

# Queen's University Emergency Medicine Resident Handbook

## Rotation Specific Goals and Objectives for Traditional Curriculum

<b>Clinical Rotations for the Traditional Curriculum Model .....</b>	<b>2</b>
<b>PGY 1 Year .....</b>	<b>3</b>
<b>ROTATIONAL GOALS AND OBJECTIVES FOR PGY 1 YEAR .....</b>	<b>4</b>
EMERGENCY MEDICINE ROTATION .....	4
GENERAL SURGERY ROTATION .....	7
INTERNAL MEDICINE ROTATION .....	9
OBSTETRICS & GYNECOLOGY ROTATION .....	12
PEDIATRICS ROTATION (COPC) .....	14
PEDIATRIC EMERGENCY MEDICINE (CHEO) .....	17
PREHOSPITAL CARE ROTATION.....	19
PSYCHIATRY ROTATION .....	21
ULTRASOUND ROTATION .....	23
<b>PGY 2 Year .....</b>	<b>27</b>
<b>ROTATIONAL GOALS AND OBJECTIVES FOR PGY2 YEAR .....</b>	<b>28</b>
ANAESTHESIA ROTATION.....	28
EMERGENCY MEDICINE .....	30
CRITICAL CARE MEDICINE ROTATION.....	33
NEUROSURGERY ROTATION .....	35
ORTHOPEDIC SURGERY ROTATION .....	37
PLASTIC SURGERY ROTATION .....	40
SPORTS MEDICINE ELECTIVE .....	42
<b>PGY 3 YEAR.....</b>	<b>44</b>
<b>ROTATIONAL GOALS AND OBJECTIVES FOR PGY3 YEAR .....</b>	<b>45</b>
CARDIOLOGY ROTATION.....	45
EMERGENCY MEDICINE .....	48
COMMUNITY EMERGENCY MEDICINE .....	51
EMERGENCY DEPARTMENT ADMINISTRATION ROTATION .....	58
LONGITUDINAL TRAUMA TEAM EXPERIENCE.....	61
<b>PGY 4 Year .....</b>	<b>65</b>
<b>ROTATIONAL GOALS AND OBJECTIVES FOR PGY 4 YEAR .....</b>	<b>66</b>
EMERGENCY MEDICINE .....	66
TOXICOLOGY ROTATION .....	69
ELECTIVE ROTATION .....	72
PUBLIC HEALTH ELECTIVE.....	74
<b>PGY 5 Year .....</b>	<b>76</b>
<b>ROTATIONAL GOALS AND OBJECTIVES FOR PGY 5 YEAR .....</b>	<b>77</b>
EMERGENCY MEDICINE .....	77

## Clinical Rotations for the Traditional Curriculum Model

Blocks	PGY1	PGY2	PGY3	PGY4	PGY5
1	Emerg	Emerg	Emerg	Emerg/Elec	Emerg
2	Emerg	Emerg	Emerg	Emerg/Elec	Emerg
3	Emerg	Emerg	Emerg	Emerg/Elec	Emerg
4	Emerg	Emerg	Emerg	Emerg/Elec	Emerg
5	Emerg	Emerg	Emerg	Emerg/Elec	Emerg
6	Internal Medicine	Plastic Surgery	Administration	Emerg/Elec	Emerg
7	Peds Emerg (CHEO)	Neurosurgery	Emerg	Toxicology	Emerg
8	Pediatrics (COPC)	Anaesthesia	Emerg	Emerg/Elec	Emerg
9	Psychiatry	Anaesthesia	Community Emerg	Emerg/Elec	Emerg
10	Obstetrics & Gynecology	Orthopedic Surgery	Peds Emerg (CHEO)	Emerg/Elec	Emerg
11	General Surgery	Orthopedic Surgery	Peds Emerg (CHEO)	Emerg/Elec	Emerg
12	General Surgery	Critical Care*	Cardiology	Emerg/Elec	Emerg
13	Emerg/EMS	Critical Care	Cardiology	Emerg/Elec	Emerg

\* If Critical Care rotation is over Christmas break, the resident will complete three (3) blocks of ICU and one (1) less block of Emergency Medicine

The elective year is best taken during the fourth year or the last 6 months of fourth year and the first 6 months of fifth year to allow the resident to settle back into the Emergency Department and enhance exam preparation. This year can be spent doing work in any area relevant to Emergency Medicine. If the resident does not choose a one year elective, shorter electives in EM related disciplines can be done (i.e. Toxicology, Critical Care Medicine, Pediatrics, EMS, Research, etc.)

## PGY 1 Year

Emergency Medicine	6 blocks (1 block with emphasis on prehospital care)
Internal Medicine	1 blocks
General Surgery	2 blocks
Pediatrics	1 block Children's Outpatients (COPC) HDH 1 block Emergency Medicine Children's Hospital of Eastern Ontario (CHEO)
Obstetrics & Gynecology	1 block
Psychiatry	1 block

The first year of the program is a basic clinical year where the resident does four (4) blocks of Emergency Medicine as a junior resident. The shifts are equally distributed between KGH Emergency Department and HDH Urgent Care Center. One of those blocks is spent focusing on prehospital care under the supervision of Dr. Andrew Reed, base hospital Medical Director. The purpose of these four (4) blocks is to begin to learn about Emergency medicine and acquire basic diagnostic and treatment skills in the specialty and to begin to think about the direction your research will take during the residency program. During the prehospital block, you will be scheduled to do half as many Emergency shifts and you will spend time doing a QA project with Dr. Reed in prehospital care, paramedic rideouts, and learning about EMS administration from Dr. Reed.

Please refer to the goals and objectives for Emergency Medicine Rotations for expectations of junior EM residents. You are required to attend all educational rounds offered and an effective learning strategy is to read around the many cases you see. You are advised to do as many procedures as possible under supervision and help in as many resuscitation cases as possible

Off service rotations are intended to broaden the knowledge base in each clinical area. Goals and objectives for all PGY1 rotations are provided and act as a guide for each rotation.

## ROTATIONAL GOALS AND OBJECTIVES FOR PGY 1 YEAR

### EMERGENCY MEDICINE ROTATION (PGY1) - 5 blocks

PGY1 resident expectations during Emergency Medicine rotations are as follows:

#### ***Medical Expert***

##### **History and Physical exam skills**

- Perform appropriate, thorough and directed history and physical examination of common (cardinal) clinical presentations.
- Perform thorough ophthalmologic, pediatric, gynecological, and psychiatric assessments.
- Demonstrate appropriate attention to patient privacy and autonomy during the history and physical examination
- Demonstrate aware of issues related to patient and resident safety during the assessment process (chaperones for genital examination, security present for violent patients, etc.)

##### **Judgement/Decision making**

- Begin to independently put the historical and physical findings and lab investigations together and make decisions on disposition in common clinical problems in consultation with attending staff.
- Understand and order appropriate cost effective basic lab and diagnostic imaging tests.
- Demonstrate an awareness of appropriate point of care resources that may assist in optimizing safe patient care (decision rules, etc)

##### **Knowledge base**

- Demonstrate good general clinical knowledge in common Emergency Medicine presentations.
- Demonstrate use of point of care resources and evidence in patient management.

##### **Procedural skills**

- Demonstrate skill in: IV insertion, venipuncture, ABGs, simple suturing, casting and splinting, basic airway management, foley catheter insertion, urinalysis, NG tube insertion and lumbar puncture.
- Demonstrate skill in image acquisition using point of care ultrasound for: confirmation of intrauterine gestation, determination of presence of free fluid in the abdomen, determination of presence of a pericardial effusion and measurement of aorta diameter to rule out aneurysm.

##### **Resuscitation skills**

- Recognize ill patients and outlines management.
- Perform as team member in medical and trauma resuscitations.
- Demonstrate ability to perform CPR, defibrillation, and basic airway management including intubation with close staff supervision.
- Complete BCLS, PALS, ATLS, and ACLS training.
- Begin to manage the poisoned patient with staff supervision.

##### **Communicator**

- Demonstrate good interviewing skills in simple situations.
- Provide clear and concise oral presentations
- Deal effectively with family members and other health care providers to facilitate optimal health care of the patient.

- Demonstrate a patient centered approach to care with shared decision making when possible.
- Demonstrate empathy and ability to understand nonverbal cues.
- Maintain concise yet thorough ED charts, legibly written with pertinent history and physical findings and a clear diagnosis, treatment plan and follow-up displayed.

### ***Collaborator***

- Demonstrate skill in dealing with medical staff from other services and allied health professionals.
- Act as an effective member of the Emergency Medicine Residency team at Queen's
- Promote a just culture to enhance patient safety.

### ***Health Advocate***

- Understand determinants of health affecting the ED patient population.
- Provide health teaching to individual patients
- Apply concepts of preventative medicine and harm reduction when appropriate.
- Develop an understanding of living wills, advanced directives, durable power of attorney and personal directives.

### ***Leader***

- Manage individual patients through Emergency Department course effectively with staff supervision.
- Develop multi-tasking skills.
- Recognize and report any potential patient safety concerns.

### ***Scholar***

- Explore scholarly interest (research idea, education etc).
- Develop and maintain a personal study strategy such as reading for core and other educational rounds, active participation for Journal club and Core rounds and reading about individual cases.
- Recognize personal knowledge gaps and demonstrate a commitment to professional development through the use of a personal learning plan to guide learning.
- Provide episodic clinical teaching and supervision for clinical clerks.

### ***Professional***

- Prepare well for clinical and academic work.
- Exhibit a professional demeanour (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others.
- Understand the principles of Emergency Physician wellness and employ strategies to maintain a work-life balance
- Maintain membership in CAEP and other EM related societies (EMRA, SAEM).

### **Map to CBME EPAs:**

TD1: Recognizing the unstable/critically ill patient, mobilizing the healthcare team and supervisor and initiating basic life support

TD2: Performing and documenting a focused history and physical exam, and preliminary management of cardinal emergency department presentations

TD3: Facilitating communication of information between an emergency department patient, caregivers and members of the healthcare team to organize care and disposition of the patient

F1: Initiating and participating in resuscitation of critically ill patients

F2: Assessing and managing uncomplicated urgent and non-urgent emergency department presentations

F3: Contributing to the shared work of the emergency department health care team to achieve high quality, efficient and safe patient care  
F4: Performing basic procedures

## **GENERAL SURGERY ROTATION (PGY1) - 2 blocks**

The General Surgery Rotation will be as a PGY 1 on one of the General Surgical services at KGH. Residents are expected to take part in all aspects of the clinical rotation as a member of the General Surgery team including ward duties, clinics, Emergency Department consults, trauma team, on call responsibilities, and time spent assisting and observing in the operating room. They are expected to attend the academic rounds offered in General Surgery. They are encouraged to see as many Emergency consults as possible and follow these patients to the OR and onto the ward to understand the spectrum of general surgical problems. Residents must review the goals and objectives below to guide learning on this rotation.

### ***Medical Expert***

#### **Goals:**

1. Develop familiarity with common general surgical problems.
2. Develop relevant history and physical exam skills.
3. Develop procedural skills relevant to General Surgery.
4. Develop skill in the overall assessment of the general surgical patient.
5. Recognize indications for consultation and surgical intervention in patients with acute abdominal pain.
6. Learn the principles of care of the peri-operative patient.

#### **Objectives:**

1. Demonstrate ability to perform an appropriate history and physical exam in patients with general surgical disorders, including an appropriate preoperative evaluation.
2. Discuss the differential diagnosis of acute abdominal pain and demonstrate ability to evaluate, treat and obtain appropriate consultation.
3. Demonstrate ability to perform common procedural skills including gastric intubation, thoracostomy, wound closure, and incision and drainage of superficial abscesses.
4. Demonstrate ability to assist in the operative and peri-operative therapy of surgical patients.
5. Discuss the common fluid and electrolyte disturbances in surgical patients and demonstrate ability to manage patients with these disorders.
6. Demonstrate appropriate prophylaxis and treatment of surgical infections.
7. Recognize and initiate management of patients with postoperative complaints such as postoperative wound infections, respiratory problems and ileus.
8. Demonstrate ability to manage pain in surgical patients.
9. Discuss the role of diagnostic imaging in the evaluation of abdominal pain and demonstrate ability to appropriately order and interpret imaging modalities such as abdominal films and basic CT scans in surgical patients.
10. Demonstrate ability to diagnose and treat common general surgery conditions such as breast disease, colorectal disease, abdominal wall hernias and gall bladder disease.
11. Demonstrate knowledge and ability to assist in the management of the multiple trauma patients as part of the trauma team.
12. Understand and apply the concept of informed consent in relation to peri-operative care.

### ***Communicator***

- Demonstrate good interviewing skills in simple situations.
- Deal effectively with family members and other health care providers to facilitate optimal health care of the patient.
- Demonstrate empathy and ability to understand non-verbal cues.
- Maintain concise yet thorough charts, legibly written with pertinent history and physical findings and a clear diagnosis, treatment plan and follow-up displayed.
- Provide effective handover during transitions of care.

**Collaborator**

- Demonstrate skill in dealing with medical staff from other services and allied health professionals.
- Participate in the trauma team under the direction of the resident and/or faculty trauma team leader.

**Health Advocate**

- Understand the determinants of health affecting the surgical patient population.
- Advocate for appropriate follow-up care of post-surgical patients
- Assist in the decision making/triage of patients awaiting surgical care.

**Leader**

- Manage individual patients through entire hospital course effectively.
- Develop multitasking skills.
- Provide team leadership when appropriate including the supervision of junior learners on the team.
- Manage time effectively to attend to patient's needs in the clinic or hospital setting and to recognize when urgent care is needed.

**Scholar**

- Develop and maintain a personal study strategy such as reading for educational rounds and reading about individual cases.
- Recognize personal knowledge gaps and develop a plan to address these deficiencies
- Provide teaching and supervision for clinical clerks.

**Professional**

- Prepare well for clinical and academic work.
- Exhibit a professional demeanour (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others.

**Map to CBME EPAs:**

C1: Resuscitating and coordinating care for a critically ill patient

C2: Resuscitating and coordinating care for a critically injured patient

C5: Identifying and managing patients with emergent medical or surgical conditions

C6: Diagnosing and managing complicated urgent and non-urgent patient presentations

C13: Performing advanced procedures



## **INTERNAL MEDICINE ROTATION (PGY1) – 1 block**

Emergency Medicine residents do a one (1) month Internal Medicine rotation during PGY1 year to build on the knowledge of Internal medicine gained in medical school. Residents will be assigned as a junior resident to one of the medical services at the Kingston General Hospital. They are expected to perform all duties required as a team member. This includes responsibilities on the wards, the clinic setting, the Emergency Department and on call duties. They are expected to take part in all educational rounds offered. Residents must review the goals and objectives for this rotation included below. The rotational goals and objectives cover a large breadth of material that may not be seen on the medical service they are attached to. It is expected that the gaps will be filled by pre-existing knowledge from medical school and by reading during the rotation

### ***Medical Expert***

#### **Goals:**

1. Assimilate general concepts of Internal Medicine, history taking and physical examination skills to develop a systemic evaluation for patients presenting with a variety of undifferentiated medical problems.
2. Learn the pathophysiology, presentation, evaluation and management of diseases related to the alimentary tract.
3. Learn the pathophysiology, presentation, evaluation and management of common hematologic diseases.
4. Learn the pathophysiology, presentation, evaluation and management of disorders related to hyper and hypofunction of the immune system.
5. Learn the pathophysiology, presentation, evaluation and management of major systemic infectious disorders.
6. Learn the pathophysiology, presentation, evaluation, and treatment of renal disorders.
7. Learn the pathophysiology, presentation, evaluation, and management of endocrine and metabolic disorders.
8. Learn the pathophysiology, presentation, evaluation and management of diseases of the respiratory system.
9. Learn the anatomy, pathophysiology, presentation, evaluation and management of common nervous system disorders.
10. Develop skill in the performance of a screening and detailed neurologic evaluation.
11. Develop skill in the use and performance of diagnostic procedures in the evaluation of neurological disorders.

#### **Objectives:**

1. Demonstrate appropriate history taking and physical examination skills for patients presenting with a full spectrum of medical problems.
2. Combine the knowledge defined in the objectives below with the history and physical examination, to develop an appropriate differential diagnosis for all presentations.
3. Demonstrate an understanding of the indications, technique and complications of the following procedural skills: ABG sampling, insertion of peripheral IV, Foley catheter insertion, NG tube insertion, lumbar puncture, bone marrow aspiration, thoracentesis, arthrocentesis and paracentesis.
4. Demonstrate knowledge of the presentation, evaluation and management of common GI disorders including:
  - Hepatobiliary diseases
  - Gastrointestinal hemorrhage
  - Inflammatory bowel disease
  - Abdominal pain
  - Infections
  - Diarrhea

5. Demonstrate knowledge of the presentation, evaluation and treatment of the patient with common haematology/oncology disorders including:
  - Anemia
  - Myeloproliferative disorders
  - Oncologic emergencies
  - Bleeding disorders
6. Demonstrate knowledge of the causes, presentation, evaluation and management of patients with immune compromise including that caused by infection with HIV.
7. Demonstrate knowledge of the presentation, evaluation, initial management and appropriate disposition of patients with rheumatologic and autoimmune diseases.
8. Demonstrate knowledge of the presentation, evaluation and treatment of patients with common infectious diseases.
9. Demonstrate knowledge of the causes, presentation, evaluation, initial management and disposition of patients with renal abnormalities including:
  - Infections of the renal system
  - Renal failure
  - Complications of dialysis therapy
  - Acid/base disorders
  - Fluid and electrolyte abnormalities
10. Demonstrate knowledge of the pathophysiology, presentation, evaluation and management of common endocrine abnormalities including:
  - Thyroid disease
  - Disorders of glucose metabolism
  - Adrenal disorders
11. Demonstrate knowledge of pathophysiology, presentation, evaluation and treatment of patients with the following respiratory disorders:
  - Infections of the respiratory system
  - Acute and chronic airway disease
  - Pulmonary embolus
  - Chest masses
12. Demonstrate knowledge of the presentation, evaluation and treatment of patients with neurological disorders including:
  - Cerebrovascular disorders
  - Cranial nerve disorders
  - Demyelinating disorders
  - Seizure disorders
  - Headache syndromes
  - Peripheral neuropathy
  - Infections of the central or peripheral nervous system
  - Neurological tumours
  - Neurological inflammatory states
13. Describe the pathophysiology, diagnosis and management of patients with cardiac disease including:
  - Acute coronary syndrome
  - Congestive Heart Failure
  - Hypertension

### ***Communicator***

- Demonstrate good interviewing skills in simple situations.
- Deal effectively with family members and other health care providers to facilitate optimal health care of the patient.
- Demonstrate empathy and ability to understand non-verbal cues.

