period shall be extended for an equivalent period to compensate for sick leave, maternity leave and exceptional “emergency” leaves before the resident is awarded a certificate of completion of training.
- Annual leave which is not utilized in due time within the year shall not be transferred to the following year.
- The resident will be granted a leave for scientific purposes (attending scientific conferences and seminars, specialty examinations, etc.) not exceeding 7 days a year provided that resident presents the proof of attendance of such activities and had prior approval to attend from the Scientific Committee.

## Transfer to another Medical Specialty

The Resident is allowed to transfer from one specialty to another if the following conditions are fulfilled:

- The approval of the resident’s sponsor.
- The approval of the Scientific Committee of the specialty in which the resident is registered.
- The approval of the Scientific Committee of the specialty to which the resident wishes to transfer and the fulfillment of admission conditions for that specialty.
- The Scientific Committee of the new specialty shall recommend a credit, for the previous training period for the new specialty if applicable and specify the level at which the resident shall start.
- Transfer application shall be submitted at least four months prior to the end of the training year.
- ***No transfer from one specialty to another shall take place except at the beginning of the training year.***

## **Completion of Training and Certification**

Completion of training shall be based on:

- The clinical ability and performance of the resident in the previous years assessed by the periodical evaluation forms
- The result of the final year examination
- The completion of the log-book

A certificate of successful Completion of Training and Examination will be formally awarded by the OMSB.

# Appendix 1

## List of Training Faculty Members

### **Sultan Qaboos University Hospital**

- 1-Dr.Yasser Wali, HOD, Associate Professor, MS Paed, MD Paed, FRCPCH (UK)
- 2-Dr.Zakia AL-Lamki, Associate Professor, FRCPCH
- 3-Dr.Muna AL Sadoon, Assistant Professor, MD, PHD
- 4-Dr.Koul RL, Senior Consultant, DM, FRCPCH
- 5-Dr.Joshi, Senior Consultant, DM, FRCPCH
- 6-Dr.Ibtisam Elnour, Consultant, FRCPCH
- 7-Dr.Hussein AL-Kindi, Consultant, MD, FRCPC
- 8-Dr.Amna AL-Futaisi, Consultant, MD, FRCPC
- 9-Dr.Saif AL-Yarubi, Consultant, MD, FRCPC
- 10-Dr.Salem AL-Tamemi, Consultant, MD, FRCPC
- 11-Dr.Reem Abdwani, Consultant, ,MD, FRCPC
- 12- Dr.Alex, Consultant, DM, FRCPCH (UK)
- 13-Dr.Hashim Javad, Senior Registrar, DM, MRCPCH(UK)
- 14-Dr.Zeinida Ryes, Senior Registrar, MD

### **Royal Hospital**

- 1-Dr. Mohammed Al Hosni, Senior Consultant & Head of Child Health MD, FRCP (C), Diplomate ABP
- 2-Dr. Qasem Al Salmi, Senior Consultant, BSc, MD, DCH, MPH, Diplomate ABP, Diplomate ABP, Diplomate AB Pulmonology
- 3-Dr. Salim Al Maskari, Senior Consultant, MD, DCH, MRCP (Irish), Fellowship in Paediatric Cardiology

