

**Pediatric Emergency Medicine – ROTATION DESCRIPTION AND EXPECTATIONS (RDE)  
Pediatric Emergency Medicine Subspecialty Residency - University of Calgary**

**ROTATION DESCRIPTION**

*Rotation length*

Residents will engage in 13 blocks of PEM over the course of their subspecialty residency. Standard rotation length is 16 shifts over 4 weeks. Shift reduction is allowed per the PEM Vacation and Education and Leave Policy

([https://docs.google.com/document/d/1pQddx9VLT74sny263koOMLAg\\_MWns9Au/edit?usp=sharing&oid=100114742872973660072&rtpof=true&sd=true](https://docs.google.com/document/d/1pQddx9VLT74sny263koOMLAg_MWns9Au/edit?usp=sharing&oid=100114742872973660072&rtpof=true&sd=true)).

*Assessment*

Residents will obtain EPAs based on their level of training from their preceptors during their shifts. They will also receive a daily evaluation that will be reviewed at the end of the block by the program director and the resident's academic advisor. The daily evaluations will be summarized every quarter by the academic advisor into an ITAR and reviewed by the Competence Committee on a quarterly basis. Residents are also encouraged to obtain 360 evaluations from patients during their rotation. Residents are encouraged to prompt their longitudinal preceptors to request multisource feedback from allied health professionals during their shifts.

*EPAs*

The following EPAs have been mapped to this rotation and can be obtained:

*\*Refers to EPAs that must be prioritized on this rotation, very likely to occur*

*TTD	<b>1</b>	Performing and Presenting an Initial Assessment
*FOD	<b>1</b>	Assessing and Providing Initial Management for Patients who are Critically Ill
*FOD	<b>2</b>	Assessing and Providing Initial Management for Patients with a Suspected Multi-System Trauma
*FOD	<b>3</b>	Managing Patients with a Common and Uncomplicated Presentation
*FOD	<b>4</b>	Communicating with Patients and Families About Assessment Findings and Management Plans
*FOD	<b>5</b>	Working Effectively with Other Members of the Interprofessional Team
*CORE	<b>1</b>	Providing Resuscitation for Patients who are Critically Ill
*CORE	<b>2</b>	Managing Patients with an Acute Injury
*CORE	<b>3</b>	Managing Patients with a Complex Presentation of an Acute Illness
*CORE	<b>4</b>	Managing Patients with a Mental Health Emergency
*CORE	<b>5</b>	Managing Patients with a Acute Toxic Ingestion or Exposure
*CORE	<b>6</b>	Recognizing and Managing Suspected Child Maltreatment and/or Neglect
*CORE	<b>7</b>	Providing Sedation and Systemic Analgesia for Patients Undergoing Procedures in the ED
*CORE	<b>8</b>	Performing the Procedures of Pediatric Emergency Medicine
*CORE	<b>9</b>	Performing and Interpreting Point-Of-Care Ultrasound to Guide Patient Management
*CORE	<b>10</b>	Managing a Personal Clinical Workload of Patients in the Pediatric Emergency Department

*CORE	<b>11</b>	Managing Emotionally Charged Interactions with Patients, Families and/or Other Health Care Professionals
*CORE	<b>12</b>	Coordinating Care with Other Services
*CORE	<b>13</b>	Providing Clinical Teaching and Supervision
*TTP	<b>1</b>	Managing the Pediatric ED to Optimize Patient Care and Department Flow
*TTP	<b>2</b>	Providing Handover of the Pediatric ED
*TTP	<b>3</b>	Providing Consultation to Health Care Providers at a Referring Centre
*TTP	<b>4</b>	Managing Test Results Received After a Patient Has Left the ED

The following procedural EPAs have been mapped to this rotation and can be obtained:

*\*Refers to EPAs that must be prioritized on this rotation, very likely to occur*

