



# المجلس العربي للاختصاصات الصحية

**The Arab Board of Health Specializations**

**دليل برنامج طب الطوارئ الأطفال**

**المجلس العلمي لاختصاص طب الطوارئ**

**Pediatric Emergency Program Guide**

**Scientific Council of Emergency Medicine**

**January 2022**

# PEDIATRIC EMERGENCY FELLOWSHIP

## **A. Introduction: PEDIATRIC EMERGENCY FELLOWSHIP**

### General Statement about the proposed program

- Diverse age groups and medical emergency conditions come under the purview of Pediatric Emergency Medicine (PEM). Categories included are neonate, infants, children, teens and young adults who are suffering from fever, dehydration, infections, injuries, poisoning, asthma, cuts and animal bites. Special equipment and procedures are adopted by PEM in the diagnosis of diseases in order to reduce the mortality rate. It is important that the Pediatric Emergency physician is a highly qualified expert who can treat acute medical problems that require urgent medical help and resuscitation. the Pediatric Emergency physician should possess the essential skills of critical thinking, decision making and timely referral of the cases to the concerned specialty.

Ability to perform in a variety of emergency settings ranging from urgent care to acute care pediatric emergency and critical care & resuscitation will be one of the key requirements of the Pediatric emergency specialty. Moreover, it is essential to possess countrywide disaster management experience.

Pediatric Emergency Program targets to train the fellows who will eventually provide expert pediatric emergency care for acutely ill and injured patients. Also, the fellows are equipped to become skilled teachers, meticulous investigators and highly competent administrators. The duration spans two years and is delivered as a joint program combining rotations in accredited hospitals so that the fellows are trained in both theoretical and practical aspects of the pediatric emergency medicine. Analytical skills of pediatric emergency medicine fellows are augmented to make them capable of conducting clinical or healthcare research independently and provide acute and consult care with regard to children emergencies in primary care facilities.

Mission of the program:

-Training competent and lifelong learner subspecialized fellow to provide high quality Pediatric emergency care, through the employment of innovative and transformational tools in medical education, research, and best use of available resources

General goals:

- Implement a continuous state of surveillance, analysis and process improvement of the fellowship training
- Provide training in pediatrics emergency medicine to improve the quality of care, responsibility and decision making abilities.
- Deliver individualized, patient-centered, compassionate, high-quality health care to acutely ill or injured children.
- Promote an environment that identifies and develops present and future health care leaders in all aspects of pediatric emergency subspecialties
- Improve the working culture prevalent in pediatric emergency departments to make them the best possible places to work, practice, and receive care through professional engagement and promote a culture of positive relations.

Specific goals for each period of Training: (in months or years) **M □ Y □**

**Overall Goals of the PEM Fellowship**

**Clinical**

- Acquire PEM subspecialty expertise in the care of an acutely ill or injured child
- Efficiently triage and prioritize care of multiple patients
- Acquire the skills of managing a busy ED and show efficiency in time management
- Develop the skills to function as a mock attending physician (under supervision), especially in the second year of training

**Teaching**

- Demonstrate teaching competency in various aspects of PEM
- Run mock codes for junior fellows under the supervision of the consultant
- Bedside teaching:
  - Review cases with junior fellows and house staff
  - Provide teaching to junior fellows at an level appropriate for their training
  - Balance teaching activities with managing flow in the ED

**Research**

- Acquire expertise to become a productive investigator
- Become familiar with various research methods and be able to apply appropriate methodological principles to address various research questions

- Correctly critique published literature
- Run his/her own research project

### **Administration**

- Develop expertise in administrative issues in PEM, such as leadership skills, quality assurance, scheduling, periodic review of ED charts with follow-up concerning identified problems, charting, ethics, telephone advice, legal issues, public relations, and the emergency medical services (EMS) system

**See appendix 2 for each rotation goals and objectives.**

### **B. Requirements of the institutes of training:**

(Must be approved by The Arab Board)

- a) Program Director:
  - Role: To manage the PEM fellowship.
  - Qualifications: PEDIATRIC EMERGENCY CERTIFICATION
  - Experience: 3 YEARS
- b) Program committees:
  - a. Program evaluation committee to evaluate program annually and suggest area of improvements.
  - b. Clinical Competency Committee : to assess fellow progress bi annually and decide on promotion from year 1 to year 2 and decide on graduation of fellow after completing program competencies.
  - c. Each Program need minimum of 2 certified PEM consultant
    - exception if the program is new in a country then PD to be trained in pediatric EM and faculty can be EM trained until that country build PEM faculty internally.
  - c) Structure: 2 years fellowship
  - d) Function: To train PEM fellow who can be either post EM training or Pediatrics training.
- e) Facilities Required: to have residency training in pediatrics medicine or Emergency Medicine before applying to PEM fellowship.
  - Primary & secondary sites if applicable:
    - Fellowship can be run on one site or more than one site based on the country healthcare system and how services are organized.
    -
  - Number of required personnel:  
N: PD and 2 core faculty as minimum

Qualifications: as described above

Experience

- 3 years' experience in PEDS EM or EM
- Ratio of Trainers: Trainee 1:2, hence with PD and 2 core faculty program can start with 3 fellows and take 3 more the following year.
- Role & responsibilities of various Faculty & Personnel
- PD: is responsible to establish the program and then manage it
- core faculty are expected to co run the program, supervise fellow, contribute to assessment process and academics of the program.
- The Personnel requirement:
  - PD
  - Core faculty
  - Program co-ordinator
- Bench Marking:
  - ACGME foundation requirement
  - Saudi PEDS Emergency fellowship program

f) Volume:

Required volume for training:

- 3 fellows per year minimum

Required variety

- trainee can be of EM or pediatrics background training.

Bench marking

- ACGME
- Royal College of Canada

g) Resources:

Clinical, inpatient/outpatient

Educational: 5 hours protected academic time per week

On Call: shift work and if needed on call can be 1:4 in house and 1:3 if home call.

Dietary requirements when applicable:

h) Teaching:

Methods: (Clinical & Theoretical)

Plans for net-based teaching

Self-study sessions

Conferences & teaching rounds

Evaluation method: multi source feedback such as end of shift feedback, direct observation, lecture evaluation, 360 review can be used.

Trainees: resident – faculty, resident rotation evaluation.

Faculty: faculty – resident evaluation, faculty – program evaluation.

**C. Eligibility & selection criteria for training:**

Arab Board / other approved qualifications” Specify

- 1- Board Certification in Emergency Medicine or in pediatrics Medicine from any country.
- 2- No post certification experience in required.
- 3- Recommendations from current training centers / program directors or current employer.

