

VALA CARDIAC ANESTHESIA GOALS AND OBJECTIVES

GOALS	EDUCATIONAL OBJECTIVES	CLINICAL RESPONSIBILITIES / ACTIVITIES	EVALUATIONS
<p>Patient Care: To provide the resident with clinical experience in the anesthetic management of adults cardiac and thoracic surgical patients that is compassionate, appropriate, and effective.</p> <p>By the end of the rotation the resident should be able to, with minimal intervention by the faculty anesthesiologist, provide appropriate anesthetic care (from preoperative assessment to post-anesthetic follow-up) for adult patients undergoing typical cardiac as well as intrathoracic noncardiac surgical procedures.</p>	<ol style="list-style-type: none"> 1. To acquire skills in: <ol style="list-style-type: none"> a) Placement of arterial catheter b) Placement of pulmonary artery catheter c) Transesophageal echo d) Double Lumen Intubation e) Flexible Fiberoptic Intubation 2. Anesthetic management of adult patients having: <ol style="list-style-type: none"> a) Coronary artery bypass surgery b) Valvular heart surgery c) Mediastinoscopy d) Thoracotomy with pulmonary resection. 3. Equipment, Drugs, & Supplies: <ol style="list-style-type: none"> a) select and prepares all equipment, supplies, and drugs needed. This can include preparing a double-lumen endotracheal tube, setting up the fiberoptic laryngobronchoscope and light source, and setting up equipment needed to treat hypoxemia encountered during one-lung ventilation. b) demonstrate skill and safety in performing radial and pulmonary artery catheterizations. c) perform basic troubleshooting of cardiac monitoring equipment, particularly electrocardiographic and invasive hemodynamic monitoring equipment. 4. Induction of Anesthesia: <ol style="list-style-type: none"> a) conduct an organized and controlled anesthetic induction. b) skillfully navigate through common potential problems, such as myocardial oxygenation dysfunction, valvular disease, fluid shifts, drug effects, etc), and check wall rigidity. 	<ol style="list-style-type: none"> 1. A one month rotation on the service will include daily clinical assignments of a cardiac case with an attending cardiac anesthesiologist. Typically one resident is assigned to this cardiac rotation every month. 2. The UCLA Program Director will schedule residents to the VA Los Angeles for a one-month rotation. Residents may opt for additional training as an elective during their CA-3 year of training. 3. Residents will be scheduled to train Monday through Friday and participate in the call schedule on weekdays and weekends. 4. The resident will deliver a well-organized and concise (5-15 minutes) preoperative assessment and anesthetic management plan to the attending anesthesiologist. The assessment includes an accounting of key aspects of history, physical examination, and laboratory data, and a rational evaluation of those data; it focuses on the patient's cardiac assessment (including angiographic, echocardiographic, and other studies) but also includes other medical and surgical 	<ol style="list-style-type: none"> 1. Monthly on-line faculty evaluations. 2. Quarterly meeting with program director.

