

UHOR Core Syllabus 2008-2009

The goal of your UHOR Core Rotation is to provide you with the core knowledge and skills of a general adult anesthesiologist. This rotation is considered “core”, because the types of cases performed and anesthetic techniques used represent the bulk of the work performed by anesthesiologists in all adult anesthesia practices. Your mastery of the knowledge and techniques required for these cases is essential to your ability to become a competent consultant in anesthesiology.

You will start this rotation with your one-on-one preceptorship behind you. You should have mastered the skills identified in the syllabus for that rotation. In the UHOR Core Rotation, you will progress from the base of knowledge and skills developed during your preceptorship. You will be expected to perform thorough preoperative evaluations, formulate safe and efficient anesthetic plans, and grow in your ability to function independently. Because the range of cases is broad, your experience also will be broad and will be intentionally less focused in a particular specialty area than in your specialty rotations. We recognize that this is both a challenge and a benefit to your education. The challenge stems from the constantly changing demands of the work that will “disrupt your flow” in comparison to more narrowly focused rotations. This can be frustrating to some residents as the ability to sense progression can be muted on this rotation. On the other hand, the ability to adapt to the variety of cases and environments is an essential skill of the consultant in anesthesiology. And, while you may not sense a smooth progression in ability, in fact you will grow rapidly in ability during this rotation, and you will be well-prepared by it for your more advanced and more narrowly focused rotations.

Because of the broad focus of this rotation, and because you will work with a larger number of faculty than in a specialty rotation, your learning during this rotation will reflect this broad focus. Since you may not be aware of the specific areas of interest/expertise of your assigned faculty, and your faculty may not be aware of what skills you have already acquired, you will need to take the initiative in helping to guide your learning. This is also an essential skill of the consultant. To help you make the transition from an externally-directed learner to a self-directed learner, this syllabus attempts to provide a framework for you to work within that will help you organize and progress in your education. It also attempts to provide a framework for integrating the experience and teaching skills of your staff into your personal educational progression by providing concrete areas for discussion and concrete skills to be attempted. Accordingly, this syllabus contains an open checklist of educational goals for you. You will not be evaluated on the basis of completing this checklist nor will you be asked to turn it in. Rather, it is meant to be a tool for your personal development. Also, this syllabus is not meant to be a substitute for the Departmental Curriculum. The curriculum sets forth the educational standards for your residency and for this rotation and it does so in the format favored by the credentialing authorities. This syllabus is designed to be a more user-friendly tool for day to day use. It is therefore organized temporally following the course of an anesthetic case rather than categorically as with the curriculum.

Let me comment as well on the need to ask questions. As medical students, you may have been penalized for asking questions; sometimes a medical student gets a better evaluation by saying nothing than asking a “dumb” question. Residency is different: you are already a member of the

club. We intend for you to succeed and expect you to graduate and become consultants. Therefore, you have the opportunity to ask any question you want when you are working with us. There are no dumb questions. Often, the most elementary questions are the most thought provoking (as the written boards prove every year), so make sure you ask them. If we don't know the answer (and we may not), we'll figure it out with you.

Please contact Dr. Abbey on the first day of your rotation for an orientation if you were unable to attend the orientation meeting

Syllabus Checklist

Emergency Preparedness

- **Getting Help**
 - Types of emergencies likely to be encountered and when and where they might occur**
 - How to get help for likely emergencies**
 - What resources are available in different settings?**
 - Where is the crash-cart?**
 - How do you use the defibrillator?**
- **Airway**
 - What are the steps in managing a lost airway? In the OR? During transport? In preop or the PACU?**
 - Difficult airway algorithm**
 - Techniques for obtaining an airway:**
 - Mask**
 - Airways**
 - DL options**
 - Glidescope**
 - Fiberoptic intubation**
 - Lightwand**
 - LMA**
 - Intubating LMA**
 - FasTrach LMA**
 - Combitube**
 - Trach**
- **Code**
 - Review BCLS**
 - How to ventilate**
 - How to perform compressions**
 - Review ACLS for the OR**

