Does this rotation accept visiting students? ☑ YES ☐ NO

COURSE DESCRIPTION:
This outpatient clinical stroke rotation is designed to give fourth-year medical students an opportunity to interact with the Department of Neurology stroke faculty in a clinical setting. They will have the opportunity to learn stroke etiologies, diagnosis, treatment and management, secondary stroke prevention and stroke recovery, and management of post-stroke complications. In addition, students will have the chance to learn about the MUSC REACH tele-stroke network.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Understand and discuss stroke diagnosis, secondary stroke prevention and management of post-stroke complications. (MK, PC, PL, SL)
2. Recognize common stroke syndromes and correlate with the neuro-anatomy involved. (MK, CS, PC, PL, SL)
3. Conduct a complete history and neurological examination in stroke patients. (MK, PC, CS, PR, PL, SL).
4. Discuss tele-stroke consultations learned through a real case consultation or a faculty demonstration. (MK, PC, CS, PR, PL, SL)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Patient contact by attending post-stroke follow-up clinics and post-stroke spasticity management clinic.
2. Attend daily neurology/stroke conferences which may involve directed reading/literature reviews.
3. One-on-one or group discussions.
4. Attend a MUSC REACH tele-stroke consultation session.
5. Oral, written, or small group presentation on stroke as assigned.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. New stroke consults – Patients referred to the stroke team from non-MUSC physicians.
2. Post-stroke hospitalization follow-ups
3. Post-stroke limb spasticity
4. Tele-stroke consultation

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods.
1. E*Value Clinical Performance Evaluation (PC, PR, MK, CS, SL, PL)
2. Daily verbal feedback from the course director or the assigned faculty co-director (PC, PR, MK, CS, SL, PL)
3. Midpoint feedback from the course director or the assigned faculty co-director (PC, PR, MK, CS, SL, PL)

Will students be expected to participate in call? ☑ YES ☐ NO
**Course Director:** Aljoeson Walker, MD  
Email: walkeral@musc.edu  

**Course Coordinator:** Caroline Diez  
Telephone #: 843-876-5053  
Email: diezc@musc.edu

<table>
<thead>
<tr>
<th>BLOCK</th>
<th># Students</th>
<th>BLOCK</th>
<th># Students</th>
<th>BLOCK</th>
<th># Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block 1: 7/6/15 – 7/31/15</td>
<td>1</td>
<td>Block 4A: 9/28/15 – 10/9/15</td>
<td></td>
<td>Block 7B: 1/18/16 – 1/29/16</td>
<td></td>
</tr>
<tr>
<td>Block 1A: 7/6/15 – 7/17/15</td>
<td></td>
<td>Block 4B: 10/12/15 – 10/23/15</td>
<td></td>
<td>Block 8: 2/1/16 – 2/26/16</td>
<td>1</td>
</tr>
<tr>
<td>Block 1B: 7/20/15 – 7/31/15</td>
<td></td>
<td>Block 5: 10/26/15 – 11/20/15</td>
<td>1</td>
<td>Block 8A: 2/1/16 – 2/12/16</td>
<td></td>
</tr>
<tr>
<td>Block 2: 8/3/15 – 8/28/15</td>
<td>1</td>
<td>Block 5A: 10/26/15 – 11/6/15</td>
<td></td>
<td>Block 8B: 2/15/16 – 2/26/16</td>
<td></td>
</tr>
<tr>
<td>Block 3A: 8/31/15 – 9/11/15</td>
<td></td>
<td>Block 6B: 12/7/15 – 12/18/15</td>
<td></td>
<td>Block 10: 3/28/16 – 4/22/16</td>
<td>1</td>
</tr>
</tbody>
</table>

**Does this rotation accept visiting students?**  
☐ YES  ☒ NO

**Course Description:**  
Students will learn and apply neurology knowledge to the ophthalmic system. He or she will be able to reasonably identify and appropriately determine objectives indicated for the visual concerns of the patient. Reading materials are: *Neuro-Ophthalmology: Clinical Signs and Symptoms* (Thomas J. Walsh) and *Neuroradiology* (D. Yousem and R. Grossman).

