

Neurology Clerkship Director Toolkit

February 2022

Welcome and congratulations on being selected as the neurology clerkship director at your institution! According to the most recent survey of neurology clerkship directors (CDs) ([Ref1](#)), an increased percentage of CDs are very satisfied in their role, and we look forward to supporting and providing you with helpful resources. We have collected content from the American Academy of Neurology (AAN) Consortium of Neurology Clerkship Directors (CNCD) and other resources and have summarized the information below. We hope the resources below will help you develop and refine your Clerkship.

This document has been reviewed and approved by the AAN's Education Committee and Undergraduate Education Subcommittee.

Editors (in alphabetical order):

Miguel Chuquilin, MD, FAAN, University of Florida, Gainesville

Erin Furr-Stimming, MD, FAAN, University of Texas Health Sciences Center at Houston

Doris Kung, DO, FAAN, Baylor College of Medicine

Rachel Salas, MD, FAAN, Johns Hopkins University School of Medicine

Madhu Soni, MD, FAAN, Rush University Medical Center

Prasanna Tadi, MD, Creighton University

Table of Contents

1. [Clerkship Director Responsibilities](#)
2. [Curriculum Design](#)
3. [Neurology Clerkship Syllabus Writing Guide](#)
4. [Determining Your Grading Components](#)
5. [Educating the Educator—Your Career Development](#)
6. [CD Directory](#)
7. [References and Additional Resources](#)
8. [Appendix](#)

Clerkship Director Responsibilities

Let's start with the basics. What does the job of a clerkship director entail, and which skills are needed?

Experience Needed:

- Demonstrate a working knowledge of national, institutional, and departmental specific curricular goals and objectives.
- Meet and maintain faculty development requirements in clinical supervision, classroom instruction, and formative/summative evaluation.

Administrative Needs:

- The Alliance for Clinical Education (ACE) recommends that CDs receive at least 50% protected time ([Ref6](#)).
- Data collected by the AAN in 2017 ([Ref1](#)) showed that about a third of CDs received up to 50% protected time, and some received up to 60%. This same study showed that:
 - The majority (57%) of CDs had an assistant, associate, or co-director.
 - The average support for coordinators or administrative staff was 43%.

A General Job Description/Recommended Duties (Also Consider Reviewing ACE ([Ref6](#))):

- Develop and oversee a clinical experience/clerkship that meets the medical school program objectives and the Liaison Committee on Medical Education (LCME) standards, by formulating clear and specific guidelines and expectations for student participation in patient care at all clinical sites.
- Generate and distribute curriculum materials that support the clinical experience.
- Organize and oversee curriculum delivered by faculty, house staff, and other health professionals (e.g., advanced practice providers, etc.).
- Receive implicit bias training to promote inclusion, diversity, equity, anti-racism, and social justice (IDEAS) in regular clerkship activities.
- Recruit a diverse faculty to execute the experiences, including faculty development to prepare for teaching and assessing learners.

- Oversee all schedules related to clinical and non-clinical experiences of the Clerkship, including teaching sessions.
- Manage the orientation of students and educators to explain the goals and objectives of the rotation.
- Develop and provide teaching sessions for each rotation of students.
- Modify teaching sessions and clinical experiences according to student feedback and using strategies that promote active student engagement.
- Supervise and teach individual students in clinical settings.
- Ensure all students receive direct observation, midterm feedback, and summative assessment of history-taking and physical examination skills by faculty and house staff.
- Maintain ongoing communication of clerkship events with each rotation of students and educators.
- Maintain a strategy for ongoing program and individual student assessment linked to the core goals and objectives.
- Develop, standardize, and maintain reliable patient examination standards, which address core goals and objectives.
- Oversee the timely completion and submission of a final grade for each student, including an individual student narrative noting goals met, strengths, and areas for continued work aligned with the school's guidelines.
- Establish and maintain a process for detecting and remediating students with academic or professionalism difficulties.
- Recognize, investigate, and mitigate student grievances, including for evaluations, grades, misconduct, and mistreatment.
- Provide mentoring to foster student interest in neurology, assist those applying to residency programs with letters of recommendation, and share opportunities for local, regional, or national awards or scholarships.
- Ensure sufficient and equivalent clinical experiences across all teaching sites.

- Maintain ongoing communication with teaching faculty and house staff regarding clerkship expectations.
- Review and distribute, as appropriate, clerkship evaluation data on a regular basis and revise curriculum or structure when needed.
- Review and distribute to faculty, at least annually, teaching evaluations.
- Maintain ongoing communication with the Department Chair, (and as applicable, the Education Vice-Chair/Education Committee Chair), and institutional undergraduate medical education committee(s) regarding program effectiveness and needs.
- Communicate teaching contributions of faculty to the Department Chair and as applicable, to the Education Vice-Chair.
- Prepare for and participate in site visits by accrediting bodies.
- Recruit and oversee training and cross-training of associate clerkship directors, assistant clerkship directors, and clerkship coordinators to ensure coverage of duties in times of absence; to provide feedback about performance; and participate, as required, in the annual review process of these individuals.
- Attend and actively participate in all meetings of the institutional clerkship subcommittee of the Curriculum Committee.

While this list of duties might seem lengthy, you are likely doing most of these things already, and that is how and why you were selected for this critical position!

Curriculum Design

You will likely need to work collaboratively with your Office of Educational Affairs and the Curriculum Committee to design a clerkship that works for your institution.

Based on the 2017 CNCD survey ([Ref 1](#)):

- Approximately 50% of neurology clerkships occur in the third year.
- Clerkship duration is four weeks in 75% of schools.
- 85% of students spend time in outpatient clinics at academic centers and 76% at Veterans Affairs (VA), county, or community settings.

Below is the recommended core curriculum guidelines for a required clinical neurology experience and educational resources.

- Core Curriculum Guidelines for a Required Clinical Neurology Experience:
<https://n.neurology.org/content/92/13/619>
- Resources for Improving Your Course: https://www.aan.com/siteassets/home-page/tools-and-resources/academic-neurologist--researchers/academic-careers/education-oriented-faculty/17improvingyourcourse_tr.pdf

Student Schedule Guiding Principles

The following are general recommendations that can be modified depending on each institution's clinical sites, patient, and student volumes.