- 4-Dr. Hala Al Shaikh, Senior Consultant, MBBS, MRCP, FRCPCH (London), Fellowship in Paediatric Endocrinology & Diabetes
- 5-Dr. Tawfiq Al Lawati, Senior Consultant, MD, DCH, MRCPC (UK), MPH
- 6-Dr. Mujtaba Al Ajmi, Senior Consultant, MD, DCH, MRCP (UK), MRCPC (UK)
- 7-Dr. Salim Al Katheri, Senior Consultant, MD, PhD
- 8-Dr. Aisha Al Senani, Senior Consultant, MBBS, DCH, MRCPC (UK), Fellowship in Paediatric Endocrinology & Diabetes
- 9-Dr. Mohd. Awladthani, Senior Specialist, MD, DCH, MRCPC, Fellowship in Paediatric Nephrology (Canada)
- 10-Dr. Abdullah Al Farqani, Senior Specialist, MD, MRCPC (UK), Fellowship in Paediatric Cardiology
- 11-Dr. Said Al Hanshi, Senior Specialist, MD, DCH, MRCPC, Fellowship in Paediatric Intensive Care
- 12-Dr. Safia Al Arawi, Senior Specialist, MD, MRCP (Irish) Part I, AFSA Paediatric, Diploma in Paediatric Rheumatology
- 13-Dr. Khoula Al Said, Senior Specialist, MD, FRCPC, Diplomate ABP
- 14-Dr. Sami Al Farsi, Senior Specialist, MD, MRCPC
- 15-Dr. Mohammed Al Ghafri, Senior Specialist, MD, MRCPC
- 16-Dr. Bhasker Bappal, Senior Consultant, MBBS, MD, DCH, MRCP (UK), FRCP (Glasgow), FRCPC (UK)
- 17-Dr. George Paul, Senior Consultant, MBBS, MD, DCH, FRCP (Glasgow), FRCPC (London)
- 18-Dr. Shobha Menon, Senior Consultant, MBBS, DCH, MRCPC, FRCP (Glasgow)
- 19-Dr. Raghavan Subramanian, Senior Consultant, MBBS, MD, DM (Cardiology), FRCPI,
- 20-Dr. Syed Riaz, Senior Specialist, MBBS, DCH, MD, DM (Neuro), FRCPC, FRCP (I)
- 21-Dr. Lekha Hrishikesan, Senior Specialist, MBBS, MD, DCH, DNB (Paed), DNB (Nephro), MRCP (UK), MRCPC, FRCPC (UK)

22-Dr. Sunil Bhatnagar, Senior Specialist, MBBS, MD, MRCP (Edin), MRCPCH (London)

23-Dr. M.G. Pai, Senior Specialist, MBBS, MD, DCH

24-Dr. Uday B. Nadkarni, Senior Specialist, MBBS, DCH, MD, DNB

25-Dr. Bashir Itoo, Senior Specialist, MBBS, MD, MRCP (UK), MRCPCH (London)

26-Dr. Prakash Manikoth, Senior Specialist, MBBS, DCH, MRCP (UK), MRCPCH (London)

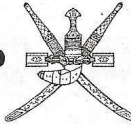
27-Dr. Anna Rajab, Senior Consultant, MD, DCH, MRCP (UK), PhD (Clinical Genetics)

28-Dr. Eileen Tomas, Senior Consultant, BScP, MD, FRCP (C)

29-Dr. Nagwa El Banna, Senior Specialist, MBBCh, MD

# Appendix 2

## Evaluation forms



**OMAN MEDICAL SPECIALTY BOARD** المجلس العماني للإختصاصات الطبية

**RESIDENT MONTHLY EVALUATION FORM**

Name:..... OMSB #: ..... Program: .....

Resident Level:  R I  R II  R III  R IV  R V

Date of Rotation: From ..... To .....

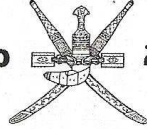
No	Criteria	Unsatisfactory 1	Borderline 2	Satisfactory 3	Above Average 4	Outstanding 5	N/A
<b>I. Patient Care</b>							
1-	History and physical examination.						
2-	Interpretation and differential diagnosis.						
3-	Decision making and management plan.						
4-	Organization of work and time management.						
5-	Maintains patient confidentiality						
6-	Verbal and written communication.						
7-	Provides comprehensive care.						
8-	Ability to manage emergency conditions.						
9-	Consultation skills.						
<b>II. Medical Knowledge &amp; Attitudes</b>							
10-	Punctuality.						
11-	Basic and clinical knowledge.						
12-	Works effectively in a team environment						
13-	Technical skills and procedures.						
14-	Reports facts accurately, including own errors						
15-	Attitude to patient and staff.						
16-	Ability to supervise.						
17-	Recognizes own limitations						
18-	Maintains code of ethics & honesty.						
<b>III. Scholarly Contributions</b>							
19-	Attends and contributes to rounds, seminars and other learning events						
20-	Accepts and acts on constructive feedback						
21-	Teaching skills (Peers)						
22-	Ability for self directed learning						
<b>Overall Assessment</b>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
General Comments (including strengths, weakness and needs for special attention)							

Name and Signature of Supervising Consultant..... Date.....

