Neurology

Clerkship Handbook

2025-2026

Clerkship Faculty and Staff

Neurology Clerkship Director

Asim Mahmood, MD

Assistant Professor of Neurology

Email: Mohammad.Mahmood@cnsu.edu

Clerkship Coordinator

Mark Shestko

Email: Mark.Shestko@cnsu.edu

Phone: (916) 686-8026

Clerkship Coordinator

Peter Andrew Cajator

Email: Peter.Cajator@cnsu.edu

Phone: (916) 686-8499 x8499

Clerkship Coordinator Supervisor

Wesly Tse

Email: Wesly.Tse@cnsu.edu

Phone: (916) 686-8516

Introduction

The purpose of the neurology clerkship is not to train neurologists.
(that is the goal of residency training)

The goal of the neurology clerkship is to provide students with the fundamental skills required by all physicians to recognize, diagnose, and formulate an initial treatment plan for patients with common neurologic disorders.

In a typical primary care setting, approximately 10% of patients will have a neurological complaint, and about 1% to 2% of those will eventually be diagnosed with a definite neurological problem, according to the National Institutes of Health (NIH.gov). While most neurological issues can be managed by primary care physicians, a significant number of patients are also referred to or seen by neurologists. In fact, primary care providers (PCPs) handle a larger proportion of neurological visits than neurologists, with PCPs performing 40% of such visits compared to neurologists' 17.5%, according to the University of Michigan Library. The most suitable setting in which to lay the foundation for that understanding is in a neurology clerkship in the clinical phase of medical school. This document outlines the desirable components of a clinical neurology clerkship.

The principal goal of the clerkship is to help refine skills in taking a neurologic history and performing a thorough neurologic examination. Many physicians will eventually practice in settings where acute neurologic consultation is available only by phone. The better historical and examination information provided, the better the quality of the advice that can be given by a Neurologic consultant regarding immediate interventions needed. In addition, the clerkship provides the opportunity for students to experience various presentations of neurologic disease in a clinical setting. This is essential for students to develop a better understanding of disease manifestation and become good clinicians.

The clerkship director reserves the right to modify, amend, delete, replace, or revise all policies, procedures, and scholarly content if needed to maintain or improve the academic integrity of the clerkship. When possible, such changes will be planned to minimize disruption to current students and preceptors, however, fairness and the academic soundness of the clerkship must take precedence. Any such changes will be communicated promptly to neurology clerkship students as well as attending preceptors.

Clerkship Director Responsibilities:

- Clerkship Directors will help assign schedules for on-site clinical and educational activities.
- Clerkship Directors will monitor the academic and clinical workload of students within individual clerkships by the virtue of clerkship design and student scheduling.
- Clerkship directors will include relevant excerpts from the policy on duty hours in the clinical clerkship handbooks and will present this policy to students at clerkship orientation.

Clerkship Goals and Learning Objectives

Goal: To teach the principles and skills underlying the recognition and management of the neurologic diseases a medical practitioner is most likely to encounter in practice. We want students to meet these goals by examining patients with both acute and chronic neurologic problems in both the inpatient and outpatient settings.

The overarching goals of the clerkship are to:

a. Refine the neurologic history taking and examination
b. Localize lesions
c. Develop a reasonable differential diagnosis
d. Outline an initial diagnostic and treatment plan

Learning Objectives

1. Apply knowledge of basic & clinical sciences into medical practice.

2. Obtain and deliver a complete clear, concise, and thorough oral & written presentation of a patient's history and examination.

3. Distinguish normal from abnormal findings and the ability to localize the likely sites of lesion in the nervous system from available clinical information

4. Learn to perform certain procedures including lumbar puncture

5. Learn to utilize and interpret common tests used in diagnosing neurologic disease

6. Formulate a differential diagnosis based on clinical information, lesion localization, and relevant historical and demographic features

7. Demonstrate an awareness of the principles underlying a systematic approach to the management of common neurologic diseases

8. Review and interpret the medical literature (including electronic databases) pertinent to specific issues of patient care and its application towards evidence-based practice.

9. Demonstrate professionalism and effectively communicate with patients, caregivers, peers, members of the patient care team, and faculty to work collaboratively in patient care

10. Adapt to work in different health delivery systems and to use various forms of health information systems

11. Demonstrate skills of time management, stress coping, non-confrontational negotiation, and self-assessment and reflection in his/her/their medical practice.