The degree of inpatient vs. outpatient experience will vary depending on the number of sites and services available at each institution. A mix of inpatient and outpatient settings is recommended so that students are exposed to different subspecialties and to the common conditions seen by practicing neurologists. Students must be exposed to various subspecialties as part of their core neurology experience to acquire a breadth of neurology knowledge ([Ref2](#)).

During outpatient rotations, students should not just be "shadowing." They can be assigned to faculty who are more comfortable with allowing students to take a history and examine patients. However, all clinical faculty should be encouraged to enable students to independently evaluate and present patients if time and space are conducive.

Faculty should also be provided with guidance on how to incorporate students in a meaningful way. For example, if only one clinic room is available, students may be allowed to ask history questions during the first five or ten minutes while the faculty member documents.

During the examination, students can be asked to demonstrate a component that is not time intensive, part of the screening examination, and based on the performance, may not require repetition. For example, testing a specific cranial nerve or gait testing. There are also helpful resources for faculty development on incorporating students into the outpatient setting ([Ref3](#)). See [Appendix](#) for info on the Description of Rotations, Expectations, and Responsibilities.

Student Rotation Schedule Examples

This example represents the schedule of a group of eight students who can rotate on different inpatient (1, 2 and 3) and outpatient sites.

Rotation	Student	Student	Student	Student	Student	Student	Student	Student	Student
Week 1	AM	Inpatient Site 1	Inpatient Site 1	Outpatient	Outpatient	Inpatient Site 3	Inpatient Site 3	Inpatient Site 2	Inpatient Site 2
	PM	Inpatient Site 1	Inpatient Site 1	Outpatient	Outpatient	Inpatient Site 3	Inpatient Site 3	Inpatient Site 2	Inpatient Site 2
Week 2	AM	Inpatient Site 2	Inpatient Site 2	Inpatient Site 1	Inpatient Site 1	Outpatient	Outpatient	Inpatient Site 3	Inpatient Site 3
	PM	Inpatient Site 2	Inpatient Site 2	Inpatient Site 1	Inpatient Site 1	Outpatient	Outpatient	Inpatient Site 3	Inpatient Site 3
Week 3	AM	Inpatient Site 3	Inpatient Site 3	Inpatient Site 2	Inpatient Site 2	Inpatient Site 1	Inpatient Site 1	Outpatient	Outpatient
	PM	Inpatient Site 3	Inpatient Site 3	Inpatient Site 2	Inpatient Site 2	Inpatient Site 1	Inpatient Site 1	Outpatient	Outpatient
Week 4	AM	Outpatient	Outpatient	Inpatient Site 3	Inpatient Site 3	Inpatient Site 2	Inpatient Site 2	Inpatient Site 1	Inpatient Site 1
	PM	Outpatient	Outpatient	Inpatient Site 3	Inpatient Site 3	Inpatient Site 2	Inpatient Site 2	Inpatient Site 1	Inpatient Site 1

Disclaimer: The schedule above is an example that may be used as a guide; the details will vary per institution. Depending on site and patient volume, students could also do inpatient in the morning and neurology clinic in the afternoon.

Inpatient Rotation: A rotation with 50% inpatient experience would be more optimal with exposure to stroke, general neurology, neuro-critical care as appropriate and depending on the availability. Consider offering an experience in child neurology as part of your Clerkship, though we recognize that child neurologists are not readily available at all institutions.

Outpatient Neurology Clinics: Ideally, at least 25% of the student experience should be outpatient. In 2020, due to the COVID-19 pandemic, some clerkships have moved part or all the outpatient clinic activity to teleneurology visits using Zoom or similar apps. The student can interview the patient while the attending actively listens to the encounter on the computer and provides feedback or clarification.

Neurology Clerkship Syllabus Writing Guide

General guidelines for recommended components of a syllabus:

- Cover page.
- Index: Important to include hyperlinks within the document for ease of use.
- Directory: CD team and education coordinator names, photos, contact information, site addresses, and phone numbers.
- Description of evaluation methods (clinical core competencies, NBME and other exams, simulations, and assignments) and their respective % values to the final grade. You can use the results of the CNCD survey ([Ref1](#)) to get an idea of how to weigh each activity.
- Remediation policy.
- Grade grievance process.
- Sample Syllabi – [Appendix](#) and the CNCD Synapse Library ([Ref4](#))

Determining Your Grading Components

We collected data from members of the CNCD and summarized the results below. The final grade of the Neurology Clerkship is determined based on performance in several areas. The table below lists the ranges provided by 17 US medical schools. For examples of grade breakdowns from different US neurology clerkships, see the [CNCD Synapse Library \(Ref4\)](#).

On average, most clerkship final grades are determined using multiple data points (objective and subjective). Most institutions use the National Board of Medical Examiners (NBME) shelf exam and clinical evaluations, with varying percentages allotted to participation and/or performance with other required activities during the Clerkship.

All clerkships acknowledge the importance of professionalism and most mention that unprofessional behavior will result in failure of the Clerkship.

All the schools that require that students take the NBME shelf exam require that students perform at least above the 5th percentile to pass the Clerkship. Several schools require a higher percentile to achieve a High Pass or Honors.

Clerkship Component	Contribution to Final Grade
Clinical Performance (evaluation scores from faculty and/or residents).	35–70%
NBME shelf exam.	25–40%
"Assignments" include H&Ps, written reports, oral presentations, assessment in the simulation lab or with a standardized patient, evidence-based medicine project, didactic attendance, online case participation and/or performance, and quizzes, etc.	5–30%
Neuro OSCE (Objective Structured Clinical Examination) (not done in all programs or can be part of a standardized patient exam).	15–25%
Neuro in-house exam (not done in all programs).	10–15%

Educating the Educator—Your Career Development

We have focused on building and optimizing your Neurology Clerkship, but please do not forget about yourself and building your career as an educator. Your continued professional development is important and will strengthen your students' educational experience.