*Bag/Valve/Mask Ventilation (2)
*Cardioversion/Defibrillation (1)*
*Casting Without Reduction Lower Limb (1)
*Casting Without Reduction Upper Limb (1)
*Chest Tube Placement - Percutaneous (1)*
*Chest Tube Placement - Traditional (1)*
*Endotracheal Intubations (3) - <i>Min 1 infant</i> - <i>Min 1 adolescent/adult</i>
*Gastrostomy Tube Replacement/Temporization (1)*
*Incision and Drainage of Abscess (1)
*Intraosseous Insertion (1)*
*Lumbar Puncture in an Infant (1)
*Lumbar Puncture in a Child or Adolescent/Adult (1)
*Laryngeal Mask Airway Insertion (1)
*Surgical Airway (1)*
*Reductions of an Extremity Fracture (3)
*Wound Repair - Simple (2)
*Wound Repair - Complex (2)

## **ROTATION EXPECTATIONS (PEM Competencies 2023)**

At the completion of training, the resident will have acquired the following competencies and will function effectively as:

### **Medical Expert:**

#### **1. Practise medicine within their defined scope of practice and expertise**

- 1.1. Demonstrate a commitment to high-quality care of their patients
- 1.2. Integrate the CanMEDS Intrinsic Roles into their practice of Pediatric Emergency Medicine
- 1.3. Apply knowledge of the clinical and biomedical sciences relevant to Pediatric Emergency Medicine
  - 1.3.1. Growth and development, including physical, psychological, social, and sexual
  - 1.3.2. Anatomy, physiology, and pathophysiology as related to clinical presentations in Pediatric Emergency Medicine
    - 1.3.2.1. Anatomy of the internal organs and the musculoskeletal and neurologic systems, including surface anatomy and sonoanatomy, to guide diagnostic and therapeutic procedures
    - 1.3.2.2. Physiology and pathophysiology as it applies to the cardiovascular, pulmonary, gastrointestinal and hepatobiliary, genitourinary, gynecologic, endocrine, neurological, musculoskeletal, hematologic, immunologic and integumentary systems, including pregnancy
    - 1.3.2.3. Pathophysiology of shock and infection
  - 1.3.3. Etiology of community and hospital-acquired infections
  - 1.3.4. Epidemiology of illness and injury
    - 1.3.4.1. Major causes of illness by age
    - 1.3.4.2. Major causes of injury by age
    - 1.3.4.3. Major causes of death by age
  - 1.3.5. Immunization
    - 1.3.5.1. Indications for immunization after injury or potential exposure to infectious agents
    - 1.3.5.2. Management of the under vaccinated child
    - 1.3.5.3. Management of vaccine hesitancy
  - 1.3.6. Principles of investigation and testing
    - 1.3.6.1. Minimization of pain and distress
    - 1.3.6.2. Diagnostic imaging modalities and their indications, contraindications, and risks
    - 1.3.6.3. Cumulative radiation dose and the application of the ALARA (as low as reasonably achievable) principle
    - 1.3.6.4. Indications for and methods of sedation and immobilization
    - 1.3.6.5. Utility, applications, and limitations of point-of-care ultrasound (POCUS)
  - 1.3.7. Non-pharmacologic approaches to the management of pain