Educational Program Objectives (EPOs) & Course Learning Objectives (CLOs)

The clerkship curriculum is structured around the six ACGME Core Competencies, ensuring alignment with nationally recognized standards for medical education. These competencies are mapped to the **Educational Program Objectives (EPOs)**, as illustrated in the table below. Student performance in each competency area is assessed through the students' final evaluation. Additionally, the **Course Learning Objectives (CLOs)** are aligned with the EPOs, providing a framework for instructional goals and evaluation criteria, as shown in the second table.

General Competency	Educational Program Objectives
PC1: Patient Care	PC1: Clinical History Taking PC2: Patient Examination PC3: Medical Notes PC4: Oral Presentations PC5: Medical Skills PC6: Patient Care Teams PC7: Patient Management PC8: Cost Effective Comparison in Treatment
MSK2: Medical and Scientific Knowledge	MSK1: Knowledge of Medical Practices MSK2: Problem Solving & Diagnosis MSK3: Medical Treatment MSK4: Life-Long Learning MSK5: Research or Knowledge Expansion
C3: Communication and Interpersonal Skills	C1: Communication Medical Team C2: Communication with Patient, Family and Community
P4: Professionalism	P1: Ethical Behavior P2: Ethical Responsibility P3: Ethical Principles and Boundaries P4: Professional Relationships
HC5: Health Care Systems	HC1: Healthcare Delivery Systems HC2: Delivery Systems Improvement
RP6: Reflective Practice and Personal Development	RP1: Personal Assessment RP2: Time Management RP3: Stress/Wellness Management RP4: Conflict Resolution

Clerkship Learning Objectives (CLO)	Narrative	EPO	Assessment
CLO-1	Demonstrate the ability to communicate effectively relevant medical information, both orally and in writing, with all members of the healthcare profession, patients and families from a broad range of cultures and backgrounds. Demonstrate effective and empathetic communication with patients and families.	C1, C2; PC1-4	Preceptor evaluations
CLO-2	Demonstrate knowledge of scientifically established standards for developing differential diagnoses of acute and chronic conditions encountered in Neurology and apply their knowledge. Recognize symptoms from history and abnormal findings from physical examination that may signify Neurological disease and formulate clear differential diagnosis based on lesion localization and clinical reasoning.	PC2,PC5; MSK1,MSK2	NBME exam, preceptor evaluations, didactics grading
CLO-3	Develop sound evidence-based management plan of acute and chronic diseases encountered in Neurology and recognizing timely management to Neurologic emergencies. Identify social, economic, psychological and cultural factors that may influence the development and management of Neurologic disease	PC7-8;MSK3	NBME exam, preceptor evaluations
CLO-4	Demonstrate the ability to effectively identify possible prevention of neurologic diseases and demonstrate knowledge of the evolving recommendations for the screening and treatment of Neurologic disease. Explain the indications, potential complications and interpretation of common tests used in diagnosis and screening of Neurologic disease	PC7;MSK3	NBME exam, didactics grading
CLO-5	Foundational knowledge of the structure and function of the nervous system, as well as understanding of the pathogenesis of Neurologic disease, lesion localization, interventions and effective treatment. Appropriately review, interpret and apply pertinent medical literature and scientific knowledge with an evidence-based approach to patient care.	MSK4,MSK5	NBME exam, preceptor evaluations, didactics grading
CLO-6	Demonstrate dedication to the standards of the medical profession, upholding the ethical principles of honesty, integrity, compassion and dedication to excellence while continuing to self-reflect and engage in independent learning as a means of self-improvement.	P1-4; RP1-3	preceptor and CD evaluations

The Preceptor Evaluation of Student Performance form, detailed in the M3 General Handbook including all 10 questions and grading rubrics, has been thoughtfully mapped to the specific Course Learning Objectives (CLOs) for each clerkship. The table below outlines how each evaluation question aligns with the relevant CLOs to ensure consistency between assessment and curricular goals.