Tips for Career Development

- Request time and funding (which should be provided to CDs) to attend national meetings for medical education to build educational skills (e.g., Annual AAN CNCD meeting, AAN CD Leadership Academy, AAN Leadership Programs, NBME Conference for Educators, and the ACGME Annual Educational Conference).
- Engage in the AAN CD Leadership Academy, which provides emerging CDs the mentorship of experienced CDs to receive practical advice and guidance to set them up to be maximally effective in their new role.
- Submit and give presentations on clerkship innovations and scholarship at local and national educational meetings.
- Seek nomination for teaching and education awards at <https://www.aan.com/education-and-research/research/awards-fellowships/>.
- Generate and disseminate clerkship-related scholarly products and innovations.
- Submit education related research to the AAN or other meetings (American Association of Medical Colleges (AAMC), American Medical Association (AMA), etc.)
- Take advantage of other AAN resources available to clerkship directors such as:
 - Resources for Improving Your Course: https://www.aan.com/siteassets/home-page/tools-and-resources/academic-neurologist--researchers/academic-careers/education-oriented-faculty/17improvingyourcourse_tr.pdf
 - ACE Guidebook Chapter 23: Career Development for Medical Student Clinical Educators: https://www.aan.com/siteassets/home-page/tools-and-resources/academic-neurologist--researchers/academic-careers/education-oriented-faculty/17aceguidebook_tr.pdf

- Career Development for Clinician Educators: <https://www.youtube.com/playlist?list=PLY-bkSSUuzAfikyRhRnC7r0n6uYe4PYT>
- AAN Director Mentorship Program: <https://www.aan.com/conferences-community/leadership-programs/clerkship-program-and-fellowship-director-mentorship-program/>

CD Directory

- Check out the Consortium of Neurology Clerkship Directors page at <https://www.aan.com/tools-and-resources/academic-neurologists-researchers/clerkship-and-course-director-resources2/consortium-of-neurology-clerkship-directors/>.
- In addition, check out the CNCD Synapse online community at <https://synapse.aan.com/communities/community-home?CommunityKey=e731c62b-28b5-4ae3-bd60-31bab5cd49d1&HLkey=vvVlxwShsXluGn6oGoa+UA6sIRTnSUL1GTJX4uWSO4I=> to share your ideas and get advice from other clerkship directors.

Interested in becoming a part of the CNCD Synapse group? Please email Lucy Persaud at lpersaud@aan.com the following to be added to the private community page.

- Name
- Institution
- Role (clerkship director, associate clerkship director, or clerkship coordinator, etc.)

References and Additional Resources

1. A dozen years of evolution of neurology clerkships in the United States. Looking up. Joseph E. Safdieh, Adam D. Quick, Pearce J. Korb, et al. Neurology September 07, 2018.
<https://n.neurology.org/content/91/15/e1440.long>
2. Core curriculum guidelines for a required clinical neurology experience. Joseph E. Safdieh, Raghav Govindarajan, Douglas Gelb, et al. Neurology March 26, 2019.
<https://n.neurology.org/content/92/13/619>
3. Incorporating students into clinic may be associated with both improved clinical productivity and educational value. Jeremy A. Tanner, Karthik T. Rao, Rachel E. Salas, et al. Neurology Clinical Practice December 2017. <https://cp.neurology.org/content/7/6/474>
4. CNCD Synapse Library Neurology Clerkship Resources:
[https://synapse.aan.com/communities/community-home/librarydocuments?communitykey=e731c62b-28b5-4ae3-bd60-31bab5cd49d1&tab=librarydocuments&LibraryFolderKey=&DefaultView=.](https://synapse.aan.com/communities/community-home/librarydocuments?communitykey=e731c62b-28b5-4ae3-bd60-31bab5cd49d1&tab=librarydocuments&LibraryFolderKey=&DefaultView=)
5. CNCD Synapse Online Community: [https://synapse.aan.com/communities/community-home?CommunityKey=e731c62b-28b5-4ae3-bd60-31bab5cd49d1&_ga=2.226794011.765106857.1605633271-1850281319.1478267088&HLkey=vXB+RBkukDVw9GHJ7QMyho7RgmYJOZbqfACkGjfROT8.](https://synapse.aan.com/communities/community-home?CommunityKey=e731c62b-28b5-4ae3-bd60-31bab5cd49d1&_ga=2.226794011.765106857.1605633271-1850281319.1478267088&HLkey=vXB+RBkukDVw9GHJ7QMyho7RgmYJOZbqfACkGjfROT8)
6. Expectations of and for Clerkship Directors 2.0: A Collaborative Statement from the Alliance for Clinical Education. Bruce Z. Morgenstern, Brenda J. B. Roman, Deborah DeWaay, W. Christopher Golden, Erin Malloy, Rishindra M. Reddy, Ann E. Rutter, Rachel Salas, Madhu Soni, Stephanie Starr, Jill Sutton, David A. Wald & Louis N. Pangaro (2021), Teaching and Learning in Medicine, 33:4, 343-354, DOI: [10.1080/10401334.2021.1929997](https://doi.org/10.1080/10401334.2021.1929997)

Appendix

1. [Description of Rotations, Expectations, and Responsibilities](#)
2. [Example Syllabus](#)
3. [Example Evaluation and Feedback Forms](#)
4. [Attendance and Absence Policy Example](#)

Description of Rotations, Expectations, and Responsibilities

Disclaimer: The site descriptions and student responsibilities listed below are examples and may be used as a guide; the details will vary per institution.

Neurology Inpatient Service

This service is comprised of patients admitted to a neurologic unit with acute, severe, and/or rapidly progressive signs and symptoms due to neurologic disease; elective evaluation of spells with continuous EEG; and/or specific treatments, such as immunotherapy infusions that require monitoring. Students will follow patients and will be expected to write a progress note every morning before rounds. For new admissions during the day, students should perform and write a complete history and physical, and formulate a differential diagnosis, assessment, and plan. Based on the clinical course and test results, the diagnosis, assessment, and plan should be updated in the subsequent daily progress notes. Additional team members will usually consist of a Neurology resident(s), fellow(s) and/or rotator(s) from other departments. Interprofessional collaboration is a valuable component to providing excellent patient care in neurology and may also be expected, (e.g., with physical therapists, occupational therapists, and social workers) but this may vary per institution.