- Maintain concise yet thorough ED charts, legibly written with pertinent history and physical findings and a clear diagnosis, treatment plan and follow-up displayed.
- Provide effective handover during transitions of care.

***Collaborator***

- Demonstrate skill in dealing with medical staff from other services and allied health professionals.
- Liaise effectively with allied health professionals to facilitate safe patient discharge from hospital.
- Recognize and respect the diversity of roles, responsibilities and competencies of other professionals in relation to their own and consult other specialists in such a way as to respect the consultant's individual skills.

***Health Advocate***

- Understand the determinants of health affecting patients with acute and chronic medical illness.
- Advocate for follow-up care and access to community resources as appropriate.
- Provide appropriate health teaching to patients and their families to optimize chronic health conditions.

***Leader***

- Manage individual patients through entire hospital course effectively.
- Develop multitasking skills.
- Demonstrate appropriate resource utilization including integration of choosing wisely recommendations into patient management.

***Scholar***

- Develop and maintain a study strategy such as reading for educational rounds and reading about individual cases.
- Recognize personal knowledge gaps and develop a plan to address these deficiencies.
- Provide teaching and supervision for clinical clerks.

***Professional***

- Prepare well for clinical and academic work.
- Exhibit a professional demeanor (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others.

**Map to CBME EPAs:**

C1: Resuscitating and coordinating care for a critically ill patient

C5: Identifying and managing patients with emergent medical or surgical conditions

C6: Diagnosing and managing complicated urgent and non-urgent patient presentations

C8: Managing patients with acute toxic ingestion or exposure

C13: Performing advanced procedures

## **OBSTETRICS & GYNECOLOGY ROTATION (PGY1) – 1 block**

Obstetrics and Gynecology occur in a community setting (Oshawa) under the supervision of the local attending OB/GYN staff. The resident is expected to participate in labour and delivery, surgery and OB/GYN clinics under the supervision of the attending specialist.

### ***Medical Expert***

#### **Goals:**

1. Understand the principles of contraception.
2. Develop expertise in the diagnosis and management of emergent complications of pregnancy.
3. Develop expertise in the management of uncomplicated and complicated labor and delivery.
4. Learn the principles of management of gynecologic and obstetrical trauma.
5. Develop expertise in the diagnosis and treatment of common genital and pelvic infectious diseases.
6. Develop expertise in the diagnosis and management of abdominal pain in females.
7. Develop expertise in the diagnosis and management of vaginal bleeding.

#### **Objectives:**

1. Demonstrate ability to correctly perform a complete gynecologic exam.
2. Discuss the differential diagnosis and demonstrate ability to evaluate and treat patients with vaginal discharge.
3. Discuss the differential diagnosis and demonstrate ability to evaluate and treat patients with pelvic pain.
4. Discuss the differential diagnosis and demonstrate ability to evaluate and treat vaginal bleeding in pregnant and non-pregnant women.
5. Discuss the differential diagnosis and demonstrate ability to evaluate and treat patients with dysmenorrhea.
6. Demonstrate ability to evaluate and treat patients with genitourinary infections including PID, UTI, STI, and vaginitis.
7. Demonstrate ability to evaluate and manage the care of patients with suspected ectopic pregnancy.
8. Discuss the signs, symptoms and treatment of placenta previa.
9. Discuss the signs, symptoms and treatment of abruptio placenta.
10. Discuss the signs, symptoms and treatment of preeclampsia and eclampsia.
11. Discuss the normal stages of labor and the time course for each.
12. Demonstrate ability to determine the APGAR score and discuss the significance of different values.
13. Discuss the pathophysiology, differential diagnosis, signs, symptoms and treatment of ovarian torsion.
14. Demonstrate ability to perform uncomplicated full-term deliveries.
15. Demonstrate ability to manage patients with hyperemesis gravidarum.
16. Discuss the diagnosis and treatment of complicated labor including premature rupture of membranes, premature labor, failure to progress, fetal distress, and ruptured uterus.
17. Describe the management of complicated deliveries, including prolapsed cord, uncommon presentations, shoulder dystocia, uterine inversion, multiple births and stillbirth.
18. Demonstrate ability to diagnose and manage postpartum complications including retained products, endometritis and mastitis.
19. Discuss the pathophysiology and management of RH incompatibility.

### ***Communicator***

- Demonstrate good interviewing skills in simple situations.

- Deal effectively with family members and other health care providers to facilitate optimal health care of the patient.
- Demonstrate empathy and ability to understand nonverbal cues.
- Maintain concise yet thorough charts, legibly written with pertinent history and physical findings and a clear diagnosis, treatment plan and follow-up displayed.
- Provide effective handover during transitions of care.

***Collaborator***

- Demonstrate skill in dealing with medical staff from other services and allied health professionals.

***Health Advocate***

- Understand the determinants of health affecting OB/GYN patients.

***Leader***

- Manage individual patients through entire hospital course effectively.
- Develop multitasking skills.
- Demonstrate situational awareness and effective leadership during high stress deliveries.

***Scholar***

- Maintain a personal study strategy including reading for educational rounds and reading about individual cases.
- Recognize personal knowledge gaps and develop a plan to address these deficiencies.
- Provide teaching and supervision for clinical clerks.

***Professional***

- Prepare well for clinical and academic work.
- Exhibit a professional demeanor (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others.

**Map to CBME EPAs:**

C5: Identifying and managing patients with emergent medical or surgical conditions

C7: Managing the urgent and emergent presentation of the pregnant and post-partum patient

C13: Performing advanced procedures

## **PEDIATRICS ROTATION (PGY1) Hotel Dieu Hospital – 1 block**

The Pediatric rotation in PGY1 is intended to give residents a broad experience in Pediatrics and to help them become comfortable dealing with all aspects of pediatric care. It is particularly important for them to develop skills in assessing children and dealing with their families. They will begin to learn and perform procedural skills in Pediatrics. They will have the opportunity to see children on all rotations, but this and the experience at CHEO will be the most concentrated Pediatric experience residents will have. Residents will do a one (1) month outpatient Pediatrics rotation at the HDH Children's Outpatient Center. Residents will take in hospital call during this rotation. Residents must study the goals and objectives listed below and use them to assist in their rotation. Note that these are specific for the PGY1 rotation and a more advanced complete set of goals and objectives for Pediatrics to be achieved at the end of your residency program is in the Goals and Objectives section of this manual.

### ***Medical Expert***

#### **General Pediatrics (COPC - HDH)**

##### **Goals:**

1. Develop skill in infant/pediatric resuscitation.
2. Develop skill in performance of appropriate pediatric history and physical exam, including general growth and development, assessment and knowledge of current immunization requirements.
3. Learn the etiologies, significance, and treatment of fever and infection in the child.
4. Learn the manifestations and significance of abdominal related complaints in the child.
5. Learn the physiology and derangements of fluid and electrolyte management in children.
6. Learn the pathophysiology, etiologies, and treatment of respiratory disorders of children.
7. Learn the common dermatologic diseases and dermatologic manifestations of systemic diseases in children.
8. Learn to recognize and treat children with problems of the head and neck.

##### **Objectives:**

1. Demonstrate ability to obtain and utilize intravenous access including venipuncture, intraosseous needle placement, and administration of appropriate weight-based dosing of emergency medications.
2. Demonstrate knowledge of the significance of fever in children of various ages, and the appropriate workup and treatment for each age group.
3. Demonstrate knowledge of common infectious diseases of childhood, including appropriate work-up and treatment of meningitis, sepsis, pneumonia, urinary tract infection, and bacteremia.
4. Demonstrate ability to properly perform a pediatric lumbar puncture.
5. Demonstrate knowledge of the pathophysiology and manifestations of common and/or serious diseases of the gastrointestinal tract and abdominal cavity of children, including gastroenteritis, intussusception, volvulus, Meckel's diverticulum, anaphylactoid purpura, and appendicitis.
6. Demonstrate the appropriate management of children with seizures, both febrile and afebrile.
7. Calculate fluid and electrolyte requirements of a dehydrated child.
8. Discuss child abuse in terms of presentation, pathognomonic historical findings, physical findings and radiological abnormalities.
9. Discuss the diagnostic work-up and disposition when child abuse and/or neglect is suspected.
10. Demonstrate ability to read pediatric chest x-rays.

11. Demonstrate correct performance of peak expiratory flow measurements, pulse oximetry and end-tidal CO<sub>2</sub>.
12. Discuss the etiologies and demonstrate correct management of children with lower airways and upper airway diseases including asthma, bronchiolitis, laryngotracheitis, pneumonia and epiglottitis.
13. Demonstrate correct management of the pediatric patient with diabetes and/or diabetic ketoacidosis.
14. Demonstrate knowledge of the differential diagnosis and evaluation of the jaundiced child.
15. Demonstrate knowledge of and treatment for phimosis, paraphimosis, balanitis and testicular lesions including torsion.
16. Demonstrate knowledge of the differential diagnosis and evaluation for a pediatric patient with a limp.
17. Discuss the etiology and treatment of acute soft tissue infections and demonstrate the ability to perform an incision and drainage.
18. Correctly diagnose common pediatric exanthemas including varicella, measles, monilia, roseola, rubella, pityriasis, scabies and erythema infectiosum.
19. Demonstrate knowledge of the differential diagnosis and evaluation of children with petechiae.
20. Demonstrate ability to correctly perform and interpret the exam of the ears, nose and throat.
21. Discuss the technique for suprapubic bladder aspiration.
22. Demonstrate bladder catheterization in male and female infants and discuss indications for this procedure.
23. Demonstrate knowledge of the evaluation and treatment of children with diarrheal illness.
24. Demonstrate knowledge of the evaluation and management of a child with a foreign body ingestion.
25. Demonstrate ability to evaluate and treat a child with altered mental status.
26. Differentiate between the presentation, diagnostic test results and treatment of transient synovitis and septic joint.

### ***Communicator***

- Demonstrate good interviewing skills in simple situations.
- Deal effectively with family members and other health care providers to facilitate optimal health care of the patient.
- Demonstrate age appropriate communication to involve the patient in shared decision making whenever possible.
- Demonstrate empathy and ability to understand non-verbal cues.
- Maintain concise yet thorough ED charts, legibly written with pertinent history and physical findings and a clear diagnosis, treatment plan and follow-up displayed.
- Overcome barriers to communication such as language, patient disabilities, cultural differences and age group differences.

### ***Collaborator***

- Demonstrate skill in dealing with medical staff from other services and allied health professionals.
- Recognize the patient's parents are members of the health care team when caring for a pediatric patient.
- Assist patients and their families with accessing technology/resources to assist in their understanding of a disease process or health condition.

### ***Health Advocate***

- Understand the determinants of health affecting the pediatric patient population.
- Employ health teaching and preventative medicine as appropriate

**Leader**

- Manage individual patients through entire hospital course effectively.
- Develop multitasking skills.

**Scholar**

- Develop and maintain a personal study strategy including reading for educational rounds and reading about individual cases.
- Recognize personal knowledge gaps and develop a plan to address these deficiencies.
- Provide teaching and supervision for clinical clerks while employing strategies to ensure safe patient care.
- Complete a PALS course.

**Professional**

- Prepare well for clinical and academic work.
- Exhibit a professional demeanor (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others.

**Map to CBME EPAs:**

F1: Initiating and participating in resuscitation of critically ill patients

F2: Assessing and managing uncomplicated urgent and non-urgent emergency department presentations

F3: Contributing to the shared work of the emergency department health care team to achieve high quality, efficient and safe patient care

F4: Performing basic procedures



## **PEDIATRIC EMERGENCY MEDICINE (PGY1) CHEO – 1 block**

### ***Medical Expert***

#### **Goals:**

1. Learn to recognize pediatric life or limb threatening conditions.
2. Learn to recognize a “toxic” vs. a “non-toxic” looking child.
3. See and manage a wide variety of ill or injured children in a timely fashion. Diagnosis and management should be done in a problem-solving fashion around the many clinical scenarios seen in the Emergency Department; e.g. the limping child, painful scrotum, the patient with stridor, etc.
4. Gain awareness of the common pediatric surgical conditions as they appear in the Emergency; e.g. acute appendicitis, intussusception, volvulus, incarcerated hernias, hydroceles.
5. Be aware of larger organizational issues in the Emergency – monitoring patient flow, deploying resources in an efficient way and issues of risk management.

#### **Objectives:**

1. Perform minor surgical techniques; e.g. laceration repair, nail bed repair, I & D, hernia/phimosis reduction, and others.
2. Initially manage a variety of pediatric orthopedic conditions and learn basic techniques of; e.g. splint and cast application, buddy taping.
3. Triage and prioritize cases developing a sense of which cases require admission.
4. Develop procedural skill in: peripheral intravenous insertion, phlebotomy, lumbar puncture and bladder catheterization.
5. Ensure record documentation is legible and complete.
6. Develop skill in conveying clear discharge instructions to families including developing an appropriate plan of follow up care.
7. Make judgement decisions with regards to investigative tests and procedures, weighing the likely benefit against the psychological trauma to the pediatric patient.

### ***Communicator***

- Demonstrate good interviewing skills in simple situations.
- Deal effectively with family members and other health care providers to facilitate optimal health care of the patient.
- Demonstrate empathy and ability to understand non-verbal cues.
- Demonstrate age appropriate communication to involve the patient in shared decision making whenever possible.
- Maintain concise yet thorough ED charts, legibly written with pertinent history and physical findings and a clear diagnosis, treatment plan and follow-up displayed.

### ***Collaborator***

- Demonstrate skill in dealing with medical staff from other services and allied health professionals.
- Participate in a team based model of care in the care of pediatric emergency department patients.

### ***Health Advocate***

- Understand the clinical determinants of health affecting the Pediatric Emergency Department patient population.
- Provide health teaching and preventative health measures as appropriate.

### ***Leader***

- Manage individual patients through entire hospital course effectively.
- Develop multitasking skills.

- Participate as a team member in the resuscitation of any critically ill patients.
- Demonstrate the use of crisis resource management skills when needed.
- Allocate finite healthcare resources appropriately.

***Scholar***

- Develop a personal study strategy including reading for educational rounds and reading about individual cases.
- Recognize personal knowledge gaps and develop a plan to address these deficiencies
- Provide teaching and supervision for clinical clerks using strategies to ensure safe patient care.
- Complete a PALS course.

***Professional***

- Prepare well for clinical and academic work.
- Exhibit a professional demeanor (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others.

**Map to CBME EPAs:**

F1: Initiating and participating in resuscitation of critically ill patients

F2: Assessing and managing uncomplicated urgent and non-urgent emergency department presentations

F3: Contributing to the shared work of the emergency department health care team to achieve high quality, efficient and safe patient care

F4: Performing basic procedures

## **PREHOSPITAL CARE ROTATION (PGY1) - 1 block**

Emergency Medicine residents will do a rotation in Emergency Medical Services during one of the assigned months in Emergency Medicine during PGY1. During that month, residents will do 50% of the normal number of shifts. Your supervisor for the EMS experience is Dr. Andrew Reed, Base Hospital Medical Director. The prehospital care experience will include:

- Assigned ride-outs with Paramedic crews
- Time spent with Dr. Reed learning about EMS administration
- A literature review on a specific EMS topic
- Selected reading in EMS

### ***Medical Expert***

#### **Goals:**

1. Learn common organizational structures of emergency medical services.
2. Learn the educational requirements and skill levels of various EMS providers.
3. Learn principles of EMS system operations.
4. Learn principals of prehospital triage and emergency medical care delivery.
5. Learn medicolegal principals relating to EMS.

#### **Objectives:**

1. Actively participate in EMS system management.
2. Demonstrate ability to use all elements of the EMS communication system.
3. Demonstrate ability to provide initial and continuing education to all levels of EMS personnel.
4. Discuss medicolegal liability issues relating to EMS.
5. Participate as an observer or team member in EMS transport systems.
6. Discuss development of EMS prehospital care protocols.
7. Discuss basic concepts of disaster management.
8. Demonstrate understanding of appropriate utilization practices for ground and air medical services.
9. Discuss the process of disaster notification, response, and medical care on a local, provincial and national level.
10. Discuss the importance of and methods for medical control in EMS systems.
11. Discuss the differences in education and skill level of various EMS providers.
12. Describe common environmental, toxicologic, and biological hazards encountered in the prehospital care setting as well as injury prevention techniques.

### ***Communicator***

- Demonstrate good interviewing skills in simple situations.
- Deal effectively with family members and other health care providers to facilitate optimal health care of the patient.
- Demonstrate empathy and ability to understand non-verbal cues.
- Understand EMS/Communication systems.

### ***Collaborator***

- Demonstrate skill in dealing with paramedics and other Emergency Health Services providers.