- 1.3.8. Pharmacology as it relates to the pharmacokinetics, pharmacodynamics, mechanism of action, routes of delivery, and adverse effects of the following:
  - 1.3.8.1. Analgesics and sedatives
  - 1.3.8.2. Antimicrobials
  - 1.3.8.3. Cardiovascular medications
  - 1.3.8.4. Endocrine medications
  - 1.3.8.5. Immune-modulating therapies
  - 1.3.8.6. Medications used in resuscitation
  - 1.3.8.7. Neuropsychiatric medications
  - 1.3.8.8. Respiratory medications
  - 1.3.8.9. Alternative and complementary medications and products
- 1.3.9. Use of blood products, including indications, precautions, and dosing
  - 1.3.9.1. Massive blood transfusion protocol
- 1.3.10. Toxicology as relevant to clinical presentations in Pediatric Emergency Medicine
  - 1.3.10.1. Drug overdoses
  - 1.3.10.2. Substances of abuse and misuse
  - 1.3.10.3. Other poisonings and ingestions
  - 1.3.10.4. Methods to prevent absorption and enhance elimination
  - 1.3.10.5. Antidotes, including indications, precautions, and dosing
- 1.3.11. Acute care, including emergencies and critical care
  - 1.3.11.1. Algorithms for neonatal resuscitation, including neonatal resuscitation program (NRP) guidelines or equivalent
  - 1.3.11.2. Algorithms for pediatric cardiopulmonary resuscitation, including pediatric advanced life support (PALS) guidelines or equivalent
  - 1.3.11.3. Assessment and management of major trauma, including advanced trauma life support (ATLS) guidelines or equivalent
  - 1.3.11.4. Invasive and non-invasive mechanical ventilation
  - 1.3.11.5. Indications for and techniques of cooling and warming procedures
  - 1.3.11.6. Indications for and techniques of providing procedural sedation
  - 1.3.11.7. Role and logistics of both inter- and intrahospital transport of acutely ill children
  - 1.3.11.8. Neurologic determination of death
  - 1.3.11.9. Principles of organ and tissue donation

### 1.3.12. Injury

1.3.12.1. Injury prevention and analysis of injury events

1.3.12.2. Mechanisms of injury

1.3.12.3. Environmental exposures, including biological, chemical, hyperbaric, and radiation

1.3.12.4. Animal bites and envenomations

1.3.12.5. Management of the injured patient

### 1.3.13. Clinical features, diagnostic criteria, epidemiology, natural history, pathophysiology, complications, and prognosis of illnesses in the following categories