Neurology Consult Service

This is a service consisting of both inpatient and emergency department consultations for patients. Upon evaluating new consult patients, students will be expected to perform and write a complete history and physical and formulate a differential diagnosis and plan. Please try and review the case with the resident prior to presenting to the attending on rounds.

Neurology Clinics

This is an ambulatory outpatient clinic experience. Students may be involved in the care of patients in the general or subspecialty neurology clinics. Upon evaluating a patient, students may be asked to perform and document a complete history and physical, or focused interview and exam, to localize, and formulate a differential diagnosis and plan. Please review the case with the supervising resident or attending in clinic.

Inpatient Ward Services—Student Expectations

- Adhere to the schedule. Students are expected to stay until their service checks out to the evening coverage.
- Attend expected work hours, which includes morning report, morning rounds, grand rounds, noon conferences, and any other required teaching session. Note that students are expected to pre-round on their patients prior to the start of regular work hours and should come in early enough (30–60 min) to accomplish this. Students should not leave at the end of the day until all assigned work for their patients is completed. ***(Remember that student working hours should not exceed > 80 hours per week, 24 consecutive hours, or violate institutional duty hour policies.)***
- The student should contact the senior resident each morning on arrival to receive any patient updates, including assignment of a new patient to be seen during pre-rounds to present at morning team rounds.
- Evaluate new admissions with a complete history and physical. Students will typically follow 2-3 patients on each service rotation.
- See assigned patients each day, perform a focused interval neurologic history and examination appropriate for the patient's symptoms, and follow up on test results.

Inpatient Wards Roles and Responsibilities

- Complete an electronic medical record (EMR) tutorial and have functional username and password before your first day of the rotation. Some institutions may not allow students to document in the EHR. In these settings, an alternate process for student documentation should be available.
- Participate fully in a team's activities including patient admission workups, rounding, attending morning report, and grand rounds. This includes active discussion of all team patients, even those not directly under the student's care at a certain time.
- Review literature relevant to the patients that the team is caring for to improve discussion during rounds. If possible, try to do a small presentation about topics relevant to rounds.

- Each student should evaluate his/her patients DAILY before rounds. The students should discuss the progress daily with his/her resident and attending during rounds.
- Document daily progress notes for assigned patients in the approved section of the EMR and discuss any questions about documentation with the resident and/or attending.
- Participate fully in the care of neurologic patients. Assist in performing procedures under the supervision of neurology residents, fellows, or attendings.

Neurology Consult Service and Clinics—Student Expectations

- Experience a general neurology or subspecialty clinical setting and participate actively inpatient care.
- Adhere to the schedule. Students are expected to stay until their service checks out to the evening coverage or at the end of clinics.
- Attend expected work hours. ***(Remember that student working hours should not exceed > 80 hours per week, 24 consecutive hours, or violate institutional duty hour policies.)***
- Evaluate assigned patients. Perform complete neurological histories and physical exams. Students should follow at least 2-3 patients on each service rotation ***(number of patients to follow during each rotation may vary at each institution)***.
- See assigned patients each day, perform a focused interval neurologic history and examination appropriate for the patient's symptoms, and follow up on test results.

Neurology Consult Service and Subspecialty Clinics—Student Roles and Responsibilities

- Complete an EMR tutorial and have functional username and password before the first day.
- Report to the attending/team at the specified location.
- See any assigned patients and present them to the attending/team for assessment of the oral presentation. In clinics, discuss expectations with the preceptor/fellow in advance, including components of the history/exam that can be performed based on time allowance, observe the preceptor's approach to patient assessment and communication, and participate actively in discussion of the assessment and plan.

Example Syllabus

Disclaimer: This is an example syllabus from one institution and is not intended as a standard.

THE DEPARTMENT OF NEUROLOGY
Medical Student Neurology Clerkship
Syllabus

Welcome to the Department of Neurology! We are very excited to have everyone join us this month. Our goal this month is to provide students with the skills and knowledge necessary to evaluate a patient with neurologic symptoms/signs and develop an appropriate differential and treatment plan. Because we use multiple services and the patient mix within a service can change unpredictably, clinical experiences may vary. Our expectation is that students will use the clinical experiences they do have as a **starting point** for learning. We supplement clinical experiences with conferences, exercises, and other educational activities that are relatively standardized for all students throughout the year. We hope this will help each student build the same explicit "skeleton" of core knowledge in neurology. The purpose of the Clerkship is to apply the knowledge acquired during the pre-clerkship neuroscience course to a clinical setting. This is essentially an opportunity to convert knowledge into action and in an individualized way, put some "muscle" on that skeleton!

We believe students learn the most when they actively participate in their own learning as opposed to passive learning. Therefore, we want each student to consider it their job to take a professional approach during this Clerkship. We will teach, encourage, and spend time with each student and hopefully provide the experiences needed for continued growth.

Neurology Clerkship Objectives

- Communicate effectively in a respectful and responsive manner to establish and maintain collaborative working relationships with other providers, patients, and families

- Explain one's own roles and responsibilities related to patient and family care (e.g., scope of practice, legal and ethical responsibilities); and demonstrate an understanding of the roles, responsibilities, and relationships of others within the team.
- Present information orally in a succinct and well-organized manner, including all appropriate data without overlap, and containing a well-reasoned assessment and plan.
- Demonstrate respect for patients from different cultures and socioeconomic groups.
- Discuss social determinants of health and other factors impacting health care disparities.
- Perform a thorough and appropriate history and neurologic examination.
- Document patient information in a complete and understandable manner, with an assessment and plan of action that addresses all the patient's problems.

Neurology Clerkship Schedule

- The four weeks of the Neurology Clerkship are broken into two, two-week clinical blocks. After two weeks on the first rotation site, students will switch to the site on Sunday of week three.
- Transportation is the student's responsibility. As an aid to carpooling, the names of classmates and the clinical sites to which they are assigned have been provided.
- Orientation is held at 9 a.m. on the first day of the rotation and lasts until 4 p.m. Work with fellow classmates assigned to the same site to contact the resident and meet with him/her as a team the following day to discuss where and when to report the next day.
- Mandatory lectures are scheduled on Wednesday mornings of this Neurology rotation. Please BE ON TIME to lectures; it is unprofessional to walk in (or log on if virtual) after the speaker has already started their session.
- The two mandatory conferences on Fridays are Pediatric Neurology Grand Rounds at 8 a.m. and Adult Neurology Grand Rounds at 12:00 p.m.
- Students will be assigned two calls during the month.
- The NBME Neurology Exam is scheduled for the last day of the rotation.

