July 2011

ROTATION: NEUROSURGERY

ROTATION DIRECTOR: Marvin Bergsneider, M.D.

CHIEF OF NEUROSURGERY: Neil Martin, M.D.

SITES: RRUMC
        VA Greater Los Angeles Healthcare System

GOALS AND OBJECTIVES:
To provide trainees an opportunity to participate in the perioperative and operative aspects of neurosurgery.

DESCRIPTION OF THE ROTATION:
The Neurosurgery rotation of 4 weeks in the PGY1 year

1. All rotating will be part of the Neurosurgery team and responsible for the care of the Neurosurgery patients.
2. The surgery residents will provide in-patient care including routine admissions and critical care of patients.
3. Residents will further participate in surgical operations needed on these patients under direct supervision by the surgical faculty.
4. The rotating residents will participate in all Department of Surgery educational conferences and didactic presentations.
5. Residents are expected to actively participate and present at the weekly Neurosurgery Conference.

ASSESSMENT:
Monitoring of the accomplishment of the stated objectives will be performed using the following methods:

1. Global Rating: end of rotation evaluation of resident performance to assess the resident’s demonstration of Core Competencies with respect to the stated objectives by faculty, other team resident members, students, and nursing staff.
2. Case Logs: auditing of operative cases pertinent to the specialty in the Surgical Operative Log.
3. Written Examination: performance on the annual ABSITE examination, Gastrointestinal and Body as a whole (clinical management) systems section.
4. Patient Survey: performance will be assessed by patient surveys administered though the rotation.
5. For additional information please refer to the Resident Milestones document on the UCLA Surgical Education website: http://www.surgery.medsch.ucla.edu/resident/Documents/ResidentMilestones.pdf
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<th>ACGME Competency</th>
<th>Developmental Milestones Informing ACGME Competencies</th>
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| Patient Care     | 1. Perform a complete and thorough history and physical examination, with emphasis in elements unique to neurosurgery patients.  
2. Initiate the laboratory evaluation and any other initial diagnostic studies with an understanding of the tests to be ordered.  
3. Make informed decisions about diagnostic and therapeutic interventions on neurosurgery patients with the guidance of senior residents and faculty.  
4. Be proficient in the preoperative preparation of the patients for neurosurgery and routine postoperative care.  
5. Understand basic pathophysiology of neurosurgical disorders.  
6. Understand basic pathophysiology of neurosurgical disease under the guidance of the senior residents and attending physicians.  
7. Understand the basic indications for common radiological and interventional studies used in the care of neurosurgery patients such as CT scan and MRI.  
8. Demonstrate the ability to effectively set priorities and coordinate the care of neurosurgery patients. | 4 weeks | Global Rating  
Case Logs  
Written Examinations  
Patient Survey  
Feedback from faculty/attending physicians at rounds and OR |
| Medical Knowledge| 1. Demonstrate an understanding of a comprehensive neurological evaluation including an accurate history and physical examination.  
2. Demonstrate a working knowledge of the role of the following diagnostic modalities in the evaluation of patients with neurosurgical problems:  
a. plain skull radiographs  
b. plain spine radiographs  
c. CT scan of head or spine  
d. MRI  
e. cerebral arteriography  
3. Discuss the management of head injuries to include:  
a. selection, prioritizing, and performance of resuscitation efforts  
b. analyzing components and results of baseline neurological examination to determine and evaluate changes in patient neurological status  
c. treatment of a scalp wound  
d. initial treatment of compound depressed skull fractures  
e. management of increased intracranial pressure  
f. recognition of cerebral herniation syndromes  
g. initiation, management, and interpretation of intracranial pressure monitoring  
h. recognition and initial management of post-traumatic intracranial hemorrhage  
4. Discuss the management of cervical and lumbar disc disease including:  
a. conservative management (traction, rest, physical therapy, analgesic medications) | 4 weeks | Global Rating  
Written Examinations  
Completion of rotation specific SCORE assignments  
Feedback from faculty/attending physicians at rounds and OR |
b. selection and usefulness of radiologic modalities (plain spine films, CT, MRI, myelography)
c. indications for surgical management

5. Discuss the description and diagnosis of intracranial and intraspinal mass lesions (neoplasm, abscess, hematoma) including:
   a. signs and symptoms of intracranial and intraspinal mass lesions
   b. pathophysiology of intracranial and intraspinal abscess
   c. pathophysiology of spontaneous intracranial and intraspinal hemorrhage
d. pathophysiology of hydrocephalus

