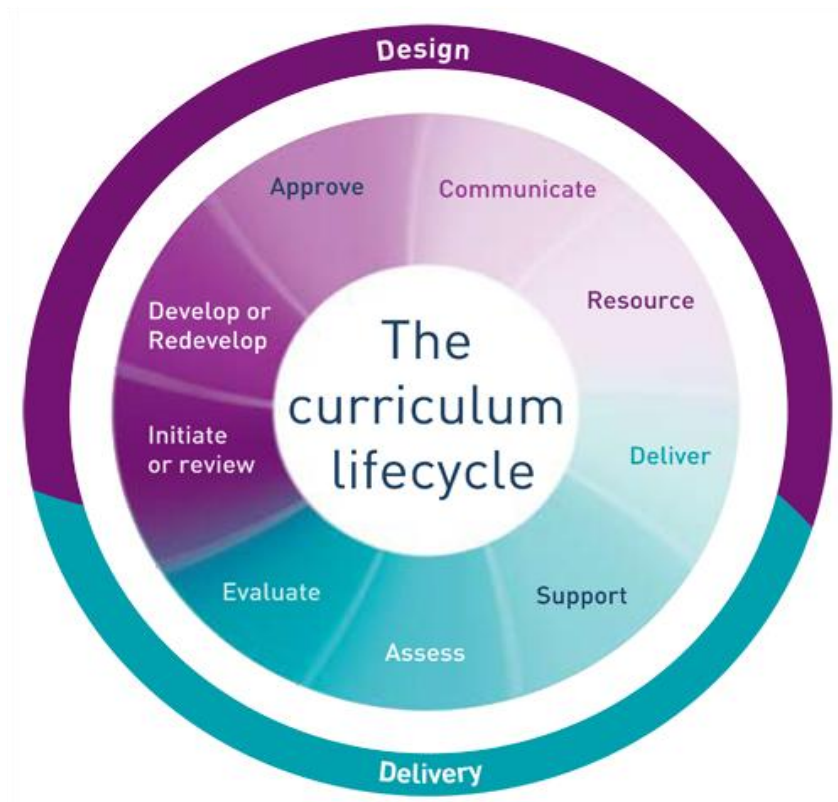




Family Medicine Training

Objectives Guideline



June 2010

CONTENT

Preface	i
General Introduction	ii
An Overview on Training Curriculum	iii
SECTION I: HOSPITAL TRAINING OBJECTIVES	
1. Department of Medicine	1
2. Department of Pediatric	4
3. Department of Surgery	7
4. Department of Ob/Gyn.	11
5. Department of Psychiatry	13
6. Department of Ophthalmology	14
7. Department of Otolaryngiology	16
8. Department of Dermatology	17
9. Department of Accident & Emergency	19
10. Department of Radiology	21
SECTION II: FAMILY MEDICINE TRAINING OBJECTIVES	
Training guidelines	23
SECTION III: RESERCH PROJECT REQUIREMENTS	
Research curriculum	27

Preface

The following training guidelines are designed and developed by the FPRP tutors in coordination with hospital medical education coordinators. These guidelines are for both hospital and primary care training. These guidelines are essential for both trainees and trainers and are dynamic in nature to cope with residents' needs and fast growing medical services and technical revolution.

These guidelines are more comprehensive than the previous one; these include the research curriculum.

We hope these training guidelines will facilitate residents training both in hospital and primary healthcare.

Our sincere thanks and appreciations goes to all those who have participated in preparing these guideline specially FPRP Tutors and hospital Medical Education Coordinators.

Dr. Adel Kadhim Al Beri
Chairman, Family Practice Residency Program
Ministry of Health
Kingdom of Bahrain

General Introduction

Family Physicians are certified physicians in the specialty of Family Medicine; they undergo special four years residency training tailored to meet community based, primary care training needs and requirements for the Kingdom of Bahrain.

They are expected to provide personal, primary and continuing care to individuals and families irrespective of their race, age, sex and illnesses.

Their aim is to make early diagnoses that will include and integrate physical, psychological and social factors in their considerations about health and illness.

Family Physicians make an initial decision about every problem presented to the primary healthcare setup. They undertake the continuing management of their patients with chronic, recurrent, and terminal illnesses. They practice in co-operation with other colleagues in healthcare setup and know how and when to intervene through treatment, prevention, education and referral when needed.

Family Physicians are sensitive to human differences and strive to make themselves aware of the key aspects of age related, gender, ethnic, cultural, socioeconomic, and other social and community factors that shape patients' perceptions of health and disease and the doctor-patient relationship.

They accept the full range of responsibilities delegated to members of the medical profession and consistently exhibit professional attitudes and behaviors in daily medical practice and their life in the community.

Family Physicians are able and willing to assume leadership roles in their community as educators and guardians of the public health.

Family Physicians are dedicated to compassionate and empathetic care for their patients and committed in conducting their professional activities with fairness and integrity. They deliver care with honesty, respect patients' privacy and dignity of patients as persons.

They are skilled in their ability to work through complex ethical and social issues. As physicians they should avoid being judgmental when the beliefs and values of their patients conflict with their own and must seek to deliver care in the context of the patients' beliefs, family and cultural values.

The family physician should have knowledge, skills and judgment to determine when timely consultation and/or referral may be appropriate.

Provision of the highest standards of care, regardless of specialty. Quality patient care requires that all providers should practice within their degree of ability as determined by training, experience and current competence.

It is the synthesis of these functions which makes the **FAMILY MEDICINE** a unique specialty.

Training Curriculum

Year	Training Description	Duration
1st year	Family and community medicine	2 months
	Medicine	5 months
	Pediatric	4 months
	Annual leave	1 month

2nd year	Surgery	3 months
	Ob/Gyn	2 months
	Psychiatry	2 months
	X-ray	1 month
	Family & Community Medicine courses <ul style="list-style-type: none"> ▪ Basic psychology ▪ Health education ▪ Medical ethics ▪ Auditing in medical practice ▪ Elderly health ▪ Introduction to counseling & personal development ▪ Introduction to medical research 	1 month
	Primary care training	1 month
	Elective	1 month
	Annual leave	1 month

Year	Training Description	Duration	
3rd year	Accident & Emergency	2 months	
	Eye	2 months	
	ENT	2 months	
	Dermatology	2 month	
	Family & Community Medicine courses <ul style="list-style-type: none"> ▪ Nutrition ▪ Office & surgical procedures ▪ Therapeutic module ▪ Teen health ▪ Evidence based medicine ▪ Medical statistics ▪ Research project 	2 month	
	Primary care training	1 month	
	Annual leave	1 month	
	4th year	Primary care training	10 month
		Family & Community Medicine courses <ul style="list-style-type: none"> ▪ Counseling in general practice ▪ Environmental health ▪ Occupational hazards ▪ Diabetes in community ▪ Sexual health 	1 month
		Annual leave	1 month

SECTION 1: HOSPITAL TRAINING

1. INTERNAL MEDICINE

During this rotation, the resident is expected to gain the following knowledge and skills:

General objectives:

1. Conduct an efficient and effective history and physical examination for all medical patients presenting to the emergency department.
2. Based on the acquired history, do an immediate assessment and initial stabilization, followed by a relevant complete physical examination.
3. Combine the knowledge from the objectives below with the history and physical exam to develop an appropriate differential diagnosis, investigation, treatment and disposition plan for medical patients.