### ***Health Advocate***

- Understand the clinical determinants of health affecting the ED patient population.
- Participate in Disaster Planning exercises.

***Leader***

- Understand the concept of triage to identify single and multiple patient treatment priorities in the prehospital setting.

***Scholar***

- Develop a personal study strategy including reading for educational rounds and about individual cases.
- Recognize personal knowledge gaps and develop a plan to address these deficiencies
- Participate in paramedic teaching and recertification programs.

***Professional***

- Prepare well for clinical and academic work.
- Exhibit a professional demeanour (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others.

**Map to CBME EPAs:**

C12: Liaising with prehospital emergency medical services

## **PSYCHIATRY ROTATION (PGY1) - 1 block**

Emergency Medicine residents are required to do a one (1) block rotation in Psychiatry in PGY1. The purpose of this rotation is to allow the resident to expand on the knowledge base and skills in Psychiatry learned in medical school and to set the stage for further skill development during the residency training in Emergency Medicine. The number of patients seen in the ED with psychiatric problems is ever increasing and this is an essential component of the curriculum. Residents will be assigned primarily to one psychiatrist during the 1block rotation. They will spend time assessing patients in the Emergency Departments of both hospitals on a regular scheduled basis during the day and during nights on call in addition to other daily duties and teaching sessions. It is also hoped that they will have a chance to further develop interviewing skills on this rotation.

### ***Medical Expert***

#### **Goals:**

1. Understand the major categories of psychiatric illness.
2. Learn relevant interviewing techniques to deal with patients with various psychiatric disorders.
3. Develop familiarity with common psychopharmacologic agents.
4. Learn principles of managing the violent patient.
5. Develop knowledge of the support offered in a community for patients with psychiatric illness.

#### **Objectives:**

1. Demonstrate ability to conduct an interview in patients with acute psychiatric disorders.
2. Demonstrate ability to perform a mental status exam in patients with normal and altered mental status.
3. Discuss the indications for emergent psychiatric consultation.
4. Discuss the indications for routine psychiatric consultation.
5. Demonstrate ability to assess suicide risk.
6. Demonstrate ability to interact with violent emergency department patients and discuss protection techniques for patients and staff members.
7. Define major categories of psychiatric illness including thought, mood, anxiety, somatoform and personality disorders.
8. Discuss the pharmacokinetics, indications, contraindications and side effects of the major classes of psychopharmacologic agents including antipsychotics, sedative/hypnotics, and antidepressants.
9. Discuss the process of voluntary and involuntary commitment.
10. Discuss the indications for physical and chemical restraint and demonstrate ability to use restraint appropriately.
11. Discuss the difference between pseudo-dementia (depression) and true dementia in the elderly.
12. Discuss organic causes of altered mental status including dementia and delirium.
13. Demonstrate ability to differentiate organic and functional causes of altered mental status.
14. Demonstrate ability to diagnose and manage common intoxication and withdrawal syndromes.
15. Discuss the common complications of alcohol and drug abuse and demonstrate ability to diagnose and manage these complications.
16. Demonstrate ability to interact effectively with patients with personality disorders including antisocial, borderline, compulsive, dependent, histrionic and passive-aggressive personalities.

### ***Communicator***

- Demonstrate good interviewing skills in simple situations.

- Deal effectively with family members and other health care providers to facilitate optimal health care of the patient.
- Demonstrate empathy and ability to understand non-verbal cues.
- Demonstrate appropriate to de-escalate a violent encounter
- Maintain concise yet thorough charts, legibly written with pertinent history and physical findings and a clear diagnosis, treatment plan and follow-up displayed.
- Consider the influence of factors such as patients age, gender, ethnic, cultural and socio-economic background and spiritual values on the illness.

### ***Collaborator***

- Develop skills in dealing with medical staff from other services and allied health professionals.
- Involve families and other supports in patient management as appropriate
- Liaise with allied health professionals and police officers to optimize patient care and facilitate access to appropriate resources.

### ***Health Advocate***

- Understand the clinical determinants of health affecting the patients with mental illness.
- Facilitate access to community supports for housing, finances and psychiatric support as appropriate.
- Screen patients for risks related to intimate partner violence and substance misuse as appropriate.

### ***Leader***

- Manage individual patients through entire hospital course effectively.
- Develop multitasking skills.
- Understand importance of efficient patient flow.
- Demonstrate appropriate situational awareness when assessing and managing a violent patient.

### ***Scholar***

- Develop a personal study strategy including reading for educational rounds and around individual cases.
- Recognize personal knowledge gaps and develop a strategy to address these deficiencies
- Provide teaching and supervision for clinical clerks ensuring safe patient care.

### ***Professional***

- Prepare well for clinical and academic work.
- Exhibit a professional demeanor (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others.
- Demonstrate an understanding of basic mental health law including involuntary committal.
- Recognize the effect of negative patient interactions on physician wellness and employ strategies to maintain a sustainable practice.

### **Map to CBME EPAs:**

C9: Managing a patient with an emergency mental health condition or h=behavioural emergency

C10: Managing and supporting patients in situational crisis to access health care and community resources

C11: Recognizing and managing patients who are at risk of exposure or who have experienced violence and/or neglect

## ULTRASOUND ROTATION (PGY1-5)

The goal of the curriculum is to ensure that all residents become facile with performing and interpreting emergency ultrasound for the four basic indications (i.e. AAA, early pregnancy abnormalities, pericardial effusion and trauma,) and become familiar with some of the expanded applications (central venous access, hydronephrosis, gallbladder evaluation etc.)

This longitudinal curriculum has many components, and is designed so that residents in the PGY 1 and PGY 2 learn and practice their skills, while PGY3-5 act as PoCUS instructors to develop their teaching skills.

The components are:

1. An annual full academic day course on aorta, eFAST, early pregnancy and cardiac assessment in Block 1 using a reverse classroom approach.
2. An annual, academic half day teaching nerve blocks of the extremities and face.
3. Supervised scanning shifts during Emergency Medicine blocks with the goal to complete 50 scans in each of the four basic areas (cardiac, aorta, FAST and gyne) by the end of PGY 1 year.
4. US guided Central Line Course, biweekly during the summer in PGY 2 year.
5. Three Core academic half days each year, running on a 2-year rotation:
  - Year 1: Cardiac and IVC, DVT and Lung, Approach to SOB and shock (consolidation and clinical integration)
  - Year 2: GB, KD and joints, Approach to Abdominal Pain (consolidation and clinical integration).
6. Advanced Rotation Year 3: 1 block rotation involving clinical shifts, supervised and unsupervised scanning time, scan review, supervising basic scanners, and weekly quizzes.
  - a. Week1: focus on advanced cardiac and lung
  - b. Week2: focus on gallbladder and kidney
  - c. Week 3: focus on DVT and procedural skills
  - d. Week 4: focus on topics of interest to the resident.The goal is to complete the following number of scans during the block: 50 cardiac, 40 gallbladder, 20 lung, 20 kidney and 20 DVT.  
A final ultrasound OSCE is also performed to demonstrate competence.
7. PoCUS Grand Rounds: occur on the first grand rounds of each block, primarily focused on clinical integration of PoCUS.
8. PoCUS Journal Club: 2-3 per year. Interested and rotating residents meet to critically appraise 1-2 recent journal articles on a PoCUS topic of their choice.

We are continuing to improve the program as we obtain feedback from the residents, and remain committed to developing and maintaining a cutting-edge EDTU program.

### ***Medical Expert***

#### **Goals**

1. Develop a basic understanding of the physics behind image generation (frequency, penetration, common artefacts).
2. Describe the essential knobs on a generic ultrasound machine (overall gain, near and far gain, focal zone, callipers).
3. Understand basic care of the machine and probes.
4. Understand the limitations of emergency ultrasound.
5. Appreciate the importance of declaring scans indeterminate when inadequate images are produced.

6. Master the common applications: FAST, cardiac for effusion/activity, early pregnancy and AAA evaluation.
7. Gain experience with more advanced applications: renal, gallbladder and venous access and foreign body application.

## **Objectives**

### Physics

1. Discuss the principles of ultrasound as compared to sound: frequency, amplitude and speed.
2. Understand the relationship between frequency, resolution and depth of penetration.
3. Discuss common tissue effects and artefacts including: attenuation, reflection, scatter, posterior acoustic enhancement and refraction.
4. Define and use the terms hyperechoic, hypoechoic and anechoic.
5. Discuss the role of overall gain, time-gain compensation, focal length in image generation and modulation.
6. Learn and discuss the biologic effects and safety guidelines for medical ultrasound.

### Trauma/FAST

1. Perform a complete FAST exam in a timely manner (2-4 minutes).
2. Know the required elements for each view (RUQ= complete sweep thru interface, liver tip; LUQ= complete sweep thru interface, view of diaphragm and spleen tip; heart= sweep thru inferior pericardium anterior-posterior, pelvis= view posterior to bladder).
3. Declare scans indeterminate when inadequate images are generated.
4. Discuss the limitations of FAST.
5. Develop a management algorithm incorporating FAST.

### Cardiac Scanning

1. Name the clinical indications for cardiac scanning.
2. Perform a complete cardiac scan in a timely manner (evaluate LV for activity, sweep thru whole inferior pericardium anterior-posterior).
3. Distinguish between pericardial fat and effusion.
4. Discuss what constitutes a complete vs indeterminate scan.
5. Discuss the limitations of cardiac EDTU.
6. Demonstrate knowledge of alternate views when subxiphoid view is unobtainable.

### Early Pregnancy

1. Discuss the relative merits of transabdominal vs. transvaginal scanning and name the indications for each.
2. State instructions to the patient before this scan informing them of the limitations/role of EDTU etc.
3. Reliably identify the following on US images, and state the approximate gestational age when each is visible: uterine tissue, gestational sac, decidual reaction, yolk sac, fetal pole, fetal heart.
4. Understand and discuss the importance of the yolk sac in identifying an intrauterine pregnancy.
5. Understand and discuss the concept of 'no definite intra-uterine pregnancy' (NDIUP) and its clinical implications.
6. Develop a management algorithm for first trimester abnormalities using EDTU and quantitative beta hCG.
7. Understand and discuss the impact of fertility interventions on this algorithm.
8. Understand and discuss the limitations of pelvic EDTU.

### Aorta

1. Reliably identify, survey and measure the whole abdominal aorta.
2. Understand and discuss the size definitions of ectasia, aneurysm.



3. Develop troubleshooting skills to overcome barriers to scanning.
4. Understand and discuss the limitations of aortic EDTU.
5. Understand and discuss what constitutes a complete vs. indeterminate scan.

### Lung

1. Identify the pleural line in multiple sample areas bilaterally
2. Assess for lung sliding, lung point, A lines, B Lines, hepatisation, air bronchograms and pleural effusion.
3. List a differential for B lines based on their pattern and appearance.
4. Integrate the findings into a management algorithm for patients with cardiac arrest, shortness of breath, and chest pain.
5. Understand the limitations of lung ultrasound.

### Gallbladder

1. Identify the GB neck body and fundus in short and long axis and assess for stones, wall thickness and pericholecystic fluid.
2. Identify the Portal triad in short and long axis and distinguish normal from abnormal.
3. Assess the liver for intrahepatic duct dilation.
4. Develop the ability to troubleshoot using several different probe locations and patient positions in order to generate adequate images.
5. Integrate the PoCUS findings into a patient management algorithm.
6. Identify the key elements of a determinate scan.
7. Understand and discuss the limitations of PoCUS in assessing for gallbladder pathology.

### Renal/Bladder

1. Generate long and short axis views of the kidney to assess for hydronephrosis.
2. Name the characteristics of simple renal cysts vs complex masses.
3. Evaluate the bladder for the presence of urine jets.
4. Calculate the bladder volume.
5. Integrate the PoCUS findings into a management algorithm for patients with suspected renal colic.
6. Use renal PoCUS as a radiation-sparing strategy to manage patients with classic renal colic.
7. Discuss the limitations of PoCUS in the diagnosis and management of renal colic.

### DVT

1. Perform a two-point compression technique at the inguinal area and popliteal fossa to look for acute DVT
2. Identify the greater saphenous vein, CFV, superficial and deep FV, popliteal vein and trifurcation.
3. Know several techniques to improve the accuracy of the scan – colour flow, enhancement, patient positioning.
4. Name the features that distinguish acute clots from chronic clot.
5. Incorporate wells score, D-dimer and the PoCUS findings into a management algorithm for patients with suspected DVT/PE.
6. Discuss the limitations of the scan.

### Procedural

1. Know how to use US for the following: joint aspiration, para/thoracentesis, nerve blocks, abscess vs cellulitis, fracture reduction.
2. Demonstrate how to set up the machine and patient in order to achieve the best ergonomics and line of sight.
3. Know the limitations of PoCUS for these applications.
4. Integrate PoCUS clinically into the management of these patients.

## US Guided Central and Peripheral Venous Access

1. Discuss the role of US guidance in improving patient safety.
2. Reliably distinguish arteries from veins in the neck, subclavian and femoral areas, and upper arm.
3. Discuss the advantages and disadvantages of the short vs long axis approach.
4. Demonstrate how to set up the machine and patient for the best ergonomics.
5. Demonstrate the technique of accurately following a needle tip through tissue.
6. Evaluate the best peripheral vein for access based on depth, size and anatomical location.
7. Know which catheter to use for ultrasound guided peripheral venous access.

### ***Communicator***

- Convey the difference between bedside ultrasound and formal ultrasound to patients and their families.
- Clearly document the EDTU findings on the chart.

### ***Collaborator***

- Discuss pertinent EDTU findings with consultants and is clear about the implications and limitations.
- Assist fellow residents with US-guided venous access for referred patients.
- Assist nurses with IV access using US guidance where appropriate.

### ***Health Advocate***

- Understand the evidence for screening for abdominal aortic aneurysm.
- Understand the clinical determinants of health affecting the ED patient population.

### ***Leader***

- Incorporate EDTU into Emergency Department patient care.
- Recognize the resource utilization implications for point of care ultrasound in the care of obstetrical patients with threatened abortion.

### ***Scholar***

- Complete a basic one day course in EDTU.
- Explore options for learning and applying enhanced EDTU skills.

### ***Professional***

- Prepare well for clinical and academic work.
- Exhibit a professional demeanor (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others.

### **Map to CBME EPAs:**

C14: Performing and interpreting point of care ultrasound to guide management

## PGY 2 Year

Emergency Medicine	5 (4) blocks *
Neurosurgery	1 block
Plastic Surgery	1 block
Orthopedic Surgery	2 blocks
Critical Care Medicine	2 (3) blocks *
Anaesthesia	2 blocks
Sports Medicine Elective	1 block

\*Given there are 13 blocks per academic year, one resident may be scheduled for three blocks of critical care medicine

The PGY2 year includes four (4) blocks of Emergency Medicine as a junior resident with shifts split between the Hotel Dieu Urgent Care Centre and the Kingston General Hospital Emergency Department. Residents will be given an increased responsibility as the year progresses and be expected to handle more difficult problems and procedures with an increasing degree of independence. It is expected that by the end of the PGY2 year your research project will be underway and that you have thought about any subspecialty interests in EM you wish to pursue.

The core off-service rotations are noted for the heavy clinical load and on call requirements. There is a huge learning curve in all of these rotations. The clinical learning in each of these specialties is important in a resident's development as an Emergency Medicine specialist – you should try to take advantage of every opportunity to learn in these rotations, especially the parts most relevant to Emergency care. Residents will also get a perspective of linking and communicating with each of these specialties as Emergency physicians. Residents should refer to the specific rotational goals and objectives in this manual to help guide your personal study plan.

Residents may elect to complete one block of Sports Medicine in lieu of one block of Orthopedic Surgery.

## ROTATIONAL GOALS AND OBJECTIVES FOR PGY2 YEAR

### ANAESTHESIA ROTATION (PGY2) - 2 blocks

During the PGY2 year, Emergency Medicine residents will do a two (2) block rotation in Anaesthesia. They will spend most of their time in the OR setting with faculty members in the Department of Anaesthesia administering general and regional anaesthesia under their direct supervision. Residents will have a chance to increase their knowledge base and procedural skills in Anaesthesia in the OR, ward and Emergency Department settings. They will spend time at HDH and KGH and will see a variety of cases. They will also have a chance to see a large number of elective and emergency surgical procedures carried out which will further medical knowledge. Their experience should give them a solid foundation for the development of advanced airway management and resuscitation skills as they progress through their residency training.

Residents should review the list of goals and objectives to guide their experience on this essential rotation.

#### ***Medical Expert***

##### **Goals:**

1. Develop airway management skills.
2. Develop intravenous access skills.
3. Develop familiarity with pharmacological agents used in anaesthesia.
4. Learn standard monitoring techniques.
5. Learn relevant pre-operative historical and physical exam considerations.
6. Learn principles of pain management.

##### **Objectives:**

1. Demonstrate correct use of the bag-valve mask device.
2. Demonstrate knowledge of the anatomy of the upper airway.
3. Demonstrate skill in orotracheal, nasotracheal and glide scope intubation and use of LMA.
4. Demonstrate relevant peripheral and central venous anatomy knowledge.
5. Demonstrate skill in obtaining peripheral and central venous access.
6. State the dosages, indications and contraindications for inhalation anaesthetic agents, intravenous analgesic and anaesthetics, and neuromuscular blocking agents.
7. Demonstrate ability to use standard monitoring techniques.
8. Demonstrate ability to manage a patient on a ventilator.
9. Demonstrate knowledge of the principles and techniques of regional anaesthesia.
10. Demonstrate ability to administer local anesthetics and be familiar with agents, dosing, side effects and techniques to monitor pain.
11. Recognize and manage an obstructed airway.
12. Demonstrate ability to use standard emergency department monitoring techniques.
13. Perform procedural sedation under faculty supervision.
14. Demonstrate appropriate judgment related to a patient's need for airway intervention.
15. Demonstrate skill in the use of anaesthetics and neuromuscular block agents including procedural sedation and rapid sequence intubation.
16. Demonstrate an understanding of rescue airway techniques.