**D.**

**E. Application Process:**

Online / Written

Documentation Required

- 1- Emergency or Pediatrics medicine board certification.
- 2- All Arab Board registration requirements
- 3- Registration fees.

Time Table for Training:

Two years PEM program MASTER ROTA		
First year rotations (F1) (12 months )		
Rotation name	Pediatrics tracks	Emergency track
Pediatric emergency medicine	6 months	6 months
PICU	1 month	1 month
Pediatric anesthesia	1 month	1 month
Pediatric orthopedics	1 month	1 month
Pediatric plastic surgery	1 month	
Research	1 month	1 month
NICU		1 month
Vacation	1 month	1 month
Second year rotations(F2) (12 months)		
Rotation name	Pediatrics tracks	Emergency track
Pediatric emergency medicine	6 months	6 months
Adult trauma and emergency	1 month	
Toxicology	1 month	1 month (can be replaced by Peds ward, Ped EM or PICU if done during EM program)
Emergency ultrasound	1 month	1 month (can be replaced by Peds ward, Ped EM or PICU if done during EM program)
Research /EMS	1 month ( with EMS )	1 month( with PEM) (can be replaced by Ped EM or PICU, or research if done during EM program)
Elective	1 month	2 month
Vacation	1 month	1 month
Recommended elective and longitudinal rotations		
Rotation name	Pediatrics tracks	Emergency track
NICU		*****
General pediatrics		****
Simulation	***	***
Pediatric radiology	***	***
Administration	*	*
Pediatric ophthalmology	*	*
ENT	*	*
Child protection	****	****

Number of years / semester : 2 years

Details on training program: see appendix 2 for rotations goals and objectives

Rotation: each rotation is about 1 month long.

## **F. Evaluation of trainees:**

Supervising Personnel

- The in-training evaluation system **must** be based on the goals and objectives of the program
- According to the program training committee standards
- **There must be mechanisms in place to ensure the systematic collection and interpretation of evaluation data on each fellow enrolled in the program by ensuring the implementation of the ARAB BOARD approved evaluation.**

Frequency of evaluation:

- Monthly evaluations for fellows
- Promotion & end of training exam results

Methods and tools of evaluation

### **1. Continuous Appraisal:**

This assessment is conducted toward the end of each training rotation throughout the academic year and at the end of each academic year as continuous assessment in the form of formative and summative evaluation.

#### **1.1 Formative Continuous Evaluation:**

To fulfill the CanMEDS or ACGME competencies based on the end of rotation evaluation, the Fellow's performance will be evaluated jointly by relevant staff for the following competencies:

- a. Performance of the trainee during each shift.
- b. Performance and participation in academic activities.
- c. Performance in a 10–20-minute direct observation assessment of trainee-patient interactions. Trainers are encouraged to perform at least one assessment per clinical rotation, preferably near the end of the rotation. Trainers should provide



timely and specific feedback to the trainee after each assessment of a trainee patient encounter.

- d. Performance of diagnostic and therapeutic procedural skills by the trainee. Timely and specific feedback for the trainee after each procedure is mandatory.
- e. Competency based end-of-rotation evaluation form must be completed within two weeks following the end of each rotation (preferably in an electronic format). The program director will discuss the evaluation with the fellow, as necessary.
- f. The assessment tools, in a form of educational portfolio (i.e., monthly evaluation, rotational Mini-CEX(Mini-clinical Evaluation Exercise ) , CBD(Case-based Discussion) and 360 degree evaluation upon graduation at least.
- g. The academic or clinical assignments should be documented by an electronic tracking system (**e-Logbook** when applicable) on an annual basis. Evaluations will be based on accomplishment of the minimum requirements of the procedures and clinical skills as determined by the program.

#### 1.2 Summative **Continuous Evaluation:**

This is a summative continuous evaluation report prepared for each fellow at the end of each academic year, which might also involve clinical, oral examination, OSPE, and OSCE.

#### **G. Assessment of trainers:**

Methods and tools of assessment

##### **- End-Of-Year Examination:**

The end-of-year examination will be for F1 and F2. The number of exam items, eligibility, and passing score will be in accordance with the commission's training and examination rules and regulations.

- **Final Pediatric Emergency Medicine Board Examination (for F2):** The final ARAB Board Examination comprises two parts:

##### **1. Written Examination**

This examination assesses the theoretical knowledge base (including recent advances) and problem-solving capabilities of candidates in the specialty of pediatric emergency medicine. It is delivered in a MCQ form, and is held at least once a year.

## **2. Clinical Examination**

This examination assesses a broad range of high-level clinical skills, including data gathering, patient management, communication, and counseling skills. The examination is held at least once a year, preferably in an objective structured clinical examination (OSCE) format, and structural oral exam(SOE) in the form of patient management problems (PMPs).

Frequency of evaluation

-MONTHLY AND ROTATION BASED

### **H. CME requirements**

Indicate type and frequency

1- No CME is required during fellowship

2- LIFE SUPPORT COURSES (BLS, PALS, NRP, ATLS) must be done once during specialty residency or upon joining fellowship.

Will this be part of evaluation?

NO

### **I. Research requirements**

Indicate type and frequency

AT LEAST ONE RESARCH OVER the 2 YEARS of fellowship training.

WITH IRB APPROVEL

Will this be part of evaluation?

-YES

**J. Vacation and Leave**

Entitlement

ONE MONTH per year

Educational leave

7 DAYS per year

Arrangements for leave: in coordination with program director.

**K. Examination process:**

Is examination required?

-YES

Details of examination:

Format

WRITTEN AND ORAL EXAM

Timing

At completion of the fellowship training

Expected personnel & facility requirements

EXAM COMMITTEE AND EXAMINER

Number of examination centers

DEPEND ON ACCREDITED SITES

**L. Core Curriculum**

Detailed curriculum over the training period with specific objectives and including recommended learning resources , see appendix 2

**M. Qualification:**

Title of qualification

ARAB BOARD FELLOWSHIP IN PEDIATRIC EMERGENCY MEDICINE .

**N.** Current PEM programs available in Arab Countries: see appendix 1

**Appendix 1:**

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1- how many PEM are there in every Arab country ?

SAUDI ARABIA	100
United Arab Emirates	5
Sultanate of Oman	12
Kingdom of Bahrain	6
Kuwait.	9
Qatar.	4

2- what are PEM training centre currently existing in MENA region?