- Major steps**
- Integration of BCLS**
- Managing rhythms**
 - Bradycardia**
 - Afib/aflutter**
 - SVT**
 - Vtach**
 - Vfib**
 - Torsades**
 - PEA**
- Cardioversion/Defib/Pacing in the OR**
- Acute pulmonary edema**
- Hypotension**
- Shock**
- Stroke**
- MI**
- Pharmacology:**
 - Adenosine**
 - Amiodarone**
 - Atropine**
 - Esmolol**
 - Digoxin**
 - Dobutamine**
 - Dopamine**
 - Epinephrine**
 - Flumazenil**
 - Isoproterenol**
 - Lidocaine**
 - Mag Sulfate**
 - Milrinone**
 - Narcan**
 - Nitro**
 - Nitroprusside**
 - Norepinephrine**
 - Procainamide**
 - Sodium Bicarbonate**
 - Vasopressin**
- **Power Outage (We had a 15 minute total power loss in 2005 with no power, no lights, no climate control.)**
 - What happens to the anesthesia machine?**

- Does the surgery continue?
 - How can one prepare?
- **Fire**
 - How to evacuate
 - Special risks connected with anesthesia equipment
 - Airway fires: How do they occur? How do we manage them? How do we prevent them?
- **Anesthesia Machine Failure**
 - How to approach a machine failure
 - Power failure
 - Loss of gas pressure
 - Circuit failures
 - Common alarms: circuit leak, failure to deliver PEEP, reverse flow, etc.
 - Total failure
- **Monitor Failure**

Preoperative Preparation

- **Chart Review**
 - Where to get information about your patient (It's more than just the PAT note): EPIC, PACS, records from other hospitals
 - What information is important?
 - Airway information
 - Cardiovascular
 - Pulmonary
 - Labs
 - Special tests: echo, stress tests, angio, PFTs, CT, MRI, Xray, pregnancy tests
- **Reading and Research**
 - What to read about
 - When to read
 - What sources help prepare for cases
 - Is it OK to read in the OR?
 - What to read in the OR if you do
 - How to research a case
- **Case Presentation**
 - What is the best structure for presenting a case to staff?
 - How long should a case presentation take? How does one become more efficient?

- Why do residents present cases?
 - How to make an anesthetic plan
- **OR Set-up**
 - Basic set-up of any OR:**
 - **Drugs**
 - **Anesthesia machine**
 - **Monitors**
 - **IV's and fluids**
 - **Tubes and blades**
 - **Tape**
 - **Suction**
 - **Stethoscope**
 - Set-ups for a GA**
 - Set-up for a MAC**
 - How to set-up for following cases**
 - How to set-up for a trauma**
 - Special equipment**
 - **Aline**
 - **CVP**
 - **PA cath**
 - **Belmont**
 - **Difficult airways**
 - **Thoracic cases**
- **Patient Interview and PARQ**
 - How to prepare for the interview**
 - How to introduce yourself**
 - How to establish a rapport**
 - Interview structure**
 - How to be efficient**
 - How to interview an emergency patient**
 - How to PARQ and consent**
 - How to talk to the family about risks and likely outcomes**
- **Patient Examination:**
 - How to assess airway?**
 - How to perform the rest of the examination?**
 - What to do if patient is uncooperative?**
- **Patient Preparation: Lines, Blocks, Airway, Etc.**
 - Practice placing preop IVs by putting in the first IV of the day**
 - Have you done an epidural?**
 - Spinal?**

- Combined spinal epidural?**
- How is each placed?**
- How do you dose them?**
- What determines the level for each?**
- What are the possible complications?**
- What are the contraindications?**
- Peripheral blocks?**
- How to prepare for RSI**
- How to prepare for AFOI**
- How to prepare for nasal intubation**
- Methods of preop sedation and agents:**
 - **Midazolam or oral midazolam**
 - **Fentanyl**
 - **Morphine/hydromorphone**
 - **Ketamine dart?**
 - **Any others?**

Induction

- **Preparation:**
 - How do you ensure:**
 - that the room is ready and that you have not forgotten anything?**
 - That you are ready?**
 - That the patient is ready?**
 - That the OR staff is ready?**
 - Does your staff need to be present? Why or why not?**
 - What drugs need to be drawn up?**
- **Monitors**
 - Have you done an awake a-line? Awake central line?**
 - What are the ASA standard monitors?**
 - What monitors do we usually use? Why? Go through each monitor on the screen with your staff and discuss each one?**
 - How does the pulse-ox work?**
 - What causes pulse-ox artifacts?**
 - How does the ETCO2 work? What does the waveform show?**
 - How does the NIBP work?**
 - What are the indications and contraindications for an a-line? CVP? PA cath?**
 - What data do you get from each one?**
 - What are the possible complications of each?**

