

Department of Anesthesiology

Anesthesia Curriculum Clinical Base Year

Description of Rotation

The goal of this month long rotation is to teach the basic skills of anesthesia and to provide a foundation on which to build the initial skills and knowledge required for successful anesthetic management. During this clinical experience, the resident will be assigned to an anesthetizing site with a more senior resident or other anesthesia provider and be assigned appropriate faculty with skills sufficient to teach the resident.

The residents will work at WVU Ruby Memorial under the supervision of departmental faculty.

Residents will develop and understanding and make appropriate judgments regarding:

- Appropriate Operating Room preparation
- Basics of the Anesthesia Machine, monitoring equipment, and airway equipment checkouts
- Preoperative Evaluations and Preoperative Management of patients with co-morbidities
- Pharmacology of anesthetic agents, adjunct drugs used during anesthesia
- Physiologic homeostasis of the patient including fluid management, hemodynamics and temperature management
- Appropriate crisis management
- Appropriate postoperative management

Initial educational methods will include simulation and didactic introduction to basic anesthesia. The above listed general goals will be addressed.

Patient Care

Goals

Residents must be able to provide patient care that is compassionate, appropriate and effective for the treatment of health problems and the promotion of health in progressively more complex patients. Residents are expected to:

- Be able to perform an appropriate history, physical and consultative workup and prepare a primary anesthetic plan.
- Be able to appropriately prepare an anesthetizing location for an anesthetic for the patient.
- Be able to perform basic intubations on patients.
- Be able to successfully and safely anesthetize uncomplicated patients with minimal compromise to the patient's homeostasis
- Be able to provide for a safe emergence from anesthesia for the uncomplicated patient
- Be able to provide basic postoperative care and transfer of the patient to other

Department of Anesthesiology

healthcare providers.

Competencies

- Focused history
- Focused physical examination
- Appropriate consultations, laboratory, radiology and ancillary tests
- Appropriate primary and secondary anesthetic plans
- Anesthesia machine checkout and maintenance
- Intubation equipment preparation
- Airway management with successful intubations
- Pharmacologic management of anesthetic
- Fluid Management
- Respiratory management
- Temperature management
- Patient safety including positioning and electrical safety
- PONV prophylaxis
- Postoperative care and Pain Management
- Patient monitoring and proper documentation

Objectives

By the end of the rotation the resident will accomplish the following:

- By the end of the rotation a resident should be able to perform an basic focused history and physical, appropriate laboratory data, and prepare an basic primary and secondary anesthetic plan on all ASA 1 & 2 patients.
- By the end of the rotation a resident should be able to perform an adequate focused history and physical, appropriate laboratory data, and prepare an adequate primary and secondary anesthetic plan on all ASA 3 patients.
- By the end of the rotation a resident should be able to do an adequate anesthesia machine checkout, monitor checkout, and other equipment checkout according to the ASA guidelines.
- By the end of the rotation, a resident should be able to intubate all grade one intubations without intervention from the attending anesthesiologist and be able to successfully mask all of their patients for whom the attending does not have difficulty.
- By the end of the rotation, a resident should be able to understand, apply, and choose appropriate pharmacologic interventions to provide a safe anesthetic for all ASA 1&2 patients having simple procedures.
- By the end of the rotation, resident should demonstrate an understanding of proper patient positioning and electrical safety for the patients.
- By the end of the rotation, the resident should be able to provide basic postoperative care for the patient, give an adequate transfer report to the next healthcare provider, and provide proper documentation.
- For all of the objectives listed, proper documentation is required at all times.

