CURRICULUM
CLINICAL BASE / CA-1 / CA-2 / CA-3

ANESTHESIOLOGY RESIDENCY PROGRAM
GOALS AND OBJECTIVES
AND CORE COMPETENCIES

Department of Anesthesiology

University of Missouri at Kansas City
School of Medicine

Saint Luke’s Hospital

Truman Medical Center

Children’s Mercy Hospital

Revised 2011
### Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction – Statement of Curriculum</td>
<td>3</td>
</tr>
<tr>
<td>I. Rendering Patient Insensible to Pain</td>
<td>4-10</td>
</tr>
<tr>
<td>II. Support of Life Functions</td>
<td>11-16</td>
</tr>
<tr>
<td>III. Clinical Base Year</td>
<td></td>
</tr>
<tr>
<td>A. Cardiology</td>
<td>17-32</td>
</tr>
<tr>
<td>B. Emergency Medicine</td>
<td>33-44</td>
</tr>
<tr>
<td>C. General Medicine</td>
<td>45-49</td>
</tr>
<tr>
<td>D. Infectious Disease</td>
<td>50-59</td>
</tr>
<tr>
<td>E. Nephrology</td>
<td>60-64</td>
</tr>
<tr>
<td>F. Neurology</td>
<td>65-68</td>
</tr>
<tr>
<td>G. Pulmonary</td>
<td>69-80</td>
</tr>
<tr>
<td>H. Preliminary General Anesthesiology</td>
<td>81-84</td>
</tr>
<tr>
<td>I. Graded Experience (Clinical Base Year)</td>
<td>85-91</td>
</tr>
<tr>
<td>J. Critical Care (e-ICU)</td>
<td>92-96</td>
</tr>
<tr>
<td>K. Critical Care Medicine (ICU)</td>
<td></td>
</tr>
<tr>
<td>IV. CA-I Year</td>
<td></td>
</tr>
<tr>
<td>A. Preoperative Assessment</td>
<td>97-102</td>
</tr>
<tr>
<td>B. Post-Anesthesia Care Unit</td>
<td>103-107</td>
</tr>
<tr>
<td>C. EENT</td>
<td>108-113</td>
</tr>
<tr>
<td>D. Obstetrical Anesthesia</td>
<td>114-120</td>
</tr>
<tr>
<td>E. Critical Care (ICU)</td>
<td>121-127</td>
</tr>
<tr>
<td>F. Outpatient Anesthesia</td>
<td>128-132</td>
</tr>
<tr>
<td>G. Orthopedics</td>
<td>133-137</td>
</tr>
<tr>
<td>H. General/Plastics/Trauma</td>
<td>138-143</td>
</tr>
<tr>
<td>I. Closed Urology</td>
<td>144-148</td>
</tr>
<tr>
<td>J. Regional</td>
<td>149-153</td>
</tr>
<tr>
<td>K. Pain Management</td>
<td>154-159</td>
</tr>
<tr>
<td>V. CA-II Year</td>
<td></td>
</tr>
<tr>
<td>A. Cardiovascular Anesthesia</td>
<td>160-166</td>
</tr>
<tr>
<td>B. Critical Care (ICU)</td>
<td>167-174</td>
</tr>
<tr>
<td>C. Thoracic Anesthesia</td>
<td>175-180</td>
</tr>
<tr>
<td>D. Neuroanesthesia</td>
<td>181-187</td>
</tr>
<tr>
<td>E. Pediatric Anesthesia</td>
<td>188-193</td>
</tr>
<tr>
<td>F. Major Vascular</td>
<td>194-199</td>
</tr>
<tr>
<td>VI. CA-III Year</td>
<td></td>
</tr>
<tr>
<td>A. Cardiovascular Anesthesia</td>
<td>200-206</td>
</tr>
<tr>
<td>B. Critical Care (ICU)</td>
<td>207-214</td>
</tr>
<tr>
<td>C. Chief Residency</td>
<td>215-218</td>
</tr>
<tr>
<td>D. Investigational/Scholarly Assignment</td>
<td>219-223</td>
</tr>
<tr>
<td>E. Advanced Anesthesia Training – Advanced Clinical Anesthesia Track</td>
<td>224-229</td>
</tr>
<tr>
<td>F. Advanced Anesthesia Training – Advanced Clinical Scientist Track</td>
<td>230-234</td>
</tr>
<tr>
<td>G. Advanced Anesthesia Training – Subspecialty Rotations</td>
<td>235-239</td>
</tr>
<tr>
<td>H. Operating Room Management</td>
<td>240-244</td>
</tr>
<tr>
<td>I. Transesophageal Echocardiography</td>
<td>245-249</td>
</tr>
<tr>
<td>J. Pediatric Anesthesia</td>
<td>250-255</td>
</tr>
<tr>
<td>K. Pain Management/Regional Anesthesia</td>
<td>256-261</td>
</tr>
</tbody>
</table>
Statement of Curriculum
48-Month Training Continuum in Anesthesia

The following document defines the goals, objectives, and curriculum of the residency program in Anesthesiology at the University of Missouri-Kansas City School of Medicine, its two integrated teaching hospitals (Saint Luke’s Hospital and Truman Medical Center), and its affiliated institutions (Children’s Mercy Hospital and the Kansas City University of Medicine and Bioscience).

This curriculum is intended to provide the residents with the opportunity to:

A. Develop a personal program of learning to foster continued professional growth with guidance from the faculty;
B. Participate in safe, effective, and compassionate patient care, under supervision, commensurate with the resident’s level of advancement, responsibility, and capability;
C. Participate fully in the educational and scholarly activities of the program and, as required, assume graded responsibilities as provided to them by the faculty;
D. Participate, as appropriate, in institutional programs and medical staff activities and adhere to established practices, procedures, and policies of the integrated and affiliated institutions;
E. Participate on appropriate institutional committees and councils whose actions affect their education and/or patient care; and
F. Submit to the Program Director, biannually, confidential written evaluations of the faculty and of their educational experiences.

Each of the defined rotations in the CBY CA-I, CA-II, and CA-III years defines the purpose, the rotational specific cognitive and skill objectives, the general core competencies, duration of the rotation, requirements and qualifications of the resident prior to entering the rotation, the primary faculty and resources, the evaluation process and required record keeping, along with a recommended reading list.

The overarching goal of the training program is to attain ABA Board certification for each of the graduating residents. In addition, the training program has the goal of developing within each resident sound interpersonal relationships and skills and commitment to community service and competency in knowledge, diagnostic and procedural skills required of a consultant in Anesthesiology.

The above stated goals are achieved by providing the resident with a graded clinical experience, under the direct supervision of Board certified faculty, a robust and diverse patient population, and a didactic experience that covers all of the knowledge areas required to achieve Board certification and life long learning.

Instructional strategies used by the faculty include didactic presentations, direct patient teaching, mentoring, independent study (scholarly assignments), audiovisual and case presentations, and outside visiting faculty.

Annually, the faculty participate in a strategic planning activity during which an educational needs assessment is made based on resident evaluations of the program, newly devised educational requirements, needs of the faculty, and a desire to improve specific aspects of the program as defined by the faculty. The chief resident will participate in this activity. From this activity a strategic plan for education is devised/revised for the following academic year. Goals, objectives, core competencies and curriculum are then revised as needed.
CURRICULUM
DEPARTMENT OF ANESTHESIOLOGY
RESIDENCY PROGRAM
UNIVERSITY OF MISSOURI-KANSAS CITY
SCHOOL OF MEDICINE

GENERAL GOALS/OBJECTIVES/CORE COMPETENCIES
Rendering a Patient Insensible to Pain
Year of Training: CA-I, II, and III years

Cognitive Objectives:
In the management of procedures for rendering a patient insensible to pain during surgical operations, the resident will:

1. Explain in detail the factors influencing the choice of anesthesia. (PCPS, MK, ICS)
2. Explain the purpose of preanesthetic medication, the drugs employed, and the hazards associated with their use. (PCPS, MK, ICS)
3. Be able to explain the essential physical principles governing the metering of compressed gases and the vapors of volatile liquids employed as inhalation anesthetic agents. (MK, ICS)
4. Be able to explain and demonstrate the administration of common inhalational anesthetic agents. (MK, ICS)
5. Demonstrate proficiency in the use of artificial airways and endotracheal tubes. (MK)
6. Employ neuromuscular blocking agents in a manner which demonstrates a knowledge of their pharmacologic properties and their appropriate clinical application. (PCPS, MK)
7. Be able to explain the pharmacologic actions, toxic effects, and methods of administration, and to demonstrate the uses of local anesthetic agents. (PCPS, MK, ICS)
8. Be able to explain the science and application of the following techniques, as stated by recognized authorities in anesthesiology: (MK, ICS)
   A. Hypnosis
   B. Acupuncture
9. Explain pharmacologic action, physiologic effects and side effects of intravenous induction agents. (MK, ICS)

Skills/Cognitive Objectives:
At the completion of individual rotations:

1. Given a list of anesthetic agents and adjuvant drugs, the resident will define the applicability and use of these agents to a typical clinical situation. (MK, ICS)
2. Given a list of surgical procedures to be performed on healthy patients, the resident will select an appropriate anesthetic sequence for each situation. (PCPS, MK)
3. Given a surgical procedure to be performed on a list of patients with various life-threatening disease processes, the resident will select an anesthetic sequence for each, designed to minimize risk. (PCPS, MK, SBP)
4. Given a patient who refuses the selected anesthetic regimen for any reason, the resident will list alternatives and describe the procedure to be followed. (PCPS, MK, ICS, PBLI, SBP)
5. Given an apprehensive surgical candidate, the resident will explain the proposed anesthetic procedure (including risks, benefits and options) to the responsible party in language that is understandable by a person with a minimum of an elementary school education and order appropriate medications to bring the patient to surgery in a tranquil state. (PCPS, MK, ICS, PBLI, SBP)

6. Given a 5-year-old child scheduled to undergo surgery, the resident will explain the proposed anesthetic procedure to the patient and parent, and order appropriate preanesthetic medication. (PCPS, MK, ICS)

7. The resident will list three conditions where preanesthetic medication must be substantially altered and the changes in drug orders indicated. (MK)

8. The resident will list the effects of overdose and the commonly observed side effects of: (MK)
   A. Narcotics
   B. Anticholinergics
   C. Phenothiazines
   D. Butyrophenones
   E. Barbiturates
   F. Benzodiazepines
   G. Antibiotics
   H. Beta Antagonists
   I. Anticoagulants
   as they are employed in preanesthetic medication.

9. Given a standard anesthetic machine of modern design, the resident will demonstrate an understanding of the following: (MK, SBP)
   A. Pressure reducing valves
   B. Flowmeters
   C. Liquid anesthetic vaporizers
   D. Canisters containing carbon dioxide absorbents
   E. Conducting conduits in circle and non-rebreathing systems (valve placement and pop-off)
   F. Fail-safe devices
   G. Cylinders and yokes
   H. Pulse oximetry
   I. CO₂ analysis
   J. Spectrometry (mass)
   K. Automated blood pressure devices
   L. ECG recording devices
   M. Waste gas scavenging device

10. The resident will tabulate the physical properties of medical gases (oxygen, nitrous oxide, cyclopropane, carbon dioxide, helium, xenon), including molecular formula, physical state in cylinder, boiling point, and explosive range if flammable. (MK)

11. The resident will tabulate the physical properties of volatile anesthetic liquids (dimethyl ether, halothane, methoxyflurane, isoflurane, enflurane, desflurane, sevoflurane) which determine their delivery from vaporizing devices, including the molecular formula, boiling point, vapor pressure at ordinary temperatures, stability of carbon dioxide absorbents to include soda lime, baralyme and ambsorb, and explosive range if flammable. (MK)

12. The resident will be able to write equations for the chemical absorption of carbon dioxide and explain the two closed absorption system techniques (to-and-fro and circle). (MK, ICS)
13. The resident will explain the operation of a mechanical ventilator, the various patient settings, rationale for use, and application to general anesthesia. (MK, ICS, SBP)
   A. Pressure pre-set ventilators
   B. Volume pre-set ventilators

14. The resident will list the factors which determine the rate of uptake from airway to alveoli, from alveoli to arterial blood, and from blood to brain (soluble and insoluble anesthetic gases). (MK)

15. The resident will list the factors which govern elimination of gases from the brain via the venous blood and alveoli. (MK)

16. The resident will tabulate the MAC values, blood/gas and brain/blood partition coefficients, and saturated vapor pressures (25 degrees C) of: (MK)
   A. Nitrous oxide
   B. Cyclopropane
   C. Diethyl ether
   D. Halothane
   E. Methoxyflurane
   F. Enflurane
   G. Isoflurane
   H. Sevoflurane
   I. Desflurane
   J. Xenon

17. The resident will explain the Meyer-Overton and Pauling-Miller theories of anesthesia. (MK, ICS)

18. The resident will demonstrate the application of an anesthetic mask, oral airway, nasal airway, and LMA, and the maintenance of an unobstructed airway while administering an inhalation anesthetic. (MK)

19. Considering each agent in turn listed in No. 16 above, the resident will state the effects on respiration, heart, brain, peripheral vasculature, liver, kidney, and bone marrow. (MK, ICS)

20. The resident will define the following techniques of administering inhalation anesthesia: (MK, ICS)
   A. Insufflation
   B. Open
   C. Semi-open
   D. Semi-closed
   E. Closed
   F. Gas injection (jet ventilation)

21. The resident will describe the operation of six varieties of liquid anesthetic vaporizers and demonstrate the proper use of two of them. (MK, ICS)

22. The resident will describe the operation of three non-breathing anesthetic systems (Ayre’s T-piece, Mapleson D, and the Bains’ circuit). (MK, ICS)

23. Given several patients under general anesthesia, the resident will demonstrate the insertion of an oral, nasopharyngeal and LMA airway and the indications for their use. (PCPS, MK)

24. Given 50 patients suitable for intubation, the resident will select the endotracheal tube of appropriate size and length and perform endotracheal intubation by direct laryngoscopy (with and without a stylet), utilizing both the MacIntosh and Miller laryngoscopes. (MK)
25. The resident will list the hazards of intubation, including those associated with laryngoscopy, tube placement and cuff inflation, and use of a stylet. (MK)

26. Given a patient with intestinal obstruction or risk of aspiration, the resident will demonstrate the performance of an awake oral intubation. (PCPS, MK)

27. Given a patient with trismus or a fractured jaw, the resident will demonstrate the performance of a blind nasotracheal intubation. (PCPS, MK)

28. The resident will list five complications which may follow extubation (laryngospasm, edema of larynx or subglottic area, granuloma of vocal cord, ulceration of trachea, aspiration). The resident will describe the pathophysiology and treatment of each complication. (PCPS, MK, ICS)

29. The resident will explain the sequence of neuromuscular transmission and four ways in which it may be pharmacologically interrupted. (MK)

30. The resident will define depolarizing and nondepolarizing neuromuscular blockade and the reactions to electrical nerve stimulation in each. (MK)

31. The resident will describe the uptake, distribution, biotransformation, and elimination of five neuromuscular blocking agents (succinylcholine, d-tubocurarine, gallamine, pancuronium, vecuronium, atracurium, rocuronium, cisatracurium, doxacurium, mivacurium, metocurine, pipecuronium). (MK, ICS)

32. The resident will define five physiologic factors which influence the action of neuromuscular blockers (temperature, electrolyte aberrations, acid-base disturbances, preanesthetic administration of anticholinesterase and pharmacologic agonist such as antibiotics and calcium channel blockers). (MK)

33. The resident will identify the significant pharmacologic actions of the following: (MK)
   A. An ultrashort acting oxybarbiturate (methohexitol)
   B. An ultrashort acting thiobarbiturate (thiopental)
   C. Imadozole (etomidate)
   D. A phencyclidine (ketamine)
   E. Propofol induction/maintenance

34. The resident will describe the uptake, distribution, biotransformation, and elimination of thiopental sodium as a total intravenous anesthetic for intermediate to long procedures. (MK)

35. Given a suitable patient, the resident will demonstrate intravenous anesthesia: (PCPS, MK, ICS)
   A. Alone, for a short procedure (cardioversion).
   B. For induction, to be followed by inhalation anesthesia.
   C. Individual doses as part of a balanced anesthesia regimen.
   D. To supplement regional blockade.
   E. As an emergency anticonvulsant.
   F. As part of a regimen for brain preservation.

36. The resident will describe the indicated therapeutic measures following inadvertent extravasation or intra-arterial injection of thiopental. (MK, ICS)

37. The resident will list five reasons why local anesthesia has continued to be useful (simplicity, early ambulation, avoidance of fear of unconsciousness, less nausea, vomiting, aspiration influence on morbidity and mortality). (MK)
38. The resident will list four reasons why local anesthesia may not be applicable (lack of patient acceptance, impracticality in some anatomic regions, insufficient duration, toxic potentialities of local anesthetic drugs or physiologic/pharmacologic contraindication). (MK)

39. The resident will explain the mode of propagation of the nerve impulse and its inhibition by local anesthetic agents. (MK)

40. The resident will tabulate the properties of six local anesthetic drugs, indicating their chemical class (ester, amide), their concentrations for topical, regional, epidural, and spinal block, their maximal safe dose, and their toxic side actions. (MK)

41. Given suitable patients for whom spinal anesthesia is indicated for the proposed surgical procedure, the resident will demonstrate technical proficiency in lumbar puncture and appropriate administration of spinal block of proper height (median and paramedian approach, hypobaric, hyperbaric and isobaric solutions). (PCPS, MK)

42. Given suitable patients for whom epidural (or caudal) block is indicated, the resident will demonstrate technical proficiency in the administration of the block. (PCPS, MK)

43. The resident will explain factors important in patient positioning, complications that can occur with positioning, and the treatment required for a patient who has sustained a position-related injury. (MK, ICS)

44. Given a patient on whom a spinal or epidural block has been performed, the resident will list the possible complications to be anticipated and their management. (PCPS, MK)

45. The resident will explain the anatomic landmarks and the technical sequence for the performance of: (MK, ICS)
   A. Cervical plexus block
   B. Paravertebral nerve block
   C. Brachial plexus block (superclevicular, infraclavicular, interscalene, or axillary)
   D. Nerve blocks at the elbow, wrist, hand, and fingers
   E. Stellate ganglion block
   F. Lumbar sympathetic block
   G. Celiac plexus block
   H. Sciatic-femoral block
   I. Nerve blocks of the ankle and toes
   J. Splanchnic plexus block
   K. Intercostal nerve block
   L. Intrapleural anesthesia
   M. Intravenous block
   N. Psoas compartment block
   O. Fascia/Iliaca block

46. The resident will be able to discuss patient selection, drugs, and techniques for continuous regional anesthetics such as epidural and continuous peripheral nerve blocks. (MK, ICS)

**General Core Competencies:**
- Patient care and procedural skills,
- Medical knowledge,
- Practice-based learning and improvement,
- Interpersonal and communication skills,
- Professionalism, and
- Systems-based practice
Statement of Purpose:
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:

- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

PATIENT CARE AND PROCEDURAL SKILLS (PCPS)
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:

- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
- Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:

- Demonstrate an investigatory and analytical thinking approach to clinical situations.
- Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:

- Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
- Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
• Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
• Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
• Use information technology to manage information, access on-line medical information; and support their own education.
• Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:
• Create and sustain a therapeutic and ethically sound relationship with patients.
• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
• Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:
• Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
• Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
• Practice cost-effective health care and resource allocation that does not compromise quality of care
• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

References:
4. Any other reading material assigned by faculty.

Reviewed/Approved: E. Fibuch, M.D.
Title: Chairman/Program Director
        Department of Anesthesiology
Revised: Spring 2011
Cognitive Objectives:
In the support of life functions under the stress of anesthetic and surgical manipulations, the resident will:

1. Be able to assess the risks of anesthesia and surgery and explain the hazards and complications which may develop in any given clinical situation. (PCPS, MK)

2. Be able to explain the operation of equipment essential for the monitoring of vital functions during anesthesia and surgery. (PCPS, MK, ICS)

3. Be able to diagnose, explain, and treat effectively the complications of general and regional anesthesia and MAC. (PCPS, MK, ICS, SBP)

4. Be able to outline measures to be followed which minimize the risks of fire, explosion, and electrocution, including proper wiring and grounding of the operating room and the equipment used in the operating room, recovery room, and intensive care units. (MK, SBP)

5. Be able to outline and explain the common hazards of the postoperative period. (MK)

6. Be able to explain the proper recording and record-keeping essential to good anesthetic practice. (MK, ICS)

Skills Objectives:
At the completion of the rotation in the CA-I, CA-II, and CA-III years:

1. The resident will list five important tests that measure the functional status of the:
   - A. Cardiovascular system
   - B. Respiratory system
   - C. Renal and metabolic buffer systems
   - D. CNS and PNS to include EMG, MEP’s, SSEP, BAEP’s, EEG and processed EEG, transcranial Doppler and jugular venous oxygen saturation in the pre-anesthetic period, stating normal parameters and aberrations observed in the common disorders of these systems.

2. Given a patient with healthy viscera, for whom surgery is anticipated, the resident will state the risks of morbidity and mortality of patients undergoing general anesthesia. (PC, MK, ICS)

3. Given a patient with pulmonary, cardiovascular, renal, metabolic disease, hepatic or hematologic, the resident will list the preoperative measures to be carried out prior to surgery to optimize chances of a favorable operative result. (PCPS, MK)

4. Given a patient receiving routine medications prior to anticipated surgery, the resident will determine the additional hazards imposed and recommend discontinuance if advisable. (PCPS, MK)
5. The resident will be able to demonstrate the following devices and methods for circulatory monitoring: (MK)
   A. Pulse (palpation, precordial, or esophageal stethoscope, sound amplifiers, plethysmograph)
   B. Electrocardiograph
   C. Blood pressure (sphygomanometry, direct transduction via strain gauge to oscilloscope or polygraph)
   D. Venous pressure (direct)
   E. Blood volume (dye or radionuclide dilution)
   F. Blood loss (gravimetric, volumetric)
   G. Cardiac output (oxygen consumption method, thermodilution and dye dilution techniques)
   H. Transesophageal echo

6. The resident will be able to demonstrate the following devices and methods for respiratory monitoring: (MK)
   A. Spirometry (rate, pattern, volumes)
   B. Blood gases (oximeter, capnograph)

7. The resident will be able to demonstrate additional monitoring devices as follows: (MK)
   A. Telethermometer
   B. Electroencephalograph
   C. Compressed spectral array EEG
   D. Doppler flow
   E. EMG
   F. Evoked potential monitoring.

8. The resident will list eleven causes of arterial hypotension during anesthesia and their management: (PCPS, MK)
   A. Excessive premedication
   B. Vasodepressor medications prior to anesthesia
   C. Overdose of general or local anesthetic agents
   D. Sympathetic blockade due to spinal or epidural anesthesia
   E. Raised airway pressure
   F. Hemorrhage
   G. Surgical manipulation
   H. Interference with caval return
   I. Change in position of the patient
   J. Acute adrenal insufficiency
   K. Anaphylaxis

9. The resident will list ten physical injuries which may result from manipulations during anesthesia: (PCPS, MK)
   A. Ocular nerve injury
   B. Facial nerve injury
   C. Pneumothorax
   D. Mediastinal or subcutaneous emphysema
   E. Ulnar, musculocutaneous, or radial nerve injury
   F. Common peroneal nerve injury
   G. Electrical hazards
   H. Fractures in patients with osteoporosis or bone metastases
   I. Dislocation of the mandible
   J. Burns from sources of illumination, heating devices, or proper positioning during various operation procedures

10. The resident will name the volatile agents which are flammable in the anesthetic range and which support combustion. (MK, ICS)
11. The resident will name and describe six general principles of safe management of flammable vapors: (MK, ICS)
   A. Storage facilities
   B. Vapor removal
   C. Closed system technique
   D. Removal of sources of ignition
   E. Power distribution to hazardous areas
   F. Behavior of personnel.

12. The resident will list five causes of arterial hypotension in the postoperative period: (MK)
   A. Inadequate volume replacement
   B. Rapid reduction in general anesthetic level
   C. Baroreceptor paralysis due to general, spinal, or epidural anesthesia
   D. Pulmonary embolism
   E. Vasodepressor effect of analgesics
   F. Myocardial ischemia
   G. Bleeding

13. The resident will list six causes of respiratory failure in the postoperative period: (MK)
   A. Post-extubation spasm or glottic edema
   B. Pharyngeal soft tissue obstruction
   C. Depression due to muscle relaxants
   D. Atelectasis due to hypoventilation or mucus plugs
   E. Splinting due to pain or restrictive dressings
   F. Aspiration of vomitus
   G. Myocardial ischemia
   H. Shock - blood loss
   I. Anaphylaxis

14. The resident will state the differential diagnostic features of postanesthetic delirium, including evaluation and treatment. (PCPS, MK, ICS)

15. The resident will list four advantages of the recovery room and how they should be maintained: (MK)
   A. Patient safety
   B. Economy in distribution of skilled nursing care
   C. Concentration of resuscitative equipment
   D. Opportunity for more intensive study of clinical cases.

16. The resident will list the information that needs to be recorded: (MK)
   A. In the patient’s general medical/surgical chart
   B. In the anesthesia record

**General Core Competencies:**
- Patient care and procedural skills,
- Medical knowledge,
- Practice-based learning and improvement,
- Interpersonal and communication skills,
- Professionalism, and
- Systems-based practice
Statement of Purpose:
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:

- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

PATIENT CARE AND PROCEDURAL SKILLS (PCPS)
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:

- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
- Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:

- Demonstrate an investigatory and analytical thinking approach to clinical situations.
- Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:

- Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
- Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
• Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
• Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
• Use information technology to manage information, access on-line medical information; and support their own education.
• Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:
• Create and sustain a therapeutic and ethically sound relationship with patients.
• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
• Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:
• Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
• Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
• Practice cost-effective health care and resource allocation that does not compromise quality of care.
• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know these activities can affect system performance.

References:


10. Any other reading material assigned by faculty.

**Reviewed/Approved:** E. Fibuch, M.D.

**Title:** Chairman/Program Director

**Department of Anesthesiology**

**Revised:** Spring 2011
Unit Purpose:
To provide the Anesthesiology CBY Resident with a one to two month clinical experience in the evaluation, diagnosis, and treatment of patients with cardiac and vascular disease.

Cognitive Objectives:
1. Understand fundamental cardiac anatomy, with emphasis on coronary arteries and conduction system. (MK)
2. Understand basic cardiac physiology: (MK)
   A. Normal intercardiac pressures
   B. LV pressure curve related to heart sounds and murmurs
   C. LV function curve, relating LV end diastolic/wedge pressure to cardiac output/cardiac index
   D. Determinants of myocardial oxygen demand
   E. Concepts of preload and afterload; and drug therapy to lower both
3. Obtain a thorough, accurate cardiac history: (PCPS, MK)
   A. Differentiate cardiac from non-cardiac chest pain.
   B. Differentiate cardiac from other causes of dyspnea, with emphasis on congestive heart failure.
4. Perform a thorough, competent cardiovascular physical examination: (PCPS, MK)
   A. Jugular venous pressure: elevated or not?
      1. Detect prominent V waves of tricuspid regurgitation.
   B. Carotid pulse: differentiate normal from increased or decreased volume; differentiate slow versus normal/brisk upstroke; know how to listen and differentiate carotid bruits from referred murmur from heart.
   C. Precordial palpation: differentiate left ventricular from right ventricular lift; differentiate a lift from a palpable heart sound, such as accentuated first heart sound of mitral stenosis, and accentuated pulmonic closure sound of pulmonary hypertension; detect cardiac thrill and understand significance/origin.
   D. Auscultation: understand basic findings of the following:
      1. Aortic stenosis
      2. Aortic insufficiency
      3. Mitral stenosis
      4. Chronic mitral regurgitation
      5. Mild systole click and late systolic murmur of valve prolapse
      6. Accentuated aortic closure sound (upper right sternal border): systemic hypertension
      7. Accentuated pulmonic closure with normal splitting of second heart sound, upper left sternal border; pulmonary hypertension
      8. Wide split second heart sound: tip off to atrial spetal defect
      9. Early diastolic third heart sound: correlation with congestive heart failure
      10. Late diastolic fourth heart sound: generally noncompliant ventricle
      11. Effect of inspiration, valsalva maneuver, and hand grip on different murmurs
5. Understand the fundamental abnormalities seen on a 12 lead electrocardiogram: (MK)
   A. 12 lead placement with recognition of right-left arm reversal
   B. Axis deviation
C. RA enlargement vs. LAE
D. RVH vs. LVH
E. Differentiate Right Bundle Branch Block (RBBB) from Left Bundle Branch Block (LBBB)
F. Recognize pre-excitation/WPW
G. Recognize acute MI and its mimics
H. Recognize common supra-ventricular tachycardias: PSVT, afib, aflutter, multifocal AT, AT tachycardia with block, accelerated junctional rhythm
  1. Drug therapy
I. Ventricular arrhythmias:
   1. Bigger classification of PVC’s: benign, potentially malignant, or malignant
   2. Ventricular tachycardia: Non-sustained; sustained: monomorphic vs. polymorphic or Torsades
   3. Accelerated idioventricular rhythm
   4. Concept of SVT with aberrant conduction causing wide QRS and mimic PVC/VT
   5. AV Block: First, Second (Mobitz I & II), & Third degree
      a. Indications for temporary pacer

6. Understand the basic indications and application of echocardiography: (MK)
   A. When not to order: elderly, too obese, too much obstructive pulmonary disease, chest wall deformity
   B. Common indications for echocardiography:
      1. LV function:
         a. Separate systolic from diastolic dysfunction
         b. Global vs. Focal wall motion abnormality
         c. Measurement of EF
         d. Identify complications of acute myocardial infarction
      2. Pericardial infusion: Identification and quantification of amount fluid
      3. Valvular heart disease:
         a. Type and severity
         b. Rule out vegetations
      4. Systemic hypertension - severity LVH and LV dysfunction
      5. Identify pulmonary hypertension and severity
      6. Rule out aortic root dissection (even though transesophageal echo better)
      7. Identify congenital heart disease: type and severity

7. Understand the fundamental indications and concepts of treadmill exercise testing: (MK)
   A. Contraindications
   B. Reasonable indications
   C. How to interpret an abnormal response
   D. When nuclear imaging and/or exercise echocardiography should be added

8. Atherosclerotic coronary heart disease: (PCPS, MK)
   A. Able to identify risk factors
   B. Basic understanding of pathophysiology and management principles in:
      1. Stable angina pectoris
      2. Unstable angina
      3. Acute myocardial infarction:
         a. Indications/contraindications for IV thrombolysis
         b. IV nitroglycerin
         c. Beta blockers
         d. ACE inhibitors
         e. Aspirin
         f. Heparin: SQ, IV, and low molecular weight heparin
g. Role of primary PTCA
h. Recognize post-MI complications
C. Be able to differentiate Q wave from non-Q wave myocardial infarction and compare treatment principles.
D. Pre-dismissal risk stratification:
   1. How much?
   2. At what cost?
   3. Who needs coronary arteriography?

