Overview

The Neurology Clerkship is designed to provide you with exposure to common neurological questions found in both the neurology outpatient and inpatient settings. For many of you, this will be the only training in clinical neurology you will receive throughout your entire professional career. The next four weeks will be your opportunity to learn the fundamentals of neurology. We encourage you to familiarize yourself with the course goals and objectives provided in the Neurology Clerkship Manual at the beginning of the rotation.

The clerkship is divided into two 2-week blocks. You will have exposure to General Neurology for 2 continuous weeks at either University Hospital (UAB) or the Birmingham Veterans Hospital (VA). Students will be randomly assigned to UAB or VA hospital. Exceptions are made only in the case when students interested in neurology want their rotation at UAB. Further information regarding these services is provided below. In addition, each student will spend 2 weeks on the UAB Stroke Service. Details regarding the organization, responsibilities, and required reading for these rotations are provided in the following sections.

Students are expected to participate in the evaluation and management (under the direct supervision of a faculty member, resident or clinical preceptor) of patients with acute and chronic neurological conditions. During the Neurology Clerkship students will be involved in the care of at least eight patients with acute neurological syndromes (including four patients with stroke or stroke-like syndromes, two patients with suspected or documented seizures, two patients with altered mental status), six patients with chronic progressive neurological problems (including two neuromuscular disease states, one movement disorder, one dementia and two cases of documented or suspected MS) and 2 patients with chronic pain syndromes.

Neurology is a difficult subject to master in four weeks. We strongly recommend that you spend any free time studying either independently or collectively for the NBME final shelf exam. While it is impossible to teach you all the details of neurology, we have provided you an organized and systematic approach to the main topics of neurology with our Lecture series and our Lecture handouts. In addition, each medical student is required to be observed doing a neurological exam at least twice during the rotation.
Each student is also responsible for maintaining an accurate list of all patients seen and/or evaluated during their rotation. These forms must be turned in to the Clerkship Program Coordinator before you will be allowed to take the neurology final exam.

Our goal is to provide you with the fundamental clinical knowledge of neurology that all medical students should have before graduating medical school. We also provide you with the material necessary to do well on questions on your final neurology shelf exam as well as USMLE Step 2 & USMLE Step 3. Most importantly, we hope you find these next four weeks both intellectually challenging and professionally rewarding.

Please feel free to contact us via email at any time with any questions, concerns, or comments.

Course Rotations

**UAB General Neurology (\textit{``Red Team''})**

The General Neurology Service consists of a Neurology Attending, one Neurology Senior Resident (PGY-4), two Neurology Junior Residents (PGY-2), occasionally a Psychiatry Resident (PGY-1) or an Acting Intern (MS-4), and several medical students (MS-3).

Medical students rotating on the UAB General Neurology Service will be responsible for following all patients on service. Students should divide the list of patients evenly and make great effort to take care of patients with different neurological conditions. Every morning, the Resident on call will write a list of new patients admitted overnight on the blackboard in the M8 Conference Room. It is the student’s responsibility to write their initials next to any patients they pick up. Students should arrive early in anticipation of seeing more than one patient. Whenever a “Red Team” medical student is on call, they will be responsible for presenting and following the patient the next day.

Students will be responsible for presenting each patient on morning rounds. A full history & physical will be presented for each new patient, while an updated SOAP note can be presented for all follow-up patients. Each attending will have different expectations for student presentations. Students should ask the Senior Resident for any recommendations to help with their presentations.

In addition, students are responsible for writing a full SOAP note on each patient. A sample neurology SOAP note is available in the Neurology Clerkship Manual. It is strongly recommended that you type progress notes on the yellow progress note paper for all patients that you believe will stay for 3 days or longer. This requires more effort initially, but saves a great deal of time for you overall. The quality of your SOAP notes will be factored in your evaluation.
Students are also responsible for obtaining all laboratory data and radiological studies for each patient. Hard copies of films can be stored in the cabinet on M8. A new computer system with access to imaging and CDA/IPV has been installed in the M8 Conference Room.

The most important part of General Neurology is your assessment and plan. You should be well prepared to discuss differential diagnoses, potential work-ups, and implications of laboratory and radiological studies. As part of our overall philosophy of practicing Evidence-Based Medicine, you are strongly encouraged to research interesting questions presented during morning rounds.

