

**McMaster Otolaryngology-Head and Neck Surgery**  
**Goals & Objectives & Competencies**  
**Anesthesia Rotation**  
**CanMEDS 2015**

**Foundations of Discipline Stage-First Year Resident**

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**Overview**

During the first year of residency training the resident will spend one block on Anesthesia at McMaster University Medical Centre. Residents will gain experience in assessing and managing pediatric and adult patients undergoing a general anesthetic. The Anesthesia service at McMaster University Medical Centre involves a significant amount of pediatric practice, in addition to adult practice. All residents must review their learning objectives and competencies with the Anesthesia staff at the beginning and at the end of the rotation to facilitate meeting the objectives and competencies.

Schedule of the week: variable and needs to be confirmed with the supervisor or delegate responsible of the schedule.

You are expected to participate in the activities of the Anesthesia department, including preoperative clinic/assessment, operating room, sedation clinics and educational activities.

**Call:**

You will not be assigned to be on call with the Anesthesia service. Instead you may be assigned to cover home call with the Otolaryngology-Head and Neck Surgery service. Call will be set according to PARO guidelines.

**Overall Objectives & Competencies:**

*It is recognized that the resident may not be exposed to all elements of these objectives and competencies; however at the conclusion of the rotation the resident should demonstrate knowledge or competency in the following:*

The resident will gain knowledge of the pharmacology of various anesthetic agents and adjuncts to anesthesia and will use this knowledge in a clinical setting in both adult and pediatric patient populations. The resident will experience pre-, peri- and post-operative care of the patient undergoing a general anesthetic, particularly as it relates to airway management. The resident will become comfortable with IV anesthetic,

including paralysis for the purpose of bedside tracheotomy for future rotations. By the end of the rotation, the resident should also be familiar with common local anesthetics and their dosages/maximum dosages.

Residents will be working at completing Entrustable Professional Activities (EPAs) observations from the Foundations of Discipline stage. The EPAs are listed on the resident's Competence by Design road map schedule and at the end of this document. For the specific details of each EPA, please refer to the Royal College Mainport or MedSIS resident ePortfolio and to the educational resident manual located on the Otolaryngology-Head & Neck Surgery division website.

*(Please note that in brackets with SF you will find corresponding Surgical Foundations competencies when applicable)*

## **Specific Objectives & Competencies:**

### **Medical Expert**

Apply Knowledge of the biomedical sciences relevant to anesthesia:

- (1.4.1.) **Understand the physiology and anatomy of the upper and lower airway and cardiovascular systems particularly as it relates to patients under anesthetic (SF 1.3.1.)**

Apply Knowledge of the clinical sciences relevant to anesthesia:

- (1.7) **Recognize and respond to the complexity and uncertainty with managing an anticipated difficult airway by seeking proper assistance**
- (2.1) **Identify predictors on physical examination of anticipated difficulty with bag mask ventilation and conventional direct laryngoscopy for intubation such as a large overbite, large tongue, narrow mouth opening, or short chin (Mallampati score)**

Understand the correlation with Mallampati oral view score I to IV and the Cormack and Lehend laryngoscopic view grades I to IV in difficult intubation  
Recognize patients at risk of aspiration of gastric contents into the airway

- (2.2) **Elicit relevant detailed pre-operative history from the patient, and their family**

**Elicit a very focused history relevant to patient presenting with anticipated difficult airway including prior documented history and when indicated the specific surgical needs for patient undergoing surgery**

- (2.4) **Describe the equipment required to be immediately available for basic airway management**

Understand the stepwise approach to sedation/intubation in uncomplicated patient

Understand basic routine machine and equipment check, preparation of routine medications

**Recognize and suggest initial management plan for anticipated difficult airway with the attending physician(s) (anesthesiologist, critical care physician, emergency physician and otolaryngologist)**

- (3.1) Describe normal parameters for routine intra-operative monitors; give an indication of abnormal values and when to intervene  
Describe choice of anesthetic agent and dosing  
Describe fluid/blood product requirements for routine surgeries  
**Describe indications for use of adjuncts to bag mask ventilation**  
**Describe indications and contra-indications for tracheal intubation and for use of supraglottic airway devices**  
Understand the indications and risks of rapid sequence induction and intubation and their steps of execution
- (3.3) Identify basic intra-operative problems such as hypo/hypertension, hypoxemia, bradycardia, tachycardia, laryngospasm and produce a differential diagnosis and treatment plan
- Identify complex clinical situations, recognize own limitations and seek assistance/help when needed
- (3.4) **Perform the following safely and successfully with minimal assistance:**
- **Bag Mask ventilation**
  - **Basic airway maneuvers to relieve airway obstruction, including chin lift/head tilt, jaw thrust and application of CPAP**
  - **Insertion of oropharyngeal airway to assist ventilation**
  - **Insertion of nasopharyngeal airway to assist ventilation**
  - **Optimal patient position for intubation**
  - **Select the appropriate size airway instruments, endotracheal tubes**
  - **Direct laryngoscopy for insertion endotracheal tube and confirm placement using chest rise, breath sounds and capnography**
  - **Insertion of supraglottic airway and confirm placement**
  - **Video laryngoscopy (Glidoscope) for endotracheal intubation and confirm placement**
  - **Timely extubation of an endotracheal tube with assistance and describe criteria**
  - Timely removal of supraglottic airway and describe criteria
  - Assess and manage postoperative pain
  - IV setup and starting (SF3.4.18.14.)

