

## ANESTHESIA ROTATION GOALS AND OBJECTIVES

### Anesthesia Elective PGY-1 (Anesth)

#### Advanced Airway Clinical Rotation Summary

University Hospital

#### Goals:

By the end of the anesthesia rotation, the Urology resident should develop basic airway management skills, a basic understanding of procedural sedation, and an appreciation of the difficult airway and maneuvers to address the difficult airway.

In addition. The resident should develop a basic understanding of intraoperative patient management, and pre-operative concerns applicable to patients managed by internal medicine physicians.

#### Rotation Objectives:

##### Patient Care:

The Urology resident will demonstrate skill in patient care including, but not limited to:

1. Performance of an appropriate pre-intubation airway evaluation for difficulty and predicted success of intubation, as measured by:  
Direct observation and evaluation by anesthesia faculty.
2. Satisfactory performance of basic airway management, including bag-valve-mask ventilation, as measured by:  
Direct observation and evaluation by anesthesia faculty.
3. Satisfactory performance of endotracheal intubation with confirmation of endotracheal tube placement, as measured by:  
Direct observation and evaluation by anesthesia faculty.  
Satisfactory maintenance of the procedural skills log on New Innovations.
4. Performance of basic patient monitoring, including interpretation of pulse oximetry and capnometry, as measured by:  
Direct observation and evaluation by anesthesia faculty.
5. Performance of an appropriately focused pre-operative history and physical exam, as measured by:  
Direct observation and evaluation by anesthesia faculty.

##### Medical Knowledge:

1. The resident will demonstrate an understanding of the indications. Contra-indications, methodology and complications of airway procedures including, but not limited to, the following:

- Oral Intubation
- Nasotracheal Intubation
- End Tidal/C02 Monitoring
- LMA
- Pulse Oximetry
- Bag Valve Mask Ventilation
- Mechanical Ventilation
- Bougie

Competency will be measured by:

Direct observation and evaluation by anesthesia faculty.

The resident will demonstrate an understanding of the indications, contraindications, methodology, and complications of procedures including, but not limited to, the following:

- Central Venous Access
- Peripheral IV Lines
- Arterial Catheter Insertion

Competency will be measured by:

Direct observation and evaluation by anesthesia faculty.

2. The resident will demonstrate an understanding of the indications for and pharmacology and complications of medications employed in anesthesiology including, but not limited to, the following:

- Analgesics
- Opiates
- Neuromuscular Blocking Agents
- Sedatives
- Local Anesthetics

Competency will be measured by:

Direct observation and evaluation by anesthesia faculty.

3. The resident will demonstrate an understanding of the methods: contra-indications and complications of common regional blocks including The Bier Block.

Competency will be measured by:

Direct observation and evaluation by anesthesia faculty.

4. The resident will demonstrate an understanding of the common, age-related changes in airway management.

Competency will be measured by:

Direct observation and evaluation by anesthesia faculty.

**Practice Based Learning:**

The resident will demonstrate the incorporation of daily feedback regarding both patient

care and technical airway management skills into daily practice as measured by:  
Direct observation by anesthesia faculty.

The resident will demonstrate a commitment to educational improvement, including review pathological material and when applicable, autopsy material and reports, as measured by:

Direct observation and evaluation by anesthesia a faculty.  
Attendance at anesthesia teaching conferences.

**Interpersonal and Communication Skills:**

The resident will learn and demonstrate an understanding of the "language" of anesthesia and be able to effectively communicate with members of the anesthesia team as measured by:

Direct observation and evaluation by anesthesia faculty.  
Satisfactory performance in the pre-operative and operative settings.

The resident will maintain comprehensive, timely, and legible medical records as measured by:

Direct observation by anesthesia faculty.

**Professionalism:**

The resident will demonstrate a commitment to professionalism, as measured by:  
Timely completion of administrative duties including chart completion and  
On-time attendance for duty.  
Timely completion of the rotation evaluation upon completion of the rotation.

**Systems Based Practice:**

The resident will demonstrate an understanding of the resources available for the care of the operative patient, including appropriate consultation of subspecialties when indicated, as measured by:

Direct observation and evaluation by anesthesia faculty.

The resident will develop an appreciation for health care system as a whole, particularly as it pertains to the integration of anesthesia principles within the specialty of emergency medicine.

**Duties and Responsibilities of the Residents:**

The resident will be assigned to work for the Department of Anesthesia for a 4-week period as an elective rotation during their PGY-1 year. The resident will be assigned cases according to the department of anesthesia. Resident duty hours will be monitored in accordance with the RRC-Anesthesia.

**The resident will:**

- Review pre-operative assessments

- Prepare patients for anesthesia with operative intervention
- Perform procedures under direct supervision of faculty or senior residents
- Monitor patients daily operative procedures
- Transport patients to the post-anesthesia recovery unit
- Be responsible for the routine care of inpatient service

Residents will be provided the opportunity to have decision-making experience with direct faculty supervision and oversight. A treatment plan will be formulated and approved by the faculty physician or senior resident. The goal is to develop skills and judgment required to manage critically ill and injured patients.

Each resident will have sufficient opportunity to perform invasive procedures, monitor unstable patients, and direct major resuscitations in accordance with previously identified objectives.

Residents will ordinarily be allowed one week of vacation on this rotation.

**Relationship of Urology Residents with other Residents:**

They will function at the same level as a first-year anesthesia resident.

**Resident Supervision, Evaluation and Feedback:**

The resident will be given verbal feedback at mid-rotation. The supervising faculty physician gives written feedback on the resident evaluation form at the end of the rotation. This evaluation form will be returned to the Program Director for Urology. The resident will be given an evaluation form at the end of the rotation to complete and return to the Program Director for Urology. This will provide feedback on the program and the rotation.

