

Neurosurgery Rotation for Neurology Residents

Introduction

Residents are assigned to the administrative team under the direction of a chief neurosurgery resident and the following neurosurgery faculty: Dacey, Zipfel, Hawasli, Dowling, Ray, Kim, Osbun, Chicoine, Rich, Leuthardt, Dorward, Dunn, Wright, and Santiago. The goal of the neurosurgery rotation is for the resident to learn the evaluation management of common problems seen on the neurosurgery service. The resident will be part of the neurosurgery team consisting of the neurosurgery attendings, neurosurgery residents, and surgery interns. They will be expected to be involved in the care of both inpatients and outpatients on the neurosurgery service.

General Objectives

1. The resident will become competent in obtaining a neurological history and performing a neurologic exam on patients seen in the neurosurgery outpatient clinics, as well as inpatient consults.
2. The resident will gain skill in the localization of various neurological symptoms and findings in neurosurgical patients.
3. The resident will learn to generate a differential diagnosis of common problems seen on the neurosurgical service.
4. The resident will be an integral part of the neurosurgery team with the ability to synthesize cases for presentation to the neurosurgery senior residents and attendings.
5. The resident will gain competence and skill in the assessment of common neurosurgical problems including head trauma, intracranial mass lesions, intracerebral hemorrhage, subarachnoid hemorrhage, brain tumors, acute and chronic spinal cord injuries, radiculopathies, and peripheral nerve lesions.
6. The resident will learn the appropriate use and interpretation of neuroradiologic studies in neurosurgical patients.
7. The resident will gain experience in the management of patients in the neurosurgical ICU.
8. The resident will get exposure in the operating room of the surgical treatments of the various disorders mentioned above.

Responsibilities

The neurology resident on the neurosurgery service will round with the neurosurgery team each weekday. Weekend rounds are optional. He/she will have opportunities to present cases and be critiqued about the evaluation and management ability. The resident will have the opportunity to observe the attending and senior neurosurgery resident history taking and neurologic examination on neurosurgery patients. The resident will have the opportunity to review neuroimaging studies with neuroradiology staff and neurosurgery attendings and senior residents. The resident will have the opportunity to attend the neurosurgery conferences during the month. The resident will have the opportunity to directly observe neurosurgical operative procedures in the operating room and perform minor procedures in the OR and at the bedside. Specific areas of interest will be accommodated wherever possible. The resident should participate in resident clinic (Friday 1-5) and may arrange additional clinic experience with a faculty member who focuses on the area of the resident's particular interest.

Supervisory Lines of Responsibility

The neurology resident is directly supervised by the neurosurgery chief resident and the attending physicians. Senior neurosurgery residents and attendings provide assistance with all aspects of patient management: in the evaluation of patients in the outpatient setting, the emergency room, in the hospital and in the operating room.

On the inpatient units, the neurology resident should report directly to the chief resident regarding the patient's clinical findings and course during their hospitalization. All consultations are evaluated with an attending and both the attendings and residents contribute to the documentation of the patients' clinical

course in the hospital chart. The service operates with the expectation that the residents will keep the attendings continuously apprised of the clinical course of their patients and that they will make clinical decisions in conjunction with and under the supervision of the attendings. An extensive system of communication including cell phones and beepers is available to facilitate this communication.

As the resident demonstrates competence, progressive responsibility is delegated to him or her by the chief residents.

The neurosurgical clinic is supervised by the chief resident. Attending neurosurgeons are directly available for consultation and patients who are presented at clinic are managed in conjunction with the attendings. In the faculty clinics, the resident learns from the faculty using the faculty interactions with patients as the vehicle.

In the Emergency Room, the chief residents and attendings are contacted by the resident regarding the management of emergency room patients prior to their disposition and, depending on the severity of the patient's condition, the patient is either admitted or the chief residents and the attendings discuss further management.

Residents are directly supervised in the operating room by senior residents, chief residents, and/or attendings. Neurosurgical attendings are present for the key portions of all neurosurgical cases and are directly available for all operative treatment.

Evaluation

The residents will be evaluated directly by the neurosurgery faculty for whom they work with during the rotation. The faculty member will directly observe the residents presentation of cases, and their assessment and plan for the management of patients with neurosurgical disorders. The attending will provide feedback to the resident during the rotation regarding their skill in the assessment and management of neurosurgical patients. At the end of the rotation the faculty member will complete a standard neurology evaluation form, which will be keyed to the learning objectives of the rotation.