	<p>c) demonstrate skill and safety in double-lumen endotracheal intubation, including the use of auscultation and other signs to ascertain the tube position, as well as the use of the fiberoptic laryngobronchoscope to achieve effective one-lung ventilation.</p> <p>5. Intraoperative Management (Pre-bypass, Bypass, Post-bypass):</p> <p>a) conduct the intraoperative management with appropriate attention to depth of anesthesia, level of surgical stimulation, possibility of awareness, needs of the surgical team, and cardiovascular, pulmonary, and other organ system functioning.</p> <p>b) appropriately manage critical events during the pre-bypass period (e.g., “sag” during skin preparation and draping, sternotomy, pericardiotomy, aortic and right atrial manipulation and cannulation, anticoagulation), the bypass period (e.g., initiation of bypass, aortic crossclamping and cardioplegia delivery, hypothermia and arrest, cerebral protection, rewarming, air evacuation), and the post-bypass period (e.g., hemodynamic instability, reversal of anticoagulation, bleeding).</p> <p>c) appropriately diagnose and manage such critical incidents as signs of myocardial ischemia (on EDG, PA waveform, or TEE) and inadequate anticoagulation.</p> <p>d) appropriately diagnose and manages such critical events as hypoxemia related to the established of one-lung ventilation.</p> <p>6. End of Intraoperative Management/Initiation of ICU Care:</p> <p>a) Skillfully conduct the end of the intraoperative management period, the transport of that patient to the ICU, and the transfer of patient care to the critical care team.</p>	<p>diagnoses of importance to anesthetic management. The plan includes a consideration potential issues and problems during all phases of the anesthetic management, including pre-anesthetic medication, placement of invasive and other monitors, induction, cardiopulmonary bypass (preparation for, initiation of, conduct of, and termination of), one-lung ventilation, management of hypoxemia, patient transport, anesthetic emergence, and post-anesthetic care.</p>	
<p>Medical Knowledge: To acquire the clinical and applied science knowledge pertinent to the management of the cardiac and thoracic surgical patient.</p>	<p>1. Basic Science Knowledge</p> <p>a) Improved understanding of the physiology of normal and pathologic cardiovascular system</p> <p>b) Knowledge of the pharmacology of anesthetic agents and their effects on the cardiovascular system, drugs commonly used in the treatment of heart disease, and their interaction with anesthetic drugs</p> <p>c) Understand the pathogenesis, diagnosis and treatment of cardiac dysrhythmias.</p> <p>d) Understanding of hemostatic changes that occur with cardiopulmonary bypass.</p> <p>e) Understanding of the blood products and drugs used to improve coagulation.</p> <p>f) Thoracic anatomy.</p> <p>g) Respiratory physiology and function.</p> <p>h) Effects of thoracic surgery positioning, one lung ventilation, and the open chest on respiratory physiology.</p> <p>i) Preoperative respiratory preparation.</p> <p>2. Clinical Knowledge</p> <p>a) Interpretation of invasive monitoring lines (arterial, central and pulmonary artery).</p> <p>b) Understanding of cardiopulmonary bypass and its anesthetic implications.</p> <p>c) Transesophageal echocardiography.</p>	<p>1. Document preanesthetic evaluations on all patients.</p> <p>2. Individual supervision and instruction in the operating room.</p> <p>3. Directed independent study.</p> <p>4. Discuss topics listed under Educational Objectives with the supervising faculty daily on a one-on-one basis as determined by the cases of the day.</p> <p>5. In addition to significant teaching during the supervised case, residents will participate in a monthly journal club and a monthly TEE workshop. There is a weekly M&M, combined surgical, cardiology and anesthesia conferences in conjunction with cardiac faculty.</p>	<p>1. Monthly on-line faculty evaluations.</p> <p>2. Self evaluations.</p> <p>3. Quarterly meeting with program director.</p>