1.3.13.1. Allergic

1.3.13.2. Cardiovascular

1.3.13.3. Endocrinologic

1.3.13.4. Gynecologic and obstetrical

1.3.13.5. Gastrointestinal and hepatobiliary

1.3.13.6. Hematologic

1.3.13.7. Inborn errors of metabolism

1.3.13.8. Infectious

1.3.13.9. Neurologic

1.3.13.10. Oncologic

1.3.13.11. Ophthalmic

1.3.13.12. Orthopedic

1.3.13.13. Otolaryngologic

1.3.13.14. Psychiatric and behavioural

1.3.13.15. Renal and genitourinary

1.3.13.16. Respiratory

1.3.13.17. Rheumatologic

### 1.3.14. Social determinants of health

1.3.14.1. Impact of poverty and food and housing insecurity

1.3.14.2. Factors influencing access and barriers to healthcare

1.3.14.3. Factors placing children at risk of maltreatment and neglect

### 1.3.15. Factors impacting the health of Indigenous peoples

1.3.15.1. Effects of colonization on and the healthcare disparities of Indigenous peoples

1.3.15.2. Historical agreements and legislation that govern healthcare

1.3.15.3. Epidemiology of medical conditions affecting Indigenous children, and recommendations for screening

1.3.15.4. Jordan's Principle

1.3.15.5. Traditional healing practices

1.3.15.6. Truth and Reconciliation Commission of Canada: Calls to Action report and implications for health care

- 1.3.16. Legal and regulatory issues in the care of children
  - 1.3.16.1. Assent and consent
  - 1.3.16.2. Capacity and medical decision-making
  - 1.3.16.3. Involuntary hospitalization and treatment
  - 1.3.16.4. Mandatory reporting
  - 1.3.16.5. Privacy and confidentiality
  - 1.3.16.6. Pronouncement of death and the role of the coroner or the medical examiner
- 1.3.17. Prehospital medicine
  - 1.3.17.1. Organization and administration of emergency medical services
  - 1.3.17.2. Paramedics, including levels of providers and scopes of practice
  - 1.3.17.3. Out-of-hospital care, including roles of emergency response systems, dispatch, and out-of-hospital protocols
  - 1.3.17.4. Medical direction, including direct (online) and indirect (offline) medical oversight
  - 1.3.17.5. Medical considerations of air transport
  - 1.3.17.6. Equipment and transportation needs specific to children
- 1.3.18. Disaster management
  - 1.3.18.1. Disaster preparedness
  - 1.3.18.2. Systems of triage
  - 1.3.18.3. Mass casualty incident management
  - 1.3.18.4. Decontamination procedures for chemical exposures
  - 1.3.18.5. Incident command systems
- 1.4. Perform appropriately timed clinical assessments with recommendations that are presented in an organized manner
- 1.5. Carry out professional duties in the face of multiple competing demands
  - 1.5.1. Triage and prioritize when dealing with single or multiple critically ill patient(s)
  - 1.5.2. Work efficiently in an environment with large patient volumes and rapidly changing priorities, including simultaneous performance of multiple tasks and appropriate change in focus
- 1.6. Recognize and respond to the complexity, uncertainty, and ambiguity inherent in pediatric emergency medicine practice

## **2. Perform a patient-centred clinical assessment and establish a management plan**

### **2.1. Prioritize issues to be addressed in a patient encounter**

2.1.1. Recognize and manage crisis situations and critical illness or injury

### **2.2. Elicit a history, perform a physical exam, select appropriate investigations, and interpret their results for the purpose of diagnosis and management, disease prevention, and health promotion**