Absences

- Please communicate with the director and coordinator (via email) and the team (attending or residents) via phone regarding any unexpected absences due to illness, or COM per institutional policy. Please provide a note from student health or from the physician recommending the excusal from work activities. Students are allotted up to two days for illness or conferences where no make-up time is required. Documentation is required.
- Any request for an **expected** absence should be submitted to the director and coordinator before the first day of the rotation. Requests made after the first day of the rotation will be denied. Meetings, weddings, and other travel plans are not excused absences and can be denied. It is unprofessional to commit to an event or make travel arrangements before receiving permission for that time off.
- Please submit any absence with supporting documentation to the Office of Student Affairs
- Holidays: Please be aware that the holidays are listed on the stream schedule and the Student Affairs website. If the holiday is not listed, it is not a day off.
- Any absence request for the National Board exam must be approved by Student Affairs.

Attendance

- Didactic & Conference attendance is 3% of the final grade. Please be punctual and sign in.

Days Off

- Students receive one day off per week. It should be a weekend day unless scheduled to be on call on the weekend.
- Days off must be cleared/approved with team members (attending, residents, interns, etc.), and remember—communication is key!

Required Patient Logs

As part of required activities for the Clerkship, students must track educational experiences through an online platform. Each student must log duty hours in on a daily basis. This includes entering information concerning:

- An accurate record of hours spent in the hospitals, clinics, and other required educational activities (including days off from clinical activity)
- Diagnoses encountered
- Procedures performed
- All evaluations related to the Clerkship, including evaluations of students and those completed by students

Patient Encounters

- Transient neurologic event
- Cognitive impairment, acute, or chronic
- Focal or diffuse motor disturbance, acute, or chronic
- Pain, acute, or chronic
- Sensory dysfunction (hypesthesia or paresthesia)
- Neurologic emergencies

Clinical Skills Log

- History and Physical Examination (Must perform and log one comprehensive history)
- History and Physical Examination (Must perform and log one complete neurologic examination)
- History and Physical Examination (Must perform and log one Mini-mental state examination MMSE)
- Required Procedures: Review CNS Imaging
- Required Procedures: Option to **Observe/perform**– Lumbar Puncture

Failure to complete ALL logs by the Monday after the board exam will result in receiving an Incomplete for the course. An incomplete is permanent and will stay on the student's record, even though a grade will be assigned once the logs are completed.

Clinical Skills Sessions—Standardized Patient Encounters

Our goal is for students to be comfortable and confident in performing a neurologic examination.

Therefore, this case has been developed as a mechanism to achieve that goal and will account for 2% of the final grade.

- Number of cases: 1
- Time Limit: 15 minutes
- Detailed Feedback (immediately upon completion of the session): 5 minutes

Simulation Lab

Each student will participate in a simulation experience with the high-fidelity mannequins in the lab.

Students will be in teams of 5-6 (date and time can be found online and in the orientation packet) and will work on two neurology cases. This educational experience is a percentage of the final grade and provides a realistic patient encounter for learning in addition to enhancing skills as an active part of the team.

Core Teaching Faculty Sessions

Students will be required to attend and participate in the Core Teaching Faculty Sessions, which will occur 1–2 times during the Clerkship. Student attendance and participation will count for 2% towards the final grade. This will provide an opportunity to work closely with a faculty member discussing cases and practicing the neurologic exam.

- Check Canvas (or online class page) for the assigned Core Teaching Faculty Session day/time- email core faculty each week, at least a day in advance to confirm meeting time and place.
- Please do not take assigned Core Teaching Faculty Session day as your "day off" for the week.
- Approximately one hour.

Duties and Responsibilities of the Core Faculty

- Meet weekly with students at a pre-specified time.
- *All teaching should be done at the bedside.*

- All teaching is based on the history and exam of the patient.
- Students will present two patients at the bedside for ~30 minutes at each session.
- Each student will present 1–2 cases.
- Debriefing session should include assessment of interviewing and exam techniques.
- Laboratory and imaging studies are discussed only as an adjunct to the basic clinical information.
- Faculty may demonstrate physical findings, history taking technique, as well as have the students demonstrate their skills.
- These sessions are mandatory and take priority over assigned site duties.

Students will be required to **gather a history and perform a physical exam** with core faculty and complete an EPA-1 form.

Online Case Studies

Two completed cases will be required and will account for **3%** of the final grade for the Clerkship. These cases should serve as a supplement to patient encounter experiences during the inpatient rotation. The cases are available on Canvas. Based on the in-patient team admissions, select a case presentation that has not been seen. Students are welcome to complete as many cases as preferred to supplement their self-study.

Written H & P

There is a written requirement of at least one complete H&P for the evaluating attending to use as an additional objective data for student evaluation. Students will likely complete numerous H&Ps during the Clerkship, however, this will be submitted separately (in person or via email – deidentified or encrypted).

Evaluation of the Student's Performance

All third-year required clinical clerkships will use the same process to provide mid-rotation feedback to students. The mid-rotation feedback process will include the following three components:

1. A self-assessment of performance completed by the student (assigned/completed).

2. An assessment of performance completed by the attending (assigned/completed).
3. A review of the student's patient encounter and clinical skills grids.

Students will complete their self-assessment in before meeting with their attending. Students will print a copy of the completed self-assessment as well as their patient encounter and clinical skills grids showing the encounters and skills logged to date. The attending will review these materials with the student at the time of their mid-rotation feedback session and make suggestions to help the student with any potential deficiencies. After the student/attending meeting, the attending will document the mid-rotation feedback, as well as the review of the patient encounter and clinical skills grids, using the form assigned to them.

Students will be evaluated at the end of each two-week section by the attending. Each student will be evaluated on the performance goals and/or objectives previously listed in this handout and the components of the Student Evaluation form. This will account for 50% of the grade. Students must have ONE evaluation from each site calculated for the overall evaluation grade.

