

Program Goals and Objectives
Department of Anesthesiology
Thomas Jefferson University
2011-12

1. Patient Care

Goals for Patient Care

Resident's should acquire clinical skills and proficiencies within appropriate training periods and ultimately demonstrate sufficient professional ability to practice without supervision as an anesthesiologist competently and independently.

Objectives

3 Months:

_____ Completed

1. Perform a complete Pre-op anesthesia consultation in PS 1 and 2 patients
2. Perform routine Pre-op machine checkout
3. Check basic monitors and ensure proper function before induction
4. Prepare induction medications and airway equipment completely
5. Transcribe relevant information from patient chart in the Pre-op holding area
6. Identify patient using hospital protocol
7. Administer and records pre-op antibiotic at appropriate time
8. Examine airway using acceptable criteria
9. Place IV in ≤ 2 attempts
10. Calculate proper dosage for common induction agents
11. Assess muscle relaxant accurately with twitch monitor
12. Demonstrate acceptable mask ventilation skill: proper head position, mask placement, and hand-bag ventilation
13. Demonstrate acceptable intubation skills: laryngoscopy, intubation, tube placement, and confirmation of tube placement
14. Distinguish between adequate and inadequate ventilation
15. Competently perform induction in PS 1-2 patient
16. Competently assess extubation criteria and performs extubation in PS 1-2 patients

6 Months:

_____ Completed

1. Effectively identify a difficult airway
2. Insert an LMA (Brain Video Technique)
3. Set-up and correctly use the anesthesia ventilator in volume control or pressure control mode in a PS 1 or 2 patient
4. Demonstrate adequate adjunctive mask ventilation skills: CPAP, jaw thrust maneuver, oral airway placement, and/or nasal airway placement
5. Correctly zero pressure transducer
6. Set-up Hotline fluid warmer

7. Change regulator on Oxygen tank
8. Program volumetric Infusion Pump
9. Prepare triple transducer for pressure monitoring

12 Months: _____ Completed

1. Assess sedation using Ramsay scale or Observers Assessment of Alertness/Sedation
2. Transfuse blood and blood components safely: Checks each unit, Uses correct filter
3. Adjust drug doses for age and sickness
4. Appropriately assess extubation criteria for PS 3-4 patients
5. Prepare fiber optic bronchoscope for use in awake intubation
6. Use Glidescope to intubate
7. Use Elastic Bougie to intubate
8. Use or review use of Intubating LMA (online video)
9. Perform an awake/sedated intubation
10. Use Transport monitor
11. Demonstrate or use Transesophageal pacing
12. Demonstrate or use Transcutaneous pacing
13. Calculate Local anesthetic toxicities
14. Program syringe infusion pumps

Yearly POCT Certifications:

- | | |
|-----------------------------|-----------------|
| 1. Glucometer certification | _____ Completed |
| 2. HemoCue certification | _____ Completed |
| 3. ACT certification | _____ Completed |

CA 2 and CA 3 Subspecialty Skills

General OR

CA 2: Manage, complete computer-based simulation, or interactively discuss with attending, the diagnosis and treatment for:

- | | |
|---|-----------------|
| 1. Allergic reaction to a medication | _____ Completed |
| 2. Acute myocardial ischemia | _____ Completed |
| 3. Airway obstruction | _____ Completed |
| 4. Bronchospasm | _____ Completed |
| 5. Pulmonary edema | _____ Completed |
| 6. Failed intubation | _____ Completed |
| 7. Supra ventricular tachycardia | _____ Completed |
| 8. Ventricular fibrillation | _____ Completed |
| 9. Ventricular tachycardia | _____ Completed |
| 10. Malignant hyperthermia: newly diagnosed | _____ Completed |
| 11. Severe hypertension | _____ Completed |

CA 3: Manage or Define Protocol for peri-operative management of patients requiring:

- | | |
|---|-----------------|
| 1. Peri-operative Beta blocker administration | _____ Completed |
| 2. Intra-operative insulin infusion | _____ Completed |
| 3. Pre-op insulin management | _____ Completed |