**Suggested Reading:**

Manual of Emergency Airway Management by Ron M. Walls, Michael Murphy  
Syllabus



## CAMP AIR

Competency for the **Airway Managing Physician- An Interdisciplinary Rotation**

Rudy Garza, M.D.  
Travis Wilson, M.D.

Department of Anesthesiology  
UTHSC San Antonio

Welcome to your Anesthesiology Basic Airway-Management  
Rotation!

This guide provides information regarding your rotation and the operation of the Anesthesiology Service. Please review it before you start the rotation and refer to it while you are on the service.

# Syllabus

**Institution: University Hospital**

**Rotation: Anesthesiology Basic Airway-Management Rotation**

**Level: PGY 1 and above**

**Duration: 4 Weeks**

**Blocks: 4-13**

**Location: University Hospital, 2nd Floor, Sky Tower, Main OR.**

**Hours: 0700 – 1500 HRS. MONDAY – FRIDAY**

**Didactics/Simulator: 0630/0600 HRS, refer to Anesthesia Didactic schedule**

**Daily Contact: Anesthesia PACU Resident (210) 743-0611**

**Rotation Director: Rudy Garza, MD ([garzar11@uthscsa.edu](mailto:garzar11@uthscsa.edu))**

**Education Coordinator: Maria Barraza  
([barrazam@uthscsa.edu](mailto:barrazam@uthscsa.edu)); 210-567-1032**

## **GOALS:**

This is a rotation, conducted in the general operating rooms at the University Hospital, with emphasis on developing basic airway management skills, understanding basic pharmacologic principles, and understanding peri-operative anesthetic considerations for a variety of medical conditions. The goal of the experience is for you to become a knowledgeable physician in the area of airway management; one who is readily able to identify, manage, and perform the appropriate preoperative assessment and preparation of a patient prior to surgery, and/or requiring a secure airway.

## **Why is an Airway rotation important for Residents?**

Most physicians will be involved in the care of patients who will receive an anesthetic at some point in their career.

- Surgeons will develop a better understanding of the day to day operation of operating room management, as well an understanding of intraoperative patient management and preoperative concerns applicable to the surgical patient.
- Primary care specialties will be involved in the preoperative evaluations to determine if the patient is medically optimized prior to a surgical procedure. Familiarization with basic pathologies, and complications associated with anesthesia may allow for further preoperative investigation and /or avoid delays for preoperative medical consultation.
- Acute Care Medicine Physicians (EM or CCM) will need to develop advanced skills in airway management as well as become familiar with many of the sedative-hypnotics, analgesics, and neuromuscular blocking agents currently used during routine and or emergent intraoperative anesthesia care.

**UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER  
DEPARTMENT OF ANESTHESIOLOGY/AIRWAY COURSE  
OUTLINE**

I. General Information

Physician Activities

1. Day 1 - Orientation –
  - Physicians should report to the PACU (Post Anesthesia Care Unit) resident; UHS 2<sup>nd</sup> floor SKY TOWER @ 07:00 where they will be given a tour of the operating rooms (OR), discuss the day to day functions of an Anesthesia Provider, and will be instructed on how to perform basic airway procedures using direct laryngoscopy and other airway adjuncts with our airway mannequins.
  - Residents are required to wear the University Health System green scrubs and UTHSCSA badge (placed above the waist) during this rotation. Green scrubs can be obtained from the scrub machine outside the 2<sup>nd</sup> floor locker room. ACCESS ID/PASSWORD = 0 + YOUR UHS ID#. Or go to the Sub level laundry services to obtain access.
  - OR assignments will be made daily by the assigned board runner. Assignments will be made to rooms that will optimize your learning experience. Residents are required to review their assigned patients' medical records in advance in *Sunrise*. Doing so will enhance your medical knowledge of your patient, their co-morbidities, and ensure a safe and goal directed anesthetic for your patient. If a specific case is of interest, please notify the assigned board runner so that he/she may consider your assignment to that room.
  - The daily OR census can be found through remote access on UHS' intranet at: uh-orcp-01(type exactly as shown).
2. The OR is a busy clinical site with multiple learners receiving training in airway management. All Physician Residents are expected to participate fully in the preoperative, intraoperative and immediate post-operative care of the patient to include:
  - Identifying appropriate cases for the following day with the PACU Resident
  - Reviewing the history and conducting an assessment of the patient prior to surgery
  - Understanding the patient's medical and surgical condition
  - Understanding the medications used to prepare the patient for surgery
  - Introduction of him/herself to the anesthesia faculty

- Introduction of him/herself to the patient
- Participating in the induction and maintenance of anesthesia, and in the immediate postoperative care of the patient
- Independent study of topics related to airway management, pharmacology, medical and surgical conditions related to the case to be discussed with faculty the day of Surgery.

## II. Clinical Responsibilities

1. Physicians will participate in patient care under the supervision an Anesthesia faculty. Physicians are expected to gain familiarity and experience with the following procedures: bag and mask ventilation, tracheal intubation, and intravenous and arterial catheter insertion. (See below).

2. Overall Objectives and Goals

### **A. MEDICAL KNOWLEDGE**

- a) Understand and explain the anatomy (including innervations) of the human airway
- b) Understand what factors and disease states contribute to making an airway “difficult”
- c) Identify risk factors for potential difficult mask ventilation
- d) Understand ASA algorithm for difficult airway management and be able to explain the primary decision point and options for management

### **B. PATIENT CARE**

- a) Develop the ability to effectively form and carry out a plan for airway management during surgery
- b) Formulate a plan for dealing with recognized and unrecognized difficult airway
- c) Formulate rational plan for the post-operative management of a patient who has a difficult airway

### **C. INTERPERSONAL AND COMMUNICATION SKILLS**

- a) Develop the ability to effectively communicate an airway management plan to a patient in a manner that reassures the patient, and helps motivate their involvement in the management of their airway
- b) Develop the ability to effectively communicate an airway management plan to a nursing staff and surgeons, including eliciting their help if necessary