Name of Resident:..... Signature: ..... Date:.....

Official Use:-  

$$\frac{\text{Total Score}}{\text{No of items evaluated}} \times 20 = \dots\dots\dots \%$$



**ROTATION EVALUATION FORM**

Please tick applicable one  6 months Progress Report

Name (Optional) : ..... OMSB # : .....

Program : ..... Hospital : ..... Rotation : .....

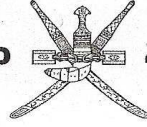
Date of Rotation: From: ..... To: ..... Resident Level: .....

Rotation:	Unsatisfactory 1	Deficient 2	good 3	V.Good 4	Outstanding 5	N / A
1. The number of in-patients cases seen was appropriate.						
2. Inpatients cases demonstrated a broad range of clinical problems.						
3. The number of out-patients cases seen was appropriate.						
4. Outpatient cases demonstrated a broad range of clinical problems.						
5. The opportunity to see acute emergency cases.						
6. The opportunity to see consultations.						
7. Ward rounds.						
8. Clinical Meetings / Lectures.						
9. Journal Club						
10. Audit ( e.g. Morbidity / Mortality )						
11. Clear learning objectives.						
12. The number of procedures adequate.						
13. Demonstration & Supervision of techniques.						
14. Level of responsibility in patient care.						
15. Patient management.						
16. Quality / quantity of teaching on rotation.						
17. My total workload was appropriate for the time available.						
18. Adequate feedback from consultant / staff on performance.						
19. Support and supervision was available and adequate.						
20. Opportunity to do research.						
21. Overall quality of rotation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature of Resident: ..... Date: .....

Official Use:-

Total Score \_\_\_\_\_ X 20 = ..... %  
No of items evaluated



**CONSULTANT/ STAFF EVALUATION**

Name of Consultant / Staff: .....

Program: ..... Resident Level: .....

Rotation: ..... Hospital: .....

Date of Rotation: From:..... To: .....

1. How many weeks did you work with this consultant / staff?  
 Up to 2     3 or 4     5 or 6     7 or 8     8+
2. The frequency of your contacts with the teaching consultant / staff was: (per week)  
 1 or less     2     3     4     5 or more

Consultant	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5	N/A
1. Made rounds regularly.						
2. Provided quality teaching.						
3. Was well organized.						
4. Stimulated enthusiasm for knowledge.						
5. Demonstrated breadth of knowledge.						
6. Established good rapport with resident.						
7. Provided direction and feed back.						
8. Was approachable for help and feedback.						
9. Encouraged resident to take appropriate responsibility.						
10. Promoted a comprehensive approach to patient care.						
11. Provided a good role model as a physician.						
12. Was available with enough time for resident support and supervision						
13. Allowed resident protected teaching time.						
14. Provided opportunity for performing procedure and techniques.						

An Average Score: < 30% Unsatisfactory, 30-60% Satisfactory, 60-80% V. Good, > 80% Excellent

Name of resident (optional) ..... Date: .....

Office Use:-

Total Score \_\_\_\_\_

Number of evaluation items × 20 = ..... %

## **Appendix 3**

### **List of Didactic Lectures**

#### **As per Specialty**

##### **Accident and Emergency:**

- Common pediatric clinical emergencies
- Common pediatric surgical emergencies
- Acute life threatening illness and death
- Approach to a child with multiple trauma
- Burns

##### **Ambulatory Pediatrics:**

- Approach and management of children with developmental delay/mental retardation
- Approach and management of a child with failure to thrive
- Vaccination in Oman
- Common ENT conditions in children
- Common eye conditions in children
- Common orthopedic conditions in children
- Common skin conditions in children

##### **Cardiology:**

- Approach to a child with acyanotic heart disease
- Approach to a child with cyanotic heart disease
- Heart failure in children
- Management of common arrhythmias
- Cardiac causes and management of syncope
- Infective Endocarditis in children
- Common post-operative complications and their management

##### **Development and Behavioral Pediatrics:**

- Assessment of development, vision and Hearing
- Common behavioral problems: learning difficulties, autism, ADHD & eating disorders