Neurosurgery Conference (optional)

1. Tumor Board – Monday 4-5 pm, 5McMillan Conference Room
2. Case Conference – Monday 5-6 pm, 5McMillan Conference Room
3. Teaching Rounds – Thursday 5-6 pm, 5McMillan Conference Room
4. Grand Rounds – Wednesday 7-8 am, 5McMillan Conference Room
5. Resident Curriculum Conference – Wednesday 8-9 am, 5McMillan Conference Room
6. Journal Club – Wednesday 6-7:30 pm (monthly), 5 McMillan Conference Room

Patient Care Goals & Objectives

1. Be able to assist in the OR developing
 - a. an ability to handle tissues appropriately
 - b. an ability to take direction well
 - c. an ability to make reasonable suggestions at appropriate times
 - d. an ability to perform as a team member
 - e. an appreciation of microneurosurgery.
2. Be able to demonstrate a facility for anticipating surgery.
3. Take a thorough history and perform an appropriate examination in order to localize, if possible, a lesion in the nervous system and provide a differential diagnosis.
4. Interpret laboratory and imaging studies appropriately to define the diagnostic hypotheses.
5. Demonstrate thorough understanding of patients and their conditions on daily rounds.
6. Identify potential complications of disease processes and operative therapy and take

- appropriate steps to prevent or diagnose and treat such complications.
7. Participate in acute resuscitation of a patient with injury to the head, the spine, or the peripheral nervous system in the Emergency Room or critical care setting
 8. Become proficient in the following procedures:
 - a. lumbar puncture
 - b. insertion of external ventricular and lumbar drains
 - c. insertion of intracranial pressure monitors
 - d. application of skeletal traction for spinal instability
 - e. positioning of patients for cranial, spinal or peripheral nervesurgery
 - f. use of various head rests for cranial neurosurgery
 - g. burr hole drainage of subdural hematoma
 9. Be able to assess and participate in the treatment of patients in the ER or a critical care setting with:
 - a. raised intracranial pressure
 - b. hemorrhagic or ischemic cerebrovascular disease
 - c. spinal cord or cauda equina compression
 - d. acute or chronic seizure disorder

Medical Knowledge Goals & Objectives

1. Demonstrate a practical working knowledge of:
 - a. The normal central and peripheral nervous system anatomy and physiology
 - b. The effects of certain pathological processes (e.g. mass lesions, raised ICP, head injury, seizures)
 - c. The pharmacology as related to diseases of the central and peripheral nervous system.
2. Demonstrate knowledge of non-operative and operative management of patient problems in an ambulatory setting

Practice-based Learning and Improvement Goals & Objectives

1. Recognize capabilities and limitations pertaining to medical knowledge and patient care and take appropriate steps to improve weaknesses.
2. Be able to demonstrate a developing ability to handle tissues appropriately in the operative room.
3. Show a sincere commitment to and performance as an instructor of students and other residents.
4. Use hand-held computers, desktop PC's and Internet electronic references to support patient care and self-education.
5. Assist medical students and interns in their own acquisition of knowledge through technology.
6. Demonstrate improvement in clinical management of patients by continually improving knowledge and skills during the rotation.
7. Learn how to effectively utilize hospital and University educational resources and begin to apply literature based and evidence based concepts as well as experimental evidence to the daily practice of surgery.
8. Develop and maintain a willingness to learn from failures and use failures to improve both personal performance and the overall process of patient care.

Interpersonal and Communication Skills Goals & Objectives

1. Present cases in an organized and articulate manner at appropriate rounds and conferences.
2. Document findings and a plan of management in the medical record
3. Be able to work in a cooperative manner with other health care personnel, recognizing their roles and abilities.
4. Give and receive advice in an objective, constructive manner.

5. Demonstrate the ability to elicit the patient's confidence and cooperation.
6. Recognize and respect the views of others.
7. Communicate with patients and their families, explaining disease processes and treatment options, including benefits, risks, and possible complications in terms each individual can comprehend.

Professionalism Goals & Objectives

1. Be honest, reliable and respectful while working with patients and colleagues.
2. Respect each patient's right to privacy.
3. Demonstrate sensitivity to the sexual, moral, ethical or religious characteristics of the patient and family.
4. Provide supportive and compassionate care to patients and their families in the course of terminal disease.
5. Comply with the ethical and legal standards of neurosurgery.
6. Exhibit dependability and reliability in carrying out responsibilities
7. Maintain the highest standards in cleanliness, neatness, personal grooming and dress.
8. Exhibit a courteous, conscientious, and generally businesslike manner in patient areas

Systems-based Practice Goals & Objectives

1. Utilize diagnostic tests, studies, procedures and consultations in a cost effective way.
2. Effectively coordinate care with other health care professionals as required for patient needs.
3. Demonstrate understanding of medical delivery systems as they relate to both inpatient and outpatient resources.
4. Effectively access/utilize outside resources
5. Effectively use systematic approaches to reduce errors and improve patient care
6. Enthusiastically assist in developing systems' improvement

Adapted from: <http://www.med.unc.edu/neurology/files/documents/child-teaching-pdf/COMBINED%20GOALS%20AND%20OBJECTIVES.pdf>