**Learning Goals & Objectives:** At the completion of this clinical rotation students should be able to do the following:
1. Perform a complete eye exam (MK, PC)
2. Identify misalignment/muscle imbalance of the eyes (MK, PC)
3. Identify papilledema and discuss its differential diagnosis in neuro-ophthalmologic diseases (MK, PC, CS)
4. Review and discuss neurologic disease as it relates to the visual system (MK, PC, CS)
5. Discuss the use of treatment options as they pertain to neuro-ophthalmologic diseases (MK, PC, CS)

**Instructional Methodologies and Rotation Activities:** Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Attendance at neurosciences and selected neuro-ophthalmology conferences.
2. Patient contact with patients primarily in outpatient clinics.
3. Independent Patient Case Presentation neuro-ophthalmologic or headache disorders, to be presented at weekly conference.

**Patient Encounters:** Students will be expected to work-up patients with these specified conditions:
1. Migraine and related visual issues
2. Papilledema and headache complaints
3. Diplopia
4. Complicated visual issues and MS or pseudotumor cerebri (headaches)
5. Spinal tap

**Evaluation / Feedback Methods:** Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation (PC, PR, MK, CS, SL, PL)
2. Daily verbal feedback from the course director or the assigned faculty co-director (PC, PR, MK, CS, SL, PL)
3. Midpoint feedback from the course director or the assigned faculty co-director (PC, PR, MK, CS, SL, PL)

**Will students be expected to participate in call?**  
☐ YES  ☒ NO
### COURSE DESCRIPTION:
This elective exposes students to the spectrum of neurologic disease in children through a mixture of inpatient and outpatient experiences. The emphasis is on mastering the fundamentals of taking a neurologic history and performing a neurologic examination; localizing lesions within the neuraxis; selecting diagnostic tests; and managing common neurologic disorders. Hours are approximately 8:00am–5:30pm.

### LEARNING GOALS & OBJECTIVES:
At the completion of this clinical rotation students should be able to do the following:
1. Elicit accurate neurologic histories and perform comprehensive neurologic exams on peds patients of varying ages. (CS, MK, PC)
2. Demonstrate increasing sophistication in interpreting & synthesizing clinical findings into rational differential diagnoses. (MK, PL)
3. Select appropriate laboratory studies to establish specific diagnoses. (MK, PL)
4. Demonstrate an increased understanding of management principles including appropriate choice of therapeutic modalities and the inherent risks of each. (MK, PC, PL)
5. Exhibit effective communication skills with pediatric patients and their parents. (CS, PC)

### INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES:
Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Patient contact
2. One-on-one and/or group discussions
3. Attendance at neuroscience conferences including the Pediatric Neurology Thursday A.M. Conference
4. Independent study
5. Participation in outreach opportunities when available

### PATIENT ENCOUNTERS:
Students will be expected to work-up patients with some of these specified conditions:
1. Seizures (febrile, new-onset, status epilepticus)
2. Headache
3. Neurodevelopmental disabilities (includes developmental delay, intellectual disability, autism spectrum disorders, cerebral palsy)
4. Movement disorders (includes tics and Tourette syndrome)
5. Traumatic brain injury (includes concussion)
6. Other conditions as available including brain tumors, neuromuscular disorders, neurocutaneous syndromes, inborn errors of metabolism/mitochondrial disorders, and demyelinating disorders.

### EVALUATION / FEEDBACK METHODS:
Students will be evaluated using the following methods.
1. E*Value Clinical Performance Evaluation (PC, PR, MK, CS, SL, PL)
2. Daily verbal feedback from the course director or the assigned faculty co-director (PC, PR, MK, CS, SL, PL)
3. Midpoint feedback from the course director or the assigned faculty co-director (PC, PR, MK, CS, SL, PL)

