

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

ROTATION DESCRIPTION

Rotation length

The orthopedics rotation is a 4-week rotation. Vacation requests are 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).

Assessment

After completion of the rotation, an ITAR is sent to the Orthopedics Evaluation Coordinator for completion.

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*

FOD	1	Assessing and Providing Initial Management for Patients who are Critically Ill
FOD	2	Assessing and Providing Initial Management for Patients with a Suspected Multi-System Trauma
FOD	4	Communicating with Patients and Families About Assessment Findings and Management Plans
FOD	5	Working Effectively with Other Members of the Interprofessional Team
CORE	2	Managing Patients with an Acute Injury
CORE	6	Recognizing and Managing Suspected Child Maltreatment and/or Neglect
CORE	8	Performing the Procedures of Pediatric Emergency Medicine
CORE	14	Delivering Scholarly Teaching in a Formal Setting

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*

*Casting Without Reduction Lower Limb (1)
*Casting Without Reduction Upper Limb (1)
*Reductions of an Extremity Fracture (3)

Rotation structure

In order to ensure that rotation objectives are met, the Paediatric Orthopedics rotation is structured to expose the resident to a breadth of clinical conditions in various environments, as well as more formal academic sessions and resources.

The 4-week rotation is structured as follows:

- Week 1: On the first Monday of the rotation, the resident should present at 0630 for a brief rotation orientation with the orthopedics residents in the MSK conference room (1st floor by the Cast Clinic). Each morning teaching rounds will occur at 0700 in the MSK conference room. The resident will then round with the orthopedics residents on ward patients until 0800, and then spend the morning in cast clinic with the ortho techs (0800-1200). The resident may work with the orthopedic surgeon at their discretion depending on the volume of casting to be performed. The resident spends the afternoon (1300-1700) with ortho techs in the emergency department; the focus is on casting skills.*
- Week 2/3: The resident meets for morning teaching rounds at 0700, followed by ward rounds, and then spends the morning and afternoon in cast clinic and miscellaneous clinic with the orthopedic surgeons; 75% of time is spent in cast clinic, 25% in miscellaneous clinic; focus is on diagnosis and management of acute traumatic and atraumatic orthopedic conditions.*
- Week 4: The resident does four shifts in the Emergency Department, reviewing all fractures and dislocations with clerks and residents on-shift and performing all reductions; the resident is supervised by ED staff physicians.*

*Note: Focus during this rotation should be primarily on cast clinics versus other orthopedic clinics.

The resident's call responsibilities will be as follows:

- Weeks 1/3: The resident is on-call to the Emergency Department from 0800 to 1600, Monday to Friday, for reductions; these reductions are to take priority over clinic activities, and the resident may leave the clinic to perform a reduction.*
- Weeks 1/3: The resident is on-call for the emergency department and wards on a 1:3 basis; the service will do its best to limit call to 2200 if there is enough house staff/ortho CAs to cover the nights. However, this may not be the case. The resident does not take outside (e.g. RAAPID) calls; attendance in the operating room for emergency cases while on-call is to be decided on a case-by-case basis by the attending orthopedic surgeon and the resident. On evening he/she is on call, the resident is expected to participate in afternoon sign-over rounds to familiarize themselves with all inpatients on the service.*
- Week 4: No call responsibilities for either the ward or ED; resident does four orthopedic-focused ED shifts during this week.*

In addition, the following academic activities and resources are available:

1. *Mandatory* attendance at daily resident education rounds, 0700 in the MSK conference room, during weeks one to three.
2. *Mandatory* presentation at weekly resident education rounds once during the rotation; presentation is to be 30-40 minutes in length and should cover a topic that the resident does not already have familiarity with; the resident should aim to cover a more uncommon condition; present during weeks two or three.

3. *Mandatory* attendance at weekly quality assurance rounds, Thursday 0700 in the MSK conference room, during weeks one to three; these rounds review the indications for surgeries in the coming week and the complications of fracture management and casting done in the emergency department.
4. *Optional* attendance at monthly pediatric surgery rounds, Friday 0715 (once/month)
5. *Optional* recommended resources for the resident to use:
 - University of Hawaii Radiology Cases in PEM website.
 - Textbook of Disorders and Injuries of the Musculoskeletal System, Robert B. Salter.

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
 - 1.3.2. 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
 - 1.3.4. Epidemiology of illness and injury
 - 1.3.4.2. Major causes of injury by age
 - 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
 - 1.3.12. Injury
 - 1.3.12.1. Injury prevention and analysis of injury events
 - 1.3.12.2. Mechanisms of injury
 - 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

1.3.13.12. Orthopedic

1.4. Perform appropriately timed clinical assessments with recommendations that are presented in an organized manner

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

2.2.11. Interpret the following investigations

2.2.11.2. Medical imaging, including

2.2.11.2.1. Radiographs

2.2.11.2.1.4. Spine and extremity

2.4. Establish patient-centred management plans for:

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

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

3.4.4. POCUS examinations

3.4.4.2. Facilitation of

3.4.4.2.1. Fracture reduction

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

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>