

**Oman Medical
Specialty Board**



المجلس العماني
للإختصاصات الطبية

CHILD HEALTH RESIDENCY PROGRAM

Resident's Log Book

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 co-operate in performing extra duties without hesitation if required in times of untoward situations
- To develop high moral and ethical standards

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 dysmorphism 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.

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

Procedure Log Book

Name:.....

Staff Number.....OMSB Number.....

Date of entry into program.....

Sponsor.....

Basic Medical Degree.....

University.....

Date of graduation.....

Date of completion of internship.....

Place of internship.....

Supervisor.....

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 Sub-specialty 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.

Lumbar Puncture			
Date & (level)	Skill	Comments	Supervisor <i>(Name & Signature)</i>

Nasogastric Tube Insertion			
Date &(level)	Skill	Comments	Supervisor <i>(Name & Signature)</i>

Skill: S (satisfactory); U (unsatisfactory)

Additional Comments:

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Urinary Catheterisation			
Date &(level)	Skill	Comments	Supervisor <i>(Name & Signature)</i>

Suprapubic Aspiration			
Date &(level)	Skill	Comments	Supervisor <i>(Name & Signature)</i>

Skill: S (satisfactory); U (unsatisfactory)

Additional Comments:

.....

Abdominal Paracentesis			
Date &(level)	Skill	Comments	Supervisor (Name & Signature)

Gastric Lavage			
Date &(level)	Skill	Comments	Supervisor (Name & Signature)

Skill: S (satisfactory); U (unsatisfactory)

Additional Comments:

Bone Marrow Aspiration			
Date &(level)	Skill	Comments	Supervisor (Name & Signature)

Bone Marrow Biopsy			
Date &(level)	Skill	Comments	Supervisor (Name & Signature)

Skill: S (satisfactory); U (unsatisfactory)

Additional Comments:

Exchange Transfusion			
Date &(level)	Skill	Comments	Supervisor (Name & Signature)

Peripheral Arterial Line Insertion			
Date &(level)	Skill	Comments	Supervisor (Name & Signature)

Skill: S (satisfactory); U (unsatisfactory)

Additional Comments:

Bag and Mask Ventilation			
Date &(level)	Skill	Comments	Supervisor (Name & Signature)

Endotracheal Intubation of a Child			
Date &(level)	Skill	Comments	Supervisor (Name & Signature)

Skill: S (satisfactory); U (unsatisfactory)

Additional Comments:

.....

Endotracheal Intubation of a Newborn			
Date &(level)	Skill	Comments	Supervisor (Name & Signature)

Administration of Surfactant			
Date &(level)	Skill	Comments	Supervisor (Name & Signature)

Skill: S (satisfactory); U (unsatisfactory)

Additional Comments:

Pleural Needle Aspiration/Chest Drain Insertion				
Date &(level)	Procedure	Skill	Comments	Supervisor (Name & Signature)

Pneumothorax Needle Aspiration			
Date &(level)	Skill	Comments	Supervisor (Name & Signature)

Skill: S (satisfactory); U (unsatisfactory)

Additional Comments:

Umbilical Arterial / Venous Catheter Insertion				
Date & (level)	Procedure	Skill	Comments	Supervisor (Name & Signature)

Newborn Circumcision			
Date &(level)	Skill	Comments	Supervisor (Name & Signature)

Skill: S (satisfactory); U (unsatisfactory)

Additional Comments:

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Suturing Simple Cuts and Wounds			
Date &(level)	Skill	Comments	Supervisor (Name & Signature)

Incision and Drainage of an Abscess			
Date &(level)	Skill	Comments	Supervisor (Name & Signature)

Skill: S (satisfactory); U (unsatisfactory)

Additional Comments:

