EXTERNSHIP SYLLABUS

Four-Week Program

These topics will also be covered in the eight-week program, in addition to those listed further down.

- To understand standard airway equipment, techniques and management
  - Preparation of airway management, indications and techniques for placement
    - Bag/Valve/Mask ventilation
    - Suction
    - Oral airways
    - Endotracheal tubes
    - Laryngoscopes (types of blades and appropriate use)
    - Stylets
    - Anesthesia Machine
      - oxygen supply
      - vaporizers
      - flow meter function
      - circle system
      - ventilator
    - Special air techniques – fiberoptic, light wand, LMA, transtracheal jet ventilation, glidescope
- To participate in preoperative assessment of patients for anesthesia
  - Preoperative assessment (including ATC)
  - Anesthesia relevant directed history and physical examination
  - Basic laboratory tests
  - Preoperative EKGs
  - Preoperative CXR
  - Intravenous placement preoperatively
- To learn basic clinical monitoring methods and interpretation
  - Non-invasive blood pressure
  - Electrocardiogram – 3 lead and 5 lead
  - Pulse oximetry
  - Stethoscope – precordial, esophageal
  - Peripheral nerve stimulator
  - End-tidal gas monitoring
  - Invasive monitoring – indications and utility
- To apply basic pharmacology principles during pre-, intra-, and postoperative care
  - Preoperative outpatient medications and impact on anesthesia management
  - Preoperative sedative medications
  - Induction agents
  - Inhalation agents
  - Neuromuscular blocking agents
  - Opioids
  - Local anesthetic
  - Sympathomimetic agents
  - Parasympathomimetic agents
- To apply basic respiratory physiology principles in the care of surgical patients
  - Evaluation for extubation
  - Arterial blood gas interpretation
  - Ventilator settings

- Bronchodilators

Eight-Week Program

All the goals of the four-week program, plus the following:

- To experience the anesthesia subspecialties
  - Acute and chronic pain management
    - Discuss the difference in treatment and strategies used in the management of acute and chronic pain patients
    - Describe the basic principles of I.V. PCA and epidural analgesia
    - Describe the salient clinical issues involved in the administration of opioids, NSAIDS, as well as some of the adjunctive agents used in pain management
    - Identify some of the comorbid psychiatric disorders common in the chronic pain patient population and Describe how these disorders impact on pain management
    - Discuss the rational of a multidisciplinary approach in the management of chronic pain
  - Cardiovascular anesthesia including cardiopulmonary bypass
    - Basic cardiac anatomy and physiology
      - Physiology of CPB
      - Blood hemostatis and coagulation
      - ACLS/BCS protocols
      - Cardiovascular pharmacology
  - Trauma anesthesia
  - Obstetric anesthesia. Each day – different obstetric topic to be discussed. Handout available at beginning of 8 weeks. Be in Labor & Delivery at 6:45 a.m. each day. Take one "call" until 11:00 p.m..
    - Understand the physiologic changes of pregnancy and their anesthetic implications
    - Understand the mechanisms by which maternally administered medications affect the fetus
    - Understand the labor effect of regional anesthesia
    - Understand the mechanisms of fetal stress/distress
    - Understand the anesthetic management of the pregnant patient
  - Neurosurgical anesthesia
  - Critical Care Medicine
    - Hemodynamic monitoring
    - Shock states
    - Respiratory failure
    - X-ray interpretation
    - Mechanical ventilation
    - Blood gas analysis
    - Cardiac arrhythmias
    - ICP monitoring and management
    - SAH
    - Renal failure management
- To apply basic pharmacology principles during pre-, intra-, and postoperative care
  - Preoperative outpatient medications and impact on anesthesia management
  - Preoperative sedative medications
  - Induction agents
  - Inhalation agents
  - Neuromuscular blocking agents
  - Opioids
  - Local anesthetic
  - Sympathomimetic agents