Saudi Arabia has 9 centers

BAHRAIN	0 centers
Kuwait	0 centers
Emirates.	0 centers
Oman.	0 centers
Qatar.	1 center

## **Appendix 2:**

## **PED Fellowship Rotations goals and objectives**

### **Overall Goals of the PEM Fellowship**

#### **Clinical**

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- Efficiently triage and prioritize care of multiple patients
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- Develop the skills to function as a mock attending physician (under supervision), especially in the second year of training

#### **Teaching**

- Demonstrate teaching competency in various aspects of PEM
- Run mock codes for junior fellows under the supervision of the consultant
- Bedside teaching:
  - Review cases with junior fellows and house staff
  - Provide teaching to junior fellows at an level appropriate for their training
  - Balance teaching activities with managing flow in the ED

#### **Research**

- Acquire expertise to become a productive investigator
- Become familiar with various research methods and be able to apply appropriate methodological principles to address various research questions
- Correctly critique published literature
- Run his/her own research project

#### **Administration**

- Develop expertise in administrative issues in PEM, such as leadership skills, quality assurance, scheduling, periodic review of ED charts with follow-up concerning identified problems, charting, ethics, telephone advice, legal issues, public relations, and the emergency medical services (EMS) system

### **A-Pediatric Emergency Medicine Rotation**

#### **Goals & Objectives**

##### **1. Specific Objectives of PEM Rotation**

##### **MEDICAL EXPERT**

- 1) Rapidly recognize the acutely ill or traumatized child
- 2) Develop triage skills and prioritize care of children in the ED

- 3) Appropriately and cost-effectively utilize laboratory tests and various imaging techniques and provide a correct clinical interpretation
- 4) Develop expertise in common ED technical procedures and gain understanding of their indications, contraindications, and potential complications
- 5) Develop expertise in common ED medical and surgical cases
- 6) Formulate and implement a short-term management plan for each child and effectively communicate this to the patient, family, medical, and nursing staff
- 7) Supervise and delegate responsibilities to junior house staff and other members of the health care team

#### COMMUNICATOR

- 1) Establish an appropriate physician/patient relationship with pediatric patients
- 2) Communicate effectively with patients, families, and health-care consultants
- 3) Demonstrate ability to deliver bad news with compassion and sensitivity
- 4) Demonstrate ability to handle upset or abusive patients and/or caretakers
- 5) Demonstrate sensitivity to the cultural, ethnic, and religious backgrounds of patients
- 6) Develop techniques to effectively teach a variety of learners at different levels
- 7) Be able to discuss relevant issues around interventions

#### COLLABORATOR

- 1) Communicate and coordinate with the health care team regarding ED patients and manage short- and long-term therapeutic decisions
- 2) Develop an understanding of the EMS system, effective telephone communication, and logistics of patient transfer to and from the ED
- 3) Demonstrate ability to work effectively as part of the health care team
- 4) Show willingness to receive and act on feedback from colleagues, supervisors, other health care workers, patients and their families, or care-givers
- 5) Maintain a team environment that respects the skills of other health-care professionals and informal caregivers
- 6) Show an understanding of team dynamics and the problems that may occur in an interdisciplinary team
- 7) Understand the definition of individual responsibility as well as common causes of team dysfunction, team management methods, common causes of conflict, and case management principles
- 8) Recognize professional limitations and accept the need to use the skills of other consultants and health care practitioners to provide better care
- 9) Identify other health care practitioners (including consultants) and available health care resources that can be used to plan the care of an ill child
- 10) Perform competent consultation for referred patients to inform, educate, and advise the referring physician and solve problems while respecting the skills of the referring physician
- 11) Determine how decisions are made, describe communication patterns, provide constructive feedback, show abilities in conflict management and negotiation, and describe barriers to effective and efficient team-care

## MANAGER

- 1) Master the appropriate use of consultations and the patients' disposition, education, and follow-up
- 2) Demonstrate appropriate documentation regarding the disposition plan and ensure that junior residents also do this
- 3) Demonstrate ability to manage time efficiently
- 4) Demonstrate ability to identify medico-legal risks and take steps to address them
- 5) Master the ability to manage a busy ED with minimal staff intervention and optimal prioritization and patient flow
- 6) Follow up results of positive cultures, other tests, or radiology reports and discuss them with patients and their families

## HEALTH ADVOCATE

- 1) Demonstrate an understanding of the determinants of health that affect patients and their families
- 2) Demonstrate ability to act as an advocate for the individual patient
- 3) Demonstrate knowledge of the principles of health policy development
- 4) Demonstrate knowledge of routine preventive health initiatives
- 5) Demonstrate an understanding of the principles of identification and reporting of child abuse
- 6) Demonstrate an awareness of legal, ethical, and professional obligations to protect children from suspicious circumstances

## SCHOLAR

- 1) Demonstrate ability to critically evaluate the literature as it pertains to pediatric emergency care
- 2) Demonstrate inquisitiveness around clinical cases
- 3) Demonstrate ability to apply the principles of evidence-based medicine
- 4) Supervise and employ bedside teaching of junior physicians

## PROFESSIONAL

- 1) Demonstrate honesty and integrity
- 2) Demonstrate compassion and empathy
- 3) Demonstrate respect for others (health professionals, patients, and families)
- 4) Demonstrate reliability, responsibility, and conscientiousness
- 5) Demonstrate an understanding of ethical practice and apply it in daily work
- 6) Demonstrate self-awareness and knowledge
- 7) Demonstrate ability and keenness for learning and professional development

## **B-Objectives of Subspecialty Rotations**

### **1-Orthopedics Rotation**

#### MEDICAL EXPERT

- 1) Develop ability to correctly obtain a history and perform physical exams in patients with musculoskeletal disorders



- 2) Demonstrate ability to correctly order and interpret different modalities of radiographs in patients with orthopedic injuries
- 3) Demonstrate understanding of the anatomy, mechanism of injury, presentation, complications, management, and prognosis of common musculoskeletal injuries
- 4) Develop skills in the diagnosis and treatment of inflammatory and infectious disorders of the musculoskeletal system
- 5) Learn principles of acute and chronic pain management in patients with musculoskeletal disorders
- 6) Develop an understanding of referral and disposition practices
- 7) Demonstrate knowledge of standard orthopedic nomenclature
- 8) Demonstrate knowledge of appropriate aftercare and rehabilitation of orthopedic injuries
- 9) Demonstrate knowledge of the differences in pediatric from adult skeletal anatomy and indicate how those differences are manifest in clinical and radiographic presentations
- 10) Demonstrate ability to master the application of casts for different types of stable fractures, and to show knowledge about when to refer and when to remove them
- 11) Describe the presentations, complications, diagnosis, and management of compartment syndrome
- 12) Demonstrate ability to prioritize and manage orthopedic injuries in multiple trauma patients
- 13) Describe how to evaluate and preserve amputated limb parts
- 14) Discuss evaluation and treatment of soft tissue injuries such as strains and crush injuries
- 15) Demonstrate ability to recognize and treat soft tissue infections involving muscle, fascia, and tendons
- 16) Discuss the dosages, indications, contraindications, and side effects of standard analgesic and sedative agents used for acute orthopedic trauma
- 17) List the indications for emergency surgery in the treatment of fractures and dislocations
- 18) List indications for inpatient management of musculoskeletal disorders
- 19) Rotation-specific skills
  - Fracture/dislocation immobilization and reduction
  - Classification and management of open fractures
  - Arthrocentesis
  - Application of orthopedic devices, including compressive dressings, splints, and brace immobilizers