9. What are the most common indications for interventional therapy (PTCA versus coronary artery bypass graft surgery)? (PCPS, MK)

10. Congestive heart failure (CHF): (PCPS, MK)
   A. Understand the different pathophysiology of systolic versus diastolic LV dysfunction and their manifestations.
   B. Understand principles of medical therapy with emphasis on systolic dysfunction:
      1. Always look for and correct the specific etiology
      2. Preload reduction: diuretics and nitrates
      3. Afterload reduction: vasodilators with emphasis on ACE inhibitors
      4. Inotropic stimulation: digoxin, IV Dobutrex
      5. Beta blockers
   C. Knowledge of current literature regarding ACE inhibitors and hydralazine/isordil, and improved survival.
      1. Be aware of new data on ACE receptor blockers.
   D. Cardiac transplantation: indications/contraindications

11. Understand the basic concepts and approach to treatment of shock: (PCPS, MK)
   A. Definition
   B. Differentiate the different etiologies: cardiac, hypovolemic, septi (decreased tone), and anaphylactic drugs, and endocrine (hypopituitary, hypoadrenal)
      1. Understand indication/complications of Swan-Ganz catheter placement
      2. Be able to interpret hemodynamic values obtained from Swan catheter data, with emphasis on cardiac output/index, systemic vascular resistance, and intracardiac pressures.

12. Differentiate 3 major forms of cardiomyopathies: dilated, hypertrophic, and restrictive. (PCPS, MK)

13. Valvular Heart Disease: (PCPS, MK)
   A. Differentiate aortic valve sclerosis from stenosis.
   B. Understand the basic approach differentiating aortic stenosis from mitral regurgitation.
   C. Differentiate functional murmurs at upper left sternal order from organic murmurs, such as atrial septal defect, pulmonic valve stenosis.
   D. Detect bedside findings of pulmonary hypertension, including tricuspid regurgitation.
   E. Differentiate the diastolic murmurs of aortic regurgitation from mitral stenosis, with emphasis on the other accompanying findings.
   F. Basic conceptual knowledge of when to refer a valvular patient for intervention/open heart surgery.
   G. Understanding indications and antibiotic use for endocarditis prophylaxis (American Heart Association Guidelines).

14. Systemic hypertension: should be covered adequately on other general medical rotations. (PCPS, MK)

15. Understand basic concepts and approach to a patient with pulmonary hypertension: (PCPS, MK)
   A. Differentiate specific causes such as: left heart disease, pulmonary parenchymal/cor pulmonale, left-right shunts/Eisenmenger syndrome, and pulmonary obstructive/embolic.
B. This knowledge includes physical examination with correlative findings on ECG, chest x-ray, and echocardiography.

16. Pericardial diseases: (PCPS, MK)
   A. Differentiate the chest pain of acute pericarditis from acute myocardial ischemia.
   B. Differentiate T elevation of pericarditis from acute myocardial infarction and early repolarization variant.
   C. Pericardial effusion:
      1. Understand concept of cardiac tamponade and how to detect/quantitate
      2. Role of echocardiography
      3. When is pericardiocentesis indicated?
   D. Understand when you should suspect the presence of constrictive pericarditis.

17. Peripheral vascular disease: (PCPS, MK)
   A. Be able to identify and quantitate severity of limb ischemia by history and physical examination.
   B. When should you suspect presence of aortic aneurysm, with emphasis on aortic dissection?
   C. Differentiate venous thrombosis from cellulitis.
   D. Develop basic approach to preoperative non-cardiac surgical risk stratification.

18. Develop a fundamental understanding for use of cardiovascular drugs: (PCPS, MK)
   A. Antiarrhythmics:
      1. IA - Quinidine, Pronestyl, Norpace
      2. IB - Lidocaine, Mexiletine, Tocainide
      3. IC - Flecainide, Propafenone
      4. II - Beta blockers
      5. III - Amiodarone, Sotalol, Bretylium
      6. IV - Calcium blockers
      7. Misc. - Digoxin, Adenosine, Magnesium
   B. Antianginal agents:
      1. Beta blockers
      2. Calcium blockers
      3. Sublingual nitroglycerin and long-acting nitrates
         a. Understand concept of nitrate tolerance
   C. Inotropes:
      1. Digoxin: appreciation of loading dose especially constrained by the elderly and renal dysfunction; signs and symptoms of digitalis toxicity
      2. Indications and value of IV dobutamine versus dopamine
   D. Vasodilators:
      1. ACE inhibitors
      2. Hydralazine and Isordil
      3. Angiotensin - II receptor blockers (ARB’s)
   E. Anti-hypertensive: Agents
   F. Lipid lowering agents:
      1. HMG-COA reductase inhibitors: Lovastatin, Pravastatin, Simvastatin, Fluvastatin, Atorvastatin, Cerivastatin
      2. Bile acid resins; cholestyramine, colestipol
      3. Nicotinic acid
      4. Gemfibrozil (Lopid)
      5. Understand basic classification and use of cholesterol and triglycerides for practical drug usage
      6. NCEP-II guidelines.
      7. Other: Small dense LDL:
         a. LDL
b. Homocysteine

G. Anti-platelet agents: aspirin, ticlopidine, clopidogrel

H. Anticoagulants: SQ Heparin, IV Heparin, Coumadin
1. Current use of protime vs. INR
2. LMW heparin

I. Antioxidants:
1. Vitamin E, Vitamin C

19. Expected procedural skills: (PCPS)
   A. We do not expect any new invasive skills or techniques learned on this inpatient experience. Residents’
      time is strongly, if not totally, committed to the inpatient consult service, with emphasis on cardiac
      consultation, patient rounds, teaching rounds, plus conferences.

Skills Objectives
The resident should be able to:
1. Perform a focused cardiovascular history and physical examination (PCPS, MK, PBLI)

2. Read an EKG (PCPS, MK, PBLI)

3. Place and arterial line and PA catheter (PCPS, MK, PBLI)

4. Assist the fellow in placement of temporary pacemaker (PCPS, MK, PBLI)

General Core Competencies:
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

Statement of Purpose:
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency
in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning
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- Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
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- Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
- Practice cost-effective health care and resource allocation that does not compromise quality of care.
- Advocate for quality patient care and assist patients in dealing with system complexities.
- Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

Duration:
One - two months at Saint Luke’s Hospital during CBY.

Requirements:
Successful completion of Step I and II of USMLE or COMLEX and the acquisition of licensure in the state of Missouri.

Qualification:
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

Primary Faculty:
Cardiology Faculty at Saint Luke’s Hospital.

Resources:
The MAHI at Saint Luke’s Hospital.

Evaluation:
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

Record Keeping:
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.

References:
1. Libby P, Zipes DP, Mann DL, and Bonow RO (Eds): *Braunwald Heart Disease*, 8th ed. WB Saunders,


4. Any other reading material assigned by faculty.

Reviewed/Approved: E. Fibuch, M.D.
Title: Chairman/Program Director
       Department of Anesthesiology
Revised: Spring 2011
Unit Purpose:
To provide the Anesthesiology CBY Resident with a one - two month clinical experience in the evaluation, diagnosis, and treatment of patients with cardiac and vascular disease.

Cognitive Objectives:
The resident should achieve:
1. Understand fundamental cardiac anatomy, with emphasis on coronary arteries and conduction system. (MK)

2. Understand basic cardiac physiology: (MK)
   A. Normal intercardiac pressures
   B. LV pressure curve related to heart sounds and murmurs
   C. LV function curve, relating LV end diastolic/wedge pressure to cardiac output/cardiac index
   D. Determinants of myocardial oxygen demand
   E. Concepts of preload and afterload; and drug therapy to lower both

3. Obtain a thorough, accurate cardiac history: (PCPS, MK)
   A. Differentiate cardiac from non-cardiac chest pain.
   B. Differentiate cardiac from other causes of dyspnea, with emphasis on congestive heart failure.

4. Perform a thorough, competent cardiovascular physical examination: (PCPS, MK)
   A. Jugular venous pressure: elevated or not?
      1. Detect prominent V waves of tricuspid regurgitation.
   B. Carotid pulse: differentiate normal from increased or decreased volume; differentiate slow versus normal/brisk upstroke; know how to listen and differentiate carotid bruits from referred murmur from heart.
   C. Precordial palpation: differentiate left ventricular from right ventricular lift; differentiate a lift from a palpable heart sound, such as accentuated first heart sound of mitral stenosis, and accentuated pulmonic closure sound of pulmonary hypertension; detect cardiac thrill and understand significance/origin.
   D. Auscultation: understand basic findings of the following:
      1. Aortic stenosis
      2. Aortic insufficiency
      3. Mitral stenosis
      4. Chronic mitral regurgitation
      5. Mild systole click and late systolic murmur of valve prolapse
      6. Accentuated aortic closure sound (upper right sternal border): systemic hypertension
      7. Accentuated pulmonic closure with normal splitting of second heart sound, upper left sternal border; pulmonary hypertension.
      8. Wide split second heart sound: tip off to atrial spetal defect
      9. Early diastolic third heart sound: correlation with congestive heart failure
     10. Late diastolic fourth heart sound: generally noncompliant ventricle
     11. Effect of inspiration, valsalva maneuver, and hand grip on different murmurs
5. Understand the fundamental abnormalities seen on a 12 lead electrocardiogram: (MK)
   A. 12 lead placement with recognition of right-left arm reversal.
   B. Axis deviation.
   C. RA enlargement vs. LAE.
   D. RVH vs. LVH.
   E. Differentiate Right Bundle Branch Block (RBBB) from Left Bundle Branch Block (LBBB).
   F. Recognize pre-excitation WPW.
   G. Recognize acute MI and its mimics.
   H. Recognize common supra-ventricular tachycardias: PSVT, aflutter, multifocal AT, AT tachycardia with block, accelerated junctional rhythm.
      1. Drug therapy
   I. Ventricular arrhythmias:
      1. Bigger classification of PVC’s: benign, potentially malignant, or malignant
      2. Ventricular tachycardia: Non-sustained; sustained: monomorphic vs. polymorphic or Torsades.
      3. Accelerated idioventricular rhythm
      4. Concept of SVT with aberrant conduction causing wide QRS and mimic PVC/VT
      5. AV Block: First, Second (Mobitz I & II), & Third degree
         a. Indications for temporary pacer

6. Understand the basic indications and application of echocardiography: (MK)
   A. When not to order: elderly, too obese, too much obstructive pulmonary disease, chest wall deformity
   B. Common indications for echocardiography:
      1. LV function:
         a. Separate systolic from diastolic dysfunction
         b. Global vs. Focal wall motion abnormality
         c. Measurement of EF
         d. Identify complications of acute myocardial infarction
      2. Pericardial infusion: Identification and quantification of amount fluid
      3. Valvular heart disease:
         a. Type and severity
         b. Rule out vegetations
      4. Systemic hypertension - severity LVH and LV dysfunction
      5. Identify pulmonary hypertension and severity
      6. Rule out aortic root dissection (even though transesophageal echo better)
      7. Identify congenital heart disease: type and severity

7. Understand the fundamental indications and concepts of treadmill exercise testing: (MK)
   A. Contraindications
   B. Reasonable indications
   C. How to interpret an abnormal response.
   D. When nuclear imaging and/or exercise echocardiography should be added.

8. Atherosclerotic coronary heart disease: (PCPS, MK)
   A. Able to identify risk factors
   B. Basic understanding of pathophysiology and management principles in:
      1. Stable angina pectoris
      2. Unstable angina
      3. Acute myocardial infarction:
         a. Indications/contraindications for IV thrombolysis
         b. IV nitroglycerin
c. Beta blockers
d. ACE inhibitors
e. Aspirin
f. Heparin: SQ, IV, and low molecular weight heparin
g. Role of primary PTCA
h. Recognize post-MI complications

C. Be able to differentiate Q wave from non-Q wave myocardial infarction and compare treatment principles.

D. Pre-dismissal risk stratification:
   1. How much?
   2. At what cost?
   3. Who needs coronary arteriography?

9. What are the most common indications for interventional therapy (PTCA versus coronary artery bypass graft surgery)? (PCPS, MK)

10. Congestive heart failure (CHF): (PCPS, MK)
   A. Understand the different pathophysiology of systolic versus diastolic LV dysfunction and their manifestations.
   B. Understand principles of medical therapy with emphasis on systolic dysfunction:
      1. Always look for and correct the specific etiology
      2. Preload reduction: diuretics and nitrates
      3. Afterload reduction: vasodilators with emphasis on ACE inhibitors
      4. Inotropic stimulation: digoxin, IV Dobutrex
      5. Beta blockers
   C. Knowledge of current literature regarding ACE inhibitors and hydralazine/isordil, and improved survival
      1. Be aware of new data on ACE receptor blockers
   D. Cardiac transplantation: indications/contraindications

11. Understand the basic concepts and approach to treatment of shock: (PCSP, MK)
   A. Definition
   B. Differeniate the different etiologies: cardiac, hypovolemic, septi (decreased tone), and anaphylactic drugs, and endocrine (hypopituitary, hypoadrenal).
      1. Understand indication/complications of Swan-Ganz catheter placement.
      2. Be able to interpret hemodynamic values obtained from Swan catheter data, with emphasis on cardiac output/index, systemic vascular resistance, and intracardiac pressures.

12. Differentiate 3 major forms of cardiomyopathies: dilated, hypertrophic, and restrictive. (PCPS, MK)

13. Valvular Heart Disease: (PCPS, MK)
   A. Differentiate aortic valve sclerosis from stenosis.
   B. Understand the basic approach differentiating aortic stenosis from mitral regurgitation.
   C. Differentiate functional murmurs at upper left sternal order from organic murmurs, such as atrial septal defect, pulmonic valve stenosis.
   D. Detect bedside findings of pulmonary hypertension, including tricuspid regurgitation.
   E. Differentiate the diastolic murmurs of aortic regurgitation from mitral stenosis, with emphasis on the other accompanying findings.
   F. Basic conceptual knowledge of when to refer a valvular patient for intervention open heart surgery.
   G. Understanding indications and antibiotic use for endocarditis prophylaxis (American Heart Association Guidelines).
14. Systemic hypertension: should be covered adequately on other general medical rotations. (PCPS, MK)

15. Understand basic concepts and approach to a patient with pulmonary hypertension: (PCPS, MK)
   A. Differentiate specific causes such as: left heart disease, pulmonary parenchymal/corpulmonale, left-right shunts/Eisenmenger syndrome, and pulmonary obstructive embolic.
   B. This knowledge includes physical examination with correlative findings on ECG, chest x-ray, and echocardiography.

16. Pericardial diseases: (PCPS, MK)
   A. Differentiate the chest pain of acute pericarditis from acute myocardial ischemia.
   B. Differentiate T elevation of pericarditis from acute myocardial infarction and early repolarization variant.
   C. Pericardial effusion:
      1. Understand concept of cardiac tamponade and how to detect/quantitate
      2. Role of echocardiography
      3. When is pericardiocentesis indicated?
   D. Understand when you should suspect the presence of constrictive pericarditis.

17. Peripheral vascular disease: (PCPS, MK)
   A. Be able to identify and quantitate severity of limb ischemia by history and physical examination.
   B. When should you suspect presence of aortic aneurysm, with emphasis on aortic dissection?
   C. Differentiate venous thrombosis from cellulitis.
   D. Develop basic approach to preoperative non-cardiac surgical risk stratification.

18. Develop a fundamental understanding for use of cardiovascular drugs: (PCPS, MK)
   A. Antiarrhythmics:
      1. IA - Quinidine, Pronestyl, Norpace
      2. IB - Lidocaine, Mexiletine, Tocainide
      3. IC - Flecainide, Propafenone
      4. II - Beta blockers
      5. III - Amiodarone, Sotalol, Bretylium
      6. IV - Calcium blockers
      7. Misc. - Digoxin, Adenosine, Magnesium
   B. Antianginal agents:
      1. Beta blockers
      2. Calcium blockers
      3. Sublingual nitroglycerin and long-acting nitrates
         a. Understand concept of nitrate tolerance
   C. Inotropes:
      1. Digoxin: appreciation of loading dose especially constrained by the elderly and renal dysfunction; signs and symptoms of digitalis toxicity
      2. Indications and value of IV dobutamine versus dopamine
   D. Vasodilators:
      1. ACE inhibitors
      2. Hydralazine and Isordil
      3. Angiotensin - II receptor blockers (ARB’s)
   E. Anti-hypertensive: variety of choices (not reviewed)
   F. Lipid lowering agents:
      1. HMG-COA reductase inhibitors: Lovastatin, Pravastatin, Simvastatin, Fluvastatin, Artorvastatin, Cerivastatin
      2. Bile acid resins; cholestyramine, colestipol
      3. Nicotinic acid
4. Gemfibrozil (Lopid)
5. Understand basic classification and use of cholesterol and triglycerides for practical drug usage
6. NCEP-II guidelines
7. Other: Small dense LDL:
   a. LDL
   b. Homocysteine
G. Anti-platelet agents: aspirin, ticlopidine, clopidogrel
H. Anticoagulants: SQ Heparin, IV Heparin, Coumadin
   1. Current use of protime vs. INR
   2. LMW heparin
I. Antioxidants:
   1. Vitamin E, Vitamin C

19. Expected procedural skills: (PCPS)
   A. We do not expect any new invasive skills techniques learned on this inpatient experience. Residents’ time is strongly, if not totally, committed to the inpatient consult service, with emphasis on cardiac consultation, patient rounds, teaching rounds, plus conferences.

**Skills Objectives**
The resident should be able to:
1. Preform a focused cardiovascular history and physical examination (PCPS, MK, PBLI)

2. Read an EKG (PCPS, MK, PBLI)

3. Place an arteral line and PA catheter (PCPS, MK, PBLI)

4. Assist the fellow in placement of a temporary pacemaker (PCPS, MK, PBLI)

**General Core Competencies:**
- Patient care and procedural skills,
- Medical knowledge,
- Practice-based learning and improvement,
- Interpersonal and communication skills,
- Professionalism, and
- Systems-based practice.

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During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
• Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

PATIENT CARE AND PROCEDURAL SKILLS (PCPS)
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:
• Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
• Gather essential and accurate information about their patients.
• Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
• Develop and carry out patient management plans.
• Counsel and educate patients and their families.
• Use information technology to support patient care decisions and patient education.
• Perform competently all medical and invasive procedures considered essential for the area of practice.
• Provide health care services aimed at preventing health problems or maintaining health.
• Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:
• Demonstrate an investigatory and analytical thinking approach to clinical situations.
• Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
• Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
• Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
• Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
• Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
• Use information technology to manage information, access on-line medical information; and support their own education.
• Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:
• Create and sustain a therapeutic and ethnically sound relationship with patients.
• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
• Work effectively with others as a member or leader of a health care team or other professional group.
PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:

- Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
- Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
- Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:

- Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
- Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
- Practice cost-effective health care and resource allocation that does not compromise quality of care.
- Advocate for quality patient care and assist patients in dealing with system complexities.
- Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

Duration:
One - two months at Truman Medical Center during CBY.

Requirements:
Successful completion of Step I and II of USMLE or COMLEX and the acquisition of licensure in the state of Missouri.

Qualification:
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

Primary Faculty:
Cardiology Faculty at Truman Medical Center.

Resources:
The cardiology floor at Truman Medical Center.

Evaluation:
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

Record Keeping:
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.

2. Residents will maintain a timely completion of all of their medical records.
References:
4. Any other reading material assigned by faculty.

Reviewed/Approved: E. Fibuch, M.D.
Title: Chairman/Program Director
Department of Anesthesiology
Revised: Spring 2011
Unit Purpose:
To provide an Anesthesiology CBY Resident with clinical experience in the evaluation, diagnosis and treatment of patients with acute medical emergencies.

Additional information or comments:
The Emergency Medicine staff are directly involved and absolutely responsible for all the care received in the Emergency Department. A faculty member is available to the resident for direct supervision of evaluations and treatment plans continuously 7 days a week. Bedside teaching will be the primary didactic input for the resident during the check-out process. No patient, regardless the situation or acuity of illness, will be seen and discharged independently by the resident.

Goals:
- Expose residents to the process and practice of the Emergency Department under the supervision of the emergency department attending physicians. (PCPS, MK, ICS, PBLI, SBP, P)
- Foster an appreciation for the complex and diverse practice of Emergency Medicine. (PBLI, P, ICS)
- Expose residents to initial assessments and management of acutely ill and injured patients. (PCPS, MK)
- Expose residents to the impact of unscheduled and widely varying patient volumes and acuity of illness on patient care in the Emergency Department. (SBP)
- Expose the resident to the methods to provide initial recognition, stabilization, and evaluation and care of the acutely ill or injured patient. (PCPS, MK)
- Learn to arrange for appropriate follow-up or referral and consultation, as required, based on the initial evaluation of the patient. (PCPS, ICS, SBP)
-Expose the resident to pre-hospital management and the process of communication with the paramedical personnel. (PCPS, MK, ICS, P)

Cognitive Objectives:
1. Provide compassionate, appropriate and effective care for the treatment of acute illnesses. (PCPS)
2. Obtain a thorough history. (PCPS)
3. Perform thorough physical examinations. (PCPS)
4. Define and prioritize patients' medical. (PCPS, MK)
5. Generate and prioritize differential. (PCPS, MK)
6. Develop rational and evidence based management plan. (PCPS, MK)
7. Implement plans/perform essential procedures. (PCPS, MK, SBP)
8. Recognize appropriate diagnostic strategies for EFFICIENT emergency evaluations of a wide range of acute and chronic illnesses and injuries AND over the spectrum of acuity for those various diseases. (PCPS, MK)

9. Understand legal issues pertaining to advanced directives, decision making capacity, and competence. (MK)

10. Develop effective communication skills for end of life care including withholding or withdrawing life sustaining treatment. (ICS)

11. Demonstrate and apply basic and clinical science knowledge to critical thinking, problem solving, decision making and patient education. (MK)

12. Effectively articulate medical knowledge in care of emergency patients. (ICS)

13. Access and critically evaluate current medical information and evidence relevant to patient care. (PCPS, MK, PBLI)

14. Use scientific methods to evaluate and improve patient care. (PCPS, MK)

15. Identify gaps in knowledge or experience in the care of hospitalized patients. (PCPS)

16. Demonstrate willingness to learn from errors and use errors to improve the processes of care. (PBLI)

17. Demonstrate the skills to maintain professional relationships with patients, families and other members of the healthcare team. (ICS, P)

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19. Effective teaching to colleagues. (PBLI, P, ICS)

20. Clear, concise and timely verbal communication and medical records. (ICS)

21. Commitment to continuous professional development, ethical practice and understanding of diversity. (P)

22. Demonstrate respect and integrity in all Professional relationships. (P)

23. Adhere to principles of confidentiality and informed consent. (P)

24. Participate with the peer review process to include identification of deficiencies to appropriate persons. (P)

25. Understand the systems in which healthcare is provided to improve/optimize patient care. (SBP)

26. Access and utilize appropriate resources to provide optimal, collaborative care. (PBLI)

27. Recognize limitations and opportunities of different systems. (SBP)

28. Apply evidence-based, cost effective strategies to prevention, diagnosis and disease management. (SBP)
**Skills Objectives**
The resident should be able to:
1. Venipuncture (PCPS, MK, PBLI)
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Duration:
One month at Saint Luke’s Hospital during the CBY.

Requirements:
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Qualification:
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

Primary Faculty:
Emergency physicians at Saint Luke’s Hospital.

Resources:
The Emergency Department at Saint Luke’s Hospital.

Evaluation:
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Title: Chairman/Program Director
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Duration:
One month at Truman Medical Center during the CBY.

Requirements:
Successful completion of Step I and II of USMLE or COMLEX and the acquisition of licensure in the state of Missouri.

Qualification:
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

Primary Faculty:
Emergency physicians at Truman Medical Center.

Resources:
The Emergency Department at Truman Medical Center.

Evaluation:
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

Record Keeping:
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
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Reviewed/Approved: E. Fibuch, M.D.
Title: Chairman/Program Director
Department of Anesthesiology
Date: Spring 2011
Unit Purpose:
To provide an Anesthesiology CBY Resident with clinical experience in the evaluation, diagnosis and treatment of patients with acute medical emergencies.

Cognitive Objectives:
1. Provide compassionate, appropriate and effective care for the treatment of disease and at the end of life. (PCPS)
2. Effective patient interviews. (PCPS, ICS)
3. Accurate physical examinations. (PCPS)
4. Define and prioritize patients' medical problems. (MK)
5. Generate and prioritize differential diagnoses. (MK)
6. Develop rational, evidence based management plan. (PCPS, MK)
7. Implement plans/perform essential procedures. (PCPS)
8. Understand legal issues pertaining to advanced directives, decision making capacity and competence. (MK, SBP)
9. Develop effective communication skills for end of life care including withholding or withdrawing life sustaining treatment including nutrition, and hospice care. (PCPS, ICS)
10. Demonstrate and apply basic and clinical science knowledge to critical thinking, problem solving, decision making and patient education. (PCPS, MK)
11. Effectively articulate medical knowledge in care of medical inpatients. (ICS)
12. Access and critically evaluate current medical information and evidence relevant to patient care. (PCPS)
13. Identify gaps in knowledge or experience in the care of hospitalized patients. (PBLI)
14. Demonstrate willingness to learn from errors and use errors to improve the processes of care. (PBLI)
15. Effective communication with patients, families, all physician and non-physician colleagues. (ICS, P)
16. Effective teaching to colleagues. (P, ICS)
17. Clear, concise and timely verbal communication and medical records. (ICS)
18. Demonstrate respect and integrity in all professional relationships. (P)

19. Adhere to principles of confidentiality and informed consent. (P)

20. Participate with the peer review process to include identification of deficiencies to appropriate persons. (PBLI, P)

21. Access and utilize appropriate resources to provide optimal, collaborative care. (SBP)

22. Recognize limitations and opportunities of different systems. (SBP)

23. Apply evidence-based, cost effective strategies to prevention, diagnosis and disease management. (SBP)

**Skills Objectives:**
The resident should be able to (if capable):
1. Joint aspiration and injections (PCPS, MK, PBLI)

2. Thoracentesis (faculty attendance) (PCPS, MK, PBLI)

3. Paracentesis (faculty attendance) (PCPS, MK, PBLI)

4. Lumbar pucture (PCPS, MK, PBLI)

5. Central vein access (PCPS, MK, PBLI)

6. Arterial line catheterization (PCPS, MK, PBLI)

7. Venous access (PCPS, MK, PBLI)

**General Core Competencies:**
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

**Statement of Purpose:**
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
• Patient satisfaction/dissatisfaction survey data
• Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

PATIENT CARE AND PROCEDURAL SKILLS (PCPS)
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:
• Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
• Gather essential and accurate information about their patients.
• Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
• Develop and carry out patient management plans.
• Counsel and educate patients and their families.
• Use information technology to support patient care decisions and patient education.
• Perform competently all medical and invasive procedures considered essential for the area of practice.
• Provide health care services aimed at preventing health problems or maintaining health.
• Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:
• Demonstrate an investigatory and analytical thinking approach to clinical situations.
• Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
• Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
• Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
• Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
• Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
• Use information technology to manage information, access on-line medical information; and support their own education.
• Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:
• Create and sustain a therapeutic and ethically sound relationship with patients.
• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
• Work effectively with others as a member or leader of a health care team or other professional group.
PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:

- Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
- Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
- Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:

- Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
- Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
- Practice cost-effective health care and resource allocation that does not compromise quality of care.
- Advocate for quality patient care and assist patients in dealing with system complexities.
- Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

Duration:
Two – three months during the CBY.

Requirements:
Successful completion of Step I and II of USMLE or COMLEX and the acquisition of licensure in the state of Missouri.

Qualification:
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

Primary Faculty:
Internal Medicine faculty at Saint Luke’s Hospital and Truman Medical Center.

Resources:
All patient floors at both Saint Luke’s Hospital and Truman Medical Center.

Evaluation:
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

Record Keeping:
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.
References:

2. Any other reading material assigned by faculty.

Reviewed/Approved: E. Fibuch, M.D.
Title: Chairman/Program Director
        Department of Anesthesiology
Date: Spring 2011
CURRICULUM
DEPARTMENT OF ANESTHESIOLOGY
RESIDENCY PROGRAM
UNIVERSITY OF MISSOURI-KANSAS CITY
SCHOOL OF MEDICINE

GOALS/OBJECTIVES/CORE COMPETENCIES
Clinical Base Rotation: INFECTIOUS DISEASE-TMC
Year of training: CBY Anesthesiology Resident

Unit Purpose:
To provide an Anesthesiology CBY Resident with clinical experience in the evaluation, diagnosis and treatment of patients with acute infectious diseases.