- Why do we monitor two leads on EKG? Why the II and V5?
- Do you know how to set up the monitor? How to change parameters, etc.?
- What's the safest and most efficient way to place monitors?
- **Pharmacology**
 - Induction agents: Have you used each of these and discussed the advantages and disadvantages of each? The cost? The dose?**
 - Propofol
 - Thiopental
 - Etomidate
 - Fentanyl/Midazolam
 - Methohexital
 - Sevoflurane
 - Nitrous
 - Lidocaine: Why do we give it? What is the dose? Are there alternatives? Risks?**
 - Opiates/analgesics: Have you used each of these for induction? Advantages/disadvantages? How do you dose each?**
 - Fentanyl
 - Morphine
 - Hydromorphone
 - Alfentanyl
 - Sufentanyl
 - Remifentanyl
 - dexmetomedine
 - Relaxants**
 - What are the major classes?
 - What are the indications, uses, advantages, disadvantages and costs of?:
 - Succinylcholine
 - Vecuronium
 - Rocuronium
 - Pancuronium
 - Atracurium
 - Cis-atracurium
 - Have you used each one?
 - What are the doses?
 - Which are appropriate for a rapid sequence?
 - How else can you relax a patient? Keep them from moving?

- When are relaxants indicated? When are they contraindicated?**
- How do you monitor relaxants?**
- How do you use relaxant drips? When are they indicated?**
- Have you used a sux drip?**
- What is pseudocholinesterase deficiency? How do you diagnose it? How do you treat it?**
- What is a Phase II block? What are its characteristics? How do you treat it?**
- **Sequence: What is the sequence of medications and procedures for:**
 - A standard induction?**
 - An inhalational induction?**
 - A rapid sequence induction?**
 - An LMA?**
 - An AFOI?**
 - A nasal intubation?**
 - A mask case?**
- **Airway Management**
 - Have you managed each of the following airway devices?**
 - Mask**
 - Oral airway**
 - Nasal airway**
 - ETT**
 - Oral Rae**
 - Nasal Rae**
 - LMA: ambu, classic, intubating, fastrach**
 - Armored tube**
 - Double lumen tube**
 - Bronchial blocker**
 - Combitube**
 - Have you used the following airway equipment?**
 - Different laryngoscope blades: MAC, Miller, McCoy?**
 - Different indirect devices: fiberscope, Glidescope, Storz scope, lightwand**
 - Adjuncts: stylet, bougie, McGill's forceps**
 - Have you attempted the following techniques?:**
 - DL**
 - AFOI, asleep FOI, FOI through LMA, nasal FOI (awake and asleep)**
 - Awake trach**

- Jet ventilation
 - Nasal intubation
 - Blind nasal intubation
 - Retrograde intubation
 - Management of trach or stoma
- Have you discussed?
 - Factors influencing ease of mask ventilation?
 - Difficult airway algorithm
 - Cannot intubate, cannot ventilate situations
 - How to manage aspiration?
 - How to assess success of airway?
 - What to do if you intubate the esophagus?
 - What to do if you damage teeth?
 - What to do if you dislocate the arytenoids?
 - What to do if you perforate the trachea?
- **Positioning: What are the challenges and risks of the following positions? Have you managed each type?**
 - Supine
 - Prone
 - Lateral
 - Sitting
 - Jackknife
 - Trendelenberg
 - Reverse trendelenberg
 - 90 degree turn
 - 180 degree turn
 - How do you manage a peripheral nerve injury?
 - How do you diagnose and manage venous air embolus?
- **Efficiency**
 - How long should it take from the time you enter the OR to “anesthesia ready”?
 - How do you become more efficient?
 - What are the primary costs of an anesthetic? OR time? Anesthesia units? Medications? Equipment?
 - How do you minimize costs to the patient? To the department? To the hospital?
- **Lines: Have you placed and been taught how to place each of the following lines?**
 - A-line
 - IJ triple lumen and introducer

- EJ
- Subclavian
- Femoral CVP and a-line
- Trauma Line or RIC (Rapid-Infuser Catheter)
- PA catheter
- IVs
- **Roles: What are the roles and responsibilities of each member of the OR team during induction?**
 - Anesthesia resident
 - Anesthesia staff
 - Surgeons
 - Circulator
 - Scrub

Maintenance:

- **Pharmacology**
 - What are the goals of pharmacology choices for maintenance: anesthesia, analgesia, amnesia, relaxation?**
 - What is a single-agent anesthetic? How does it work?**
 - What is a balanced anesthetic?**
 - **What is a “classic balanced anesthetic”?**
 - **What is the modern interpretation of a balanced anesthetic?**
 - Inhalational agents and gases?**
 - **Options: Isoflurane, Sevoflurane, Desflurane, Halothane, Nitrous Oxide. What are the characteristics, advantages and disadvantages of each? Costs?**
 - **What is the difference between a vapor and a gas?**
 - **What is MAC? What is MAC_{intubation}? MAC_{BAR}? MAC_{skinincision}?**
 - **What is the “second gas effect”?**
 - **What is the blood/gas coefficient?**
 - **What is the oil/gas coefficient?**
 - **What is “overpressure”?**
 - **How does a vaporizer work? Why does the desflurane vaporizer have an electrical plug? What is the effect of altitude change on vaporizers?**
 - **What is the FA/FI ratio? What impacts this ratio?**
 - **What is diffusion hypoxia?**
 - **What is diffusion atelectasis? How do you treat it?**

- Why do we use air? Should we? Dangers of high FIO₂ and dangers of low FIO₂?
 - IV amnestics? Have you used each? What are the advantages/disadvantages?
 - Propofol
 - Midazolam/benzos
 - Barbituates
 - Ketamine
 - Dexmedamidine
 - Scopolamine
 - Analgesics
 - Opiates
 - Alpha₂ agonists
 - Ketamine
 - Adjuncts: Gabapentin, acetaminophen, NSAIDS, regional anesthesia (learn more on your regional rotation)
 - Relaxants
- Equipment
 - Gas cylinders:
 - What are the color codes?
 - What are the max pressures for each?
 - How to calculate how long a cylinder will last?
 - What is difference between oxygen/air and nitrous cylinders?
 - What is the pin index system?
 - Circuit?
 - What kind of circuit is the anesthesia machine? Draw it? What other kinds of circuits are there? What is the circuit for an Ambubag? Jackson-Reese?
 - Dead space: What are types of dead-space? (equipment/mechanical, anatomic, alveolar) How can we minimize each? How can we calculate dead space?
 - How do the expiratory and inspiratory valves work? What happens if they malfunction?
 - How does the circuit work when on bag? On ventilator?
 - How does the scavenging system work? What happens if it malfunctions?
 - How does the pop-off valve work?

- **How does the CO₂ absorber work? What agents are used? Draw out the chemical reactions? What are the possible problems? How do you prevent or solve each?**
- **Low flow anesthetic**
 - **How low can you go? How do you know?**
 - **What are the risks? How do you minimize them?**
 - **What is the advantage?**
- **What is closed circuit anesthesia?**
 - **How does it work?**
 - **Advantages?**
 - **Risks?**
- **Alarms: What do each of these alarms mean? How do you diagnose the cause?**
 - **“reverse flow” alarm**
 - **Low FIO₂ alarm**
 - **“pressure alarm”**
 - **High PIP alarm**
 - **Minute ventilation alarm**
- **How does the bellows work?**
 - **Why do we use ascending bellows?**
 - **How do the valves work during the ventilation cycle?**
 - **What happens if you hit oxygen flush during inspiration?**
 - **What happens if you get a bellows leak?**
 - **What powers the bellows?**
- **What is the flush valve? What pressure does it give? What is that pressure in mmHG? Is it before or after the vaporizers in the circuit? Does it deliver anesthetic?**
- **Flowmeters:**
 - **How are they calibrated?**
 - **How do they work?**
 - **What happens if they leak?**
 - **What is Graham’s Law?**
 - **What is the impact of altitude on flowmeters?**
 - **Why are they in the order they are in?**
 - **What is impact of flow rate on accuracy?**
- **Where are your circuit monitors?**
 - **Oximetry (How does it work?)**

- Capnography (How does it work?)
 - Electrical
 - How does the OR electrical system work?
 - How does it prevent patient shocks?
 - What is macroshock? Microshock?
 - What does a line isolation alarm mean? What do you do if it alarms?
- Ventilation
 - What is the alveolar gas equation?
 - What is a flow volume loop? What does it tell you?
 - What is the difference between oxygenation and ventilation?
 - What is the impact of GA on spontaneous ventilation?
 - What is the impact of position on ventilation? Supine vs. upright? Lateral vs. supine? Prone vs. supine?
 - What is V/Q? What is V/Q mismatch? What causes it? How do we treat it?
 - What are the uses, advantages, disadvantages of each ventilation mode:
 - Volume control
 - How do we determine the appropriate volume to set?
 - What is the correct minute ventilation?
 - What other parameters can we control? What is the purpose of each?
 - Pressure control
 - How do you decide what pressure to set?
 - What is the advantage over volume control?
 - Disadvantage?
 - How does the flow volume loop differ compared to volume control?
 - Where does that pressure get measured?
 - SIMV
 - What does it stand for?
 - What is the advantage of it?
 - What is the history of its development?
 - Pressure support
 - When is it appropriate to use?
 - What is PSVPro?
 - LMA
 - Should you use controlled ventilation or spontaneous?