#### COMMUNICATOR

- 1) Be able to converse effectively and sensitively with orthopedics patients and their families
- 2) Be able to discuss informed consent and other relevant issues concerning emergency room procedures
- 3) Demonstrate ability to deliver bad news effectively with compassion and sensitivity

#### COLLABORATOR

- 1) Communicate and coordinate with the health care team concerning both short and long-term therapeutic decisions regarding orthopedics patients
- 2) Detail the proper and appropriate transfer of patients from one health care setting to another, including composing a list of issues regarding patient transfer, transfer of medical documents, and medico-legal concerns
- 3) Demonstrate ability to coordinate appropriate aftercare and rehabilitation of the orthopedics patient
- 4) Demonstrate ability to work effectively as part of the health care team

#### MANAGER

- 1) Coordinate care for patients, including the appropriate utilization of consultations and use of resources
- 2) Demonstrate proper documentation
- 3) Demonstrate ability to manage time efficiently
- 4) Demonstrate ability to identify medico-legal risks and take steps to address them

#### HEALTH ADVOCATE

- 1) Demonstrate an understanding of health determinants affecting patients and their families
- 2) Demonstrate ability to act as an advocate for the individual patient and affected populations
- 3) Demonstrate knowledge of health policy development
- 4) Demonstrate knowledge of injury-preventive measures, including but not limited to sports-specific measures, seat belts, car seats for minors, and helmet wear during bicycling

#### SCHOLAR

- 1) Demonstrate ability to critically evaluate the literature as it pertains to orthopedics
- 2) Demonstrate inquisitiveness regarding clinical cases
- 3) Demonstrate ability to apply the principles of evidence-based medicine to orthopedics cases

#### PROFESSIONAL

- 1) Adhere to the code of ethics in accordance to Ministry of Health (MOH) Policy and Procedures
- 2) Treat patients and colleagues with respect
- 3) Demonstrate ability to self-evaluate, including insight into strengths and weaknesses
- 4) Demonstrate commitment to life-long learning
- 5) Demonstrate willingness to accept responsibility for one's actions and for patient care

## **2-Plastic Surgery Rotation**

## MEDICAL EXPERT

- 1) Demonstrate ability to obtain an appropriate history and perform physical examination in patients with traumatic wounds and proper evaluation of wounds
- 2) Demonstrate an understanding of wound pathophysiology, including cellular response, static and dynamic wound tensions, growth factors, and tensile strength
- 3) Understand the pathophysiology of wound healing
- 4) Demonstrate an understanding of the predictors of wound sepsis
- 5) Demonstrate effective wound cleaning skills
- 6) Describe the appropriate use, limitations, and potential complications of wound cleansing solution
- 7) Describe the appropriate use, limitations, and potential complications of antimicrobials in the management of traumatic wounds
- 8) Demonstrate an understanding of various imaging modalities in the detection of soft tissue foreign bodies
- 9) Demonstrate skills in various wound closure techniques, including intradermal suture, facial closure, interrupted skin sutures, running skin sutures, vertical and horizontal mattress sutures, half-buried horizontal mattress sutures, tape closure, staples, and glue use
- 10) Demonstrate appropriate use of delayed closure techniques
- 11) Demonstrate appropriate management of special wound types, including skin ulcers, human bites, animal bites, snake bites, plantar puncture wounds, dermal abrasions, and tar burns
- 12) Demonstrate skills in the management of complex lacerations and list potential complications of complex lacerations
- 13) Demonstrate skills in the provision of analgesia and anesthesia to patients with traumatic wounds, including use of local infiltration, topical administration, and procedural sedation
- 14) Demonstrate ability to apply wound dressings
- 15) Describe indications for specialty referral and follow-up of traumatic wounds
- 16) Demonstrate ability to evaluate and manage disorders of the mandible, including fractures, dislocations, and infections
- 17) Demonstrate ability to evaluate and manage trauma to the head, neck, face, and teeth
- 18) Describe the following facial fractures and discuss their diagnosis and treatment: LeFort I, II, and III and zygoma, mandible, nose, orbit, and tripod fractures
- 19) Identify the sensory distribution of the ulnar, median, and radial nerves and demonstrate the technique of two-point discrimination
- 20) Describe the testing of muscles and tendons of the wrist and hand as well as how to diagnose injury or fractures
- 21) Describe boutonniere and Swan neck deformities
- 22) Identify the signs, complications, and treatment of the following: paronychia, felon, herpetic whitlow, septic arthritis, and deep palmar space abscess
- 23) Discuss evaluation and treatment of soft tissue injuries such as strains, penetrating soft tissue injuries, crush injuries, and high-pressure injection injuries

- 24) Demonstrate ability to perform a digital nerve block
- 25) Demonstrate the correct care of the burn patient, including the ability to calculate surface area burned for various age groups
- 26) Demonstrate the method for determining the correct maintenance fluid regimen for burn patients
- 27) State the admission criteria for burn patients, including criteria for admission to the burn unit
- 28) Outline the components of evaluation and treatment of patients with cold injuries
- 29) State the chemical mechanism of injury and the treatment for hydrochloric and sulfuric acids, hydrofluoric acid, alkali and acid, and white phosphorus burns
- 30) List the differences between alkali and acid burns
- 31) State the common injuries/conditions associated with electrical injuries and list the potential complications
- 32) Rotation-specific skills:
  - various wound closure techniques
  - provision of analgesia and anesthesia to patients with traumatic wounds, including use of local infiltration, topical administration, and procedural sedation
  - digital nerve block

#### COMMUNICATOR

- 1) Be able to converse effectively and sensitively with plastic surgery patients and their families
- 2) Be able to discuss relevant issues regarding procedures

