

RONALD REAGAN UCLA MEDICAL CENTER BASIC NEUROANESTHESIA 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 patients undergoing surgical treatment of diseases of the central nervous system and spine that is compassionate, appropriate, and effective.</p>	<p>To acquire skills in:</p> <ol style="list-style-type: none"> 1. Placement of invasive monitoring lines, including IV access, arterial, and central venous lines (subclavian vein, internal jugular vein and antecubital veins). 2. Utilizing new imaging modalities for the placement of central venous catheters. 3. EKG localization central venous catheters 4. Doppler probe placement for detection VAE 5. Intracranial pressure monitoring including modalities, waveform evaluation, and indication for therapeutic intervention. 6. Fiberoptic intubation techniques 7. Positioning considerations (prone, lateral, sitting, parkbench) 8. Induction of anesthesia in patients with intracranial hypertension. 9. Management of patients undergoing supratentorial tumor resection. 10. Management of patients undergoing posterior fossa craniotomy surgery. 11. Management of patients undergoing neuroendocrine surgery. 12. Management of patients undergoing surgery for treatment of seizure disorders. 13. Management of patients undergoing major spine surgery. 	<ol style="list-style-type: none"> 1. There are three residents on the neuroanesthesia service each month. 2. The educational objective of the CA 1 and CA2 clinical experience encompasses preoperative evaluation, formulation of anesthetic plans, monitoring decisions, intraoperative management, emergency and postoperative management of patients undergoing anesthesia for neurosurgical procedures. 3. Clinical assignments are based on level of training and progress during the rotation. The individual residents experience and educational needs are an important factor in case assignment. 4. Residents may participate in simulation. 	<ol style="list-style-type: none"> 1. Monthly on-line faculty evaluations. 2. 360 evaluations. 3. Quarterly meeting with program director.
<p>Medical Knowledge: To acquire the basic clinical and applied science knowledge pertinent to the management of the neurosurgical patient.</p>	<p>Basic Science Knowledge</p> <ol style="list-style-type: none"> 1. Basic neuroanatomy 2. Cerebral blood flow and metabolism 3. CSF dynamics 4. Pathophysiology of intracranial hypertension 5. Neurophysiologic monitoring 	<ol style="list-style-type: none"> 1. Document preanesthetic evaluations on all patients. 2. Individual supervision and instruction in the operating room. 3. Directed independent study. 4. Attend annually scheduled lectures. 	<ol style="list-style-type: none"> 1. Monthly on-line faculty evaluations. 2. Quarterly meeting with program director.

- a) Effects of anesthetic agents
- b) Basic concepts EEG: Depth of anesthesia, ischemia, burst suppression

Clinical Knowledge

1. Anesthesia for supratentorial tumor resection
 - a) Preoperative evaluation
 - b) Anesthetic plan
2. Management of intracranial hypertension
 - a) Pharmacologic intervention
 - b) Management of ventilation
 - c) Positioning
 - d) Surgical intervention
3. Intracranial pressure monitoring
 - a) Modalities
 - b) Waveform evaluation
 - c) Indication for therapeutic intervention
4. Anesthesia for intracranial vascular disease
 - a) Multi system sequelae of SAH
 - b) Vasospasm: pathophysiology, prevention, treatment
 - c) Intraoperative management
 - d) Controlled hypotension
 - e) Controlled hypertension
 - f) Brain protection
 - g) Moderate Hypothermia
5. Posterior fossa craniotomy
 - a) Monitoring brain stem integrity
 - b) Sitting position
 - c) Venous air embolism
 - i Monitoring
 - ii Detection
 - iii Management
6. Anesthesia for major spine surgery
 - a) Management of spinal shock
 - b) Management of autonomic hyperreflexia
 - c) Pharmacologic therapy acute spinal injury
7. Anesthesia for surgical treatment of seizure disorder
 - a) Anesthetic interactions anticonvulsants
 - b) Anticonvulsant toxicity
 - c) Intraoperative mapping procedures
8. Anesthesia for patients with neuroendocrine disease
 - a) Assessment of preoperative endocrine evaluation
 - b) Implications neuroendocrine disorders for anesthetic management
 - c) Diagnosis and treatment of diabetes insipidus

5. Attend resident simulation.
6. 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>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 neuroanesthesia 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. 3. Participate in departmental Q/A. 4. Attend faculty lectures on statistics and critical literature evaluation 5. Attend resident simulation. 	<ol style="list-style-type: none"> 1. Daily faculty-resident interaction in the operating room. 2. Self evaluations. 3. Monthly on-line faculty evaluations. 4. 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 surgeon, neurophysiologists, 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. Learn strategies and techniques for teaching medical students the principles of neuroanesthesia. 	<ol style="list-style-type: none"> 1. Modeling by the neuroanesthesia faculty 2. Interact with patients and their families. 3. Communicate with neurosurgeon, neurophysiologists, OR, ICU and PACU staff daily. 4. Discuss the preanesthetic evaluation and plan with the supervising faculty and pertinent members of the health care team. 5. Attend resident simulation. 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. 360 evaluations. 3. Monthly on-line faculty evaluations. 4. Feedback medical students. 5. 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 of 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 neuroanesthesia 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. 360 evaluations. 3. Monthly on-line faculty evaluations. 4. Quarterly meeting with program director.

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.

1. Learn the cost of the drugs, monitoring equipment and overall procedures involved in neurosurgery.
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 neurologic diseases.
4. Learn how to effect improved operating room efficiency safely.
5. Appreciate the complex interactions that go on between primary care teams, neurosurgeons and anesthesiologist in the overall hospital management of these complex patients.
6. Learn how to effectively use information management in patient care.

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. Attend resident simulation.

1. Daily faculty-resident interaction in the operating room.
2. 360 evaluations.
3. Monthly on-line faculty evaluations.
4. Quarterly meeting with program director.