Specific objectives:

Describe the etiology, presentation, evaluation, and disposition of patients with the following problems:

RESPIRATORY:

- Infections of the respiratory system
- Acute and chronic obstructive airway disease, pulmonary embolus
- Chest masses
- Granulomatous disease

GASTROENTEROLOGY:

- Esophageal problems, severe malnutrition
- Infectious diarrhea
- Gallbladder and liver disorders including hepatitis, jaundice and cirrhosis
- Inflammatory and irritable bowel disease
- Upper and lower gastrointestinal bleeding

CARDIOLOGY:

- Hypertension
- Various degrees of acute coronary syndromes
- Congestive heart failure, valvular heart disease
- Cardiomyopathies, pericardial diseases
- Sub-acute and acute dysrhythmias
- Cardiogenic shock
- Aortic disease, including dissection, aneurysm, and rupture

HEMATOLOGY/ONCOLOGY:

- Anemia
- Bleeding disorders
- Haemoglobinopathies i.e., sickle cell disease, and platelet disorders

AUTOIMMUNE & INFECTIOUS DISEASE:

- Mechanism and manifestations of immune compromise, including that caused by HIV infection differentiate non-AIDS causes of immune hypofunction
- Rheumatologic and autoimmune diseases
- Hypersensitivity reactions including transplant rejection
- Abnormalities of the lymphatic system
- Malignancies of the hematopoietic system
- Immunization (when appropriate) of patients with viral infections and bacterial infections (especially gonorrhea, syphilis, tuberculosis, and tetanus)
- Characteristics of sepsis in different age groups

NEPHROLOGY & ACID-BASE DISORDERS:

- Glomerular disorders
- Acid/base disorders
- Fluid and electrolyte abnormalities
- Interstitial kidney disorders
- Pyelonephritis, renal failure
- Metabolic disorders (gout)
- Protein-wasting disorders (Nephrotic syndrome)

NEUROLOGY:

- Seizure disorders
- Acute nervous system deficits (Stroke and TIA)
- Systemic nervous system disorders (such as Guillen-Barre, and myasthenia)
- CNS-infections (meningitis, encephalitis)
- Headache
- Dementia
- Movement disorders
- Space occupying lesions

ENDOCRINOLOGY:

- Thyroid disorders
- Lipid disorders
- Diabetes mellitus
- Adrenal disorders (Cushing's syndrome and Addison's disease)
- Pituitary disorders

MEDICAL EMERGENCIES:

- Acute myocardial infarction
- Pulmonary edema
- Acute respiratory failure
- Malignant hypertension
- Gastrointestinal hemorrhage
- Shock and anaphylaxis
- Status asthmaticus
- Status epilepticus
- Acute renal failure
- Diabetic ketoacidosis
- Comatose patient

Skills:

The resident should attend or assist in performing the following procedures:

- Thoracentesis
- Bronchoscopes
- Pleural tap.
- Nasogastric tube insertion
- Gastrocopy
- Rigid sigmoidoscopy
- Paracentesis
- Echocardiogram
- Peritoneal tap
- Bone marrow aspiration & biopsy
- Joint aspiration
- Renal dialysis

Perform the following procedures used in medical practice:

- E.C.G. tracing & interpretation
- Lumbar puncture
- Arterial puncture
- P.P.D testing & interpretation
- Pulmonary function testing
- Implementation of current ACLS protocols.
- External closed heart compression.
- Safe external defibrillation.

Interpretation of laboratory results

- Interpret commonly used laboratory tests as CBC, urine R/M, stool R/M, & biochemistry.
- Interpret specialized laboratory tests such as ABG's, urea /electrolyte, and acid-base balance, serology, renal function test, thyroid function test, hormonal assay, microbiology, and bleeding profiles.

Interpretation of Radiological Findings in view of Medical Conditions

- Plain radiograph of chest
- Plain radiograph of abdomen
- Plain radiograph of the bones and the joints

Attitudes:

The resident should demonstrate the following attitudes:

1. Communicate effectively and sensitively with medical patients and their families, deliver bad news effectively with compassion and sensitivity.
2. Ability to work effectively as part of a health care team (patients & their families, other physicians, consultants, health care professionals in the inpatient setting and show an understanding of the roles of various participants in inpatient care.
3. An understanding of health determinants affecting cardiac patients and their families, counsel patients effectively about risk reduction and health improvement, direct patients to proper resources & health promotion.
4. Show curiosity around clinical cases and apply the principles of evidence-based medicine in clinical practice.
5. Adhere to the principles of medical ethics with ability to identify medico-legal risks and take steps to address them.
6. Treat patients and colleagues with respect.
7. Ability to self-evaluation, including insight into strengths and weaknesses.
8. Describe appropriate ability to triage considerations for patients presenting to the emergency department and efficient use of healthcare resources and manage time efficiently.

2. PEDIATRICS

During this rotation, the resident is expected to gain the following knowledge and skills:

Knowledge related to the following areas.

A. Presenting symptoms.

- Vomiting, fever, drowsiness, developmental delay, infantile colic
- Failure to thrive, and growth disorders, behavioral problems.
- Neonatal problems: birthmarks, feeding problems, heart murmur, sticky eye, jaundice
- Constipation, abdominal pain (acute and recurrent)
- Pyrexia, febrile convulsions
- Cough/dyspnoea, wheezing including respiratory infections, bronchiolitis
- Otitis media, sore throat
- Sensory deficit especially deafness
- Diarrhea
- Viral exanthemas
- Urinary tract infection
- Convulsions
- Chronic disease: asthma, diabetes, arthritis, learning disability
- Child development, child abuse, deprivation
- Mental health problems such as attention deficit hyperactivity disorder, depression, eating disorders, substance misuse and self-harm, autistic spectrum disorder and related conditions
- Psychological problems: enuresis, encopresis, school refusal, behaviour problems including tantrums and Attention Deficit Hyperactivity Disorder

B. Fetal and neonatal period

1. Risk factors determined by gestational age assessment
2. Effects of labor and delivery on infant

3. Diagnosis and appropriate management of:

- Meconium-stained amniotic fluid
- Perinatal asphyxia
- Respiratory distress
- Cyanosis, apnea, seizures
- Hypoglycemia, sepsis
- Developmental dysplastic hip
- Birth-related injuries, anemia
- Rh and blood type incompatibility
- Polycythemia, jaundice
- Premature and post-date gestations
- Maternal infections (HIV, hepatitis, etc.)
- Sudden Infant Death Syndrome

C. Well newborn and child care

- Recommended schedule and content for examinations from birth to adolescence
- Anticipatory guidance appropriate to age and developmental stage
- Feeding options and variations
- Temperament behavior
- Developmental stages and milestones
- Developmental screening tests
- Developmental delays
- Learning disorders

D. Nutrition

- Breast feeding and its advantages
- Modified cow's milk formula, its advantages and disadvantages
- Recommended children's daily requirements for proteins, carbohydrates, fat, vitamins and minerals.
- Weaning.
- Protein energy malnutrition, causes, manifestation and management

E. Physical growth

- Normal growth and variants including dental development
- Sexual precocity

F. Prevention and Screening

- Injury prevention (Motorized vehicles, choking/asphyxiation, poisoning, burns)
- Child Abuse
- Immunization
- Screening for anemia, high-risk children and hypertension
- Healthy diet and exercise for children and young people

G. Genetics

- Screening issues
- Appropriate referral for necessary genetic diagnosis and counseling
- Mode of inheritance of genetic disorders
- Consanguinity and its impact on health
- Prenatal diagnosis
- Genetic counseling

H. Medical problems of infants and children:

Recognition, management and appropriate referrals for the following conditions:

1. Allergy

- Asthma, atopy and Allergic rhinitis

2. Inflammatory

- Juvenile rheumatoid arthritis
- vasculitis syndromes

3. Renal/urologic problems

- Glomerulonephritis, hematuria, proteinuria
- Urinary tract infections, pyelonephritis vesicoureteral reflux, fused labia, enuresis.

