WestVirginiaUniversity
SCHOOL OF MEDICINE

CA-2 Intermediate Clinical Training (ICT) Curriculum
Department of Anesthesiology

Description of Rotation

The goal of this multi-month rotation is to build upon the essential skills learned in the BCT rotation and to provide a knowledge and skill base for successful anesthetic management of progressively more challenging cases. During this clinical experience, the resident will have cases assigned according to their level of training 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:

- Operating Room setups appropriate for the case
- 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, hemodynamics and temperature management
- Appropriate crisis management
- Appropriate postoperative management of operative patients

The first initial education will occur using 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. Residents are expected to:

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

Competencies

- Focused history
- Focused physical examination

- Appropriate consultations, laboratory, radiology and other tests
- Appropriate primary and secondary anesthetic plans
- Anesthesia machine checkout and maintenance
- Intubation equipment preparation for difficult airways
- Airway mangement with successful intubations of difficult airways
- Pharmacologic management of anesthetic for complex patients
- Respiratory management for patients with pulmonary pathology
- Temperature management
- Patient safety including positioning and electrical safety
- Postoperative care of complex patients
- Patient monitoring and proper documentation

Objectives

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

- The resident should be able to perform an adequate focused history and physical, appropriate laboratory data, and prepare an adequate primary and secondary on all ASA classes of patients.
- The resident should be able to intubate all grades of intubations without intervention from the attending anesthesiologist and successfully perform fiberoptic intubations of almost all of their difficult airway patients.
- By the end of the rotation, a resident should be able to manage and intubate any patient without intervention from the attending anesthesiologist.
- 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 classes of patients having any procedure.
- By the end of the rotation, the resident should demonstrate adequate temperature, fluid, and other homeostasis management for all ASA classes of patients.
- For all of the objectives listed, proper documentation is required at all times.

Medical Knowledge

Goals

Residents are expected to continue to expand their knowledge of anesthetics and their interactions in patients' with progressively more complex 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:

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

Competencies

Residents must understand the following areas:

- Pharmacologic principles

- Autonomic nervous system
- Effects of inhaled anesthetics on circulation and ventilation in patients with complex significant comorbidities
- Preoperative evaluations in complex patients
- Advanced Airway management
- Coaxial anesthetic techniques
- Peripheral nerve blocks
- Positioning for advanced cases
- Acid-base homeostasis in complex patients
- Colloid and crystalloid management

Objectives

- Satisfactory scores on faculty evaluations of Global Clinical Performance Rating Scales
- The Anesthsia Knowledge Test 18 (AKT) is administered after eighteen months of training. The ABA in-training examination is administered each July and every resident is expected to take these examinations. It is expected that the resident will maintain at least a 40th percentile performance on the AKT-18 as compared with their peers nationwide.

Practice- Based Learning and Improvement

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 “ reference sources 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 based on improved patient outcomes.
- Incorporate formative evaluation feedback into daily practice.
- Incorporate pertinent findings and conclusions of scientific studies to improve cardiac anesthesia 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 moderately complex patient.
- Function as a member of a intra-operative team with nurses, surgeons, and other 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 anesthesia care to moderately complex patients.
- Provide 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:

- 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.
- 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
- Case scenario discussions (Chart Stimulated Recall)
- Suggested readings.

Assessment Method (residents)

- Global Rating Scale
- Written Examinations (AKT-18)

- Written Examinations (ABA Intraining Examination)
- Case logs (Patient Care, Practice-based Learning and Improvement,).
- 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	Profess-ionlism	Communi-cation
Global Rating Scale	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly
AKT Written Examination		18th Month				
Intraining Examinations		Annually				
Case Logs	Weekly					
Conference & Lecture Attendance			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
- Post-graduate assessments of adequacy of training

Level of Supervision

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

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