#### COLLABORATOR

- 1) Communicate and coordinate with the health care team effectively
- 2) Detail the proper and appropriate transfer of patients between health care settings
- 3) Demonstrate ability to coordinate appropriate aftercare and rehabilitation of the plastic surgery patient
- 4) Demonstrate an understanding of the roles of various participants in inpatient care

#### MANAGER

- 1) Coordinate care for patients, including the appropriate utilization of consultant specialists and community resources

#### HEALTH ADVOCATE

- 1) Demonstrate ability to act as an advocate for the individual patient

#### SCHOLAR

- 1) Demonstrate ability to critically evaluate the literature as it pertains to plastic surgery

#### PROFESSIONAL

- 1) Treat patients and colleagues with respect
- 2) Demonstrate ability to self-evaluate, including insight into strengths and weaknesses

### **3-Pediatric Intensive Care Rotation**

#### **MEDICAL EXPERT**

- 1) Demonstrate ability to rapidly obtain a history and perform physical examination in critically ill children
- 2) Demonstrate ability to summarize and synthesize information in a concise and coherent format
- 3) Demonstrate ability to assess children for the presence of severe illness and the appropriateness of ICU admission and preoperative screening
- 4) Demonstrate ability to lead the pediatric resuscitation and critical care team
- 5) Demonstrate ability to perform the following procedures: tube thoracostomy, central line placement, transvenous cardiac pacing, and arterial line placement
- 6) Describe techniques of needle pericardiocentesis and surgical/ needle cricothyroidotomy
- 7) Demonstrate ability to use and interpret data from ECG monitors, 12-lead ECGs, cardiac and hemodynamic monitors, arterial blood gases, pulse oximetry, end tidal CO<sub>2</sub> monitors, ventilators, and intracranial pressure monitors in children
- 8) Demonstrate ability to diagnose and treat shock, sepsis, fluid and electrolyte abnormalities, cardiac failure, cardiac dysrhythmias, renal failure, hepatic failure, and toxicological emergencies
- 9) Demonstrate understanding of the etiologies, diagnosis, and treatment of respiratory distress syndrome and multisystem organ failure
- 10) Demonstrate appropriate prioritization of diagnostic and therapeutic interventions in ill children
- 11) Demonstrate an understanding of appropriate resource utilization
- 12) Demonstrate an understanding of the appropriate role of consultants in managing ill children
- 13) Order appropriate fluids, blood, blood products, and blood substitutes necessary for the resuscitation of children
- 14) Describe the dosages, indications, and contraindications of pharmacologic interventions for shock, cardiac failure, dysrhythmias, sepsis, trauma, toxins, respiratory failure, hepatic failure, renal failure, and neurologic illnesses
- 15) Demonstrate ability to deal with complications of volume resuscitation and pharmacologic interventions
- 16) Select appropriate antibiotics for pediatric patients with severe infection
- 17) Manage a patient on a ventilator including ventilator types, appropriate use of ventilation techniques, indications for extubation, and weaning and extubation techniques
- 18) Demonstrate an understanding of continuous positive airway pressure (CPAP) and bi-level positive airway pressure modes of positive airway pressure

- 19) Demonstrate ability to rapidly assess and treat emergencies including but not limited to dysrhythmias, cardiac arrest, pneumothorax, tension pneumothorax, dislodged endotracheal tubes, occluded endotracheal tubes, anaphylaxis, pulmonary embolism, hemorrhage, and increased intracranial pressure
- 20) Demonstrate ability to deliver safe procedural sedation and deep sedation to children
- 21) Demonstrate an understanding of the ethical and legal principles applicable to the care of critically ill children
- 22) Rotation-specific skills:
  - Endotracheal intubation with different modalities
  - Cricothyroidotomy
  - Adjunct airway management using laryngeal mask airway (LMA) and bag-valve-mask (BVM)
  - Ventilator management: invasive and non-invasive
  - Thoracentesis
  - Tube thoracostomy
  - Peripheral and central intravenous insertion
  - Arterial line insertion
  - Intraosseous infusions
  - Sedation/analgesic management

#### COMMUNICATOR

- 1) Be able to converse effectively and sensitively with critically ill patients and their families
- 2) Be able to discuss relevant issues regarding critical care producers
- 3) Demonstrate ability to deliver bad news effectively with compassion and sensitivity

#### COLLABORATOR

- 1) Demonstrate the ability to appropriately advise physicians consulting the pediatric ICU
- 2) Aid in arranging safe, appropriate, and timely transportation of critically ill patients, including determining the need for land or air transport or invasive procedures prior to transfer
- 3) Demonstrate an understanding of the appropriate use of consultants for critically ill patients
- 4) Develop an understanding of the multidisciplinary team in the management of the ICU patient, including the roles of nursing staff, respiratory therapists, dietitians, occupational therapists, physiotherapists, and consulting staff

#### MANAGER

- 1) Demonstrate an appreciation for the administrative priorities of a critical care unit (e.g., closed vs. open)
- 2) Demonstrate an understanding of appropriate resource utilization
- 3) Demonstrate an understanding of the ethical and legal principles applicable to the care of critically ill patients

- 4) Demonstrate ability to identify medico-legal risks and take steps to address them

#### HEALTH ADVOCATE

- 1) Demonstrate ability to act as an advocate for the individual patient
- 2) Demonstrate an understanding of “Do not resuscitate” orders, advance directives, living wills, competency, power of attorney, and brain death criteria

#### SCHOLAR

- 1) Demonstrate ability to critically evaluate the literature as it pertains to critical care

#### PROFESSIONAL

- 1) Demonstrate ability to self-evaluate, including insight into strengths and weaknesses

### **4-Anesthesia Rotation**

#### MEDICAL EXPERT

- 1) Learn the anatomy of the upper airway
- 2) Know the characteristics of a pediatric airway
- 3) List the indications for invasive airway management
- 4) Demonstrate appropriate judgment regarding the need for airway intervention
- 5) Recognize and manage an obstructed airway
- 6) Demonstrate correct use of the bag-valve-mask device with understanding of the nasal and oral airways
- 7) List the contraindications and complications of various airway management techniques, including oral and nasal airway insertion, bag-valve-mask ventilation, nasal intubation, oral intubation, cricothyrotomy, and tracheostomy
- 8) Demonstrate skill in endotracheal intubation with different modalities as well as management of complications
- 9) Demonstrate skill in the use of anesthetics and neuromuscular blocking agents, including procedural sedation and rapid sequence intubation
- 10) Demonstrate ability to insert a laryngeal mask airway
- 11) State the dosages, mechanism of action, indications, contraindications, and potential complications of inhalation anesthetic agents, intravenous analgesic and anesthetics, induction agents, and neuromuscular blocking agents
- 12) Demonstrate ability to use standard non-invasive monitoring techniques including heart monitoring, blood pressure monitors, oxygen saturation monitor, and end tidal CO<sub>2</sub> monitors
- 13) Demonstrate ability to manage patient on a ventilator and discuss the advantages and disadvantages of different ventilation techniques
- 14) Coordinate the ongoing assessment and management of intubated patients
- 15) Demonstrate ability to administer local anesthetics and be familiar with agents, dosing, side effects, and techniques to monitor pain