### DOES THIS ROTATION ACCEPT VISITING STUDENTS?
- Yes

### NSCS 851: General Pediatric Neurology

<table>
<thead>
<tr>
<th>BLOCK</th>
<th># Students</th>
<th>BLOCK</th>
<th># Students</th>
<th>BLOCK</th>
<th># Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block 1: 7/6/15 – 7/31/15</td>
<td>1</td>
<td>Block 4A: 9/28/15 – 10/9/15</td>
<td>1</td>
<td>Block 7B: 1/18/16 – 1/29/16</td>
<td>1</td>
</tr>
<tr>
<td>Block 1A: 7/6/15 – 7/17/15</td>
<td>1</td>
<td>Block 4B: 10/12/15 – 10/23/15</td>
<td>1</td>
<td>Block 8: 2/1/16 – 2/26/16</td>
<td>1</td>
</tr>
<tr>
<td>Block 1B: 7/20/15 – 7/31/15</td>
<td>1</td>
<td>Block 5: 10/26/15 – 11/20/15</td>
<td>1</td>
<td>Block 8A: 2/1/16 – 2/12/16</td>
<td>1</td>
</tr>
<tr>
<td>Block 2: 8/3/15 – 8/28/15</td>
<td>1</td>
<td>Block 5A: 10/26/15 – 11/6/15</td>
<td>1</td>
<td>Block 8B: 2/15/16 – 2/26/16</td>
<td>1</td>
</tr>
<tr>
<td>Block 2A: 8/15/15 – 8/14/15</td>
<td>1</td>
<td>Block 5B: 11/9/15 – 11/20/15</td>
<td>1</td>
<td>Block 9: 2/29/16 – 3/25/16</td>
<td>1</td>
</tr>
<tr>
<td>Block 3A: 8/31/15 – 9/11/15</td>
<td>1</td>
<td>Block 6B: 12/7/15 – 12/18/15</td>
<td>1</td>
<td>Block 10: 3/28/16 – 4/22/16</td>
<td>1</td>
</tr>
<tr>
<td>Block 3B: 9/14/15 – 9/25/15</td>
<td>1</td>
<td>Block 7: 1/4/16 – 1/29/16</td>
<td>1</td>
<td>Block 10A: 3/28/16 – 4/8/16</td>
<td>1</td>
</tr>
<tr>
<td>Block 4: 9/28/15 – 10/23/15</td>
<td>1</td>
<td>Block 7A: 1/4/16 – 1/15/16</td>
<td>1</td>
<td>Block 10B: 4/11/16 – 4/22/16</td>
<td>1</td>
</tr>
</tbody>
</table>

Will students be expected to participate in call?  - No
COURSE DESCRIPTION:
This neurosurgery externship will provide exposure to all facets of neurosurgery, both pediatric and adult. Students will have the opportunity to provide outpatient and inpatient preoperative and postoperative care in the clinical and hospital setting. Through didactic teaching, care of patients in the clinic and hospital, and direct observation of neurosurgical procedures, students will become familiar with common neurosurgical disorders and methods of treatment at all ages.

LEARNING GOALS & OBJECTIVES:
At the completion of this clinical rotation students should be able to do the following:
1. Describe clinical neurosurgical diagnoses and discuss their management issues in some of the most common neurosurgical disorders. (MK, PC, CS)
2. Perform a focused history and neurological exam for common neurosurgical disorders. (MK, PC, PL, SL)
3. Review and discuss basic neurosurgical approaches to common neurosurgical disorders, as well as the postoperative care and long-term management issues. (MK, PC, CS, PL, SL)
4. Identify and discuss the contributions and limitations of diagnostic imaging and neuro-physiological testing in patient assessments. (MK, PC, CS)
5. Formulate and be able to discuss non-surgical treatment plans for neurosurgical diagnosis and identify the common complications that may occur with or without neurosurgical interventions. (MK, PC, CS, PR, PL, SL)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES:
Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Direct observation and patient contact in outpatient clinics, hospital inpatients, and in the operating room.
2. Attendance at neurosurgery and other assigned neurosciences conferences.
3. Oral presentation on an assigned topic in neurosurgery. (30-45 minute platform presentation to include topic review, research presentation or interesting case presentation of value to neurological surgery.)
4. One on one and/or group team discussions

PATIENT ENCOUNTERS:
Students will be expected to evaluate patients with:
1. Neuro trauma – traumatic injury and spinal column/cord injury
2. Degenerative spine disorders/myelopathy,
3. Hydrocephalus,
4. Brain/spine tumors,
5. Vascular lesions of brain
6. Entrapment neuropathies