Evaluation Question	Primary CLO(s)	Secondary CLO(s)
Q1. History & PE	CLO-2	CLO-5, CLO-1
Q2. Differential Dx	CLO-2	CLO-5
Q3. Management Plan	CLO-3	CLO-5, CLO-4
Q4. Documentation	CLO-1	CLO-6
Q5. Oral Presentation	CLO-1	CLO-6
Q6. Evidence-Based Practice	CLO-5	CLO-3, CLO-6
Q7. Interprofessional Teamwork	CLO-1	CLO-6
Q8. Patient/Family Communication	CLO-1	CLO-3, CLO-6
Q9. Clinical Procedures	CLO-3	CLO-6
Q10. Systems/Safety	CLO-4	CLO-3, CLO-6

A. Recognizing that history is the key to the neurologic evaluation, perform a competent history noting the following key factors:
    1. Establish the onset, progression (temporal profile) and character of the disorder identifying all related symptoms and exacerbating/relieving factors
    2. Perform a standard neurological review of symptoms with regard to personality, memory, headaches, pain, seizures, impairments of consciousness, vision, hearing, language function, swallowing, coordination, gait, weakness, sensory alterations, sphincter disturbance and involuntary movements, etc.

B. The Neurologic Examination (as an integral component of the general medical examination)
    1. How to perform a focused but thorough neurologic examination [see Appendix 1]
    2. How to perform a screening neurologic examination [see Appendix 2]
    3. How to perform a neurologic examination on patients with an altered level of consciousness [see Appendix 3]
    4. How to recognize and interpret abnormal findings on the neurologic examination – localization and differential diagnosis [see Appendix 4]

C. Localization - general principles differentiating lesions at the following levels:
    1. Cerebral hemisphere
    2. Posterior fossa
    3. Spinal cord
    4. Nerve root/Plexus
    5. Peripheral nerve (mononeuropathy, polyneuropathy, and mononeuropathy multiplex)
    6. Neuromuscular junction
    7. Muscle

D. Symptom Complexes - a systematic approach to the evaluation and differential diagnosis of patients who present with:
    1. Focal weakness
    2. Diffuse weakness
    3. Clumsiness
    4. Involuntary movements
    5. Gait disturbance
    6. Urinary or fecal incontinence
    7. Dizziness
    8. Vision loss
    9. Diplopia
    10. Dysarthria
    11. Dysphagia
    12. Acute mental status changes
    13. Dementia
    14. Aphasia
    15. Headache
    16. Focal pain (Facial pain, Neck pain, Low back pain, Neuropathic pain)
    17. Numbness or paresthesia
    18. Transient or episodic focal symptoms
    19. Transient or episodic alteration of consciousness
    20. Sleep disorders
    21. Developmental disorder

E. Approach to Specific Diseases - general principles for recognizing, evaluating and managing the following neurologic conditions (either because they are important prototypes, or because they are potentially life-threatening):

Required Clinical Experiences ("Highly Recommended Cases")

Experience	Level of Participation
Toxic-metabolic encephalopathy, Coma, infections, increased intracranial pressure	Evaluate or Assist
Seizures, epilepsy, status epilepticus	Evaluate or Assist
Movement disorders, Parkinson's Disease, essential tremor	Evaluate or Assist
Multiple sclerosis	Evaluate or Assist
Neuromuscular disorders including peripheral neuropathy, carpal tunnel syndrome, Bell's Palsy, radiculopathy, myopathy and neuromuscular junction disorders	Evaluate or Assist
Alzheimer's Disease and dementia	Evaluate or Assist
Stroke (ischemic or hemorrhagic)	Evaluate or Assist
Migraine / headache	Evaluate or Assist

Required Patient Types

According to national data, on average, about 80% of neurology students work up 1 outpatient in detail every day or every other day. A minimum number of contact experiences for specific types of patients has been determined based on published data, and local practice patterns. Over the course of the four-week rotation students should see and examine a minimum of:

a) 2 patients with stroke/TIA;
b) 2 patients with an episodic disorder (e.g., headache, seizure);
c) 1 patient with coma/altered mental status (coma strongly recommended if possible);
d) 2 patients with neurodegenerative disease (e.g., dementia, movement disorder); and
e) 2 patients with peripheral neurologic disease (e.g., neuropathy, neuromuscular disease).

In addition, it is strongly recommended for students to see and/or assist in performance and interpretation of neurologic procedures, including the following:

a) Lumbar puncture
b) EMG/NCS studies
c) EEG
d) CT
e) MRI

These are goals for the overall clerkship; not every type of patient or every procedure must be seen in each setting.

Each student is required to track all Highly Recommended Cases with documentation. Optional procedures and other cases seen can also be added to MedHub for those students who want to track this information.

Students are responsible for using MedHub to track the "must see" patients they see during their rotation. Failure to complete this documentation may result in review by the Student Promotions Committee.