4. Metabolic and nutritional problems

- Thyroid disorders, diabetes mellitus, obesity
- Failure to thrive, abnormal growth patterns such as short and tall stature.

5. Neurological problems

- Seizure disorders, headache, syncope
- Psychomotor delay/cerebral palsy, tic and movement disorders, and cerebral palsy

6. Gastrointestinal

- Gastroenteritis, viral and bacterial,
- Constipation/encopresis
- Hepatitis
- Colic
- Gastroesophageal reflux
- Food intolerance and malabsorption
- Pyloric stenosis
- Intussusceptions
- Recurrent/chronic abdominal pain
- Intestinal infestations

7. Cardiovascular

- Congenital heart disease/ valvular disease
- Rheumatic fever.
- Evaluation of heart murmurs
- Chest pain, hypertension and arrhythmia

8. Respiratory tract

- Viral upper respiratory tract infections
- Reactive airway disease/asthma
- Cystic fibrosis
- Bronchiolitis
- Foreign body aspiration
- Viral or bacterial pneumonia
- Pertussis, tonsillitis/pharyngitis/sinusitis
- Epiglottitis versus croup
- Epistaxis

9. Musculoskeletal

- Septic arthritis, rheumatic arthritis
- Rheumatoid arthritis, arthralgia

10. Infections

- Viral infections like measles, rubella, mumps, and chicken pox.
- Meningitis and encephalitis
- streptococcal and staphylococcal disease
- Sepsis, osteomyelitis, HIV

11. Hematology

- Iron deficiency anemia
- Hemoglobinopathies
- G6PD deficiency
- Leukemia & bleeding disorders

12. Emergency

- Epiglottitis, choking
- Anaphylaxis, septic shock
- Hypovolemic shock
- Status asthmaticus, status epilepticus
- CCF, and cyanotic heart diseases
- Poisoning and drug overdose

Skills

A. Primary care management skills:

1. Manage primary contact with children and their families.
2. Understand the importance of utilizing multi-agency in childhood care.
3. Co-ordinate care with other primary care professionals, pediatricians and other appropriate specialists, leading to an effective and appropriate care provision.
4. Deal effectively with child abuse. This involves, recognizing the clinical features, knowing arrangements for child protection, and referring when appropriate.

B. Investigation skills:

1. Assign APGAR scores accurately
2. Resuscitation of newborns, infants and children
3. Perform and document age-appropriate history and physical examination, including use of growth charts
4. Administer and interpret developmental screening tests
5. Perform appropriate history and physical examination for physical or sexual abuse

6. Calculate maintenance and replacement fluid and electrolyte requirements
7. Interpret vision screening test
8. Perform and interpret pneumatic otoscopy and tympanograms
9. Bladder catheterization and suprapubic aspiration
10. Perform lumbar puncture
11. Coordinate patient care and specialty services when required

Attitudes

The resident should adopt attitudes that include:

1. Empathic concern for the health of the child in the context of the family.
2. Importance of continuity of and access to care for prevention of illness.
3. Promotion of healthy lifestyles in children and families
4. Awareness of the unique vulnerabilities of infants and children that may require special attention, consultation and/or referral.
5. Impact of social, cultural and environmental factors that will affect the health and well-being of infants and children.
6. Importance of obtaining information about school performance and learning disabilities.

3. SURGERY AND ORTHOPEDICS

The resident will rotate in various sections of surgical department, that includes general surgery, pediatric surgery, urology, plastic surgery and orthopedics.

During this rotation, the resident should develop an **attitude** that include the following:

1. Recognition of the importance of family physician and surgeon collaborating as partners in the evaluation of and decision making for the care of surgical patients.
2. Awareness of the principles involved in differentiating the causative origin of clinical symptoms resulting in the need for medical versus surgical intervention.
3. Sensitivity to the patient's and family's concerns and anxieties regarding the potential need for surgical intervention.

General Surgery Guidelines:

Knowledge and critical thinking:

1. **Basic principles of surgical diagnosis**
 - Basic surgical anatomy
 - Wound physiology, wound care and healing processes
 - Clinical assessment, including history, physical examination, laboratory evaluation and differential diagnosis of key signs and symptoms of surgical conditions
 - Invasive versus noninvasive diagnostic tests
 - Anesthesia: premedication, agents, routes of administration, toxicity, and resuscitation methods
 - Recognition of surgical emergencies
 - Ethical and legal considerations that include informed consent and quality of life

2. **Preoperative assessment**

- Surgical risk assessment
- Comorbid diseases
- Antibiotic prophylaxis
- Patient preparation (bowel, etc.)

3. **Intraoperative care**

- Basic principles of sterile technique
- Patient monitoring, fluid management
- Blood requirements, temperature control
- Use of basic surgical instruments

4. **Postoperative care**

- Wound care, patient mobilization
- Nutritional & pain management
- Suctions and drains
- Fever work-up and management
- Wound dehiscence
- Urinary retention, hemorrhage
- Pneumonia, atelectasis, fluid overload
- Transfusion reaction, thrombophlebitis
- Pulmonary embolism, oliguria
- Respiratory insufficiency
- Ileus, infection and shock

5. **Outpatient surgery**

- Patient selection, conscious sedation
- Postoperative observation principles
- Follow-up

6. **Approach to the care of common surgical conditions**

- Abscesses, aortic aneurysm
- Appendicitis, arterial insufficiency
- Benign neoplasia, bowel obstruction
- Breast masses, colon cancer
- Carpal tunnel syndrome
- Cysts, hematomas, ganglia, diverticuli
- Gallbladder disease, hemorrhoids, hernias
- Gastrointestinal hemorrhage
- Intervertebral disk herniation

7. Office care of common conditions

- Lumps and bumps
- Simple lacerations
- Superficial burns

8. Shared management of common general surgical conditions

- Anal fistula, fissure or perianal abscess
- Carcinoma, esophageal varices
- Ascitis, incarcerated hernia
- Intussusception, ulcerative colitis
- Obstruction
- Pancreatic disease
- Polyposis, regional enteritis
- Ruptured viscus

General Skills:

1. Preoperative assessment

- Surgical risk evaluation
- Physical assessment
- Radiographic assessment
- Noninvasive diagnostic procedures

2. Emergent surgical techniques

- Cricothyroidotomy
- Needle thoracostomy
- Pericardiocentesis

3. Intraoperative skills

- Preparation for surgery
- First assist at major surgery
- Basic use of surgical instruments
- Incision and dissection
- Exposure/retraction
- Hemostasis
- Estimation of blood loss
- Fluid replacement
- Wound closure e.g. technique selection (ligature, staples, adhesives) suture selection, drains, dressings

4. Postoperative care

- Suture removal
- Dressing changes
- Drain removal

5. Minor surgical techniques

- Local anesthesia
- Simple excision
- Incision and drainage of cysts and abscesses
- Aspiration
- Foreign body removal
- Minor burns
- Cauterization
- Punch biopsy
- Wound debridement
- Nail surgery

Pediatric Surgery Guidelines:

Knowledge and critical thinking:

Understand the pathogenesis, diagnosis & principles of surgical management of most common diseases falling within the scope of pediatric surgery.