EVALUATION / FEEDBACK METHODS:
Students will be evaluated using the following methods.
1. E*Value Clinical Performance Evaluation (PC, PR, MK, CS, SL, PL)
2. Daily verbal feedback from the course director or the assigned faculty co-director (PC, PR, MK, CS, SL, PL)
3. Midpoint feedback from course director or the assigned faculty co-director. (PC, PR, MK, CS, SL, PL)

Will students be expected to participate in call?  □ YES □ NO
One call night per week supervised by the upper level neurological surgery residents/attending
**NSCS 853: Pediatric Neurosurgery ASE**

**Course Director:** Ramin Eskandari, MD  
Email: eskandar@musc.edu  
**Course Coordinator:** Caroline Diez  
Telephone #: 843-876-5053  
Email: diezc@musc.edu

<table>
<thead>
<tr>
<th>BLOCK</th>
<th># Students</th>
<th>BLOCK</th>
<th># Students</th>
<th>BLOCK</th>
<th># Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block 1: 7/6/15 – 7/31/15</td>
<td>1</td>
<td>Block 4A: 9/28/15 – 10/9/15</td>
<td>Block 7B: 1/18/16 – 1/29/16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Block 1A: 7/6/15 – 7/17/15</td>
<td>1</td>
<td>Block 4B: 10/12/15 – 10/23/15</td>
<td>Block 8: 2/1/16 – 2/26/16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Block 1B: 7/20/15 – 7/31/15</td>
<td>1</td>
<td>Block 5: 10/26/15 – 11/20/15</td>
<td>Block 8A: 2/1/16 – 2/12/16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Block 2: 8/3/15 – 8/28/15</td>
<td>1</td>
<td>Block 5A: 10/26/15 – 11/6/15</td>
<td>Block 8B: 2/15/16 – 2/26/16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Block 3A: 8/31/15 – 9/11/15</td>
<td>1</td>
<td>Block 6B: 12/7/15 – 12/18/15</td>
<td>Block 10: 3/28/16 – 4/22/16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Does this rotation accept visiting students?** ☑ Yes ☐ No

**COURSE DESCRIPTION:**
Pediatric Neurosurgery diagnoses and treats disorders of the nervous system through surgical means in patients up to eighteen years of age. Students participating in a pediatric neurosurgery elective will gain experience through didactic neurosurgery conferences, assisting the physician in both outpatient clinic visits and inpatient care in the hospital, and through observation/assisting of surgical procedures. Students who are taking a neurology course for the first time will be required to take the NBME Neurology Shelf Exam and take call as described below.

**LEARNING GOALS & OBJECTIVES:** At the completion of this clinical rotation students should be able to do the following:
1. Identify and discuss common disorders of pediatric neurosurgery. (MK, PC, CS, PL)
2. Differentiate the various imaging modalities used to evaluate pediatric neurosurgical disorders. (MK, PC, PL)
3. Perform the physical and neurological examination of pediatric patients with neurosurgical disorders. (MK, PC, PL, CS)
4. Propose and discuss treatment methods for common pediatric neurosurgical disorders. (MK, PC, CS)
5. Show consideration and advocacy for the patient and patient’s family. (MK, PC, CS)

**INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES:** Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Direct observation and patient contact in outpatient clinics, hospital inpatients, and in the operating room.
2. Attendance at neurosurgery and other assigned neurosciences conferences.
3. Oral presentation on an assigned topic in neurosurgery (30-45 minute platform presentation to include topic review, research presentation or interesting case presentation of value to neurological surgery) – Attending for the case being discussed/topic being picked will be the mentor for this presentation.
4. One-on-one and/or group team discussions

**PATIENT ENCOUNTERS:** Students will be expected to work-up patients with these specified conditions:
1. Pediatric hydrocephalus
2. Pediatric traumatic brain injury
3. Pediatric Abnormal head shape (both pathologic and non-pathologic)
4. Pediatric Spinal disorders

**EVALUATION / FEEDBACK METHODS:** Students will be evaluated using the following methods.
1. E*Value Clinical Performance Evaluation (PC, PR, MK, CS, SL, PL)
2. Verbal feedback from the course director or the assigned faculty co-director (PC, PR, MK, CS, SL, PL)
3. Midpoint feedback from the course director or the assigned faculty co-director (PC, PR, MK, CS, SL, PL)

