**Pediatric Anesthesia – ROTATION SPECIFIC OBJECTIVES**

**Pediatric Emergency Medicine Subspecialty Residency Program - University of Calgary**

**Rotation Description**

* Four-week rotation in the Alberta Children’s Hospital operating rooms working directly one-on-one with pediatric anesthesiologists.
* Option to spend two to three days with the Acute Pain Service – to arrange this please contact Dr Nina Hardcastle \*in advance\* of the rotation.
* Option to spend two to three days in the Chronic/Complex Pain Clinic – to arrange this please contact Dr Nivez Rasic \*in advance\* of the rotation.
* As a supplementary learning activity, complete the following Pediatric Pain Curriculum offered by Toronto Sick Kids Hospital: [http://www.sickkids.ca/pain-centre/Health-care](http://www.sickkids.ca/pain-centre/Health-care%20Professionals/Online%20Pain%20Curriculum/index.html) [Professionals/Online%20Pain%20Curriculum/index.html](http://www.sickkids.ca/pain-centre/Health-care%20Professionals/Online%20Pain%20Curriculum/index.html)

# OBJECTIVES

## ***\*TIME IN THE OR***

* Connect with the anesthesia resident on rotation and the OR respiratory therapist to advocate for the types of OR rooms that would be of most use to achieve the specific objectives listed below.
* For continued practice after the formal rotation, residents can individually pursue a half-day session in the OR every six months on Thursday afternoons free from other educational commitments. This can be arranged directly through Pediatric Anesthesia’s administrator, Karen Stetar ([Karen.stetar@ahs.ca](mailto:Karen.stetar@ahs.ca)). Please contact Karen about two to three weeks prior to the desired date.

# Medical Expert:

* Demonstrate a thorough knowledge of the following:
  + - Anatomy of the pediatric airway
    - Recognition and management of the difficult airway
    - Sedative agents
    - Paralytic agents
    - Analgesic agents
* Perform a pre-operative/pre-sedation assessment.
* Have an understanding of options available for the management of acute and chronic pain, including appropriate referrals to the Chronic Pain Service.
* Demonstrate competence in the management of potential airway/sedation complications (e.g. Laryngospasm).
* Perform the following procedural skills:
  + Airway
* Suctioning
* Bag-valve-mask ventilation
* Insertion of oral/nasal airways
* Endotracheal intubation (orally and nasally)
* Placement of LMA’s
  + - Vascular access
* Peripheral IV access
* Have knowledge of alternative IV access

## ***Pain Management***

*Basic Science:*

* + Discuss the anatomy and physiology of acute pain.
  + Discuss the anatomy and physiology of chronic and/or complex pain.
  + Compare and contrast the pharmacology of commonly used analgesic agents in pediatric pain management including opioids, NSAIDs, acetaminophen and topical analgesics.
  + Describe the pharmacokinetic principles and rationale for opioid infusions and Patient Controlled Analgesia.

*Clinical Care:*

* Have an understanding of options available for the management of acute and chronic pain including appropriate referrals to the Chronic Pain Service and appropriate use of anesthesia on-call (off daytime hours) for acute or chronic pain issues.
* Compare objective versus subjective pain assessment.
* Describe the following pain scales and be able to discuss the relative advantages and disadvantages of:
  + - Visual analog scale
    - Verbal scales
    - FACES
* Competently use pain scales in the assessment of a child with pain.
* Perform an assessment of a child with pain that includes a relevant history, physical examination, and development of an appropriate differential diagnosis.
* Independently develop a management plan for a pediatric patient with uncomplicated acute pain.
* Demonstrate the ability to safely initiate and manage an opioid infusion.
* Develop pain management plans which demonstrate knowledge of the pharmacology, dosing, titration, routes of administration and safety profile of common analgesic agents.
* Describe an approach to the assessment and management of the:
  + Pediatric patient with acute on chronic pain
  + Pediatric palliative patient with cancer pain
* Familiarity with the therapeutic applications of the following for adjuvant use in the complex pain patient:
  + NMDA antagonists
  + Anticonvulsants
  + Alpha-agonists
  + Antidepressants
  + Cannabinoids
  + Other
* Discuss and, when applicable, implement non-pharmacologic interventions for pain management.

# Communicator:

* Accurately describe a child’s clinical condition to consultants using appropriate terminology.
* Keep thorough and accurate records.
* Develop therapeutic relationships with children and their families in which the resident displays empathy, respect of trust and confidentiality, active listening, and the ability to conduct a clinical encounter effectively.
* Elicit, through appropriate interviewing skills, a concise, complete and accurate history relevant for care of the pediatric patient with pain or undergoing anesthesia.
* Deliver information regarding therapeutic options, side effects and possible complications to patients and families in a manner, which is understandable, and promotes participation in discussion and decision- making.

# Collaborator:

* Prepare, coordinate and direct the Emergency Department team members through resuscitation and procedural sedation processes.
* Collaborate successfully with other healthcare professionals to develop and implement appropriate investigative and/or management plans for pediatric patients in pain.

# Leader:

* Demonstrate planning of the equipment and supply needs necessary for an emergency department to manage a pediatric airway.
* Execute efficient and quality patient care through prioritization, time management and appropriate delegation.

# Scholar:

* Demonstrate critical thinking and integrate critical appraisal of the literature into the bedside approach.

# Professionalism:

* Demonstrate responsibility by being reliable and dependable.
* Demonstrate an enthusiasm for learning.
* Demonstrate good self-assessment ability by being aware of own limitations and seeking feedback.
* Respect personal, cultural, and gender issues.
* Understand the consent and surrogate decision-making process.

# Health Advocate

* Discuss how biologic, psychosocial, economic, and personal factors can affect the individual patient’s experience of pain.
* Identify and address individual and unique patient health needs and issues that may hinder prevention and/or management of a patient’s pain.