During the two week General Neurology rotation, you will have the opportunity to work with your preceptor at The Kirklin Clinic as well as work with Attendings in the Epilepsy Clinic. You should inform your Senior Resident the day before your clinics so you will be able to present your patients first on morning rounds. Once you have presented your patients on morning rounds, you may break from rounds to attend the outpatient clinic.

**VA General Neurology**

The VA General Neurology Service is comprised of a Neurology Attending, Senior Neurology Resident, Junior Neurology Resident and/or Psychiatry Resident. Students are expected to follow all patients on service throughout their hospitalization. Each student is responsible for writing history and physicals on all patients as well as daily progress notes. In addition, students are expected to attend the VA Neurology Sub-specialty clinic on Friday mornings. Students are expected to attend both the Resident VA and Resident Cooper Green Clinic. Participation in their preceptor’s clinic at The Kirklin Clinic as well as the Epilepsy Clinic is also required during these two weeks.

Students will be responsible for presenting each patient on morning rounds. A full history & physical will be presented for each new patient, while an updated SOAP note can be presented for all follow-up patients. Each attending will have different expectations for student presentations. Students should ask the Senior Resident for any recommendations to help with their presentations.

The most important part of General Neurology is your assessment and plan. You should be well prepared to discuss differential diagnoses, potential work-ups, and implications of laboratory and radiological studies. As part of our overall philosophy of practicing Evidence-Based Medicine, you are strongly encouraged to research interesting questions presented during morning rounds.
The Stroke Team is comprised of a Neurointensivist or Neurology Attending, two Neurology Residents, and occasionally a Neurosurgery or Emergency Medicine Resident. Medical students are encouraged to understand the neuroanatomy, pathophysiology, clinical presentation, evaluation, and treatment of stroke patients. In addition to vascular neurology patients, the Stroke Service manages patients with neurological conditions that need specific ventilatory management (Guillain-Barre and Myasthenia Gravis). Students should take time to learn about management of patients with these illnesses.

The purpose of the Stroke Service is to learn the basic work-up of Stroke patients. Students are encouraged to carry the “Code Stroke” pager and respond to all “Code Strokes” during the day. Each student should carry a maximum of six patients (maximum 2 ICU patients) at any one time. Although not all patients will be personally followed by students, the medical students on service will be required to update the “UAB Stroke Patient Log” for all patients on service. Details of this log will be explained the first day of service.

In order to provide continuity of care, students rotating off the Stroke service will need to check out their patients to the students starting their rotation. Students should have time to read about different types of strokes and their risk factors during their rotation.

Call

Each student will be responsible for 4 overnight calls over their four week neurology clerkship. Calls will be divided into 3 weekday and 1 weekend call. Weekday call will be from 5:00 pm until 7:00 am the next morning. Weekend call will be from 7:00 am to 7:00 am the next morning. Students will be responsible for contacting the neurology resident on call at 5:00 pm and provide him/her with your name and pager number. It is encouraged that students follow the resident as soon as he/she becomes available.

Medical students will be responsible for evaluating patients seen as UAB or VA admissions and floor consults, as well as seeing Emergency Room Code Strokes or Consults. Evaluations will often include obtaining and completing a full history and physical, providing a differential diagnosis and suggesting a treatment plan.

Residents who feel you performed well above average while on call have been strongly encouraged to submit evaluation forms regarding your performance to the Clerkship office.

Switching call is strongly discouraged. If special circumstances should arise, the medical student on call is responsible for finding another medical student to switch call. The Master Call Schedule for Medical Students posted in the M8 Conference Room
should reflect these changes. A Neurology Medical Student Call change should be completed and faxed to Shirley Gibbs prior to the switch.

Medical students have a room with two beds on the 16th floor of Jefferson Towers devoted to the Neurology medical student on call. On many occasions, more than one medical student will be on call per night. If members of the opposite sex feel uncomfortable for any reason to share a room, the medical student with the same sex can stay in the neurology resident’s call room (there are two beds in the resident’s call room).