**Will students be expected to participate in call?** ☐ Yes ☑ No
Does this rotation accept visiting students? ☑ YES ☐ NO

COURSE DESCRIPTION:
Students will be exposed to clinical neurovascular (stroke) patients to acquire a basic knowledge of the clinical examination and patient interviewing, vascular risk factors for stroke and neuro-imaging (CT, MRI, TCD, etc.). Academic opportunities will be presented from shadowing the attending on wards, stroke clinic, research meetings/conferences as well as attending at least two (but more if possible) open or endovascular surgical procedures arranged by the course director. Student will learn about evidence-based clinical study design and journal article review. Student will be introduced to the REACH-MUSC telemedicine program.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Review and discuss journal articles pertaining to stroke. (MK, PC, CS)
2. Identify and discuss the basic design of evidence-based clinical studies in acute and stroke prevention, both locally at MUSC as well as nationally. (MK, PC, CS, PL, SL)
3. Develop and discuss a research question suitable for future clinical and/or laboratory investigation. (MK, CS, SL)
4. Demonstrate enhanced clinical examination skills, interviewing skills, understanding the vascular risk factors for stroke and a basic understanding of neuroimaging (CT, MRI, and TCD). (MK, PC, CS, PL, SL)
5. Discuss and demonstrate procedures for evidence-based guidelines relevant to ischemic and hemorrhagic stroke and generalized neuro-vascular disease. (MK, CS, PL, SL)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Patient contact with inpatients on the Stroke Unit/Vascular Neurology Ward at MUH.
2. One-on-one and/or group/team discussions; one formal lecture per week on stroke topics.
3. Directed reading on general and selected topics in the neurosciences as well as handouts on cerebrovascular diseases.
4. Attendance at neurosciences conferences
5. Written or oral presentation on selected stroke topic.
6. Independent study on a selected stroke topic.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Ischemic stroke small vessel and large vessel
2. Hemorrhagic stroke
3. Transient ischemic attack
4. Encephalopathy

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods.
1. E*Value Clinical Performance Evaluation (PC, PR, MK, CS, SL, PL)
2. Daily verbal feedback from the course director or the assigned faculty co-director (PC, PR, MK, CS, SL, PL)
3. Midpoint feedback from the course director or the assigned faculty co-director (PC, PR, MK, CS, SL, PL)

Will students be expected to participate in call? ☐ YES ☑ NO

NSCS 854: Vascular Neurology (Stroke)

Course Director: Christine Holmstedt, DO
Email: holmstedt@musc.edu

Course Coordinator: Caroline Diez
Telephone #: 843-846-5053
Email: diezc@musc.edu
**COURSE DESCRIPTION:**
This course exposes students to intern-level responsibilities for patient care and allows the student to perform clinically while under close supervision. The experience occurs on a hospital inpatient service where students will be expected to work-up and evaluate patients with general neurologic diseases, present cases to attending physicians, and participate in all aspects of the patient’s care. Teaching will emphasize clinical/anatomical correlations as well as other aspects of professionalism in patient care.

**LEARNING GOALS & OBJECTIVES:** At the completion of this clinical rotation students should be able to do the following:
1. Demonstrate understanding of intern-level responsibilities for neurological patient care. (MK, PC, CS, PL, SL, PR)
2. Demonstrate the ability to perform a history and general physical and neurological exam. (MK, PC, PR, CS, PL)
3. Understand and discuss the contribution of diagnostic testing to the evaluation of neurologic patients. (MK, PC, CS)
4. Demonstrate an ability to critically review and discuss medical neurological literature. (MK, CS, PL)

**INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES:** Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Direct observation and patient contact in a clinical setting.
2. Attendance at neurosciences conferences and Grand Rounds as well as other assigned relevant conferences.
3. Oral, written, or small group presentations as assigned by course director or the assigned faculty co-director.