#### ***Communicator***

- Demonstrate good interviewing skills in simple situations.
- Deal effectively with family members.
- Effectively communicate the risks and benefits of procedures using a patient centered approach.

- Use shared decision making with patients whenever possible to guide management that is in keeping with patient's beliefs and values.
- Demonstrate empathy and ability to understand nonverbal cues.
- Maintain concise yet thorough charts, legibly written with pertinent history and physical findings and a clear diagnosis, treatment plan and follow-up displayed.
- Recognize and respond to patient safety incidents.
- Provide effective handover during transitions of care.

#### ***Collaborator***

- Demonstrate skill in dealing with staff from other services and allied health professionals.
- Act as a team member in discharge planning rounds.

#### ***Health Advocate***

- Understand the clinical determinants of health affecting the ED patient population requiring emergency and elective surgical procedures under anaesthesia.
- Provide health care teaching and preventative health care measures to optimize patients' health prior to and following surgery.

#### ***Leader***

- Manage patient care in preoperative, operative and postoperative anaesthesia settings.
- Demonstrate appropriate situational awareness during patient management and respond effectively during crisis situations.
- Appropriately triage and prioritize patients requiring urgent airway intervention.
- Effectively assemble a team and prepare for procedural sedation or other airway procedure.

#### ***Scholar***

- Develop a personal study plan including reading about individual cases seen and in preparation for educational rounds.

#### ***Professional***

- Prepare well for clinical and academic work.
- Exhibit a professional demeanor (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others

#### **Map to CBME EPAs:**

F1: Initiating and participating in resuscitation of critically ill patients

F4: Performing basic procedures

C1: Resuscitating and coordinating care for a critically ill patient

C3: Providing airway management and ventilation

C4: Providing emergency sedation and systemic analgesia for diagnostic and therapeutic procedures

C13: Performing advanced procedures

## **EMERGENCY MEDICINE (PGY2) – 5 (4) blocks**

PGY2 resident expectations during Emergency Medicine rotations are as follows:

### ***Medical Expert***

#### **History and Physical exam skills**

- Independently complete appropriate assessment of patients with straightforward problems.

#### **Investigations**

- Order appropriate focused investigations in straightforward cases.
- Develop appropriate strategies to rule out more complicated diagnoses.
- In consultation with attending staff base investigations on sound evidence-based criteria and demonstrate the ability to order cost effective investigations.

#### **Judgement/decision making**

- Demonstrate progressive independence in directing care of patients with common ED complaints.
- Manage care of patients with non-lifethreatening problems (history, physical, investigations, treatment, disposition and follow up) independently by the end of 2<sup>nd</sup> year.
- Discuss the management plan of all patients with the attending Emergency Physician prior to discharge.

#### **Knowledge base**

- Demonstrate a good knowledge base for common (cardinal) clinical problems.
- Develop an understanding of pathophysiology in medical and surgical areas.
- Meet stated knowledge base objectives in off service rotations completed to date (Pediatrics, Internal Medicine, EMS, Ob/Gyn, Psychiatry, Anaesthesia, Critical Care, Neurosurgery, General Surgery and Orthopedic Surgery).

#### **Procedural skills**

- In addition to the skills mentioned in PGY1, discuss the indications/contraindications for and demonstrate ability to safely perform: chest tube insertion, thoracentesis, arterial line insertion, central line insertion, endotracheal intubation, reduction of simple fractures and dislocations, I&D of abscesses, removal of corneal foreign bodies, arthrocentesis, pediatric wound management (suturing and tissue glue).
- Assist with procedural sedation.

#### **Resuscitation skills**

- Demonstrate increased active participation as team member in medical and trauma resuscitations and begin to demonstrate leadership under staff supervision.
- Demonstrate increasing independence in initiating care and disposition in patients with acute coronary syndromes.
- Manage care of patients with common serious medical and surgical problems with staff supervision.

### ***Communicator***

- Demonstrate good interviewing skills in simple situations.
- Deal effectively with family members.
- Demonstrate empathy and ability to understand nonverbal cues.
- Maintain concise yet thorough ED charts, legibly written with pertinent history and physical findings and a clear diagnosis, treatment plan and follow-up displayed.
- Overcome barriers to communication such as language, patient disabilities, cultural differences and age group differences.

### ***Collaborator***

- Demonstrate skill in dealing with staff from other services and allied health professionals.
- Recognize and respect the diversity of roles, responsibilities and competencies of other professionals in relation to their own and consult other specialists in such a way as to respect the consultant's individual skills.

### ***Health Advocate***

- Understand the clinical determinants of health affecting the ED patient population.
- Provide health teaching and employ preventative health strategies
- Liaise with allied health professionals and community service providers to advocate for appropriate follow-up care and access to community resources

### ***Leader***

- Efficiently manage individual patients and begin to see higher numbers of patients as the year progresses.
- Begin to demonstrate skills in maintaining patient flow in assigned Emergency Department section.
- Contribute to quality assurance or quality improvement processes in the Emergency Department
- Demonstrate the use of crisis resource management skills when needed.
- Work collaboratively with other healthcare professionals and community organizations to provide coordinated care for patients.

### ***Scholar***

- Develop a plan for individual scholarly project including completion of a literature review and present a plan for completion of the scholarly project at the annual resident research day.
- Use information technology to optimize clinical care.
- Recognize own knowledge gaps and limitations. Develop a strategy to address these deficiencies.
- Participate actively in clinical research studies in the Emergency Department.
- Complete PALS, ATLS, and ACLS training.

### ***Professional***

- Prepare well for clinical and academic work.
- Exhibit a professional demeanour (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others.
- Maintain membership in CAEP and related EM societies (EMRA, SAEM).
- Employ strategies to maintain a sustainable career and promote physician wellness.
- Respect appropriate boundaries of the doctor patient relationship
- Take part in evaluation systems for learning events in order to provide/contribute feedback to colleagues and teachers

### **Map to CBME EPAs:**

C1: Resuscitating and coordinating care for a critically ill patient

C2: Resuscitating and coordinating care for a critically injured patient

C3: Providing airway management and ventilation

C4: Providing emergency sedation and systemic analgesia for diagnostic and therapeutic procedures

C5: Identifying and managing patients with emergent medical or surgical presentations

C6: Diagnosing and managing complicated urgent and non-urgent patient presentations

- C7: Managing the urgent and emergent presentation of the pregnant and post-partum patient
- C8: Managing patients with acute toxic ingestion or exposure
- C9: Managing a patient with an emergency mental health condition or behavioural emergency
- C10: Managing and supporting patients in situational crisis to access health care and community resources
- C11: Recognizing and managing patients who are at risk of exposure or who have experienced violence and/or neglect
- C12: Liaising with prehospital emergency medical services
- C13: Performing advanced procedures
- C14: Performing and interpreting point of care ultrasound to guide patient management



## **CRITICAL CARE MEDICINE ROTATION (PGY2) - 2 blocks**

During second year the Emergency resident will do a two (2) block rotation in the ICU at Kingston General Hospital. The ICU is an adult ICU. A large variety of patients are treated in the ICU at KGH including: trauma patients, medical patients, postoperative patients, and burns.

During this rotation residents will have a chance to expand their knowledge base in all areas of critical care and learn resuscitative, procedural, communication and teamwork skills that are essential for Emergency Medicine. It is essential that the residents learn to function as a member of the ICU team. Residents will be expected to actively take part in the extensive educational rounds and patient care opportunities provided on this rotation.

### ***Medical Expert***

#### **Goals:**

1. Rapidly evaluate, diagnose, stabilize, and expedite the disposition of critically ill patients.
2. Learn respiratory, cardiovascular, renal and neurologic physiology and the pathophysiology of trauma, toxins, shock, sepsis, cardiac failure, and respiratory failure that affect critically ill patients.
3. Learn the principles of medical instrumentation and hemodynamic monitoring and be able to utilize them in the care of critically ill patients.
4. Learn the indications and develop the technical skills needed to perform diagnostic and therapeutic interventions in critically ill patients.
5. Learn the rational use of other consultants, laboratory, radiographic and other diagnostic tests in the management of critically ill patients.

#### **Objectives:**

1. Demonstrate ability to rapidly perform history and physical exams in critically ill patients.
2. Demonstrate the ability to perform the following procedures: oral endotracheal intubation, nasotracheal intubation, cricothyrotomy, needle thoracostomy, tube thoracostomy, central intravenous placement, swan ganz placement, transvenous cardiac pacing, arterial line placement, ABG and foley catheterization.
3. Demonstrate the ability to use and interpret data from ECG monitors, ECGs, cardiac outputs, hemodynamic monitoring, arterial blood gases, pulse oximetry, end tidal CO<sub>2</sub> monitors and respirators.
4. Describe the dosages, indications and contraindications of pharmacologic intervention for: shock, cardiac failure, dysrhythmias, sepsis, trauma, toxins, respiratory failure, hepatic failure, renal failure and neurologic illnesses.
5. Demonstrate the ability to manage a patient on a ventilator.
6. Demonstrate appropriate judgment in the management of critically ill patients.
7. Demonstrate appropriate prioritization of diagnostic and therapeutic interventions in critically ill patients.
8. Demonstrate ability to diagnose and treat shock, sepsis, fluid and electrolyte abnormalities, cardiac failure, cardiac dysrhythmias, renal failure, hepatic failure, and toxicologic emergencies.
9. Demonstrate an understanding of the appropriate use of consultants in critically ill patients.
10. Demonstrate an understanding of the ethical and legal principles applicable to the care of the critically ill patients.
11. Demonstrate the ability to work as a member of the team in a critical care environment and understand the roles of the multidisciplinary team members required.
12. Demonstrate the necessary communication skills to deal with the critically ill patient, family and friends as well as the other staff involved with the patient's care.

**Communicator**

- Demonstrate good interviewing skills in simple situations.
- Demonstrate an approach to difficult communication – giving bad news, levels of care discussions, etc.
- Provide effective handover during transitions of care.
- Deal effectively with family members.
- Demonstrate empathy and ability to understand nonverbal cues.
- Maintain concise yet thorough charts, legibly written with pertinent history and physical findings and a clear diagnosis, treatment plan and follow-up displayed. Demonstrate ability to lead family meetings.

**Collaborator**

- Demonstrate skill in dealing with medical staff from other services and allied health professionals.
- Act as an effective team member in patient care and interdisciplinary patient care meetings.
- Liaise with allied health professionals to optimize care of the patient and their family (social work, pastoral care, etc.)

**Health Advocate**

- Understand the clinical determinants of health affecting the critically ill patient population.
- Advocate for care that is in keeping with the patient's stated wishes and values.
- Understand the concept of medical futility and understand how to discuss this idea with patients and their families

**Leader**

- Efficiently manage individual patients and prioritize care for multiple patients in the ICU.
- Demonstrate appropriate situational awareness and respond effectively in a crisis situation.

**Scholar**

- Recognize own knowledge gaps and limitations. Develop a personal study plan including reading for educational rounds and about individual cases seen.

**Professional**

- Prepare well for clinical and academic work.
- Exhibit a professional demeanor (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others
- Provide ethical patient care.

**Map to CBME EPAs:**

C1: Resuscitating and coordinating care for a critically ill patient

C2: Resuscitating and coordinating care for a critically injured patient

C3: Providing airway management and ventilation

C4: Providing emergency sedation and systemic analgesia for diagnostic and therapeutic procedures

C5: Identifying and managing patients with emergent medical or surgical presentations

C13: Performing advanced procedures

## **NEUROSURGERY ROTATION (PGY2) - 1 block**

The resident will complete a one (1) block rotation in neurosurgery at KGH. The resident is expected to participate in ward, OR, ED consultation and clinic responsibilities as appropriate. The resident will provide in-hospital call responsibilities on a rotating basis while on service.

### ***Medical Expert***

#### **Goals:**

1. Develop history taking and physical examination skills that identify and localize injury to the central nervous system.
2. Effectively utilize radiologic studies to diagnose neurological disease or injury.
3. Diagnose, stabilize and provide initial treatment of injuries and diseases of the brain, spinal cord, bony spine and peripheral nerves.
4. Learn how CSF shunts function and learn to evaluate patients with possible shunt malfunction.

#### **Objectives:**

1. Demonstrate a brief and a complete neurological history and examination on patients with various levels of consciousness, including trauma patients.
2. Demonstrate an understanding of neuroanatomy and function by localizing the site of pathology in these patients.
3. Demonstrate the ability to recognize and manage cerebrovascular and spinal cord disorders that are amenable to neurosurgical intervention.
4. Describe the indications, techniques, and contraindications for neurologic imaging procedures including spinal radiography, computerized tomographic scan and magnetic resonance imaging.
5. Demonstrate ability to interpret spinal radiographs (cervical, thoracic, lumbar, sacral), and CT scans of the head.
6. Describe initial management of fractures, subluxations, and dislocations of the spine.
7. Demonstrate spinal immobilization techniques.
8. Demonstrate skill in the initial evaluation and management of blunt and penetrating traumatic injuries of the CNS.
9. Demonstrate the ability to evaluate CSF shunt malfunction.
10. Demonstrate ability to recognize and manage spinal cord compression due to non-traumatic causes.
11. Describe the indications and techniques for control of intracranial pressure.
12. Describe the main classifications of headaches and state the doses, indications, and contraindications for agents used to manage each of these types of headaches.
13. Demonstrate skill in the performance and interpretation of spinal fluid studies.
14. Demonstrate knowledge of the proper sequence for evaluation and management of patients with shunt malfunction, seizures, spinal cord compression, neurological tumors and neurological infections.
15. Discuss the indications, contraindications, and dosages of agents used to treat neurological infections in pediatric and adult populations.
16. Demonstrate graduated, progressive skill in intra-operative techniques, halo vest application and appropriate ways to drain CSF urgently.

### ***Communicator***

- Demonstrate good interviewing skills in simple situations.
- Demonstrate and approach to difficult conversations - giving bad news, addressing code status, etc.
- Deal effectively with family members.
- Demonstrate empathy and ability to understand nonverbal cues.
- Provide effective handover during transitions of care.

- Maintain concise yet thorough charts, legibly written with pertinent history and physical findings and a clear diagnosis, treatment plan and follow-up displayed.

***Collaborator***

- Demonstrate skill in dealing with medical staff from other services and allied health professionals.
- Act as a team member in discharge planning rounds and patient care conferences.
- Participate in all trauma team activations as the neurosurgery representative.

***Health Advocate***

- Understand the clinical determinants of health affecting the patients with neurosurgical problems.
- Liaise with allied health professionals and community service providers to advocate for appropriate follow-up and access to community resources

***Leader***

- Efficiently manage individual patients.
- Effectively manage the neurosurgery service including supervision of clinical clerks on service with strategies to ensure safe patient care.
- Manage time effectively to attend to patient needs in the clinic or hospital setting and to recognize when urgent care is needed.

***Scholar***

- Recognize own knowledge gaps and limitations. Develop a personal study plan that includes reading for educational rounds and about individual cases seen.
- Provide teaching for clinical clerks on the neurosurgery service.

***Professional***

- Prepare well for clinical and academic work.
- Exhibit a professional demeanor (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others
- Employ strategies to ensure physician wellness and an appropriate work life balance.

**Map to CBME EPAs:**

Neurosurgery will no longer be a required rotation in the CBME curriculum

## **ORTHOPEDIC SURGERY ROTATION (PGY2) – 2 blocks**

The Emergency Medicine resident will do a two (2) block rotation in Orthopedic Surgery during the PGY2 year. The resident will be assigned to a local community hospital orthopedic service (usually Oshawa – Lakeridge Health). The resident is expected to take part in the academic rounds offered on the service.

Experience in orthopedics is essential for the Emergency Medicine resident's training. Diagnostic skills, clinical judgment and procedural skills (including casting and splinting) are essential and can be obtained on this rotation to help the resident deal with both major and minor orthopedic trauma. The resident will also learn teamwork skills and when to consult an orthopedic surgeon.

### ***Medical Expert***

#### **Goals:**

1. Develop relevant history and physical exam skills for the musculoskeletal system.
2. Learn the use of the diagnostic imaging modalities available for the evaluation of orthopedic disorders.
3. Develop skill in the evaluation and management of musculoskeletal trauma.
4. Develop skill 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.

#### **Objectives:**

1. Develop ability to correctly perform a history and physical in patients with musculoskeletal disorders.
2. Demonstrate ability to correctly order and interpret radiographs in patients with orthopedic injuries.
3. Demonstrate understanding of the anatomy, mechanism of injury, presentations, complications, management and prognosis of common musculoskeletal injuries.
4. Demonstrate knowledge of standard orthopedic nomenclature.
5. Demonstrate knowledge of appropriate follow up care and rehabilitation of common orthopedic injuries.
6. Demonstrate knowledge of the differences in pediatric and adult skeletal anatomy and indicate how those differences are manifest in clinical and radiographic presentations.
7. Demonstrate ability to apply orthopedic devices, including casts, compressive dressings, splints and immobilizers.
8. Demonstrate skill in:
  - Reduction of dislocations of the shoulder, elbow, hip, knee and ankle
  - Reduction of the following fractures- fingers, distal radius, ulna, ankle, mid shaft humerus
  - Extensor tendon repair (fingers)
  - Debridement of wounds
  - Arthrocentesis of knee, shoulder, wrist and ankle
9. Demonstrate ability to prioritize and manage the treatment of orthopedic injuries in multiple trauma patients.
10. Describe the presentation, diagnosis and management of patients with inflammatory and infectious disorders.
11. Demonstrate ability to diagnose and treat soft tissue foreign bodies.
12. Describe the presentations, complications, diagnosis, management and prognosis of patients with human and animal bites.
13. Describe the presentation, complications, diagnosis and management of compartment syndromes.