### **D. PROFESSIONALISM**

- a) Demonstrate care and compassion for the patients, and responsiveness to patient’s and family questions, issues and



concerns regarding airway and anesthesia management of the case

#### **E. PRACTICE-BASED LEARNING**

- a) Actively pursue current evidence to apply to cases of difficult airway management
- b) Examine and assess experiences for ways to improve patient care

#### **F. SYSTEMS BASED PRACTICE**

- a) Understand the costs associated with airway equipment management and practice appropriate resource allocation

### **Clinical Skills**

THE FOLLOWING CLINICAL SKILLS SHOULD BE PERFORMED OR OBSERVED BY THE PHYSICIAN ROTATORS DURING THE ROTATION

#### **Preoperative Evaluation**

- **Preoperative airway evaluation** - the physician should be able to evaluate and anticipate the degree of difficulty expected with mask ventilation and tracheal intubation after performing a history and physical examination of the patient's airway.
- **Preoperative cardiac and pulmonary evaluation** - the physician should be capable of performing a basic cardiac and pulmonary history and physical examination in order to determine the need for advanced preoperative work-up and patient preparation.
- **Preoperative laboratory and imaging testing** - the physician should understand the logic behind currently used guidelines for the ordering of preoperative laboratory testing, EKG, or radiologic imaging.

#### **Intraoperative Care**

- **Airway management** - the physician should gain experience with bag and mask ventilation, the use of oral and nasal airways, direct and video assisted laryngoscopy and the use of other airway devices to include the Laryngeal Mask Airway (LMA). This experience can be gained through the use of mannequins and simulation as well as during patient care.

- **Intravenous catheter insertion** - the physician should understand the decision making process involved with choosing the site and size of IV catheterization and gain experience with intravenous catheter insertion.
- **Arterial catheter insertion** - the physician should become familiar with the indications, complications, and techniques for arterial catheterization. Most physicians should have an opportunity to perform arterial punctures on patients.
- **Central venous catheter**- the physician should become familiar with the indications, complications, and techniques associated with central venous catheter insertion. Most physicians will be able to observe, but not perform, central venous catheter insertion.

### III. Assessment Tools

- A Pre-Test will be given to assess your baseline fund of knowledge prior to the start of the rotation. During the last week of the rotation, a Post-test will be given to determine growth of knowledge. Please see study guide for list of topics which may be covered on the test.
- Residents will be assessed at the end of the rotation by faculty and are subjected to a basic examination covering but not limited to preoperative evaluations, intraoperative monitoring, pharmacology, difficult airway algorithm, fluid and transfusion therapy.
- Required reading - Educational materials will be available to the physician via textbooks, paper handouts or links to specific articles. All examination questions will be taken from information presented in this handout.
  - Text: *Emergency Airway Management* by Ron M. Walls and Michael F. Murphy
- Didactics: Every weekday morning (except Tuesdays) at 0630, topics in general anesthesia, pediatric anesthesia, cardiothoracic anesthesia, and critical care medicine will be discussed via lectures or PBLs. Conferences are held in the SKY TOWER 3<sup>rd</sup> floor meeting room, unless otherwise noted on didactic schedule. Subspecialty rotations including Neuroanesthesia, regional anesthesia & pain medicine, pediatric anesthesia, cardiothoracic anesthesia and obstetric anesthesia hold journal club presentations every month. All residents are expected to attend their respective subspecialty Grand Rounds. Simulation sessions are held Tuesday 0600hrs in our state-of-the-art simulation lab for various groups of residents. The simulation experience is designed to promote preparedness and education of all expectant management and emergencies in the operating room. PLEASE REFER TO DIDACTIC SCHEDULE for more information.

- The articles below can be viewed by clicking on the hyperlink or visiting the ASA website ([www.asahq.org](http://www.asahq.org)) and copy and pasting the desired articles in the search menu located on the top right.

## READING:

### Practice Guidelines for Sedation and Analgesia by Non-Anesthesiologists

<https://www.google.com/url?url=https://www.asahq.org/For-Members/Practice-Management/~media/For%2520Members/Practice%2520Management/PracticeParameters/SedationandAnalgesiabyNonAnesthesiologists.ashx&rct=j&frm=1&q=&esrc=s&sa=U&ei=g66RVLOCFMHMgwSR6YGoAg&ved=0CBkQFjAA&usg=AFQjCNF-cjUXDMw7QxIhc4Ip6YeJcuGmqg>

<https://www.asahq.org/For-Members/Standards-Guidelines-and-Statements.aspx>

### Trauma and Emergency Preparedness (COTEP)

<https://www.google.com/url?url=https://www.asahq.org/For-Members/About-ASA/ASA-Committees/Committee-on-Trauma-and-Emergency-Preparedness.aspx&rct=j&frm=1&q=&esrc=s&sa=U&ei=07iRVNH1FYKZNuL-g4gK&ved=0CBQQFjAA&usg=AFQjCNGGFLz4xUmVAICyIaJ-IjU0KF6bQA>

### Trauma: Airway Management

<https://www.google.com/url?url=https://www.asahq.org/~media/For%2520Members/About%2520ASA/ASA%2520Committees/Traumaairwaypdf.ashx&rct=j&frm=1&q=&esrc=s&sa=U&ei=LbmRVKUXz-mDBK7ogIAD&ved=0CB8QFjAB&usg=AFQjCNFY9-xjEK1aTcJOyKzkz3eDQLx2tg>

### Safe Use of Propofol, Statement on (2009)

<http://www.google.com/url?url=http://www.asahq.org/~media/For%2520Members/documents/Standards%2520Guidelines%2520Stmts/Safe%2520Use%2520of%2520Propofol.ashx&rct=j&frm=1&q=&esrc=s&sa=U&ei=6bKRVOzmKIfqgTN2YPOBA&ved=0CBQQFjAA&usg=AFQjCNFGKRYuJyC37trE3LlkVsG3wQa4XA>