Clinical diagnosis and management:

1. The resident should possess a working knowledge of the application of various imaging modalities to the diagnosis of surgical disease in infants and children, particularly as they might differ from their application in adult patients.
2. Proficiency in the physical examination of the conformable, frightened child should be developed.
3. The resident should understand and become proficient in the pre- and post-operative management of the surgically ill infant and child.
4. The resident should demonstrate effectiveness in planning the diagnostic and therapeutic management of children with severe surgical illness

Urology Guidelines:

Clinical diagnosis and management:

Knowledge:

1. Common abnormalities found of the urogenital tract which may be congenital or acquired
2. The acquisition and interpretation of data from radiologic studies.
3. The principles of the endoscopic exam of the urogenital tract
4. The timing and selection of patients for surgery
5. The essential pre-and postoperative management for urologic patients.
6. The principles and follow-up and prognosis for urologic surgical patients.
7. The pathological basis of urologic disease

Applied clinical knowledge and skills:

1. Evaluating and treating patients with common urologic problems, including diagnosis and treatment options.
2. Diagnosis and treatment of complications often seen post-operatively in the urologic patient
3. An understanding of the pharmacological treatment of urologic disease.
4. The use of diagnostic equipment frequently used for the understanding of urologic disease

Outpatient experience & continuity of care:

1. The laboratory and radiological evaluations of patients with urologic problems
2. Physical examination findings of common urologic problems including prostate disease, hernia, testicular masses.
3. Common pediatric urological problems and their follow up.

Plastic Surgery Guidelines:

Knowledge and critical thinking:

1. After the completion of this component of rotation, the resident will know the process of normal wound healing and factors inhibiting the normal healing process.
2. The resident should understand the pathology of skin and soft tissue diseases that require surgical intervention and will understand physiology associated with skin grafting.

Clinical diagnosis and management:

1. The resident should understand the indications for the plastic surgical management of hand, facial, and soft tissue problems requiring plastic surgical intervention.
2. The resident will understand indications and treatment of lacerations including the principles of debridement where tissue excision is needed.
3. The resident will be able to perform a comprehensive examination of the hand, assessing both motor and sensory components and will be able to assess the degree and extent of facial trauma.
4. The resident will understand the principles and use of local anaesthesia and its appropriate use and limitations.

Outpatient experience & continuity of care:

1. The resident will participate in the preoperative evaluation of the patient requiring plastic surgical intervention.
2. The resident will understand the goals of reconstructive and cosmetic procedures and will be able to assess the success of these procedures in the postoperative period.

Orthopedic Guidelines:

Knowledge and critical thinking:

1. At the completion of this rotation, each resident should be able to differentiate orthopedic injuries that require emergent or urgent versus non-urgent intervention, in the overall management of the trauma patient.
2. He/she must be able to diagnose and be familiar with the protocol for management of pelvic ring injuries that are associated with life-threatening hemorrhage.
3. The resident must also be comfortable in the diagnosis of open vs closed fractures and of compartment syndromes.
4. He/she should be competent in the management of open wounds of the extremities and be aware of the effect of musculoskeletal injuries on the course and management of the poly trauma patient.
5. The resident should be able to develop a rationale for the management of common orthopedic problems in the inpatient and outpatient settings.

Clinical diagnosis and management:

1. The resident should master the general orthopedic examination of the trauma patient, including a careful neurovascular exam of all extremities.
2. The resident should be able to identify and describe fractures, based on their radiographic appearance, including those of the cervical and thoracolumbar spine, pelvis and major long bones.
3. The resident should be able to diagnose and provide primary management for compartment syndromes.

4. Obstetrics & Gynecology

During this rotation, the resident is expected to exhibit the following **attitudes** towards his colleagues and patients:

1. A collegial working relationship in order to provide quality care for pregnant women in this country.
2. An understanding of the desire of women to be treated as competent participants in their health care, in a caring and compassionate way.
3. An appreciation of the role that women play in the health of the family by choosing a health care provider, making meal selections and providing family care at home.
4. The realization that a woman's health is affected not only by medical factors but also by family, life cycle, relationships and community.

Knowledge of the following conditions:

1. Normal female growth and development

2. Appropriate history and examination

3. Menstruation problems:

- Physiology of menstruation
- Abnormal uterine bleeding
- Premenstrual syndrome

4. Reproduction related issues:

- Normal physiology
- Infertility
- Abortion
- Contraception
 - Permanent (ligation)
 - Reversible: oral, injectable, implants, natural, barrier, and intrauterine devices

5. Menopause

- Normal physiology
- Hormone replacement therapy

6. Sexuality related issues

- Normal sexual response
- Diagnosis and treatment of sexual dysfunctions
- Alternative lifestyles

7. Prevention and early detection

- Nutritional needs
- Cancer screening
 - Papanicolaou test
 - Breast/mammography
 - Pelvic examination
- Exercise
- Osteoporosis
- Smoking
- Coronary artery disease

8. Gynecology related issues that include:

- Disease prevention/health promotion and periodic health evaluation
- Abnormal uterine bleeding
- Gynecologic problems of children
- Infections and diseases of the female reproductive and urinary systems
- Breast health and diseases of the breasts
- Sexual assault, domestic violence
- Trauma to the reproductive system
- Neoplasms of the reproductive system
- Menopause and geriatric gynecology
- Indications for surgical intervention
- Cervical lesions and abnormal cytology
- Ectopic pregnancy

9. Obstetrics related issues

- Pre-pregnancy planning and counseling
- Prenatal care, including risk assessment
- Labor, delivery & postpartum care
- Care of the normal newborn
- Common neonatal problems
- Analgesia & anesthesia for labor & delivery
- Indications for cesarean delivery
- Obstetric complications and emergencies

10. Family life education

- Family planning
- Fertility problems
- Interconceptional care
- Family and sexual counseling

11. Consultation and referral

- Women's health care delivery systems
- High-risk pregnancies
- Collaboration with other health care providers i.e., nutritionist, dietitian, childbirth educator, lactation consultant, certified nurse midwife, nurse practitioner, etc.

Core skills

1. Gynecology

- Appropriate screening examination of the female, including breast examination
- Obtaining vaginal and cervical cytology
- Cervical biopsy
- Endometrial biopsy
- Cryosurgery/cautery for benign disease
- Microscopic diagnosis of urine and vaginal smears
- Dilation and curettage for incomplete abortion

2. Family planning and contraception

- Oral contraceptive counseling and prescribing
- Intrauterine contraceptive device counseling, insertion and removal
- Diaphragm fitting and counseling
- Insertion and removal of subcutaneous contraceptive implants and counseling
- Injectable long-term contraceptives and counseling

3. Pregnancy

- Pre-pregnancy evaluation
- Initial pregnancy visit & risk assessment
- History, physical examination, laboratory monitoring, and counseling
- Noninvasive evaluation of fetal gestational age and fetoplacental adequacy, including limited obstetric ultrasound examination
- Management of labor
- Fetal assessment, antepartum and intrapartum, including limited obstetric ultrasound exam. Induction of labor & internal fetal monitoring
- Normal cephalic delivery including use of vacuum extraction and outlet forceps
- Episiotomy and repair
- Management of common intrapartum problems (e.g., hypertension, mild pre-eclampsia, fever, infection & manual removal of placenta)
- Exploration of vagina, cervix, uterus
- Emergency breech delivery
- Neonatal resuscitation
- Management of common postpartum problems
- Assist at cesarean delivery

5. PSYCHIATRY

General learning guidelines:

The family physician should be able to provide appropriate psychiatric care to children, adolescents, adults, as well as geriatric population. He/she should be able to:

1. Perform adequate psychiatric assessment, through obtaining an accurate psychiatric history, conducting proper medical state assessment, physical examination, and social, psychological, and biological investigations.
2. Learn and practice the art of getting the psychiatric history through 'the psychiatric interview' with special emphasis on the doctor patient relationship.
3. Postulate the differential diagnosis, and plan of management, taking into account the personality constitution, and the social environment.
4. Be familiar with psychiatric presentation of physical illness, physical presentation of psychiatric illness, and psychiatric complications of physical problems.
5. Understand the principles of psychiatric treatment, both psychological and physical. He/she will be encouraged to practice supervised counseling, supportive psychotherapy and behavior therapy programs.
6. Learn the psychopharmacology of psychotropic medications commonly used in psychiatry, with special emphasis to the side effects of these drugs.
7. Recognize high risk cases that needs referral to the hospital e.g. patients with suicidal risk, those who are potentially dangerous to the others, and or to avoid adverse social circumstances etc.,).