Cognitive Objectives:
1. All CBY residents will rotate for at least one month on the Infectious Disease service. The resident will understand the pathogenesis, epidemiology, natural history, and management of common infectious diseases in adults. (MK)
2. Proper understanding of the proper use and misuse of antimicrobial agents. (MK)
3. Understanding the basic concepts of host defense. (MK)
4. Understanding the basic principles of nosocomial infections. (MK)
5. Understanding the basic principles of common infectious disease problems included in core competencies. (MK)
6. Understanding the proper use of the microbiologic laboratory, including serologic, antigen, and antibody detection, or microbiological methods for detection of infections due to various bacteria. (MK)
7. Understanding the basic principles of consultation in the care of infectious disease problems. (MK)
8. Integrating fund of knowledge and developing appropriate differential diagnosis with an appreciation for priorities in each diagnosis considered. (PCPS, MK)
9. Demonstration of good clinical judgment in selecting the most appropriate treatment plan. (PCPS, MK)
10. Provide compassionate, appropriate and effective care for the treatment of disease and at the end of life. (PCPS)
11. Obtain a thorough history. (PCPS)
12. Perform thorough physical examinations. (PCPS)
13. Define and prioritize patients' medical problems. (MK)
14. Generate and prioritize differential diagnoses. (MK)
15. Develop rational, evidence based management plan. (PBLI)
16. Implement plans/perform essential procedures. (PCPS, MK)

17. Understand legal issues pertaining to advanced directives, decision making capacity, and competence. (MK)

18. Develop effective communication skills for end of life care including withholding or withdrawing life sustaining treatment including nutrition, and hospice care. (ICS)

19. Demonstrate and apply basic and clinical science knowledge to critical thinking, problem solving, decision making and patient education. (MK, PBLI)

20. Effectively articulate medical knowledge in care of medical inpatients. (ICS)

21. Access and critically evaluate current medical information and evidence relevant to patient care. (PBLI)

22. Identify gaps in knowledge or experience in the care of hospitalized patients. (MK, PBLI)

23. Demonstrate willingness to learn from errors and use errors to improve the processes of care. (PBLI)

24. Effective communication with patients, families, all physician and non-physician colleagues. (ICS)

25. Effective teaching to colleagues. (ICS, P)

26. Clear, concise and timely verbal communication and medical records. (ICS, P)

27. Commitment to continuous professional development, ethical practice and understanding of diversity. (P)

28. Demonstrate respect and integrity in all professional relationships. (P)

29. Adhere to principles of confidentiality and informed consent. (P)

30. Participate with the peer review process to include identification of deficiencies to appropriate persons. (P)

31. Understand the systems in which healthcare is provided to improve/optimize patient care. (SBP)

32. Access and utilize appropriate resources to provide optimal, collaborative care. (SBP)

33. Recognize limitations and opportunities of different systems. (SBP)

34. Apply evidence-based, cost effective strategies to prevention, diagnosis and disease management. (SBP)

**Skills Objectives:**
The resident should be able to:

1. Abscess aspiration (PCPS, ML, PBLI)

2. Preform gram stains (PCPS, MK, PBLI)

3. Preform simple microbiology lab procedures (PCPS, MK, PBLI)
**General Core Competencies:**

- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

**Statement of Purpose:**

During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:

- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

**PATIENT CARE AND PROCEDURAL SKILLS (PCPS)**

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:

- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
- Work with health care professionals, including those from other disciplines, to provide patient-focused care.

**MEDICAL KNOWLEDGE (MK)**

Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:

- Demonstrate an investigatory and analytical thinking approach to clinical situations.
• Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
• Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
• Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
• Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
• Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
• Use information technology to manage information, access on-line medical information; and support their own education.
• Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:
• Create and sustain a therapeutic and ethically sound relationship with patients.
• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
• Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:
• Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
• Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
• Practice cost-effective health care and resource allocation that does not compromise quality of care.
• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

Duration:
One month during the CBY at Truman Medical Center.
**Requirements:**
Successful completion of Step I and II of USMLE or COMLEX and the acquisition of licensure in the state of Missouri.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

**Primary Faculty:**
Infectious Disease faculty at Truman Medical Center.

**Resources:**
All patient floors at Truman Medical Center.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.

**References:**
4. Any reading material assigned by faculty.

**Reviewed/Approved:** E. Fibuch, M.D.
**Title:** Chairman/Program Director
**Department of Anesthesiology**
**Date:** Spring 2011
GOALS/OBJECTIVES/CORE COMPETENCIES
Clinical Base Rotation: INFECTION DISEASE- SLH
Year of training: CBY Anesthesiology Resident

Unit Purpose:
To provide an Anesthesiology CBY Resident with clinical experience in the evaluation, diagnosis and treatment of patients with acute medical emergencies.

Cognitive Objectives:
1. All CBY residents will rotate for at least one month on the Infectious Disease service. The resident will understand the pathogenesis, epidemiology, natural history, and management of common infectious diseases in adults. (MK)
2. Proper understanding of the proper use and misuse of antimicrobial agents. (MK)
3. Understanding the basic concepts of host defense. (MK)
4. Understanding the basic principles of nosocomial infections. (MK)
5. Understanding the basic principles of common infectious disease problems included in core competencies. (MK)
6. Understanding the proper use of the microbiologic laboratory, including serologic, antigen, and antibody detection, or microbiological methods for detection of infections due to various bacteria. (MK)
7. Understanding the basic principles of consultation in the care of infectious disease problems. (MK)
8. Integrating fund of knowledge and developing appropriate differential diagnosis with an appreciation for priorities in each diagnosis considered. (PCPS, MK)
9. Demonstration of good clinical judgment in selecting the most appropriate treatment plan. (PCPS, MK)
10. Provide compassionate, appropriate and effective care for the treatment of disease and at the end of life. (PCPS)
11. Obtain a thorough history. (PCPS)
12. Perform thorough physical examinations. (PCPS)
13. Define and prioritize patients' medical problems. (MK)
14. Generate and prioritize differential diagnoses. (MK)
15. Develop rational, evidence based management plan. (PBLI)
16. Implement plans/perform essential procedures. (PCPS, MK)

17. Understand legal issues pertaining to advanced directives, decision making capacity, and competence. (MK)

18. Develop effective communication skills for end of life care including withholding or withdrawing life sustaining treatment including nutrition, and hospice care. (ICS)

19. Demonstrate and apply basic and clinical science knowledge to critical thinking, problem solving, decision making and patient education. (MK, PBLI)

20. Effectively articulate medical knowledge in care of medical inpatients. (ICS)

21. Access and critically evaluate current medical information and evidence relevant to patient care. (PBLI)

22. Identify gaps in knowledge or experience in the care of hospitalized patients. (MK, PBLI)

23. Demonstrate willingness to learn from errors and use errors to improve the processes of care. (PBLI)

24. Effective communication with patients, families, all physician and non-physician colleagues. (ICS)

25. Effective teaching to colleagues. (ICS, P)

26. Clear, concise and timely verbal communication and medical records. (ICS, P)

27. Commitment to continuous professional development, ethical practice and understanding of diversity. (P)

28. Demonstrate respect and integrity in all professional relationships. (P)

29. Adhere to principles of confidentiality and informed consent. (P)

30. Participate with the peer review process to include identification of deficiencies to appropriate persons. (P)

31. Understand the systems in which healthcare is provided to improve/optimize patient care. (SBP)

32. Access and utilize appropriate resources to provide optimal, collaborative care. (SBP)

33. Recognize limitations and opportunities of different systems. (SBP)

34. Apply evidence-based, cost effective strategies to prevention, diagnosis and disease management. (SBP)

**Skills Objectives:**
The resident should be able to:
1. Abscess aspiration (PCPS, ML, PBLI)

2. Perform gram stains (PCPS, MK, PBLI)

3. Perform simple microbiology lab procedures (PCPS, MK, PBLI)
**General Core Competencies:**

- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

**Statement of Purpose:**
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:

- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

**PATIENT CARE AND PROCEDURAL SKILLS (PCPS)**
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:

- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
- Work with health care professionals, including those from other disciplines, to provide patient-focused care.

**MEDICAL KNOWLEDGE (MK)**
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:
• Demonstrate an investigatory and analytical thinking approach to clinical situations.
• Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
• Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
• Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
• Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
• Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
• Use information technology to manage information, access on-line medical information; and support their own education.
• Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:
• Create and sustain a therapeutic and ethically sound relationship with patients.
• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
• Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:
• Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
• Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
• Practice cost-effective health care and resource allocation that does not compromise quality of care.
• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

**Duration:**
One month during the CBY at Saint Luke’s Hospital.
**Requirements:**
Successful completion of Step I and II of USMLE or COMLEX and the acquisition of licensure in the state of Missouri.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

**Primary Faculty:**
Infectious Disease faculty at Saint Luke’s Hospital.

**Resources:**
All patient floors at Saint Luke’s Hospital.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.

2. Residents will maintain a timely completion of all of their medical records.

**References:**


4. Any reading material assigned by faculty.

**Reviewed/Approved:** E. Fibuch, M.D.
**Title:** Chairman/Program Director
**Department of Anesthesiology**
**Date:** Spring 2011
**Unit Purpose:**
To provide an Anesthesiology CBY resident with clinical experience in the evaluation, diagnosis, and treatment of patients with acute and chronic renal disease.

**Goals:**
- Evaluate patients with renal disease and/or disorders of fluid electrolyte/acid-base balance in a timely and thorough manner. (PCPS, MK)
- Effectively manage patients with renal disease and hypertension, renal transplants, and the general medical problems associated with them. (PCPS, MK, ICS)
- Recognize serious problems and respond appropriately in a timely manner. (PCPS)
- Organize clinical thoughts through verbal discussion of patient care and thoughtful, detailed, legible written notes. (MK, ICS)
- Expand knowledge of renal disease and general medical problems through reading texts and specialty journals, and attending conferences. (MK)
- Learn indications and limitations of diagnostic testing in patients with renal disease. (PCPS, MK)
- Understand the principles of dialysis and associated complications. (MK)
- Work effectively with a multidisciplinary team, including social services, dietary, pharmacy, and clinical nursing. (SBP, ICS)

**Cognitive Objectives:**
1. Effective patient interviews. (ICS)
2. Accurate focused physical examinations. (PCPS)
3. Define and prioritize patients' medical problems. (PCPS)
4. Generate and prioritize differential diagnoses. (PCPS)
5. Develop rational, evidence based management plan. (PCPS)
6. Organize clinical thoughts through verbal discussion of patient care and thoughtful, detailed, legible written notes. (ICS)
7. Develop familiarity with the range of renal diagnostic and therapeutic procedures available, including renal ultrasound, nuclear imaging, indications, alternatives and potential risks, benefits and complications of temporal and permanent hemodialysis catheter insertion, peritoneal catheter insertion, removal and replacement of permanent vascular accesses, renal dialysis, ultrafiltration and renal biopsies. (PCPS, MK)
8. Effectively articulate medical knowledge in care of medical inpatients. (MK)
9. Access and critically evaluate current medical information and evidence relevant to patient care. (MK)
10. Identify gaps in knowledge or experience in the care of hospitalized patients. (PBLI)
11. Demonstrate willingness to learn from errors and use errors to improve the processes of care. (PBLI)
12. Effective communication with patients, families, all physician and non-physician colleagues. (ICS)
13. Effective teaching to colleagues. (ICS)
14. Clear, concise and timely verbal communication and medical records. (ICS)
15. Demonstrate respect and integrity, compassion and sensitivity in all professional relationships. (P)
16. Adhere to principles of confidentiality and informed consent. (P)
17. Participate with the peer review process to include identification of deficiencies to appropriate persons. (P)
18. Work effectively with a multidisciplinary team, including social services, dietary, pharmacy and nursing. (SBP)
19. Recognize limitations and opportunities of different systems. (SBP)
20. Apply evidence-based, cost effective strategies to prevention, diagnosis and disease management. (SBP)

Skills Objectives:
The resident should be able to do:
1. Lumbar puncture (PCPS, MK, PBLI)
2. Subclavian dialysis catheter (PCPS, MK, PBLI)
3. PA catheterization (PCPS, MK, PBLI)
4. Arterial catheterization (PCPS, MK, PBLI)
5. IJ catheter dialysis catheterization (PCPS, MK, PBLI)

General Core Competencies:
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

Statement of Purpose:
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

PATIENT CARE AND PROCEDURAL SKILLS (PCPS)
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:

- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
- Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:

- Demonstrate an investigatory and analytical thinking approach to clinical situations.
- Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:

- Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
- Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
- Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
- Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
- Use information technology to manage information, access on-line medical information; and support their own education.
- Facilitate the learning of students and other health care professionals.
INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:

- Create and sustain a therapeutic and ethically sound relationship with patients.
- Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
- Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:

- Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
- Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
- Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:

- Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
- Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
- Practice cost-effective health care and resource allocation that does not compromise quality of care.
- Advocate for quality patient care and assist patients in dealing with system complexities.
- Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

Duration:
Two months during the CBY at either Saint Luke’s Hospital or Truman Medical Center.

Requirements:
Successful completion of Step I and II of USMLE or COMLEX and the acquisition of licensure in the state of Missouri.

Qualification:
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

Primary Faculty:
Nephrology faculty at both Saint Luke’s Hospital and Truman Medical Center.

Resources:
All patient care beds and dialysis beds at Saint Luke’s Hospital and Truman Medical Center.

Evaluation:
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.
**Record Keeping:**
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.

**References:**
4. Any other reading material assigned by faculty.

**Reviewed/Approved:** E. Fibuch, M.D.
**Title:** Chairman/Program Director
**Department of Anesthesiology**
**Date:** Spring 2011
Unit Purpose:
To provide an Anesthesiology CBY resident with clinical experience in the evaluation, diagnosis, and treatment of patients with acute and chronic diseases of the central and peripheral nervous system.

Cognitive Objectives:
1. Achievement of competency in obtaining chronologically-directed, neurologically-pertinent history (e.g., seizure disorder, headache, vascular disease, etc.). (PCPS)
2. Ability to perform a neurological examination and interpret the abnormal findings. (PCPS, MK)
3. Demonstrate adequate communication skills in assessing patients’ complaints. (ICS)
4. Develop competency in the performance of lumbar punctures with ability to interpret results (even in event of traumatic taps). Documentation of the procedure is considered part of this competency. (PCPS)
5. To become knowledgeable of the indications for, and the limitations of, various neurophysiological diagnostic procedures (EEG, EMG, Evoked Potential Studies). (MK)
6. To become conversant with indications for, and limitations of, various neuroadiologic diagnostic procedures such as CT scan of head and spine, MRI, retrograde femoral cerebral arteriography, and MRA/MRV. (MK)
7. Have a good understanding of functional cerebrovascular anatomy. (MK)
8. To understand pathophysiology substrate of common neurological diseases, cost-effective diagnostic evaluation, and to be able to initiate appropriate treatment. (MK)
9. To be aware of potential and real neurological emergencies and institute appropriate therapy. (PCPS, MK)

Skills Objectives:
The resident should be able to do:
1. Lumbar punctures (PCPS, MK, PBLI)
2. Brain death determinations (PCPS, MK, PBLI)
3. Assist in cisternal taps and nerve blocks. (PCPS, MK, ICS)
4. Observe EMG, EEG, and EP studies. (PCPS, MK)
General Core Competencies:
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

Statement of Purpose:
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

PATIENT CARE AND PROCEDURAL SKILLS (PCPS)
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:
- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
- Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:
- Demonstrate an investigatory and analytical thinking approach to clinical situations.
• Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
• Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
• Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
• Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
• Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
• Use information technology to manage information, access on-line medical information; and support their own education.
• Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:
• Create and sustain a therapeutic and ethically sound relationship with patients.
• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
• Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:
• Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
• Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
• Practice cost-effective health care and resource allocation that does not compromise quality of care.
• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

**Duration:**
One month during the CBY.
**Requirements:**
Successful completion of Step I and II of USMLE or COMLEX and the acquisition of licensure in the state of Missouri.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

**Primary Faculty:**
Neurology faculty at both Saint Luke’s Hospital and Truman Medical Center.

**Resources:**
All patient beds at Saint Luke’s Hospital and Truman Medical Center.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.

**References:**
4. Any other reading materials assigned by faculty.

**Reviewed/Approved:** E. Fibuch, M.D.
**Title:** Chairman/Program Director
**Department:** Department of Anesthesiology
**Date:** Spring 2011
CURRICULUM
DEPARTMENT OF ANESTHESIOLOGY
RESIDENCY PROGRAM
UNIVERSITY OF MISSOURI-KANSAS CITY
SCHOOL OF MEDICINE

GOALS/OBJECTIVES/CORE COMPETENCIES
Clinical Base Rotation: PULMONARY-SLH
Clinical Base Rotation: Year of training: CBY Anesthesiology Resident

**Unit Purpose:**
To provide and Anesthesiology CBY resident with clinical experience in the evaluation, diagnosis, and treatment of patients with acute and chronic diseases of the pulmonary systems.

**General Goals:**
- The housestaff officer’s experience on this service is designed to produce a clinician who is proficient in the basic clinical skills of data gathering, clinical reasoning, diagnosis, planning of diagnostic studies, and management. (PCPS)
- The housestaff officer should develop a scholarly approach to the understanding of basic mechanisms of disease and develop the ability to acquire and apply new knowledge effective to the care of patients. (MK)
- The housestaff officer should develop skills in communicating medical information both to his or her colleagues and to patients and patients’ families. (ICS)
- The housestaff officer should learn the role of a consultant and understand how to manage patients on a consultative basis. (PCPS)
- The housestaff officer should acquire the skills of rapid accumulation of information and logical problem-solving techniques so as to appropriately diagnose and treat patients. (PCPS)
- A strong sense of responsibility and dedication toward providing high quality of patient care will be required. (P)

**Cognitive Objectives:**
1. Infectious pulmonary diseases (tuberculosis, acute bacterial viral infections, mycoses, atypical mycobacteria disease). (MK)
2. Acute and chronic respiratory failure. (MK)
3. Chronic obstructive pulmonary disease. (MK)
4. Benign and malignant, primary and secondary, intrathoracic neoplasms and their associated intrathoracic manifestations. (MK)
5. The adult respiratory distress syndrome. (MK)
6. Hypersensitivity respiratory diseases, including asthma and allergic alveolitis. (MK)
7. Pulmonary manifestations of non-pulmonary diseases, including connective tissue diseases and hematologic disorders. (MK)
8. Primary and secondary vascular diseases of the lung. (MK)
9. Iatrogenic diseases, including postoperative complications. (MK)
10. Radiology (interpretation of chest x-rays, tomograms, and CT scans of the thorax). (MK)

11. Pulmonary function testing, including spirometry, lung volumes, diffusion capacity, and arterial blood gases. (MK)

12. Respiratory intensive care (includes mechanical ventilation, Swan-Ganz catheterization, and understanding of oxygen transport). (MK)

13. Respiratory therapy (to understand the indications, contraindications, and objectives of appropriately directed respiratory therapy). (MK)


15. Utilization (indications, contraindications) of diagnostic procedures (thoracentesis, pleural biopsy, bronchoscopy, lung biopsy). (MK)

16. Effective patient interviews. (ICS)

17. Accurate focused physical examinations. (PCPS)

18. Define and prioritize patients' medical problems. (MK)

19. Generate and prioritize differential diagnoses. (MK)

20. Develop rational, evidence based management plan. (PBLI)

21. Effectively articulate medical knowledge in care of medical inpatients. (ICS)

22. Access and critically evaluate current medical information and evidence relevant to patient care. (ICS)

23. Identify gaps in knowledge or experience in the care of hospitalized patients. (PCPS)

24. Demonstrate willingness to learn from errors and use errors to improve the processes of care. (PBLI)

25. Effective communication with patients, families, all physician and non-physician colleagues. (ICS)

26. Effective teaching to colleagues. (ICS)

27. Clear, concise and timely verbal communication and medical records. (ICS)

28. Demonstrate respect and integrity, compassion and sensitivity in all professional relationships. (P)

29. Adhere to principles of confidentiality and informed consent. (P)

30. Participate with the peer review process to include identification of deficiencies to appropriate persons. (P)

31. Access and utilize appropriate resources to provide optimal, collaborative care. (SBP)

32. Recognize limitations and opportunities of different systems. (SBP)

33. Apply evidence-based, cost effective strategies to prevention, diagnosis and disease management. (SBP)
**Skill Objectives:**
The residents should be able to do:
1. Intubations (PCPS, MK, PBLI)
2. Chest tubes (PCPS, MK, PBLI)
3. Thoracentesis (PCPS, MK, PBLI)
4. Central venous catheterizations (PCPS, MK, PBLI)
5. PA catheterizations (PCPS, MK, PBLI)
6. Assist in bronchoscopies and needle biopsies (PCPS, MK, PBLI)

**General Core Competencies:**
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
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**Statement of Purpose:**
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

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• Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
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**Duration:**
One month during the CBY.

**Requirements:**
Successful completion of Step I and II of USMLE or COMLEX and the acquisition of licensure in the state of Missouri.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

**Primary Faculty:**
Pulmonary faculty at Saint Luke’s Hospital.

**Resources:**
All patient beds including ICU beds at Saint Luke’s Hospital.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
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6. Assist in bronchoscopies and needle biopsies (PCPS, MK, PBLI)

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• Demonstrate an investigatory and analytical thinking approach to clinical situations.
• Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
• Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
• Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
• Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
• Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
• Use information technology to manage information, access on-line medical information; and support their own education.
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• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
• Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.
SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:

- Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
- Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
- Practice cost-effective health care and resource allocation that does not compromise quality of care.
- Advocate for quality patient care and assist patients in dealing with system complexities.
- Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

**Duration:**
One month during the CBY.

**Requirements:**
Successful completion of Step I and II of USMLE or COMLEX and the acquisition of licensure in the state of Missouri.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

**Primary Faculty:**
Pulmonary faculty at Truman Medical Center.

**Resources:**
All patient beds including ICU beds at Truman Medical Center.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.

**References:**
2007.


8. Any other reading material assigned by faculty.

Reviewed/Approved: E. Fibuch, M.D.
Title: Chairman/Program Director
        Department of Anesthesiology
Date: Spring 2011
Unit Purpose:
To provide the resident with one month of initial experience in the anesthetic management of patients requiring general surgical care.

Cognitive Objectives:
The resident should achieve an understanding of:
1. The principles governing the judicious use of muscle relaxants, inhalational agents, and intravenous anesthetic agents. (MK)
2. The principles and technical factors governing the use, maintenance, and safety checkout procedures for the anesthesia machine and all related monitoring equipment necessary for administering a safe anesthetic. (MK, PBLI)
3. The principles of preanesthetic evaluation and preanesthetic medication. (PCPS, MK, PBLI)
4. Aspiration prophylaxis. (MK)
5. The hazards of gastrointestinal obstruction, peritonitis, upper GI bleeding, febrile state, dehydration, and acidosis as they relate to the induction and maintenance of anesthesia. (PCPS, MK)
6. Muscle relaxant reversal and the use of the blockade monitor. (MK, PBLI)
7. The appropriate circumstances under which mechanical ventilation should be maintained into the postoperative period. (MK, PCPS, PBLI)
8. The effects of abdominal surgery on pulmonary and cardiac function, intraoperatively and postoperatively. (MK, PCPS)
9. The principles of maintaining normal body temperature. (MK)
10. The principles and safe practice of blood and blood product administration. (MK)

Skills Objectives:
The resident should be able to:
1. Insert intravenous catheters. (MK, PBLI)
2. Insert oral/nasal endotracheal tubes. (MK, PBLI)
3. Manage fluid balance in the OR. (MK, PBLI)
4. Estimate blood loss. (MK)
5. Use the automated record keeper. (MK)

6. Be familiar with induction agents, muscle relaxants, sedative compounds, and inhalational agents. (MK)

7. Do a rapid sequence induction. (PCPS, MK, PBLI)

8. Interpret electrolyte, blood sugar, urine analysis, and blood gas results. (MK, PCPS)

**General Core Competencies:**
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

**Statement of Purpose:**
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

**PATIENT CARE AND PROCEDURAL SKILLS (PCPS)**
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:
- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
• Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:
• Demonstrate an investigatory and analytical thinking approach to clinical situations.
• Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
• Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
• Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
• Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
• Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
• Use information technology to manage information, access on-line medical information; and support their own education.
• Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:
• Create and sustain a therapeutic and ethically sound relationship with patients.
• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
• Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:
• Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
• Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
• Practice cost-effective health care and resource allocation that does not compromise quality of care.
• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

**Duration:**
One month during the CBY.

**Requirement:**
Successful completion of Step I and Step II or COMLEX examination and acquisition of licensure in the state of Missouri.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education Committee.

**Primary Faculty:**
Anesthesiology Faculty at Saint Luke’s Hospital.

**Resources:**
The main operating room complex at Saint Luke’s Hospital.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.

**References:**
3. Any other reading materials assigned by faculty.

**Reviewed/Approved:** E. Fibuch, M.D.
**Title:** Chairman/Program Director
Department of Anesthesiology

**Date:** Spring 2011
## Clinical Base Year
### Graded Experience Revised 2011

<table>
<thead>
<tr>
<th>Area of Responsibility</th>
<th>Clinical Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td>Oversight</td>
</tr>
<tr>
<td>Physical Examination</td>
<td>Oversight</td>
</tr>
<tr>
<td>Write Orders</td>
<td>Oversight</td>
</tr>
<tr>
<td>Complexity of cases</td>
<td>Indirect/graded faculty supervision</td>
</tr>
<tr>
<td>Insert IV</td>
<td>Oversight</td>
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<tr>
<td>Insert IA</td>
<td>Direct</td>
</tr>
<tr>
<td>Insert CVP, femoral, subclavian, IJ</td>
<td>Direct faculty supervision</td>
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<tr>
<td>Insert PA catheter</td>
<td>Direct</td>
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<tr>
<td>Manage ventilator</td>
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<tr>
<td>Cardio version</td>
<td>Direct</td>
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<tr>
<td>Defibrillation</td>
<td>Indirect graded faculty supervision</td>
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<tr>
<td>Capable of night call</td>
<td>Indirect</td>
</tr>
<tr>
<td>Intubation</td>
<td>Direct</td>
</tr>
<tr>
<td>Fiberoptic Bronchoscopy</td>
<td>Direct</td>
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<tr>
<td>Treat hypotension, hypertension</td>
<td>Indirect faculty supervision</td>
</tr>
<tr>
<td>Treat arrhythmias</td>
<td>Indirect</td>
</tr>
<tr>
<td>Manage fluids</td>
<td>Indirect</td>
</tr>
<tr>
<td>Discharge patients</td>
<td>Indirect/graded faculty supervision</td>
</tr>
<tr>
<td>CPR</td>
<td>Indirect/graded faculty supervision</td>
</tr>
</tbody>
</table>
Unit Purpose:
To provide the resident with one month of experience and training in the e-ICU caring for a variety of critically ill patients under the direction of a board certified intensivist and to provide the resident with experience and training in the use of high technology telemedicine methodology.

Cognitive Objectives:
The resident should achieve an understanding of:
1. How to provide consultation in the prevention and management of the critically ill patient. (PCPS, MK, ICS, P)
2. Use and understanding of telemedicine in the care and management of critically ill patients. (MK, SBP)
3. The pathogenesis, pathology, risk factors, natural history, differential diagnosis, diagnostic workup, medical/surgical management, complications and prevention of critical illness. (PCPS, MK, PBLI)
4. Advanced cardiac life support, interpretation of arterial blood gases, indications and complications of endotracheal intubation, airway management, monitoring of arterial oxygen saturation, hemodynamic monitoring and interpretation of data, interpretation of radiographic images, both plain and CT/MRI, as well as ventilatory management. (PCPS, MK, SBP, PBLI)
5. Use and management of fluids, vasoactive support agents and pain control. (MK, PBLI)
6. ICU management in not only a tertiary setting but also in small referral and community hospitals. (SBP, PCPS, PBLI)
7. Professional communication skills through the use of remote medical technology. (P, SBP, PBLI)
8. Socioeconomic, ethical and legal issues related to ICU care. (PCPS, SBP, PBLI)
9. Anatomy and physiology of the cardiac, pulmonary and renal systems. (MK)

Skills Objectives:
The resident should achieve skills in:
1. The management of problems in the following systems or disease states: (PCPS, MK, PBLI)
   A. Gastrointestinal
      1. Nutrition
      2. Cholestatic jaundice
      3. Catabolic states
      4. Necrotizing enterocolitis
   B. Respiratory
1. ARDS
2. Aspiration pneumonias
3. Pneumonia
4. Single lung ventilation
5. Lung volume reduction
C. Cardiac
   1. Arrhythmias
   2. Post-cardiopulmonary resuscitation
   3. Fluid balance
   4. Congestive heart failure
D. Shock
   1. Septic
   2. Hypovolemic
   3. Cardiogenic
E. Neurological
   1. Post-bypass neurological deficit
   2. Seizures
F. Metabolic
   1. Metabolic acidosis
   2. Electrolyte imbalances
G. Renal
   1. Fluides and electrolytes
   2. Renal Failure
2. The use of and basic pharmacology of the following drugs: (PCPS, MK, PBLI)
   A. Resuscitative drugs
   B. Analgesics
   C. Vaso-supportive drugs
   D. Antirejection drugs
3. The indications, contraindications, and interpretation of the following procedures: (PCPS, MK, PBLI)
   A. Indications for tracheal intubation.
   B. Indications for mechanical ventilation.
   C. Interpretation of blood gases/electrolytes.
   D. Interpretation of hemodynamic profile.
   E. Use of bedside and central pressure monitors.
   F. Non-invasive techniques for measuring oxygen
   G. Indications and procedures for nutritional support.
   H. Transesophageal echocardiography.
4. Coordinate the care of the patients and facilitate the admission, evaluation, and management of patients in the eICU for whom he/she is responsible. (PCPS, MK, SBP, ICS, PBLI)
5. Communicate effectively with colleagues, nursing staff, administrative staff, support personnel, patients and family members. (SBP, ICS, P)
6. Learn to use e-Care Manager Technology developed by VISICU. (MK, SBP, PBLI)
7. Learn to use Smart Alerts, Patient Profile Census, direct video conferencing and patient assessment, Task/Risk software. (MK, SBP, PBLI)
8. Learn how to assess and triage patients quickly and respond appropriately using the tools of telemedicine.
9. See Graded Experience - ICU

**General Core Competencies:**
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

**Statement of Purpose:**
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

**PATIENT CARE AND PROCEDURAL SKILLS (PCPS)**
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:
- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
- Work with health care professionals, including those from other disciplines, to provide patient-focused care.
MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:

• Demonstrate an investigatory and analytical thinking approach to clinical situations.
• Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:

• Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
• Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
• Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
• Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
• Use information technology to manage information, access on-line medical information; and support their own education.
• Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients’ families, and professional associates. Residents are expected to:

• Create and sustain a therapeutic and ethically sound relationship with patients.
• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
• Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:

• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:

• Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
• Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
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• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

**Duration:**
One month in the CBY, consisting of 20, 10 hour shifts per month.

**Requirement:**
Satisfactory faculty evaluations prior to starting the e-ICU, successful completion of Step I and Step II or COMLEX examination and acquisition of licensure in the state of Missouri.