The need for this stringency is that the College of Medicine is required by the LCME and best educational practices to demonstrate adequate diversity of exposure to various patient populations, especially in the early years of curriculum implementation. Students must take this mission seriously not only for their own education, but also for quality control in the college.

If a live patient experience is not possible for some given condition, students will, at the discretion of the clerkship director, use some combination of the following resources to round out their clinical knowledge:

a) Completion of relevant case in online database or equivalent
b) Continuum: high-quality, peer reviewed, clinical CME publications of the American Academy of Neurology
c) Literature review with directed readings and discussion with the clerkship director or other neurology faculty
d) Preparation and presentation to neurology faculty of a short oral or written summary on a given topic
e) Use of the resources in the COM Clinical Skills and Simulation Center which may include an encounter with a standardized patient; use of computer-based or mannequin simulation; or use of part-task trainers (e.g., lumbar puncture simulation model)

Clerkship Educational Activities

Rotation Sites Daily and Weekly Schedule Overview

Operational details of the daily and weekly schedule will be at the discretion of the attending preceptor. In general, students will work Monday through Friday. Students on inpatient services may be required to attend one weekend day at the discretion of the attending. Students will not be required to take overnight call. Important variations in the schedule are:

- The first morning of the rotation will be spent at the College of Medicine for orientation and assignment of clinical sites.
- Some part of the clerkship will focus on didactics sessions, oral presentations and virtual learning including assignments of virtual cases, physical exam learning and other subjects (details below)
- The last day of the rotation is reserved for the NBME Subject Exam. This will take place at the College of Medicine unless otherwise indicated.
- Students rotating through private offices will follow the schedule set by those physicians, including days when the office is not open.

Learning Sessions (Including Didactics)

Schedule:

All students will receive structured learning sessions (seminars) during their clinicals and during didactics. Students are expected to read in preparation for each session. A limited amount of lectures may be delivered, but as a rule, sessions will focus on cases, answering student questions, and applying knowledge from the text. Formative quizzes may be given.

Orientation Day:

The first Monday morning of the clerkship will begin with orientation at the College of Medicine or remote. Salient points of this syllabus and clerkship requirements will be reviewed, as well as main point of this handbook and specific site assignments.

Didactic and virtual learning

This will include didactics by faculty, case and topic oral presentations by students and independent work on cases and subjects including Neurologic Exam, Neuroradiology and Neuroanatomy. Students should come prepared to provide a case history to the faculty and other students in the manner in which the case unfolded in the student's experience. Students should bring copies of relevant imaging studies if possible.

Didactic Presentations from faculty will likely include the following subjects: Altered Mental Status, Stroke, Neuroimaging, Multiple Sclerosis, Movement disorders, Functional Neurologic Disorders, Spine disorders, Infections related to Neurologic disorders, Seizure, Headache, Acute and Ambulatory Neuromuscular conditions.

Assessment Components

The NBME Subject Examination in Neurology will be used as an assessment of fundamental medical knowledge. This examination has excellent psychometric properties and statistical validity to assess student knowledge over a wide range of neurologic data. The trend nationally is to set the passing grade for the third-year neurology clerkship at about the 5th percentile. Performance at or above this level is thought to represent a knowledge base sufficient for the non-specialist, third-year clinical clerk to proceed with training in other clinical disciplines.

The NBME exam will be administered on the last day of the clerkship at the College of Medicine, unless otherwise specified or authorized. Standard NBME timing will apply. Students arriving late for the examination will not be given extra time for completion. Extra time may be allotted to students who have requested it based on medical needs.

Written Patient Notes and Reports

Neurologic history and physical exam notes are an essential part of clinical participation: Students are expected to maximize the number of notes taken during the clerkship. Attending preceptors may have additional requirements such as daily SOAP notes as part of delivering effective clinical care.

In addition, part of the final clerkship grade will be based on submitting to the Clerkship Director required number of history and physical reports. These reports should be submitted by students CNU email address to the clerkship director or reported online as directed. It is important these reports are HIPAA compliant and omit any specific clinical identifying data (name, date of birth, etc.)

