I. Perform preanesthetic assessments and assess preoperative risk for a variety of patients and surgical procedures.

II. Discuss indications, contraindications, and drug choices for preoperative medication, including anxiolytics, analgesics, and gastrointestinal agents.

III. Develop, justify, and implement anesthetic plans, including selection of technique, appropriate monitoring, and anesthetic agents.

IV. Explain the risks, benefits, and alternatives to common airway management techniques. Demonstrate mask ventilation, LMA placement, and intubation.

V. Be able to identify and propose treatment for common intraoperative aberrations of normal physiology.

VI. Discuss patient and procedure selection criteria for ambulatory anesthesia. Demonstrate knowledge regarding the ambulatory patient and nausea/vomiting prophylaxis, pain management, and discharge criteria.

VII. The student will know multiple modalities for postoperative pain management.
Anesthesiology 380 – Clinical Anesthesia

Curriculum and Syllabus

I. Preoperative Evaluation
   a. Review of prior records
   b. Anesthesia-oriented history
      i. Prior anesthetics and outcomes (including family problems)
      ii. Allergies
      iii. Medications
      iv. Focused review of systems
      v. NPO status
   c. Physical exam
      i. Airway
      ii. Cardiac
      iii. Pulmonary
   d. Studies
      i. Appropriate Use
      ii. Interpretation
   e. Understand the criteria for and significance of ASA physical status
   f. Understand the criteria for NPO status
   g. Discuss factors influencing patients' perioperative course and risk
      i. Patient factors
         1. Age
         2. Comorbidities
            a. Cardiac
            b. Asthma/COPD
            c. Obesity
            d. Diabetes
            e. Pregnancy
      ii. Anesthetic factors
      iii. Surgical factors
         1. Minor versus major
         2. Peripheral versus central
         3. Elective versus emergent
   h. Discuss how the patient’s medications may affect their perioperative course
      i. Rationale for continuation and discontinuation of patient’s medications
      ii. Perioperative management of anticoagulants
      iii. Perioperative management of insulin

II. Anesthetic Plan Development and Justification
   a. General
      i. Standard Induction
      ii. Rapid Sequence Induction
      iii. Neuraxial
         1. Spinal
         2. Epidural
      iv. MAC/Sedation
III. Technical Skills
   a. Airway Management
      i. Identification of airway anatomy
      ii. Mask ventilation
          1. Maintaining an airway
          2. Airway adjuncts
      iii. LMA
      iv. Introduction to Intubation
   b. IV Placement
      i. Rationale for site and size selection
      ii. Use of appropriate aseptic technique
      iii. Successful insertion of peripheral access

IV. Physiology
   a. Pulmonary
      i. Normal
          1. Oxygenation support
          2. Ventilatory support
   b. Cardiovascular
      i. MAP = CO x SVR
      ii. Determinants of myocardial oxygen consumption and delivery
      iii. Volume status
          1. Means of assessment
          2. Rationale for replacement therapy
   c. Aspiration Risk
   d. Physiologic monitoring
      i. Cardiovascular
          1. Electrocardiogram and rationale for lead selection
          2. Blood pressure
      ii. Respiratory
          1. Pulse oximetry
          2. End tidal carbon dioxide
          3. Ventilatory
      iii. Invasive
          1. Arterial
          2. Central Venous
          3. Pulmonary Artery

V. Pharmacology
   a. The primary goal is to understand the physiological effects, indications, and contraindications for the following medications
      i. Inhaled
          1. Volatile Agents
          2. Nitrous Oxide
      ii. IV Anesthetics
          1. Propofol
          2. Etomidate
          3. Midazolam
      iii. Muscle Relaxants
1. Succinylcholine  
2. Rocuronium  
3. Vecuronium  
4. Reversal Agents  
   a. Neostigmine  
   b. Glycopyrrolate  

iv. Opioids  
   1. Fentanyl  
   2. Morphine  

v. Hemodynamic Agents  
   1. Ephedrine  
   2. Phenylephrine  
   3. Esmolol  
   4. Labetalol  

vi. Aspiration Prophylaxis  
   1. Metoclopramide  
   2. H₂ Blockers  
   3. Sodium Citrate (Bicitra)  

VI. Postoperative Pain Management  
   a. Intravenous  
      i. Narcotic  
      1. Morphine PRN  
      2. Morphine PCA  
      ii. Ketorolac  
      iii. Ketamine  
   b. Neuraxial  
   c. Regional  

VII. Ambulatory anesthesia  
   a. Discuss patient/procedure selection criteria  
   b. Demonstrate knowledge regarding the ambulatory patient and:  
      i. Nausea/vomiting prophylaxis  
      ii. Pain management  
      iii. Discharge criteria
Rotation Structure

The rotation is structured as follows:

**Day 1**

There are five lectures:

- Ventilatory Management
- Preoperative Evaluation
- Anesthesia Pharmacology
- Introduction to Acute Pain
- Airway Management and Simulation

Attendance is expected at all lectures. Following the last lecture, report to the Operating Room, locate the anesthesia schedule for the next day, and sign up for a room based on your resident assignment. Before leaving, perform a preoperative evaluation of your patients through chart review and locate your residents to discuss the cases. Patient charts are available in the Preoperative Registration in the first floor of the hospital.

**Days 2 through 19**

You should show up at 0645 in scrubs to help set up your operating room. Be sure to introduce yourself to the resident or attending with whom you will be working. Following room setup, you should join your anesthesiologist for the preoperative evaluation of your patient. Be sure to introduce yourself to your patient.

Your anesthesiologist will determine which tasks are appropriate for your participation. This may include IV placement, mask ventilation, and possibly LMA placement or intubation.

You should regularly be performing preoperative evaluations of patients. As a case is winding down, you should discuss with your anesthesiologist when it would be appropriate for you to excuse yourself from the case to see the next patient. After evaluating the patient, you should present the patient to your anesthesiologist.

Every afternoon, you should determine which anesthesiologist you will be working with the next day. Consult the *Case Distribution Schedule* (attached) to determine which type of case you should sign up for on any given day. Discuss with your anesthesiologist which case you should evaluate postoperatively. This may mean doing a chart review for an outpatient or visiting an inpatient.

Keep your course syllabus with you in the operating room. It should serve as the basis for discussion between you and your anesthesiologist. Check off topics as they are covered so that you know what is left to talk about.

**Day 20**

This is the exam day, please follow the posted schedule.
Anesthesia 380 – Clinical Anesthesia

Case Distribution Schedule

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Students schedule for a particular subspecialty have priority in selection of cases in that subspecialty. Once they have made their selection, all rooms are available to those remaining.

**Subspecialty** | **Specifics**
---|---
Peri-op | There is a resident assigned to the recovery room each month. Find that resident and assist them. You should pay specific attention to issues that arise commonly in the recovery room (e.g. pain management, hemodynamic instability, and respiratory embarrassment).
CT | If there is a cardiac case scheduled, work with the resident scheduled to do that case; otherwise, select a thoracic case.
L&D | Contact the resident rotating on Obstetric Anesthesia at x6090.
APS/Block | You should round at least once with the Acute Pain Service by contacting the nurse at x6097. OR time should be spent with the resident assigned to their block rotation.
# Student Technical Skill Checklist

## Anesthesia 380 – Clinical Anesthesia

Name: ________________________________

Date: ________________________________

Activities are to be signed off by resident, attending, or nurse as appropriate

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