14. Demonstrate ability to provide regional anesthesia including: hematoma blocks, radial, ulnar, median, axillary, posterior tibial and sural nerve blocks.
15. Discuss the dosages, indications, contraindications and side effects of standard analgesic and sedative agents used to treat patients with acute orthopedic trauma and demonstrate skills in their use.
16. Discuss the differential diagnosis, historical features, physical examination findings, diagnostic modalities and treatment of patients with low back pain.
17. Demonstrate ability to recognize and treat soft tissue infections involving muscle, fascia, and tendons.
18. Describe diagnosis and treatment of overuse syndrome.
19. Describe how to evaluate and preserve amputated limb parts.
20. Demonstrate presentation, evaluation, grading, management and prognosis of joint injuries.
21. Discuss the treatment of soft tissue injuries such as strains, penetrating soft tissue injuries, crush injuries, and high-pressure injection injuries.
22. Demonstrate knowledge of the anatomy and physical examination of the hand as well as treatment of simple hand injuries including lacerations, dislocations and fractures.
23. Demonstrate an understanding of which orthopedic conditions warrant immediate and elective referral to an Orthopedic Surgeon.

#### ***Communicator***

- Demonstrate good interviewing skills in simple situations.
- Deal effectively with family members.
- Demonstrate patient centered communication to obtain informed consent for procedures.
- Demonstrate empathy and ability to understand nonverbal cues.
- Maintain concise yet thorough charts, legibly written with pertinent history and physical findings and a clear diagnosis, treatment plan and follow-up displayed.

#### ***Collaborator***

- Demonstrate skill in dealing with medical staff from other services and allied health professionals.
- Act as a team member in discharge planning rounds.

#### ***Health Advocate***

- Understand the clinical determinants of health affecting patients with musculoskeletal disorders.
- Liaise with allied health professionals and community health providers to advocate for appropriate follow-up and access to community resources.
- Provide appropriate health prevention teaching to patients and their families.
- Screen for risk factors for intimate partner violence and child abuse when appropriate.

#### ***Leader***

- Efficiently manage individual patients through their hospital course.
- Demonstrate appropriate resource utilization during patient care.
- Manage time effectively to attend to patient needs in the clinic or hospital setting and recognize when urgent care is needed.

#### ***Scholar***

- Recognize own knowledge gaps and limitations. Develop a personal study plan including reading for educational rounds and reading about individual cases seen.

#### ***Professional***

- Prepare well for clinical and academic work.
- Exhibit a professional demeanor (appearance, punctuality, work ethic).

- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others.

**Map to CBME EPAs:**

F4: Performing basic procedures

C5: Identifying and managing patients with emergent medical or surgical conditions

C6: Diagnosing and managing complicated urgent and non-urgent patient presentations

C11: recognizing and managing patients who are at risk of exposure or who have experienced violence and/or neglect

C13: Performing advanced procedures

## **PLASTIC SURGERY ROTATION (PGY2) - 1 block**

The Emergency Medicine resident will complete a one (1) block rotation in plastic surgery at KGH. The resident is expected to participate fully in ward, clinic, ED consultation and OR responsibilities as required. The resident will provide on call services on a rotating basis during this rotation.

### ***Medical Expert***

#### **Goals:**

1. Understand the pathophysiology of wound healing.
2. Learn effective wound evaluation and management skills.
3. Learn wound closure techniques appropriate for outpatient, traumatic wounds.
4. Learn appropriate methods for control of pain in patients with traumatic wounds.
5. Understand quality assurance/risk management issues relating to wound care.
6. Learn effective documentation skills in patients with traumatic wounds.
7. Learn appropriate disposition and referral skills.
8. Learn appropriate follow-up techniques and management of the complications of traumatic wounds.
9. Learn the management of patients with burn injury, hand injuries and facial injuries.

#### **Objectives:**

1. Demonstrate ability to perform appropriate history and physical exams in patients with traumatic wounds.
2. Demonstrate an understanding of wound pathophysiology, including cellular response, static and dynamic wound tensions, growth factors and tensile strength.
3. Demonstrate an understanding of the predictors of wound sepsis.
4. Demonstrate effective wound cleansing skills.
5. Describe the appropriate use, limitations and potential complications of wound cleansing solutions.
6. Describe the appropriate use, limitations and potential complications of antimicrobials in the management of traumatic wounds.
7. Demonstrate an understanding of various imaging modalities in the detection of soft tissue foreign bodies.
8. Demonstrate appropriate use of universal precautions in wound treatment.
9. Demonstrate skill 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 tissue glue.
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 skill in the provision of analgesia and anaesthesia to patients with traumatic wounds including use of local infiltration, topical administration, procedural sedation, and regional anaesthesia.
13. Demonstrate ability to apply wound dressings.
14. Demonstrate ability to thoroughly document historical and physical exam data relating to wound care.
15. Demonstrate knowledge of the anatomy and physical examination of the hand as well as treatment of simple hand injuries including lacerations, extensor tendon injuries, dislocations and fractures.
16. Demonstrate knowledge of the anatomy and physical examination of the face.
17. Demonstrate knowledge of the pathophysiology and treatment of facial trauma.



18. Demonstrate knowledge of the pathophysiology and treatment of patients with thermal injury.

***Communicator***

- Demonstrate good interviewing skills in simple situations.
- Deal effectively with family members.
- Demonstrate empathy and ability to understand nonverbal cues.
- Maintain concise yet thorough charts, legibly written with pertinent history and physical findings and a clear diagnosis, treatment plan and follow-up displayed.

***Collaborator***

- Demonstrate skill in dealing with medical from other services and allied health professionals.
- Act as a team member in discharge planning rounds.

***Health Advocate***

- Understand the clinical determinants of health affecting patients with hand and maxillofacial trauma and skin wounds.
- Provide appropriate health prevention teaching to patients and their families.
- Screen for risk factors for intimate partner violence and child abuse when appropriate.

***Leader***

- Efficiently manage individual patients through hospital and clinic course.
- Effectively manage the plastic surgery ward responsibilities including supervision of clinical clerks on rotation.
- Manage time effectively to attend to patient needs in clinic or hospital setting and recognize when urgent care is needed.

***Scholar***

- Recognize own knowledge gaps and limitations. Develop a personal study plan including reading for educational rounds and reading around individual cases seen. Provide teaching for clinical clerks on service.

***Professional***

- Prepare well for clinical and academic work.
- Exhibit a professional demeanor (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others.

**Map to CBME EPAs:**

F4: Performing basic procedures

C5: Identifying and managing patients with emergent medical or surgical conditions

C6: Diagnosing and managing complicated urgent and non-urgent patient presentations

C13: Performing advanced procedures

## **SPORTS MEDICINE ELECTIVE (PGY 2) – 1 block**

Upon approval of the Program Director, Residents may choose to complete one block of Sports Medicine in lieu of one block of Orthopedic Surgery. The Sports Medicine rotation will be a blended exposure to sports medicine clinics, EMG testing, rehabilitation medicine clinics and MSK radiology.

### ***Medical Expert***

#### **Goals:**

1. Develop relevant history and physical exam skills for the musculoskeletal system.
2. Learn the use of the diagnostic imaging modalities available for the evaluation of orthopedic disorders.
3. Develop skill in the evaluation and management of musculoskeletal trauma.
4. Develop skill 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.

#### **Objectives:**

1. Develop ability to correctly perform a history and physical in patients with musculoskeletal disorders.
2. Demonstrate ability to correctly order and interpret radiographs in patients with orthopedic injuries.
3. Demonstrate understanding of the anatomy, mechanism of injury, presentations, complications, management and prognosis of common musculoskeletal injuries.
4. Demonstrate knowledge of standard orthopedic nomenclature.
5. Demonstrate knowledge of appropriate follow up care and rehabilitation of common orthopedic injuries.
6. Demonstrate knowledge of the differences in pediatric and adult skeletal anatomy and indicate how those differences are manifest in clinical and radiographic presentations.
7. Demonstrate ability to apply orthopedic devices, including casts, compressive dressings, splints and immobilizers.
8. Describe diagnosis and treatment of overuse syndrome.

### ***Communicator***

- Demonstrate good interviewing skills in simple situations.
- Demonstrate patient centered communication to obtain informed consent for procedures.
- Demonstrate empathy and ability to understand nonverbal cues.
- Maintain concise yet thorough charts, legibly written with pertinent history and physical findings and a clear diagnosis, treatment plan and follow-up displayed.

### ***Collaborator***

- Demonstrate skill in dealing with medical staff from other services and allied health professionals.

### ***Health Advocate***

- Understand the clinical determinants of health affecting patients with musculoskeletal disorders.
- Liaise with allied health professionals and community health providers to advocate for appropriate follow-up and access to community resources.
- Provide appropriate health prevention teaching to patients and their families.

**Leader**

- Efficiently manage individual patients.
- Demonstrate appropriate resource utilization during patient care.
- Manage time effectively to attend to patient needs in the clinic setting and recognize when urgent care is needed.

**Scholar**

- Recognize own knowledge gaps and limitations. Develop a personal study plan including reading for educational rounds and reading about individual cases seen.

**Professional**

- Prepare well for clinical and academic work.
- Exhibit a professional demeanor (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others.

**Map to CBME EPAs:**

F4: Performing basic procedures

C5: Identifying and managing patients with emergent medical or surgical conditions

C6: Diagnosing and managing complicated urgent and non-urgent patient presentations

C13: Performing advanced procedures

## PGY 3 YEAR

Emergency Medicine	7 blocks
Community Emergency Medicine	1 block
Cardiology	2 blocks
Pediatric Emergency Medicine (CHEO)	2 blocks
Emergency Department Administration	1 block

PGY3 consists of as many as eight (8) blocks of Emergency Medicine at the senior resident level. One block of emergency medicine will take place in a Community emergency department. The resident will take on the increased clinical responsibility of a senior resident and will be expected to present Grand Rounds, Resuscitation Drills and Journal Club on a rotating basis with the other senior residents. Most of the clinical time in Emergency Medicine will be spent at KGH but some shifts will be done at HDH to allow the resident to continue to see the patient mix in that setting (i.e. a high volume, low acuity ambulatory care setting and a large number of procedural skills without immediate specialist backup)

The PGY3 resident will do two (2) blocks of Cardiology at KGH at the R2 level with a focus on CCU and will take Cardiology emergency department consultations and on call duties on a regular basis.

The PGY3 resident will do two (2) blocks of Pediatric Emergency Medicine at CHEO as a senior resident. Accommodation is provided at departmental expense at the "the CHEO House" a short walk from the hospital. This is a mandatory rotation and will give the resident a chance to work and learn in a high-volume tertiary care center Pediatric Emergency Department and expand the pediatric EM skills developed as a PGY1 resident.

The PGY3 resident will begin to function as the on-call Trauma Team Leader on the Trauma Team. Each resident will be assigned on average 2-3 trauma call shifts per block of emergency medicine for his/her PGY3 through PGY5 years. The resident trauma team leader will direct the assessment and management of all patients referred to the trauma team under the supervision of one of the physicians involved in the trauma service or the Emergency Physician on duty until the trauma team physician assumes care. The resident trauma team leader will document a trauma consultation note in the medical record.

## ROTATIONAL GOALS AND OBJECTIVES FOR PGY3 YEAR

### CARDIOLOGY ROTATION (PGY3) - 2 blocks

The Emergency Medicine resident will do a two (2) block rotation in Cardiology in PGY3 and will be classified as an R2 on the Cardiology Service for this rotation. The resident will spend one month as the R2 covering the CCU and one month as the R2 covering Cardiology consults at the Kingston General Hospital. The resident will take R2 Cardiology in-hospital call on a rotating basis during the rotation. It is hoped that the resident will see as much acute Cardiology on this rotation as possible (mostly ischemic heart disease) and the resident is encouraged to assess as many emergency and CCU patients as possible during the rotation. The resident will receive supervision from the R3, the Cardiology fellow and the Cardiology staff physician.

#### ***Medical Expert***

##### **Goals:**

1. Demonstrate the ability to stabilize patients who present in cardiopulmonary arrest.
2. Develop skills in the evaluation of patients who present with chest pain.
3. Demonstrate the ability to evaluate, stabilize, treat, and arrange for appropriate disposition of patients with cardiac disease processes.
4. Demonstrate the ability to develop a differential diagnosis for patients presenting with cardiac symptomatology (chest pain, shortness of breath, weakness, palpitations) etc.
5. Demonstrate skill in the interpretation of diagnostic modalities (ECG, chest x-ray, cardiac enzymes).
6. Develop a familiarity with cardiac pharmacologic agents.
7. Demonstrate skill at cardiac related procedures: venous line and CVP pressure monitoring, pericardiocentesis, defibrillation and cardioversion, transcutaneous and transvenous cardiac pacing, and Swan ganz catheterization.
8. Demonstrate the ability to diagnose, stabilize and treat patients presenting with acute coronary syndromes.

##### **Objectives:**

1. Demonstrate the ability to perform an appropriate history and physical examination on the patient presenting with cardiac symptomatology.
2. List items elicited from the history of patients with chest pain to suggest a risk for cardiac etiology.
3. Discuss limitations in differentiation of cardiac chest pain from non-cardiac pain in patients with risk factors.
4. Describe the pathophysiology of acute coronary syndromes.
5. Describe the typical electrocardiograph findings of patients with acute coronary syndrome.
6. Discuss differential diagnosis of atypical chest pain.
7. Discuss atypical presentations for acute coronary syndrome.
8. Discuss the sensitivity and specificity of ancillary studies for chest pain presentations.
9. Discuss the sensitivity and specificity of troponin levels in the investigation of patients presenting to the Emergency Department with chest pain.
10. Describe the appropriate triage considerations for patients presenting to the Emergency Department with chest pain.
11. Discuss the treatment of acute coronary syndromes.
12. Demonstrate knowledge of current ACLS algorithms.
13. Describe the clinical findings of cardiogenic shock and outline therapy for cardiogenic shock.
14. Differentiate cardiogenic shock from other etiologies for shock.
15. Describe the clinical presentation for pericardial disease and outline the appropriate initial therapy and management for pericardial disease.

16. List the indications, contraindications and complications of PCI and thrombolytic therapy for acute myocardial infarction.
17. Describe the clinical presentation, etiologies, pathophysiology, and current therapy for acute congestive heart failure.
18. Describe the valvular anatomy of the heart and list etiologies for valvular heart disease.
19. List complications of prosthetic cardiac valves and appropriate Emergency Department management.
20. Differentiate between congestive cardiomyopathy hypertrophic cardiomyopathy and restrictive cardiomyopathy and discuss therapy for each.
21. Define myocarditis and describe the ECG findings and acute management of myocarditis.
22. Discuss the pathophysiology and treatment of hypertensive urgency and emergency.
23. Discuss the pathophysiology, etiology, and treatment of patients presenting with thoracic aortic aneurysm dissection.
24. Describe the pathophysiology and clinical presentation and treatment of vascular disease.
25. Outline the diagnosis and management of acute thrombophlebitis.
26. Discuss the use of thrombolysis in acute thrombophlebitis.

### ***Communicator***

- Demonstrate good interviewing skills in simple situations.
- Demonstrate an approach to difficult conversations - giving bad news, discussions of levels of care, etc.
- Deal effectively with family members.
- Utilize a patient centered approach of shared decision making to provide care that is in keeping with the patient's wishes and values.
- Consider the influence of factors such as the patient's age, gender, ethnic, cultural and socio-economic background and spiritual values on the illness.
- Use appropriate medical terminology to provide an accurate verbal or written summary describing a patient's condition
- Demonstrate empathy and ability to understand nonverbal cues.
- Provide effective handover during transitions of care.
- Maintain concise yet thorough charts, legibly written with pertinent history and physical findings and a clear diagnosis, treatment plan and follow-up displayed.

### ***Collaborator***

- Demonstrate skill in dealing with staff from other services and allied health professionals.
- Act as a team member in discharge planning rounds and family/medical conferences.
- Assist patients and their families with accessing information technology to optimize their health care.
- Under supervision of attending cardiologist, provide cardiology consultation to other services when requested.
- Develop a care plan, including investigation, treatment and continuing care, in collaboration with the members of the inter-disciplinary team.

### ***Health Advocate***

- Understand the clinical determinants of health affecting patients with cardiovascular disorders.
- Provide health care teaching to patients and their families to optimize chronic health conditions.
- Understand how to provide access for the patient to other healthcare professionals who may assist in cardiac risk factor reduction (e.g. dietician, cardiac wellness physiotherapists, etc.).

**Leader**

- Manage individual and multiple patients in ED, CCU and cardiology ward effectively, from admission to discharge.
- Supervise clinical clerks on rotation with attention to strategies to ensure safe patient care.
- Demonstrate appropriate situational awareness and respond effectively in crisis situations.
- Lead the code response team.
- Demonstrate effective resource utilization in regards to risk stratification for advanced testing for ischemic heart disease.

**Scholar**

- Recognize knowledge gaps and limitations. Develop a plan of personal study including reading for educational rounds and reading about individual cases seen.

**Professional**

- Prepare well for clinical and academic work.
- Exhibit a professional demeanour (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others.