2.2.1. Adapt the assessment to the child's age and developmental level

2.2.2. Elicit the history in a timely manner

2.2.3. Gather information about psychosocial and family considerations relevant to the presentation

2.2.4. Use collateral sources of information to complete or substantiate clinical information

2.2.5. Perform a mental health assessment to determine a patient's risk for self-harm or harm to others

2.2.6. Perform clinical assessments in a manner that recognizes and minimizes pain and distress

2.2.7. Perform timely and selective clinical reassessments to optimize and facilitate patient care

2.2.8. Perform specialized examination techniques when indicated, including

2.2.8.1. Newborn examination

2.2.8.2. Eye examination

2.2.8.2.1. Lid eversion

2.2.8.2.2. Fluorescein instillation

2.2.8.2.3. Slit lamp examination

2.2.8.3. Urogenital examination

2.2.8.3.1. Prepubertal genital examination

2.2.8.3.2. Adolescent pelvic exam

2.2.8.3.3. Collection of specimens for sexually transmitted infections

2.2.8.4. Assessment of child maltreatment

2.2.9. Select investigations with attention to diagnostic utility, safety, availability, and cost

2.2.10. Interpret the results of laboratory investigations

2.2.11. Interpret the following investigations

2.2.11.1. Electrocardiograms

2.2.11.2. Medical imaging, including

2.2.11.2.1. Radiographs

2.2.11.2.1.1. Abdominal

2.2.11.2.1.2. Chest

2.2.11.2.1.3. Skull

- 2.2.11.2.1.4. Spine and extremity
  - 2.2.11.2.2. Critical findings of
    - 2.2.11.2.2.1. Abdominal/pelvic computed tomography (CT) and ultrasound
    - 2.2.11.2.2.2. Chest CT
    - 2.2.11.2.2.3. Cranial CT
    - 2.2.11.2.2.4. Imaging done as a part of a trauma protocol
  - 2.2.11.2.3. POCUS examinations
- 2.2.12. Use sound clinical reasoning and judgment to guide diagnostic and management decisions, including in circumstances where complete clinical or diagnostic information is not immediately available
- 2.2.13. Recognize and mitigate the risk of over-investigation and over-diagnosis
- 2.3. Establish goals of care in collaboration with children and their families, which may include slowing disease progression, treating symptoms, achieving cure, improving function, and palliation
- 2.4. Establish patient-centered management plans for:
  - 2.4.1. Resuscitation of critically ill presentations
    - 2.4.1.1. Airway emergencies
    - 2.4.1.2. Cardiopulmonary arrest
    - 2.4.1.3. Respiratory failure or arrest
    - 2.4.1.4. Anaphylaxis
    - 2.4.1.5. Shock
    - 2.4.1.6. Sepsis
    - 2.4.1.7. Trauma
      - 2.4.1.7.1. Blunt and penetrating injuries
      - 2.4.1.7.2. Burns: chemical, electrical, and thermal
  - 2.4.2. Acute medical and surgical presentations and findings, including
    - 2.4.2.1. Systemic
      - 2.4.2.1.1. Acute intoxication and withdrawal
      - 2.4.2.1.2. Brief resolved unexplained event (BRUE)
      - 2.4.2.1.3. Drowning and submersion injuries
      - 2.4.2.1.4. Fever of unknown origin
      - 2.4.2.1.5. Hypertension
      - 2.4.2.1.6. Hypothermia and cold-related injuries
      - 2.4.2.1.7. Hyperthermia and heat-related illnesses
      - 2.4.2.1.8. Poor feeding, weight loss, and failure to thrive



- 2.4.2.1.9. Toxidromes
- 2.4.2.2. Cardiovascular
  - 2.4.2.2.1. Chest pain
  - 2.4.2.2.2. Congestive heart failure
  - 2.4.2.2.3. Cyanosis
  - 2.4.2.2.4. Dysrhythmias
  - 2.4.2.2.5. Heart murmurs
  - 2.4.2.2.6. Syncope
- 2.4.2.3. Dental and oral
  - 2.4.2.3.1. Dental infections, including abscesses
  - 2.4.2.3.2. Fractures, avulsions, and dislocations of primary and secondary teeth
  - 2.4.2.3.3. Intraoral lacerations and soft tissue injuries
  - 2.4.2.3.4. Oral lesions
  - 2.4.2.3.5. Toothache
- 2.4.2.4. Dermatologic
  - 2.4.2.4.1. Bites and infestations
  - 2.4.2.4.2. Dermatitis and other rashes
  - 2.4.2.4.3. Desquamating conditions
  - 2.4.2.4.4. Drug reactions
  - 2.4.2.4.5. Psoriasis
- 2.4.2.5. Endocrinologic
  - 2.4.2.5.1. Adrenal insufficiency
  - 2.4.2.5.2. Diabetic ketoacidosis
  - 2.4.2.5.3. Hypocalcemia and hypercalcemia
  - 2.4.2.5.4. Hypoglycemia and hyperglycemia
  - 2.4.2.5.5. Thyroid storm
- 2.4.2.6. Gastrointestinal and hepatobiliary
  - 2.4.2.6.1. Abdominal mass
  - 2.4.2.6.2. Abdominal pain
  - 2.4.2.6.3. Constipation
  - 2.4.2.6.4. Diarrhea
  - 2.4.2.6.5. Dysphagia
  - 2.4.2.6.6. Gastrointestinal (GI) bleeding, upper and lower
  - 2.4.2.6.7. Hepatosplenomegaly
  - 2.4.2.6.8. Jaundice

