

Pediatric Emergency Medicine

Introduction

Until recently, there were no specific guidelines for what constitutes adequate training in Pediatric Emergency Medicine for residents of the one year fellowship program administered by the College of Family Physicians of Canada. Please refer to the document mentioned at the beginning of the manual.

General Description

The McGill C.F.P.C.(EM) Residency Training Program consists of a mandatory 2 period rotation in the University's center for Pediatric Emergency Medicine, the Montreal Children's Hospital (MCH). Furthermore, residents are encouraged to participate in the Pediatric Advanced Life Support course which is given annually by the MCH.

The Montreal Children's Hospital is a 178-bed tertiary care pediatric hospital that serves a large multicultural population. The Emergency Department is one of the busiest in Canada, with over 80,000 visits per year. Both medical and surgical cases are seen in the ED and residents rotate through both sectors. Approximately 8,000 children are admitted to the hospital each year, with 3,200 admissions to the medical teaching units or about 10 medical admissions/day. All pediatric subspecialties are represented at MCH.

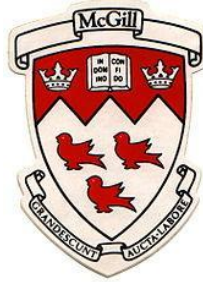
The Emergency Department of the MCH has a strong commitment to the teaching of students and residents. There are 22 full-time attending staff working in the Emergency Department, all with faculty positions and strong interests in Pediatric Emergency Medicine. The teaching of Emergency Medicine is well structured at the MCH. In addition to the large volume of patients seen in the Emergency Department and the availability of knowledgeable staff to help review cases and supervise patient care, there is a regular series of didactic and hands on teaching rounds to which attendance is mandatory for C.F.P.C.(EM) Residents. These include weekly X-ray rounds, Emergency Medicine rounds, senior resident rounds, where C.F.P.C.(EM) Residents are asked to present a topic, and weekly-arrests conducted in the Emergency Department crash room. A review of staff evaluations by residents reveals that 70% of the attending staff were ranked as above average or excellent in their teaching ability.

Most trainees in the C.F.P.C.(EM) Program are graduates of the McGill Family Medicine Residency and will have already spent a one month rotation in the MCH Emergency Department. Partly as a result of this, C.F.P.C.(EM) trainees are expected to function as senior residents when rotating through the Emergency Department, this involves caring for more critically ill patients and being given the role of principal

physician for patients requiring resuscitation or invasive procedures (i.e. lumbar puncture, central lines).

Residents who have gained the confidence of the attending staff are encouraged to take on a teaching role and review cases with more junior trainees.

1. Singer, J.I., and Hamilton, G.C. Objectives to direct training of emergency medicine residents in pediatric emergency medicine. Journal of Emergency Medicine, Vol.11, p.211 -218.



**Rotation Specific Learning Objectives
CCFP-EM Residency Program**

Pediatric Emergency Medicine Rotation

Overall Goal:

To utilize the relevant competencies contained within the CanMEDS-FM roles to develop the skills necessary to manage undifferentiated pediatric patient presentations to the emergency department.

Educational Objectives:

Role of Family Medicine-Emergency Medicine (FM-EM) Expert

The FM-EM resident will develop expertise in the ability to:

- Identify and treat pediatric conditions requiring immediate resuscitation or stabilization
- Learn to recognize the “toxic” versus “non-toxic” looking child
- Synthesize all available data, including interview, physical exam, and lab data to define each patient’s central clinical problem
- Formulate an appropriate differential diagnosis listing life-threatening and common (most likely) disorders

- Develop a strategy of investigation and treatment appropriate to the patients presenting complaint
- Modify differential diagnosis, investigations and treatment based on clinical course

The resident will develop expertise in the assessment and management of common pediatric emergency presentations and learn management principles in dealing with less common critical care presentations. These presentations may include:

NOTE: the following list contains broad categories of clinical presentations only. For a more complete list of clinical presentations the resident is referred to the document entitled “Educational Reference Manual: Core Emergency Medicine Training in Family Medicine Residency Programs”