**Qualifications:**
Approval by the Department of Anesthesiology Education and Research Committee.

**Primary Faculty:**
Vince Lem, M.D. and the other Board Certified Intensivists responsible for the e-ICU.

**Resources:**
Saint Luke’s Health System e-ICU monitoring unit located at the Saint Luke’s Health System Lee’s Summit Technology Center, consisting of 55 beds linked via video, audio and sensor technology to ICUs throughout the metropolitan area and extending to rural facilities located up to 200 miles from the Technology Center.

**Evaluation:**
At the conclusion of the rotation, the faculty will prepare a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance in the six core competencies.

**Record Keeping:**
1. Residents will keep track of all cases in which they participated in the assessment and care of patients in the e-ICU for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.

**References:**


11. Any other reading material assigned by faculty.
CURRICULUM
DEPARTMENT OF ANESTHESIOLOGY
RESIDENCY PROGRAM
UNIVERSITY OF MISSOURI-KANSAS CITY
SCHOOL OF MEDICINE

GOALS/OBJECTIVES/CORE COMPETENCIES
Clinical Base Rotation: CRITICAL CARE MEDICINE
Year of training: CBY Anesthesiology Resident

Unit Purpose:
To provide an Anesthesiology CBY Resident an initial 1 month clinical experience in the evaluation, diagnosis and treatment of patients who are critically ill.

Goals:
- CBY residents will rotate for at least one month on the Cardiovascular Intensive Care Service. (PCPS)
- The residents will work in concert with the senior anesthesiology residents and the attending faculty to evaluate critical care patients completing a comprehensive, problem directed, history and physical examination. (PCPS)
- The resident will develop and communicate recommendations for a comprehensive management plan to the attending anesthesiology faculty and primary service. (ICS)
- The resident will master the core content of critical care medicine and learn to interpret ABG’s, hemodynamic monitoring data, and mechanical ventilation principles and modalities. (MK)
- The medical decision making will be confirmed and promptly communicated with the attending and the primary service to implement appropriate interventions. (ICS)
- The resident will accurately document the assessment and recommendations in the medical record. (PCPS)
- The resident will facilitate therapeutic and procedural care as directed by the attending. (PCPS)
- The resident will log all patient procedures in his/her case log. (PCPS, P)

Cognitive Objectives:
1. Learn to conduct a comprehensive, problem, directed, history and physical examination. (PCPS, MK)
2. Develop a familiarity with the pathophysiology, evaluation of and current therapy for commonly encountered disorders in the critical care setting (see ASA/ABA content outline). (PCPS, MK)
3. Master an understanding of physiologic principles related to interpretation of arterial blood gases. Utilizing this information be able to apply appropriate therapeutic interventions. (PCPS, MK)
4. Learn indications and techniques for intubation and institution of mechanical ventilation. Acquire knowledge of the advantages/disadvantages and indications for different types of mechanical ventilation. Develop an appreciation for the potential complications associated with mechanical ventilation and how to avoid them. Learn different methods of weaning from mechanical ventilation. (PCPS, MK, PBLI)
5. Learn indications for and techniques of central line and Swan-Ganz catheter placement. Learn to interpret data obtained from hemodynamic monitoring, and how to utilize the data appropriately for therapeutic interventions. (PCPS, MK, PBLI)
6. Learn to interpret all applicable laboratory values, ECG patterns and chest x-rays. (PCPS, MK, PBLI)

Responsibilities:
1. Prompt, daily attendance (P)
   a. Notify faculty of any absences.
b. The faculty should always be able to locate the CB resident during assigned working hours in the ICU.

2. Obtain laboratory test results on ICU patients before formal rounds. (PCPS, P)

3. Record daily progress notes on patients assigned to you (notes and consults must be thorough, concise, and legible).

4. Read the required reading list. (PBLI)

5. See Graded Experience - ICU

**General Core Competencies:**
- Patient care and procedural skills,
- Medical knowledge,
- Practice-based learning and improvement,
- Interpersonal and communication skills,
- Professionalism, and
- Systems-based practice.

**Statement of Purpose:**
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
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- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

**PATIENT CARE AND PROCEDURAL SKILLS (PCPS)**
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:
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- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
• Use information technology to support patient care decisions and patient education.
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MEDICAL KNOWLEDGE (MK)
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• Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
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• Locate, appraise and assimilate evidence from scientific studies related to their patients' health problems.
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PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:
• Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
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• Practice cost-effective health care and resource allocation that does not compromise quality of care.
• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

**Duration:**
One month at Saint Luke’s Hospital.

**Requirements:**
Successful completion of Step I and II of USMLE or COMLEX and the acquisition of licensure in the state of Missouri.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

**Primary Faculty:**
Anesthesiology Critical Care faculty at Saint Luke’s Hospital.

**Resources:**
The Cardiovascular ICU at Saint Luke’s Hospital.

**Evaluation:**
At the conclusion of the rotation, the faculty will prepare a written evaluation of the resident’s performance using a standardized evaluation tool and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.

**References:**
4. Any other reading material assigned by faculty.

**Reviewed/Approved:** E. Fibuch, M.D.
**Title:** Chairman/Program Director
Department of Anesthesiology
**Revised:** Spring 2011
## ICU
### Graded Experience
#### Revised 2011

<table>
<thead>
<tr>
<th>Area of Responsibility</th>
<th>CBY</th>
<th>CA-1</th>
<th>CA-2</th>
<th>CA-3</th>
</tr>
</thead>
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<tr>
<td>History</td>
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<td>Yes</td>
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<td>Yes</td>
</tr>
<tr>
<td>Physical Examination</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Write Orders</td>
<td>Yes/direct faculty supervision</td>
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<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Insert IV</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<td>Insert IA</td>
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<tr>
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<td>Yes/graded faculty supervision</td>
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<tr>
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<td>Yes/graded faculty supervision</td>
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<tr>
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<tr>
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<td>Yes/direct faculty supervision</td>
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<td>Yes/graded faculty supervision</td>
<td>Yes/graded faculty supervision</td>
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<tr>
<td>Treat arrhythmias</td>
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<td>Give anesthesia for cardioversion</td>
<td>Observe</td>
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<td>Yes/graded faculty supervision</td>
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<tr>
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<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Manage VAD</td>
<td>Observe</td>
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<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
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</tr>
<tr>
<td>Place double lumen tubes</td>
<td>Observe</td>
<td>Observe</td>
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</tbody>
</table>
CURRICULUM
DEPARTMENT OF ANESTHESIOLOGY
RESIDENCY PROGRAM
UNIVERSITY OF MISSOURI-KANSAS CITY
SCHOOL OF MEDICINE

GENERAL GOALS/OBJECTIVES/CORE COMPETENCIES
Rotation: PREOPERATIVE ASSESSMENT
Year of Training: CA-I OR CA-II

Unit Purpose:
The purpose of the preoperative assessment process (experience) rotation is to provide the anesthesiology resident with experience in the care and evaluation of patients prior to general, regional, or monitored anesthesia care.

Cognitive Objectives:
The resident should achieve an understanding of the following topics:
1. The preoperative preparation of a patient for surgery. (P, PCPS, MK, SBP)
2. The collection and assessment of appropriate physical findings, history, and laboratory investigations sufficient to prescribe an anesthetic plan (general, regional, or MAC) for the patient. (PCPS, MK, SBP)
3. Informed consent as it relates to the administration of anesthesia. (P, PCPS)
4. The psychological stresses for patients and patients’ families in the perioperative period. (P, PCPS, SBP)
5. Coordination of preoperative consultation and diagnostic testing to ensure efficient processing of the patient. (P, PCPS, MK, ICS)
6. Prospective assessment of the airway in regard to possible difficult intubation (PCPS, MK)
7. The ASA risk classification system. (PCPS, MK)
8. Role of preoperative testing. (PCPS, MK, SBP)

Skills Objectives:
The resident should be able to:
1. Do a preoperative Physical Assessment of (PCPS, MK):
   A. Airway
   B. Lungs
   C. CV
   D. Neurologic
   E. Other.
2. Do preoperative testing (PCPS, MK, ICS):
   A. Lab
   B. EKG
   C. Chest x-ray
   D. Other.
3. Do preoperative consultations. (P, PCPS, MK, SBP)
4. Appropriately order preoperative medications and NPO status. (PCPS, MK)

5. Appropriately evaluate airway status and classify it. (PCPS, MK)

6. Assign ASA class and risk assessment. (PCPS, MK)

7. Learn and improve communication skills with (ICS):
   A. Patient
   B. Family
   C. Surgeon/primary physician

**General Core Competencies:**
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

**Statement of Purpose:**
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, may utilize the following evaluation tools:

- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

**PATIENT CARE AND PROCEDURAL SKILLS (PCPS)**
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:

- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
• Perform competently all medical and invasive procedures considered essential for the area of practice.
• Provide health care services aimed at preventing health problems or maintaining health.
• Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:
• Demonstrate an investigatory and analytical thinking approach to clinical situations.
• Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
• Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
• Locate, appraise and assimilate evidence from scientific studies related to their patients' health problems.
• Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
• Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
• Use information technology to manage information, access on-line medical information; and support their own education.
• Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:
• Create and sustain a therapeutic and ethically sound relationship with patients.
• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
• Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:
• Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
• Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
• Practice cost-effective health care and resource allocation that does not compromise quality of care.
• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

Duration:
One month at Saint Luke’s Hospital and as needed throughout the CAI, CAII, and CAIII years.

Requirement:
Successful completion of the Clinical Base Year.

Qualification:
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education Committee.

Primary Faculty:
Jeff Jaax, M.D. and Anesthesiology Faculty at Saint Luke’s Hospital.

Resources:
All patients seen for preoperative evaluation at Saint Luke’s Hospital, Children’s Mercy Hospital and Truman Medical Center.

Evaluation:
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

Record Keeping:
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain timely completion of all of their medical records.

References:

9. Any other reading materials assigned by faculty.
# Preoperative Assessment

<table>
<thead>
<tr>
<th>Areas of Responsibility</th>
<th>CB</th>
<th>CA-1</th>
<th>CA-2</th>
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<tr>
<td>History</td>
<td>Oversight</td>
<td>Oversight</td>
<td>Oversight</td>
<td>Oversight</td>
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<tr>
<td>Physical Examination</td>
<td>Oversight</td>
<td>Oversight</td>
<td>Oversight</td>
<td>Oversight</td>
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<tr>
<td>Write Orders</td>
<td>Oversight</td>
<td>Oversight</td>
<td>Oversight</td>
<td>Oversight</td>
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<tr>
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<td>Indirect faculty supervision</td>
<td>Indirect/graded faculty supervision</td>
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</table>
CURRICULUM
DEPARTMENT OF ANESTHESIOLOGY
RESIDENCY PROGRAM
UNIVERSITY OF MISSOURI-KANSAS CITY
SCHOOL OF MEDICINE

GENERAL GOALS/OBJECTIVES/CORE COMPETENCIES
Rotation: POST ANESTHESIA CARE UNIT
Year of Training: CA-I OR CA-II

Unit Purpose:
The purpose of the PACU rotation is to provide the anesthesia resident with experience in the care of postoperative patients recovering from general, regional, or monitored anesthesia care.

Cognitive Objectives:
The resident should achieve an understanding of:
1. The diagnosis and treatment of common problems that occur in the early postoperative period, including (PCPS, MK, PBLI, SBP):
   A. Nausea and vomiting
   B. Hypothermia and hyperthermia
   C. Residual muscle paralysis
   D. Respiratory insufficiency, airway management, and ventilatory support
   E. Hypotension and hypertension
   F. Hypoxemia
   G. Acute postoperative pain
   H. Airway obstruction
   I. Oliguria
   J. Urinary retention
   K. Metabolic and electrolyte disturbance
   L. Arrhythmia
   M. Myocardial ischemia
   N. Increased intracranial pressure
2. Discharge criteria from the PACU. (P, ICS, MK, SBP)
3. The mechanisms that contribute to the emergence of the patient from general anesthesia and the recovery from regional anesthesia. (PCPS, MK)
4. The role disease plays in the recovery from anesthesia in the post-anesthesia period. (PCPS MK)

Skills Objectives:
The resident should be able to:
1. Maintain an airway, properly suction the airway, use nasal/oral airways, and intubate awake (semi-awake) patients. (PCPS, MK)
2. Use endoscopic equipment (bronchoscopy). (PCPS, MK, PBLI)
3. Manage a mechanical ventilator (PEEP, SIMV, CMV, PSV), including weaning patients from mechanical ventilation. (PCPS, MK, SBP)
4. Place pulmonary, central, and arterial catheters. (PCPS, MK, PBLI)
5. Manage epidural and PCA devices for acute postoperative pain management. (PCPS, MK, PBLI)

6. Use appropriate criteria to discharge ambulatory patients from the PACU to the inpatient or outpatient environment. This should include an understanding and approach to psychosocial factors, transportation and recuperation, pain management, and follow-up care of discharged patients. (P, PCPS, MK, SBP, ICS)

**General Core Competencies:**
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

**Statement of Purpose:**
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

**PATIENT CARE AND PROCEDURAL SKILLS (PCPS)**
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:
- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
- Work with health care professionals, including those from other disciplines, to provide patient-focused care.
MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:
- Demonstrate an investigatory and analytical thinking approach to clinical situations.
- Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
- Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
- Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
- Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
- Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
- Use information technology to manage information, access on-line medical information; and support their own education.
- Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:
- Create and sustain a therapeutic and ethically sound relationship with patients.
- Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
- Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
- Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
- Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
- Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:
- Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
- Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
- Practice cost-effective health care and resource allocation that does not compromise quality of care.
- Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

**Duration:**
Two weeks during the CA-I or CA-II year.

**Requirement:**
Successful completion of the Clinical Base Year.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

**Primary Faculty:**
Charles Vossler, M.D. and Anesthesiology Faculty at Saint Luke’s Hospital.

**Resources:**
Main Recovery Room at Saint Luke’s Hospital.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain timely completion of all of their medical records.

**References:**
6. Any other reading materials assigned by faculty.

**Reviewed/Approved:** E. Fibuch, M.D.
**Title:** Chairman/Program Director
Department of Anesthesiology
**Date:** Spring 2011
## Post-Anesthesia Care Unit

<table>
<thead>
<tr>
<th>Area of Responsibility</th>
<th>CBY</th>
<th>CA-1</th>
<th>CA-2</th>
<th>CA-3</th>
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<tr>
<td>History</td>
<td>Oversight</td>
<td>Oversight</td>
<td>Oversight</td>
<td>Oversight</td>
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<td>Physical Examination</td>
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<td>Oversight</td>
<td>Oversight</td>
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<tr>
<td>Insert IV</td>
<td>Oversight</td>
<td>Oversight</td>
<td>Oversight</td>
<td>Oversight</td>
</tr>
<tr>
<td>Insert IA</td>
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<td>Direct faculty supervision</td>
<td>Indirect/graded faculty supervision</td>
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<td>Insert CVP</td>
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<td>Indirect/graded faculty supervision</td>
<td>Indirect/graded faculty supervision</td>
</tr>
<tr>
<td>Cardio version</td>
<td>Observe</td>
<td>Direct faculty supervision</td>
<td>Indirect/graded faculty supervision</td>
<td>Indirect/graded faculty supervision</td>
</tr>
<tr>
<td>Defibrillation</td>
<td>Direct faculty supervision</td>
<td>Direct faculty supervision</td>
<td>Indirect/graded faculty supervision</td>
<td>Indirect/graded faculty supervision</td>
</tr>
<tr>
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<td>Indirect faculty supervision</td>
<td>Indirect/graded faculty supervision</td>
<td>Indirect/graded faculty supervision</td>
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<tr>
<td>Fiberoptic Bronchoscopy</td>
<td>Observe</td>
<td>Direct faculty supervision</td>
<td>Indirect/graded faculty supervision</td>
<td>Indirect/graded faculty supervision</td>
</tr>
<tr>
<td>Treat hypotension</td>
<td>Direct faculty supervision</td>
<td>Indirect faculty supervision</td>
<td>Indirect/graded faculty supervision</td>
<td>Indirect/graded faculty supervision</td>
</tr>
<tr>
<td>Treat arrhythmias</td>
<td>Direct faculty supervision</td>
<td>Indirect faculty supervision</td>
<td>Indirect/graded faculty supervision</td>
<td>Indirect/graded faculty supervision</td>
</tr>
<tr>
<td>Manage fluids</td>
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<tr>
<td>Discharge Patients</td>
<td>Direct faculty supervision</td>
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</tbody>
</table>
Unit Purpose:
The purpose of the EENT rotation is to provide the resident with a 1-month experience in the anesthetic management of patients requiring surgery involving the eyes, ears, face, oral cavity, throat, and neck.

Cognitive Objectives:
The resident should achieve an understanding of:
1. Proper management of the upper airway as it relates to the mechanical interference with the performance of anesthesia in procedures of the nose, throat, ear, and eye. (PCPS, MK)
2. Preoperative preparation of the EENT patient. (P, PCPS, MK, SBP)
3. The effects of anesthetics on Eustachian tube function and middle ear pressure. (MK)
4. The management of airway irritability and coughing in patients undergoing procedures of the upper airway. (PCPS, MK)
5. The principles of tracheostomy care, before, during, and after the actual procedure, and in patients with preexisting stoma. (PCPS, MK)
6. The management of patients with various developmental abnormalities of the upper airway and face. (P, PCPS, MK)
7. The use of local and regional anesthesia in surgery for the neck and face. (PCPS, MK)
8. The effects of muscle relaxants on intraocular pressures. (PCPS, MK)
9. The mechanisms, cause, and treatment of the oculo-cardiac reflex. (MK)
10. The management of patients with open eye injury. (P, PCPS, MK, SBP)
11. Evaluation and diagnostic testing in patients with head and neck tumors, including the use of radiographs, CT scans, and MRI. (PCPS, MK, SBP, PBLI)
12. Airway management in patients with infectious complications of the upper airway, such as peritonsillar abscess, Ludwig’s angina, and retropharyngeal abscess. (PCPS, MK, PBLI)
13. Management of acute epiglottis. (PCPS, MK, PBLI)
14. Implications of laser surgery in the airway, including management of complications such as endotracheal tube combustion. (PCPS, MK)
15. Alternative techniques for glottic surgery, such as xomed tube with jet ventilation and ventilating laryngoscopes. (MK)

16. Diagnosis, anesthetic management, and surgical treatment of obstructive sleep apnea, including therapeutic modalities such as CPAP. (PCPS, MK, PBLI)

**Skills Objectives:**
The resident should be able to:
1. Manage the airway of a patient who presents with congenital abnormalities of the upper airway, tumors or enlarged tonsils, open eye injury, class IV airways, or traumatic injury to the head and neck. (PCPS)

2. Select the appropriate induction method and drugs, along with the selection of appropriate maintenance anesthetic agents. (PCPS, MK)

3. Provide (manage) the anesthetic for patients with bleeding (rebleed) tonsils and acute epiglottis. (P, PCPS, MK)

4. Be familiar with the use of jet ventilation in the management of the upper airway and as a tool to ventilate patients for head/neck and upper airway surgery. (PCPS, MK)

5. Maintain anesthesia without muscle relaxation to allow for maintaining of facial nerve function. (PCPS, MK)

6. Appropriately suction, lavage, or remove debris from the upper airway. (PCPS, MK)

7. Select and place an oral or nasal endotracheal tube. (PCPS, MK)

8. Place a nasal tracheal tube using a blind technique. (PCPS, MK)

9. Perform a superior laryngeal nerve block, periorbital/retrobulbar, greater/lesser occipital nerve block, and head and mucosal anesthesia of the nose, pharynx, and throat. (P, PCPS, MK, PBLI)


**General Core Competencies:**
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

**Statement of Purpose:**
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:

- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

PATIENT CARE AND PROCEDURAL SKILLS (PC)
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:
- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
- Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:
- Demonstrate an investigatory and analytical thinking approach to clinical situations.
- Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
- Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
- Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
- Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
- Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
- Use information technology to manage information, access on-line medical information; and support their own education.
- Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:
- Create and sustain a therapeutic and ethically sound relationship with patients.
• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
• Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:
• Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
• Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
• Practice cost-effective health care and resource allocation that does not compromise quality of care
• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

Duration:
One month during the CA-I year.

Requirement:
Successful completion of the Clinical Base Year.

Qualification:
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

Primary Faculty:
Anesthesiology Faculty at Saint Luke’s Hospital or Truman Medical Center.

Resources:
The main operating room complex at Saint Luke’s Hospital or Truman Medical Center

Evaluation:
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

Record Keeping:
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.

2. Residents will maintain timely completion of all of their medical records.
References:
5. Any other reading materials assigned by faculty.

Reviewed/Approved: E. Fibuch, M.D.
Title: Chairman/Program Director
Department of Anesthesiology
Date: Spring 2011
## ENT - Anesthesia
### Graded Experience Revised 2011

<table>
<thead>
<tr>
<th>Area of Responsibility</th>
<th>CA-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td>Oversight</td>
</tr>
<tr>
<td>Physical Examination</td>
<td>Oversight</td>
</tr>
<tr>
<td>Write Orders</td>
<td>Oversight</td>
</tr>
<tr>
<td>Complexity of cases</td>
<td>Direct/graded faculty supervision</td>
</tr>
<tr>
<td>Insert IV</td>
<td>Oversight</td>
</tr>
<tr>
<td>Insert IA</td>
<td>Direct faculty supervision</td>
</tr>
<tr>
<td>Insert CVP, femoral, subclavian, IJ</td>
<td>Direct faculty supervision</td>
</tr>
<tr>
<td>Insert PA catheter</td>
<td>Direct faculty supervision</td>
</tr>
<tr>
<td>Manage ventilator</td>
<td>Indirect graded faculty supervision</td>
</tr>
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<td>Cardio version</td>
<td>Direct faculty supervision</td>
</tr>
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<td>Defibrillation</td>
<td>Direct graded faculty supervision</td>
</tr>
<tr>
<td>Capable of night call</td>
<td>Direct faculty supervision</td>
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<tr>
<td>Treat arrhythmias</td>
<td>Indirect/graded faculty supervision</td>
</tr>
<tr>
<td>Manage fluids</td>
<td>Indirect/graded faculty supervision</td>
</tr>
<tr>
<td>Place double lumen tubes</td>
<td>Direct faculty supervision</td>
</tr>
</tbody>
</table>
Unit Purpose:
To provide the resident with a graded 2-month experience in the anesthetic management of the obstetrical patient (during the labor, delivery and recovery period).

Cognitive Objectives:
The resident should achieve an understanding of:
1. The manifestations and implications of hormonal changes associated with each trimester, during labor, and the puerperium (progesterone, estrogen, HCG, prolactin, HPL, MSH, aldosterone, angiotensin, renin, cortisol, prostacyclin, thromboxane). (MK)
2. Be able to discuss the implications of the physiologic changes associated with pregnancy, including the following (PCPS, MK):
   A. Musculoskeletal, soft tissue changes such as: mammary hyperplasia, rib cage flaring, weight gain, increased intraabdominal pressures.
   B. Changes in the cardiovascular system, plasma volume, red cell mass, hematocrit, hemoglobin concentration, cardiac output, venous return, systemic vascular resistance.
   C. Postural effects of the gravid uterus, including aortocaval compression syndrome and the rationale of uterine displacement.
   D. Changes in the respiratory system and interpretation of arterial blood gases, acid/base balance. This should include the concepts of CO2 sensitivity, HCO3 levels, pulmonary function testing, and the effects of vasodilation on the mucosal lining of the nose, pharynx, and glottis.
   E. Discuss changes in gastrointestinal function relating to esophageal motility, sphincter tone, gastric volume and pH, and gut motility.
3. Fetal development and structure/function of the placenta (MK):
   A. Cellular events in embryogenesis.
   B. Placental structure, vascular supply, and cotyledon structure.
   C. Maternal-fetal circulation and the physiologic variables of blood flow.
   D. Placental transport and metabolism, nutrients, metabolic waste, and drug transfer, transport.
   E. Fetal circulation with attention to O2 consumption and CO2 production, transport, and excretion.
4. Fetal assessment and evaluation (PCPS, MK):
   A. Define clinical methods of determining fetal well-being.
   B. Explain the following terms: NST, OCT, biophysical profile. Discuss the implications of positive and negative results.
   C. State the indications, techniques, and implications of FHR monitoring, including normal FHR, short and long term variability. Discuss early, late, and variable decelerations. List factors associated with alterations of FHR.
   D. What are normal fetal ABGs. Discuss diagnosis and implications of fetal acidemia.
5. Neonatal assessment (PCPS, MK):
   A. Discuss APGAR score. What is the relation to neonatal prognosis?
   B. Discuss changes in newborn physiology as compared to the fetus.
   C. What are the indications for neonatal resuscitation?
   D. Techniques for neonatal resuscitation, both BLS and PALS.
6. Local anesthetics (MK, PBLI):
   A. Pharmacokinetics, pharmacodynamics, and clinical potencies of bupivacaine, ropivacaine, lidocaine, and chloroprocaine.
   B. Compare potential for fetal transfer, including maternal/fetal ratios.
   C. What are the criteria for selection of local anesthetics for obstetrical care? Discuss the uses of bicarb and carbonated preparations of local anesthetics.
   D. Discuss toxicity of local anesthetics, including threshold doses, and route of administration. What are the implications of CNS toxicity? Cardiac toxicity? Dysrhythmias?

7. Contrast epidural anesthesia and subarachnoid anesthesia, including indications, techniques, advantages, disadvantages, and complications (PCPS, MK, PBLI):
   A. Discuss inadvertent intravascular, subdural, subarachnoid injections, diagnosis, prevention, and management.
   B. Describe changes in physiology with the above techniques, including effects on venous return, cardiac output, afterload, arterial blood pressure, uterine blood flow, and major organ perfusion.
   C. What are the indications and uses of vasoconstrictors such as epinephrine and neosynephrine? What are the effects on level and duration of block with the various local anesthetics?
   D. Define tachyphylaxis. What is the cause and what are some techniques to avoid it?
   E. Discuss the management of maternal hemodynamics and the effects on the fetus/neonate.

8. Management of uterine tone (PCPS, MK):
   A. List agents used in the conduct of anesthesia that have an effect on uterine tone. What are the effects of commonly used anesthetics on uterine tone?
   B. Discuss physiology and pharmacology of agents used for tocolysis, including Mg, Beta-2 agonists, nitroglycerin. What are the side effects and potential toxic effects of these agents?
   C. Uterotonics - list drugs that increase uterine tone. Discuss the use of oxytocin, -methylrgonovine, carboprost.

9. Discuss the use of opioids in the management of labor pain (PCPS, MK):
   A. Indications, routes of administration, efficacy, side effect profiles, and effects on the fetus, neonate.
   B. Compare the dosing requirements, side effects, and complications of epidural and subarachnoid use of meperidine, morphine, fentanyl, and sufentanil.

10. Management of labor (P, PCPS, MK, PBLI, SBP):
    A. Compare techniques for providing labor analgesia, first, second, and third stages.
    B. Contrast the above in primiparas vs. multiparas.
    C. Describe the various pathologic states such as eclampsia, preeclampsia, HELP syndrom, and discuss the anesthetic implications of each.
    D. Detail the implications of assisted delivery with forceps, vacuum extraction.
    E. What are the considerations for providing a “perinal dose”? 

11. Anesthetic management of operative delivery (PCPS, MK, SBP, PBLI):
    A. Compare the techniques and considerations for providing anesthesia for nonurgent, urgent, and emergent Cesarean delivery. What are advantages, disadvantages of epidural, spinal, and general anesthesia?
    B. Discuss the technique of induction of each form of anesthesia in the above clinical situations.
    C. What are the complications of the above techniques and how are they managed?
    D. Discuss management of postpartum hemorrhage, tubal ligation, retained placenta.

12. Anesthetic and obstetric management of high-risk patients: (P, PCPS, MK, SBP, PBLI)
    Discuss the implications, diagnosis, treatment, and anesthetic management of the following conditions:
    A. Preterm labor.
    B. Hypertension.
    C. Diabetes.
    D. Placenta previa, accreta, percreta.
    E. Maternal or fetal infection.
    F. Thyroid disease.
    G. Substance abuse.
    H. Neurologic disease: spinal cord injury, multiple sclerosis, autonomic hyperreflexia.
    I. Asthma.
J. ARDS, amniotic embolism.
K. Congenital heart disease, IHSS, cardiomyopathy, valvular heart disease, ischemic heart disease.
L. Anemias, sickle cell, thalassemia.
M. Coagulation disorders.
N. Morbid obesity.
O. Musculoskeletal disorders: scoliosis, spina bifida, arthritis, prior back surgery, including fixation with plates, rods.