- **If you ventilate an LMA, how should you do it?**
 - **How do patients breathe if spontaneous on an LMA?**
 - **Laryngospasm: Can it occur? When is it most likely to occur? How to diagnose and treat it?**
 - **Aspiration: Can it occur? What might contribute to it? How do you treat it?**
- **Single-lung ventilation:**
 - **Indications: Absolute vs. relative?**
 - **Methods of lung isolation**
 - **Double Lumen Tube (DLT)**
 - **When to use one?**
 - **Right vs. left?**
 - **Sizing**
 - **How to position? How to verify? By lung sounds? By fiberoptic? By looking in the chest?**
 - **How to isolate the lung?**
 - **Why do patients desat?**
 - **What to do to optimize oxygenation?**
- **Fluid Management**
 - **How do you calculate a fluid deficit? What is the impact of bowel prep?**
 - **How do you calculate maintenance rate: basal needs and insensible losses and ongoing losses?**
 - **How do you calculate insensible losses for burns?**
 - **How can you use monitors to assess fluid status?**
 - **CVP**
 - **Wedge**
 - **Systolic pressure variation**
 - **Echo**
 - **Angio**
 - **Which monitor is most accurate?**
 - **Should you use crystalloid or colloid?**
 - **What fluids to use: What are the advantages/disadvantages of each of the following?**
 - **Saline**
 - **Lactated ringers**
 - **Normosol**
 - **Hypertonic saline and Jeff's mix**
 - **Hetastarch: Does it cause coagulopathy?**

- **Albumin**
- **Blood Products: What are the indications, contraindications, risks, costs of each of these products?**
 - **Packed Red Blood Cells**
 - **What is the hematocrit of PRBCs?**
 - **What is the volume of a unit?**
 - **How much should one unit raise Hct?**
 - **How do you calculate acceptable blood loss before transfusing?**
 - **What is the shelf life of PRBCs?**
 - **How many meq of K+ does a unit contain?**
 - **O- blood: When do you use it? Can you use cross-matched blood after O-?**
 - **What is a type and screen? What is a type and cross? Can you ever give type and screened, but not matched, blood?**
 - **How long does the transfused blood last? What happens to it?**
 - **FFP**
 - **What factors does it contain?**
 - **What INR can you get to?**
 - **What is citrate? What does it cause? How do you treat it?**
 - **Cryoprecipitate**
 - **Can you use it with the Belmont?**
 - **Platelets**
 - **Risk of bacterial infection?**
 - **Can you put it through a warmer?**
 - **How much does a unit of platelets raise plt count?**
 - **Factor VIIa**
 - **Dosing?**
 - **How do you get it?**
 - **What does it cost?**
 - **Early vs. late administration?**
 - **Massive Transfusion**
 - **How to call it? What it means? Who helps and what can they help with?**
 - **Should you wait for labs?**
 - **What lab tests help?**
 - **How much FFP should you give with PRBCs?**
 - **Can you use Hct to determine when to transfuse?**
 - **Belmont Rapid Infuser**

- What is ideal access?
 - Where is the air sensor?
 - What is the maximum infusion rate?
 - What is dilutional thrombocytopenia?
 - What is DIC? What causes it? How do you treat it?
- **Outputs:**
 - How to estimate blood loss?
 - What is oliguria? What is the DDx?
 - How to account for NGT and CT outputs?
- **Preparation for Post-op Analgesia**
 - Regional vs. IV analgesia**
 - What is preemptive analgesia? Why does it matter?**
 - How to assess analgesia needs: Based on pain history, home meds, surgery type, respiratory rate, other signs**
 - For IV analgesia:**
 - **Short versus long acting opiates**
 - **When to start dosing for post-op: early vs. late**
 - **Analgesic drips**
 - **What is V_D ? How does it impact context sensitive half-life of opiates? What is a context sensitive half-life?**
 - **What receptors are involved in pain relief?**
- **Roles: What are the roles and duties of each of the following?:**
 - You**
 - Your staff**
 - The surgical staff**
 - The surgical resident**
 - The med students**
 - The D1**
 - The E1**
 - The circulating nurse**
 - The scrub tech/nurse**
 - The front desk**
 - The anesthesia tech**