Medical Knowledge

Goals

Residents are expected to increase their knowledge of anesthetics and their interactions

Department of Anesthesiology

with patients' co-existing diseases. To do this residents must demonstrate an understanding and application of the following areas in order for them to make reasonable choices for anesthetic management of their patients:

- Basic anatomy and physiology
- Pathophysiology of co-existing diseases
- Pharmacology
- Anesthetic equipment
- General Anesthetic techniques
- Regional anesthetic techniques
- Monitoring
- Proper documentation
- Acid-base, fluid, blood, and temperature management

Competencies

Residents must have a basic understand the following areas:

- Pharmacologic principles
- Autonomic nervous system
- Effects of inhaled anesthetics on circulation and ventilation
- Opioid therapy
- Use of Local anesthetics
- Use of Neuromuscular blocking agents
- Anesthetic machines and breathing circuits
- Monitors and monitoring systems.
- Preoperative evaluations
- Airway management
- Neuraxial anesthetic techniques
- Basic Peripheral nerve blocks
- Positioning and electrical safety
- Acid-base homeostasis
- Colloid and crystalloid management

Objectives

- Knowledge components are more difficult to identify specifically over time as the knowledge required to perform each anesthetic is heavily dependent on each patient and the procedure they are having. Therefore, it is imperative that the residents seek out their attendings prior to the cases (the earlier the better) to discuss the case and allow the attending to state what level of knowledge is expected of the resident for the case. The global rating scale will reflect the adequacy of the level of knowledge for all of the competencies listed above.
- In addition to the case specific knowledge, the resident is expected to increase their general anesthesia and disease knowledge base. Independent study and attendance at didactics are required for successful attainment of an adequate knowledge base of the competencies listed above.
- Provide satisfactory performance on the Global Rating Scale.

Practice- Based Learning and Improvement

Department of Anesthesiology

Goals

Residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life long learning. Residents are expected to develop

skills and habits to be able to:

- To be able to identify and access appropriate references to solve basic management problems.
- Independently seek answers clinical questions and incorporate this knowledge acquisitions into appropriate management and care plans
- Review the post-anesthetic hospital course of their patients receiving anesthesia for complications or suboptimal and devise alternative management plans that could have improved outcomes
- To be able to access “one –line “ references pertinent to the anesthetic management of patients.

Competencies

- Identify personal strengths, deficiencies and limits in knowledge and expertise related to the field of basic anesthesia.
- Set learning and improvement goals based on patient and colleague feedback.
- Actively participate and seek educational opportunities.
- Systematically analyze anesthesia practice, perioperatively and through post-anesthetic assessment of patients and restructure anesthetic practice to improve patient outcome.
- Incorporate formative evaluation feedback into daily practice.
- Incorporate pertinent findings and conclusions of scientific studies to improve anesthetic outcomes.
- Use information technology to optimize learning.
- Disseminate knowledge acquired for the further education of patients, families, students, residents and other health professionals.

Objectives

- Provide satisfactory performance on the Global Rating Scale.
- Review the literature and lead the discussion on practice improvement for the cases they present in the weekly morbidity and mortality conference.
- Demonstrate to the attending for a case that the resident has reviewed the literature, including the use of electronic media, for anticipated difficult case to for which they are assigned to provide anesthesia.

Systems Based Practice

Goals

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. Residents are expected to:

- Be able to prioritize the delivery of anesthesia and analgesia based on the particularities of the basic patient.
- Function as a member of an intra-operative team with nurses, surgeons, and other

Department of Anesthesiology

health professionals.

Competencies

- Coordinate patient care within the health care system relevant to basic anesthesia
- Incorporate considerations of risk-benefit analysis in patient care.
- Participate as part of inter-professional team to enhance patient safety and improve patient care quality.
- Participate in identifying systems errors and in implementing potential systems solutions.
- Acquire appropriate information from hospital computer systems.

Objectives

- Provide satisfactory performance on the Global Rating Scale.
- Interact and participate in hospital initiatives to improve quality and efficiency in the operating room.
- Discuss systems-based problems as they pertain to patient care at the monthly morbidity and mortality conferences.