4. Peri-operative hypertension therapy _____Completed
5. Peri-operative management of permanent pacer _____Completed
6. Peri-operative management of ICD _____Completed

Spine Surgery _____Completed

1. Insert arterial line using aseptic/sterile technique in PS 1 or 2 patient
2. Effectively manage blood pressure in a spine surgery patient at risk for spinal cord ischemia
3. Turn patient from supine to prone and effectively maintain head-axial spine stability
4. Evaluate pressure points in prone position
5. Observe neurophysiologic monitoring techniques: SSEP's, MEP's
6. Skillfully prepare and manipulate fiber optic bronchoscope

ENT Surgery _____Completed

1. Difficult airway anesthetic induction
2. Place NIMs ET tube
3. Maintain inhalation anesthetic with no muscle relaxant
4. Manage anesthetic when OR bed repositioned 180° away from anesthesia machine

PACU _____Completed

1. Interpret post-operative chest x-ray
2. Interpret post-operative ECG
3. Write orders for post-op pain management
4. Set-up an epidural infusion pump
5. Demonstrate an airway rescue technique

Obstetric Anesthesia _____Completed

1. Identify lumbar epidural space \leq 15 minutes in a laboring parturient
2. Accurately measure epidural catheter depth
3. Administer an appropriate dose of intrathecal opioid
4. Accurately assess epidural analgesic level
5. Use effective left uterine displacement
6. Accurately identify variable decelerations on Fetal Heart Rate monitor
7. Provide anesthesia for a post-partum tubal ligation
8. Perform spinal anesthesia for cesarean section
9. Assess spinal anesthetic level
10. CA 3 Identifies lumbar epidural space \leq 5 minutes in a laboring parturient
11. CA 3 Accurately interprets all heart rate patterns on Fetal Heart Rate monitor

Pediatric Anesthesia _____Completed

1. Establish and maintain the pediatric airway, including: mask ventilation, endotracheal intubation, and anesthesia ventilator management in routine pediatric cases.
2. Obtain intravenous access in routine pediatric patients > 2 years of age.
3. CA 3 Competently performs routine caudal block, caudal catheterization, and Ilioinguinal/Iliohypogastric nerve blocks with assistance.
4. CA 3 Competently performs invasive monitoring techniques of arterial catheterization and placement of central access with assistance.

Neurosurgical Anesthesia _____Completed

1. Interpret an MRI or CT of head and identify: tumor density, cerebral edema, midline shift, and ventricular compression
2. Attach and test a pre-cordial Doppler
3. Determine CVP position using intra-atrial ECG or CxRay
4. Perform an IV induction in a patient with increased ICP
5. Use or describe treatment algorithm for increased ICP
6. Use or describe treatment algorithm for venous air embolism

Cardiac Anesthesia

CA 2 _____Completed

1. Set-up Heart room adequately for routine CABG
2. Insert Arterial line using aseptic technique
3. Set-up and zero Transducers
4. Perform thermodilution cardiac output
5. Perform ACT measurement
6. Perform blood glucose measurement using glucometer
7. Interpret various chest radiographs and identify: heart size, pulmonary edema, pleural effusion, and PA catheter position
8. Adjust ST-T wave measurement points
9. Place an IJ central venous line using: pre-procedure ultrasound, real-time ultrasound, and landmark technique
10. Properly position a PA catheter using waveforms
11. Measure PAOP
12. Set-up and program an infusion pumps for the following medications:
13. Epinephrine, Phenylephrine, NTG, Propofol, Insulin
14. Set-up a temporary pacemaker for A-V pacing

CA 3 _____Completed

1. Place TEE probe
2. Set-up transcutaneous pacemaker
3. Perform TEE basic exam
4. Set-up infusion pumps for therapeutic delivery of: Milrinone, Norepinephrine, Vasopressin, and Amiodarone
5. Define operation for use of Cardiac defibrillator
6. Abiomed reviewed: <http://www.AbioMed.com/Fvideo.html>
7. Identify correct timing for Intra-aortic balloon pump

Thoracic Surgery _____Completed

1. Place Thoracic epidural catheter
2. Perform or describe Intercostal Nerve Block
3. Place Double lumen ET tube
4. Use Bronchoscope for DL tube positioning
5. Establish and manage One-lung ventilation
6. Demonstrate use of CPAP to non-ventilated lung