### Granting Privileges to Nonanesthesiologist Physicians for Personally Administering or Supervising Deep Sedation, Statement on (2012)

[https://www.google.com/url?url=https://www.asahq.org/For-Members/~media/For%2520Members/Standards%2520and%2520Guidelines/2012/STATEMENT%2520ON%2520GRANTING%2520PRIVILEGES%2520TO%2520NONANESTHESIOLOGIST%2520PHYSICIANS%2520FOR%2520PERSONALLY%2520ADMINISTERING%2520OR%2520SUPERVISING%2520DEEP%2520SEDATION%2520OCT%25202012.ashx&rct=j&frm=1&q=&esrc=s&sa=U&ei=ILORVNmUNISaNetlgagH&ved=0CBQQFjAA&usg=AFQjCNFU2wRs\\_b8OpLM33hgqyNlopBiCQA](https://www.google.com/url?url=https://www.asahq.org/For-Members/~media/For%2520Members/Standards%2520and%2520Guidelines/2012/STATEMENT%2520ON%2520GRANTING%2520PRIVILEGES%2520TO%2520NONANESTHESIOLOGIST%2520PHYSICIANS%2520FOR%2520PERSONALLY%2520ADMINISTERING%2520OR%2520SUPERVISING%2520DEEP%2520SEDATION%2520OCT%25202012.ashx&rct=j&frm=1&q=&esrc=s&sa=U&ei=ILORVNmUNISaNetlgagH&ved=0CBQQFjAA&usg=AFQjCNFU2wRs_b8OpLM33hgqyNlopBiCQA)

### Granting Privileges for Deep Sedation to Non-Anesthesiologist Sedation Practitioners, Advisory on (2010) & Granting Privileges for Administration of Moderate Sedation to Practitioners Who Are Not Anesthesia Professionals, Statement on

(2011) [http://www.google.com/url?url=http://www.asahq.org/~media/For%2520Members/documents/Standards%2520Guidelines%2520Stmts/Advisory\\_Non-anesthesiologist\\_Privileging.ashx&rct=j&frm=1&q=&esrc=s&sa=U&ei=9rORVLqBF4rBgwT-rYGQCg&ved=0CBQQFjAA&usg=AFQjCNHMi1beM6rEgXHio7bzUrZbC1mb5Q](http://www.google.com/url?url=http://www.asahq.org/~media/For%2520Members/documents/Standards%2520Guidelines%2520Stmts/Advisory_Non-anesthesiologist_Privileging.ashx&rct=j&frm=1&q=&esrc=s&sa=U&ei=9rORVLqBF4rBgwT-rYGQCg&ved=0CBQQFjAA&usg=AFQjCNHMi1beM6rEgXHio7bzUrZbC1mb5Q)

### Continuum of Depth of Sedation: Definition of General Anesthesia and Levels of Sedation/Analgesia (2009)

<http://www.google.com/url?url=http://www.asahq.org/~media/For%2520Members/documents/Standards%2520Guidelines%2520Stmts/Continuum%2520of%2520Depth%2520of%2520Sedation.ashx&rct=j&frm=1&q=&esrc=s&sa=U&ei=hreRVP78E8GngwT86YPgBA&ved=0CBQQFjAA&usg=AFQjCNFPU-jgqrHdVlzWarxrSEt3KRrxQ>

Airway Management- an overview of airway management discussing: oxygen delivering devices, Endotracheal tubes sizes, drugs and airway adjuncts

[http://peds.stanford.edu/Rotations/picu/pdfs/11\\_airway\\_management.pdf](http://peds.stanford.edu/Rotations/picu/pdfs/11_airway_management.pdf)

### Difficult Airway Algorithm

[http://ether.stanford.edu/images/difficult\\_airway.gif](http://ether.stanford.edu/images/difficult_airway.gif)

**REQUIRED VIEWING:**

<http://www.anesthesiaillustrated.com/portfolio/anesthesia-procedures/>

[http://wn.com/bag\\_and\\_mask\\_ventilation\\_animation\\_sample](http://wn.com/bag_and_mask_ventilation_animation_sample)

<http://www.bing.com/videos/search?q=mask%20ventilation&qs=n&form=QBVR&pq=mask%20ventilation&sc=5-16&sp=-1&sk=#view=detail&mid=C168DDEE00F8E72725EDC168DDEE00F8E72725ED>  
[http://wn.com/lma\\_placement](http://wn.com/lma_placement)

<http://www.bing.com/videos/search?q=Tracheal+Intubation&Form=VQFRVP#view=detail&mid=2909B9FC728ACBE7358D2909B9FC728ACBE7358D>

<http://www.bing.com/videos/search?q=youtube+airway+intubation&qpv=utube+airway+intubation&FORM=VDRE#view=detail&mid=E13EA93F10CAA1A69BD1E13EA93>

**Patient Encounters**

**Residents on this rotation will be expected to work up and/or manage the minimum number of patients/cases with the specified conditions as listed below:**

<b>Minimum Number</b>	<b>Patient condition/Case</b>
<b>15</b>	<b>Direct laryngoscopy/oral intubation</b>
<b>5</b>	<b>Airway management via LMA</b>
<b>5</b>	<b>Rigid video laryngoscope guided intubation (Glidescope)</b>
<b>5</b>	<b>Intubation over tracheal stylet (Bougie)</b>