- 2.4.2.6.9. Vomiting
- 2.4.2.7. Gynecologic
  - 2.4.2.7.1. Abnormal vaginal bleeding
  - 2.4.2.7.2. Dysmenorrhea
  - 2.4.2.7.3. Pelvic pain
  - 2.4.2.7.4. Vaginal discharge
- 2.4.2.8. Hematologic
  - 2.4.2.8.1. Anemia
  - 2.4.2.8.2. Asplenia and splenic dysfunction
  - 2.4.2.8.3. Disorders of coagulation
  - 2.4.2.8.4. Hepatosplenomegaly
  - 2.4.2.8.5. Lymphadenopathy
  - 2.4.2.8.6. Petechiae
  - 2.4.2.8.7. Transfusion reactions
- 2.4.2.9. Inborn errors of metabolism
  - 2.4.2.9.1. Acidosis
  - 2.4.2.9.2. Hyperammonemia
  - 2.4.2.9.3. Hypoglycemia
  - 2.4.2.9.4. Dysmorphism
  - 2.4.2.9.5. Organomegaly
- 2.4.2.10. Infectious diseases
  - 2.4.2.10.1. Body fluid exposures
  - 2.4.2.10.2. Lymphadenitis
  - 2.4.2.10.3. Postinfectious vasculitis
  - 2.4.2.10.4. Skin and soft tissue infections
- 2.4.2.11. Neurologic
  - 2.4.2.11.1. Altered level of consciousness and coma
  - 2.4.2.11.2. Ataxia
  - 2.4.2.11.3. Dizziness and vertigo
  - 2.4.2.11.4. Focal neurological deficits
  - 2.4.2.11.5. Headache
  - 2.4.2.11.6. Hypotonia and hypertonia
  - 2.4.2.11.7. Paralysis
  - 2.4.2.11.8. Seizure

- 2.4.2.11.9. Weakness
- 2.4.2.12. Obstetric
  - 2.4.2.12.1. First trimester nausea and vomiting, including hyperemesis gravidarum
  - 2.4.2.12.2. Pelvic pain
  - 2.4.2.12.3. Vaginal bleeding
- 2.4.2.13. Ophthalmologic
  - 2.4.2.13.1. Painful eye
  - 2.4.2.13.2. Red eye
  - 2.4.2.13.3. Visual disturbances
- 2.4.2.14. Orthopedic
  - 2.4.2.14.1. Arthritis and arthralgia
  - 2.4.2.14.2. Fractures and dislocations
  - 2.4.2.14.3. Limp
  - 2.4.2.14.4. Neck and back pain
- 2.4.2.15. Otolaryngologic
  - 2.4.2.15.1. Epistaxis
  - 2.4.2.15.2. Hearing loss
  - 2.4.2.15.3. Neck mass
  - 2.4.2.15.4. Otagia
  - 2.4.2.15.5. Sore throat
  - 2.4.2.15.6. Tonsillar hemorrhage
- 2.4.2.16. Psychiatric and behavioural
  - 2.4.2.16.1. Aggression
  - 2.4.2.16.2. Agitation
  - 2.4.2.16.3. Anxiety
  - 2.4.2.16.4. Crying infant
  - 2.4.2.16.5. Depression
  - 2.4.2.16.6. Grief and loss
  - 2.4.2.16.7. Psychosis
  - 2.4.2.16.8. Somatic symptoms
  - 2.4.2.16.9. Suicidal ideation

2.4.2.17. Renal and genitourinary

- 2.4.2.17.1. Acidosis and alkalosis
- 2.4.2.17.2. Fluid and electrolyte abnormalities
- 2.4.2.17.3. Dysuria
- 2.4.2.17.4. Hematuria
- 2.4.2.17.5. Myoglobinuria
- 2.4.2.17.6. Urethral discharge
- 2.4.2.17.7. Urinary frequency
- 2.4.2.17.8. Urinary retention and obstruction
- 2.4.2.17.9. Scrotal pain and swelling

2.4.2.18. Respiratory

- 2.4.2.18.1. Apnea
- 2.4.2.18.2. Chest pain
- 2.4.2.18.3. Cough
- 2.4.2.18.4. Dyspnea
- 2.4.2.18.5. Hemoptysis
- 2.4.2.18.6. Inhalational injury
- 2.4.2.18.7. Stridor
- 2.4.2.18.8. Wheeze

2.4.2.19. Rheumatologic

- 2.4.2.19.1. Fever and inflammatory syndromes
- 2.4.2.19.2. Monoarthritis
- 2.4.2.19.3. Polyarthritis