Ambulatory Surgery _____Completed

1. Effectively manage a normal airway
2. Insert an LMA
3. Administer Nausea/Vomiting prophylaxis

Vascular Surgery _____ Completed

1. Calculate and administer appropriate heparin dose
2. Place arterial cannula
3. Describe algorithm or manage hemodynamics before, during, and after aortic cross clamping in open AAA repair
4. Identify or describe acceptable EEG for cortical monitoring during carotid cross clamping

Regional Anesthesia _____ Completed

1. Maintain conscious sedation used as adjunct to regional anesthesia safely
2. Performs nerve blocks using safe technique: stabilizes and controls needle, aspirates for blood, recognizes painful injection, recognizes increased pressure with injection.
3. Insert lumbar epidural catheter in an orthopedic patient
4. Perform spinal anesthetic in orthopedic surgery patient
5. Perform upper extremity nerve block
6. Perform lower extremity nerve block
7. Perform airway nerve block

CA 3

1. Perform a lumbar spinal anesthetic \leq 5 minutes

2. Medical Knowledge

Goals for Medical Knowledge

Residency should be devoted to increasing your medical knowledge with the ultimate goal of becoming a Consultant in Anesthesiology. This should be accomplished through: 1) reading assigned materials, 2) going to conferences and 3) utilizing self-study resources

Objectives

Refer to:

Reference Text: **Clinical Anesthesia, 6th Ed** by Barash, Cullen, Stoelting, Cahalan, Stock

3-year cycle

Month 1

Introductory Lecture Series

Month 2

Chapter 1: History of Anesthesia

Chapter 2: Scope of Practice

Chapter 3: Occupational Health

Chapter 4: Anesthetic Risk, Quality Improvement and Liability

Chapter 5: Mechanisms of Anesthesia and Consciousness

Month 3

Chapter 29: Airway Management

Chapter 6: Genomic Basis of Perioperative Medicine

Chapter 23: Preoperative Patient Assessment and Management

Chapter 27: Standard Monitoring Techniques

Month 4

Chapter 26: The Anesthetic Workstation and Delivery Systems

Chapter 7: Pharmacologic Principles

Chapter 9: Experimental Design and Statistics

Month 5

Chapter 17: Inhaled Anesthetics

Chapter 18: Intravenous Anesthetics

Chapter 19: Opioids

Chapter 20: Neuromuscular Blocking Agents

Month 6

Chapter 22: Drug Interactions

Chapter 21: Local Anesthetics

Chapter 37: Epidural and Spinal Anesthesia

Chapter 38: Peripheral Nerve Blockade

Month 7

Chapter 10: Cardiovascular Anatomy and Physiology

Chapter 11: Respiratory Function

Month 8

Chapter 12: Immune Function and Allergic Response

Chapter 13: Inflammation, Wound Healing and Infection

Month 9

Chapter 14: Fluids, Electrolytes, and Acid-Base Physiology

Chapter 15: Autonomic Nervous System

Chapter 16: Hemostasis and Transfusion Medicine

Month 10

Chapter 30: Patient Positioning and Related Injuries

Chapter 31 Monitored Anesthesia Care

Chapter 32: Ambulatory Anesthesia

Month 11

Chapter 24: Malignant Hyperthermia and Other Inherited Disorders

Chapter 25 Rare and Coexisting Diseases

Month 12

Chapter 35: Anesthesia for the Older Patient

Chapter 36: Anesthesia for Trauma and Burn Patients

Month 13

Chapter 39: Anesthesia for Neurosurgery

Chapter 51 Anesthesia for Ophthalmologic Surgery

Month 14

Chapter 40: Anesthesia for Thoracic Surgery

Chapter 42: Anesthesia for Vascular Surgery

Month 15

Chapter 41: Anesthesia for Cardiac Surgery

Chapter 28: Echocardiography

Month 16

Chapter 43: Obstetrical Anesthesia

Chapter 49: Endocrine Function

Month 17

Chapter 44: Neonatal Anesthesia

Chapter 45: Pediatric Anesthesia

Month 18

Chapter 46: Gastrointestinal Disorders

Chapter 47: Anesthesia and Obesity

Month 19

Chapter 48 Hepatic Anatomy, Function and Physiology

Chapter 54 Transplant Anesthesia

Month 20

Chapter 50: Anesthesia for Otolaryngologic Surgery
Chapter 52: Renal System and Anesthesia for Urologic Surgery
Chapter 53 Anesthesia for Orthopedic Surgery