The numerical score from the National Board Examination will comprise the additional 40% of the final grade. The minimum grade that must be achieved on the board exam to pass the Clerkship is a 64.

Final Grade

- 40% National Board Exam score (the minimum passing score is a 64)
- 50% Average of Evaluations (at least one evaluation from each site)
- 3% Didactic & Conference Attendance
- 3% Participation in Online Cases
- 2% Core Faculty Attendance & Participation
- 2% Standardized Patient Encounter

The following are grade designations (example at one institution):

H-Honors	91.45–100
HP-High Pass	84.45–91.44
P-Pass	69.45–84.44
BP-Below Pass	59.45–69.44
F-Fail	00.00–59.44

A grade of "Incomplete" may be forwarded to the Registrar's office if a student fails to complete the requirements of the Clerkship. Students given a designation of "Incomplete" will be expected to fulfill the requirements as soon as possible within two weeks of completion of the Clerkship.

Remediation of Inadequate Performance

- An overall grade of "Below Pass" (BP) with a clinical component evaluation of "Pass" and written examination grade of "Fail" will mandate a repeat of two weeks on a Neurology Service and a retest of the Neurology Board Exam per institutional policy. The grade may not exceed "Pass".
- An overall grade of "Below Pass" (BP) with a clinical component evaluation of "Fail" and a written examination grade of "Pass" or higher will mandate remediation of an additional two weeks on one of the clinical services and a retest of the Neurology Board Exam. The grade may not exceed "Pass".
- An overall grade of "Fail" will mandate repeating the entire four-week Clerkship and a retest of the Neurology Board Exam. The grade for the four weeks of remediation and retest of the Neurology Board Exam may not exceed "Pass".

Call Policy

- Each student has two calls per month.
- Weekend calls are from 7 a.m.–7 p.m.
- Weekday calls are from 5 p.m.–10 p.m.
- No student will be on call more frequently than every third day.
- Each student should ideally have one call on the weekend (Saturday or Sunday) and one on a weekday (Monday through Friday), although the schedule may not always work out in this way.
- On the weekdays, the student should meet the short call resident at 5 p.m. in the residents' workroom.
- On the weekends, students who are on ambulatory services should meet the on-call resident at 7 a.m. in the residents' workroom. Students who are on inpatient services should round with their respective teams and meet up with the on-call resident at noon.

- If the on-call resident is not present, please refer to the Resident/Fellow phone listing or on www.amion.com.
- Students should ensure that they check out with their resident **BEFORE** leaving for the day.
- Students are allowed to switch with classmates for call dates. If switches do occur, the information must be emailed to the coordinator.

Grade Protest/Reconsideration Request

Any grade protests or reconsideration requests must be done within four weeks of receiving the evaluation from the attending. Please contact the clerkship director via email or phone to discuss your concerns. If further action is required, the clerkship director will assist you in communicating with the individuals listed below in the following order:

1. Evaluating Attending
2. Departmental Chair
3. Dean of Student Affairs

Student Abuse & Mistreatment

Please report any incidents of student mistreatment to Clerkship Administration or Student Affairs by using the following number:

Student Mistreatment Hotline number: ***

Anonymous Reporting of Mistreatment can be reported online.

Standards for Conduct in the Teacher-Learner Relationship

The academic environment requires civility from all participants, regardless of role or level, and a particular respect for the values of professionalism, ethics, and humanism in the practice of medicine. The relationship between teacher and learner is based on mutual respect and trust. Faculty must respect students' levels of knowledge and skills, which students have the responsibility to represent honestly to faculty. Faculty are obligated to evaluate students' work fairly and honestly, without discrimination based on gender, ethnicity, national origin, sexual orientation, religious beliefs, disability, socioeconomic

factors, or veteran status. Faculty have a duty not only to promote growth of the intellect but at the same time to model the qualities of candor, compassion, perseverance, diligence, humility, and respect for all human beings.

Because this policy pertains to students as learners, references to "teachers" or "faculty" shall also include residents and fellows in their teaching and supervisory role with regards to students.

Examples of unacceptable behavior include but are not limited to:

- Physical or sexual harassment or abuse.
- Discrimination or harassment based on gender, ethnicity, national origin, sexual orientation, religious beliefs, disability, socioeconomic factors, or veteran status.
- Speaking in disparaging ways about an individual including humor that demeans an individual or a group.
- Requesting or requiring students to engage in illegal or inappropriate activities or unethical practices.
- Loss of personal civility, such as shouting, displays of temper, publicly or privately abusing, belittling, or humiliating a student.
- Use of grading or other forms of evaluation in a punitive or retaliatory manner.

Students are also expected to maintain the same high standards of conduct in their relationships with faculty, residents, support staff, and fellow students.

Suggested Reading

Problem Sets, Cases, and Exam Preparation

- Neurology: Pre-test Self-Assessment & Review (Pretest Series) – David Ansel
- Blueprints Neurology, Frank, [Michael Benatar](#), [Bernard S Chang](#), [Juan A Acosta](#), [Andrew Tarulli](#)
- Case Files Neurology, Third Edition, Eugene Toy, Ericka Simpson, Pedro Mancias, Erin Furr
Stimming
- Clinical Neurology, Ninth Edition, Michael J. Aminoff, David A. Greenberg, Roger P. Simon

Neurologic Exam

- AAN Website Link to [Neurologic Exam](#) or <http://www.aan.com/go/education/curricula>.
- This website developed by the University of Utah School of Medicine has videos of Adult and Pediatric Neurologic Exams as well as some case-based scenarios, which can be accessed at https://neurologicexam.med.utah.edu/adult/html/home_exam.html.

Neuroanatomy

- Clinical Neuroanatomy Made Ridiculously Simple Fifth Edition, Stephen Goldberg
- Neuroanatomy Through Clinical Cases, Second Edition, Hal Blumenfeld

Neurologic Differential Diagnosis and Localization

- Neurological Differential Diagnosis, 2ndEdition, John Patton
- Localization in Clinical Neurology, 7thEdition, Paul Brazis, Joseph Masdeu, and Jose Biller
- More detailed reading about Neurology: Essential Neurology Iain Wilkinson & Graham Lennox
Fourth Edition
- Merritt's Neurology, 13thEdition
- The Neurologic Diagnosis, 1stEdition, Jack N. Alpert

Example Evaluation and Feedback Forms

Disclaimer: The evaluation and feedback forms below are examples and may be used as a guide; the details will vary per institution.