Specific Learning Guidelines:

The residents will be introduced to the principles and practice of psychiatry during their rotation. The training will include an academic course and clinical sessions in the field of adult general psychiatry, covering the following topics:

- Methods of psychiatric assessment
- Basic psychopathology
- Coping with stress & psychological defense
- The neuroses: anxiety states, obsessive compulsive disorder, and hysteria.
- Effective disorders
- Schizophrenia & paranoid states
- Organic psychiatry
- The concept of somatisation
- Psychological treatment
- Physical treatment: neuroleptics, antidepressants, tranquilizers and E.C.T.
- Psychosexual disorders
- Personality disorders
- Eating disorders
- Suicide and Para suicide
- Factitious disorders
- Sleep disorders

The residents are expected to present cases weekly in the ward rounds, and attend two supervised clinical sessions weekly in the outpatient department. This aims to provide the resident with the necessary skills needed to reach an accurate diagnosis of common psychiatric disorders, and to postulate an appropriate plan of management.

During this rotation, the residents will be subjected to the areas of psychiatric subspecialties, namely:

- Child and adolescent psychiatry
- Psycho geriatrics
- Alcohol and drug addiction
- Community psychiatry, and day hospital
- Rehabilitation and mental handicap
- Liaison psychiatry.

6. OPHTHALMOLOGY

During this rotation, the resident is expected to gain the following knowledge and skills:

General objectives (Knowledge)

1. Normal anatomy, physiology, development of aging of the eye and ocular function.
2. Psychological and adaptive needs of patients with chronic ocular deterioration.
3. Effects of drugs and toxins on ocular function and disease.
4. Effects of ocular drugs on systemic function.
5. Understanding of the ocular disability of elderly patients and the importance of regular assessment and maintenance of functional capacity Ocular complications of systemic illness.
6. Guidelines for appropriate intervals for vision evaluation from birth till elderly age.

Specific Objectives

Initial diagnosis, management, and appropriate referral for the following common eye problems:

1. Refractive errors : Myopia, hyperopia, Presbyopia
2. Skin and adnexal disorders: Infections , hordeolum, preseptal cellulitis, orbital cellulitis, dacryocystitis, graves' disease, chalazion, milia.
3. Eyelid disorders : Entropion, ectropion, trichiasis,ptosis.
4. Iritis:Unequal pupils, afferent pupillary defect, horner's syndrome
5. Cataracts, glaucomas

6. Benign tumors : Papilloma, keratoacanthoma, nevus,xanthelasma, dermoid.
7. Malignant tumors :Basal cell carcinoma, squamous cell carcinoma ,lymphoma, malignant melanoma, retinoblastoma.
8. Conjunctival disorders: Viral conjunctivitis, herpes simplex conjunctivitis, herpes zoster conjunctivitis and keratitis, bacterial conjunctivitis, allergic conjunctivitis, conjunctival nevus: pterygium, pinguecula, conjunctival tumors
9. Corneal diseases: Superficial trauma/infections, corneal abrasion, keratitis, corneal ulcers, dry eye and associated diseases.
10. Retinal diseases: Associated with visual loss - central retinal vein occlusion, branch retinal vein occlusion, central retinal artery occlusion, retinal detachment and vitreous hemorrhage and associated with medical conditions - hypertension, diabetes mellitus, macular degeneration, age-related changes
11. Optic nerve disorder
12. External muscular disorders -cranial nerve palsies.
13. Trauma - blunt, penetrating.
14. Appropriate indications for special procedures in ophthalmology and ophthalmoradiology, fluorescein angiography, ocular ultrasound, visual field testing, magnetic resonance imaging and computed tomography of the eye.
15. Implications of recommendation for refractive eye surgery
16. Prevention of eye injury and vision loss.

Skills:

1. Performance of specific procedures and interpretation of results. This includes:
 - Tests of visual acuity, visual fields
 - Pinhole testing
 - Direct ophthalmoscopy
 - Flashlight examinations
 - Assessment of ocular movements and cover testing
 - Colour vision testing
 - Fluorescein staining of the cornea
 - Examination of pupil, assessment of the red reflex.
 - Tonometry
 - Removal of superficial F.B.
 - Epilation, styne drainage
2. Performance of physical examination in patients from newborns to adults, with emphasis on understanding normal neurologic and motor responses as well as appearance.
3. Using the clinical exam to localize the problem and generate differential diagnosis and management.
4. Formulating a rational plan of investigation and management, including assessment of severity and need for immediate expert assistance.
5. Recognition & management and of the prevalent and treatable diseases listed under "Knowledge" with consultation as appropriate.
6. Management and coordination of psychosocial and family issues, including long-term care of ocular conditions, necessary environmental adaptation and use of community resources.
7. Appropriate use of medications: Mydriatics, topical anesthetics, corticosteroids, antibiotics, and glaucoma agents.

Attitudes:**The resident should develop an attitude that will include:**

1. A supportive and empathetic approach to the care of the patient with ocular disease, especially in the case of someone with deteriorating vision.
2. Recognition of the effects of loss of visual function.
3. Recognition of the importance of the role of support systems in the health of patients with ocular disease.
4. Understanding of the role of the ophthalmic consultant, including identifying the different roles of ophthalmologists, optometrists, and opticians

7. OTOLARYNGIOLOGY

During this rotation, the resident is expected to gain the following knowledge and skills:

A. Otolology (Ear) field:

1. Understand the basic parts of the anatomy and physiology of the ear.
2. Take good history, perform relevant physical examination, and assess the hearing.
3. Understand how to diagnose and treat all types of acute otitis media, non suppurative otitis media and chronic otitis media.
4. Demonstrate proper approach to the patient with vertigo, dizziness and tinnitus. He/she will know how and when to initiate management, perform basic investigations and refer to E.N.T clinic.
5. Recognize all types of audiological and vestibular tests, and their clinical significance.
6. Recognize speech disorders in children, it's relation to diminished hearing in childhood.
7. He/she will know how to approach a deaf-mute child and when to refer him.
8. Demonstrate how to perform minor procedures like ear syringing, wick insertion and foreign body removal.

B. Pertinent to Nose and Throat fields:

1. Understand the basic anatomy and physiology of the nose and throat with it's relation to the clinical practice.
2. Learn how to do full examination of the nose and throat.

3. Perform indirect laryngoscopy to assist the larynx.
4. Diagnose and initiate management for acute sinusitis, chronic sinusitis, allergic and vaso-motor rhinitis.
5. Understand how to diagnose, manage, and approach the patient with bleeding nose.
6. Diagnose and manage the patient with blocked nose and recognize when to refer such cases to the specialist
7. Learn how to approach and manage a patient presenting with dysphagia.
8. Manage patients with throat infections and know when to refer them for surgery.
9. Understand the causes of dysphonia, diagnose and initiate the management before referring the patients to the E.N.T department.
10. Understand the causes of stridor in children and in adults and provide the emergency management to them.
11. Know the causes of lumps in the neck and salivary glands swellings, how to diagnose, investigate and when to refer these cases.
12. Demonstrate the ability to interpret plain x-rays of the neck, nasal sinuses, sialograms and barium swallow.
13. Learn how to perform minor procedures like removal of the foreign body from the nose, removal of fish bone from the throat, nasal cautery and nasal packing for epistaxis.