16) Rotation-specific skills:

- Bag-valve-mask ventilation
- Oral airway insertion
- Nasal airway insertion
- Oral intubation (with rapid sequence induction)
- Intravenous insertion
- Management of monitors including:
  - Oxygen saturation monitor
  - End tidal CO<sub>2</sub> monitor
  - Heart monitor
  - Blood pressure monitor
  - Arterial lines
  - Ventilator utilization
  - Nerve blocks

COMMUNICATOR

- 1) Be able to converse effectively and sensitively with seriously ill patients and their families
- 2) Be able to discuss relevant issues regarding surgical procedures

COLLABORATOR

- 1) Demonstrate ability to work effectively as part of a health care team
- 2) Demonstrate an understanding of the roles of various participants in the operative and critical care management of the patient

MANAGER

- 1) Demonstrate ability to effectively and efficiently use anesthesia resources
- 2) Demonstrate proper documentation concerning management of anesthesia patients

SCHOLAR

- 1) Demonstrate ability to critically evaluate the literature as it pertains to airway management and the practice of anesthesia

PROFESSIONAL

- 1) Treat patients and colleagues with respect
- 2) Demonstrate willingness to accept responsibility for one's actions and for patient care

**5-Toxicology Rotation**

MEDICAL EXPERT

- 1) Recognize the probable intoxicated child, adolescent, or adult



- 2) Develop competence in management of patients with ingestion of unknown poison, specific ingestion, multiple ingestions, substance abuse, and accidental versus intentional poisoning
- 3) Learn the need for various methods of termination of toxic exposure, hastening the elimination of poison, and protecting one's self and other team members from being intoxicated
- 4) Recognize the need for continued ED observation, hospitalization, or ICU care as appropriate
- 5) Discuss the various forms of decontamination and their indications, including activated charcoal, whole bowel irrigation, gastric emptying, and other extraordinary measures
- 6) Discuss the management of patients presenting with an unknown ingestion
- 7) Discuss the management of specific ingestions, including acetaminophen, aspirin, tricyclic antidepressants, toxic alcohols, organophosphates, anticonvulsants, batteries, hydrocarbons, corrosives, lithium, digoxin, calcium channel blockers, antidiabetic medications, iron, and sympathomimetics
- 8) Describe specific toxidromes associated with various medications or toxins
- 9) Describe antidotes and other specific therapies available for various ingestions
- 10) Utilize poison information centers in an appropriate manner for consultation

#### COMMUNICATOR

- 1) Discuss relevant issues surrounding interventions with the team
- 2) Discuss patient care and communicate interventions with the consulting health care provider
- 3) Act as first on-call physician for toxicology referrals from the poison center, referring doctors, or EDs
- 4) Act as first on-call physician for on-hospital consultations to toxicology

#### COLLABORATOR

- 1) Demonstrate ability to work effectively as part of a health care team both in and around the outpatient environment
- 2) Demonstrate an understanding of the roles of various participants in the poison information centers

#### MANAGER

- 1) Demonstrate proper documentation involving management of patients
- 2) Demonstrate ability to identify medico-legal risks and take steps to address them

#### SCHOLAR

- 1) Demonstrate ability to critically evaluate the literature as it pertains to toxicology
- 2) Actively participate in teaching seminars concerning common poisonings with toxicology staff
- 3) Demonstrate inquisitiveness around clinical cases
- 4) Demonstrate ability to apply the principles of evidence-based medicine

#### PROFESSIONAL

- 1) Demonstrate ability to self-evaluate, including insight into strengths and weakness
- 2) Deal with consulting services, the team, and other coworkers with respect and professionalism

## **6-Trauma Rotation**

### **MEDICAL EXPERT**

- 1) Demonstrate ability to rapidly and thoroughly assess patients of major and minor trauma using the advanced trauma life support (ATLS) approach
- 2) Demonstrate ability to recognize immediate life-threatening injuries and establish priorities in the initial management of patients of life-threatening trauma
- 3) Learn to establish treatment priorities in complex patients under stressful conditions, as well as to understand the crash protocol
- 4) Demonstrate ability to manage airway of pediatric and/or adult trauma patients
- 5) List different airway interventions and discuss the advantages, disadvantages, and complications of each method
- 6) Demonstrate ability to manage fluid resuscitation of trauma patients
- 7) Discuss the definitive care of the trauma patient, including operative, post-operative and rehabilitative phases of care
- 8) Demonstrate ability to interpret plain radiographs on trauma patients: chest, cervical, thoracic and lumbar spine, pelvis, and extremity films
- 9) Demonstrate ability to use and interpret different imaging modalities in the evaluation of trauma patients, including CT, angiogram, cystogram, and urethrogram
- 10) Demonstrate ability to conduct and interpret FAST and EFAST
- 11) Demonstrate ability to assess and treat facial trauma
- 12) Demonstrate ability to evaluate and manage blunt neck injuries
- 13) Demonstrate ability to assess blunt chest trauma and develop treatment priorities in stable and unstable patients
- 14) List findings of traumatic aortic injury as well as defining the advantages, disadvantages, and contraindications of angiography, echocardiography, transoesophageal echocardiography, CT, and MRI in the definition of the injury
- 15) List the risks for and the signs and symptoms of diaphragmatic injury
- 16) Assess the abdomen of the blunt trauma patient, including indications for immediate laparotomy
- 17) Compare and contrast the use of ultrasound and CT scan for the evaluation of abdominal trauma
- 18) Demonstrate proficiency in assessing retroperitoneal injuries, including the indications for the use of intravenous pyelogram, angiography, and CT
- 19) Define the anatomy of the neck, classify the penetrating trauma by zone, and define the diagnostic and therapeutic interventions required for each region
- 20) Demonstrate ability to assess penetrating injuries to the chest and define indications for chest tube placement and open thoracotomy
- 21) Compare and contrast types of injuries sustained in gunshot and stab wounds