Skills Objectives:
The resident should be able to:
1. Perform a rapid sequence induction in a patient undergoing emergency Cesarean section. (P, PCPS, MK, PBLI, ICS, SBP)

2. Perform a spinal anesthetic for Cesarean section. (P, PCPS, MK, PBLI, ICS, SBP)

3. Perform an epidural anesthetic for Cesarean section. (P, PCPS, MK, PBLI, ICS, SBP)

4. Manage an epidural analgesic technique for labor. (P, PCPS, MK, PBLI, ICS, SBP)

5. Manage an anesthetic airway for Cesarean section to a patient with a difficult airway. (P, PCPS, MK, PBLI, ICS, SBP)

6. Understand rational and pharmacology of aspiration prophylaxis. (P, PCPS, MK, PBLI, ICS, SBP)

7. See Graded Experience – Obstetrical Anesthesia.

General Core Competencies:
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

Statement of Purpose:
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs
The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

PATIENT CARE AND PROCEDURAL SKILLS (PCPS)
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:

- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
- Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:

- Demonstrate an investigatory and analytical thinking approach to clinical situations.
- Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:

- Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
- Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
- Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
- Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
- Use information technology to manage information, access on-line medical information; and support their own education.
- Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:

- Create and sustain a therapeutic and ethically sound relationship with patients.
- Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
- Work effectively with others as a member or leader of a health care team or other professional group.
PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:

- Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
- Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
- Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:

- Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
- Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
- Practice cost-effective health care and resource allocation that does not compromise quality of care.
- Advocate for quality patient care and assist patients in dealing with system complexities.
- Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

**Duration:**
Two months during the CA-I or CA-II year.

**Requirement:**
1. Successful completion of the Clinical Base Year.
2. 1 to 2 months prior experience in SLH Main OR.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education Committee.

**Primary Faculty:**
Jay McNitt, M.D. and Anesthesiology faculty at Saint Luke’s Hospital.

**Resources:**
The obstetrical suites at Saint Luke’s Hospital: 3 delivery rooms and 15 labor rooms. Total patient volume is approximately 3000 deliveries each year, of which 600 are C-sections.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain timely completion of all of their medical records.
References:


8. Any other reading materials assigned by faculty.

Reviewed/Approved: E. Fibuch, M.D.
Title: Chairman/Program Director
Department of Anesthesiology
Date: Spring 2011
### Obstetrical Anesthesia
#### Graded Experience Revised 2011

<table>
<thead>
<tr>
<th>Area of Responsibility</th>
<th>CA-1</th>
<th>CA-2</th>
<th>CA-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
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</tr>
<tr>
<td>Physical Examination</td>
<td>Yes</td>
<td>Yes</td>
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</tr>
<tr>
<td>Write Orders</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Complexity of cases</td>
<td>Less complex</td>
<td>More complex</td>
<td>Very Complex</td>
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<tr>
<td>Insert IV</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Insert IA</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Insert CVP, femoral,subclavian, IJ</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Insert PA catheter</td>
<td>Observe</td>
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<tr>
<td>Manage ventilator</td>
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<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
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<tr>
<td>Capable of night call</td>
<td>Yes/direct faculty supervision</td>
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</tr>
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<td>Intubation</td>
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<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
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<td>Fiberoptic Bronchoscopy</td>
<td>Observe</td>
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<td>Treat arrhythmias</td>
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<td>Manage fluids</td>
<td>Yes/direct faculty supervision</td>
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<td>Place thoracic Epidural Catheters for anesthesia/pain control</td>
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<td>Place spinal for anesthesia</td>
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<td>Manage an anesthetic</td>
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<tr>
<td>Post operative visit</td>
<td>Yes/graded faculty supervision</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Unit Purpose:
To provide the CA-I resident a one month graded experience in the management of critically ill patients.

Goals:
- CA-I residents will rotate for one month in the CVICU under the guidance and supervision of the critical care attending and anesthesiology faculty and be given a greater level of responsibility compared to the CBY. (PCPS)
- CA-I residents will work in concert with the senior (CA-III) anesthesiology residents and attending faculty to evaluate and treat critically ill patients. (PCPS)
- CA-I residents will develop and communicate recommendations for a comprehensive management plan to the attending anesthesiology faculty. (ICS)
- CA-I residents will master the core content of critical care medicine and learn to interpret ABG’s, hemodynamic monitoring data, and mechanical ventilation principles and modalities. (MK)
- The medical decision making will be confirmed and promptly communicated with the attending and the primary service to implement appropriate interventions. (ICS)
- CA-I residents will accurately document the assessment and recommendations in the medical record. (PCPS)
- CA-I residents will facilitate therapeutic and procedural care as directed by the attending. (PCPS)
- CA-I residents will log all patient procedures in his/her case log. (PCPS, P)

Cognitive Objectives:
The resident should achieve an understanding of:
1. The assessment and management of critically ill patients, including postoperative and severely injured patients. (PCPS, MK, SBP, PBLI)
2. The use of life support equipment and vasoactive drugs. (PCPS, MK, SBP)
3. The proper role of teamwork in the Critical Care setting. (P, ICS, SBP)
4. Socioeconomic, ethical, and legal issues related to critical care. (P, ICS, SBP)
5. The pathophysiology and management of problems in the following areas: (P, PCPS, MK, SBP, ICS, PBLI)
   A. General
      1. Ethics in the ICU; do not resuscitate orders, advance health care directives, and withdrawal of life support.
      2. The team approach - support services in the ICU.
      4. Overview of cardiopulmonary physiology.
   B. Pulmonary
      1. Etiology, pathophysiology, and management of ARDS.
      2. Diagnosis and management of pneumonia: community acquired vs. hospital acquired.
      3. Respiratory failure in the patient with COPD.
4. Status asthmaticus.
5. Mechanical ventilation: techniques and indications for use.
6. Liberating the patient from mechanical ventilation.
7. Postoperative respiratory failure.
8. Diagnosis and management of pulmonary embolism.
10. Pneumothorax and techniques of chest tube insertion.

C. Cardiovascular
1. Myocardial oxygen supply and demand.
2. Diagnosis and management of myocardial ischemia and infarction.
3. Cardiopulmonary resuscitation: ACLS.
4. Recognition and treatment of cardiac dysrrhythmias.
5. Techniques of cardiac pacing.
7. Valvular heart disease.
8. Cardiogenic shock.
9. Rational use of inotropes and vasopressors.

D. Neurologic
1. Treatment of status epilepticus.
2. Cerebral vascular accident: management of intracranial hemorrhage, embolism, and thrombosis.
3. Head trauma.
4. Approach to the patient with coma or altered mental status.
5. Neuromuscular disease.

E. Gastrointestinal
2. Inflammatory bowel disease.
3. Gastrointestinal ischemia.
4. Disorders of nutrition and nutritional support in the ICU.

F. Hepatic
1. Etiology and management of hepatic failure.

G. Pancreas
1. Diagnosis and management of pancreatic disease.

H. Adrenal
1. Insufficiency and excess.
2. Pheochromocytoma.

I. Renal
1. Acute and chronic renal failure.
2. Renal preservation.
3. Dialysis and ultrafiltration.
5. Acid-base physiology and disorders.

J. Metabolic
1. Treatment of diabetic ketoacidosis and hyperosmolar coma.
2. Malignant hyperthermia and malignant neuroleptic syndrome.

K. Blood
1. Disorders of coagulation.
2. Blood conservation and administration of blood products.

L. Vascular
1. Vasculitis.
2. Treatment of aortic dissection.
3. Hypertensive crisis.

M. Infection
1. Principles of antimicrobial therapy.
2. CNS infection.
3. Abdominal sepsis.
4. Septic shock.

N. Miscellaneous
1. Initial management of the patient in shock.
2. Central venous cannulation: techniques, indications, and complications.
3. Pulmonary artery catheterization.
4. Pain management in the ICU.
5. Principles of pharmacology.
8. Thermal injury.
11. Hypothermia and heat-related illness.
12. Poisoning and drug overdose.
13. Connective tissue disease.
15. Rhabdomyolysis.
16. Overview of trauma management.

6. The use of and basic pharmacology of the following drugs: (MK, PC)
   A. Nitroprusside
   B. Nitroglycerin
   C. Dopamine
   D. Dobutamine
   E. Epinephrine
   F. Norepinephrine
   G. Isoproterenol
   H. Phenylephrine
   I. Digitalis
   J. Diuretics
   K. Propranolol
   L. Calcium channel blockers
   M. Atropine
   N. Milrinone
   O. Nicardipine
   P. Vasopressin
   Q. Inhaled Nitric Oxide
   R. Inhaled Prostacyclin

7. The indications, contraindications, and interpretation of the following procedures: (MK, PC)
   A. Indications for tracheal intubation.
   B. Indications for mechanical ventilation.
   C. Indications for Swan-Ganz catheter placement.
   D. Interpretation of blood gases/electrolytes.
   E. Transesophageal echocardiography.
   F. Interpretation of hemodynamic profile.
   G. Use of bedside and central pressure monitors.
   H. Non-invasive techniques for measuring oxygen.
   I. Indications and procedures for nutritional support.

Skills Objectives:
The resident should be able to:
1. Complete a history and physical examination on critically ill patients. (P, PC, ICS, SBP, PBLI)

2. Coordinate the care of the patients and facilitate the admission, evaluation, and management of all the patients in the Cardiovascular Intensive Care Unit for whom he/she is responsible. (P, PC, ICS, SBP, PBLI)

3. Complete the following procedures: (PC, MK, SBP)
   A. Arterial line placement (femoral, radial, axillary).
   B. Insertion of a Swan-Ganz catheter.
C. Tracheal intubation, nasal or oral; tracheostomy; criothyroidotomy.
D. Complete other procedures such as spinal tap, closed tube thoracostomy, placement of subclavian venous catheters or jugular venous catheters.

4. Communicate effectively with colleagues, nursing staff, administrative staff, support personnel, patients, and family members. (ICS)

5. See Graded Experience – ICU

General Core Competencies:
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

Statement of Purpose:
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

PATIENT CARE AND PROCEDURAL SKILLS (PCPS)
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:
- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
• Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:
• Demonstrate an investigatory and analytical thinking approach to clinical situations.
• Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
• Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
• Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
• Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
• Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
• Use information technology to manage information, access on-line medical information; and support their own education.
• Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:
• Create and sustain a therapeutic and ethically sound relationship with patients.
• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
• Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:
• Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
• Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
• Practice cost-effective health care and resource allocation that does not compromise quality of care.
• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance

**Duration:**
One month during the CA-I year.

**Requirement:**
Successful completion of the Clinical Base Year.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

**Primary Faculty:**
Michelle Haines, M.D., Randy Hudson, M.D., and the Critical Care Anesthesiology faculty at Saint Luke’s Hospital.

**Resources:**
Cardiovascular ICU at Saint Luke’s Hospital: 20 beds with annual admission of approximately 700 patients and total patient days of approximately 2,810.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation tool and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain timely completion of all of their medical records.

**References:**
8. All other reading material assigned by faculty.

**Reviewed/Approved:** E. Fibuch, M.D.
**Title:** Chairman/Program Director
Department of Anesthesiology

**Date:** Spring 2011
## ICU
### Graded Experience
### Revised 2011

<table>
<thead>
<tr>
<th>Area of Responsibility</th>
<th>CBY</th>
<th>CA-1</th>
<th>CA-2</th>
<th>CA-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Physical Examination</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Write Orders</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Insert IV</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Insert IA</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Insert CVP</td>
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<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Insert PA catheter</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Manage ventilator</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>TEE</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Place chest tubes</td>
<td>Observe</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Cardio version</td>
<td>Observe</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Defibrillation</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Capable of night call</td>
<td>No</td>
<td>No</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Intubation</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Fiberoptic Bronchoscopy</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
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<tr>
<td>Thoracentesis</td>
<td>Observe</td>
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<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Treat hypotension</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Treat arrhythmias</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Give anesthesia for cardioversion</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Manage fluids</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Manage VAD</td>
<td>Observe</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
</tr>
<tr>
<td>Manage ECMO</td>
<td>Observe</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
</tr>
<tr>
<td>Place double lumen tubes</td>
<td>Observe</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
</tbody>
</table>
Unit Purpose: To provide the resident with a 1-month graded experience in the anesthetic management of the ambulatory surgical patient.

Cognitive Objectives: The resident should achieve an understanding of:
1. The factors which determine the types of operation suitable for outpatient management. (SBP)
2. The requirements for the selection of ambulatory patients, including issues of risk, age, time requirements, and possibility of complications. (MK, SBP)
3. The type of instructions to be given to an ambulatory patient prior to surgery. (P, ICS)
4. The limitations placed on pre-anesthetic medication by the outpatient status. (PCPS, MK, PBLI)
5. Other criteria to determine whether a patient can be managed with a regional nerve block, major conduction anesthesia, or general anesthesia in an ambulatory setting. (PCPS, MK, SBP)
6. The necessary conditions for discharge from the recovery room to the patient’s home. (P, ICS, MK, PCPS)
7. The types of anesthetic agents (inhalational, narcotic, and muscle relaxants) that would be most suitable for an outpatient procedure. (MK, PCPS)
8. Listing the pharmacology, pharmacokinetics, and other information necessary to make an appropriate selection of an anesthetic plan for ambulatory surgical cases. (MK, PCPS)

Skills Objectives: The resident should be able to:
1. Perform rapid turnover between cases. (ICS, SBP, PBLI)
2. Develop the techniques necessary for rapid emergence from general anesthesia. (PCPS, MK, SBP)
3. Do a pre-anesthetic history and physical examination specific for ambulatory surgery patients. (P, PCPS, ICS, SBP)
4. Perform neuroaxial regional block for appropriate ambulatory surgical cases. (MK, PCPS)

General Core Competencies:
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.
Statement of Purpose:
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
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- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

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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:
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MEDICAL KNOWLEDGE (MK)
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- Demonstrate an investigatory and analytical thinking approach to clinical situations.
- Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
- Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
- Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
• Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
• Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
• Use information technology to manage information, access on-line medical information; and support their own education.
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• Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
• Practice cost-effective health care and resource allocation that does not compromise quality of care.
• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

Duration:
One month at Saint Luke’s Hospital Ambulatory Surgery Center during the CA-I or CA-II year.

Requirement:
Successful completion of the Clinical Base Year.

Qualification:
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

Primary Faculty:
Anesthesiology Faculty at Saint Luke’s Hospital.

Resources:
Ambulatory, same day, or 23-hour surgical patients in main operating room at Saint Luke’s Hospital.
Evaluation:
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

Record Keeping:
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.

References:
7. Any other reading materials assigned by faculty.

Reviewed/Approved: E. Fibuch, M.D.
Title: Chairman/Program Director
Department of Anesthesiology
Date: Spring 2011
## Outpatient - Anesthesia
### Graded Experience Revised 2011

<table>
<thead>
<tr>
<th>Area of Responsibility</th>
<th>CA-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td>Oversight</td>
</tr>
<tr>
<td>Physical Examination</td>
<td>Oversight</td>
</tr>
<tr>
<td>Write Orders</td>
<td>Oversight</td>
</tr>
<tr>
<td>Complexity of cases</td>
<td>Direct/graded faculty supervision</td>
</tr>
<tr>
<td>Insert IV</td>
<td>Oversight</td>
</tr>
<tr>
<td>Insert IA</td>
<td>Direct faculty supervision</td>
</tr>
<tr>
<td>Insert CVP, femoral, subclavian, IJ</td>
<td>Direct faculty supervision</td>
</tr>
<tr>
<td>Insert PA catheter</td>
<td>Direct faculty supervision</td>
</tr>
<tr>
<td>Manage ventilator</td>
<td>Indirect graded faculty supervision</td>
</tr>
<tr>
<td>Cardio version</td>
<td>Direct faculty supervision</td>
</tr>
<tr>
<td>Defibrillation</td>
<td>Direct graded faculty supervision</td>
</tr>
<tr>
<td>Capable of night call</td>
<td>Direct faculty supervision</td>
</tr>
<tr>
<td>Intubation</td>
<td>Direct/graded faculty supervision</td>
</tr>
<tr>
<td>Fiberoptic Bronchoscopy</td>
<td>Direct faculty supervision</td>
</tr>
<tr>
<td>Treat hypotension, hypertension</td>
<td>Indirect/graded faculty supervision</td>
</tr>
<tr>
<td>Treat arrhythmias</td>
<td>Indirect/graded faculty supervision</td>
</tr>
<tr>
<td>Manage fluids</td>
<td>Indirect/graded faculty supervision</td>
</tr>
<tr>
<td>Place double lumen tubes</td>
<td>Direct faculty supervision</td>
</tr>
</tbody>
</table>
CURRICULUM
DEPARTMENT OF ANESTHESIOLOGY
RESIDENCY PROGRAM
UNIVERSITY OF MISSOURI-KANSAS CITY
SCHOOL OF MEDICINE

GENERAL GOALS/OBJECTIVES/CORE COMPETENCIES
Rotation: ORTHOPEDICS
Year of Training: CA-I

Unit Purpose:
To provide the resident with one or two months of graded experience in the anesthetic management of patients requiring orthopedic procedures.

Cognitive Objectives:
The resident should obtain a thorough understanding of the following areas:
1. Bone and joint trauma, with attendant hazards such as fat emboli and hemorrhage with resultant hypovolemia. The physical, laboratory, and radiographic findings of fat embolization. (PCPS, MK)
2. The specific steps in preoperative evaluation and preanesthetic medication of orthopedic surgical patients. This should include appropriate pain management in the perioperative period. (P, PCPS, ICS, PBLI)
3. The physiologic and pharmacologic considerations of the geriatric patient with hip fracture. (PCPS, MK)
4. The indications, techniques, and complications of blood product administration. (MK)
5. Alternative anesthetic choices for orthopedic procedures on the upper extremity, including general, regional, brachial plexus block, and intravenous local anesthetic block, with consideration for indications, techniques, and complications of each choice. (MK, PBLI)
6. Alternative anesthetic choices for orthopedic procedures on the lower extremity, including general, spinal, epidural, sciatic, ankle, and local intravenous techniques, with consideration for indications, techniques, and complications of each choice. (MK, PBLI)
7. Spine surgery for scoliosis, HNP, spinal stenosis, instability, and infection/tumors, and appropriate techniques and considerations for specialized monitoring of CNS function such as BAER, SSEP. (PCPS, MK, PBLI)
8. Management of common postoperative complications in orthopedic patients, including hypovolemia and pain control. (PCPS, MK, PBLI)
9. The anesthetic considerations of prosthetic joint devices and the indications for antibiotic prophylaxis. (MK, PCPS, PBLI)
10. Evaluation and initial and delayed airway management in the patient with cervical spine injury. (PCPS, MK, PBLI)
11. Techniques of blood conservation, including autologous donation, blood salvage, preoperative isovolemic hemodilution, and administration of human erythropoeitin (Procrit). (PCPS, PBLI, MK)

Skills Objectives:
The resident should become proficient with the following techniques:
1. Axillary, interscalene, supraclavicular, spinal, epidural, and ankle blocks. (MK, PBLI)

2. Management of general anesthesia for the “wake up test” associated with scoliosis surgery. (MK, PBLI)

3. Administration of intravenous local anesthesia block (Bier Block). (PCPS, MK, PBLI)

4. Awake fiberoptic intubation of the patient with cervical spine injury. (MK, PBLI, PCPS)

5. Transfer and proper positioning of patients undergoing orthopedic procedures on fracture tables, spine tables, or using other similar specialized devices. (PCPS, MK, PBLI, SBP)

General Core Competencies:
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

Statement of Purpose:
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
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- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

PATIENT CARE AND PROCEDURAL SKILLS (PCPS)
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:
- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
• Perform competently all medical and invasive procedures considered essential for the area of practice.
• Provide health care services aimed at preventing health problems or maintaining health.
• Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:
• Demonstrate an investigatory and analytical thinking approach to clinical situations.
• Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
• Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
• Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
• Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
• Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
• Use information technology to manage information, access on-line medical information; and support their own education.
• Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:
• Create and sustain a therapeutic and ethically sound relationship with patients.
• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
• Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:
• Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
• Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
• Practice cost-effective health care and resource allocation that does not compromise quality of care
• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

**Duration:**
One or two months during the CA-I year.

**Requirement:**
Successful completion of the Clinical Base Year.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

**Primary Faculty:**
Anesthesiology Faculty at Saint Luke’s Hospital and Truman Medical Center.

**Resources:**
The main operating room complex at Saint Luke’s Hospital and Truman Medical Center.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.

**References:**
6. Any other reading material assigned by faculty.

**Reviewed/Approved:** E. Fibuch, M.D.

**Title:** Chairman/Program Director
Department of Anesthesiology

**Date:** Spring 2011
## Orthopedic Anesthesia
### Graded Experience Revised 2011

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Unit Purpose:
To provide the resident with one or two months of graded experience in the anesthetic management of patients requiring general surgical, plastic surgical care or trauma surgical care.

Cognitive Objectives:
The resident should achieve an understanding of:
1. The principles governing the judicious use of muscle relaxants, inhalational agents, and intravenous anesthetic agents. (MK)

2. The principles and technical factors governing the use, maintenance, and safety checkout procedures for the anesthesia machine and all related monitoring equipment necessary for administering a safe anesthetic. (MK, PBLI)

3. The principles of preanesthetic evaluation and preanesthetic medication. (PCPS, MK, PBLI)

4. Aspiration prophylaxis. (MK)

5. The hazards of gastrointestinal obstruction, peritonitis, upper GI bleeding, febrile state, dehydration, and acidosis as they relate to the induction and maintenance of anesthesia. (PCPS, MK)

6. Muscle relaxant reversal and the use of the blockade monitor. (MK, PBLI)

7. The appropriate circumstances under which mechanical ventilation should be maintained into the postoperative period. (MK, PCPS, PBLI)

8. The effects of abdominal surgery on pulmonary and cardiac function, intraoperatively and postoperatively. (MK, PCPS)

9. The principles of maintaining normal body temperature. (MK)

10. The principles and safe practice of blood and blood product administration. (MK)

Skills Objectives:
The resident should be able to:
1. Insert intravenous catheters, intraarterial catheters, and pulmonary artery catheters. (MK, PBLI)

2. Insert oral/nasal endotracheal tubes. (MK, PBLI)

3. Manage fluid balance in the OR. (MK, PBLI)
4. Estimate blood loss. (MK)

5. Use the automated record keeper. (MK)

6. Be familiar with a wide variety of induction agents, muscle relaxants, sedative compounds, and inhalational agents. (MK)

7. Do a rapid sequence induction. (PCPS, MK, PBLI)

8. Use the rapid blood infuser. (MK)

9. Interpret electrolyte, blood sugar, urine analysis, and blood gas results. (MK, PCPS)

General Core Competencies:
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

Statement of Purpose:
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

PATIENT CARE AND PROCEDURAL SKILLS (PCPS)
 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:
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• Perform competently all medical and invasive procedures considered essential for the area of practice.
• Provide health care services aimed at preventing health problems or maintaining health.
• Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g., epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:
• Demonstrate an investigatory and analytical thinking approach to clinical situations.
• Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
• Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
• Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
• Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
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PROFESSIONALISM (P)
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SYSTEMS-BASED PRACTICE (SBP)
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• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

Duration:
One or two months during the CA-I or CA-II year.

Requirement:
Successful completion of the Clinical Base Year.

Qualification:
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

Primary Faculty:
Anesthesiology Faculty at Saint Luke’s Hospital and Truman Medical Center.

Resources:
The main operating room complexes at Saint Luke’s Hospital and Truman Medical Center.

Evaluation:
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

Record Keeping:
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.

References:
2009.


7. Any other reading materials assigned by faculty.

Reviewed/Approved: E. Fibuch, M.D.
Title: Chairman/Program Director
Department of Anesthesiology
Date: Spring 2011
# Plastic/Trauma Anesthesia
## Graded Experience Revised 2011

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CURRICULUM
DEPARTMENT OF ANESTHESIOLOGY
RESIDENCY PROGRAM
UNIVERSITY OF MISSOURI-KANSAS CITY
SCHOOL OF MEDICINE

GENERAL GOALS/OBJECTIVES/CORE COMPETENCIES
Rotation: CLOSED UROLOGY
Year of Training: CA-I

Unit Purpose:
To provide the resident with one month of graded experience in the care of patients requiring cystoscopy or closed urological procedure.

Cognitive Objectives:
The resident should achieve an understanding of:
1. The hazards imposed on the performance of anesthesia by advanced age such as: (PCPS, MK, SBP, PBLI)
   A. Senility
   B. Emphysema
   C. Arteriosclerotic cardiovascular disease
   D. Central vascular changes
   E. Nephrosclerosis
   F. Nutritional deficiencies

2. The principal tests for preoperative assessment of renal function. (PCPS, MK, SBP)

3. The steps in preoperative evaluation and pre-anesthetic medication of patients for cystoscopy and pyelography and for transurethral resection of the prostate. (PCPS, MK, PBLI)

4. The two regional anesthetic techniques for TUR (spinal and epidural). (MK)

5. The symptoms and signs caused by extravasation of bladder contents. (MK)

6. The special problems associated with anesthesia in the lateral and jack-knife positions for renal surgery. (MK)

7. The physical and laboratory findings which may indicate impending renal failure. (MK)

8. The signs, symptoms, and treatment of acute water intoxication. (MK)

Skills Objectives:
The resident should be able to:
1. Perform a midline spinal anesthetic and a classic paramedian spinal anesthetic for urologic surgery. (PCPS, MK, PBLI)

2. Maintain general anesthesia by nasal, LMA, or endotracheal tube in an outpatient population for short urological procedures. (PCPS, MK, PBLI)

3. Do an epidural anesthetic for postoperative analgesia, to include the necessary orders postoperatively for the management of the epidural analgesic technique. (PCPS, MK, PBLI)
General Core Competencies:
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

Statement of Purpose:
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
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- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
- Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:
- Demonstrate an investigatory and analytical thinking approach to clinical situations.
Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:

- Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
- Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
- Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
- Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
- Use information technology to manage information, access on-line medical information; and support their own education.
- Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients’ families, and professional associates. Residents are expected to:

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- Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
- Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:

- Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
- Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
- Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:

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- Advocate for quality patient care and assist patients in dealing with system complexities.
- Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

Duration:
One month during the CA-I year.
**Requirement:**
Successful completion of the Clinical Base Year.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

**Primary Faculty:**
Anesthesiology Faculty at Saint Luke’s Hospital.

**Resources:**
The cystoscopy suite at Saint Luke’s Hospital.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.

**References:**
8. Any other reading material assigned by faculty.

**Reviewed/Approved:** E. Fibuch, M.D.
**Title:** Chairman/Program Director
**Department of Anesthesiology**
**Date:** Spring 2011
## Closed Urology Anesthesia

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Unit Purpose:
To provide the resident the graded experience to perform as many regional techniques as possible in a structured environment under the direction of the faculty.

Cognitive Objectives:
The resident should achieve an in-depth understanding of the:
1. Pharmacology of local anesthetics and adjuvant agents that may be used with local anesthetics, such as epinephrine or bicarbonate. (MK)

2. Techniques used to perform the following regional block techniques: (PCPS, MK, PBLI)
   A. Axillary
   B. Interscalene
   C. Supraclavicular
   D. Infraclavicular
   E. Bier block
   F. Epidural
   G. Caudal
   H. Sciatic
   I. Ankle
   J. All other peripheral nerve blocks

3. Anatomy necessary to perform the above noted techniques. (MK)

4. Patient selection criteria for the use of regional anesthesia, including the contraindications to the use of regional anesthetics. (PCPS, MK, SBP, PBLI)

5. Use of adjuvant sedative agents during a regional technique. (MK)

6. Complications of regional anesthesia and the management principles of treating the intraoperative and postoperative complications/side effects. (PCPS, MK, PBLI)

Skills Objectives:
The resident should achieve:
1. The minimum required number of regional blocks for anesthesia cases as outlined by the ABA. (PBLI)

2. Becoming technically facile with the above noted block techniques. (PBLI)

3. See Graded Experience.

General Core Competencies:
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
interpersonal and communication skills,
professionalism,
systems-based practice.

Statement of Purpose:
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

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The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

PATIENT CARE AND PROCEDURAL SKILLS (PCPS)
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:
• Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
• Gather essential and accurate information about their patients.
• Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
• Develop and carry out patient management plans.
• Counsel and educate patients and their families.
• Use information technology to support patient care decisions and patient education.
• Perform competently all medical and invasive procedures considered essential for the area of practice.
• Provide health care services aimed at preventing health problems or maintaining health.
• Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:
• Demonstrate an investigatory and analytical thinking approach to clinical situations.
• Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.
PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:

- Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
- Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
- Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
- Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
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PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:

- Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
- Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
- Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:

- Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
- Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
- Practice cost-effective health care and resource allocation that does not compromise quality of care.
- Advocate for quality patient care and assist patients in dealing with system complexities.
- Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

Duration:
One month during the CA-I, CA-II, or CA-III year.

Requirement:
Successful completion of the Clinical Base Year, CA-I, or CA-II year.
**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

**Primary Faculty:**
James Razinsky, M.D. and Anesthesiology Faculty at Saint Luke’s Hospital.
Kara Settles, M.D. and Anesthesiology Faculty at Truman Medical Center.

**Resources:**
The main operating room complexes at Saint Luke’s Hospital and Truman Medical Center.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.

**References:**
7. Any other reading material assigned by faculty.

**Reviewed/Approved:** E. Fibuch, M.D.
**Title:** Chairman/Program Director
Department of Anesthesiology

**Date:** Spring 2011
# Pain Management/Regional
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CURRICULUM
DEPARTMENT OF ANESTHESIOLOGY
RESIDENCY PROGRAM
UNIVERSITY OF MISSOURI-KANSAS CITY
SCHOOL OF MEDICINE

GENERAL GOALS/OBJECTIVES/CORE COMPETENCIES
Rotation: PAIN MANAGEMENT
Year of Training: CA-I

Unit Purpose:
To provide the resident with two months of graded experience in the care of both inpatients and outpatients who require pain management for a variety of medical conditions.