### **Communicator**

- (1.1) Communicate using a patient-centered approach that encourages patient trust and is characterized by empathy, respect and compassion. (SF1.1.)

(1.2) **Optimize the physical environment for patient comfort, dignity, engagement and safety in the pre-operative waiting room and in the operative room. (SF1.2.)**

(5.1) **Understand the basics in anesthesia charting and organize information in appropriate sections within an electronic or written medical record,**

**Document accurately and comprehensively the airway/intubation information within medical record (SF5.1.)**

### **Collaborator**

(1.1) **Establish and maintain positive relationships with physicians and other health care professionals, in particular with the anesthesiologists, the surgeons and their team, nurses in the operating room and PACU, and respiratory technicians. (SF1.1.)**

**Understand the importance of team building approach when managing difficult airway (anaesthesiologist, surgeons, critical care physicians, emergency physicians, nursing/technician staff support)**

**Consult as needed and work effectively with the attending staff, surgeons and other health care professionals**

**Respond to requests and feedback in a respectful and timely manner**

(1.2) **Effective communication and discussion of the immediate plan of action in the event of difficult airway management**

(2.1) **Show respect toward collaborators when working under stressful situation (SF2.1)**

(3.2) **Demonstrate safe handover care during transfer of patient to PACU/ICU (SF3.2.)**

### **Leader**

(1.1) **Contribute to a culture that promotes patient safety by understanding/applying the guidelines regarding patient safety in the operating room and PACU. (SF1.1.)**

**Participate in the patient checklist, surgical pause and debriefing. (SF1.1.1.)**

**Become familiar with the American Society of Anesthesiology (ASA) Guidelines for Management of the Difficult Airway and the role of the otolaryngology—head and neck surgeon in using these guidelines (SF 1.2.1)**

<https://fhs.mcmaster.ca/anesthesiaeducation/documents/ASA-DifficultAirway.pdf>

## Scholar

- (1.1) Understand the importance of ongoing education for basics in anesthesia and airway management including reading, reviewing guidelines, going over airway scenarios, participating in workshop, airway simulation lab, cadaver surgical airway techniques (SF 1.1.)
- (1.2) **Identify opportunities for learning and improvement by reflecting on and assessing their performance in preparing for initial management of a patient with an anticipated difficult airway (SF 1.2.)**
- (3.1) **Recognize practice uncertainty and knowledge gaps when receiving feedback from attending and acts upon (SF 3.1.)**

## Professional

- (1.1) Exhibit appropriate professional behaviours and relationships in all aspects of practice, demonstrating honesty, integrity, humility, commitment, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality (SF 1.1.)
- (2.2) Demonstrate commitment to patient safety in the operating room (SF 2.2.)

## Entrustable Professional Activities

### Assessment:

*The following Entrustable Professional Activity (EPA) assessment forms must be completed during the rotation;*

*Form 1-Royal College Mainport ePortfolio or McMaster MedSIS*

*Form 2-Royal College Mainport ePortfolio or McMaster MedSIS*

**During the rotation, you need to work on the following EPAs for competencies:**

### **VERSION 1 (residents starting July 1<sup>st</sup> 2018)**

#### **EPA 2.12**

Providing basic airway management for ASA 1 or 2 patients with normal airway anatomy

#### **EPA 2.13**

Identifying patients presenting with an anticipated difficult airway and preparing for initial management options

### **VERSION 2 (residents starting July 1<sup>st</sup> 2019)**

#### **EPA 2.8**

Providing basic airway management for ASA 1 or 2 patients with normal airway anatomy

#### **EPA 2.9**

Identifying patients presenting with an anticipated difficult airway and preparing for initial management options

**Bibliography suggestions**

Barash Paul G: *Clinical Anesthesia*, 6th ed.

Miller: *Miller's Anesthesia*, 7th ed.

Morgan G Edward: *Clinical Anesthesia*

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