Neurology Clerkship Feedback and Evaluation Form

Student Name: _____ Evaluator Name: _____

Rotation (check all the appropriate): General Consult Stroke Clinic

Number of half days spent with student before making this evaluation: 1 2 3 4 >4

(Each inpatient rotation day counts as 2 half-days)

Professionalism

Respectfulness

- Always respectful
- Minor lapse in respectfulness
- Area of concern

Work Ethic/Dependability

- Consistently takes initiative and follows through
- Sometimes requires prompting but always follow through
- Area of concern

Motivation/Excellence

- Actively strove for excellence
- No problem with motivation
- Area of concern

Honesty

- Honest even when it entails personal risk (e.g., readily admitting a mistake, giving due credit to someone else, etc.)
- There were no concerns
- Area of concern

Neurology Clerkship Feedback and Evaluation Form

COMPETENCY CATEGORY	Below expected performance			At the level of performance expected for a third year Medical Student			Above expected performance		
PATIENT CARE									
History Taking	1	2	3	4	5	6	7	8	9
Not applicable	Unable to consistently obtain a complete history for patients with common complaints. Miss key features of a symptom.			Consistently obtains a complete history. Able to identify pertinent positives and negatives for common complaints.			Consistently complete and is organized. Elicits pertinent positives and negatives that indicate a differential is in mind. Probes for details.		
Physical Exam	1	2	3	4	5	6	7	8	9
Not applicable	Demonstrated one or more of the following: persistent problems with technique, does not recognize obvious abnormal findings, and inability to identify relevant parts of the exam to perform.			Technically able to perform a complete, organized, and accurate PE and recognize obvious abnormal findings.			Goes beyond the standard PE and looks for relevant findings based on the differential. Picks up more subtle abnormalities. Tries to incorporate special tests when indicated.		

Neurology Clerkship Feedback and Evaluation Form

Clinical Reasoning & Medical Decision Making	1	2	3	4	5	6	7	8	9
Not applicable	Demonstrated one or more of the following: insufficient ability to interpret clinical information, difficulty prioritizing, difficulty elaborating a basic differential diagnosis, unable to commit to a working diagnosis, and has poor medical judgement.			Able to generate a reasonable differential diagnosis for common neurological symptoms. Able to generate working diagnoses for the major problems.			Able to apply basic science knowledge to clinical situations to generate thoughtful and prioritized differentials for all patients the student is assigned. Able to integrate related problems into a unifying diagnosis and management plan. Clinical judgement exceeds expected level.		
MEDICAL KNOWLEDGE	1	2	3	4	5	6	7	8	9
Not applicable	Medical knowledge well below level expected at this stage of third year.			Medical knowledge at the level expected at this stage of third year			Knowledge base in upper echelon of students at same stage of third year.		
INTERPERSONAL & COMMUNICATION SKILLS									
Patient/Family	1	2	3	4	5	6	7	8	9
Not applicable	Ability to establish rapport and communicate with patients and families is sufficiently weak and is determined to be a cause for concern.			Established effective rapport with nearly all patients/families. Expresses self clearly and at a level that patients can understand.			Highly effective at establishing rapport and communicating with all patients and families. Aware of the relevance of psychosocial factors, cultural diversity, and support systems.		

Neurology Clerkship Feedback and Evaluation Form

Oral Presentations	1	2	3	4	5	6	7	8	9
Not applicable	Presentations ineffective for one or more of the following reasons: disorganized, incomplete, inaccurate, and poor speaking skills.			Presentations usually well organized and occasionally misses details, but overall effective.			Outstanding presentations. Complete yet concise, well organized with polished delivery.		
Written Medical Record	1	2	3	4	5	6	7	8	9
Not applicable	Medical record ineffective for one or more of the following reasons: disorganized, inaccurate, and incomplete.			Medical record entries/progress notes organized and complete with clear working diagnoses and plans.			Outstanding progress notes and record-keeping. Complete yet concise, very well organized, and very clearly communicated.		
PRACTICE BASED LEARNING AND IMPROVEMENT	1	2	3	4	5	6	7	8	9
Not applicable	Demonstrated one or more of the following: poor self-insight and poor ability at accepting or applying feedback.			Seeks and applies feedback well. Clearly reads about topics to improve patient care and tries to apply EBM in practice.			Actively seeks feedback and applies it well. Is intellectually curious and eager to learn about all patients on the team, not just those assigned. Consistently applies EBM to patient care. Teaches others when opportunities arise.		
SYSTEM BASED PRACTICE	1	2	3	4	5	6	7	8	9
Not applicable	Ineffective team member. Does not understand the role of other health care professionals.			Helpful team member. Able to help with discharge planning and other transitions of care with supervision.			Extremely helpful team member. Able to identify the need to involve other health care professionals. Facilitates discharge planning and other transitions of care.		

Neurology Clerkship Feedback and Evaluation Form

COMMENTS:

Please describe the student's strengths and weaknesses, providing specific examples whenever possible.

Also, please try to include at least one specific "next step" for the student to work on.

Practice-based Learning Evaluation Form (for power point evidence-based case presentations)

Student Name: _____

Interpersonal Communications (C: WRITTEN MEDICAL RECORD): | 1 2 3 | 4 5 6 | 7 8 9 |

Was the student's history, examination, and assessment clear, complete, pertinent, and well composed?

Was the student's explanation of their practice-based learning exercise, clear, complete, and well composed?

Practice-based Learning: | 1 2 3 | 4 5 6 | 7 8 9 |

(Note: The write-up should have a separate section for each of these items.)

Did the student ask a relevant and useful question about the case?

Was the student's process for finding literature clear, replicable, likely to identify quality literature, and correct for the question asked?

Did the student cite the literature used clearly and, in a manner, allowing it to be found by another?