- 22) Describe management of penetrating injuries to the heart and major vessels
- 23) Demonstrate ability to assess and treat the patient with penetrating abdominal trauma, including indications for immediate laparotomy, CT scan, and/or observations
- 24) Define the management of penetrating trauma to the back and flank, including indications and contraindications for wound exploration, radiographic imaging, and surgical exploration
- 25) Demonstrate ability to assess urologic injuries in the trauma patient, including indications for IVP, CT, urethrogram, and cystogram
- 26) Demonstrate ability to calculate the Glasgow Coma Score and discuss its role in the evaluation and treatment of head injury patients
- 27) Demonstrate ability to use spine immobilization techniques in trauma patients
- 28) Learn to interpret a head CT of trauma patients
- 29) Discuss the evaluation and management of spinal cord injuries
- 30) Demonstrate the ability to diagnose and treat pelvic fractures
- 31) Demonstrate ability to diagnose and manage tendon injuries
- 32) Learn to recognize limb-threatening injuries and establish mechanisms to prevent loss
- 33) Demonstrate ability to manage amputation injuries and discuss the potential for re-implantation
- 34) Diagnose and manage extremity fractures, dislocations, and subluxations
- 35) Manage soft tissue injuries, including lacerations, avulsions, and high-pressure injection injuries
- 36) Discuss the diagnosis and management of compartment syndromes
- 37) Demonstrate the ability to manage the acutely burn patient, including minor and major injuries
- 38) Demonstrate ability to diagnose and treat smoke inhalation
- 39) Demonstrate appropriate use of analgesics and sedatives in trauma patients
- 40) Demonstrate appropriate use of antibiotics in trauma patients
- 41) Discuss importance of mechanism of injury in the evaluation and treatment of trauma patients
- 42) Learn the different modes of straining combative traumatic patients
- 43) Rotation-specific skills
  - Oral intubation
  - Venous cut down
  - Insertion of large bore peripheral and central venous lines and or trauma lines
  - Arterial lines
  - Needle and tube thoracostomy
  - Local wound exploration
  - Peritoneal lavage
  - Vessel ligation
  - Repair of simple and complex lacerations
  - Splinting of extremity fractures

- Reduction and immobilization of joint dislocations, cricothyroidotomy, resuscitative thoracotomy, Pericardiotomy
- Extensor tendon repair (as feasible)

#### COMMUNICATOR

- 1) Demonstrate the ability to effectively and sensitively communicate with seriously injured patients and their families
- 2) Demonstrate the ability to communicate effectively with members of the trauma team

#### COLLABORATOR

- 1) Learn to work within a team to approach a trauma patient and define the fellow's role, possibly playing different role each time
- 2) Discuss the role of pre-hospital systems in the management of trauma patients
- 3) Demonstrate ability to direct a trauma team during complex resuscitations
- 4) Demonstrate ability to coordinate multiple consultants involved in the care of trauma patients
- 5) Demonstrate ability to arrange appropriate consultation and disposition of trauma patients

#### MANAGER

- 1) Learn principles of disaster management
- 2) Learn a systematic approach to trauma management at the local and provincial levels

#### HEALTH ADVOCATE

- 1) Understand the determinants of health and risk factors of injury
- 2) Understand the rationale and organization of local and national injury prevention initiatives
- 3) Demonstrate ability to counsel patients on injury prevention measures, including using car seat belts

#### SCHOLAR

- 1) Demonstrate ability to critically appraise the literature regarding trauma issues

#### PROFESSIONAL

- 1) Demonstrate ability to self-evaluate, including insight into strengths and weaknesses
- 2) Demonstrate proficiency in communicating with different consultants in the field of traumatology

### **7-Research Rotation:**

#### MEDICAL EXPERT

- 1) Critically appraise the background literature for the research project

- 2) Demonstrate an understanding of the basic principles of research design, methodology, biostatistics, and clinical epidemiology
- 3) Demonstrate in-depth knowledge of the research topic of interest

#### COMMUNICATOR

- 1) Demonstrate skills in conveying and discussing scientific research on PEM to scientific communities through posters, abstracts, teaching slides, manuscripts, grant applications, or other scientific communications
- 2) Communicate and collaborate effectively with research team members to conduct the research

#### COLLABORATOR

- 1) Identify, consult, and collaborate with appropriate experts to conduct the research

#### MANAGER

- 1) Independently identify an area of research interest and a research mentor to engage in the scholarship of scientific inquiry and dissemination
- 2) Independently utilize available resources and regularly meet with an identified research mentor
- 3) Demonstrate effective time management in the research setting
- 4) Demonstrate leadership and administrative abilities, where appropriate, in leading a research team

#### HEALTH ADVOCATE

- 1) Recognize the contributions of scientific research in improving the health of patients and communities

#### SCHOLAR

- 1) Pose a research question (clinical, basic, or population health)
- 2) Develop a proposal to solve the research question:
  - Conduct an appropriate literature search based on the question
  - Propose a methodological approach to solve the question
- 3) Carry out the research outlined in the proposal
- 4) Critically analyze and disseminate the results of the research
- 5) Identify areas for further research

#### PROFESSIONAL

- 1) Uphold ethical and professional expectations of research consistent with institutional review board guidelines, including maintenance of meticulous data and conduct of ethically sound human or animal subject research
- 2) Demonstrate personal responsibility for setting research goals and working with mentors to set and achieve research timeline objectives
- 3) Participate as much as possible in specialty organizations that promote scholarly activity and continuous professional development

- 4) Publish accurate and reliable research results, with attention to appropriate authorship attribution criteria
- 5) Disclose potential financial conflicts of interest (including speaker fees, consultative relationships, investments, etc.) as appropriate when engaging in and disseminating research results

## **8-PEM Point-of-care Ultrasound (POCUS) Rotation**

### **MEDICAL EXPERT**

- 1) Demonstrate knowledge and understanding of the core PEM POCUS applications at a clinically acceptable level; individual learning objectives are presented below
- 2) Gain some understanding and familiarity of supplementary ultrasound applications through reading journal articles and clinical exposure

### **COMMUNICATOR**

- 1) Be able to converse effectively and appropriately with patients and their families
- 2) Be able to discuss informed consent and other relevant issues regarding emergency room ultrasound diagnostic and procedural applications
- 3) Demonstrate knowledge of the Health care Consent Act
- 4) Demonstrate sensitivity concerning the backgrounds of patients
- 5) Demonstrate ability to deliver bad news effectively with compassion and sensitivity
- 6) Demonstrate ability to effectively educate health care providers concerning POCUS in PEM