**All required cases are for Adult patients only.**

## Basic Airway Rotation: Educational Milestones

### **Pre Anesthetic Patient Evaluation, Assessment and Preparation**

<b>Week 1</b>	<b>Week 2</b>	<b>Week 3</b>
<p>Perform general histories and physical exam</p> <p>Identify clinical issues relevant to anesthetic care with direct supervision</p> <p>Identify the elements and process of informed consent</p>	<p>Identify disease processes and medical issues relevant to anesthetic care</p> <p>Optimize the preparation of non-complex patients receiving anesthetic care</p> <p>Obtain informed consent for routine anesthetic care; discusses likely risks, benefits, and alternatives.</p> <p>Respond appropriately to patient's or surrogate's questions; recognize when assistance is needed</p>	<p>Recognize the importance of and describe in general terms the principles of pre-anesthesia sedation.</p> <p>Discuss patient/procedural factors that increase risk of morbidity from sedation, scenarios requiring Anesthesia consultation regarding sedation safety, and issues that drive a need for general anesthesia rather than sedation.</p>

### **Technical skills: Use of interpretation of Monitoring and Equipment**

<b>Week 1</b>	<b>Week 2</b>	<b>Week 3</b>
<p>Demonstrate the correct use of standard monitoring devices, including blood pressure cuff, electrocardiogram (ECG), pulse oximeter, and temperature monitoring</p> <p>Interpret data from standard monitoring devices, including recognizing artifacts</p>	<p>Perform pre-anesthetic equipment and machine checks</p> <p>Insert peripheral IVs and arterial lines under supervision</p> <p>Observe the placement of central venous catheters under ultrasound</p> <p>Interpret data from arterial line and central venous catheters</p> <p>Recognize and appropriately troubleshoot malfunctions of standard ASA monitors</p>	<p>Perform pre-anesthetic equipment and machine checks</p> <p>Insert peripheral IVs and arterial lines under supervision</p> <p>Observe the placement of central venous catheters under ultrasound</p> <p>Interpret data from arterial line and central venous catheters</p> <p>Recognize and appropriately troubleshoot malfunctions of standard ASA monitors</p>

**Technical skills: Airway Management**

<b>Week 1</b>	<b>Week 2</b>	<b>Week 3</b>
<p>Recognize airway patency and adequacy of ventilation based on clinical assessment</p> <p>Position patient for airway management places oral and nasal airways; perform bag mask ventilation</p>	<p>Apply knowledge of the ASA difficult airway algorithm to prepare equipment and supplies for airway management</p> <p>Perform basic airway management in patients with normal airways, including endotracheal intubations, supraglottic airways, and video laryngoscopy</p> <p>Recognize need for assistance and/or equipment and seek help</p>	<p>Recognize and manage upper airway obstruction and desaturation.</p> <p>Recognize and manage upper airway obstruction. Identify conditions that result in upper airway obstruction.</p> <p>Recognize desaturation that requires intervention and know the indications for the use of appropriate oxygen delivery devices (e.g., simple nasal cannula, simple O2 mask, Venturi mask, partial rebreather and non-rebreather masks).</p>

**Management of peri-anesthetic complications**

<b>Week 1</b>	<b>Week 2</b>	<b>Week 3</b>
<p>Perform patient assessments and identify complications associated with patient's care; begins initial management of complications with direct supervision</p>	<p>Perform post anesthetic assessment to identify complications of anesthetic care; begin initial management of peri-anesthetic complications with direct supervision</p>	<p>Management of post-anesthesia nausea and vomiting</p> <p>Post-surgical pain management (in-hospital)</p> <p>Re-establishment of PO intake after anesthesia</p> <p>Understand the Discharge criteria</p> <p>Adequate follow-up</p>

**Anesthetic Plan and Conduct**

<b>Week 1</b>	<b>Week 2</b>	<b>Week 3</b>
<p>Formulate patient care plans that include consideration of underlying clinical conditions, past medical history, and patient, medical, or surgical risk factors</p> <p>Adapt to new setting for delivery of patient care</p>	<p>Formulate anesthetic plans for patients undergoing routine procedures that include consideration of underlying conditions, past medical history, patient, anesthetic, and surgical risk factors, and patient choice</p> <p>Conduct routine anesthetics, including management of commonly encountered physiologic alterations associated with anesthetic care, with direct supervision.</p>	<p>Formulate plans for Anesthetic induction and reversal techniques, including basic pharmacology of inhalation anesthetic agents, intravenous anesthetic agents, muscle relaxants, local anesthetics, narcotic analgesics, and agents to reverse muscle relaxation</p> <p>Understand the basic pharmacology of commonly used agents for sedation and their side effects.</p> <p>Understand general principles of pharmacologic pain management.</p> <p>Understand the reasoning for the choice of analgesic agent (nonsteroidal anti-inflammatory, opioid); Choice of administrative route; side effects and contraindications</p>

**WEEK 4** will provide residents with a rich exposure to the complexities of basic and advanced airway management via direct observation and simulation via our mannequin training. Residents will gain experience formulating strategies for intubation and extubation of the routine and difficult airway. Residents will receive training in the technology and equipment associated with advanced airway management.

## **Knowledge Guide**

Physicians are expected to gain familiarity and experience with the following:

### **Preoperative Cardiac Evaluation:**

1. Identify those patient characteristics associated with an increased incidence of perioperative cardiac complications.
2. Identify the types of surgery associated with an increased incidence of perioperative cardiac complications.
3. Identify the phase of the perioperative period during which myocardial ischemia most commonly occurs.
4. Identify the most common perioperative cardiac complications.

### **Preoperative Pulmonary Evaluation:**

1. Identify which patient characteristics are associated with an increased incidence of perioperative pulmonary complications.
2. Identify the causes of perioperative hypoxemia.
3. Describe the alterations in pulmonary function that occur postoperatively.
4. Understand the logic for ordering preoperative pulmonary function testing.

### **Preoperative Laboratory Testing:**

1. Identify the indications for preoperative laboratory testing.
2. Identify the indications for preoperative chest x-rays.
3. Identify the indications for preoperative EKGs.
4. Identify how long preoperative tests are acceptable.