2.4.2.20. Conditions presenting in special populations, including

- 2.4.2.20.1. Patients with
  - 2.4.2.20.1.1. Cancer
  - 2.4.2.20.1.2. Complex or chronic pain
  - 2.4.2.20.1.3. Medical complexity, including children dependent on technology
  - 2.4.2.20.1.4. Neurodevelopmental disorders and intellectual complexity

- 2.4.2.20.2. Patients who are
  - 2.4.2.20.2.1. At the end of life
  - 2.4.2.20.2.2. Gender diverse
  - 2.4.2.20.2.3. Immunocompromised, including transplant recipients
  - 2.4.2.20.2.4. Victims of neglect or physical or sexual abuse or assault
- 2.4.2.20.3. Recent immigrants, international adoptees, and refugees
- 2.4.2.20.4. Returning travelers

### **3. Plan and perform procedures and therapies for the purpose of assessment and/or management**

- 3.1. Determine the most appropriate procedures or therapies
- 3.2. Obtain and document informed consent, explaining the risks and benefits of, and the rationale for, a proposed procedure or therapy
- 3.3. Prioritize procedures or therapies, taking into account clinical urgency and available resources
- 3.4. Perform procedures in a skillful and safe manner, adapting to unanticipated findings or changing clinical circumstances
  - 3.4.1. Neonatal and pediatric resuscitation
    - 3.4.1.1. Oxygen delivery and suctioning
    - 3.4.1.2. Airway adjuncts and positioning techniques
    - 3.4.1.3. Bag and mask ventilation
    - 3.4.1.4. Placement of laryngeal mask airway (LMA)
    - 3.4.1.5. Rapid sequence intubation
    - 3.4.1.6. Direct and indirect laryngoscopy
    - 3.4.1.7. Management of the difficult airway
    - 3.4.1.8. Removal of supraglottic foreign body
    - 3.4.1.9. Emergency cricothyrotomy and transtracheal ventilation
    - 3.4.1.10. Initiation of mechanical ventilation
    - 3.4.1.11. Chest compressions
    - 3.4.1.12. Cardiac pacing, external
    - 3.4.1.13. Cardioversion: vagal maneuvers, chemical, and electrical
    - 3.4.1.14. Defibrillation
  - 3.4.2. Trauma life support
    - 3.4.2.1. Cervical spine immobilization
    - 3.4.2.2. Control of exsanguinating external hemorrhage
    - 3.4.2.3. Needle decompression of chest

- 3.4.2.4. Pericardiocentesis
- 3.4.2.5. Thoracostomy: finger and tube
- 3.4.2.6. Application of pelvic binder
- 3.4.3. Vascular access
  - 3.4.3.1. Peripheral
  - 3.4.3.2. Central
  - 3.4.3.3. Intraosseous
  - 3.4.3.4. Umbilical vessel catheterization
  - 3.4.3.5. Venipuncture for sampling
  - 3.4.3.6. Arterial puncture for sampling
  - 3.4.3.7. Arterial puncture for line placement
- 3.4.4. POCUS examinations
  - 3.4.4.1. Identification of
    - 3.4.4.1.1. Abdominal or pelvic free fluid
    - 3.4.4.1.2. Cardiac standstill
    - 3.4.4.1.3. Hemothorax or pleural effusion
    - 3.4.4.1.4. Pericardial effusion
    - 3.4.4.1.5. Pneumothorax
    - 3.4.4.1.6. Soft tissue fluid collection or foreign body
  - 3.4.4.2. Facilitation of
    - 3.4.4.2.1. Fracture reduction
    - 3.4.4.2.2. Nerve block
    - 3.4.4.2.3. Vascular access
- 3.4.5. Procedural sedation and analgesia
  - 3.4.5.1. Administration of local and regional anesthesia
  - 3.4.5.2. Systemic sedation and analgesia
- 3.4.6. Dental
  - 3.4.6.1. Reimplantation of an avulsed permanent tooth
- 3.4.7. Gastrointestinal
  - 3.4.7.1. Gastric intubation
  - 3.4.7.2. Gastrostomy tube replacement
  - 3.4.7.3. Hernia reduction
  - 3.4.7.4. Reduction of rectal prolapse

