

<b>Faculty Director:</b>	Ryan Kitagawa, MD and Manish Shah, MD
<b>Participating Faculty:</b>	Faculty in the Department of Neurosurgery
<b>Location:</b>	MHH
<b>Prerequisite:</b>	None
<b>Streams Offered:</b>	All streams
<b>Max. # Students/3-week Period:</b>	2

### Course Objective

#### Material Covered:

This third-year elective will expose students to the field of neurosurgery. Students will work one-on-one with faculty and will be exposed to the continuity of care for neurosurgical patients including seeing patients pre-op, in the operating room, post-op, and in the outpatient clinic for follow-up care.

Students will round with service attendings on inpatients, and work with the inpatient teams, including residents and physician assistants. Students will attend one outpatient clinic weekly and participate in the operating room daily. Students will learn to take history and physicals, participate in inpatient care, and assist in the operating room. Students will have exposure to the presentation, diagnostic evaluation, and treatment for various neurosurgical conditions.

The elective experience will be broken into three blocks:

**Pediatrics** – The pediatric neurosurgery service allows the students to see a wide variety of cranial and spine pathology in the pediatric population. The student will see a variety of patient in the inpatient and outpatient setting and will work closely with the pediatric neurosurgery team.

**Spine** – The spine service provides the medical students with the opportunity to be involved in a variety of degenerative and traumatic conditions of the spine. This rotation should include inpatient care, clinic, and operating room experiences.

**Cranial** – The cranial service provides the medical students with the opportunity to be involved in a variety of cerebral pathologies including tumors, epilepsy, functional, and cerebrovascular. This service is a unique combination of ICU, ER, and OR experiences.

Specific learning objectives for this third-year elective are as follows –

By the end of this elective, the student will be able to:

#### Medical Knowledge

- Describe general principles of the anatomy, physiology, and pathophysiology of the central, peripheral, and autonomic nervous system.
- Discuss factors influencing cerebral blood flow and intracranial pressure.
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#### Patient Care

- Describe the components of a focused history and physical examination on patients with neurological or neurosurgical disease.
- Discuss a differential diagnosis relating to the location and nature of the neuropathology.
- Describe the characteristics of the various neuroradiologic procedures and the rationale for selecting them.

#### Professionalism

- Interact with patients and their families in a respectful, sensitive, and ethical manner.
- Interact with other members of the Neurosurgical Team and ambulatory clinic personnel in a respectful, responsible, and professional manner.

#### Systems-based Practice

- Describe the roles of the Neurosurgeon, Neurointensivists, Surgical Intensivists, Trauma Surgeons, Nurses, Physical Therapists, Occupational Therapists, Rehabilitation Specialists, Social Services, Case Managers, and the Operating Room Team in the provision of safe and high quality neurosurgical care.

#### Interpersonal and Communication Skills

- Demonstrate skill in effective information exchange with patients, their families, and other members of the Neurosurgical Team, in the trauma setting and for elective procedures.
- Demonstrate ability for accurate and timely information exchange between other members of the healthcare team, both verbally and in writing, with appropriate use of the medical record.

#### Practice-based Learning and Improvement

- Demonstrate ability to utilize scientific studies to provide high quality neurosurgical care.
- Appropriately utilize Hospital information technology systems to manage patient care, and to access on-line medical information to deliver high quality care.

Students are required to attend the following conferences: Neurosurgery M&M, Neurosurgery Grand Rounds, Neuroradiology Conference, and the Neurosurgery Curriculum Conference. Students will be assigned to clinical activities Monday through Friday and will be expected to work one weekend day per week. Call is not required, but students will have the option to take call once per week.

Students will demonstrate attainment of the above objectives through attendance and participation in didactic conferences and attendance at clinical assignments and participation in clinical activities.

### Activities Of Elective

Number Of New Patients/Student/Week: 4

#### Responsibilities Of Student For Assigned Patients:

Does history/physical:	Yes
Who critiques:	Attending and resident
Follows patients, with appropriate notes as needed:	Yes
Who supervises:	Attending and resident
Does student see ambulatory patients:	Yes

Procedures	Observe	Perform
Assists in the OR	Yes	No

#### Scheduled Duties of Student:

Frequency of rounds on patients	Daily
Presents patients to preceptor or attending physician	Yes
Weekly schedule of required teaching sessions	Every weekday from 7-8am

#### Other Required Activities:

Reading/review of current literature	Yes
Writing or presenting a paper	No

#### How Is Student Evaluated:

This elective is pass/fail. Students will be evaluated by faculty based on their attendance and participation in didactic sessions and attendance at clinical assignments and participation in clinical activities. The students are evaluated based on the demonstration of their accomplishment of the objectives.