### **General anesthesia:**

1. Identify the components of general anesthesia.
2. Identify the three phases of general anesthesia
3. Identify the names of intravenous anesthetics.
4. Identify the names of inhalation anesthetics.
5. Understand the difference between depolarizing and non-depolarizing neuromuscular blocking agents.
6. Understand the side effects of commonly used intravenous drugs.



**Local Anesthesia:**

1. Understand basic nerve physiology.
2. Understand the mechanism of elimination of local anesthetics.
3. Understand the signs, symptoms, and treatment of local anesthetic toxicity.
4. Identify which regional anesthesia techniques have the highest amount of systemic absorption of the local anesthetic.

**Monitoring:**

1. Identify the routine anesthesia monitors.
2. Identify which EKG leads used to monitor for myocardial ischemia and heart rhythm.
3. Understand the use of capnography to verify tracheal intubation.
4. Understand the use of pulse oximetry.
5. Understand the pathophysiologic causes of intraoperative hypoxemia.
6. Understand the use of different blood pressure monitoring devices.

**Fluid and Transfusion Therapy**

1. Understand the different types of available blood products.
2. Understand the difference between cross matching and screening blood.
3. Understand the hemoglobin level at which patients should be transfused.
4. Understand the etiology and treatment of transfusion reactions.
5. Understand the complications of blood product transfusion.

**AIRWAY ROTATION FEEDBACK FORM**  
**The University of Texas Health Science Center at San Antonio**

**In order to continuously improve our rotations, we need feedback from our rotators. Please fill out this form and send back to Maria Barraza by email [barrazam@uthscsa.edu](mailto:barrazam@uthscsa.edu)**

Rotator's Name: \_\_\_\_\_

Dates rotation occurred \_\_\_\_\_

Supervising Anesthesiologist(s):  
\_\_\_\_\_

Did rotators have the appropriate knowledge base to get the maximum benefit from this rotation? If no, please elaborate as to what was missing.

Did rotators understand the milestones that were to be completed by the end of the rotation? If no, please elaborate.

Were the learning objectives appropriate for the amount of time devoted to this rotation?

Do you have any suggestions as to how this rotation could be made a better learning experience for future rotators?

Do you have any suggestions as to how we could make this rotation less demanding for you?

## STOP –N- GO: Preparation for an Emergent Airway

**S**-Evaluate the Situation

**T**-Talk to your team and assign roles

**O**-Oxygenation/de-Nitrogenate

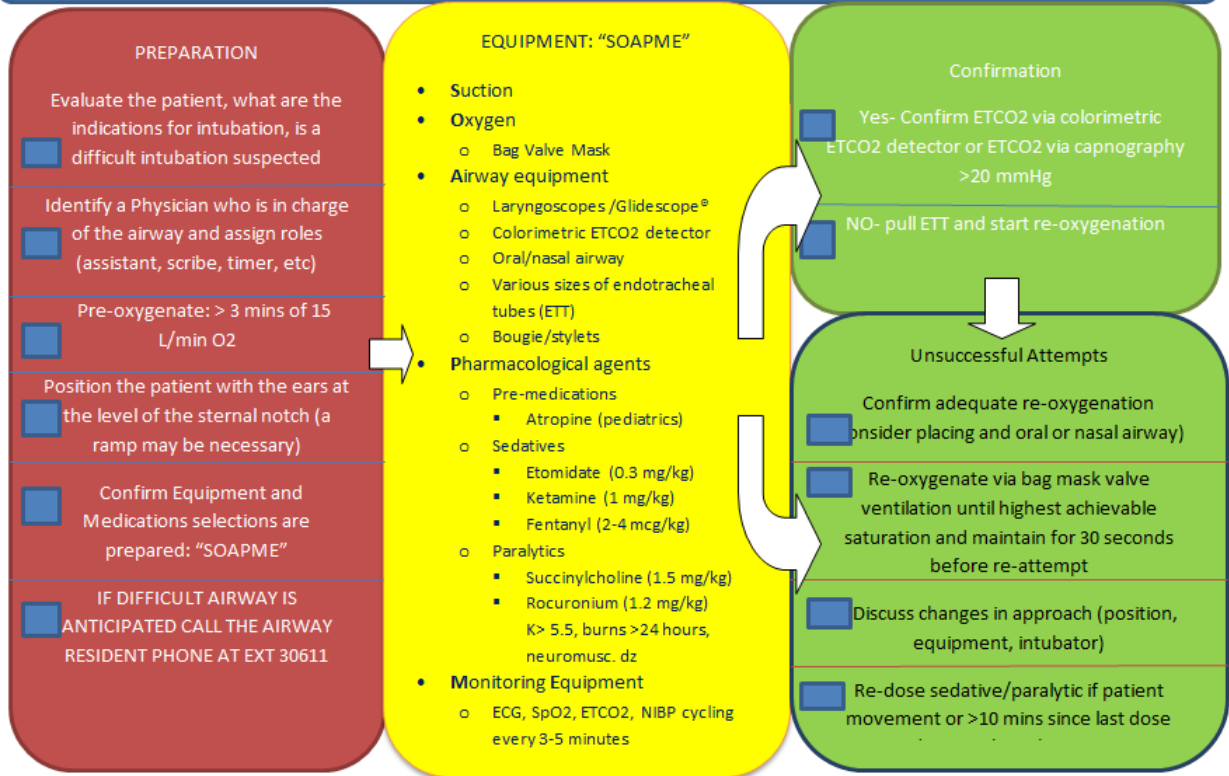
**P**-Position and Prepare Medications  
("SOAPME")

**-N-** Notify Anesthesia if a difficult  
airway is anticipated at ext 30611

**G**-Give induction medications and  
instrument the airway via direct or video  
assisted laryngoscopy

**O**-Observe the endotracheal tube  
passing the vocal cords and confirm  
placement via auscultation and a  
colorimetric ETCO<sub>2</sub> detection device