**PATIENT ENCOUNTERS:** Students will be expected to work-up patients with these specified conditions:
1. Epilepsy
2. Stroke
3. Myasthenia Gravis
4. Multiple Sclerosis
5. Neuromyelitis Optica
6. Encephalitis
7. Guillain Barre Syndrome

**EVALUATION / FEEDBACK METHODS:** Students will be evaluated using the following methods.
1. E*Value Clinical Performance Evaluation (PC, PR, MK, CS, SL, PL)
2. Daily verbal feedback from the course director or the assigned faculty co-director (PC, PR, MK, CS, SL, PL)
3. Midpoint feedback from the course director or the assigned faculty co-director (PC, PR, MK, CS, SL, PL)

Will students be expected to participate in call? ☒ YES ☐ NO
One night of Neurology call per week is required.
Does this rotation accept visiting students? □ YES □ NO

COURSE DESCRIPTION:
This neurosciences ICU externship will provide students with a thorough understanding of basic general critical care and neurocritical care concepts. The students are expected to read the syllabus that is provided to them. Students are expected to learn the fundamentals of resuscitating patients with severe acute neurologic injuries. Students will become familiar with airway management issues, respiratory management, circulatory support, management of increased intracranial pressure, and management of comorbid conditions seen in patients with acute neurologic injury. Students will be expected to familiar with all critical care issues and instructed on imagining interpretation as it pertains to ICU patients. Students will participate in hands-on procedures under close supervision and will be expected to take call similar to a PGY-II neurology resident.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Evaluate and discuss a critically ill patient with neurologic/neurosurgical illness. (MK, PC, CS)
2. Develop and discuss a clinical care/management plan for Neuro-ICU patients. (MK, PC, CS, PL)
3. Manage the most common neurologic emergencies requiring neurocritical care. (MK, PC, PL)
4. Learn and perform some critical care procedures required in the Neuro ICU. (MK, PC, PL)
5. Understand and discuss the contributions and limitations of diagnostic imaging (MRI, CT) and neurophysiological testing (EEG, MG/NCV) in the assessment of Neuro ICU patients. (MK, PC, PL, CS)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Direct observation and patient contact in a clinical setting.
2. Attendance at neurosciences conferences and Grand Rounds as well as other assigned relevant conferences.
3. Oral, written, or small group presentations as assigned by course director or the assigned faculty co-director.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Acute cerebrovascular emergencies requiring critical care
2. Acute neuromuscular emergencies requiring critical care
3. Post-operative neurosurgical patients
4. Status epilepticus patients
5. Head and spinal cord trauma
6. Brain tumor patients
7. CNS infections

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods.
1. E*Value Clinical Performance Evaluation (PC, PR, MK, CS, SL, PL)
2. Daily verbal feedback from the course director or the assigned faculty co-director (PC, PR, MK, CS, SL, PL)
3. Midpoint feedback from the course director or the assigned faculty co-director (PC, PR, MK, CS, SL, PL)

Will students be expected to participate in call? □ YES □ NO
One call night per week supervised by the upper level neurology residents/attending.
Does this rotation accept visiting students? ☑ YES ☐ NO

**Course Description:**
This neurosurgical externship gives students a firsthand look at the challenges and rigors of neurosurgery, with a focus on participating in surgical treatment of the spine. Students will also attend didactic Neurosurgery conferences in the Department of Neurosciences, will participate in the diagnosis and treatment of patients in the outpatient clinic setting, and will assist in the care of patients in the Neurosciences ICU.

**Learning Goals & Objectives:** At the completion of this clinical rotation students should be able to do the following:
1. Recognize clinically common disorders of the spine. (MK, PC)
2. Understand and discuss the various imaging modalities (MRI, CT) to evaluate spine disorders. (MK, PC, CS)
3. Perform a focused history, physical and neurological examination on patients with spinal disorders. (MK, PC)
4. Understand and discuss the various treatments (surgical and non-surgical) for the common disorders of the spine; understand and discuss the pain management referral process for non-surgical patients. (MK, CS, PC)

**Instructional Methodologies and Rotation Activities:** Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Direct observation and patient contact in outpatient clinics, hospital inpatients, and in the operating room.
2. Attendance at neurosurgery and other assigned neurosciences conferences.
3. Oral presentation on a topic in neurosurgery as assigned (30-45 minute platform presentation to include topic review, research presentation or interesting case presentation of value to neurological surgery).