Cognitive Objectives:
The resident should achieve an understanding of:
1. The normal physiology and pathophysiology of pain transmission. (MK)

2. The pharmacodynamics and pharmacokinetics of commonly used analgesics, including narcotics. (MK)

3. The pharmacodynamics and pharmacokinetics of commonly used local anesthetics and other useful adjuncts in pain management, such as membrane stabilizing drugs, central alpha agonists, and antidepressants. (MK)

4. The following clinical disease states: (PCPS, MK, PBLI)
   A. Low back pain, radicular and nonradicular
   B. Postherpetic neuralgia
   C. Reflex sympathetic dystrophy - Complex Regional Pain Syndrome Type I
   D. Causalgia
   E. Phantom limb pain
   F. Diabetic peripheral neuropathy
   G. Vascular neuropathy
   H. Cancer pain
   I. Headache, both vascular and muscular
   J. Post-thoracotomy syndrome
   K. Paresthesia meralgia
   L. Soft tissue, ligamentous, bone injury, and subsequent acute pain states
   M. Spinal cord injury and spastic syndromes, including antispasmodics such as Baclofen

5. The differential diagnosis of pain syndromes. (MK, PCPS)

6. The diagnostic evaluation of pain syndromes. (PCPS, MK, PBLI)

7. The concepts of palliative pain relief in patients with terminal malignancy, including neurolytic, celiac plexus block, neuraxial narcotics. (PCPS, MK)

8. The concepts of electrical stimulation of peripheral and central neuraxis. (MK)

9. The role of physical therapy in the treatment of acute and chronic pain states. (PCPS, MK, PBLI)

10. Biofeedback and relaxation training in the management of pain. (PCPS, MK, PBLI)
11. The modalities for acute postoperative pain relief, including: (PCPS, MK, PBLI)
   A. Intravenous PCA and neuraxial analgesia
   B. Intravenous and oral analgesics, including narcotics and NSAIDS
   C. TENS units
   D. Nerve block, such as intercostals, interscalene, femoral

**Skills Objectives:**
The resident should be able to:

1. Perform a history and physical exam pertinent to the patient with complex pain symptomatology. (P, PCPS, ICS, MK)

2. Dictate and document the above exam and history. (P, PCPS, SBP, ICS)

3. Perform a broad range of peripheral nerve blocks. (PCPS, PBLI, MK)

4. Perform epidural and subarachnoid injections. (PCPS, PBLI, MK)

5. Manage implanted epidural and intrathecal catheters, ports, and infusion pumps. (PCPS, MK, PBLI, SBP)

6. Perform differential sympathetic nerve blockade. (PCPS, MK, PBLI)

7. Coordinate adjunctive therapies such as physical therapy, rehabilitation, and counseling. (P, PCPS, ICS, PBLI, SBP, MK)

8. See Graded Experience – Pain Management.

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- medical knowledge,
- practice-based learning and improvement, and
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- Advocate for quality patient care and assist patients in dealing with system complexities.
- Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

Duration:
Two months in both the inpatient and outpatient areas during the CA-I year.

Requirement:
Successful completion of the Clinical Base Year.

Qualification:
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

Primary Faculty:
Susan Opper, M.D. and the faculty of the Pain Management Group at St. Luke’s Hospital.

Resources:

Evaluation:
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

Record Keeping:
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Unit Purpose:
The cardiovascular anesthesia rotation is designed to expose the resident to a graded experience of a broad mix of surgeries, including coronary bypass, valve replacement, ASD and VSD repair, cardiac transplantation, congenital anomaly correction, pulmonary biopsy and resection, as well as peripheral and central vascular procedures. The resident should gain knowledge and understanding of preoperative evaluation and preparation, intraoperative monitoring, and management and postoperative care of patients undergoing cardiovascular and major vascular procedures.

Cognitive Objectives:
The resident should achieve an understanding of:

1. The embryologic origin and subsequent pathophysiologic development of the following conditions: (MK)
   A. Ventricular septal defect
   B. Atrial septal defect
   C. Tetralogy of Fallot
   D. Patient ductus arteriosis
   E. Coarctation of the aorta
   F. Transposition of the great vessels
   G. Subaortic stenosis
   H. Abnormal pulmonary venous drainage

2. The pathogenesis and pathophysiology of the following conditions: (MK, PCPS, PBLI)
   A. Aortic stenosis and regurgitation
   B. Mitral stenosis and regurgitation
   C. Tricuspid stenosis and regurgitation
   D. Pulmonic stenosis and regurgitation
   E. Ventricular aneurysm
   F. Cardiac tamponade
   G. Surgical complications of myocardial infarction, including papillary muscle rupture and myocardial perforation
   H. Cardiomyopathy: ischemic, viral, alcoholic, and idiopathic
   I. Coronary artery disease
   J. Hypertrophic myocardial disease, including IHSS
   K. Conduction disease, including bundle branch blocks, fascicular blocks and accessory pathways
   L. SA and AV node dysfunction, artificial pacemaker therapy
   M. Aortic aneurysm, including Type I, II, III aortic dissection
   N. Traumatic injury to the heart and great vessels, including cardiac tamponade, myocardial perforation, myocardial contusion, aortic disruption
   O. Cardiac arrhythmias and therapy with internal defibrillating devices
   P. The physiology of cardiopulmonary bypass and cardiac preservation, including cardioplegia, retrograde cardioplegia, whole body hypothermia, regional cooling, and hemodilution
Q. The indications, use, and technique of total circulatory arrest
R. The pharmacokinetics and dynamics of drugs commonly used in patients with cardiovascular disease, including:
   1. Digitalis
   2. Antiarrhythmics
   3. Diuretics
   4. Nitrates
   5. Beta-adrenergic agonists and antagonists
   6. Alpha-adrenergic agonists and antagonists
   7. Various calcium channel blockers
   8. Phosphodiesterase inhibitors such as amrinone and milrinone
   9. Selective pulmonary vasodilators such as prostaglandin E and nitric oxide
   10. Anticoagulants, including heparin and coumadin, including the monitoring of these agents’ activity
   11. Aprotonin, aminocaproic acid, DDAVP
S. Cardiopulmonary bypass, the indications for its use, the physiologic changes resulting from its employment, and the differences noted between total bypass, right heart bypass, left heart bypass, and the effects of hemodilution.
T. The steps in preoperative evaluation and pre-anesthetic medication of patients for cardiac surgery.
U. The principal findings in cardiac catheterization, such as oximetry, angiography, hemodynamics, and transesophageal echocardiography.
V. The procedure for anticoagulation while on cardiopulmonary bypass, along with the understanding of the coagulopathies most often observed in the post-bypass period following prolonged heparinization, fibrinolysis, and thrombocytopenia.
W. The procedures and physiology of cardioplegia by coronary infusion of potassiumine and a deliberate ventricular fibrillation and their correction at the termination of cardiopulmonary bypass.
X. The management of low cardiac output in the immediate post-bypass period.
Y. The use of direct current defibrillator and its employment for ventricular tachyarrhythmia and fibrillation in the post-bypass period.
Z. The principles of transesophageal echocardiography.
AA. The use of high-dose narcotics as the primary anesthetic agent.
BB. The principles and use of the bubble oxygenator vs. the membrane oxygenator, along with continuous flow vs. pulsatile flow technology.

Skills Objectives:
The resident should be able to:
1. Place percutaneously radial, brachial, and femoral arterial catheters with and without the use of a guide wire. (PCPS, MK, PBLI)
2. Percutaneously place brachial, external jugular and internal jugular venous catheters. (MK, PBLI)
3. Position and properly pad the extremities of patients having cardiovascular procedures. (P, PCPS, MK, PBLI)
4. Place and interpret transesophageal echocardiography. (PCPS, MK)
5. Manage patients on cardiopulmonary bypass, including techniques for weaning patients from bypass. (PCPS, MK, PBLI)
6. Transport and monitor patients before and after cardiovascular procedures. (PCPS, P, ICS)
7. Place and use double lumen endotracheal tubes. (MK, PBLI)
8. Acquire and interpret hemodynamic parameters, including thermodilution cardiac output, systemic vascular resistance, pulmonary vascular resistance, and cardiac chamber diastolic filling pressures. (MK, PBLI)

9. Place and use a transesophageal echo probe. (PC, MK, PBLI)

10. Use fiberoptic bronchoscopy for airway suctioning and placement of both endotracheal tubes and divided airways. (PCPS, MK, PBLI)

11. See Graded Experience – CVOR.

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SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:
• Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
• Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
• Practice cost-effective health care and resource allocation that does not compromise quality of care.
- Advocate for quality patient care and assist patients in dealing with system complexities.
- Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

**Duration:**
Two months during the CA-II year.

**Requirement:**
Successful completion of the CA-I Year.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

**Primary Faculty:**
Richard Nelson, M.D., Randy Hudson, M.D., James Lonergan, M.D., James Kelly, M.D., Mark Williams, M.D., Michelle Haines, M.D., Carole Freiberger-O’Keefe, D.O., Jonathan Kozinn, M.D.

**Resources:**
Operating rooms (4) at the Mid America Heart Institute.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.

**References:**


12. Any other reading material assigned by faculty.

Reviewed/Approved: E. Fibuch, M.D.
Title: Chairman/Program Director
        Department of Anesthesiology
Date: Spring 2011
## CVOR - Anesthesia
### Graded Experience Revised 2011

<table>
<thead>
<tr>
<th>Area of Responsibility</th>
<th>CA-2</th>
<th>CA-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
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<td>Yes</td>
</tr>
<tr>
<td>Physical Examination</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Write Orders</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Complexity of cases</td>
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<td>More complex</td>
</tr>
<tr>
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<td>Yes</td>
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</tr>
<tr>
<td>Insert IA</td>
<td>Yes/graded faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Insert CVP, femoral, subclavian, IJ</td>
<td>Yes/graded faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Insert PA catheter</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Manage ventilator</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>TEE</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Cardio version</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Defibrillation</td>
<td>Yes/graded faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Capable of night call</td>
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</tr>
<tr>
<td>Intubation</td>
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<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Fiberoptic Bronchoscopy</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Treat hypotension, hypertension</td>
<td>Yes/graded faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Treat arrhythmias</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
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<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Manage fluids</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Place double lumen tubes</td>
<td>Yes/direct factory supervision</td>
<td>Yes/graded factory supervision</td>
</tr>
<tr>
<td>Place thoracic Epidural Catheters for pain control</td>
<td>Yes/direct factory supervision</td>
<td>Yes/graded factory supervision</td>
</tr>
</tbody>
</table>
CURRICULUM
DEPARTMENT OF ANESTHESIOLOGY
RESIDENCY PROGRAM
UNIVERSITY OF MISSOURI-KANSAS CITY
SCHOOL OF MEDICINE

GENERAL GOALS/OBJECTIVES/CORE COMPETENCIES
Rotation: CRITICAL CARE (ICU)
Year of Training: CA-II

Unit Purpose:
To provide the resident an additional two months of graded experience in the care of critically ill patients who have significant cardiovascular disease, pulmonary disease, nutritional deficits, chronic liver failure, renal failure, neurologic injury and SIRS/sepsis.

Goals:
- CA-II residents will rotate for two months in the CVICU under the guidance and supervision of the critical care attending and anesthesiology faculty and be given a greater level of responsibility compared to the CA-I. (PCPS)
- CA-II residents will work in concert with the senior (CA-III) anesthesiology residents and attending faculty to evaluate and treat critically ill patients. (PCPS)
- CA-II residents will develop and communicate recommendations for a comprehensive management plan to the attending anesthesiology faculty. (ICS)
- CA-II residents will master the core content of critical care medicine and learn to interpret ABG’s, hemodynamic monitoring data, and mechanical ventilation principles and modalities. (MK)
- The medical decision making will be confirmed and promptly communicated with the attending and the primary service to implement appropriate interventions. (ICS)
- CA-II residents will accurately document the assessment and recommendations in the medical record. (PCPS)
- CA-II residents will facilitate therapeutic and procedural care as directed by the attending. (PCPS)
- CA-II residents will log all patient procedures in his/her case log. (PCPS, P)

Cognitive Objectives:
The resident should achieve an understanding of:
1. The assessment and management of patients who have undergone cardiac/pulmonary or major vascular surgery. (PCPS, MK, PBLI)
2. Use and management of mechanical ventilatory support in this subset of critically ill patients. (PCPS, MK, PBLI)
3. Use of transesophageal echo in these patients. (MK, PCPS, PBLI)
4. Management of fluids, vasoactive supportive agents, and pain control. (MK, PCPS, PBLI)
5. Socioeconomic, ethical, and legal issues related to ICU care. (P, ICS, PCPS, MK, PBLI, SBP)
6. Anatomy and physiology of the cardiopulmonary and renal systems. (MK)
7. Understand wave abnormalities. (MK)
8. Formulate a management plan. (MK, ICS)

9. Hemodialysis (MK)

10. Nitric oxide and prostacyclin inhalation (MK)

**Skills Objectives:**
The resident should achieve skills in:

1. The management of problems in the following systems or disease states:
   A. Gastrointestinal (PC, MK)
      1. Nutrition
      2. Cholestatic jaundice
      3. Catabolic states
      4. Necrotizing enterocolitis
      5. Acute liver failure and pancreatitis
      6. GI function and integrity
   B. Respiratory (PC, MK)
      1. ARDS/ALI
      2. Aspiration pneumonias/hospital acquired/ventilator acquired pneumonia
      3. Pneumonia
      4. Single lung ventilation
      5. Ventilation modalities
      6. Issues of oxygenation
      7. Acid/base disorder
      8. COPD
      9. PE/DUT prophylaxis
     10. Discontinuation of mechanical ventilation
   C. Cardiac (PC, MK)
      1. Arrhythmias
      2. Post-cardiopulmonary resuscitation
      3. Fluid balance
      4. Congestive heart failure
      5. Left and right ventricular function
      6. Echocardiography in the ICU and Ultrasonography
      7. Hemodynamic monitoring
   D. Shock (PC, MK)
      1. Distributive
      2. Hypovolemic
      3. Cardiogenic
      4. Obstructive
   E. Neurological (PC, MK)
      1. Post-bypass neurocognitive deficit/CVA
      2. Seizures
      3. Encephalopathy
      4. Delirium
      5. Therapeutic hypothermia
   F. Metabolic (PC, MK)
      1. Metabolic acidosis/alkalosis
      2. Electrolyte imbalances
   G. Renal (PC, MK)
      1. Fluids and electrolytes
2. Renal failure
3. Perioperative preservation of renal function
4. Renal replacement therapy
5. Rhabdomyolysis

H. Hematology (PC, MK)
   1. Anticoagulants
   2. HIT
   3. Thrombocytopenia
   4. Transfusion therapy

I. Infections (PC, MK)
   1. Specific infections
   2. Antibiotics
   3. Sepsis

J. Endocrine (PC, MK)
   1. Adrenal Insuff
   2. Hyper/hypoglycemia
   3. Thyroid disorder

2. The use of and basic pharmacology of the following drugs: (MK, PBLI)
   A. Resuscitative drugs
   B. Analgesics/sedatives
   C. Vaso-supportive drugs
   D. Antirejection drugs
   E. Anticoagulates
   F. H2 blockers/PPI for stress ulcer prophylaxis

3. The indications, contraindications, and interpretation of the following procedures: (MK, PBLI)
   A. Indications for tracheal intubation
   B. Indications for mechanical ventilation
   C. Interpretation of blood gases/electrolytes
   D. Interpretation of hemodynamic profile
   E. Use of bedside arterial and central pressure monitors
   F. Non-invasive techniques for measuring oxygen saturation and carbon dioxide elimination
   G. Indications and procedures for nutritional support
   H. Transesophageal echocardiography and ultrasonography
   I. Non-invasive ventilation

4. Complete a history and physical examination on critically ill patients. (P, PC, ICS)

5. Coordinate the care of the patients and facilitate the admission, evaluation, and management of patients in the Intensive Care Unit for whom he/she is responsible. (P, PC, ICS)

6. Perform the following procedures: (PC, PBLI)
   A. Arterial, venous, and PA catheters
   B. Chest tubes
   C. Tracheal intubation, nasal or oral
   D. TEE
   E. Ultrafiltration
   F. Bronchoscopy
   G. IABP
   H. Extracorporeal devices
7. Communicate effectively with colleagues, nursing staff, administrative staff, support personnel, patients, and family members. (ICS)

8. Teach junior residents, medical students, and nurses. (MK, PCPS, ICS, P, SBP, PBLI)

9. See Graded Experience

**General Core Competencies:**
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

**Statement of Purpose:**
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

**PATIENT CARE AND PROCEDURAL SKILLS (PCPS)**
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:
- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
• Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:
  • Demonstrate an investigatory and analytical thinking approach to clinical situations.
  • Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
  • Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
  • Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
  • Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
  • Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
  • Use information technology to manage information, access on-line medical information; and support their own education.
  • Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:
  • Create and sustain a therapeutic and ethically sound relationship with patients.
  • Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
  • Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
  • Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
  • Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
  • Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:
  • Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
  • Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
  • Practice cost-effective health care and resource allocation that does not compromise quality of care.
  • Advocate for quality patient care and assist patients in dealing with system complexities.
Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance

**Duration:**
Two months during the CA-II year.

**Requirement:**
Successful completion of the CA-I Year.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

**Primary Faculty:**
Randall Hudson, M.D., Michelle Haines, M.D., and Anesthesiology Critical Care Faculty.

**Resources:**
Cardiovascular ICU at Saint Luke’s Hospital: 20 beds with annual admission of approximately 700 patients and total patient days of approximately 2,810.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation tool and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.

**References:**


12. Any other reading material by faculty.

Reviewed/Approved:  E. Fibuch, M.D.
Title: Chairman/Program Director
Department of Anesthesiology
Date: Spring 2011
# ICU
## Graded Experience
### Revised 2011

<table>
<thead>
<tr>
<th>Area of Responsibility</th>
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<th>CA-2</th>
<th>CA-3</th>
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<tbody>
<tr>
<td>History</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Physical Examination</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Write Orders</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Insert IV</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Insert IA</td>
<td>Yes/direct faculty supervision</td>
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<td>Insert PA catheter</td>
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<tr>
<td>Manage ventilator</td>
<td>Yes/direct faculty supervision</td>
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<td>Yes/graded faculty supervision</td>
<td>Yes/graded faculty supervision</td>
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<tr>
<td>TEE</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
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<td>Place chest tubes</td>
<td>Observe</td>
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<td>Yes/graded faculty supervision</td>
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<td>Cardio version</td>
<td>Observe</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
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<td>Yes/direct faculty supervision</td>
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<td>Yes/graded faculty supervision</td>
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<tr>
<td>Capable of night call</td>
<td>No</td>
<td>No</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
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<td>Intubation</td>
<td>Yes/direct faculty supervision</td>
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<td>Treat hypotension</td>
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<tr>
<td>Treat arrhythmias</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Give anesthesia for cardioversion</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
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<tr>
<td>Manage fluids</td>
<td>Yes/direct faculty supervision</td>
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<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Manage VAD</td>
<td>Observe</td>
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<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Manage ECMO</td>
<td>Observe</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Place double lumen tubes</td>
<td>Observe</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
</tbody>
</table>
GENERAL GOALS/OBJECTIVES/CORE COMPETENCIES
Rotation: THORACIC ANESTHESIA
Year of Training: CA-II

Unit Purpose:
To provide the resident with a 1-2 month graded experience (in combination with major vascular) in the care of patients requiring thoracic surgery.

Cognitive Objectives:
The resident should achieve an understanding of:
1. Pulmonary function testing: normal parameters and characteristic patterns of obstructive and restrictive lung disease. (MK, PBLI)
2. Factors affecting alveolar ventilation. (MK)
3. Factors affecting pulmonary blood flow and distribution, hypoxic pulmonary vasoconstriction, and effects of anesthetics. (MK)
4. Ventilation/Perfusion matching and mismatching. (MK)
5. Mechanisms of hypoxemia and differential diagnosis. (MK)
6. Oxygen therapy. (PCPS, MK)
7. Preparation and preoperative evaluation of the patient with impaired ventilation for pulmonary surgery: (P, PCPS, PBLI, SBP, ICS)
   A. Smoking cessation
   B. Bronchodilators
   C. Bronchial secretions
   D. Chest physiotherapy
   E. Educational and motivational techniques
8. Prediction of postoperative ventilatory reserve after pulmonary resection. (PCPS, MK)
10. Mechanisms of hypoxia during single lung ventilation and treatment strategies. (MK)
11. Types and differences in double lumen tubes and bronchial blockers. (MK)
12. The differential diagnosis, physical examination, and treatment algorithms for the following: (PCPS, MK)
   A. Tension pneumothorax
   B. Hemothorax
   C. Flail chest
   D. Lung contusion
E. Trauma disruption of trachea or major bronchi
F. Diaphragmatic hernia
G. Cardiac tamponade

13. Surgical treatment for chronic obstructive lung disease, including bullectomy and lung volume reduction procedures. (PCPS, MK, SBP)

14. Physiology of open thorax spontaneous ventilation, mediastinal shift, paradoxical respiration. (MK)

15. High frequency ventilation in the management of thoracic surgery. (MK)

16. Postoperative complications of thoracic surgery: (PCPS, MK, SBP, PBLI)
   A. Herniation of the heart
   B. Pulmonary torsion
   C. Postoperative hemorrhage
   D. Bronchial disruption
   E. Respiratory insufficiency
   F. Reexpansion pulmonary edema
   G. Right heart failure
   H. Right to left shunt (patent foramen ovale)
   I. Neural injuries
   J. Bronchopleural fistula

17. Management of specific procedures: (PCPS, MK, PBLI)
   A. Mediastinoscopy
   B. Thoracoscopy
   C. Tracheal resection
   D. Unilateral bronchopulmonary lavage
   E. Lung abscess resection
   F. Lung volume reduction

**Skills Objectives:**
The resident should accomplish during this rotation:

1. The fiberoptic bronchoscope for lung secretion clearance and placement of a divided airway. (MK, PCPS, PBLI)

2. The necessary skill to place a divided airway and bronchial blockers and check its appropriate location. (MK, PBLI)

3. The management of hypoxemia under general anesthesia with an open chest using CPAP. (PCPS, MK, PBLI)

4. The use of intrapleural anesthesia and thoracic epidural analgesia for pain control postoperatively. (PCPS, MK, PBLI)

5. Insertion of invasive monitors. (MK)

**General Core Competencies:**
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
Statement of Purpose:
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, bimonthly, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

PATIENT CARE AND PROCEDURAL SKILLS (PCPS)
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:
- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
- Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:
- Demonstrate an investigatory and analytical thinking approach to clinical situations.
- Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.
PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:

- Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
- Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
- Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
- Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
- Use information technology to manage information, access on-line medical information; and support their own education.
- Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:

- Create and sustain a therapeutic and ethically sound relationship with patients.
- Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
- Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:

- Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
- Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
- Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:

- Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
- Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
- Practice cost-effective health care and resource allocation that does not compromise quality of care.
- Advocate for quality patient care and assist patients in dealing with system complexities.
- Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

**Duration:**
One - two months during the CA-II year (will occur simuthaneously with Cardiovascular/Major Vascular rotation).

**Requirement:**
Successful completion of the CA-I Year.
Qualification:
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

Primary Faculty:

Resources:
The operating rooms in the main operating room complex at Saint Luke’s Hospital and the Mid America Heart Institute.

Evaluation:
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

Record Keeping:
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.

References:
9. Any other reading materials assigned by faculty.

Reviewed/Approved: E. Fibuch, M.D.
Title: Chairman/Program Director
Department of Anesthesiology
Date: Spring 2011
## Thoracic Anesthesia
### Graded Experience Revised 2011

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CURRICULUM
DEPARTMENT OF ANESTHESIOLOGY
RESIDENCY PROGRAM
UNIVERSITY OF MISSOURI-KANSAS CITY
SCHOOL OF MEDICINE

GENERAL GOALS/OBJECTIVES/CORE COMPETENCIES
Rotation: NEUROANESTHESIA
Year of Training: CA-II

Unit Purpose:
To provide the resident with a three month graded experience in the care of patients requiring neurosurgical care.

Cognitive Objectives:
The resident should achieve an understanding of:
1. Basic neuroanatomy, cerebral blood flow and metabolism, CSF dynamics, and concepts of neurophysiologic monitoring. (MK)
2. Pathophysiology of intracranial hypertension. (MK)
3. Intracranial pressure control: (MK)
   A. Blood pressure management
   B. Steroids
   C. Diuretics
   D. Hyperventilation
   E. Positioning
   F. Spinal drainage
   G. Hypertonic intravenous solutions
   H. Pharmacologic agents
4. Intracranial oxygen delivery and consumption. (MK)
5. Anesthetic effects on cerebral blood flow and oxygen consumption. (MK)
6. Control of CNS circulation, autoregulation, cerebral steal, luxury perfusion. (MK)
7. Hypocapnia-induced ischemia. (MK)
8. Venous air embolism: recognition and treatment. (MK, PC)
9. Paradoxical air embolism. (MK)
10. Fluid management and glucose metabolism in normal and injured brain. (PC, MK)
11. Hypothermia. (MK)
12. Management of supratentorial tumors. (PCPS, MK)
   A. Seizure surgery
   B. Awake craniotomy
13. Aneurysms and AV malformations. (MK)

14. Subarachnoid hemorrhage. (MK)

15. Cerebral vasospasm (MK)
   A. Fluid management
   B. Calcium channel blockers
   C. Blood pressure management

16. Head injury. (PCPS, MK)

17. Cervical spine injury and airway management. (PCPS, MK)

18. Intracranial pressure monitoring in the head injured patient. (PCPS, MK, PBLI)

19. Posterior fossa pathology (MK)
   A. Brain-stem stimulation
   B. Transphenoidal hypophysectomy

20. Magnetic resonance imaging. (MK, SBP)


22. Anatomy and circulation of the spinal cord. (MK)

23. Spinal cord pathology, including trauma, infarction, tumor, infection, syrinx. (MK)

24. The technique for intraoperative anesthetic wake-up for spinal surgery and stereotactic neurosurgical procedures. (MK, PCPS, SBP, PBLI)

25. The effects of the following on intracranial pressure: (PCPS, MK, PBLI)
   A. Anesthetic agents
   B. Direct laryngostomy
   C. Hypercarbia and hypocarbia
   D. Hypertension and hypotension
   E. Positive airway pressure
   F. Temperature variation
   G. Body position

26. The description of the factors which influence cerebral blood flow, including anesthetic agents such as isoflurane, enflurane, halothane, desflurane, sevoflurane, opioids, benzodiazepines, nitrous oxide, and propofol. (PCPS, MK, PBLI)

27. The description of the anesthetic management, including monitoring of cerebral blood flow and cerebral function for patients undergoing carotid endarterectomy. (PCPS, MK, PBLI)

28. The physiology of CMRO₂, cerebral blood flow, and drug uptake into the central nervous system. (MK)
**Skills Objectives:**
The resident should be able to:
1. Manage the airway in the sitting position, head tongs, and other positions where immediate access to the airway may be impeded. (PCPS, MK, PBLI)
2. Maximize brain oxygen delivery and facilitation of surgical exposure. (PCPS, MK, PBLI)
3. Place invasive monitors in the neurosurgical patient, including right atrial catheters for treatment of air embolism. (MK, PCPS, PBLI)
4. Know how to use and interpret the information obtained from EEG, BAER, SSEP. (MK)
5. Perform a wake-up test to assess central nervous system function. (MK, SBP)
6. Perform fiberoptic intubation in suspected cervical spine pathology. (MK, PBLI)
7. Place subarachnoid drainage catheters. (MK, PBLI)
8. Monitor the detection of venous air embolism. (MK, PBLI)

**General Core Competencies:**
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

**Statement of Purpose:**
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.
PATIENT CARE AND PROCEDURAL SKILLS (PC)
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:
- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
- Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:
- Demonstrate an investigatory and analytical thinking approach to clinical situations.
- Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
- Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
- Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
- Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
- Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
- Use information technology to manage information, access on-line medical information; and support their own education.
- Facilitate the learning of students and other health care professionals.

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Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:
- Create and sustain a therapeutic and ethically sound relationship with patients.
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PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that
  supercedes self-interest; accountability to patients, society, and the profession; and a commitment to
  excellence and on-going professional development.
• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care,
  confidentiality of patient information, informed consent, and business practices.
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SYSTEMS-BASED PRACTICE (SBP)
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the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:
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  practice.
• Know how types of medical practice and delivery systems differ from one another, including methods of
  controlling care costs and allocating resources.
• Practice cost-effective health care and resource allocation that does not compromise quality of care.
• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and
  improve health care and know how these activities can affect system performance.

Duration:
Three months during the CA-II year.

Requirement:
Successful completion of the CA-I Year.

Qualification:
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the
Department of Anesthesiology’s Education and Research Committee.

Primary Faculty:
Eugene Bode, M.D. and Anesthesiology Faculty at Saint Luke’s Hospital.

Resources:
Main operating room complex at Saint Luke’s Hospital.

Evaluation:
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a
standardized evaluation document which includes the assessment of the resident’s performance and submits the
evaluation to the Anesthesiology Program Director.

Record Keeping:
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.

References:


5. Any other reading material assigned by faculty.

Reviewed/Approved: E. Fibuch, M.D.
Title: Chairman/Program Director
Department of Anesthesiology
Date: Spring 2011
Neuroanesthesia - Anesthesia  
Graded Experience Revised 2011

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Unit Purpose:
To provide the resident with two months of graded experience at Children’s Mercy Hospital in the anesthetic management of pediatric patients requiring surgical care during the CA-II and CA-III year.