Month 21

Chapter 55: Post Anesthesia Recovery
Chapter 56: Critical Care Medicine
Chapter 57: Acute Pain Management
Chapter 58: Chronic Pain Management

Month 22

Chapter 33: Office-Based Anesthesia
Chapter 34: Anesthesia Provided at Alternate Sites

Month 23

Chapter 8: Electrical and Fire Safety
Chapter 60: Disaster Preparedness

Month 24

Chapter 59: Cardiopulmonary Resuscitation
Appendix: Electrocardiography

Months 25-36

Review All Chapters with: Review of Clinical Anesthesia Connelly, Neil R.; Silverman, David G. 5th Edition

CA 3 Goal for Knowledge: Apply factual knowledge to solve anesthetic management problems associated with independent practice.

CA 3 Objectives

1. Answer > 50% of factual questions related to assigned cases
2. Make decisions based on established (referenced) medical knowledge
3. Achieve > 25th percentile in AKT tests and the ABA In-training exams
4. Increase scaled scores in ABA In-training exams each year
5. Write an anesthetic plan that includes risk assessment and management of a patient with a) insulin dependent diabetes, b) severe hypertension, and c) coronary artery disease

3. Practice-based Learning and Improvement

CA1 Goals: Participate in activities that promote growth in practice-based learning and improvement: residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices.

CA 1 Objectives:

1. Participate in a mentored Research project
2. Complete QI Improvement Worksheet with References
3. Participate in Journal Club

CA 2 Goals: Participate in more advanced activities that promote growth in practice-based learning and improvement: residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices.

CA 2 Objectives:

4. Pass IRB Certification exam
5. Volunteer to mentor a medical student
6. Attend Regional Educational Conferences
7. Research a Key Word Topic using on-line resources

CA 3 Goals: Residents should have the ability to appraise and apply scientific evidence to patient care activities for the purpose of improving skill and influencing positive outcomes.

CA 3 Objectives:

1. Reference an available resource such as a textbook, journal article, or web-based information source as a basis for making a clinical management decision.
2. Critically analyze or assess a clinical research article
3. Improve a clinical skill through self-assessment, reading and research, and re-assessment.
4. Publish or assist in publishing an abstract, manuscript, review article, or book chapter
5. Publish or update a clinical practice Procedural Analysis on the Wiki site

4. Interpersonal and Communication Skills

Residents should develop effective work habits such as neatness and organization as well as demonstrate an ability to communicate and work effectively with patients and colleagues.

CA 1 Goals: Participate in activities to promote the growth of Interpersonal and Communication Skills:

CA 1 Objectives:

1. Oral presentation of Core Conference Lecture
2. Oral presentation of research paper
3. Participate in Mock Oral Exam
4. Present in M&M, QI Improvement Conference
5. Participate in Stress Management Conferences

CA 2 Goals: Participate in more advanced activities to promote the growth of Interpersonal and Communication skills:

CA 2 Objectives:

6. Participate in departmental Communication Skills Workshop
7. Completion of On-line course at <http://jeffline.jefferson.edu/jeffcme/riskmgmt/>
8. Module 3 - Disclosure of Serious Events

CA 3 Goals: Participate in more advanced activities to promote use of Interpersonal and Communication skills in independent practice:

CA 3 Objectives:

1. Speak clearly and communicate complete ideas succinctly
2. Demonstrate good listening skill with empathy and compassion while interviewing a patient
3. Maintain a neat and organized work environment as judged by a colleague or superior
4. Maintain an accurate and complete Anesthesia Record
5. Answer patient questions in a manner that increases their understanding
6. Communicate with all members of the patient care team without conflict

5. Professionalism

CA 1 Goals: Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents should exhibit professional behavior at all times.