**Patient Encounters:** Students will be expected to evaluate and treat patients with these specified conditions:
1. Degenerative Spine Disease
2. Spine Trauma
3. Spine Infections
4. Spine Tumors

**Evaluation / Feedback Methods:** Students will be evaluated using the following methods.
1. E*Value Clinical Performance Evaluation (PC, PR, MK, CS, SL, PL)
2. Daily verbal feedback from the course director or the assigned faculty co-director (PC, PR, MK, CS, SL, PL)
3. Midpoint feedback from course director or the assigned faculty co-director. (PC, PR, MK, CS, SL, PL)

Will students be expected to participate in call? ☐ YES ☑ NO
**NSCS 863: Clinical Neurogenetics**

**Course Director:** Kenton Holden, MD  
Email: holdenk@musc.edu  

**Course Coordinator:** Caroline Diez  
Telephone #: 843-876-5053  
Email: diezc@musc.edu

<table>
<thead>
<tr>
<th>BLOCK</th>
<th># Students</th>
<th>BLOCK</th>
<th># Students</th>
<th>BLOCK</th>
<th># Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block 1: 7/6/15 – 7/31/15</td>
<td>1</td>
<td>Block 4A: 9/28/15 – 10/9/15</td>
<td>Block 7B: 1/18/16 – 1/29/16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Block 1A: 7/6/15 – 7/17/15</td>
<td></td>
<td>Block 4B: 10/12/15 – 10/23/15</td>
<td>Block 8: 2/1/16 – 2/26/16</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Block 1B: 7/20/15 – 7/31/15</td>
<td></td>
<td>Block 5: 10/26/15 – 11/20/15</td>
<td>Block 8A: 2/1/16 – 2/12/16</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Block 2: 8/3/15 – 8/28/15</td>
<td>1</td>
<td>Block 5A: 10/26/15 – 11/6/15</td>
<td>Block 8B: 2/15/16 – 2/26/16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Block 3A: 8/31/15 – 9/11/15</td>
<td></td>
<td>Block 6B: 12/7/15 – 12/18/15</td>
<td>Block 10: 3/28/16 – 4/22/16</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**Does this rotation accept visiting students?** ☑ YES ☐ NO

**COURSE DESCRIPTION:**

Students will have contact with pediatric and adult outpatients as well as neurogenetic clinical research work at the Greenwood Genetic Center in North Charleston, SC and, if special arrangements are made, at the main office of the Greenwood Genetic Center in Greenwood, SC.

**LEARNING GOALS & OBJECTIVES:** At the completion of this clinical rotation students should be able to do the following:

1. Discuss major topics in neurometabolic-genetic disease. (MK, PC, CS)
2. Demonstrate developing skills to identify and evaluate possible genetic neurodevelopmental disabilities. (MK, PC, CS, PL)
3. Know and discuss the mechanics and application of neurometabolic-genetic diagnostic studies. (MK, PC, CS, PL, SL)
4. Participate in the presentation/counseling of an affected patient/family. (CS, PL, SL, PR)

**INSTRUCTIONAL METHODOLOGIES & ROTATION ACTIVITIES:** Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:

1. Patient contact and/or video case presentations.
2. One-on-one and/or group discussions.
3. Textbook and literature searches on selected neurogenetic topics, as well as general topics in the neurosciences.
4. Clinical laboratory exposure to metabolic-genetic diseases/case presentations.
5. Attend Greenwood Genetic Center monthly case conference and MUSC neurosciences conferences.

**PATIENT ENCOUNTERS:** Students will be expected to work-up patients with these specified conditions:

1. Patients with neurodevelopmental disabilities (NDD) of suspected genetic origin
2. Video/power-point patient presentations to experience the broad differential diagnosis of patients with NDD.

**EVALUATION / FEEDBACK METHODS:** Students will be evaluated using the following methods.

1. E*Value Clinical Performance Evaluation (PC, PR, MK, CS, SL, PL)
2. Direct observation and in-person feedback by attending physician and/or resident physician. (CS, MK, PC, PR, PL, SL)
3. Midpoint feedback from the course director or the assigned faculty co-director. (MK, PC, PR, PL, SL, CS)

**Will students be expected to participate in call?** ☐ YES ☑ NO