	<p>d) Management goals for rigid and flexible bronchoscopy, including jet ventilation.</p> <p>e) Management of one lung ventilation.</p> <p>f) Anesthetic management for mediastinoscopy.</p> <p>g) Anesthetic management for esophageal surgery.</p> <p>h) Postoperative pain management in thoracic surgery patients.</p> <p>i) Early complications of thoracic surgery.</p>		
<p>Practice Based Learning: To be able to investigate and evaluate their own patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices.</p>	<ol style="list-style-type: none"> 1. Use information technology, on-line resources, expert consultation, and primary texts to expand their knowledge base. 2. Learn to critically evaluate the cardiac anesthesia literature. 3. Apply scientific evidence to decision making. 4. Compare evidence-based practice to commonly taught experience based decision making to develop a personal practice strategy. 5. Understand how to assess the impact of one's actions on outcomes. 	<ol style="list-style-type: none"> 1. Obtain feedback from the supervising faculty. 2. Review and discuss scientific literature with the supervising faculty. 	<ol style="list-style-type: none"> 1. Daily faculty-resident interaction in the operating room. 2. Self evaluations. 3. Monthly on-line faculty evaluations. 3. Quarterly meeting with program director.
<p>Interpersonal and Communication Skills: To be able to demonstrate communication skills that result in effective information exchange and appropriate interaction with colleagues, surgeons, patients, and ancillary personnel</p>	<ol style="list-style-type: none"> 1. Understand the importance of effective communication between the anesthesiologist and the cardiothoracic surgeon, OR, ICU and PACU staff. 2. Learn effective communication techniques during periods of stress in order to decrease patient and family anxiety. 3. Demonstrate the ability to effectively communicate concerns with surgeons. 4. To learn strategies and techniques for teaching medical students the principles of anesthesiology. 	<ol style="list-style-type: none"> 1. The resident will discuss with the patient and family the anesthetic plan as well as risks with respect to the planned surgical procedure and the patient's pre-existing condition. 2. Discuss the preanesthetic evaluation and plan with the supervising faculty and pertinent members of the health care team. 3. Modeling by the cardiac anesthesia faculty 4. The resident will provide consultation to the surgical team on the management of the postoperative problems as needed, and continues to follow the patient as necessary (up to 72 hours or more) to assess anesthetic-related complications. 5. He/she keeps the attending anesthesiologist apprised of any postoperative developments, and enters detailing electronic post-anesthesia follow-up notes in DHCP. 6. Participate in teaching medical students in the operating room. 	<ol style="list-style-type: none"> 1. Daily faculty-resident interaction in the operating room. 2. Monthly on-line faculty evaluations. 3. Feedback from medical students. 4. Quarterly meeting with program director.

<p>Professionalism: Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.</p>	<ol style="list-style-type: none"> 1. Demonstrate compassionate and respectful behaviors when interacting with patients and their families. 2. Learn communication techniques with patients and families of different cultural backgrounds who possibly speak little English. 3. Demonstrate sensitivity to patients various age, gender, ethnic, and religious backgrounds. 4. Understand the legal and ethical issues involved in patient consent. 5. Demonstrate a commitment to advocating patient care that is appropriate for their individual needs. 6. Adhere to institutional and departmental standards and policies. 7. Demonstrate ability to appropriately take on, share and delegate patient care responsibilities. 8. Demonstrate the ability to effectively balance one's own personal affairs with clinical and educational duties as outlined in this document. 9. Demonstrate a commitment to ongoing professional development. 10. Learn how to discuss and record cases with complications and/or poor outcomes. 	<ol style="list-style-type: none"> 1. Modeling by the cardiac anesthesia faculty 2. Attend conferences where many of these issues are discussed. 	<ol style="list-style-type: none"> 1. Daily faculty-resident interaction in the operating room. 2. Monthly on-line faculty evaluations. 3. Quarterly meeting with program director.
<p>Systems Based Medicine: To be familiar with 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.</p>	<ol style="list-style-type: none"> 1. Learn the cost of the drugs, monitoring equipment and overall procedures involved in surgical care. 2. Understand how to do cost analysis for health care systems 3. Understand the complex systems that form the foundation for care of patients suffering from various diseases. 4. Learn how to effect improved operating room efficiency safely. 5. Appreciate the complex interactions that go on between primary care teams, surgeons and anesthesiologist in the overall hospital management of these complex patients. 6. Learn how to effectively use information management in the preoperative evaluation. 	<ol style="list-style-type: none"> 1. Interact with surgical, intensive care, and nursing services in a unique environment, which will require sensitivity to structured and multidisciplinary, simultaneous patient care. 2. Provide consultation to the surgical team on the management of the postoperative problems as needed, and continue to follow the patient as necessary (up to 72 hours or more) to assess anesthetic-related complications. 3. He/she keeps the attending anesthesiologist apprised of any postoperative developments, and enters detailing electronic post-anesthesia follow-up notes in DHCP. 	<ol style="list-style-type: none"> 1. Daily faculty-resident interaction in the operating room. 2. Monthly on-line faculty evaluations. 3. Quarterly meeting with program director.