9. DERMATOLOGY

During this rotation, the resident is expected to gain the following knowledge and skills:

Knowledge of basic components of dermatology

1. Normal anatomy and physiology of skin
2. Risk factors and skin changes of aging
3. Preventive advices which includes patient education and importance of compliance
4. Diagnostic guidelines taking into consideration arrangement, distribution, type and pattern of skin lesions
5. Therapeutic considerations for using drugs
6. Systemic evaluation when indicated

Proficiency in diagnosing and managing following skin problems:

1. Papulosquamous diseases e.g. seborrhea and dandruff, psoriasis, pityriasis rosea, miliaria (prickly heat) and lichen planus.
2. Vesiculobullous diseases e.g. impetigo, herpes simplex, herpes zoster, Varicella, pemphigoid, pemphigus, dyshidrosis, erythema multiforme and dermatitis herpetiformis
3. Dermatitis e.g. contact, atopic, generalized exfoliative, nummular, stasis and diaper rash
4. Macular eruptions: viral exanthems and drug reactions
5. Urticarial eruptions: urticaria and dermatographism
6. Nodules: erythema nodosum, dermatofibroma, granuloma annulare, sarcoid and cysts
7. Other pruritic conditions: scabies, dry skin, secondary systemic, lichen simplex chronicus, pruritus ani, pediculosis, insect bites
8. Cutaneous infections: Bacterial e.g. impetigo, erysipelas, lymphangitis, cellulitis, erythema, boils, furuncle, pustule, folliculitis, abscess, & carbuncle. Fungal (superficial & deep) Viral (herpes simplex, herpes zoster, warts, molluscum contagiosum)
9. Complexion and cosmetic problems, e.g. acne vulgaris, acne rosacea, oily skin, hyperhidrosis, milia, vascular lesions, wrinkles and keloid
10. Pigment disorders: hyper & hypopigmentation, e.g. pityriasis alba & vitiligo and tinea versicolor
12. New growths:
Benign lesions: Inflammatory lesions, acne cyst, boil, hidradenitis, pyogenic granuloma, verruca, molluscum contagiosum, corn, callus, epidermal cyst, skin tag, xanthelasma, seborrheic keratosis, mole, nevus, lipoma, keloid, fibroma, dermatofibroma, hemangioma, neurofibroma,
Premalignant conditions: Squamous cell carcinoma, actinic keratosis, leukoplakia, keratoacanthoma, & premelanomas e.g. lentigo, and congenital nevus
Malignant conditions: Basal cell carcinoma, squamous cell carcinoma, melanomas, paget's disease, cutaneous lymphoma
13. Cutaneous manifestations of systemic disease
14. Occupational skin diseases
15. Hair problems: fungal infections, nonscarring alopecia, alopecia areata / totalis / universalis, telogen effluvium, traction alopecia, endocrine effects, discoid lupus erythematosus, lichen planopilaris, ingrown hair, hypertrichosis.

16. Nail problems: trauma, dermatoses, systemic illness, texture alteration, fungal infection, periungual and subungual conditions e.g. ingrown nail, paronychia, hematoma
17. Mucous membrane and oral lesions: includes (oral thrush, mouth ulcers, sicca, leukoplakia, geographic tongue, black hairy tongue, cheilitis, lichen planus)

Skills:

Diagnostic skills

1. Performance of history and physical examination with differential diagnosis
2. Use of devices (i.e., Wood's light)
3. Description of distribution and character of lesions

Management skills

1. Nutrition counseling
2. Preventive care: Routine skin care, avoidance of environmental causes, sunscreens, appropriate use of over-the-counter lotions
3. Health promotion and patient education
4. Use of photographs to document progress
5. Use of consultations and referrals

Therapeutic skills

1. Medical: Topical & Systemic medications
2. Surgical skills. This includes:
 - Cauterization of skin lesions e.g. acid cautery, electrocautery, and curettage
 - Cryosurgery
 - Excision of skin lesions
 - Intralesional injection of corticosteroids
 - Treatment of ingrown toenails

9. EMERGENCY MEDICINE

During this rotation, the resident is expected to gain the following knowledge and skills:

General Attitudes:

The resident during this rotation should demonstrate attitudes that include:

1. An ability to communicate effectively and empathetically with patients and families.
2. A capacity to work quickly and efficiently to assess the patient according to the urgency of the patient's problem.
3. An ability to work effectively with other members of the health care team.

Knowledge

Principles of Care

1. Pre-hospital emergency care. This will include emergency medical systems, communication systems and protocols
2. Prioritization and triage
3. Resuscitation and stabilization
4. Reassessment and monitoring
5. Consultation
6. Disposition

Assessment & management of the following conditions:

1. **Trauma:** Primary and secondary assessment of:
 - Blunt trauma: (heart, lung, and intra-abdominal organ rupture)
 - Penetrating trauma or stab wounds to head and neck, spine, spinal cord, chest, abdomen, extremities, genital/urinary injuries and soft tissue lacerations, avulsions, contusions.

2. Victims of violence

3. Neurologic Emergencies

- Altered consciousness
- Cerebrovascular disorders e.g. stroke (TIA, hemorrhagic ischemic stroke) Aneurysm
- Cranial nerve disorders
- Infectious / inflammatory disorders including meningitis
- Seizure disorders
- Acute headache
- Spinal cord compression

4. Psychiatric Emergencies

- Thought disorders / acute presentations
- Mood disorders / suicidal ideation / homicidal ideation
- Acute anxiety and panic attacks
- Somatoform disorders, hysterical conversion , hypochondriasis
- Addictive disorders / overdose / drug seeking behaviors
- Delirium/dementia/altered mental status

5. Environmental Disorders

- Burns (chemical, thermal, electrical)
- Electrocution injuries
- Heat related injuries
- Bites and stings / management of human and animal bites
- Poisonous plants
- Hypersensitivity reactions / anaphylaxis

Recognition and management of the following life threatening conditions:

1. Acute respiratory disorders

- Acute respiratory distress
- Pulmonary embolism
- Pulmonary infections
- Pleural effusions / empyema / pneumothorax
- Obstructive / restrictive lung disease

2. Acute cardiovascular disorders

- Life threatening dysrhythmias
- Cardiac arrest
- Ischemic heart disease
- Thoracic or abdominal aortic aneurysms
- Acute thrombolytic therapy

3. Toxicologic emergencies

- Acute overdose / pharmacokinetics
- Accidental poisonings / ingestion
- Treatments and antidotes

4. Special circumstances

- Resuscitations
- Drowning and near drowning
- Sudden infant death syndrome
- Metabolic disorders, acid / base imbalance
- Acute infectious emergencies
- Shock (hypovolemic, neurogenic, cardiogenic, septic)

Indications and interpretation of the following diagnostic tests:

- Electrocardiograms
- Radiology imaging of
- Acute head and cervical spine injuries
- Chest pathology
- Acute abdominal conditions
- Pelvis and extremity injuries

Medical-Legal Issues

- Informed consent and competency
- Withholding / termination of treatment
- Liability, duty to treat, negligence, standard of care, risk management

Skills

1. Airway management

- Heimlich maneuver
- Bag-mask ventilation
- Oral, nasotracheal esophageal, and intubations in children and adults
- Needle thoracentesis and tube thoracostomy
- Initiation of mechanical ventilation
- Cricothyroidotomy

2. Anesthetic techniques

- Local anesthesia
- Regional and digital nerve blocks
- Intravenous sedation and analgesia

3. Hemodynamic techniques

- Arterial catheter insertion / blood gas sampling
- Central venous access (jugular, femoral, subclavian)
- Venous cut-down

4. Diagnostic / therapeutic procedures

- Control of epistaxis (anterior and posterior packing)
- Peritoneal tap and lavage
- Lumbar puncture
- Thoracentesis
- Nasogastric intubation

5. Skeletal procedures

- Spine immobilization and traction techniques
- Fracture / dislocation immobilization techniques
- Fracture / dislocation reduction techniques

6. Other situations:

- Repair of skin lacerations
- Multiple patient management
- Grief and loss counseling
- Critical incident stress debriefing

10. RADIOLOGY

During this rotation, the resident is expected to gain the following knowledge and skills:

General knowledge:

1. To gain knowledge and understanding of the role of radiology in modern disease diagnosis and management
2. To have the necessary knowledge and skills for treating patients in emergency clinical settings where radiology have an important diagnostic role.
3. To increase the awareness about various common radiological procedures available in the health centers and Salmaniya Medical Complex.
4. To have an understanding of appropriate referral system for radiological investigations.