# OUT OF THE OPERATING ROOM INTUBATION CHECKLIST

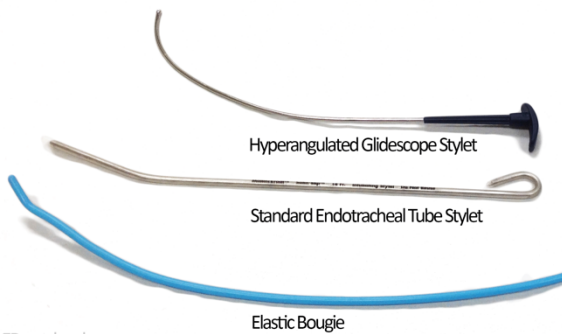


## Equipment Check List





### Endotracheal Tube Stylets



Hyperangulated Glidescope Stylet

Standard Endotracheal Tube Stylet

Elastic Bougie



FPnotebook.com



Macintosh



Miller





**AIRWAY EQUIPMENT**

- Ambu<sup>®</sup> bag connected to O2
- Suction under patient's shoulder  
–verify function
- Laryngoscopy blades-verify  
bulbs
- Oral airways
- Nasal airways
- Colormetric capnometer
- Endotracheal tubes-verify cuff  
function
- ETT stylet
- ETT securing device
- Gum elastic bougie
- LMA with lubricant & syringe
- Difficult airway equipment

# Anesthesia Airway Rotation Daily Participation Log

Name: \_\_\_\_\_

\_\_\_\_\_

Date of

Rotation: \_\_\_\_\_

**\*\*\*To receive credit for this rotation you must return completed log to Maria Barraza in the Anesthesia Education Office room MED 321.5E\*\*\***

Aspects: <b>The resident has demonstrated :</b>	<b>Did Not Observe</b>	Not within Expectations	Meets Expectations
The ability to perform the pre-anesthetic consultation & determine the anesthetic risk of the patient			
The ability to effectively form & carry out a plan for airway management to include understanding ASA algorithm for difficult intubations			
Knowledge & ability to perform basic airway management using bag mask ventilation, direct laryngoscopy & other airway adjuncts			
A understanding of basic patient monitoring, including interpretation of capnography & pulse oximetry			

Question of the Day: List steps involved in a Rapid Sequence Intubation (hint: steps that start with the letter

“P”): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Comments: \_\_\_\_\_

Staff Signature: \_\_\_\_\_

Aspects: <b>The resident has demonstrated :</b>	<b>Did Not Observe</b>	Not within Expectations	Meets Expectations
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Knowledge & ability to perform basic airway management using bag mask ventilation, direct laryngoscopy & other airway adjuncts			
A understanding of basic patient monitoring, including interpretation of capnography & pulse oximetry			

Question of the Day: What equipment is required for a RSI? (hint: “STOP! Monitor the SOAP) \_\_\_\_\_

\_\_\_\_\_

Comments: \_\_\_\_\_

Staff Signature: \_\_\_\_\_

Aspects: <b>The resident has demonstrated :</b>	<b>Did Not Observe</b>	Not within Expectations	Meets Expectations
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Knowledge & ability to perform basic airway management using bag mask ventilation, direct laryngoscopy & other airway adjuncts			
A understanding of basic patient monitoring, including interpretation of capnography & pulse oximetry			

Question of the Day: Name five ways to confirm position of the endotracheal tube:

\_\_\_\_\_

Comments: \_\_\_\_\_

Staff Signature: \_\_\_\_\_

Aspects: <b>The resident has demonstrated :</b>	<b>Did Not Observe</b>	Not within Expectations	Meets Expectations

The ability to perform the pre-anesthetic consultation & determine the anesthetic risk of the patient			
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Knowledge & ability to perform basic airway management using bag mask ventilation, direct laryngoscopy & other airway adjuncts			
A understanding of basic patient monitoring, including interpretation of capnography & pulse oximetry			

Question of the Day: What can be done to improve mask ventilation if no tidal volumes are generated?:

\_\_\_\_\_

Comments: \_\_\_\_\_

Staff Signature: \_\_\_\_\_

Aspects: <b>The resident has demonstrated :</b>	Did Not Observe	Not within Expectations	Meets Expectations
The ability to perform the pre-anesthetic consultation & determine the anesthetic risk of the patient			
The ability to effectively form & carry out a plan for airway management to include understanding ASA algorithm for difficult intubations			
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A understanding of basic patient monitoring, including interpretation of capnography & pulse oximetry			

Question of the Day: Following induction of GA, you cannot ventilate nor intubate the patient, discuss the difficult airway algorithm.

\_\_\_\_\_

Comments: \_\_\_\_\_

Staff Signature: \_\_\_\_\_

Aspects: <b>The resident has demonstrated :</b>	Did Not Observe	Not within Expectations	Meets Expectations
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Knowledge & ability to perform basic airway management using bag mask ventilation, direct laryngoscopy & other airway adjuncts			
A understanding of basic patient monitoring, including interpretation of capnography & pulse oximetry			

Question of the Day: Name five ways to confirm position of the endotracheal tube:

\_\_\_\_\_

Comments: \_\_\_\_\_

Staff Signature: \_\_\_\_\_

Aspects: <b>The resident has demonstrated :</b>	Did Not Observe	Not within Expectations	Meets Expectations
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A understanding of basic patient monitoring, including interpretation of capnography & pulse oximetry			

Question of the Day: What are the basic anesthesia monitors that American Society of Anesthesiologists requires?