**Map to CBME EPAs:**

C1: Resuscitating and coordinating care for a critically ill patient

C5: Identifying and managing patients with emergent medical or surgical conditions

C6: Diagnosing and managing complicated urgent and non-urgent patient presentations

C13: Performing advanced procedures

C14: Performing and interpreting point of care ultrasound to guide patient management

## **EMERGENCY MEDICINE (PGY3) – 7 blocks**

PGY 3 resident expectations during Emergency Medicine rotations are as follows:

### ***Medical Expert***

#### **History and Physical Exam Skills**

- Demonstrate ability to use history and physical exam findings to help diagnosis increasingly more complex and subtle clinical presentations.
- Demonstrate independence in assessing common ED presentations.

#### **Investigations**

- Demonstrate appropriate, evidence-based use of diagnostic investigations for a full range of ED presentations.

#### **Judgement/Decision Making**

- Exhibit good clinical judgement in common presentation and increasing clinical judgement in patients with complex and subtle presentations.
- Demonstrate increasing independence in the clinical decision-making process.

#### **Knowledge base**

- Meet learning objectives for all off service rotations covered in first three years. Demonstrate an excellent knowledge base in pediatric Emergency Medicine and Cardiology.
- Begin to meet learning objectives in Environmental disorders, Toxicology, Trauma, EMS, procedural skills, and Critical Appraisal.
- Knowledge base in all of these areas developed to an increasing depth including pathophysiology and current literature.

#### **Procedural skills**

- In addition to skills mentioned for PGY 1 and 2, demonstrate knowledge of indications/contraindications for and ability to safely perform (with supervision): rapid sequence induction and intubation, synchronized cardioversion, pericardiocentesis, transcutaneous pacemaker application, procedural sedation, anoscopy, interosseous infusion, fiberoptic laryngoscopy.
- Demonstrate independence in repair of complicated lacerations.
- Teach procedural skills to medical students and junior residents.

#### **Resuscitation skills**

- Direct all resuscitation (medical, pediatric and trauma) cases with close staff supervision and support.
- Treat acute coronary syndromes independently after discussion with staff Emergency Physician.
- Manage toxicology cases with increasing independence.

#### ***Communicator***

- In addition to the skills developed during the first two years, deal effectively with patients and families with difficult and challenging patient encounters (giving bad news, dealing with the angry patient, refusal of treatment).
- Produce written medicolegal reports.
- Provide delegated online medical direction for paramedic patches into the Emergency Department.
- Produce effective written Trauma Team Leader consult letters.
- Write effective handover notes using the handover template.



### ***Collaborator***

- Demonstrate comfortable collaboration with housestaff from other services and develop skills in dealing with more senior attending staff from other services.
- Develop skills in dealing effectively with community physicians referring patients to the Emergency Department.
- Develop skills in multidisciplinary discharge planning for ED patients with complex medical problems.
- Liaise with allied health professionals, police and Emergency Medical Service Providers in the care of patients.
- Work collaboratively with other healthcare professionals and community organizations to provide coordinated care for patients.

### ***Health Advocate***

- Use determinants of health to advocate for the well-being of the patient and or community at large (i.e. coroner, public health).
- Provide health care teaching, employ preventative health and risk reduction strategies to optimize the care of patients and their families
- Screen patients for risk factors related to intimate partner violence, child abuse and neglect and substance abuse when necessary.
- Understand the concept of medical futility and understand how to discuss this idea with patients and their families.
- Demonstrate ability to assess a patient's capacity to provide informed consent.

### ***Leader***

- Comfortably manage care of most individual patients and begin to effectively manage simultaneous patients.
- Manage individual patients with increasing speed.
- Begin to understand the dynamic of running an entire emergency department.
- Begin to demonstrate the leadership skills required to manage a section of the Emergency Department with minimal staff supervision.
- Demonstrate the use of crisis resource management skills (communication, teamwork. Situational awareness and leadership) when needed to respond appropriately in crisis situations.

### ***Scholar***

- Present departmental grand rounds, journal club and junior resuscitation rounds.
- Provide bedside teaching of medical students and junior residents using strategies to ensure safe patient care.
- Demonstrate appropriate use of point of care resources to optimize patient care
- Apply critically appraised literature to clinical practice.
- Demonstrate progress in the chosen scholarly project. Attend one national meeting per year.

### ***Professional***

- Prepare well for clinical and academic work.
- Exhibit a professional demeanor (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others.
- Use strategies to promote a sustainable practice and physician wellness in the emergency department
- Adhere to the medicolegal requirements of practice including reporting obligations.
- Maintain appropriate boundaries of the doctor patient relationship
- Take part in evaluation systems for learning events to provide/contribute feedback to colleagues and teachers.

**Map to CBME EPAs:**

- C1: Resuscitating and coordinating care for a critically ill patient
- C2: Resuscitating and coordinating care for a critically injured patient
- C3: Providing airway management and ventilation
- C4: Providing emergency sedation and systemic analgesia for diagnostic and therapeutic procedures
- C5: Identifying and managing patients with emergent medical or surgical presentations
- C6: Diagnosing and managing complicated urgent and non-urgent patient presentations
- C7: Managing the urgent and emergent presentation of the pregnant and post-partum patient
- C8: Managing patients with acute toxic ingestion or exposure
- C9: Managing a patient with an emergency mental health condition or behavioural emergency
- C10: Managing and supporting patients in situational crisis to access health care and community resources
- C11: Recognizing and managing patients who are at risk of exposure or who have experienced violence and/or neglect
- C12: Liaising with prehospital emergency medical services
- C13: Performing advanced procedures
- C14: Performing and interpreting point of care ultrasound to guide patient management

## COMMUNITY EMERGENCY MEDICINE (PGY3) - 1 block

PGY 3 expectations for the Community Emergency Medicine rotation are:

### ***Medical Expert***

#### **History and Physical Exam Skills**

- Demonstrate ability to use history and physical exam findings to help diagnosis increasingly more complex and subtle clinical presentations.
- Demonstrate independence in assessing common ED presentations.

#### **Investigations**

- Demonstrate appropriate, evidence-based use of diagnostic investigations for a full range of ED presentations.

#### **Judgement/Decision Making**

- Exhibit good clinical judgement in common presentation and increasing clinical judgement in patients with complex and subtle presentations.
- Demonstrate increasing independence in the clinical decision-making process.
- Develop good judgement regarding decision to transport a patient to a tertiary care hospital, and effectively prepare the patient for that transport

#### **Knowledge base**

- Meet learning objectives for all off service rotations covered in first three years. Demonstrate an excellent knowledge base in pediatric Emergency Medicine and Cardiology.
- Begin to meet learning objectives in Environmental disorders, Toxicology, Trauma, EMS, procedural skills, and Critical Appraisal.
- Knowledge base in all of these areas developed to an increasing depth including pathophysiology and current literature.
- Learn the rational use of consultants, as well as laboratory, radiographic and other diagnostic tests with limited availability when managing patients in more rural areas.
- Understand the responsibility and the liability involved in the transfer of patients from one institution to another
- Demonstrate the skills to organize (monitoring, transport, venue) and supervise a safe transfer.

#### **Procedural skills**

- In addition to skills mentioned for PGY 1 and 2, demonstrate knowledge of indications/contraindications for and ability to safely perform (with supervision): rapid sequence induction and intubation, synchronized cardioversion, pericardiocentesis, transcutaneous pacemaker application, procedural sedation, anoscopy, interosseous infusion, fiberoptic laryngoscopy.
- Demonstrate independence in repair of complicated lacerations.
- Teach procedural skills to medical students and junior residents.

#### **Resuscitation skills**

- Direct all resuscitation (medical, pediatric and trauma) cases with close staff supervision and support.
- Treat acute coronary syndromes independently after discussion with staff Emergency Physician.
- Manage toxicology cases with increasing independence.
- Develop proficiency in the initial stabilization of critically ill or injured patients and arrange definitive care including the decision to transport to a tertiary care center.

### ***Communicator***

- In addition to the skills developed during the first two years, deal effectively with patients and families with difficult and challenging patient encounters (giving bad news, dealing with the angry patient, refusal of treatment).
- Accurately describe a patient's clinical condition to consultants using appropriate medical terminology.
- Initiate appropriate telephone consultation with other specialists at local and remote locations.
- Work to enhance the patient's continuing relationship with their family physician.
- Provide effective handover during transitions of care.

### ***Collaborator***

- Liaise with allied health professionals, police and Emergency Medical Service Providers in the care of patients.
- Work collaboratively with other healthcare professionals and community organizations to provide coordinated care for patients.
- Utilize medical expertise available within the local community.
- Collaborate with members of the healthcare team that are at a distant site to arrange telephone advice, interhospital transfer and follow-up care where necessary.

### ***Health Advocate***

- Use determinants of health to advocate for the wellbeing of the patient and or community at large (i.e. coroner, public health).
- Provide health care teaching, employ preventative health and risk reduction strategies to optimize the care of patients and their families
- Screen patients for risk factors related to intimate partner violence, child abuse and neglect and substance abuse when necessary.
- Understand the concept of medical futility and understand how to discuss this idea with patients and their families.
- Demonstrate ability to assess a patient's capacity to provide informed consent.
- Expedite transfer of patients to referral centers when necessary.

### ***Leader***

- Comfortably manage care of most individual patients and begin to effectively manage simultaneous patients.
- Manage individual patients with increasing speed.
- Demonstrate the use of crisis resource management skills (communication, teamwork, situational awareness and leadership) when needed to respond appropriately in crisis situations.
- Effectively triage patients and manage emergency department flow in a single physician coverage emergency department with limited radiology, laboratory, nursing and paramedical staff resources.
- Reflect on the management plan for a mass casualty incident in their rural community hospital.

### ***Scholar***

- Demonstrate appropriate use of point of care resources to optimize patient care
- Apply critically appraised literature to clinical practice.
- Identify own learning needs and make use of available resources including members of the medical team unique to the rural area with local expertise.

### ***Professional***

- Exhibit a professional demeanor (appearance, punctuality, work ethic).

- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others.
- Use strategies to promote a sustainable practice and physician wellness in the emergency department
- Adhere to the medicolegal requirements of practice including reporting obligations.
- Maintain appropriate boundaries of the doctor patient relationship.
- Take part in evaluation systems for learning events to provide/contribute feedback to colleagues and teachers.

**Map to CBME EPAs:**

C1: Resuscitating and coordinating care for a critically ill patient

C2: Resuscitating and coordinating care for a critically injured patient

C3: Providing airway management and ventilation

C4: Providing emergency sedation and systemic analgesia for diagnostic and therapeutic procedures

C5: Identifying and managing patients with emergent medical or surgical presentations

C6: Diagnosing and managing complicated urgent and non-urgent patient presentations

C7: Managing the urgent and emergent presentation of the pregnant and post-partum patient

C8: Managing patients with acute toxic ingestion or exposure

C9: Managing a patient with an emergency mental health condition or behavioural emergency

C10: Managing and supporting patients in situational crisis to access health care and community resources

C11: Recognizing and managing patients who are at risk of exposure or who have experienced violence and/or neglect

C12: Liaising with prehospital emergency medical services

C13: Performing advanced procedures

C14: Performing and interpreting point of care ultrasound to guide patient management

## **PEDIATRIC EMERGENCY MEDICINE ROTATION (CHEO) (PGY3) - 2 blocks**

### **General Information**

At CHEO residents will see and manage pediatric patients 18 years of age and younger and involves a mix of surgical and medical problems. Residents may see patients alone, order lab tests and x-rays but the Emergency Room physician (ERP) must review and countersign all charts.

### **Housestaff Role Designations**

Medical Student Proctor- Senior Resident may be asked to supervise medical students in the Emergency Department.

Resuscitation Doc- Senior Resident will act as team leader in resuscitation room cases with ERP or ER fellow as direct backup

### **Charts**

Documentation must be completed using black ink. Be sure to fill in the times for physician assessment and discharge.

### **Special Cases**

Outside referrals will have chart stamped "ERP to see prior to discharge" or have orange sticker affixed. These patients must be reviewed by a Fellow or ERP prior to discharge.

Sexual abuse/trauma cases – The physical examination for these patients must be done in presence of ERP or ER Fellow.

### **Referrals**

All cases must be reviewed with an ERP prior to initiating a consultation. Consultation forms must be completed and the case must be discussed with the Consultant or his/her resident.

### **Research Studies**

Injury surveillance is national study of all trauma patients who are given questionnaire at Registration to fill out. Physician must fill out back of each form.

### **Patient Disposition**

A Holding Unit (max 12 patients) is available for patients with an anticipated lengthy stay in the ED. Cases must be reviewed with the ERP prior to admission to the Holding Unit. You are required to follow any patients you admit into the Unit.

### **Admission**

All cases requiring admission should be discussed with the ERP prior to speaking with the appropriate Senior Floor Resident to initiate the admission process.

### **Discharge**

All patients must be discussed with the ERP prior to discharge. Discharge plan and recommended follow-up instructions must be clearly discussed with family members.

### **Follow-up**

Follow up is generally not provided through the ED at CHEO. In general, patients should be advised to follow up with their Family Physician or Pediatrician.

Patients who require clinic follow-up at CHEO (i.e. ortho, etc) should be given a pink card with the clinic phone number and the parent advised to call for an appointment

## **Rounds (mandatory for all housestaff)**

Wednesday:

0945 - 1045 Emergency Rounds

1200 - 1330 Problem- based sessions for PGY1

Friday:

0800 - 0900 Resuscitation Drill

0900 - 1000 Interesting Cases – fill out posted “Interesting Cases” sheet and notify ER fellow of any particularly interesting cases. Housestaff must provide the cases.

## **Schedule**

Resolve any schedule conflicts amongst yourselves and then notify the Senior ER fellow of schedule changes. Occasionally you may be phoned to come in early – your time will be compensated.

## **Illness**

Notify 737-2318 ASAP

## **GOALS AND OBJECTIVES**

### ***Medical Expert***

#### **Knowledge**

1. Recognize pediatric life or limb threatening conditions.
2. Recognize a “toxic” vs a “non-toxic” looking child.
3. Manage a wide variety of ill or injured children in a timely fashion. Diagnosis and management should be done in a problem-solving fashion around the many clinical scenarios seen in the Emergency Department; e.g. the limping child, painful scrotum, the patient with stridor, etc.
4. Gain awareness of the common pediatric surgical conditions as they appear in the Emergency; e.g. acute appendicitis, intussusception, volvulus, incarcerated hernias, hydroceles.
5. Demonstrate awareness of larger organizational issues in the Emergency – monitoring patient flow, deploying resources in an efficient way and some issues of risk management.

#### **Skills:**

1. Perform minor surgical techniques; e.g. laceration repair, nail bed repair, I & D, hernia/phimosis reduction, and others.
2. Manage a variety of pediatric orthopedic conditions and learn basic techniques of; e.g. splint and cast application, buddy taping, lones bandaging.
3. Triage and prioritize cases developing a sense of which cases require admission.
4. Perform procedural skills including: peripheral intravenous line insertion, phlebotomy, lumbar puncture and bladder catheterization.
5. Ensure record documentation is legible and complete.
6. Convey clear discharge instructions to families and ensure follow-up of the patient
7. Demonstrate good clinical judgment with regards to investigative tests and procedures, weighing the likely benefit against the psychological trauma to the pediatric patient.
8. Obtain wider experience of pediatric resuscitation (medical and surgical). Assume care for all critically ill or injured children who present to the Emergency, under the supervision of the Emergency Pediatrician or Emergency Medicine Fellow.
9. Refine PGY 1 skills, especially those concerning patient triage, prioritization and admission and use of consultants.

10. Assume a supervisory and teaching role for students and junior housestaff from all programs who are rotating through the Pediatric Emergency Department.
11. With supervision, manage cases of child abuse including documentation and gathering of evidence. The resident should be aware of techniques involved in court appearances ("the doctor as a witness").

**Attitudes:**

1. Understand the importance of relating to parents and their anxieties, as well as their small patients; ie. The treatment of the family as a whole.
2. Be aware of child abuse issues in the Emergency Department including: documentation, reporting responsibilities, age appropriate gynaecological examination, etc.
3. Be aware of ethical issues as they arise in critical care situations.

**Communicator**

- Demonstrate good interviewing skills in simple situations.
- Deal effectively with family members.
- Use age appropriate communication to engage the patient in shared decision making whenever possible.
- Demonstrate empathy and ability to understand nonverbal cues.
- Maintain concise yet thorough ED charts, legibly written with pertinent history and physical findings and a clear diagnosis, treatment plan and follow-up displayed.

**Collaborator**

- Demonstrate skill in dealing with medical staff from other services and allied health professionals.
- Act as a team member in discharge planning rounds.
- Assist patients and their families in accessing information technology as appropriate.

**Health Advocate**

- Understand the clinical determinants of health affecting the pediatric patient population.
- Provide health teaching to patients and their families including preventative health techniques and risk reduction.
- Screen for risk factors related to child abuse and/or neglect when appropriate.

**Leader**

- Efficiently manage individual patients and beginning to see higher numbers of patients as the year progresses.
- Demonstrate skill in maintaining patient flow in assigned Emergency Department section.
- Supervise clinical clerks on service employing strategies to ensure safe patient care.
- Participate in quality assurance processes (discrepancy and follow-up systems)

**Scholar**

- Recognize own knowledge gaps and limitations. Develop a personal plan of study including reading for educational rounds and around individual cases seen.
- Provide bedside teaching for clinical clerks and junior residents on service.
- Participate in departmental clinical research.

**Professional**

- Prepare well for clinical and academic work.
- Exhibit a professional demeanor (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others



- Adhere to legal requirements regarding duty to report when appropriate.