Specific skills:

1. **Interpretation of basic radiological studies that includes:**

Thoracic Imaging

- Cardiac enlargement
- Cardiac failure and pulmonary oedema
- Pleural effusion
- Pulmonary collapse and consolidation
- Misplaced endoluminal tubes
- Pneumothorax, including tension
- Pneumomediastinum and subcutaneous emphysema
- Hyperinflation of lungs
- Free gas beneath the diaphragm
- Detection of pulmonary and mediastinal masses
- Signs of acute vascular problems, including aortic dissection and trauma

Abdominal Imaging

- Small and large bowel obstruction
- Toxic megacolon
- Signs of intestinal perforation
- Aortic aneurysm
- Urinary calculi
- Gallstones
- Endoluminal foreign bodies

Skeletal Imaging

- Common fractures in the limbs
- Fracture of femoral neck
- Fractures of the wrist and scaphoid
- Fractures of the shoulder, including dislocation
- Pelvic fractures
- Signs of osteoarthritis/rheumatoid arthritis
- Sclerotic and lytic metastases
- Skull fracture
- Cervical spine fracture and dislocation
- Fractures in children

2. **Understanding the role of imaging in clinical investigation**

Residents should demonstrate basic knowledge of the clinical possibilities of image-guided procedures, individual preparation & minimally invasive treatment.. Learning will be concentrated on the imaging techniques of:

- Ultrasound
- Computed tomography
- Magnetic resonance imaging
- Contrast examinations of viscera (Barium studies, IV-contrast)
- Radionuclide Imaging

Attitude

On completion of the training, residents are expected to demonstrate the importance of:

1. Protection of the patient that includes hazards of radiation and the concepts of cumulative dose and differential radiosensitivity of tissues. The value of alternative investigations without radiation.
2. Awareness of which investigations deliver a large absorbed radiation dose and recognition of increased risk in pregnancy and children and the measures to avoid unintended irradiation in early pregnancy.
3. Understanding of the principle of informed consent and its relation to invasive investigations in clinical imaging.
4. An understanding of what the patient will experience when undergoing investigations in the radiology department.

Methods of learning:

Clinical radiology should be learned in clinical context. Residents can better appreciate the clinical role of imaging, and the interaction with clinicians. Many ways are used in teaching such as: team meetings, discussions, collections of illustrative images.

SECTION II: FAMILY MEDICINE TRAINING

On completion of the residency training, the graduating family physicians are expected to adopt and demonstrate the following skills in their clinical practice:

A. Scientific foundations of clinical practice

1. An understanding of normal growth and development throughout life stages, including broad knowledge of clinically relevant age and sex related variations in structure, function, physiology, therapeutic responses, and psychological attributes.
2. An understanding of the basic biomedical, psychosocial mechanisms of disease process, including genetic, environmental, microbiologic, nutritional, immunologic, social, and epidemiological factors.
3. Broad knowledge of the common diseases that affect all major organs and diseases specific to age/sex groups, especially those that affect paediatric and geriatric patients.
4. Broad knowledge of the disorders and issues critical to maternal / fetal health.

B. Information management and critical thinking

1. The ability to frame a question, searches the literature, organize data, and compile and use information for the care of an individual patient.
2. The ability to access and utilize the full range of information resources available to physicians, including library resources; key professional texts, journals; and web media.
3. An understanding of applied biostatistics and clinical epidemiology and how these disciplines are used to critically evaluate information,

conduct formal decision analysis, and design research.

4. An understanding of how clinical trials are designed, implemented, and analyzed.
5. The ability to utilize decision-support systems and guidelines for clinical decision-making, including an understanding of the roles of preferences and probabilities.
6. The ability to independently evaluate the accuracy and significance of the information one obtains from any source, but especially studies reported or summarized in the medical literature.

C. Problem solving and clinical decision making

1. The ability to identify, prioritize, and evaluate a patient's clinical history using a comprehensive knowledge base.
2. The ability to use evidence-based medicine to formulate a comprehensive differential diagnosis, direct a diagnostic workup effectively and efficiently, develop a management plan, and oversee its implementation.
3. The ability to retrieve, interpret, and manage data from laboratory tests, radiological examinations, and clinical procedures for clinical decision making.
4. The ability to use consultants effectively in a team approach to patient care.
5. An understanding of the role of practice guidelines in caring for patients.

D. Doctor patient communication

1. The ability to listen attentively; sincerely; and with ethnic, racial, and cultural sensitivity in all aspects of patient care.
2. The ability to give accurate, clear, concise oral presentations.
3. The ability to write clear, concise patient records, including history and physicals, progress notes, orders, and referrals for consultatants.
4. The ability to begin a consultation, elicit key information, give information, answer patient and family questions, and end the consultation in a sensitive manner.
5. An appreciation for the uncertainty and anxiety experienced by patients and families dealing with acute and chronic illness.
6. The ability to communicate or deal with patients who are angry, anxious, seductive, or affected by various psychiatric disorders.
7. The ability to deliver bad news and deal with patient/family responses.
8. The ability to discuss medical errors or professional mistakes honestly and openly in ways that promote patient trust and self-learning.
9. The ability to work effectively as part of a health care team, with appreciation for the contributions and competencies of other health care professionals.
10. The ability to negotiate with patients and families regarding evaluations and therapies.

E. Clinical skills

1. The ability to maintain appropriate medical records, including SOAP notes, death summaries, and procedure notes.
2. The ability to recognize and manage life-threatening situations and carry out or direct ACLS/CPR procedures.
3. An understanding of the physiologic foundation of the ECG and the ability to interpret common ECG findings.
4. The ability to efficiently take a relevant history and perform examination that is appropriate for age, sex, and clinical setting.
5. The ability to use evaluation and treatment protocols in patient management.
6. The ability to request and interpret the needed imaging studies.
7. The ability to appropriately interpret pathology reports.
8. The ability to recognize and manage common personality / psychiatric disorders.
9. The ability to recognize physical, elder, child, and sexual abuse.
10. Knowledge of the appropriate use of common medical devices (such as vascular catheters, endotracheal tubes, NG Tubes) including the indications for use, and protocols for placement, maintenance, and removal.
11. An understanding of the general principles of sterile technique and maintaining Universal precautions.

F. Ethics, morals, and judgment

1. Knowledge of the theories and principles that govern ethical decision making and the major ethical dilemmas in medicine.
2. The ability to care for patients in a compassionate way, consistently demonstrating respect for the privacy and dignity of all patients.
3. A willingness to understand and deal in a balanced way with the full range of issues that affect the care of the patient, including legal and ethical issues.
4. The ability to determine the nature of self-selected health practices, relevant social stress factors, and available support systems, including appropriate roles for spiritual or culturally based healers and other alternative health care providers in caring for the whole individual.
5. The insight and emotional maturity to recognize and deal with personal and interpersonal tensions, conflicts, and problems.
6. The ability to seek help, when needed, to deal with personal or interpersonal problems.
7. An awareness of the importance of issues relating to proper charting, neglect, disclosure, standards of care, malpractice, privileges, public reporting requirements, and informal and informed consent.
8. A willingness to monitor the behaviour and competence of professional peers and to deal appropriately with inadequate or unethical behaviour, unprofessional practices, or conflict of interest.