All students post-call will be required to leave at 1 p.m. post-call. If all morning duties are completed and no lectures are scheduled, the student may ask the senior resident to leave earlier. Medical students are not allowed to admit any new patients their post-call day. This policy will be strictly enforced. Any violations should be brought to the attention of Ms. Shirley Gibbs immediately.

**NBME Final Exam (National Board of Medical Examiners)**

At the end of your rotation, each student will be required to pass the Neurology NBME Final Shelf Exam. This exam will comprise 30% of the overall Neurology Clerkship grade. Any student scoring more than 2 standard deviations below the mean will need to retake the exam. According to UAB policy, any student failing the exam will receive no higher than a “C” for the entire clerkship. The Shelf exam will be administered on the final Friday of the rotation. Students are expected to attend rounds Friday morning before the final exam.

**Brain Cutting**

Each Tuesday from 11:00 – 12:00, students are encouraged to attend “Brain Cutting.” This takes place on the second floor on the (Parking Deck 4) Faculty Office Tower; Division of Anatomic Pathology – Neuropathology. This interactive session is usually taught by Dr. Richard Powers (Director of Neuropathology Course). Medical students have considered this experience to be one of the highlights of the neurology clerkship.

**Professors Rounds**

Each Wednesday afternoon from 1:00 – 2:00 pm, medical students will present a neurology patient to Dr. Paul Atchison for further discussion. Medical students are strongly encouraged to present patients with interesting clinical findings. This is an opportunity for further discussion of the neurological exam. Attendance is mandatory for all students.

**Epilepsy Clinic**

Each medical student is required to attend Epilepsy Clinic one-half day during their General Neurology two week period. No more than 2 students can be in clinic at
any one time. Clinic is several times per week with different attendings. The available clinic schedule can be found in the Neurology Clerkship Manual. Students are encouraged to read about Epilepsy, Seizure classification, Status Epilepticus, and Anti-Epileptic medications prior to arriving to clinic.

Morning Report

All students are expected to attend morning report throughout their clerkship. Each morning report is devoted to a particular subspecialty of neurology. Professors have been chosen for their teaching abilities. Monday morning report takes place from 8-8:30 at JT 3rd floor and is devoted to Neuroradiology. All other morning reports are located in the P8 Conference Room from 7:30 – 8 am. Students should make all attempts to be at morning report at least 5 minutes ahead of time. Seating around the Conference Table is usually reserved for Neurology Residents, but plenty of seating is available in the surrounding chairs around the room. The following is a schedule of Morning Reports.

<table>
<thead>
<tr>
<th>Day</th>
<th>Morning Report</th>
<th>Time</th>
<th>Location</th>
<th>Attending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>Neuroradiology</td>
<td>8:00 - 8:30</td>
<td>Jefferson Towers 3rd floor</td>
<td>Joel Cure, M.D.</td>
</tr>
<tr>
<td>Tuesday</td>
<td>General Neurology</td>
<td>7:30 - 8:00</td>
<td>P8 Conference Room</td>
<td>Robert Slaughter, M.D.</td>
</tr>
<tr>
<td>Wednesday</td>
<td>Evidence-Based Neurology</td>
<td>7:30 - 8:00</td>
<td>P8 Conference Room</td>
<td>Khurram Bashir, M.D.</td>
</tr>
<tr>
<td>Thursday</td>
<td>Neuromuscular Disorders / General Neurology</td>
<td>7:30 - 8:00</td>
<td>P8 Conference Room</td>
<td>Gwen Claussen, M.D.</td>
</tr>
<tr>
<td>Friday</td>
<td>Epilepsy</td>
<td>7:30 - 8:00</td>
<td>Sparks Conference Rm 330</td>
<td>Epilepsy Faculty</td>
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Preceptors / The Kirklin Clinic

Students will have the opportunity to learn about neurological diseases from an outpatient exposure by following a faculty member from the Department of Neurology at The Kirklin Clinic. Students will be given their assignments to a specific faculty member at orientation in their Neurology Manual. Each student is encouraged to contact their preceptor’s office to find out their Clinic schedule. Students are required to attend at least one clinic during their General Neurology experience. If your preceptor’s clinic is in the morning, you are encouraged to inform the senior resident on service. All attempts will be made to discuss your patients first in order for you to attend your preceptor’s clinic. If your preceptor is not available, please contact Shirley Gibbs immediately, and another preceptor will be assigned to you.