Emergence:

- **Planning:**
 - What preparation is required to have a smooth, safe emergence?**
 - **Depending on position**
 - **Depending on procedure**

- Checklist
- **Pharmacology:**
 - **Reversal agents:**
 - How do they work?
 - Possible complications?
 - When is the patient ready for reversal?
 - What happens if you reverse before patient is ready?
 - TOF vs. Double burst
 - How long does reversal takes?
 - How to test post-reversal strength?
 - Why do we use neostigmine and glycopyrrolate?
 - How do anticholinergics work? Which ones cross the BBB? What are the symptoms of central anticholinergic toxicity?
 - What is sugamadex?
- **Techniques for smooth emergence:**
 - Spontaneous respiration
 - Off-gassing
 - Role of ETCO₂
 - Adjuncts: propofol, lidocaine, opiates, nitrous
 - Deep extubation
 - How to handle a bucking patient
- **Extubation**
 - Criteria for extubation?
 - How do OR criteria compare to ICU criteria?
 - Preparation
 - Technique of extubation
 - Self-extubation
 - Is it OK to let a patient remove their own LMA?
 - Role of circulating nurse and surgeons
 - Slow wakeup: DDx and treatment
- **Post-extubation concerns**
 - Laryngospasm
 - CO₂ narcosis
 - Airway obstruction
 - Weakness
 - Vomiting or aspiration: What's the difference? DDx and treatment?
 - Monitors: Which ones should be left on?

Turnover and Transport

- **Issues for transport to PACU**
 - **Monitors**
 - **Oxygen**
 - **Diffusion hypoxia**
 - **What flow rate to use?**
 - **What to do if oxygen cylinder goes dry?**
 - **What to do with chest tube? What is water seal? When do they need to be on suction?**
 - **What to do for emergencies:**
 - **Respiratory arrest**
 - **Circulatory arrest**
 - **Uncooperative patients**
- **Issues for transport to ICU or other unit**
 - **Monitors**
 - **Emergency drugs and a line to give them through**
 - **Sedation**
 - **Ventilation**
 - **Roles of anesthesia, circulating nurse, surgeon, and tech in transport**
 - **How to position on elevator?**
 - **Common problems and how to deal with them:**
 - **Getting an elevator**
 - **Loss of sedation**
 - **Pump failure**
 - **Loss of a line**
 - **Monitor failure**
 - **Learning to fly a bed solo**
 - **Code during transport**
- **Turnover:**
 - **How to be efficient?**
 - **How to be safe in the face of time pressure?**
 - **How to communicate with techs, OR nursing staff, surgeons about turnover**

Post-Operative Care

- **Stabilizing patient in PACU**
 - **What is a stable patient?**
 - **When is it safe to leave a patient with the PACU staff?**

- Can you leave an intubated patient?
- What to do about uncontrolled pain?
- Reporting
 - How do you give efficient report to the PACU nurse?
 - What special items should you tell them?
- PACU orders
 - When do you write orders?
 - What should you include in them?
- PACU basic issues
 - Role of PACU nurse? CNA?
 - Level of care?
 - Discharge criteria?
 - Most common reasons for slow discharge?

Special Issues

- Malignant hyperthermia
 - What is it?
 - Genetics?
 - Pathophysiology?
 - Prevention?
 - Testing?
 - Diagnosis of Perioperative MH?
 - Treatment?
- Pseudocholinesterase deficiency
 - Who gets it?
 - Diagnosis?
 - Treatment?
- Explaining complications
 - Who should explain a complication? To whom? When?
 - Best way to discuss with family?
 - Ethical obligations regarding disclosure
 - Legal risks of disclosure
- Risk management
 - When to contact them?
 - What to tell them?

Management Issues: How do you best coordinate care and your schedule with?:

- **Your staff**
- **The D1**
- **surgeons**
- **Coordination of regional anesthesia**
- **Medical Direction Rules: Limitations on staff for the supervision of residents, CRNAS, and anesthesia assistants**
- **Preparation for real life: What do you need to know on July 1 after you graduate?**