Professionalism

Goals

Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. Residents are expected to:

- Provide the highest possible quality basic anesthesia care
- Serve as a role model to students and related practitioners as to commitment and professional conduct in the care of patients
- Discuss ethical challenges in the care of their patients
- Express sensitivity to the particular needs of the patient and their family

Competencies

- Demonstrates courtesy and respect for patients, nurses, physicians, and ancillary staff
- Demonstrates compassion and integrity for others
- Completes patient care tasks and provides appropriate follow-up and feedback to patient and staff
- Acts in the best interest of the patient
- Advocates quality and timely patient care
- Respects patient privacy and autonomy
- Accountable to patients, society, and the profession
- Sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in age, culture, race, religion, disabilities, and sexual orientation

Objectives

- Provide satisfactory performance on the Global Rating Scale.

Interpersonal and Communication Skills

Goals

Resident must demonstrate interpersonal and communication skills that result in the effective exchange of information and teaming with patients, their families and professional associates. Residents are expected to:

Department of Anesthesiology

- Effectively obtain pertinent medical history from the patient and/or their family.
- Effectively describe available anesthetic options at appropriate age and education specific levels.
- Obtain informed consent for general anesthesia and regional anesthesia; explain related risks and potential benefits.
- Provide sensitive reassurance while performing regional anesthesia.

Competencies

- Communicate effectively with the patient and their families across a broad range of socioeconomic and cultural backgrounds
- Communicate effectively with physicians, nurses, and ancillary staff.
- Work effectively as a member of the health care team
- Maintain comprehensive, timely, and legible medical records

Objectives

- Provide satisfactory performance on the Global Rating Scale.

Teaching Methods

- Didactic conferences
- Review and discussion of perioperative evaluations and anesthetic plans with attending anesthesiologists
- Intraoperative discussion of pertinent physiologic changes and case management
- Review and discussion of post-anesthetic evaluation
- Suggested readings.

Assessment Method (residents)

- Global Rating Scale
- Conference and lecture attendance records (Practice-based Learning and Improvement, Interpersonal and Communication Skills, Professionalism).

	Patient Care	Med Knowledge	Practice Based Learning	System Based Practice	Professionism	Communication
Global Rating Scale	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly
Chart Stimulated Recall	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Conference & Lecture Attendance			Weekly	Weekly	Weekly	Weekly

Assessment Method (Program Evaluation)

How do you evaluate whether this educational experience is effective?

- Assessment of successful Patient Care Competency in oral examinations and faculty evaluations of observations of clinical practice.
- Review of Resident Evaluations of Faculty Performance
- Review of Resident Program Evaluations

Level of Supervision

During the month of training in basic anesthesia a close level of supervision is provided

Department of Anesthesiology

including: extensive discussions about preoperative evaluation and interpretation of hemodynamic data, with the physical presence of the staff anesthesiologist for the critical portions of the case.

Educational Resources

Recommended readings and references:

- Handouts prepared by faculty members;
- Stoelting RK, Miller RD. Basics of Anesthesia: with Evolve Website. 5th edition Churchill Livingstone; Nov 2, 2006.
- Morgan GE, Mikhail MS, Murray MJ. (Eds) Clinical Anesthesiology. 4th edition, McGraw-Hill Medical. Aug 26, 2005
- Stoelting RK, Dierdorf SF. Anesthesia and Co-Existing Disease 4th Edition Churchill Livingstone. Mar 21, 2002
- Stoelting RK, Hillier SC. Pharmacology and Physiology in Anesthetic Practice, 4th Edition. Lippincott Williams & Wilkins. Oct 1, 2005
- Jaffe RA, Samuels SI, Anesthesiologist's Manual of Surgical Procedures. 3rd Edition. Lippincott Williams & Wilkins; September 1, 2003

Internet Resources

- The Virtual Textbook, <http://www.virtual-anaesthesia-textbook.com/index.shtml>

Social Justice

West Virginia University is committed to social justice. We concur with that commitment and expect to maintain a positive learning environment based upon open communication, mutual respect, and non-discrimination. Our University does not discriminate on the basis of race, sex, age, disability, veteran status, religion, sexual orientation, color, or national group. Any suggestions as to how to further such a positive and open environment in this rotation will be appreciated and given serious consideration.

Curriculum Timeline

Approved by Education Committee September 19, 2007