Residents Clinic

Residents have their supervised clinics on Thursday afternoons (VA clinic) and Friday afternoons (Cooper Green). These clinics are MANDATORY for all students (except those students post-call). Students are encouraged to follow one of the Senior
Residents in the VA clinic to see common neurological complaints. The Cooper Green Clinic provides an opportunity to take a more active role in patient care. Students are encouraged to bring patients back into empty rooms and perform history and physical examinations. This has historically been a chance to have residents supervise you performing the neurological exam.

**Grading**

Medical Students are evaluated by their Attending and Senior Resident on each of their services. Attending and Senior’s evaluations will be entered at the end of the clerkship. They will enter student evaluations via the on-line E*Value System. It is also important that all students enter evaluations of the clerkship, attending(s) and resident(s) at the end of the Neurology clerkship. In your binder is a mid clerkship evaluation that should be completed by the Attending or Senior Resident at the end of “Block 1”. It is the student’s responsibility to return all completed evaluations to Shirley Gibbs prior to taking the Neurology final exam.

Additional evaluations from Neurology residents on call or in clinic can be submitted if the student feels like he/she developed a strong rapport with the Neurology Resident. Please email or call Shirley Gibbs and give her the name of the resident(s) you worked with and she will send an additional E*Value evaluation per your request for completion. In addition, if there is a borderline grading situation, benefit will be given to students who have exemplary history and physicals, attend extra attending clinics, or complete a more thorough patient log.

The NBME Neurology Clerkship Exam will be given on the last Friday of the rotation and will comprise 30% of your final grade. This exam will be curved based on the standardized grading scale established nationwide. According to UAB policy, students failing a NBME final exam initially will receive no higher than a “C” in the entire clerkship, regardless of their performance in their clinical rotations. Students who fail the exam initially will receive an incomplete and will need to retake the exam at a later date, before passing the rotation. Students who fail the exam twice will need to remediate the entire Neurology rotation.

Students will also have 20% of their grade devoted to the successful completion of all requirements of the Neurology Clerkship Checklist as well as the observed neurological exam. Students failing to complete all requirements or submitting substandard forms will be severely penalized.

Appeals to the grading system should be carefully considered and can be made to Dr. Robert D. Slaughter, Director of the Neurology Clerkship. This will result in a formal re-evaluation of your performance that could potentially improve or lower your final grade.
The grading system for the Neurology Clerkship is as follows:

<table>
<thead>
<tr>
<th>Percentage</th>
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<tbody>
<tr>
<td>General Neurology/VA</td>
<td>25%</td>
</tr>
<tr>
<td>UAB Stroke Service</td>
<td>25%</td>
</tr>
<tr>
<td>Overall Clinical</td>
<td>50%</td>
</tr>
<tr>
<td>NBME Final Exam</td>
<td>30%</td>
</tr>
<tr>
<td>Checklists/ Patient Log / Observed Neuro Exam</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>100%</td>
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</tbody>
</table>

**Evaluation forms**

Each student will have a copy of the UAB Attending / Resident evaluation form from the General Neurology rotation and the Stroke Service in their Neurology Clerkship Manual. This should help you understand how you will be evaluated throughout the rotation. The Attending evaluation will incorporate junior resident input and will comprise 2/3 of the grade for that particular rotation. The Senior Resident on service will have an evaluation that will comprise 1/3 of your grade. More information on grading is provided in the grading portion of the Course Description.

We strongly encourage each student to participate in the electronic evaluation system developed for the UAB School of Medicine. Please evaluate all residents you have encountered, particularly residents that were well above or below average. Your feedback is deeply appreciated and will have a direct impact on how the course develops over the next few years.

**Weekends**

Each student will have 3 days off during the clerkship in addition to the 2 days (weekend) before the rotation begins and 2 days (weekend) after the rotation ends. On the weekend days you will be off, it is the student’s responsibility to cover each others patients as well as pick up any new patients admitted overnight. It is important to discuss and coordinate these days with the senior resident on service. This will be good preparation for your future role as “residents” in the next few years.