### **Endocrinology:**

- Growth retardation / Short stature
- Approach to a child with goiter
- Diabetes Mellitus and Diabetic Ketoacidosis
- Inappropriate ADH secretion & Diabetes Insipidus
- Pubertal disorders, delayed / precocious puberty
- Approach to a child with ambiguous genitalia.
- Hypo / Hypercalcemia
- Rickets

### **Epidemiology and Evidence-Based Medicine:**

- Biostatistical methods and interpretation
- Clinical epidemiology
- Principles of critical paper review
- Research methodology

### **Gastroenterology and Hepatology:**

- Malabsorption
- Approach to a child with abdominal pain (acute / chronic)
- Approach to a child with jaundice
- Approach to a child with vomiting
- Approach to a child with diarrhea, (acute/chronic)
- Approach to a child with hematemesis
- Approach to a child with bleeding P.R.
- Liver dysfunction / failure (acute / chronic)
- Common Surgical GI Conditions

### **General Pediatrics:**

- Normal growth & development
- Fluid therapy
- Management of acid base imbalance
- Management of Electrolyte imbalance
- Evaluation of the nutritional status of infants and children and calculation of their nutritional requirement
- Communication skills and breaking bad news

### **Genetics and Teratology:**

- Approach to dysmorphic child
- Common genetic disorders
- Approach to genetic counseling with specific examples

### **Hematology/Oncology**

- Child with pallor
- Hemoglobinopathies.
  - Sickle cell disease and Thalassemias
- Child with bleeding tendency (purpura & bruising)
- Acute and chronic Hemolytic anemias common in Oman.
- Thrombotic Disorders
- Neutropenias, congenital and acquired
- Leukemia and Lymphomas
- Other Solid tumor
- Bone marrow failure syndromes and pancytopenias

### **Immunology and Allergy:**

- Immunodeficiency Syndromes
  - Approach to a child with recurrent infections
  - Atopy & Allergic rhinitis
- Anaphylactic shock and Urticaria

### **Inherited Metabolic Diseases**

- Introduction to metabolic diseases
- Common metabolic disorders, clinical presentation, diagnosis and long term management
- Lysosomal storage diseases
- Neonatal screening program

### **Infectious Disease**

- Common infectious diseases affecting children
- Life-threatening infections
- Infection in the immunocompromised host
- Fever without focus & fever of unknown origin
- Perinatal / congenital infections
- HIV Infection

- Infectious disease related to travel and its prevention
- Isolation precautions in health care facilities
- Kawasaki Syndrome

### **Intensive Care**

- Approach to a child in shock
- Approach to a septic child
- Respiratory failure
- Approach to a child in coma
- Near Drowning
- Poisoning and drug over-dose
- Snake and Scorpion Bites

### **Neonatology:**

- Neonatal Hyperbilirubinemia
- Neonatal Sepsis
- Perinatal asphyxia and birth trauma
- Prematurity and Low birth weight
- Neonatal Surgical Problems
- Neonatal Respiratory Distress
- Neonatal feeding Problems and nutritional support
- Long term follow up of the preterm infant

### **Nephrology:**

- Hematuria
- proteinuria
- Hypertension
- UTI & Obstructive Uropathy
- Renal Stones
- Renal tubulopathies
- Polycystic Renal Disease
- Acute/Chronic Renal Failure

### **Neurology:**

- Seizures in children
- Approach to a child with primary and secondary headaches
- Approach to a child with non progressive encephalopathy
- Approach to a child with progressive encephalopathy

- Common childhood neuromuscular disorders
- Approach to a floppy child and acute flaccid paralysis
- Approach to a child with brain stem and movement disorder
- Approach to a child with Cerebro Vascular Accident

**Respiratory:**

- Approach to chronic cough
- Approach to a wheezing child
- Interpretation of Pulmonary Function Test
- Advanced airway management
- Obstructive sleep disordered breathing
- Cystic Fibrosis
- Bronchial asthma
- Congenital and Chronic lung disease
- Pneumonia and its complication

**Rheumatology:**

- Chronic arthritis
- SLE
- Juvenile Dermatomyositis and Juvenile Scleroderma