Did the student provide a thoughtful analysis of evidence-based medicine strengths and weaknesses of the literature cited?

Did the student discuss the applicability of the literature to the patient's case and question?

Did the student provide a clear, concise, and relevant answer to the question asked based on the literature cited?

Was the student's plan for applying the answer to the question appropriate and valuable to the care of the patient (this could include aiding localization, diagnosis, evaluation, management, and/or counseling)?

MEDICAL KNOWLEDGE: | 1 2 3 | 4 5 6 | 7 8 9 |

Did the student show a strong knowledge base in the assessment?

Did the student's discussion in the practice-based learning section demonstrate a strong knowledge base?

Additional comments (optional)?

Clerkship Mid-block Feedback Evaluation with Attending

Note to Students: Please fill out the strengths and areas for improvement before meeting with the Attending Neurologist.

Note to Neurology Faculty: This is the responsibility of the attending physician at each one of the sites. This should be a private one-on-one meeting with the student. Your signature indicates that the student is making satisfactory progress. Please review the patient log as well.

I have discussed progress made by:

Student Name: _____ on date: _____

These three relative strengths were discussed:

These three areas for suggested improvement were discussed:

For reference, please note the following are the Required Clinical Encounters for the Neurology Clerkship **(this will vary per Clerkship)**.

- Altered mental status (1 required)
- Headache evaluation (1 required)
- New focal neurologic deficit (1 required)

- Pain/disturbance in sensation (1 required)
- Weakness evaluation (1 required)

You are currently on track to successfully passing the clinical portion of this Clerkship i.e., meeting expectations (a three or more) in each area of assessment: YES NO

If no, comment on what competencies/sub-competencies are deficient:

Student Signature: _____ Attending Signature: _____

Date: _____

Patient Log

Block:		Graduation year:				
NEUROLOGY CLERKSHIP LOG						
Mo/Day/Year						Primary or observer
Date	Patient location	Age	Gender	Diagnosis	Procedure	Role
				Altered mental status		
				Headache evaluation		
				New focal neurological deficit		
				Pain/disturbance in sensation		
				Weakness evaluation		

Neurology Clerkship Abnormal Physical Finding Checklist

Student Name: _____ Class of: _____ Group: _____

Abnormal Finding	Observed (Check if Yes)	Date Observed	Faculty/Fellow/Res Name and Signature
Parkinsonian Tremor			
Anisocoria			
Facial Palsy			
Muscle Weakness			
Hyporeflexia			
Hyperreflexia			
Babinski Sign			

Neurology Clerkship—Observed History and Physical

Student Name: _____ Class of: _____ Group: _____

COMPETENCY CATEGORY	STRENGTHS	AREAS FOR GROWTH
<p>HISTORY TAKING Potential areas to assess: Accuracy, depth, chronology, completeness, and efficiency. Compare to students at same stage of training e.g., at the level expected at this stage of third year, demonstrated unusual insight/skill for a third-year student, and able to recognize and address subtleties.</p>		
<p>NEUROLOGIC EXAM Potential areas to assess: Technique, knowledge of neurologic exam, and ability to link history and examination. Compare to students at same stage of training e.g., at/above/below the level expected at this stage of a third-year student.</p>		
<p>INTERPERSONAL & COMMUNICATION SKILLS Potential areas to assess: Rapport and communication with patients and families; avoidance of medical jargon; engendering confidence; awareness of the relevance of psychosocial factors, cultural diversity, and support systems to health care; and judgment and insight into communicating with others.</p>		

I observed this student performing a history and/or physical:

Faculty/Resident Name: _____

Signature: _____ Date: _____

Attendance and Absence Policy Example

Attendance & Absences

Attendance is required at all clerkship activities. During clinical rotations, typical "holidays" are not taken unless specifically mentioned by the Clerkship team. If there are any unexpected or planned absences, students MUST notify those faculty members who supervise their clinical experiences and the Neurology clerkship coordinator and director.

On the Neurology Clerkship, students are considered an integral member of the team with patient care responsibilities. Thus, when students are absent, someone else covers these responsibilities. Unlike an undergraduate course, students cannot "make-up" most assignments. For this reason, planned absences are strongly discouraged and should be reserved for emergency situations. In the event of an unplanned absence, students will be required to make-up the time missed to ensure an adequate clinical experience. This may require an extra call or weekend experience. Failure to adhere to these policies and procedures will result in a lowered grade due to not meeting professionalism competency expectations.

Unplanned Absences

In the event of a single-day, unexpected absence due to illness, students MUST notify their site's Neurology clerkship coordinator and director, as soon as possible. If unable to reach the clerkship leadership team, the assistant director in the Office of Student Affairs should be contacted (***this may vary at each institution***). If the absence is longer than a single day, the Office of Medical Education (***the name of this office may vary at each institution***) must be notified in addition to the Neurology clerkship coordinator and director.

Planned Absences

Students must contact the clerkship director as far in advance as possible (these requests must be made at least 4 weeks prior to the beginning of the Clerkship) to discuss and obtain the permission of the clerkship director to be absent from assigned responsibilities in the case of planned meetings, events such as weddings or family gatherings, or the observation of a personal religious holiday. Once

permission is obtained for the planned absence, the student must notify the Office of Medical Education **(this may vary at each institution)** of the approved dates for the absence.

Alternatively (Other phrasing):

Any request for an **expected** absence should be submitted to the director and coordinator before the first day of the rotation. Requests made after the first day of the rotation may be denied. Meetings, weddings, and other travel plans are not excused absences and can be denied. It is unprofessional to commit to an event or make travel arrangements before receiving permission for that time off.

Holidays

Students are allotted the following holidays: **(exact list of accepted holidays at each institution may vary)**.

The College of Medicine (COM) recognizes other holidays, both religious and secular, which are of importance to some individuals and groups. Students wishing to observe these holidays must inform the Neurology clerkship coordinator and director before the Clerkship begins. In the event of such requests, an alternate assignment or arrangement should be considered for the student to ensure an adequate clinical experience. The timing of this make-up work is at the discretion of the clerkship director and may fall during other holiday periods when appropriate. Missed days which cannot be completed by the student before the Clerkship end date results in a grade of "Incomplete".