<http://www.cfpc.ca/local/files/Education/CoreFamilyMed-ResidencyPrograms.pdf>

General

- Airway obstruction
- Neonatal resuscitation
- Neonatal cyanosis
- Respiratory Distress
- Shock
- Sepsis
- Trauma (blunt and penetrating)
- Fever
- Allergic reactions including anaphylaxis
- Child Abuse and non-accidental trauma

Cardiac

- Cardiac Arrest
- Arrhythmias (SVT, Bradycardias)
- Sudden death (including SIDS)
- Congenital Heart Disease

Neurologic

- Coma and Altered Level of Consciousness
- Seizure

- Headache
- Vertigo

Environmental

- Hypothermia and hyperthermia
- Acute or Chronic poisoning
- Burns and frostbite

Respiratory

- Dyspnea, stridor or wheeze (including bronchiolitis, croup)
- Cough
- Airway Foreign Bodies

Endocrine/Metabolic

- Hyper or hypoglycemia
- DKA
- Hyper/hypothyroidism
- Dehydration and electrolyte abnormalities

Psychiatry

- Psychosis and agitation
- Anxiety and panic
- Behavioral and personality disorders
- Suicidal Ideation and mood disorders

Ophthalmology

- Vision loss or disturbance
- Ocular pain
- The red eye
- Foreign body or chemical exposure

Gastrointestinal Disorders

- Abdominal Pain including the acute abdomen (appendicitis, intussusception, hernias, volvulus)
- Phymosis (and reduction)
- Vomiting, Diarrhea or constipation
- Jaundice in the newborn
- Ingested foreign body

Genito-urinary Disorders

- Urinary Retention, dysuria, hematuria or flank pain
- Scrotal pain or swelling (including torsion, hydroceles, epididymitis)
- Non-pregnancy pelvic pain, bleeding, or vaginal discharge (vaginal Foreign bodies)
- STI's in the adolescent

Dermatologic

- Rash
- Pruritis
- Abscess/Cellulitis

Musculoskeletal

- Fracture (including splinting and casting techniques)
- Lacerations
- Dislocations
- Limp or painful joint (including transient synovitis, septic joint)
- Swollen limb
- Foreign bodies
- Joint pain or swelling

Ear, Nose and Throat

- Epistaxis
- Sore throat
- Neck swelling
- Ear pain
- Dental pain

The Resident will develop expertise/familiarity in the following procedural skills:

- Airway Management
 - Bag-valve mask ventilation
 - Endotracheal intubation with standard laryngoscopy
- Alternative airway management techniques which may include use of LMA
- Circulatory access
 - Peripheral vein access
 - Intraosseous insertion
- Lumbar puncture
- Fracture reduction, casting and splinting
- Reduction of a dislocated joint
- Abscess incision and drainage
- Nail trephination/wedge resection/removal
- Regional anesthesia blocks
 - Supraorbital nerve
 - Infraorbital nerve
 - Mental nerve
 - Radial, median and ulnar nerve blocks
 - Digital blocks

- Dental blocks
- Wound management
 - Repair of lacerations
 - Simple debridement of wounds including burns
- Ophthalmological
 - Slit lamp examination of the eye
 - Corneal foreign body removal
- ENT
 - Nasal Packing
 - Nasal cautery
- Procedural Sedation including airway assessment

The resident will develop expertise in the indications for, risks of and interpretation of the following diagnostic tests:

- Arterial and venous blood gas
- O2 Sat
- Electrocardiogram
- Common Lab tests including ESR,CRP, osmolar gap, anion gap
- X-ray
 - Chest
 - Abdomen
 - Head, C-spine
 - MSK
 - Computed Tomography (basic interpretation)
 - Abdomen and Pelvis
 - Head
 - Chest
 - MRI (basic interpretation)

Role of Communicator

Overall Goal

The resident will communicate effectively with members of the healthcare team. The resident will facilitate the doctor-patient relationship and establish positive therapeutic relationships with patients and their families that are characterized by understanding, trust, respect, honesty and empathy.