### **COLLABORATOR**

- 1) Communicate and coordinate with the health care team both short- and long-term therapeutic decisions regarding patients using POCUS
- 2) Demonstrate ability to work effectively as part of a health care team in the emergency room environment
- 3) Contribute to the emergency department's POCUS quality assurance process
- 4) Demonstrate ability to effectively utilize institutional personal and resources in scholarly and administrative pursuits

### **MANAGER**

- 1) Coordinate care for patients using POCUS, including the appropriate utilization of consultant, specialists, and community resources
- 2) Demonstrate proper documentation involving POCUS in the management of medical patients
- 3) Demonstrate ability to manage time efficiently
- 4) Demonstrate ability to identify medico-legal risks and take steps to address them
- 5) Demonstrate an understanding of POCUS program management and leadership

### **HEALTH ADVOCATE**

- 1) Demonstrate an understanding regarding the determinants of health affecting patients and their families
- 2) Demonstrate ability to act as an advocate for the individual patient and affected populations
- 3) Demonstrate knowledge of health policy development
- 4) Demonstrate knowledge of routine preventive health initiatives

#### SCHOLAR

- 1) Demonstrate inquisitiveness concerning clinical cases
- 2) Demonstrate ability to apply the principles of evidence-based medicine
- 3) Demonstrate ability to mentor junior trainees

#### PROFESSIONAL

- 1) Adhere to the code of ethics of the MOH
- 2) Treat patients and colleagues with respect
- 3) Demonstrate ability to self-evaluate, including insight into strengths and weaknesses
- 4) Demonstrate commitment to life-long learning
- 5) Demonstrate willingness to accept responsibility for one's actions and for patient care

#### RESEARCH

- 1) Demonstrate ability to prepare a manuscript for submission to a medical journal
- 2) Demonstrate ability to critically evaluate the literature as it pertains to POCUS
- 3) Develop an independent research project from inception to publication

#### EDUCATION

- 1) Learn image acquisition and interpretation skills for both basic and advanced emergency and POCUS applications
- 2) Develop lecturing and teaching skills by developing an emergency ultrasound lecture portfolio and contribute to the program's educational mission

#### ADMINISTRATION

- 1) Understand the critical components required to run an emergency ultrasound program and how to best utilize information technologies for image archiving, database management, and quality assurance

### **9-Administrative Rotation**

#### MEDICAL EXPERT

- 1) Demonstrate a commitment to PEM high-quality care systems
- 2) Encourage PEM evidence-based practice
- 3) Perform periodic assessment to healthcare providers who fall under the fellow's supervision
- 4) Facilitate and provide the needed support to ensure high quality of care

- 5) Recognize and respond to the complexity, uncertainty, and ambiguity inherent in PEM medical practice
- 6) Prioritize issues to be addressed in patient encounters
- 7) Establish patient-centered management protocols
- 8) Establish policies and procedures to maintain high patient and staff safety
- 9) Create a culture of openness, feedback, and exchange of experiences
- 10) Recognize and respond to harm from health care delivery, including Mortality & Morbidity and risk management

#### COMMUNICATOR

- 1) Encourage and improve effective inter- and intra-departmental communication
- 2) Manage disagreements and emotionally charged conversations
- 3) Provide a clear structure for and manage the flow of an entire patient journey
- 4) Disclose harmful patient safety incidents to staff, patients, and their families accurately and appropriately and close system gaps leading to those incidents
- 5) Communicate effectively using written policies, protocols, memoranda, and approved digital channels
- 6) Share information with staff, patients, and others in a manner that respects patient privacy and organizational rules

#### COLLABORATOR

- 1) Establish and maintain positive relationships with department chairpersons, physicians, and other colleagues in the health care professions to support relationship-centered collaborative care
- 2) Negotiate overlapping and shared responsibilities with physicians and other colleagues in the health care professions in episodic and ongoing care
- 3) Implement strategies to promote understanding, manage differences, and resolve conflicts in a manner that supports a collaborative culture
- 4) Develop clear policies concerning when care should be transferred to another physician or health care professional

#### LEADER

- 1) Allocate health care resources for optimal patient care
- 2) Contribute to a culture that promotes patient safety
- 3) Analyze patient safety incidents to enhance care systems
- 4) Use health informatics to improve the quality of patient care and optimize patient safety
- 5) Establish and manage the manpower plan
- 6) Apply evidence and management processes to achieve cost-appropriate care
- 7) Demonstrate leadership skills to enhance health care
- 8) Facilitate change in health care to enhance services and outcomes
- 9) Set priorities and manage time to integrate practice and personal life
- 10) Manage a career and practice
- 11) Implement processes to ensure personal practice improvement
- 12) Work to hire talented PEM physicians and maintain a high staff retention rate



## HEALTH ADVOCATE

- 1) Build a culture of patient-centered care
- 2) Work with staff, patients, and their families to increase opportunities to adopt healthy behaviors
- 3) Encourage staff to incorporate disease prevention, health promotion, and health surveillance into interactions with individual patients
- 4) Improve clinical practice by applying a process of continuous quality improvement to disease prevention, health promotion, and health surveillance activities

## SCHOLAR

- 1) Develop, implement, monitor, and revise a staff learning plan to enhance professional practice
- 2) Identify opportunities for learning and improvement by regularly reflecting on and assessing staff performance using various internal and external data sources
- 3) Recognize the influence of role-modelling and the impact of the formal, informal, and hidden curriculum on learners
- 4) Promote a safe learning environment
- 5) Plan and deliver a learning activity
- 6) Provide feedback to enhance learning and performance
- 7) Assess and evaluate learners, teachers, and programs in an educationally appropriate manner
- 8) Recognize practice uncertainty and knowledge gaps in clinical and other professional encounters and generate focused trainings that address them
- 9) Encourage and critically evaluate the integrity, reliability, and applicability of the health care system
- 10) Integrate evidence into decision-making in staff practice
- 11) Identify ethical principles for research and incorporate them into staff practice
- 12) Promote a research environmental orientation

## PROFESSIONAL

- 1) Set standards and support appropriate professional behaviors and relationships
- 2) Encourage a commitment to excellence in all aspects of practice
- 3) Support staff to recognize and respond to ethical issues encountered in practice
- 4) Eliminate and manage conflicts of interest
- 5) Monitor accountability to patients, society, and the profession by responding to social expectations
- 6) Assess and manage adherence to professional and ethical codes, standards of practice, and laws governing practice
- 7) Recognize and respond to unprofessional and unethical behaviors in physicians and other colleagues in the health care professions
- 8) Promote self-awareness and manage influences on personal well-being and professional performance and eliminate factors contributing to staff burnout
- 9) Train and ensure staff can manage personal and professional demands for a sustainable practice