Comments: \_\_\_\_\_  
 Staff Signature: \_\_\_\_\_

Aspects: <b>The resident has demonstrated :</b>	<b>Did Not Observe</b>	Not within Expectations	Meets Expectations
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A understanding of basic patient monitoring, including interpretation of capnography & pulse oximetry			

Question of the Day: List the key features of a complete airway evaluation (i.e Mallampati, TM Distance, neck mobility, etc)

Comments: \_\_\_\_\_  
 Staff Signature: \_\_\_\_\_

Aspects: <b>The resident has demonstrated :</b>	<b>Did Not Observe</b>	Not within Expectations	Meets Expectations
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Knowledge & ability to perform basic airway management using bag mask ventilation, direct laryngoscopy & other airway adjuncts			
A understanding of basic patient monitoring, including interpretation of capnography & pulse oximetry			

Question of the Day: The most commonly used IV induction agents are **propofol, ketamine and etomidate**. Consider some drawbacks and benefits of each choice: \_\_\_\_\_

Comments: \_\_\_\_\_  
 Staff Signature: \_\_\_\_\_

Aspects: <b>The resident has demonstrated :</b>	<b>Did Not Observe</b>	Not within Expectations	Meets Expectations
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Knowledge & ability to perform basic airway management using bag mask ventilation. Direct laryngoscopy & other airway adjuncts			
A understanding of basic patient monitoring, including interpretation of capnography & pulse oximetry			

Question of the Day A Pediatric Question- What are the differences between adult and Pediatric Airways?

Comments: \_\_\_\_\_  
 Staff Signature: \_\_\_\_\_

Aspects: <b>The resident has demonstrated :</b>	<b>Did Not Observe</b>	Not within Expectations	Meets Expectations
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The ability to perform the pre-anesthetic consultation & determine the anesthetic risk of the patient			
The ability to effectively form & carry out a plan for airway management to include understanding ASA algorithm for difficult intubations			
Knowledge & ability to perform basic airway management using bag mask ventilation, direct laryngoscopy & other airway adjuncts			
A understanding of basic patient monitoring, including interpretation of capnography & pulse oximetry			

Question of the Day: How do you determine the size and length of an endotracheal tube for infants & children?

\_\_\_\_\_

Comments: \_\_\_\_\_

Staff Signature: \_\_\_\_\_

Aspects: <b>The resident has demonstrated :</b>	Did Not Observe	Not within Expectations	Meets Expectations
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Knowledge & ability to perform basic airway management using bag mask ventilation, direct laryngoscopy & other airway adjuncts			
A understanding of basic patient monitoring, including interpretation of capnography & pulse oximetry			

Question of the Day: What are the NPO fasting guidelines for adults and children?

\_\_\_\_\_

Comments: \_\_\_\_\_

Staff Signature: \_\_\_\_\_

Aspects: <b>The resident has demonstrated :</b>	Did Not Observe	Not within Expectations	Meets Expectations
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Knowledge & ability to perform basic airway management using bag mask ventilation, direct laryngoscopy & other airway adjuncts			
A understanding of basic patient monitoring, including interpretation of capnography & pulse oximetry			

Question of the Day: If a E-oxygen cylinder contains 600 L of oxygen and is at 1000 psi at the start of a call, the best estimate for the amount of time a patient can receive 15 L/min with a non-rebreathing mask is?

\_\_\_\_\_

Comments: \_\_\_\_\_

Staff Signature: \_\_\_\_\_

Aspects: <b>The resident has demonstrated :</b>	Did Not Observe	Not within Expectations	Meets Expectations
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Knowledge & ability to perform basic airway management using bag mask ventilation, direct laryngoscopy & other airway adjuncts			
A understanding of basic patient monitoring, including interpretation of capnography & pulse oximetry			

Question of the Day: What are the indications for placing an LMA? What are the contraindications?

\_\_\_\_\_

Comments: \_\_\_\_\_

Staff Signature: \_\_\_\_\_

Aspects: <b>The resident has demonstrated :</b>	<b>Did Not Observe</b>	Not within Expectations	Meets Expectations
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Knowledge & ability to perform basic airway management using bag mask ventilation, direct laryngoscopy & other airway adjuncts			
A understanding of basic patient monitoring, including interpretation of capnography & pulse oximetry			

Question of the Day: Define the ASA physical status classification:

\_\_\_\_\_

\_\_\_\_\_

Comments: \_\_\_\_\_

Staff Signature: \_\_\_\_\_

Aspects: <b>The resident has demonstrated :</b>	<b>Did Not Observe</b>	Not within Expectations	Meets Expectations
The ability to perform the pre-anesthetic consultation & determine the anesthetic risk of the patient			
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A understanding of basic patient monitoring, including interpretation of capnography & pulse oximetry			

Question of the Day: Describe the method for topicalizing the airway in preparation of an awake fiberoptic.

\_\_\_\_\_

\_\_\_\_\_

Comments: \_\_\_\_\_

Staff Signature: \_\_\_\_\_

Aspects: <b>The resident has demonstrated :</b>	<b>Did Not Observe</b>	Not within Expectations	Meets Expectations
The ability to perform the pre-anesthetic consultation & determine the anesthetic risk of the patient			
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A understanding of basic patient monitoring, including interpretation of capnography & pulse oximetry			

Question of the Day: Discuss the criteria for extubation?

\_\_\_\_\_

\_\_\_\_\_

Comments: \_\_\_\_\_

Staff Signature: \_\_\_\_\_

Aspects: <b>The resident has demonstrated :</b>	<b>Did Not Observe</b>	Not within Expectations	Meets Expectations
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1. Question of the Day: Risk factors for aspiration of gastric contents at the time of airway management include all of the following EXCEPT a. Emergency surgery b. Higher ASA classification c. Small bowel obstruction d. Obesity e. Inexperienced laryngoscopist

Comments: \_\_\_\_\_  
Staff Signature: \_\_\_\_\_

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**Goals & Objectives for Nephrology Rotation  
Under Development**

**Goals & Objectives for Radiology/Interventional Rotation  
Under Development**