The resident should demonstrate expertise in the ability to:

- Rapidly establish rapport with patients and families in such a way as to develop an understanding of patients' experiences of illness including their ideas, feelings, and expectations and of the impact of illness on the lives of patients and families
- Incorporate into the individual patient interaction an understanding of the human condition, especially the nature of suffering and patients' response to illness
- Overcome barriers to communication such as language, patient disabilities, cultural differences and age group differences
- Manage the difficult patient (or family) encounter
- Explain complex medical issues in language adapted to the needs of the individual patient
- Deliver bad news in a compassionate and humane manner including "death telling"
- Maintain clear (legible), accurate and concise medical records
- Discuss a "Goals of Care" designation level with patients and families

Role of Collaborator

Overall Goal

The resident will work cooperatively with patients, families and other members of the healthcare team to achieve optimal patient care.

The resident will demonstrate expertise in the ability to:

- Participate in a team based model in the care of emergency department pediatric patients
- 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 consultants individual skills
- Maintain respect for the principle of effective resource allocation
- Participate effectively in inter-professional team meetings, either as a team leader or a member of the team
- Demonstrate the use of crisis resource management skills when needed (communication, teamwork, situational awareness, and leadership)
- The resident will demonstrate a respectful attitude towards other colleagues and members of an inter-professional team
- The resident will function as a resource to the community as a consultant in emergency medicine

- Work to enhance the patient's continuing relationship with their family physician

Role of Manager

Overall Goal:

The resident will play a central role in the organization of the care delivered to patients during their emergency department visit. They will coordinate the members of the health care system and utilize resources in a way that sustains and improves the health of their patient population.

The resident will develop expertise in the ability to:

- Understand the principles of Quality Improvement (QI)
- Allocate finite healthcare resources appropriately
- Understand the issues that affect emergency department patient flow
 - Increased ability to manage patient volumes in the ED
- Work collaboratively with other health care professionals and community organizations to provide coordinated care for patients
- Use appropriate (electronic) decision support tools and references

Role of Health Advocate

Overall Goal

The resident will use their role as an emergency department physician to influence and advance the health and wellbeing of patients

The resident will develop expertise in the ability to:

- Evaluate patients with respect to determining their status regarding determinants of health and potential barriers to care and implement a disease prevention strategy tailored to each patient's unique status regarding those determinants of health
- Identify and respond to the health needs of the communities that they serve including vulnerable or marginalized population
- Understand the concepts of informed consent with patients and families

Role of Scholar

Overall Goal

To demonstrate a commitment to self-learning and the creation, translation, and dissemination of medical knowledge.

The resident should be able to:

- Adapt and increase their skills and knowledge to meet the needs of their pediatric emergency department patients
- Critically appraise the literature and its relevance to their practice
- Attend academic rounds to facilitate critical appraisal skills
- Incorporate into their emergency department practice the relevant published Clinical Practice Guidelines
- Facilitate the medical education of patients, families, emergency department learners, health professional colleagues and the public
- Take part in clinical teaching of junior learners in the Emergency Department
- Contribute to the creation, application and translation of new medical knowledge and practices
- Utilize local computer information systems and Computerized Physician Order Entry Systems

Role of Professional

Overall Goal

To display commitment to an ethical practice and high personal standards of behavior in a manner that is commensurate with the importance of the doctor-patient relationship.

The resident should:

- § Exhibit professional behaviours in practice including honesty, integrity, reliability, compassion, respect, altruism, and a sincere commitment to patient well-being
- Be punctual for clinical and educational events
- Follow through on assigned tasks
- Demonstrate respect for colleagues and team members
- Recognize the principles and limits of patient confidentiality
- Maintain appropriate professional boundaries
- Balance personal and professional priorities to ensure personal health during the rotation

- The resident will respect the appropriate boundaries of the doctor patient relationship
- The resident will respect patient confidentiality and privacy.
- The resident will have respect for patient autonomy as a major guiding principle in the doctor-patient relationship

Take part in evaluation systems for learning events in order to provide/contribute feedback to colleagues/teachers