**Map to CBME EPAs:**

C1: Resuscitating and coordinating care for a critically ill patient

C2: Resuscitating and coordinating care for a critically injured patient

C3: Providing airway management and ventilation

C4: Providing emergency sedation and systemic analgesia for diagnostic and therapeutic procedures

C5: Identifying and managing patients with emergent medical or surgical presentations

C6: Diagnosing and managing complicated urgent and non-urgent patient presentations

C7: Managing the urgent and emergent presentation of the pregnant and post-partum patient

C8: Managing patients with acute toxic ingestion or exposure

C9: Managing a patient with an emergency mental health condition or behavioural emergency

C10: Managing and supporting patients in situational crisis to access health care and community resources

C11: Recognizing and managing patients who are at risk of exposure or who have experienced violence and/or neglect

C12: Liaising with prehospital emergency medical services

C13: Performing advanced procedures

C14: Performing and interpreting point of care ultrasound to guide patient management

## **EMERGENCY DEPARTMENT ADMINISTRATION ROTATION (PGY3) – 1 block**

To learn effective management and administration skills as they relate to the practice of Emergency Medicine this one (1) block rotation will provide experience in medical administration through working with the Medical Directors of the two affiliated ED sites.

### **Format**

The resident will do approximately 50% clinical shift load for that month and in addition will:

- a) Do independent reading around the topics listed below and meet weekly with the physician leader of the Admin block to discuss
- b) Participate in chart mortality review for patients presenting DOA or DIE in the Emergency Department
- c) Prepare and present one morbidity and mortality grand rounds for emergency medicine (may be presented earlier or later than actual admin month)
- d) Participate in one departmental Clinical Care and Quality Assurance meeting
- e) Attend one hospital MAC meeting and one Emergency Department Program Council meeting
- f) Optional – participate in one departmental quality assurance activity or other structured activity related to ED function, patient safety, etc

Topics for independent reading and review with Admin rotation supervisor:

#### **1. Patient safety**

- Discuss the principles of patient safety in the hospital environment
- Demonstrate use of the hospital Safe Reporting System
- Discuss the format and function of a critical incident review and critical incident debriefing
- Discuss the indications for notification of the coroner

#### **2. Quality assurance**

- Discuss 5 different categories of quality assurance activities and give one example of each as it pertains to the Emergency Department
- Describe pay for performance metrics for Emergency Departments

#### **3. Structure and function of the health care system**

- Discuss the role of various levels of government in the functioning of the health care system and the Emergency Department (i.e MOHLTC, LIHN, SEAMO)
- Outline the role of various professional organizations as it pertains to practice in Emergency Medicine (i.e. CMPA, CPSO, RCPSC, CAEP, OMA)
- Discuss the administrative structure of a hospital and the role of physicians in the administrative function of the hospital (i.e. Board of Directors, CEO, VP medical, MAC and subcommittees, MSA)

#### **4. ED funding models and physician remuneration**

- Discuss models of ED physician funding (FFS, EDAFA, Academic AFA)

#### **5. ED patient flow and ED management**

- Discuss options to enhance patient flow in the ED, specifically describing a RAZ unit, Fast track, physician at triage and RAFT unit
- Describe the format and purpose of the Canadian Triage and Acuity Scale
- Describe the function and give examples of medical directives, patient care protocols at triage and patient care plans
- Discuss the causes and management strategies for ED overcrowding
- Outline 5 personal strategies a physician can use to improve ED patient flow and patient care.

- Give examples of how an Emergency Department can be “senior friendly”
- 6. Role of the ED physician as a consultant**
    - Outline the principles of inter-hospital patient transfer
    - Discuss the principles for giving advice over the phone
    - Discuss the principles and options for both consultations and patient handover
  - 7. Dealing with complaints from patients, family or colleagues**
    - Describe the role of the hospital and the ED program in addressing patient complaints.
    - Outline the common causes and reasons for patient complaints as they pertain to Emergency Medicine
    - Outline the responsibilities of the physician for dealing with patient complaints
    - Describe the role of the CMPA and the CPSO in dealing with patient complaints or adverse outcomes
  - 8. Resource allocation and cost appropriate care**
    - Describe the Choosing Wisely campaign as it pertains to Emergency Medicine
    - Give examples of how strategies for monitoring or reducing utilization can lead to improvement in cost appropriate care.
  - 9. Miscellaneous**
    - Discuss the principles of dealing the police in the ED. (ie. disclosure to the police, mandatory notification of events)
    - Give 5 tips for running a meeting.
    - Describe the different levels of hospital and academic medical appointments

Goals and objectives for this rotation are:

### ***Medical Expert***

#### **Goals:**

1. Learn basic principles of leadership and administration.
2. Develop an understanding of quality assurance and risk management programs and their application to the operation of an emergency department.
3. Develop an understanding of the function of Emergency Medicine within the institution and its relationship with other departments.
4. Develop an understanding of the function of accrediting agencies and their relationship with emergency medicine.
5. Outline the principles of confidentiality and obligatory reporting as related to Emergency Medicine in Canada
6. Understand important medicolegal aspects of Canadian Emergency Medicine practice.

#### **Objectives:**

1. Discuss the following concepts as they relate to Emergency Medicine: credentialing, career development, recruitment, budgeting, cost containment, health care financing, personnel management, public relations, marketing, hospital administration, practice management, contracts, and work schedules.
2. Discuss the management of patient complaints.
3. Discuss the principles of critical incident stress debriefing.
4. Discuss accepted Canadian guidelines relating to the Emergency Department with emphasis on staffing, (including number of patients per hour per physician) equipment and supplies, facility design (options for departments and square meterage required to handle a specific patient volume), quality assurance and patient transfer regulations.

5. Discuss hospital and Emergency Department administrative organization.
6. State the principles of patient confidentiality.
7. List the situations of mandatory reporting in Ontario.
8. Outline the principles of a medical legal report.
9. Understand the principles of negligence.

***Communicator***

- Deal effectively with patients and families in increasingly difficult and challenging patient encounters.
- Communicate effectively at meetings.
- Provide effective written response to patient complaints and provide effective medicolegal letters.

***Collaborator***

- Demonstrate comfortable communication and collaboration with residents, other health care providers, consultant staff physicians and physicians.

***Health Advocate***

- Recognize the determinants of health for an ED patient population and act on these findings.
- Demonstrate an awareness of the issues and obligations related to population health.

***Leader***

- Demonstrate organizational skills in ED administration.

***Scholar***

- Produce an evidence-based M&M audit and QA project.

***Professional***

- Treat patients and fellow staff with non-judgmental respect.
- Prepare well for meetings and learning encounters.
- Exhibit a professional demeanour (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others.
- Demonstrate understanding of physician wellness issues.
- Demonstrate knowledge of and application of ethics in Emergency Medicine practice.

**Map to CBME EPAs:**

TP1: Managing the emergency department to optimize patient care and department flow

## **LONGITUDINAL TRAUMA TEAM EXPERIENCE (PGY3-5)**

Trauma experience at Queens University occurs longitudinally as there is no designated Trauma Service in our institution. Beginning in the PGY3 year, residents will be assigned 2-3 on-call trauma team leader shifts on every block of emergency medicine. The resident Trauma Team Leader (TTL) assumes a leadership role for any activation of the Trauma Team (approximately 380 activations per year). The resident TTL will be supervised by the faculty Trauma Team Leader or the Emergency Physician on duty in the Emergency Department until the staff TTL assumes care. There are currently six emergency medicine faculty who function as staff TTLs.

The emergency medicine resident Trauma Team Leader expectations are:

### ***Medical Expert***

#### **Goals:**

1. To learn principles trauma care as outlines in the American College of Surgeons ATLS program.
2. To develop an organized approach to the assessment, resuscitation, stabilization and provision of definitive care for the trauma victim.
3. To learn use of the diagnostic imaging modalities available for evaluation of the trauma victim.
4. To develop procedural skills necessary in the evaluation and management of the trauma victim.
5. To learn to recognize and treat immediate life and limb threatening injuries in the trauma victim.
6. To learn special considerations in the evaluation and management of the pregnant trauma victim.
7. To learn special considerations in the evaluation and management of the pediatric trauma victim.
8. To learn special considerations in the evaluation and management of the geriatric trauma victim.
9. To learn the principles of disaster management.
10. To learn the principles of burn management.
11. To learn a systems approach to trauma management that includes provincial and national trauma systems and categorization of institutions and emergency departments.
12. To learn the principles of pre-hospital trauma care including the role of BCS and ALS ambulance services and air transport services.

#### **Objectives:**

1. Demonstrate ability to rapidly and thoroughly assess victims of major and minor trauma.
2. Demonstrate ability to establish priorities in the initial management of victims of life-threatening trauma.
3. Demonstrate ability to manage fluid resuscitation of trauma victims.
4. Demonstrate ability to manage the airway of trauma victims.
5. Discuss the definitive care of the trauma victim, including operative, post-operative and rehabilitative phases of care.
6. Demonstrate ability to perform the following procedures: oral and nasogastric intubation, venous cut-downs, insertion of large bore peripheral and central venous lines, insertion of arterial lines, tube thoracostomy, local wound exploration, peritoneal lavage, vessel ligation, repair of simple and complex lacerations, splinting of extremity

- fractures, and reduction and immobilization of joint dislocations, cricothyroidotomy, and extensor tendon repair.
7. Discuss the indications for and the technique of: resuscitative thoracotomy, pericardiotomy and aortic cross-clamping.
  8. Demonstrate ability to interpret radiographs on trauma patients, including plain x-rays of the chest, cervical, thoracic and lumbar spine, pelvis and extremity films.
  9. Demonstrate ability to interpret CT scans of the head in the neuro trauma patient.
  10. Discuss the importance of mechanism of injury in the evaluation and treatment of the trauma victim.
  11. Demonstrate ability to calculate the Glasgow Coma Score and discuss its role in the evaluation and treatment of head injured patients.
  12. Demonstrate ability to use spine immobilization techniques in trauma victims.
  13. Demonstrate ability to diagnose and manage trauma victims with extremity fractures, dislocations and subluxations.
  14. Demonstrate ability to manage soft tissue injuries including lacerations, avulsion and high-pressure injection injuries.
  15. Discuss the diagnosis and management of compartment syndromes.
  16. Discuss the diagnosis and management of urogenital injuries.
  17. Demonstrate appropriate use of analgesics and sedatives in trauma patients.
  18. Demonstrate appropriate use of antibiotics in trauma patients.
  19. Demonstrate ability to direct a trauma team during complex resuscitations.
  20. Demonstrate ability to coordinate consultants involved in the care of multiple trauma patients.
  21. Demonstrate ability to use and interpret imaging modalities in the evaluation of trauma patients.
  22. Demonstrate ability to arrange appropriate consultation and disposition of trauma patients.
  23. Demonstrate ability to direct the care of trauma victims in the pre-hospital setting.
  24. Discuss principle of disaster management and participate in disaster drills.
  25. Discuss the role of pre-hospital systems in the management of trauma patients.
  26. Discuss the factors unique to the evaluation and management of pediatric trauma.
  27. Demonstrate ability to direct pediatric trauma resuscitations.
  28. Discuss factors unique to the evaluation and management of geriatric trauma.
  29. Demonstrate ability to direct geriatric trauma resuscitations.
  30. Discuss factors unique to the evaluation and management of trauma in pregnancy.
  31. Discuss the evaluation and management of spinal cord injuries.
  32. Demonstrate ability to diagnose and manage tendon injuries.
  33. Demonstrate ability to manage amputation injuries and discuss the potential for implantation.
  34. Demonstrate the ability to manage the acutely burned patient, including minor and major injuries.
  35. Demonstrate the ability to diagnose and treat smoke inhalation.
  36. Demonstrate the ability to assess and manage facial trauma.
  37. Demonstrate the ability to evaluate and manage anterior neck injuries.
  38. Demonstrate the ability to assess and manage penetrating and blunt chest trauma.
  39. Demonstrate the ability to evaluate and manage blunt and penetrating abdominal trauma.
  40. Demonstrate the ability to diagnose and treat pelvic fractures
  41. Demonstrate ability to use FAST in the trauma patient.

### ***Communication***

- Explain complex medical issues in language adapted to the needs of the individual patient.
- Deliver bad news in a compassionate and human manner including "death telling".

- Overcome barriers to communication such as language, patient disabilities, cultural differences and age group differences.
- Provide clear direction to team members using closed loop communication.
- Acknowledge and respond to concerns and opinions of team members appropriately.
- Provide effective handover during transitions of care.
- Maintain concise and thorough medical records including documentation of an appropriate trauma team consultation letter.
- Seek and synthesize relevant information from other sources, including the patient's family, other physicians, police, firefighters, EMS personnel, and other health professionals.

### ***Collaborate***

- Participate in a team based model in the care of trauma patients.
- Recognize and respect the diversity of roles, responsibilities and competencies of other professionals involved in the care of a critically injured patient.
- Maintain respect for the principle of effective resource allocation.
- Participate effectively in inter-professional debriefing sessions as appropriate.

### ***Leader***

- Demonstrate the use of crisis resource management skills (situational awareness, communication, team work and leadership).
- Allocate finite resources appropriately.
- Understand the issues that affect the emergency department flow when involved as TTL on shift.
- Use appropriate decision support tools and references.
- Appropriately delegate tasks to team members with attention to patient safety concerns.
- Appropriately triage priorities when dealing with multiple patients.

### ***Health Advocate***

- Evaluate patients with respect to determining their status regarding determinants of health and potential barriers to care.
- Understand the concepts of informed consent and measurement of capacity.
- Understand the concept of medical futility and understand how to discuss this idea with patients and their families.

### ***Scholar***

- Critically appraise the literature and its relevance to their practice.
- Incorporate into practice the relevant published clinical practice guidelines.
- Facilitate the medical education of patients, families and other health care learners and professionals.

### ***Professional***

- Exhibit professional behaviors including honesty, integrity, reliability, compassion, respect and a commitment to patient wellbeing.
- Be punctual for clinical and educational events.
- Follow through on assigned tasks.
- Demonstrate respect for colleagues and team members.
- Respect patient confidentiality and privacy.
- Take part in evaluation systems for learning events in order to provide/contribute feedback to colleagues and teachers.
- Use effective coping strategies to deal with the stressors of decision-making and prioritizing interventions in a leadership role.
- Provide appropriate support or coping strategies to team members dealing with grief, or anxiety experienced during emotionally charged resuscitations.

**Map to CBME EPAs:**

C2: Resuscitating and coordinating care for a critically injured patient.

C13: Performing advanced procedures.



## PGY 4 Year

Emergency Medicine (or other clinical, scholarly, education, administrative area approved by Program Director)	8 blocks (Up to 12 blocks with approval of the Program Director)
Electives	4 blocks (Up to 12 blocks if used for an area of special interest with approval of the Program Director)
Toxicology	1 block

PGY4 is the Chief Resident year. The Chief Resident will be responsible for the administration of the housestaff schedule and housestaff academic activities and will act as the liaison between residents in the ED and the Emergency Medicine Program Director. The chief resident is expected to take a leadership role within the Emergency Medicine Residency program for social and academic activities. The resident will spend up to twelve (12) months in PGY4 on Emergency Medicine or in another clinical/scholar/educational or quality assurance project or training relevant to Emergency Medicine. Most shifts will be done at KGH and the resident will be given increased patient care and teaching responsibilities.

The specialty requirements of the RCPSC program in Emergency Medicine allow the resident to spend a total of 12 months doing elective time in Emergency Medicine core or subspecialty areas (i.e. pediatric emergency medicine, toxicology, etc.) in the final two years of the training program. This is at the discretion of the resident and elective plans should be done in consultation with the Program Director. Residents may choose to do the allotted time in the ED or do a few short-term electives during that time as well. A resident who wishes to do one (1) year elective away from our Emergency Department is advised to do so during all of PGY4 or the last half of PGY4 and the first half of PGY5 to facilitate exam preparation.

The resident will complete a one month Toxicology Rotation during PGY4. The resident does a one (1) block rotation at the Ontario Regional Poison Information Center under the supervision of Dr. Margaret Thompson. The learning experience in Toxicology on this rotation is excellent and most residents feel very competent at managing all types of toxicology problems at the completion of their rotation. Residents will work at the poison center and in academic rounds with the toxicology staff. Residents also take call by phone for the Province of Ontario on a rotating basis. This involves acting as a consultant toxicologist for the Province of Ontario. Residents are supervised and in phone contact with the toxicologist on call at all times.

## ROTATIONAL GOALS AND OBJECTIVES FOR PGY 4 YEAR

### EMERGENCY MEDICINE (PGY4) – 12 blocks

PGY4 resident expectations during Emergency Medicine rotations are as follows:

#### ***Medical Expert***

##### **History and Physical exam skills**

- Demonstrate excellent clinical examination skills in all types of patient encounters.

##### **Investigations**

- Demonstrate rational and cost-effective use of diagnostic investigations.
- Demonstrate appropriate selection of diagnostic investigations for common, complex and subtle diagnoses.

##### **Judgement and decision making**

- Demonstrate very good independent decision-making skills; close to consultant level.

##### **Knowledge base**

- By the end of PGY 4, the resident should meet most of the terminal learning objectives in all areas covered to date.
- Demonstrate excellent knowledge in Toxicology and ED Administration.

##### **Procedural skills**

- Competently perform all skills listed in PGY1-PGY 3 objectives.
- Perform rapid sequence induction and intubation, difficult airway management and procedural sedation with minimal supervision.
- Safely perform extensor tendon laceration repair, gastric lavage and whole bowel irrigation.
- Demonstrate an excellent understanding of all aspects of each procedure (indications, complications, follow up required, interpretation of results obtained, and alternate ways to complete the procedure).

##### **Resuscitation skills**

- By PGY 4, competently lead all types of resuscitation with decreasing staff supervision and teach these skills to others during the resuscitation effort.