6. Demonstrate an understanding of the critical issues associated with closed head injury including:
   a. coma
   b. brain swelling
c. increased intracranial pressure
d. ICP monitoring
e. cerebral perfusion
f. hyperventilation
g. diuretic use

7. Demonstrate an understanding of the critical issues associated with spinal cord injury including:
   a. recognition of neurological deficit from cord and/or root injury at various levels
   b. spinal stabilization including the use of tongs or halo
c. pathophysiological responses in the acute quadriplegic or paraplegic patient
d. respiratory problems
e. use of corticosteroids
f. urinary bladder dysfunction

8. Demonstrate the ability to recognize and manage the following problems commonly encountered in neurosurgical patients:
   a. hyponatremia
   b. water intoxication
c. SIADH
d. hypopituitarism
e. hypoadrenalism

9. Understand the clinical definition of brain death.

10. Demonstrate an understanding of the importance of early referral of head and spinal cord injury patients to rehabilitation services and the potential impact upon long-term prognosis.

11. Perform neurological history and examination of patients at various levels of consciousness.

12. Assist during neurosurgical procedures, gaining exposure to:
   a. craniotomy, laminectomy
   b. neurosurgical hemostasis
| Practice Based Learning | 1. Develop a personal program of self-study and professional growth with guidance from the teaching staff and senior residents. An understanding of the etiology, pathogenesis, pathophysiology, diagnosis and management of neurosurgical disorders will allow for sound surgical judgment, which relies on knowledge, rational thinking and the surgical literature. 2. Utilize current literature resources to obtain up-to-date information in the neurosurgical patients and practice evidence-based medicine. o Participate in teaching and organization of the educational weekly neurosurgery conference. 3. Participate in activities of the Department of Surgery (including all teaching conferences) and assume responsibility for teaching and supervision of subordinate surgical house staff, and medical students. 4. Participate in the Department Morbidity & Mortality conference and utilize information to further improve patient care. 5. Participate in daily teaching rounds and be able to present patients in an organized and complete fashion | 4 weeks | Global Rating  Written Examinations  Patient Survey  Feedback from faculty/attending physicians at rounds and OR |
| Professionalism | 1. Practice compassionate patient care maintaining the highest moral and ethical values with a professional attitude. 2. Demonstrate understanding of the needs and feelings of others, including the patient's family members, allied health care personnel (nurses, clerical staff, etc.), fellow residents, and medical students. 3. Communicate and collaborate effectively in a team of health care providers 4. Demonstrate respect, compassion and integrity in the care of neurosurgery patients on a daily basis 5. Demonstrate mature and educated approach to Ethical issues commonly encountered in a neurosurgery setting. 6. Show sensitivity to patients culture, age, gender and disabilities 7. Recognize and appropriately handle sensitive cases of abuse 8. Be self-aware and have knowledge of professional limits by practicing on-going medical education and self-improvement. 9. Be accountable to profession in their actions and decisions. 10. Understand the legal implications of the declaration of brain death. | 4 weeks | Global Rating  Patient Survey  Feedback from faculty/attending physicians /hospital staff /patients |
| Interpersonal Relationships | 1. Create and sustain a therapeutic and ethically sound relationship with patients and patient families | 4 weeks | Global Rating  Written Examinations |
| And Communication | 2. Work effectively with other members of the medical team including allied health care personnel (nurses, clerical staff, etc.), fellow residents, and medical students.  
3. Maintain professional interactions with other health care providers and hospital staff | Patient Survey  
Feedback from faculty/attending physicians  
/hospital staff /patients |
|---|---|---|
| Systems Based Practice | 1. Understand how the health care organization affects surgical practice of neurosurgical practice.  
2. Demonstrate cost effective health care.  
3. Be able to coordinate care including discharge planning, social service, rehabilitation, and long term care.  
4. Follow established practices, procedures, and policies of the Department of Surgery and integrated and affiliated hospitals.  
5. Maintain complete of medical records operative notes staff sheets and notes, patient database cards and other patient care related documentation in a timely, accurate, and succinct manner. | 4 weeks  
Global Rating  
Case Logs  
Hour logs  
Completion of required evaluations  
Completion of medical records  
Written Examinations  
Feedback from faculty/attending physicians at rounds and OR |
REFERENCES:


Black, Peter, Neurosurgery - An Introductory Text; New York, Oxford University Press, 1995

TYPICAL WEEK *:

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* Each intern is encouraged to scrub into a neurosurgical OR case at least twice per week.

** Wednesdays: Interns have mandatory Department of Surgery conferences in the morning. Interns are encouraged to attend the Neurosurgery conferences including Board Preparation Lectures and Symposia/Grand Rounds Lectures.