Cognitive Objectives:
The resident should achieve an understanding of:
1. The basic pharmacology and physiology of the pediatric patient. (MK)
2. The concepts of temperature regulation. (MK)
3. Pediatric fluids, electrolytes, and nutrition. (MK)
4. Blood and blood product transfusion. (MK)
5. Cardiopulmonary resuscitation and concepts of Pediatric Advanced Life Support. (MK)
6. The preoperative evaluation and preparation in the pediatric patient. (MK)
7. The techniques for preoperative sedation in the pediatric patient. (MK)
8. Anesthesia equipment for pediatrics, including adjuncts to airway management, intravenous access, and physiologic monitoring. (MK)
9. The techniques for induction, maintenance, and emergence. (MK)
10. The use of regional anesthesia in pediatrics. (MK)
11. The special techniques, including acute normovolemic hemodilution, controlled hypotension, hypothermia, and extracorporeal membrane oxygenation (ECMO). (MK)
12. The physiology of prematurity and anesthetic considerations, including: (MK, PCPS)
   A. Necrotizing enterocolitis
   B. Perinatal hyperbilirubinemia
   C. Infant respiratory distress syndrome and role of surfactant
   D. Bronchopulmonary dysplasia
   E. Patent ductus arteriosus
   F. Anemia of prematurity
   G. Shock: sepsis, hypovolemia, and cardiogenic
   H. Neurologic: intraventricular hemorrhage, hydrocephalus, seizures, neural tube defects
13. Ventilatory support, including indications for tracheal intubation, techniques of mechanical ventilation, volume vs. pressure limited ventilation, indications for umbilical artery catheterization, interpretation of blood gases, electrolytes, and complications such as pneumonia, barotrauma. (PCPS, MK, PBLI)

14. The anesthetic management of pyloric stenosis, tracheo-esophageal fistula, omphalcele, diaphragmatic hernia. (PCPS, MK, PBLI)

15. Embryology and physiology of congenital heart disease, transposition of great vessels, VSD, ASD, tetralogy of fallot, hypoplastic left ventricle, coarctation of the aorta. (MK)

16. Down’s syndrome, Turner’s syndrome, and other chromosomal abnormalities. (MK)

17. Craniofacial abnormalities such as Pierre Robin, Treacher Collins, Apert’s, Crouzan’s syndromes, and isolated crainosynostosis. (MK)

18. Midline cleft disorders, cleft lip, palate, and associated airway considerations. (MK)

19. The postoperative care of pediatric patients, including: (PCPS, MK, PBLI)
   A. Analgesia
   B. Ventilation
   C. N & V
   D. Discharge

**Skills Objectives:**
The resident should be able to:
1. Conduct an inhalation induction in pediatric patients. (PCPS, P, MK, PBLI)

2. Perform an intravenous cannulation in the infant. (PCPS, PBLI)

3. Manage mask ventilation and endotracheal intubation, and the placement of an LMA in a pediatric patient. (PCPS, MK, PBLI)

4. Place a central venous access for intravenous therapy and/or invasive cardiovascular monitoring. (PCPS, MK, PBLI)

5. Place arterial lines in infants and small children. (PCPS, MK, PBLI)

6. Place and manage UAC/UVCs. (PCPS, MK, PBLI)

7. Select appropriate equipment and understand their use: (MK, PBLI)
   A. Breathing circuits
   B. Anesthesia machine
   C. Thermal control

8. Order appropriate premedication: (PCPS, MK, PBLI)
   A. Drugs
   B. Dosage
   C. Routes
   D. Vehicles

9. Select agents and techniques for pediatrics and be able to use appropriately: (PCPS, MK, PBLI)
   A. Induction agents
B. Anesthetic agents  
C. Neuromuscular blockers  
D. Regional anesthesia  
E. Pain control

10. Order pediatric fluid therapy and blood replacement. (PCPS, MK, PBLI)

11. See Graded Experience – Pediatric Experience

**General Core Competencies:**
- patient care and procedural skills,  
- medical knowledge,  
- practice-based learning and improvement, and  
- interpersonal and communication skills,  
- professionalism,  
- systems-based practice.

**Statement of Purpose:**
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
- 360-Degree evaluation instrument  
- Oral examinations for senior residents  
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- Case presentations  
- Patient satisfaction/dissatisfaction survey data  
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

**PATIENT CARE AND PROCEDURAL SKILLS (PCPS)**
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:
- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.  
- Gather essential and accurate information about their patients.  
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.  
- Develop and carry out patient management plans.  
- Counsel and educate patients and their families.  
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• Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:
• Demonstrate an investigatory and analytical thinking approach to clinical situations.
• Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
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• Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
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Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
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• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
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• Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
• Practice cost-effective health care and resource allocation that does not compromise quality of care.
• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

**Duration:**
Two months at Children’s Mercy Hospital during the CA-II and CA-III year.

**Requirement:**
Successful completion of the CA-I Year.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Clinical Competency Committee.

**Primary Faculty:**
Barbara Ferguson, M.D. and staff at Children’s Mercy Hospital.

**Resources:**
The operating room complex at Children’s Mercy Hospital.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.

**References:**
6. Any other reading material assigned by faculty.

**Reviewed/Approved:** E. Fibuch, M.D.
**Title:** Chairman/Program Director
Department of Anesthesiology
**Date:** Spring 2011
## Pediatric- Anesthesia
### Graded Experience Revised 2011

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CURRICULUM
DEPARTMENT OF ANESTHESIOLOGY
RESIDENCY PROGRAM
UNIVERSITY OF MISSOURI-KANSAS CITY
SCHOOL OF MEDICINE

GENERAL GOALS/OBJECTIVES/CORE COMPETENCIES
Rotation: MAJOR VASCULAR
Year of Training: CA-II or CA-III

Unit Purpose:
To provide the resident with a 1-month graded experience (in combination with cardiovascular and thoracic anesthesia) in the care of patients requiring major peripheral vascular surgery.

Cognitive Objectives:
1. Preoperative assessment of the patient with peripheral vascular disease, including evaluation of common coexisting medical conditions, including hypertension, cerebral vascular disease, coronary artery disease, myocardial infarction, congestive heart failure, diabetes mellitus, COPD, and renal insufficiency. (MK)

2. Indications and interpretation of common screening tests for coexisting coronary artery disease such as radionuclide cardiac scanning. (MK)

3. Preoperative medication, including digoxin, beta blockers, calcium channel blockers, aspirin, and other antiplatelet drugs, antihypertensives, and oral anticoagulants. (MK)

4. Pathophysiology and management of aortic aneurysm, including dissection, including DeBakey classification system. (MK)

5. Anesthetic techniques and management of carotid endarterectomy, including concepts of cerebral monitoring, cerebral protection, physiologic monitoring, postoperative hypotension/hypertension, regional cerebral blood flow, carotid stump pressure, induced hypertension, and carotid shunts. (MK)

6. Abdominal aortic resection, including premedication, induction, and intraoperative monitoring and management of aortic cross clamp, renal preservation, hemodynamic consequences of aortic declamping, intravenous fluid therapy (colloids versus crystalloids), and emergent surgery due to aortic rupture. (MK)

7. Thoracic aortic resection and repair, including suprarenal cross clamping and declamping and techniques and considerations for protection of spinal cord perfusion, including CSF drains. (MK)

8. Techniques, benefits, and relative risks of general versus regional anesthesia for peripheral vascular procedures. (MK)


Skills Objectives:
1. Induction and airway management in the patient with vascular disease. (PCPS, MK, PBLI)

2. Placement of invasive hemodynamic monitoring. (PCPS, MK, PBLI, SBP)

3. Performance of regional anesthetics for peripheral vascular surgery, including spinal, epidural, and upper and
lower extremity nerve blocks. (MK, PCPS, PBLI)

4. Anesthetic management in the presence of CNS monitoring. (PCPS, MK, PBLI)

5. Vascular access for rapid administration of fluids, blood, and blood products. (MK)

6. Monitoring of intraoperative anticoagulation. (MK, PCPS, PBLI)

7. Administration and management of vasoactive infusions. (PCPS, MK, PBLI)

8. Placement of thoracic and lumbar epidural catheters for acute pain management. (PCPS, MK, PBLI)

9. Insertion of lumbar CSF drains. (MK, PCPS, PBLI)

10. See Graded Experience – CVOR

**General Core Competencies:**
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

**Statement of Purpose:**
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

**PATIENT CARE AND PROCEDURAL SKILLS (PCPS)**
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:
- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
• Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
• Develop and carry out patient management plans.
• Counsel and educate patients and their families.
• Use information technology to support patient care decisions and patient education.
• Perform competently all medical and invasive procedures considered essential for the area of practice.
• Provide health care services aimed at preventing health problems or maintaining health.
• Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:
• Demonstrate an investigatory and analytical thinking approach to clinical situations.
• Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
• Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
• Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
• Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
• Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
• Use information technology to manage information, access on-line medical information; and support their own education.
• Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:
• Create and sustain a therapeutic and ethically sound relationship with patients.
• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
• Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.
SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:

- Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
- Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
- Practice cost-effective health care and resource allocation that does not compromise quality of care.
- Advocate for quality patient care and assist patients in dealing with system complexities.
- Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance

**Duration:**
One month at Saint Luke’s Hospital during the CA-II or CA-III year.

**Requirement:**
Successful completion of the CA-I or CA-II Year.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

**Primary Faculty:**
Anesthesiology faculty at Saint Luke’s Hospital.

**Resources:**
The operating rooms the Mid America Heart Institute.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.

**References:**

7. Any other reading material by faculty.

Reviewed/Approved: E. Fibuch, M.D.
Title: Chairman/Program Director
Department of Anesthesiology
Date: Spring 2011
## Major Vascular - Anesthesia
### Graded Experience Revised 2011

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GENERAL GOALS/OBJECTIVES/CORE COMPETENCIES
Rotation: CARDIOVASCULAR/MAJOR VASCULAR ANESTHESIA
Year of Training: CA-III

Unit Purpose:
The cardiovascular anesthesia rotation is designed to expose the resident to a graded experience of a broad mix of surgeries, including coronary bypass, valve replacement, ASD and VSD repair, cardiac transplantation, congenital anomaly correction, pulmonary biopsy and resection, as well as peripheral and central vascular procedures. The resident should gain knowledge and understanding of preoperative evaluation and preparation, intraoperative monitoring, and management and postoperative care of patients undergoing cardiovascular and major vascular procedures.

Cognitive Objectives:
The resident should achieve an understanding of:
1. The embryologic origin and subsequent pathophysiologic development of the following conditions: (MK)
   A. Ventricular septal defect
   B. Atrial septal defect
   C. Tetralogy of Fallot
   D. Patient ductus arteriosis
   E. Coarctation of the aorta
   F. Transposition of the great vessels
   G. Subaortic stenosis
   H. Abnormal pulmonary venous drainage

2. The pathogenesis and pathophysiology of the following conditions: (MK, PCPS, PBLI)
   A. Aortic stenosis and regurgitation
   B. Mitral stenosis and regurgitation
   C. Tricuspid stenosis and regurgitation
   D. Pulmonic stenosis and regurgitation
   E. Ventricular aneurysm
   F. Cardiac tamponade
   G. Surgical complications of myocardial infarction, including papillary muscle rupture and myocardial perforation
   H. Cardiomyopathy: ischemic, viral, alcoholic, and idiopathic
   I. Coronary artery disease
   J. Hypertrophic myocardial disease, including IHSS
   K. Conduction disease, including bundle branch blocks, fascicular blocks and accessory pathways
   L. SA and AV node dysfunction, artificial pacemaker therapy
   M. Aortic aneurysm, including Type I, II, III aortic dissection
   N. Traumatic injury to the heart and great vessels, including cardiac tamponade, myocardial perforation, myocardial contusion, aortic disruption
   O. Cardiac arrhythmias and therapy with internal defibrillating devices
   P. The physiology of cardiopulmonary bypass and cardiac preservation, including cardioplegia, retrograde cardioplegia, whole body hypothermia, regional cooling, and hemodilution
   Q. The indications, use, and technique of total circulatory arrest
R. The pharmacokinetics and dynamics of drugs commonly used in patients with cardiovascular disease, including:
1. Digitalis
2. Antiarrhythmics
3. Diuretics
4. Nitrates
5. Beta-adrenergic agonists and antagonists
6. Alpha-adrenergic agonists and antagonists
7. Various calcium channel blockers
8. Phosphodiesterase inhibitors such as amrinone and milrinone
9. Selective pulmonary vasodilators such as prostaglandin E and nitric oxide
10. Anticoagulants, including heparin and coumadin, including the monitoring of these agents’ activity
11. Aprotonin, aminocaproic acid, DDAVP

S. Cardiopulmonary bypass, the indications for its use, the physiologic changes resulting from its employment, and the differences noted between total bypass, right heart bypass, left heart bypass, and the effects of hemodilution.

T. The steps in preoperative evaluation and pre-anesthetic medication of patients for cardiac surgery.

U. The principal findings in cardiac catheterization, such as oximetry, angiography, hemodynamics, and transesophageal echocardiography.

V. The procedure for anticoagulation while on cardiopulmonary bypass, along with the understanding of the coagulopathies most often observed in the post-bypass period following prolonged heparinization, fibrinolysis, and thrombocytopenia.

W. The procedures and physiology of cardioplegia by coronary infusion of potassiumine and a deliberate ventricular fibrillation and their correction at the termination of cardiopulmonary bypass.

X. The management of low cardiac output in the immediate post-bypass period.

Y. The use of direct current defibrillator and its employment for ventricular tachyarrhythmia and fibrillation in the post-bypass period.

Z. The principles of transesophageal echocardiography.

AA. The use of high-dose narcotics as the primary anesthetic agent.

BB. The principles and use of the bubble oxygenator vs. the membrane oxygenator, along with continuous flow vs. pulsatile flow technology.

Skills Objectives:
The resident should be able to:
1. Place percutaneously radial, brachial, and femoral arterial catheters with and without the use of a guide wire. (PCPS, MK, PBLI)
2. Percutaneously place brachial, external jugular and internal jugular venous catheters. (MK, PBLI)
3. Position and properly pad the extremities of patients having cardiovascular procedures. (P, PCPS, MK, PBLI)
4. Place and interpret transesophageal echocardiography. (PCPS, MK)
5. Manage patients on cardiopulmonary bypass, including techniques for weaning patients from bypass. (PCPS, MK, PBLI)
6. Transport and monitor patients before and after cardiovascular procedures. (PCPS, P, ICS)
7. Place and use double lumen endotracheal tubes. (MK, PBLI)
8. Acquire and interpret hemodynamic parameters, including thermodilution cardiac output, systemic vascular resistance, pulmonary vascular resistance, and cardiac chamber diastolic filling pressures. (MK, PBLI)

9. Place and use a transesophageal echo probe. (PC, MK, PBLI)

10. Use fiberoptic bronchoscopy for airway suctioning and placement of both endotracheal tubes and divided airways. (PCPS, MK, PBLI)

11. See Graded Experience – CVOR

**General Core Competencies:**
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

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• Demonstrate an investigatory and analytical thinking approach to clinical situations.
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PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
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• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
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• Practice cost-effective health care and resource allocation that does not compromise quality of care.
• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

**Duration:**
Two months during the CA-III year.

**Requirement:**
Successful completion of the CA-II Year.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Clinical Competency Committee.

**Primary Faculty:**
Richard Nelson, M.D., Randy Hudson, M.D., James Lonergan, M.D., James Kelly, M.D., Mark Williams, M.D., Michelle Haines, M.D., Carole Freiberger-O’Keefe, D.O., Jonathan Kozinn, M.D.

**Resources:**
Operating rooms (4) at the Mid America Heart Institute.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.

**References:**


12. Any other reading material assigned by faculty.

Reviewed/Approved: E. Fibuch, M.D.
Title: Chairman/Program Director
Department of Anesthesiology
Date: Spring 2011
# CVOR - Anesthesia
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<tr>
<td>Treat hypotension, hypertension</td>
<td>Yes/graded faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Treat arrhythmias</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Give anesthesia for cardioversion</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Manage fluids</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Place double lumen tubes</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Place thoracic Epidural Catheters for pain control</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
</tbody>
</table>
Unit Purpose:
To provide the resident an additional two months of graded experience in the care of critically ill patients who have significant cardiovascular disease, pulmonary disease, nutritional deficits, chronic liver failure, renal failure, neurologic injury and SIRS/sepsis.

Goals:
- CA-III residents will rotate for two months in the CVICU under the guidance and supervision of the critical care attending and anesthesiology faculty and be given a greater level of responsibility compared to the CA-II. (PCPS)
- CA-III residents will work in concert with the attending faculty to evaluate and treat critically ill patients. (PCPS)
- CA-III residents will develop and communicate recommendations for a comprehensive management plan to the attending anesthesiology faculty. (ICS)
- CA-III residents will master the core content of critical care medicine and learn to interpret ABG’s, hemodynamic monitoring data, and mechanical ventilation principles and modalities. (MK)
- The medical decision making will be confirmed and promptly communicated with the attending and the primary service to implement appropriate interventions. (ICS)
- CA-III residents will accurately document the assessment and recommendations in the medical record. (PCPS)
- CA-III residents will facilitate therapeutic and procedural care as directed by the attending. (PCPS)
- CA-III residents will log all patient procedures in his/her case log. (PCPS, P)

Cognitive Objectives:
The resident should achieve an understanding of:
1. The assessment and management of patients who have undergone cardiac/pulmonary or major vascular surgery. (PCPS, MK, PBLI)
2. Use and management of mechanical ventilatory support in this subset of critically ill patients. (PCPS, MK, PBLI)
3. Use of transesophageal echo in these patients. (MK, PCPS, PBLI)
4. Management of fluids, vasoactive supportive agents, and pain control. (MK, PCPS, PBLI)
5. Socioeconomic, ethical, and legal issues related to ICU care. (P, ICS, PCPS, MK, PBLI, SBP)
6. Anatomy and physiology of the cardiopulmonary and renal systems. (MK)
7. Understand wave abnormalities. (MK)
8. Formulate a management plan. (MK, ICS)
9. Hemodialysis (MK)

10. Nitric oxide and prostacyclin inhalation. (MK, PCPS)

**Skills Objectives:**
The resident should achieve skills in:
1. The management of problems in the following systems or disease states:
   A. Gastrointestinal (PC, MK)
      1. Nutrition
      2. Cholestatic jaundice
      3. Catabolic states
      4. Necrotizing enterocolitis
      5. Acute liver failure and pancreatitis
      6. GI function and integrity
   B. Respiratory (PC, MK)
      1. ARDS/ALI
      2. Aspiration pneumonias/hospital acquired/ventilator acquired pneumonia
      3. Pneumonia
      4. Single lung ventilation
      5. Ventilation modalities
      6. Issues of oxygenation
      7. Acid/base disorder
      8. COPD
      9. PE/DVT prophylaxis
      10. Discontinuation of mechanical ventilation
   C. Cardiac (PC, MK)
      1. Arrhythmias
      2. Post-cardiopulmonary resuscitation
      3. Fluid balance
      4. Congestive heart failure
      5. Left and right ventricular function
      6. Echocardiography in the ICU and Ultrasonography
      7. Hemodynamic monitoring
   D. Shock (PC, MK)
      1. Distributive
      2. Hypovolemic
      3. Cardiogenic
      4. Obstructive
   E. Neurological (PC, MK)
      1. Post-bypass neurocognitive deficit/CVA
      2. Seizures
      3. Encephalopathy
      4. Delirium
      5. Therapeutic hypothermia
   F. Metabolic (PC, MK)
      1. Metabolic acidosis/alkalosis
      2. Electrolyte imbalances
   G. Renal (PC, MK)
      1. Fluids and electrolytes
      2. Renal failure
3. Perioperative preservation of renal function
4. Renal replacement therapy
5. Rhabdomyolysis

H. Hematology (PC, MK)
1. Anticoagulants
2. HIT
3. Thrombocytopenia
4. Transfusion therapy

I. Infections (PC, MK)
1. Specific infections
2. Antibiotics
3. Sepsis

J. Endocrine (PC, MK)
1. Adrenal Insuff
2. Hyper/hypoglycemia
3. Thyroid disorder

2. The use of and basic pharmacology of the following drugs: (MK, PBLI)
   A. Resuscitative drugs
   B. Analgesics/sedatives
   C. Vaso-supportive drugs
   D. Antirejection drugs
   E. Anticoagulates
   F. H2 blockers/PPI for stress ulcer prophylaxis

3. The indications, contraindications, and interpretation of the following procedures: (MK, PBLI)
   A. Indications for tracheal intubation
   B. Indications for mechanical ventilation
   C. Interpretation of blood gases/electrolytes
   D. Interpretation of hemodynamic profile
   E. Use of bedside arterial and central pressure monitors
   F. Non-invasive techniques for measuring oxygen saturation and carbon dioxide elimination
   G. Indications and procedures for nutritional support
   H. Transesophageal echocardiography and ultrasonography
   I. Non-invasive ventilation

4. Complete a history and physical examination on critically ill patients. (P, PC, ICS)

5. Coordinate the care of the patients and facilitate the admission, evaluation, and management of patients in the Intensive Care Unit for whom he/she is responsible. (P, PC, ICS)

6. Perform the following procedures: (PC, PBLI)
   A. Arterial, venous, and PA catheters
   B. Chest tubes
   C. Tracheal intubation, nasal or oral
   D. TEE
   E. Ultrafiltration
   F. Fiberoptic Bronchoscopy
   G. Hemodialysis
   H. Double lumen tubes
   I. Nitric oxide and prostacyclin inhalation
7. Communicate effectively with colleagues, nursing staff, administrative staff, support personnel, patients, and family members. (ICS)

8. Teach junior residents, medical students, and nurses. (MK, PCPS, ICS, PBLI, SBP, P)

9. See Graded Experience – ICU

**General Core Competencies:**
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

**Statement of Purpose:**
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

**PATIENT CARE AND PROCEDURAL SKILLS (PCPS)**
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:
- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
• Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:
• Demonstrate an investigatory and analytical thinking approach to clinical situations.
• Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
• Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
• Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
• Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
• Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
• Use information technology to manage information, access on-line medical information; and support their own education.
• Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:
• Create and sustain a therapeutic and ethically sound relationship with patients.
• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
• Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:
• Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
• Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
• Practice cost-effective health care and resource allocation that does not compromise quality of care.
• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance

**Duration:**
Two months during the CA-III year.

**Requirement:**
Successful completion of the CA-II Year.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

**Primary Faculty:**
Randall Hudson, M.D., Michelle Haines, M.D., and Anesthesiology Critical Care Faculty.

**Resources:**
Cardiovascular ICU at Saint Luke’s Hospital: 20 beds with annual admission of approximately 700 patients and total patient days of approximately 2,810.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation tool and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.

**References:**

12. Any other reading material by faculty.

**Reviewed/Approved:** E. Fibuch, M.D.
**Title:** Chairman/Program Director
**Department of Anesthesiology**
**Date:** Spring 2011
### ICU
**Graded Experience**
**Revised 2011**

<table>
<thead>
<tr>
<th>Area of Responsibility</th>
<th>CBY</th>
<th>CA-1</th>
<th>CA-2</th>
<th>CA-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Physical Examination</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Write Orders</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes</td>
<td>Yes</td>
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<td>Insert IV</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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</tr>
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<td>Insert IA</td>
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<td>Yes/graded faculty supervision</td>
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<td>Insert PA catheter</td>
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<tr>
<td>Manage ventilator</td>
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<td>Yes/graded faculty supervision</td>
<td>Yes/graded faculty supervision</td>
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<tr>
<td>TEE</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Place chest tubes</td>
<td>Observe</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
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<tr>
<td>Cardio version</td>
<td>Observe</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
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<tr>
<td>Defibrillation</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Capable of night call</td>
<td>No</td>
<td>No</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Intubation</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Fiberoptic Bronchoscopy</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Thoracentesis</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Treat hypotension</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Treat arrhythmias</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Give anesthesia for cardioversion</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Manage fluids</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Manage VAD</td>
<td>Observe</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Manage ECMO</td>
<td>Observe</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Place double lumen tubes</td>
<td>Observe</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
</tbody>
</table>
CURRICULUM
DEPARTMENT OF ANESTHESIOLOGY
RESIDENCY PROGRAM
UNIVERSITY OF MISSOURI-KANSAS CITY
SCHOOL OF MEDICINE

GENERAL GOALS/OBJECTIVES/CORE COMPETENCIES
Rotation: CHIEF RESIDENCY
Year of Training: CA-III

Unit Purpose:
To provide one senior resident with the opportunity to lead and develop organizational skills by assuming resident governance authority within the residency program.

Cognitive Objectives:
The resident should achieve an in-depth understanding of:
1. All previous cognitive objectives. (P, PCPS, MK, SBP, ICS, PBLI)
2. A greater in-depth understanding of the pathophysiology and mechanisms of the disease states. (MK)
3. The role and importance of leadership for the junior residents. (P, ICS)
4. A greater in-depth understanding of the importance of communication skills in dealing with surgeons and operating personnel. (ICS)

Skills Objectives:
The resident should be able to:
1. Serve as a leader and role model for all the other residents. (P, ICS)
2. Effectively manage administrative issues as they relate to the call/vacation schedule, resident concerns, and other issues. (P, ICS, PBLI)
3. Become skilled in the instruction of another individual in the conduct of an anesthetic. (P, PBLI, ICS, SBP)
4. Serve on the Departmental Committees when asked to do so. (P)
5. Effectively communicate resident issues and concerns to the Program Director. (ICS)
6. Conduct monthly meetings of the residents. (P, ICS)

General Core Competencies:
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

Statement of Purpose:
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.
The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, may utilize the following evaluation tools:

- 360-Degree evaluation instrument
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PATIENT CARE AND PROCEDURAL SKILLS (PCPS)
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:

- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
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PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
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• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

Duration:
One year at the CA-III level.

Requirement:
CA-III resident in good standing and who is elected by the faculty to serve as Chief Resident.

Qualification:
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

Primary Faculty:
E. E. Fibuch, M.D., Chairman/Program Director

Resources:
Office of the Chairman and Program Director.
**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
Chief Resident will keep and maintain all pertinent records and documents as appropriate for fulfilling the role of Chief Resident.

**References:**

**Reviewed/Approved:** E. Fibuch, M.D.
**Title:** Chairman/Program Director
**Department of Anesthesiology**
**Date:** Spring 2011
Unit Purpose:
All CA-III residents will spend three months in the laboratory as part of their assigned CA-III scholarly assignment for the purpose of achieving a structured experience in a structured investigational/scholarly environment (A few CA-II residents might be assigned to this rotation in the last quarter of their CA-II year).

Cognitive Objectives:
The resident should achieve an in-depth understanding of:
1. The research methodology. (MK)
2. Statistical tools for evaluation of data. (MK)
3. The literature as it relates to an investigational protocol. (MK)

Skills Objectives:
The resident should be able to:
1. Develop an investigational and innovative research project and independently acquire the data, analyze the data, and write an abstract for presentation. (MK, PBLI)
2. Statistically analyze the data and improve his/her understanding of statistics. (MK)
3. Develop the skills to write an abstract and present it with all data acquired at the Midwest Anesthesia Residency Conference (MARC) and at the Housestaff Research Day at Saint Luke’s Hospital following completion of his/her project. (P, ICS, MK, PBLI)
4. Be a role model for the CA-I and CA-II residents. (P)
5. Reading the Medical Literature (MK)
   A. Structure of medical writing
   B. Approaching an article
      1. Read only what is interesting and useful
      2. Scan for a quick overview
      3. Concentrate on methods and results
      4. Reserve the right of final judgment
6. Concentrating on Methods and Results (Study Designs) (MK)
   A. Experiments
      1. Randomized clinical trials
      2. Nonrandomized clinical trials
   B. Observational analytic studies (MK)
      1. Cohort
2. Case-control
3. Ecological
C. Meta analysis and reviews
D. Case reports and series

7 Concentrate on Methods and Results (Statistics I) (MK)
A. Define patient populations (epidemiologically)
B. Describe subject populations (statistically)
   1. Normality
   2. Central tendency
   3. Variation
C. Draw inferences from populations
   1. The nature of hypothesis testing

8. Concentrating on Methods and Results (Statistics II) (MK)
A. Categorical data
   1. Chi-square
   2. Fisher’s Exact
   3. Sensitivity, Specificity, Predictive Value
B. Continuous Data
   1. Student’s t-test
   2. ANOVA
C. Multivariate analysis
   1. Regression
   2. Correlation
D. Interpretation
   1. Significance
   2. Power
   3. Type I and Type II errors
   4. P-values and confidence intervals

9. Research Projects (MK)
A. Design protocols
   1. Experimental
   2. Observational / Epidemiological
B. Conduct studies
C. Authorship
D. Submission for publication/presentation
E. Ethics

**General Core Competencies:**
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

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- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

PATIENT CARE AND PROCEDURAL SKILLS (PCPS)
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:

- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
- Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:

- Demonstrate an investigatory and analytical thinking approach to clinical situations.
- Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:

- Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
- Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
- Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
- Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
• Use information technology to manage information, access on-line medical information; and support their own education.
• Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients’ families, and professional associates. Residents are expected to:
• Create and sustain a therapeutic and ethically sound relationship with patients.
• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
• Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:
• Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
• Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
• Practice cost-effective health care and resource allocation that does not compromise quality of care.
• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

**Duration:**
Three months during the CA-II or CA-III year.

**Requirement:**
Successful completion of the CA-II Year.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

**Primary Faculty:**
Anesthesiology Laboratory (Westport Anesthesia/Missouri Endowed Research Chair). Faculty at the School of Biological Sciences - UMKC; faculty at the Department of Basic Research - UMKC School of Medicine; Faculty at the Stowers Institute for Biomedical Research; Anesthesiology faculty; Research Laboratory at Kansas City University of Medicine and Bioscience.
Resources:
Research laboratories at the UMKC School of Medicine, Stowers Institute for Biomedical Research, and the School of Biological Sciences at UMKC, Department of Anesthesiology Research Laboratory and Research Laboratories at Kansas City University of Medicine and Bioscience.

Evaluation:
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

Record Keeping:
Residents will keep track of all their data and prepare a written abstract/paper in consultation with their primary laboratory advisor and the Research Committee of the Department of Anesthesiology.

References:
4. Project references will be assigned to each resident by his/her laboratory faculty.
5. Any other reading material assigned by faculty.

Reviewed/Approved: E. Fibuch, M.D.
Title: Chairman/Program Director
Department of Anesthesiology
Date: Spring 2011
CURRICULUM
DEPARTMENT OF ANESTHESIOLOGY
RESIDENCY PROGRAM
UNIVERSITY OF MISSOURI-KANSAS CITY
SCHOOL OF MEDICINE

GENERAL GOALS/OBJECTIVES/CORE COMPETENCIES
Rotation: ADVANCED ANESTHESIA TRAINING–ADVANCED CLINICAL ANESTHESIA TRACK
Year of Training: CA-III

Unit Purpose:
The purpose of the Advanced Clinical Anesthesia Track is to provide advanced training that is distinctly a different experience than the CA-I and CA-II years, consisting of progressively more complex training experiences and increased independence and responsibility for the CA-III resident.