##### **Communicator**

- Deal effectively with patients and families in increasingly difficult and challenging patient encounters.
- Demonstrate excellent communication skills with paramedics when providing online medical direction.
- Provide effective handover during transitions of care.
- Maintain timely, thorough and concise medical records.
- Overcome barriers to communication such as language, patient disabilities, cultural differences and age group differences.

##### **Collaborator**

- Demonstrate comfortable communication and collaboration with residents, other health care providers, consultant staff physicians and physicians referring patients to the Emergency department.

- Recognize and respect the diversity of roles, responsibilities and competencies of other professionals in relation to their own and consult specialists in such a way as to respect the consultant's individual skills.

#### ***Health Advocate***

- Recognize the determinants of health for the ED patient population and act accordingly on these findings.
- Demonstrate an awareness of the issues and obligations related to population health.
- Provide health teaching and employ preventative health techniques to optimize patient care.

#### ***Leader***

- Manage single and multiple patients with little staff intervention.
- Demonstrate skill in patient triage and use this skill to facilitate departmental flow.
- Demonstrate awareness of issues of resource allocation as they relate to running the Emergency Department.
- Facilitate debriefing sessions following resuscitations to identify areas for improvement in health care system and/or team dynamics
- Facilitate a culture of patient safety.
- Participate in the department discrepancy/follow-up processes.
- Work collaboratively with other healthcare professional and community organizations to provide coordinated care for patients.

#### ***Scholar***

- Demonstrate progress in completion of the scholarly activity.
- Develop and maintain a formalized reading schedule.
- Achieve instructor status in ACLS, ATLS or PALS. Present well-planned, researched Grand Rounds using latest technology.
- Demonstrate leadership in critical appraisal skills at journal club.
- Demonstrate ability to competently provide bedside teaching for students and residents concurrently while providing patient care without compromising efficiency.
- Participate in departmental clinical research.
- Incorporate into their emergency medicine practice, the relevant published literature and clinical practice guidelines.

#### ***Professional***

- Treat patients and fellow staff with non-judgmental respect.
- Prepare well for clinical and academic work.
- Exhibit a professional demeanour (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others.
- Demonstrate understanding of physician wellness issues.
- Apply ethical principles throughout Emergency Medicine practice.
- Maintain membership in CAEP and related EM societies (EMRA, SAEM).
- Maintain appropriate boundaries of the doctor patient relationship.
- Take part in evaluation systems for learning events to provide/contribute feedback to colleagues and teachers.

#### **Map to CBME EPAs:**

C1: Resuscitating and coordinating care for a critically ill patient

C2: Resuscitating and coordinating care for a critically injured patient

- C3: Providing airway management and ventilation
- C4: Providing emergency sedation and systemic analgesia for diagnostic and therapeutic procedures
- C5: Identifying and managing patients with emergent medical or surgical presentations
- C6: Diagnosing and managing complicated urgent and non-urgent patient presentations
- C7: Managing the urgent and emergent presentation of the pregnant and post-partum patient
- C8: Managing patients with acute toxic ingestion or exposure
- C9: Managing a patient with an emergency mental health condition or behavioural emergency
- C10: Managing and supporting patients in situational crisis to access health care and community resources
- C11: Recognizing and managing patients who are at risk of exposure or who have experienced violence and/or neglect
- C12: Liaising with prehospital emergency medical services
- C13: Performing advanced procedures
- C14: Performing and interpreting point of care ultrasound to guide patient management

## **TOXICOLOGY ROTATION (PGY4) – 1 block**

The Toxicology Rotation takes place at the Ontario Poison Center at the Hospital for Sick Children under the supervision of Dr. Margaret Thompson and the other clinical toxicologists at the Poison Center. The resident will work at the Poison Center working with the staff and attend academic sessions. The resident will take poison call on a rotational basis for the province of Ontario by phone, giving advice to MDs regarding the treatment of poisoned patient's province wide. The resident works in a consultant role and will provide initial advice to the referring physician before discussing each case with the staff toxicologist. The resident has assigned reading for the rotation and will be required to formally present a relevant topic at toxicology rounds.

The resident may have the opportunity to do bedside toxicology consults at Kingston General Hospital especially in the ED, ICU and PICU. This is an ideal way to learn about toxicology in our setting. It also provides the resident with an opportunity to develop communication and consultant skills.

The rotational goals and objectives in Toxicology are:

### ***Medical Expert***

#### **Goals:**

1. Learn the pertinent aspects of the history and physical exam relative to acute poisoning with particular emphasis on clinical recognition of major toxic syndromes (toxidromes).
2. Learn the generic aspects of clinical management of poisoning, including stabilization and decontamination.
3. Understand the principles, methods, and controversies of decontamination and enhancement of elimination of toxins.
4. Learn the presenting signs, symptoms, laboratory findings, pathophysiology and treatment of common therapeutic drug poisonings, drugs of abuse, natural toxins, and general household poisons as delineated in the core curriculum of Emergency Medicine.
5. Learn the common hazardous materials (HAZMAT) of the workplace and prehospital operations with regard to HAZMAT incidents.
6. Learn the principles of occupational toxicology and the major occupational toxins of Western society.
7. Learn the fundamentals of poisoning epidemiology, pharmacokinetics, pharmacodynamics and biotransformation, including the effects of pregnancy and lactation.
8. Learn to recognize, diagnose, assess and manage acute and chronic complications of substance abuse and withdrawal.
9. Learn the use of adjunctive services, including the toxicology laboratory and poison center, in the management of acute poisonings.
10. Learn the indications and implementation of specific therapeutic modalities, such as the use of antidotes, hemodialysis, and hyperbaric oxygen.

#### **Objectives:**

1. Demonstrate the ability to perform gastric lavage, whole bowel irrigation, skin and eye decontamination, and administration of activated charcoal.
2. Discuss the indications, contraindications, dosages, and side effects of the currently available antidotes and antivenins.

3. Demonstrate clinical recognition of toxidromes associated with drug overdose and drug withdrawal.
4. Demonstrate knowledge of the principles of hemodialysis and the toxic agents that can be removed by these methods.
5. Demonstrate ability to recognize common venomous animals and poisonous plants and their clinical presentations and treatments.
6. Demonstrate knowledge of the diagnostic laboratory including methods, limitations and costs.
7. Demonstrate knowledge of the drug interactions, side effects, and therapeutic levels of the commonly used therapeutic agents.
8. Demonstrate the proper technique for handling a HAZMAT contaminated patient in the emergency department and the prehospital environment.
9. Demonstrate knowledge of the common household poisons, pesticides, hydrocarbons and metals, their effects and treatments.
10. Demonstrate the knowledge and clinical skills necessary to manage a patient poisoned by any of the following: acetaminophen, amphetamines, anticholinergics, aspirin, barbiturates, benzodiazepines, beta blockers, calcium channel blockers, carbon monoxide, caustics, cocaine, cyanide, cyclic antidepressants, digoxin, ethanol, ethylene glycol, INH, iron, lithium, methanol, opiates, organophosphates, phenytoin, theophylline and venomous animals.
11. Demonstrate knowledge of basic principles of drug absorption, redistribution, metabolism, and elimination.

**Communicator**

- Deal effectively with Emergency physicians, critical care specialists and other health care workers contacting the Ontario Poison Centre for consultation regarding poisoned patient.

**Collaborator**

- Collaborate with clinical toxicologists, Poison Information specialists and other health care workers at the O.P.P.C.

**Health Advocate**

- Understand the importance of poison prevention especially for young children.
- Appreciate the health consequences of recreational drug use, deliberate, self-harm and occupational health risks.

**Leader**

- Appreciate the role of the Poison Centre in providing out of hospital care, preventing unnecessary Emergency presentations, and supporting HAZMAT and chemical preparedness/incidents.
- Facilitate and support inter-hospital transfer of poisoned patients by land or air when indicated, and avert unnecessary admission or transfer.

**Scholar**

- Recognize knowledge gaps and limitations. Maintain a personal study plan including a formalized reading schedule and reading around individual cases seen.
- Present well planned and researched topics at toxicology rounds as required.

**Professional**

- Treat patients and fellow staff with non-judgmental respect.
- Prepare well for clinical and academic work.

- Exhibit a professional demeanour (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others.
- Demonstrate understanding of physician wellness issues.
- Demonstrate awareness of ethical considerations of Emergency Medicine practice.

**Map to CBME EPAs:**

C8: Managing patients with acute toxic ingestion or exposure

C13: Performing advanced procedures

## **ELECTIVE ROTATION – 4 blocks (up to 12 months with approval of Program Director)**

### **Overall Goal:**

The overall goal of the elective rotation is to allow the resident opportunity to gain further clinical and/or academic exposure within an area of special interest.

**NOTE: the resident will develop specific goals and objectives pertinent to their chosen elective and submit them with their application for approval to the Program Director.**

The following are general educational objectives and key competencies pertinent to all electives:

### ***Medical Expert***

- Integrate the CanMEDS roles to provide ethical, effective and patient-centered medical care.
- Establish and maintain clinical knowledge, skills and attitudes appropriate to their practice.
- Perform a complete and appropriate assessment of a patient
- Use preventative and therapeutic interventions effectively
- Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic.
- Seek appropriate consultation from other health professionals, recognizing the limits of their expertise.

### ***Communicator***

- Develop rapport, trust and ethical therapeutic relationships with patients and their families
- Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues and other professionals
- Accurately convey relevant information and explanations to patients and families, colleagues and other professionals
- Develop a common understanding on issues, problems and plans with patients and families, colleagues and other professionals to develop a shared plan
- Convey effective oral and written information

### ***Collaborator***

- Participate in activities that contribute to the effectiveness of their healthcare organizations
- Manage their practice and career effectively
- Allocate finite resources appropriately
- Serve in administration and leadership roles as appropriate

### ***Health Advocate***

- Respond to individual health needs and issues as part of patient care
- Respond to health needs of the communities they serve
- Identify the determinants of health of the populations that they serve
- Promote the health of individual patients, communities and populations

### ***Leader***

- Maintain and enhance professional activities through ongoing learning



- Critically evaluate information and its sources, and apply this appropriately to practice decisions
- Facilitate the learning of patients, families, students, residents and other health professionals, the public, and others as appropriate
- Contribute to the creation, dissemination, application and translation of new medical knowledge and practice.

***Professional***

- Demonstrate a commitment to their patients, profession and society through ethical practice.
- Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation.
- Demonstrate a commitment to physician health and sustainable practice.

**Map to CBME EPAs:**

The relevant EPAs will be determined by the elective content and specific rotation objectives identified by the resident.

## **PUBLIC HEALTH ELECTIVE – 1 block**

Queen's Emergency Medicine has a uniquely close and collaborative relationship with the KFL&A Public Health Unit. The Emergency Department Syndromic Surveillance program monitors all emergency department presentations in real time to identify syndromes of interest to Public Health (influenza, biologic terrorism, etc.). Residents have the opportunity to complete a public health elective to provide a focused experience in Public Health (for example opioid surveillance and intervention protocols) or a broader exposure to explore the interface with Emergency Medicine.

**NOTE: the resident will develop specific goals and objectives pertinent to their chosen focus for this elective and submit them with their application for approval to the Program Director.**

The following are general educational objectives:

### ***Medical Expert***

- Know the natural history, epidemiology, risk factors and health burden of the major communicable and non-communicable (including injury) diseases of public health significance and apply this knowledge in the development, implementation and evaluation of appropriate surveillance and control programs.
- Identify and demonstrate an understanding of physical environmental factors including noise, pollutants and hazardous industrial processes that are relevant to the given clinical context (individual, local, regional, global).
- Understand the principles of infectious disease epidemiology and apply them in the investigation and management of infectious disease
- Understand the Incident Management System cycle and the role and responsibilities of Public Health in a population based emergency.

### ***Communication***

- Provide consultation to emergency physicians regarding the investigation and management of diseases of public health significance

### ***Collaboration***

- Develop, implement and evaluate approaches to community health issues that incorporate health protection, disease prevention (primary, secondary and tertiary) or health promotion strategies as appropriate.
- Work with other healthcare providers to ensure proper follow-up of infectious diseases of public health concern

### ***Health Advocate***

- Develop, implement and evaluate appropriate surveillance and control programs
- Participate in public health programs/protocols or initiatives which are aimed at reducing the burden of diseases of public health significance (animal bite reporting, reportable disease, post exposure prophylaxis, contact tracing, etc.)
- Report suspected outbreaks of infectious disease for investigation

### ***Leader***

- Identify and respond to public health emergencies appropriately
- Demonstrate leadership in the development of protocols to reduce the impact of epidemic or endemic disease on the emergency department and on resource utilization for the health care system in general.

- Encourage utilization of existing public health programs/protocols or initiatives to reduce the burden of diseases of public health significance

***Scholar***

- Use computers or information technology in epidemiological investigations and data analysis.
- Interpret epidemiologic studies and assess their validity and applicability to a particular situation

***Professional***

- Recognize learning needs and develop a plan to address the deficiencies
- Maintain patient confidentiality
- Adhere to legislation regarding mandatory reporting of infectious disease, MTO etc.

## **PGY 5 Year**

The PGY5 year is a time dedicated to exam preparation and solidifying the skills to become a specialist Emergency Medicine physician. The PGY5 resident is in charge of running Journal Club, as this should encourage active review of the most recent literature to help with exam preparation. The PGY5 resident will face an increasing number of practice oral and written exams to help prepare for the fellowship exam in June of the final year. The resident in the final year will be given a decreased workload in the last six (6) months of the year to facilitate studying at the discretion of the Program Director.

## ROTATIONAL GOALS AND OBJECTIVES FOR PGY 5 YEAR

### EMERGENCY MEDICINE (PGY5) - 13 blocks

PGY5 resident expectations during Emergency Medicine rotations are as follows:

#### ***Medical Expert***

##### **History and physical exam skills**

- Demonstrate superb skills in all patient encounters.
- Demonstrate sound, evidence based, cost effective, practical ordering of diagnostic tests for all types of ED patients.

##### **Judgement/Decision making**

- Demonstrate sound, timely, organized and evidence based skill for simple, difficult, complex and subtle cases.

##### **Knowledge Base**

- Fully meet the terminal goals and objectives in Emergency Medicine as listed in the Residency manual.

##### **Procedural skills**

- Demonstrate ability to safely perform all procedures mentioned from PGY1 to 4 with ease.
- Demonstrate knowledge of the risks and benefits of each procedure. Teach procedural skills effectively to junior learners.

##### **Resuscitation skills**

- Lead all types of resuscitation cases in the ED setting in a calm and efficient manner, Demonstrating excellent leadership skills.
- Teach during the resuscitations and transfer care at an appropriate time to the appropriate consultants during the resuscitation.

##### **Communicator**

- Demonstrate excellent skill in all types of encounters in the ED.

##### **Collaborator**

- Demonstrate effective skill dealing with all levels of medical and allied health staff.
- Demonstrate teamwork when addressing issues related to Emergency Department overcrowding.
- Promote a culture of patient safety
- Employ strategies to reduce patient adverse events and improve health care delivery.
- Provide responsive, effective emergency medicine consultation when requested.

##### **Health Advocate**

- Identify patient and populations at risk of disease and injury and advocate on their behalf.
- Identify and respond to opportunities to improve the health care system (quality assurance and quality improvement).

##### **Leader**

- Manage individual and multiple patients effectively, quickly and with ease.

- Demonstrate the ability to run the Emergency Department while ensuring good education for all trainees.
- Effectively manage patient volume surges.
- Demonstrate effective crisis resource management skills to intervene during crisis situation.
- Employ patient flow strategies to mitigate problems associated with overcrowding.
- Assume leadership role during mass casualty incidents.
- Participate in quality assurance and quality improvement processes in the emergency department.

### **Scholar**

- Complete the chosen scholarly activity.
- Participate in departmental clinical research.
- Participate in knowledge translation activities.
- Apply critical appraised literature to clinical practice.

### **Professional**

- Prepare well for clinical and academic work.
- Exhibit a professional demeanour (appearance, punctuality, work ethic).
- Exhibit the following qualities: reliability, honesty, maturity, respect for others, accepts constructive criticism and demonstrates sincere concern for others.
- Maintain membership in CAEP or other related EM societies.
- Demonstrate ethical practice in all areas.
- Demonstrate consistent use of strategies to promote physician wellness and a sustainable practice.
- Maintain appropriate boundaries in the doctor patient relationship.
- Take part in the evaluation systems for learning events to provide/contribute feedback to colleagues and teachers.

### **Map to CBME EPAs:**

- C1: Resuscitating and coordinating care for a critically ill patient
- C2: Resuscitating and coordinating care for a critically injured patient
- C3: Providing airway management and ventilation
- C4: Providing emergency sedation and systemic analgesia for diagnostic and therapeutic procedures
- C5: Identifying and managing patients with emergent medical or surgical presentations
- C6: Diagnosing and managing complicated urgent and non-urgent patient presentations
- C7: Managing the urgent and emergent presentation of the pregnant and post-partum patient
- C8: Managing patients with acute toxic ingestion or exposure
- C9: Managing a patient with an emergency mental health condition or behavioural emergency
- C10: Managing and supporting patients in situational crisis to access health care and community resources
- C11: Recognizing and managing patients who are at risk of exposure or who have experienced violence and/or neglect
- C12: Liaising with prehospital emergency medical services
- C13: Performing advanced procedures
- C14: Performing and interpreting point of care ultrasound to guide patient management
- TP1: Managing the emergency department to optimize patient care and department flow
- TP2: Teaching and supervising learning of trainees and other health professionals

TP3: Managing complex interpersonal interactions that arise during the course of a patient's care

TP4: Providing expert EM consultation to physicians or other healthcare providers

TP5: Coordinating and collaborating with health care professional colleagues to safely transition the care of a patient, including handover and facilitating inter-institution transport

TP6: Dealing with uncertainty when managing patients with ambiguous presentations