**Lecture Series**

The Lecture Series is comprised of at least eight major topics in neurology. Lecture handouts are provided in the course manual you received at the beginning of the rotation. Lecture topics have been chosen for their clinical importance as well as their “high-yield” frequency for appearing on standardized exams. Students should come prepared to discuss these topics in further depth. Occasionally, faculty and residents will
have additional handouts regarding these same topics. All lectures are required and a
sign-in sheet for the lecture will be faxed to Shirley Gibbs after the lecture is completed.

In addition, some faculty and residents have additional lectures on additional
topics, review sessions, or specific case studies. Students are encouraged to attend these
sessions as they have been highly received in the past and helpful for the neurology final
exam.

History and Physical

Each medical student is required to submit a copy of one complete, formal history
and physical (reviewed with written comments) prior to taking the neurology final exam.
This history and physical should be submitted to the attending and/or senior resident on
service for constructive feedback. It is strongly encouraged that this be completed earlier
in the rotation. Exemplary work-ups will be factored in your final grade. A sample
history and physical from a previous 3rd year medical student is provided in your course
manual.

Grand Rounds

The Department of Neurology and Department of Neurosurgery have Grand
Rounds every Tuesday afternoon at 5:00 pm. This is an opportunity to listen to Visiting
Guest Lecturers, Neurology or Neurosurgery Attendings, and Neurology Residents as
they present the latest updates in their respective fields. All medical students are expected
to attend Grand Rounds unless they are post-call. Students should arrive 5-10 minutes
prior to the beginning of Grand Rounds and take their seats in the FRONT 2 – 6 ROWS
TOWARDS THE MIDDLE. A sign-in sheet should be faxed to Ms. Shirley Gibbs
(fax# 996-4150) with all students who attended grand rounds the next day.

Patient Log

As part of the new curriculum requirements of the University of Alabama School
of Medicine, each medical student is required to complete a clinical patient encounter log
throughout the neurology clerkship. You are required to go on-line to E*Value and enter
your patient log information. An example of this patient log can be found in the
Neurology Clerkship Manual and must be accurately completed and submitted prior to
the NBME final exam. No student will be allowed to take the final exam until this log is
submitted. Please take all efforts to document all inpatient and outpatient encounters.
All patients seen or discussed (even during morning reports) should be documented in the
log. Students are encouraged to see as many patients as possible throughout their
rotation.

Textbooks

There are two textbooks required for the Neurology Clerkship. The main
textbook is Clinical Neurology by Aminoff. This text should give you a more in-depth
explanation for most neurological diseases. It is also a good reference book for neurological problems while on other services. In addition, we highly recommend *Blueprints in Neurology* by Drislane for great preparation for the NBME final exam and for preparation for USMLE step 2 & 3. As it is impossible to teach all of neurology in 4 weeks, you should dedicate a large investment of your time to individualized reading. We recommend that you start reading the first day and continue during your free time throughout the rotation. All information in Blueprints is extremely high-yield and should give you an organized approach to Neurology. In addition, most third year medical students have found *Pre-Test Neurology* to be an excellent source of neurology review questions in preparation for the NBME final shelf exam. Other Neurology textbooks are available in the Hospital Branch of the Lister Hill Library for further reading.

**Observed Neurological Exam**

Since this is the only time medical students will have a chance to learn the neurological exam well, the Department of Neurology has mandated that each medical student be observed performing the neurological exam at least twice during their rotation. There is a checklist provided in the Neurology Clerkship Manual that must be completed with signatures prior to taking the final exam. You should make all attempts to have the first neurological exam completed by the first week. The second supervised exam should be unassisted and completed within the last two weeks of the clerkship. Two Mini-Mental Status Examination forms are provided in the Neurology Clerkship Manual.

The Neurological Exam and Mini-Mental Status Examination are frequently tested in the Clinical Skills Examination you will be required to take prior to graduating. This is the best time to further your skills in order to do well at that time.

**Contact Us**

If you have any questions, comments, or concerns during the clerkship, please do not hesitate to get in touch with us. The quickest way is via email to Ms. Shirley Gibbs (sgibbs@uab.edu). Your feedback is deeply appreciated as we are always trying to improve this rotation for future students.