Cognitive Objectives:
The resident should achieve, following the completion of each individual Advanced Anesthesia subspecialty rotation, a greater depth of understanding and knowledge of:
1. All previously defined rotations’ cognitive and skill objectives. (P, PCPS, MK, ICS, PBLI, SBP)
2. A greater and more in-depth understanding of the pathophysiology of complex disease states and the anesthetic requirements needed to safely manage critically ill patients during the perioperative, intraoperative, and postoperative periods. (MK)
3. The role of leadership, management skills, and knowledge in developing a resident physician into a consultant anesthesiologist. (P, ICS)

Skills Objectives:
The resident should be able to:
1. Acquire a greater skill in regional block and other pain management techniques. (MK, PBLI)
2. Become more facile with fiberoptic bronchoscopy and transesophageal echo. (MK, PBLI)
3. Develop greater skill in taking care of patients presenting with complex disease states. (PCPS, MK, PBLI)
4. Serve as a role model for the junior residents. (P)
5. Present a paper at the Midwest Anesthesia Residents’ Conference (MARC meeting) and at the Housestaff Research Day at Saint Luke’s Hospital. (P, ICS, MK)

General Core Competencies:
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.
Statement of Purpose:
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:

- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

PATIENT CARE AND PROCEDURAL SKILLS (PCPS)
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:

- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
- Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:

- Demonstrate an investigatory and analytical thinking approach to clinical situations.
- Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:

- Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
- Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
• Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
• Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
• Use information technology to manage information, access on-line medical information; and support their own education.
• Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:
• Create and sustain a therapeutic and ethically sound relationship with patients.
• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
• Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:
• Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
• Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
• Practice cost-effective health care and resource allocation that does not compromise quality of care.
• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

Duration:
The duration of the Advanced Clinical Anesthesia Track is a 12-month experience in advanced and complex anesthesia assignments. In addition, the resident must complete an academic (scholarly) assignment.

Requirements:
1. Successful completion of the CA-II Year.
2. The Program Director, in collaboration with the resident, will design the resident’s CA-III year of training. The resident is required to complete a minimum of six months of advanced anesthesia training, which is defined as managing complex anesthetic cases in a variety of core rotations. Clinical assignments must include difficult or complex anesthesia procedures and the care of seriously ill patients. Rotations may include core and non-core rotations, but none longer than 3 months in duration.
Qualifications:
1. Satisfactory completion of the first 36 months of the anesthesia continuum.
2. Satisfactory clinical competencies reports filed with the ABA for CA-I and CA-II years of training.

Duties/Responsibilities of the Resident:
1. Achieve satisfactory monthly faculty evaluations.
2. Complete an academic project (scholarly activity) assignment.
4. Complete staff and program evaluation.
5. Maintain case records on a timely basis.
6. Participate in a minimum of 90% of the departmental conferences.

Primary Faculty:
Anesthesiology Faculty at Saint Luke’s Hospital, Truman Medical Center, and Children’s Mercy Hospital; School of Biological Science, and Department of Basic Research, UMKC School of Medicine.

Resources:
All of the operating room resources of Saint Luke’s Hospital, Truman Medical Center, Children’s Mercy Hospital, and research laboratories of the Department of Medical Research - UMKC School of Medicine, School of Biological Sciences - UMKC, and Stowers Institute for Biomedical Research.

Evaluation:
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

Record Keeping:
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all patient-related medical records.

References:


13. All reference material provided for the CA-I and CA-II years and any additional references provided by faculty.

Reviewed/Approved: E. Fibuch, M.D.
Title: Chairman/Program Director
Department of Anesthesiology
Date: Spring 2011
**Advanced Clinical - Anesthesia**  
**Graded Experience Revised 2011**

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CURRICULUM
DEPARTMENT OF ANESTHESIOLOGY
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GENERAL GOALS/OBJECTIVES/CORE COMPETENCIES
Rotation: ADVANCED ANESTHESIA TRAINING–ADVANCED CLINICAL
SCIENTIST TRACK
Year of Training: CA-III

Unit Purpose:
The purpose of the Advanced Clinical Scientist Track is to provide advanced training in the area of laboratory
science that expands on the Research/Scholarly Assignment requirement for CA-III residents. This track is intended
to provide the CA-III resident a greater exposure to laboratory science in terms of the reading, complexity, and
technical issues relating to the methodology of laboratory investigation.

Cognitive Objectives:
The resident should achieve an in-depth understanding of:
1. The research methodology. (MK)
2. Statistical tools for evaluation of data. (MK)
3. The literature as it relates to the research protocol. (MK)

Skills Objectives:
The resident should be able to:
1. Develop an investigational and innovative research project, acquire the data, analyze the data, and write an
   abstract for presentation. (MK, PBLI)
2. Statistically analyze the data and improve his/her understanding of statistics. (MK)
3. Develop the skills to write an abstract and present it with all data acquired at the Midwest Anesthesia Residency
   Conference (MARC) and at the Housestaff Research Day at Saint Luke’s Hospital following completion of
   his/her project. (MK, ICS)
4. Be a role model for the CA-I and CA-II residents. (P)

General Core Competencies:
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

Statement of Purpose:
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency
in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning
and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.
The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:

- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

PATIENT CARE AND PROCEDURAL SKILLS (PCPS)
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:

- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
- Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:

- Demonstrate an investigatory and analytical thinking approach to clinical situations.
- Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:

- Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
- Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
- Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
- Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
Use information technology to manage information, access on-line medical information; and support their own education.

Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:

- Create and sustain a therapeutic and ethically sound relationship with patients.
- Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
- Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:

- Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
- Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
- Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:

- Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
- Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
- Practice cost-effective health care and resource allocation that does not compromise quality of care
- Advocate for quality patient care and assist patients in dealing with system complexities.
- Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

**Duration:**
Twelve months, with six months spent in laboratory research and the remaining six months spent in advanced anesthesia training.

**Requirements:**
1. Successful completion of the CA-II Year.

2. The Program Director, in collaboration with the resident, will design the resident’s CA-III year of training. The resident is required to complete a minimum of 6 months of laboratory study. The remaining 6 months will be spent doing clinical assignments which will include difficult or complex anesthetic cases. Clinical rotations may include core and non-core subspecialty rotations, but none longer than 3 months.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.
**Primary Faculty:**
Faculty at the School of Biological Sciences - UMKC; faculty at the Department of Basic Research - UMKC School of Medicine; and the faculty at Kansas City University of Medicine and Biosciences.

**Resources:**
Research laboratories at the School of Biological Sciences - UMKC; research laboratories at the Department of Basic Research - UMKC School of Medicine; and the research laboratories at Kansas City University of Medicine and Biosciences.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
Residents will keep track of all their data and prepare a written abstract/paper in consultation with their primary laboratory advisor and the Research Committee of the Department of Anesthesiology.

**References:**
Project references will be assigned to each resident by his/her laboratory faculty.

**Reviewed/Approved:** E. Fibuch, M.D.
**Title:** Chairman/Program Director
Department of Anesthesiology

**Revised:** Spring 2011
### Advanced Clinical - Anesthesia
#### Graded Experience Revised 2011

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CURRICULUM
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GENERAL GOALS/OBJECTIVES/CORE COMPETENCIES
Rotation: ADVANCED ANESTHESIA TRAINING - SUBSPECIALTY ROTATIONS
As part of the Advanced Clinical Anesthesia Track and Advanced Clinical Scientist Track

Unit Purpose:
The purpose of the Advanced Clinical Anesthesia/Subspecialty rotation is to provide additional and advanced training in specific subspecialty rotations as part of the Advanced Clinical Anesthesia Track that is a distinctly different experience for the CA-III resident than he/she experienced in his/her CA-I or CA-II years. These rotations are to consist of progressively more complex training experiences and increased independence and responsibility.

Cognitive Objectives:
The resident should achieve a greater depth of experience, knowledge, and understanding of the care of patients presenting in the selected subspecialty rotations. These cognitive objectives should consist of:
1. All previously defined subspecialty rotation cognitive objectives. (P, PCPS, MK, PBLI, ICS, SBP)
2. A greater and more in-depth understanding of the pathophysiology of complex disease states and the anesthetic requirements needed to safely manage critically ill patients during the preoperative, intraoperative, and postoperative periods. (MK)
3. The role of leadership, management skills, and knowledge in developing a resident physician into a consultant. (P, ICS, PBLI, SBP)

Skills Objectives:
The resident should be able to:
1. Acquire a greater skill in regional block and other pain management techniques. (MK, PCPS, PBLI)
2. Become more facile with fiberoptic bronchoscopy and transesophageal echo. (MK, PCPS, PBLI)
3. Develop a greater skill in taking care of patients presenting with complex disease states. (PCPS, MK, ICS)
4. Serve as a role model for junior residents. (P)
5. Present a paper at the Midwest Anesthesia Residents’ Conference (MARC meeting) and at the Housestaff Research Day (Saint Luke’s Hospital). (P, MK, ICS)

General Core Competencies:
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.
**Statement of Purpose:**
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:

- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

**PATIENT CARE AND PROCEDURAL SKILLS (PCPS)**
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:

- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
- Work with health care professionals, including those from other disciplines, to provide patient-focused care.

**MEDICAL KNOWLEDGE (MK)**
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:

- Demonstrate an investigatory and analytical thinking approach to clinical situations.
- Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

**PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)**
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:

- Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
• Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
• Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
• Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
• Use information technology to manage information, access on-line medical information; and support their own education.
• Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:
• Create and sustain a therapeutic and ethically sound relationship with patients
• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
• Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:
• Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
• Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
• Practice cost-effective health care and resource allocation that does not compromise quality of care.
• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

Duration:
The duration of the Subspecialty rotation in the CA-III year is one to three months.

Requirements:
1. Satisfactory completion of the first 36 months of the anesthesia continuum.
2. Satisfactory clinical competency reports filed with the ABA for the CA-I and CA-II years.

Duties/Responsibilities of the Resident:
1. Achieve satisfactory monthly faculty evaluations.
2. Complete an academic project (scholarly activity) assignment.
3. Complete staff and program evaluations.

4. Maintain case records on a timely basis.

5. Participate in a minimum of 70% of the departmental conferences.

**Primary Faculty:**
Anesthesiology faculty at Saint Luke’s Hospital, Truman Medical Center, and Children’s Mercy Hospital.

**Resources:**
All of the operating rooms at Saint Luke’s Hospital, Truman Medical Center, and Children’s Mercy Hospital.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all of their cases and procedures for the annual report to the ACGME and ABA.

2. Residents will maintain a timely completion of all patient-related medical records.

**References:**
All previously defined reference material noted in the curriculum of the subspecialty rotations.

**Reviewed/Approved:** E. Fibuch, M.D.
**Title:** Chairman/Program Director
Department of Anesthesiology

**Revised:** Spring 2011
## Advanced Clinical - Anesthesia
### Graded Experience Revised 2011

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Unit Purpose:
The purpose of the OR management rotation is to provide the anesthesia resident with the experience and foundations in OR management as it pertains to hospital credentialing, hospital contracting, insurance contracting, standards of care, practice essentials, economics/organization/and quality control, and anesthesia department management.

Cognitive Objectives:
The resident should achieve an understanding of the following topics:
1. The operating room organization as it applies to hospital administration, surgical specialties, support staff, anesthesia and anesthetic support staff. (PCPS, MK, P, ICS, PBLI, SBP)
2. Discuss, rationale, and paradigms for case scheduling. (PCPS, MK, P, ICS, PBLI, SBP)
3. Operating room efficiency as it relates to turnover times, room utilization, preoperative and postoperative services. (PCPS, MK, P, ICS, PBLI, SBP)
4. Cost Accounting: Department contribution as it pertains to fixed versus variable operating room costs. (PCPS, MK, P, ICS, PBLI, SBP)
5. Principles and practice of daily schedule management and case supervision. (PCPS, MK, P, ICS, PBLI, SBP)
6. Daily room and responsibility management as it pertains to reimbursement by governmental and third party insurance carriers. (PCPS, MK, P, ICS, PBLI, SBP)

Skills Objectives:
The resident should be able to:
1. Complete preoperative history and physicals on scheduled OR patients including formulation of anesthetic plan, consent of plan, and description, communication, and management of plan to secondary anesthesia providers. (PCPS, MK, ICS, SBP)
2. Coordinate the care of patients as it relates to preoperative management, induction of anesthesia, regular supervisory surveillance, emergence care, and postoperative care. (PCPS, MK, ICS, SBP)
3. Coordinate the services by secondary providers and ancillary staff. (PCPS, MK, ICS, SBP)
4. Communicate effectively with colleagues, secondary anesthesia providers, nursing staff, support providers, patients, and patient families. (PCPS, MK, ICS, SBP)
**General Core Competencies:**
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

**Statement of Purpose:**
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

**PATIENT CARE AND PROCEDURAL SKILLS (PCPS)**
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:
- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
- Work with health care professionals, including those from other disciplines, to provide patient-focused care.

**MEDICAL KNOWLEDGE (MK)**
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:
- Demonstrate an investigatory and analytical thinking approach to clinical situations.
• Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
• Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
• Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
• Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
• Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
• Use information technology to manage information, access on-line medical information; and support their own education.
• Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:
• Create and sustain a therapeutic and ethically sound relationship with patients.
• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
• Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:
• Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
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• Advocate for quality patient care and assist patients in dealing with system complexities.
• Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

Duration:
One month during the CA-III year.
Requirements:
Successful completion of the CA-II.

Qualification:
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

Primary Faculty:
Anesthesiology faculty at Saint Luke’s Hospital.

Resources:
The main operating room complex at Saint Luke’s Hospital.

Evaluation:
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

Record Keeping:
1. Residents will keep track of all of their cases and procedures for the annual report to the ACGME and ABA.
2. Residents will maintain a timely completion of all patient-related medical records.

References:
3. Any other reading material assigned by faculty.

Reviewed/Approved: E. Fibuch, M.D.
Title: Chairman/Program Director
Department of Anesthesiology
Revised: Spring 2011
## OR Management - Anesthesia
### Graded Experience Revised 2011

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GENERAL GOALS/OBJECTIVES/CORE COMPETENCIES
Rotation: Transesophageal Echocardiography
Year of Training; CA – III Elective

Unit Purpose:
To provide the CA-III resident an elective month in the use and application of transesophageal echocardiography in cardiac surgical and critically ill patients.

Cognitive Objectives:
The resident should achieve an understanding of the following topics:
1. Indications for perioperative transesophageal echocardiography both intraoperatively and in the pre and postoperative periods. (PCPS, MK, P, ICS, PBLI, SBP)
2. Limitations and contradictions of transesophageal echocardiography. (PCPS, MK, P, ICS, PBLI, SBP)
3. The terminology used in transesophageal echocardiography. (PCPS, MK, P, ICS, PBLI, SBP)
4. The basic principles of transesophageal echocardiography. (PCPS, MK, P, ICS, PBLI, SBP)
5. The systematic approach to a transesophageal echocardiography examination. (PCPS, MK, P, ICS, PBLI, SBP)
6. The interpretation of the diagnostic images obtained during a transesophageal echocardiography examination. (PCPS, MK, P, ICS, PBLI, SBP)
8. Evaluation of hemodynamic instability with transesophageal echocardiography. (PCPS, MK, P, ICS, PBLI, SBP)

Skills Objectives:
The resident should be able to:
1. Use and care of the transesophageal echocardiography probe. (PC, MK, ICS, SBP)
2. Appropriate and safe insertion techniques. (PC, MK, ICS, SBP)
3. Ability to recognize and interpret the following images: (PC, MK, ICS, SBP)
   A. Left atrium
   B. Left atrial thrombus
   C. Right atrium
   D. Interatrial septum
   E. Cardiac tumors
   F. LV systolic function
   G. LV diastolic function
   H. Pulmonary venous filling patterns
I. Mitral valve – normal and abnormal
J. Tricuspid valve – normal and abnormal
K. Aortic valve – normal and abnormal
L. Pulmonic valve – normal and abnormal
M. Right ventricular function
N. Pulmonary artery
O. Aorta
P. Pericardium
Q. Perform calculations to determine valve area, cardiac output, regurgitant flow and severity
R. Hepatic veins
S. IVC/SVC artifacts
T. Normal/abnormal anatomical structures
U. Prosthetic valve pathology
V. LVOT

**General Core Competencies:**
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

**Statement of Purpose:**
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
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- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

**PATIENT CARE AND PROCEDURAL SKILLS (PCPS)**
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:
- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
• Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
• Develop and carry out patient management plans.
• Counsel and educate patients and their families.
• Use information technology to support patient care decisions and patient education.
• Perform competently all medical and invasive procedures considered essential for the area of practice.
• Provide health care services aimed at preventing health problems or maintaining health.
• Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:

• Demonstrate an investigatory and analytical thinking approach to clinical situations.
• Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:

• Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
• Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
• Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
• Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
• Use information technology to manage information, access on-line medical information; and support their own education.
• Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:

• Create and sustain a therapeutic and ethically sound relationship with patients.
• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
• Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:

• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.
SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:

- Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
- Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.
- Practice cost-effective health care and resource allocation that does not compromise quality of care.
- Advocate for quality patient care and assist patients in dealing with system complexities.
- Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

**Duration:**
One month during the CA-III year.

**Requirements:**
Successful completion of the CA-II.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

**Primary Faculty:**
Michelle Haines, M.D., and Anesthesiology Faculty.

**Resources:**
Intensive Care Unit (20 beds) at the Mid American Heart Institute.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all of their cases and procedures for the annual report to the ACGME and ABA.

2. Residents will maintain a timely completion of all patient-related medical records.

**References:**


Reviewed/Approved: E. Fibuch, M.D.
Title: Chairman/Program Director
Department of Anesthesiology
Revised: Spring 2011
Unit Purpose:
To provide the resident with two months of graded experience at Children’s Mercy Hospital in the anesthetic management of pediatric patients requiring surgical care. This experience will be designed by faculty to provide the CA-III resident more difficult and complex cases that the resident experienced as a CA-II resident.

Cognitive Objectives:
The resident should achieve an understanding of:
1. The basic pharmacology and physiology of the pediatric patient. (MK)
2. The concepts of temperature regulation. (MK)
3. Pediatric fluids, electrolytes, and nutrition. (MK)
4. Blood and blood product transfusion. (MK)
5. Cardiopulmonary resuscitation and concepts of Pediatric Advanced Life Support. (MK)
6. The preoperative evaluation and preparation in the pediatric patient. (MK)
7. The techniques for preoperative sedation in the pediatric patient. (MK)
8. Anesthesia equipment for pediatrics, including adjuncts to airway management, intravenous access, and physiologic monitoring. (MK)
9. The techniques for induction, maintenance, and emergence. (MK)
10. The use of regional anesthesia in pediatrics. (MK)
11. The special techniques, including acute normovolemic hemodilution, controlled hypotension, hypothermia, and extracorporeal membrane oxygenation (ECMO). (MK)
12. The physiology of prematurity and anesthetic considerations, including: (MK, PCPS)
   A. Necrotizing enterocolitis
   B. Perinatal hyperbilirubinemia
   C. Infant respiratory distress syndrome and role of surfactant
   D. Bronchopulmonary dysplasia
   E. Patent ductus arteriosus
   F. Anemia of prematurity
   G. Shock: sepsis, hypovolemia, and cardiogenic
   H. Neurologic: intraventricular hemorrhage, hydrocephalus, seizures, neural tube defects
13. Ventilatory support, including indications for tracheal intubation, techniques of mechanical ventilation, volume vs. pressure limited ventilation, indications for umbilical artery catheterization, interpretation of blood gases, electrolytes, and complications such as pneumonia, barotrauma. (PCPS, MK, PBLI)

14. The anesthetic management of pyloric stenosis, tracheo-esophageal fistula, omphalcele, diaphragmatic hernia. (PCPS, MK, PBLI)

15. Embryology and physiology of congenital heart disease, transposition of great vessels, VSD, ASD, tetralogy of fallot, hypoplastic left ventricle, coarctation of the aorta. (MK)

16. Down’s syndrome, Turner’s syndrome, and other chromosomal abnormalities. (MK)

17. Craniofacial abnormalities such as Pierre Robin, Treacher Collins, Apert’s, Crouzan’s syndromes, and isolated crainosynostosis. (MK)

18. Midline cleft disorders, cleft lip, palate, and associated airway considerations. (MK)

19. The postoperative care of pediatric patients, including: (PCPS, MK, PBLI)
   A. Analgesia
   B. Ventilation
   C. N & V
   D. Discharge

Skills Objectives:
The resident should be able to:
1. Conduct an inhalation induction in pediatric patients. (PCPS, P, MK, PBLI)
2. Perform an intravenous cannulation in the infant. (PCPS, PBLI)
3. Manage mask ventilation and endotracheal intubation, and the placement of an LMA in a pediatric patient. (PCPS, MK, PBLI)
4. Place a central venous access for intravenous therapy and/or invasive cardiovascular monitoring. (PCPS, MK, PBLI)
5. Place arterial lines in infants and small children. (PCPS, MK, PBLI)
6. Place and manage UAC/UVCs. (PCPS, MK, PBLI)
7. Select appropriate equipment and understand their use: (MK, PBLI)
   A. Breathing circuits
   B. Anesthesia machine
   C. Thermal control
8. Order appropriate premedication: (PCPS, MK, PBLI)
   A. Drugs
   B. Dosage
   C. Routes
   D. Vehicles
9. Select agents and techniques for pediatrics and be able to use appropriately: (PCPS, MK, PBLI)
   A. Induction agents
   B. Anesthetic agents
   C. Neuromuscular blockers
   D. Regional anesthesia
   E. Pain control

10. Order pediatric fluid therapy and blood replacement. (PCPS, MK, PBLI)

11. See Graded Experience – Pediatric Anesthesia

**General Core Competencies:**
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

**Statement of Purpose:**
During the UMKC Anesthesiology 48 month residency training continuum the Residents will achieve competency in the following six areas: 1) Patient care and procedural skills, 2) Medical knowledge, 3) Practice-based learning and improvement, 4) Interpersonal and communication skills, 5) Professionalism, and 6) Systems-based practice.

The Residency Program with the oversight of the Education and Research Committee of the Anesthesiology Department, and input from the faculty, nurses, peers and patients, will utilize the following evaluation tools:
- 360-Degree evaluation instrument
- Oral examinations for senior residents
- Written in-training examinations
- Faculty evaluations (ABA) – monthly
- Case logs
- Resident summary portfolio
- Scholarly activity – assigned
- Case presentations
- Patient satisfaction/dissatisfaction survey data
- Journal Clubs

The Education and Research Committee will review monthly, biannually, annually and at the end of the 48-month training continuum data from the above noted evaluation tools to determine whether an individual resident has achieved mastery of the six general core competencies and in each of the specified rotational competencies.

**PATIENT CARE AND PROCEDURAL SKILLS (PCPS)**
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:
- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
- Work with health care professionals, including those from other disciplines, to provide patient-focused care.

MEDICAL KNOWLEDGE (MK)
Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:
- Demonstrate an investigatory and analytical thinking approach to clinical situations.
- Know and apply the basic and clinically supportive sciences which are appropriate to the discipline of Anesthesiology.

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI)
Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:
- Analyze, practice, experience and perform practice-based improvement activities using a systematic methodology.
- Locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems.
- Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
- Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
- Use information technology to manage information, access on-line medical information; and support their own education.
- Facilitate the learning of students and other health care professionals.

INTERPERSONAL AND COMMUNICATION SKILLS (ICS)
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:
- Create and sustain a therapeutic and ethically sound relationship with patients.
- Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
- Work effectively with others as a member or leader of a health care team or other professional group.

PROFESSIONALISM (P)
Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:
- Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
- Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
- Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

SYSTEMS-BASED PRACTICE (SBP)
Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:
- Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
Know how types of medical practice and delivery systems differ from one another, including methods of controlling care costs and allocating resources.

Practice cost-effective health care and resource allocation that does not compromise quality of care.

Advocate for quality patient care and assist patients in dealing with system complexities.

Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

**Duration:**
Two months at Children’s Mercy Hospital during the CA-III year.

**Requirement:**
Successful completion of the CA-II Year.

**Qualification:**
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

**Primary Faculty:**
Barbara Ferguson, M.D. and staff at Children’s Mercy Hospital.

**Resources:**
The operating room complex at Children’s Mercy Hospital.

**Evaluation:**
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

**Record Keeping:**
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.

2. Residents will maintain a timely completion of all of their medical records.

**References:**


6. Any other reading material assigned by faculty.

**Reviewed/Approved:** E. Fibuch, M.D.

**Title:** Chairman/Program Director

**Department of Anesthesiology**

**Date:** Spring 2011
## Pediatric- Anesthesia

### Graded Experience Revised 2011

<table>
<thead>
<tr>
<th>Area of Responsibility</th>
<th>CA-2</th>
<th>CA-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Physical Examination</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Write Orders</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Complexity of cases</td>
<td>Less complex</td>
<td>More complex</td>
</tr>
<tr>
<td>Insert IV</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Insert IA</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Insert CVP, femoral, subclavian, IJ</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Insert PA catheter</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Manage ventilator</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Cardio version</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Defibrillation</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Capable of night call</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Intubation</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Fiberoptic Bronchoscopy</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Treat hypotension, hypertension</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Treat arrhythmias</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Manage fluids</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Place regional anesthesia for pain control</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Manage an anesthetic</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Postoperative visit</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Unit Purpose:
To provide the resident with one-two months of advanced graded experience in the care of both inpatients and outpatients who require pain management for a variety of medical conditions.

Cognitive Objectives:
The resident should achieve an understanding of:
1. The normal physiology and pathophysiology of pain transmission. (MK)
2. The pharmacodynamics and pharmacokinetics of commonly used analgesics, including narcotics. (MK)
3. The pharmacodynamics and pharmacokinetics of commonly used local anesthetics and other useful adjuncts in pain management, such as membrane stabilizing drugs, central alpha agonists, and antidepressants. (MK)
4. The following clinical disease states: (PCPS, MK, PBLI)
   A. Low back pain, radicular and nonradicular
   B. Postherpetic neuralgia
   C. Reflex sympathetic dystrophy - Complex Regional Pain Syndrome Type I
   D. Causalgia
   E. Phantom limb pain
   F. Diabetic peripheral neuropathy
   G. Vascular neuropathy
   H. Cancer pain
   I. Headache, both vascular and muscular
   J. Post-thoracotomy syndrome
   K. Paresthesia meralgia
   L. Soft tissue, ligamentous, bone injury, and subsequent acute pain states
   M. Spinal cord injury and spastic syndromes, including antispasmodics such as Baclofen
5. The differential diagnosis of pain syndromes. (MK, PCPS)
6. The diagnostic evaluation of pain syndromes. (PCPS, MK, PBLI)
7. The concepts of palliative pain relief in patients with terminal malignancy, including neurolytic, celiac plexus block, neuraxial narcotics. (PCPS, MK)
8. The concepts of electrical stimulation of peripheral and central neuraxis. (MK)
9. The role of physical therapy in the treatment of acute and chronic pain states. (PCPS, MK, PBLI)
10. Biofeedback and relaxation training in the management of pain. (PCPS, MK, PBLI)
11. The modalities for acute postoperative pain relief, including: (PCPS, MK, PBLI)
   A. Intravenous PCA and neuraxial analgesia
   B. Intravenous and oral analgesics, including narcotics and NSAIDS
   C. TENS units
   D. Nerve block, such as intercostals, interscalene, femoral

**Skills Objectives:**
The resident should be able to:
1. Perform a history and physical exam pertinent to the patient with complex pain symptomatology. (P, PCPS, ICS, MK)
2. Dictate and document the above exam and history. (P, PCPS, SBP, ICS)
3. Perform a broad range of peripheral nerve blocks. (PCPS, PBLI, MK)
4. Perform epidural and subarachnoid injections. (PCPS, PBLI, MK)
5. Manage implanted epidural and intrathecal catheters, ports, and infusion pumps. (PCPS, MK, PBLI, SBP)
6. Perform differential sympathetic nerve blockade. (PCPS, MK, PBLI)
7. Coordinate adjunctive therapies such as physical therapy, rehabilitation, and counseling. (P, PCPS, ICS, PBLI, SBP, MK)

**General Core Competencies:**
- patient care and procedural skills,
- medical knowledge,
- practice-based learning and improvement, and
- interpersonal and communication skills,
- professionalism,
- systems-based practice.

**Statement of Purpose:**
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- Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
- Use information technology to manage information, access on-line medical information; and support their own education.
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- Advocate for quality patient care and assist patients in dealing with system complexities.
- Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

Duration:
One-two months in both the inpatient and outpatient areas during the CA-III year.

Requirement:
Successful completion of the CA-II Year.

Qualification:
Satisfactory clinical competency report filed with the ABA prior to beginning the rotation or approval by the Department of Anesthesiology’s Education and Research Committee.

Primary Faculty:
Susan Opper, M.D. and the faculty of the Pain Management Group at St. Luke’s Hospital.

Resources:

Evaluation:
At the conclusion of the rotation, the faculty prepares a written evaluation of the resident’s performance using a standardized evaluation document which includes the assessment of the resident’s performance and submits the evaluation to the Anesthesiology Program Director.

Record Keeping:
1. Residents will keep track of all cases and procedures performed for the annual report to the ABA.
2. Residents will maintain a timely completion of all of their medical records.
References:
8. Any other reading material assigned by faculty.

Reviewed/Approved: E. Fibuch, M.D.
Title: Chairman/Program Director
       Department of Anesthesiology
Date: Spring 2011
## Pain Management/Regional
### Graded Experience Revised 2011

<table>
<thead>
<tr>
<th>Area of Responsibility</th>
<th>CA-1</th>
<th>CA-2</th>
<th>CA-3</th>
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<tbody>
<tr>
<td>History</td>
<td>Yes</td>
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<td>Physical Examination</td>
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<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Write Orders</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Complexity of cases</td>
<td>Less complex</td>
<td>More complex</td>
<td>Most complex</td>
</tr>
<tr>
<td>Insert IV</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Place an epidural steroid injection</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Perform peripheral nerve block</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Manage an implantable pump</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Manage an implantable stimulator</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
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<td>Implantable an infusion pump</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
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<tr>
<td>Implantable stimulator a stimulator</td>
<td>Observe</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
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<tr>
<td>Manage drug therapy</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/direct faculty supervision</td>
<td>Yes/graded faculty supervision</td>
</tr>
<tr>
<td>Follow-up visit</td>
<td>Yes</td>
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<td>Yes</td>
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