CA 1 Objectives: Participate in the following activities to promote growth in Professionalism

1. Perform all assigned evaluations of faculty, program, and subspecialties voluntarily
2. Quality Improvement cases reported to attending physician and chief resident
3. Present at TJU conference or major meeting upon request
4. Voluntarily perform ACGME Case Log entry at least once every month
5. POC Courses and Certification Exams performed upon request
6. Complete on-line Health Stream Tests voluntarily
7. Obtain annual TJU Employee Health ppd test upon request
8. Fill out Dean's Office survey upon request

CA 2 Goals: Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents should exhibit professional behavior at all times.

CA 2 Objectives: Participate in the following activities to promote growth in Professionalism

9. Perform all assigned evaluations of faculty, program, and subspecialties voluntarily
10. Quality Improvement cases reported to attending physician and chief resident
11. Present at TJU conference or major meeting upon request

12. Voluntarily perform ACGME Case Log entry/verification at least once every month
13. POC Courses and Certification Exams performed upon request
14. Complete on-line Health Stream Tests voluntarily
15. Obtain annual TJU Employee Health ppd test upon request
16. Fill out Dean's Office survey upon request

CA 3 Goals: Demonstrate the “Essential Attributes” of an anesthesiologist, as described by the American Board of Anesthesiology, at all times and function as role models for CA 1 and CA 2 residents:

CA 3 Objectives:

1. Demonstrate high standards of ethical and moral behavior.
2. Demonstrate honesty, integrity, reliability, and responsibility.
3. Learn from experience; know limits.
4. React to stressful situations in an appropriate manner.
5. Have no documented current abuse of alcohol or illegal use of drugs.
6. Have no cognitive, physical, sensory or motor impairment that precludes acquiring and processing information in an independent and timely manner or independent responsibility for any aspect of **anesthesiology** and/or pain medicine.
7. Demonstrate respect for the dignity of patients and colleagues, and sensitivity to a diverse patient population.
8. Have no restriction, limitation or revocation of license to practice medicine.

6. Systems-based Practice:

CA 1 Goals: 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.

CA 1 Objectives:

The following is a list of activities to promote growth in Systems-based practice.

1. Follow the institutional protocol for identifying the patient in the holding area.
2. Administer and record pre-operative antibiotics given within 1 hour of incision.
3. Utilize institution-defined asepsis protocols during the insertion of arterial lines and central venous access lines.
4. Actively participate in an institutional emergency or disaster drill
5. Maintain ACLS certification throughout residency
6. Maintain ATLS certification throughout residency
7. Obtain Pyxis Certification
8. Perform monthly ACGME Case Log Entry
9. Perform yearly Health Stream Courses and Tests
10. Complete QI Improvement Worksheets with Systems-based problems analysis

CA 2 Goals: 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.

CA 2 Objectives:

The following is a list of activities to promote growth in Systems-based practice.

11. Follow the institutional protocol for identifying the patient in the holding area.
12. Administer and record pre-operative antibiotics given within 1 hour of incision.
13. Utilize institution-defined asepsis protocols during the insertion of arterial lines and central venous access lines.
14. Actively participate in an institutional emergency or disaster drill
15. Maintain ACLS certification throughout residency
16. Maintain ATLS certification throughout residency
17. Obtain Pyxis Certification
18. Perform monthly ACGME Case Log Entry
19. Perform yearly Health Stream Courses and Tests
20. Complete QI Improvement Worksheets with Systems-based problems analysis

CA 3 Goals: Residents must demonstrate the ability to effectively call on system resources to provide care in the setting of independent practice.

CA 3 Objectives

1. List 3 key individuals in leadership positions within “Jefferson”
2. Discuss one instance in which you functioned as a patient advocate
3. Discuss the relative costs of routine anesthetics
4. Discuss one instance in which you analyzed your anesthetic practice
5. Complete On-line courses at <http://jeffline.jefferson.edu/jeffcme/riskmgmt/>
 - a. Module 1 - Proactive Documentation
 - b. Module 2 - Learning from Closed Cases