G. Professionalism

1. The ability to interact with the patient in a way that allows the patient to feel that he or she has received medical care provided in a caring, compassionate, and humane manner.
2. An awareness of the personal manners, dress, grooming, speech, and interpersonal skills expected by the community of a medical professional.
3. The ability to consistently and dependably carry out one's duties with honesty, personal integrity, self-motivation, and self-discipline.
4. The ability to assume responsibility, think critically, exercise sound judgment, and act prudently with full awareness of the limits of one's intellectual and technical abilities.
9. A willingness to accept responsibility for actively educating oneself, colleagues, patients, and the public about health and medical issues.
10. The ability to act as a team leader in coordinating patient care and in promoting community health issues.

H. Personal growth and lifelong learning

1. The ability to recognize and address personal strengths and weaknesses.
2. The ability to accept performance feedback professionally and develop an action plan for improvement.
3. An understanding that formal continuing education is life long.
4. The ability to confront one's own values as they relate to the practice of medicine.

5. The ability to use time management to achieve a balance in one's professional, personal, and family responsibilities.
6. An awareness of the full range of health risks and occupational hazards encountered by health care professionals, including sleep deprivation, nutritional challenges, high levels of physical and emotional stress, substance abuse, work related disease, personal neglect, depression, malpractice, financial, and other hazards.
7. An awareness of the resources and strategies available to deal with the personal health risks and occupational hazards that may affect one's practice of medicine, including ways to develop and utilize personal support systems.

I. Social, cultural, and community contexts of Health Care

1. The ability to recognize patterns of potential or existing health problems in patients, families, or communities.
2. A commitment to promote patient and community health.
3. An understanding of population-based medicine, broad public health issues and resources.
4. The ability to educate patients, families, and communities about modifiable risk factors and how to move toward healthy behaviours and lifestyles.
5. The ability to apply health screening and disease surveillance guidelines, such as those for Cancer Screening, CAD, HIV, and HTN.
6. An understanding of the age-specific guidelines for disease prevention through immunization; disease reporting; and other environmental, and public health procedures.

7. An understanding of complementary and alternative medicine resources, including but not limited to herbal medications / preparations, acupuncture, and massage.

J. Medical economics and healthcare delivery systems

1. A commitment to defend the professional values of medicine and advocate for quality patient care.
2. Knowledge of how healthcare is currently financed and how resources are allocated.
3. Knowledge of the pros and cons of the various forms of managed care; of how this form of healthcare delivery is evolving; and of the ethical, legal and professional challenges raised by balancing cost and quality.
4. A commitment to utilize resources appropriately to provide care that is of optimal value.
5. The ability to apply basic principles of continuous quality improvement to medical practice.
6. The ability to work effectively and collaboratively with other members of the healthcare team to provide patient focused care.

SECTION 3: RESEARCH CURRICULUM

Introduction:

The research project is an integral part of Community Medicine curriculum in Family Practice Residency Program. The aim of the research is to acquire new knowledge and to broaden understanding. It is one of the ways to stimulate the mind and develop critical thinking among family physicians, because it requires a clarity and understanding of the question to design, methods to apply, analysis to make, writing it professionally and presenting the results. Areas that can be chosen for research project are qualitative or quantitative research projects, quality improvement projects, community-oriented primary care projects, and performing medical audit.

Residents may work individually or as a member of a team, but must show evidence of individual critical involvement.

Research objectives:

The resident during his/her training period is expected to acquire and demonstrate the followings:

Attitudes:

1. Recognize the importance of research in family practice.
2. Understand the role of research in clinical care.
3. Practice evidence-based medicine.

Knowledge:

A. Basic research designs

1. Interventional trials
 - Randomized controlled trials
 - Historical controlled trials
2. Observational studies
 - Cohort studies
 - Case controlled studies
 - Cross sectional studies
 - Ecological studies
3. Meta-analyses
4. Systematic review

B. Components of a research article

1. Introduction
 - Validity of research question
 - Relevant literature review
2. Methods
 - Appropriate sample, sample size, sampling
 - Familiarity with commonly used statistical tests (e.g., chi-square t test,).
 - Measurement of validity and reliability
3. Results
 - Complete
 - Consistent
4. Discussion/conclusions
 - Validity
 - Applicability to specific patients and populations

Skills

The resident will develop the skills that include the ability to:

1. Perform literature searches using MEDLINE and other resources.
2. Critically evaluate research articles.
3. Formulate a research question
4. Utilize evidence-based medical information resources, that's to say:
 - Identify a problem or general question to investigate.
 - Refine the problem so it can be investigated.
 - Establish a clear purpose to the research.
 - Translate the general question into specific hypotheses, recognizing the difference between research, null and alternative hypotheses.
 - Define variables and terms operationally.
 - Recognize the difference between independent and dependent variables, when applicable.
 - Determine how each variable will be measured, recognizing different levels of measurement.
 - Evaluate the reliability and validity of a given measurement.
 - Evaluate variables and their measurement in the area of research.
5. Design a descriptive and/or explanatory study. This will include:
 - Categorize research designs (e.g., observational versus interventional, prospective versus retrospective).
 - State the purpose, strengths and limitations of each design.
6. Collect and analyze the data.
 - Compare major types of studies, such as case reports and case control studies, etc.
 - Explain important threats to internal and external validity as applicable to each study design.
 - State the relationship between the chosen research design, the type of data collected and the necessary statistical techniques.
 - Thoroughly analyze the dominant research designs used in the area of study.

7. Evaluate and be able to discuss study/research findings.
 - Explain the outcome of given analyses in terms of the originally stated hypothesis.
 - Conduct additional literature review as needed to elaborate on findings and their implications for a given body of research.
 - Integrate the research findings with the existing literature by discussing what is known and unknown and what requires further study.
 - Express appropriate cautions in interpreting results and base these cautions on methodological and theoretic conditions.
 - Place the study in the context of existing research and justify its contribution to important questions in the area.

Training Objectives for various Residency Years

1st residency year

During the community medicine introductory block course which is given by the end of the ***1st residency year***, each resident will be exposed to extensive knowledge on the basic principle of research. The course includes the following topics:

1. Introduction to descriptive epidemiology
2. Study design
3. Protocol writing
4. Formulating objectives
5. Methods of sampling
6. Methods of data collection
7. Constructing a questionnaire
8. Descriptive statistics
9. Analytic statistics

2nd residency year

During this year, the trainee residents will be given another block course on (An Introduction to Research methodology and Audit in primary care setting). The content of this course will include the following topics:

1. What is a research?
2. The research process, which will include:
 - The research question
 - Literature review
 - Method to choose
 - Process of data collection
 - Data analysis
 - Discussion of the findings
 - Logical conclusions
 - Sharing the findings
3. Guidelines for a protocol.

Putting theory in to practice:

1. The residents will be distributed into small groups each group will consist of 2 - 3 residents.
2. A supervisor/FPRP tutor will be assigned for each group to supervise their research projects.
3. The residents in each group will work together as a team to develop the following:
 - Choosing a research topic
 - Identifying a researchable question
 - Developing a hypothesis
 - Matching objectives with the appropriate study design
 - Designing a research tool

3rd residency year

During **this year**, the residents will be involved in field work. This will include:

- Application of research tools
- Gathering data
- Analyzing the collected data by using computer based statistical package (SPSS).

They will have two block courses on the use of SPSS statistical package and Medical Statistics. These courses are tailored to residents' research progress.

4th residency year

During this year, the residents are expected to complete the following tasks:

- Interpret the research results.
- Write the final report.
- Get approval of the research committee for successful completion.