### 3.4.8. Genitourinary

- 3.4.8.1. Bladder catheterization
- 3.4.8.2. Management of zipper injuries
- 3.4.8.3. Manual testicular detorsion
- 3.4.8.4. Reduction of paraphimosis
- 3.4.8.5. Vaginal foreign body removal

### 3.4.9. Head and neck

- 3.4.9.1. Drainage and packing of hematomas: nasal septal and pinna
- 3.4.9.2. Management of epistaxis
- 3.4.9.3. Management of post-tonsillectomy bleeding
- 3.4.9.4. Removal of foreign body from the nose and external auditory canal

### 3.4.10. Injury and wound management

- 3.4.10.1. Burn management
- 3.4.10.2. Incision and drainage of abscess
- 3.4.10.3. Removal of
  - 3.4.10.3.1. Subcutaneous foreign bodies
  - 3.4.10.3.2. Fishhook
  - 3.4.10.3.3. Hair tourniquet
  - 3.4.10.3.4. Piercing
  - 3.4.10.3.5. Ring
- 3.4.10.4. Repair of digital amputation
- 3.4.10.5. Repair of nailbed injury
- 3.4.10.6. Single and multilayer closure of lacerations

### 3.4.11. Neurologic

- 3.4.11.1. Lumbar puncture and measurement of cerebrospinal fluid pressure

### 3.4.12. Ophthalmologic

- 3.4.12.1. Contact lens removal
- 3.4.12.2. Eye guard application
- 3.4.12.3. Foreign body removal
- 3.4.12.4. Irrigation and decontamination
- 3.4.12.5. Lateral canthotomy

- 3.4.13. Orthopedic
  - 3.4.13.1. Arthrocentesis of the knee
  - 3.4.13.2. Reduction of common dislocations
  - 3.4.13.3. Reduction of common fractures
  - 3.4.13.4. Splinting and casting
- 3.4.14. Respiratory
  - 3.4.14.1. Replacement of a tracheostomy cannula
  - 3.4.14.2. Tracheal suctioning

#### **4. Establish plans for ongoing care and, when appropriate, timely consultation**

- 4.1. Implement a patient-centred care plan that supports ongoing care, follow-up on investigations, response to treatment, and further consultation
  - 4.1.1. Determine the need for and provide vaccination or post-exposure prophylaxis
  - 4.1.2. Determine the need for consultation with another physician
  - 4.1.3. Determine the need for referral to mental health or psychological services
  - 4.1.4. Determine the need for referral for social supports
  - 4.1.5. Coordinate outpatient care and follow-up for a discharged patient
  - 4.1.6. Provide follow-up for diagnostic test results that become available after a patient's discharge from the emergency department

#### **5. Actively contribute, as an individual and as a member of a team providing care, to the continuous improvement of health care quality and patient safety**

- 5.1. Recognize and respond to harm from healthcare delivery, including patient safety incidents
- 5.2. Adopt strategies that promote patient safety and address human and system factors
  - 5.2.1. Apply the principles of situational awareness to clinical practice
  - 5.2.2. Apply safe practices in the use of physical and chemical restraints
  - 5.2.3. Apply appropriate measures for protection of patients and health care providers to avoid exposure to or contamination from risks, including infectious agents and biologic, chemical, and radiation hazards

For Communicator, Collaborator, Leader, Health Advocate, Scholar, Professional competencies, please review the appropriate section of the Pediatric Emergency Medicine Competencies document at: <https://www.royalcollege.ca/content/dam/documents/ibd/pediatric-emergency-medicine/pem-competencies-e.pdf>