History and Physical report submitted to Clerkship Director: During the initial weeks of the rotation, each student must select one H&P to be submitted to the Clerkship Director. It is due the end of the first week (exact deadline will be given at the beginning of the rotation). A write up that is judged sub-standard by the clerkship director may also be returned to the student for revision and re-evaluation. Failure to meet these requirements may result in assignment of remedial work before receiving a final grade in the clerkship rotation (including, but not limited to, additional written or clinical assignments, oral examination, or written essay examination). There may be small deductions for late reports. Please see Canvas for more specific details and examples of sample model H&Ps

Grading Rubric for History and Physical reports (see detailed H&P instructions in separate document)

Score	Exceeds Expectations (100%)	Meets Expectations (75-87.5%)	Needs Improvement (50-62.5%)
1) CC/HPI: 1.25 point	• Includes source of history • Includes Chief Complaint • Includes **all** key components in HPI including detailed first sentence of HPI.	• Adequately identifies source of history or chief complaint • Identifies **most** key components of HPI	• Identifies **some** key components of HPI

2) History: 1.25 point	• Other areas of history (Past Medical History, Medications, Allergies, Family History, Social History and Review of Systems) fully addressed including complete past medical history and if applicable inpatient medications	Other areas of history (CC, Past Medical History, Medications, Allergies, Family History, Social History and Review of Systems) are adequately addressed	• Identifies **some** key components of HPI • Other areas of history (CC, Past Medical History, Medications, Allergies, Family History, Social History and Review of Systems) are not fully addressed
3) Physical Exam: 1.25 point	• **All** key components of physical exam are included Neurologic exam is included with good detail	• **Most** key components of physical exam are included Neurologic exam is included with adequate detail	• **Some** key components of physical exam are included Neurologic exam is included but limited detail
4) Laboratory and Investigations: 1 point	• All relevant known other objective data reported (laboratory, radiological and other test results) listed. • **Note**: for test results that are not available, please state which tests are ordered/pending.	• Most relevant known other objective data reported (laboratory, radiological and other test results) listed.	• Some relevant known other objective data reported (laboratory, radiological and other test results) listed.
5) Assessment 1.25 points	• **All** key differential diagnoses are identified with thoughtful and convincing reasoning for their inclusion. • Supportive information from pertinent positive and negatives in H&P and objective data included. • Demonstrates clear understanding of lesion localization and neurologic approach to issue.	• **Most** differential diagnoses are identified with some reasoning for their inclusion included. • **Most** supportive information from pertinent positive and negatives in H&P and objective data included. • Demonstrates adequate understanding of lesion localization and neurologic approach to issue.	• **Some** differential diagnoses are identified with some reasoning for their inclusion included. • **Some** supportive information from pertinent positive and negatives in H&P and objective data included. • Demonstrates some understanding of lesion localization and neurologic approach to issue.
6) Plan/ Problem-Based Patient Management: 1.25 points	• **Excellent** and well-prioritized plan • **Plan by problem included** • **All** considerations are addressed (consultation, education, follow-up, etc.) **Convincing** evidence that the patient is safe in the short-term and will benefit from the plan in the long-term	• **Most** Short- and long-term management considerations are presented, with **good** indication that a higher degree of thought and consideration of the big picture for management is indicated Many aspects of short and long-term management are considered	• Short- and long-term management considerations are presented, with **some** indication that a higher degree of thought and consideration of the big picture for management is indicated Some aspects of short and long-term management are considered
7) Organization and thought process 0.5 points	• **Excellent** organization and thought process, easy to follow line of reasoning and concise but detailed presentation.	• **Good** organization and thought process. Can generally follow line of reasoning without difficulty. Either or both additional detail/more concise wording needed.	• **Needs improvement** in organization and thought process. Trouble follow line of reasoning and difficulty with clarity of concepts. More detail needed.

Oral Presentation: Each student will be required to make one case presentation and present a discussion of a related subject during didactics sessions.

Grading: based on the following criteria (see separate document for more details):

1. Organization of material presented and demonstrating command of knowledge about case
2. Focused with appropriate time (10-15 minutes)
3. Provides main elements of Neurological History and Physical: focused but pertinent negatives and positives presented
4. Differential diagnosis: includes important considerations/good thought process about what is most likely
5. Plan: key elements of plan presented
6. Presentation of related topic well researched and references included
7. Presentation of related topic: material with educational merit
8. Presentations skills: General interaction and communication/eye contact/knowledge of material/appropriately answering questions

Participation: This portion of the Neurology Clerkship grade will be based on professionalism during clerkship rotations, general participation in discussions during didactic sessions and completing all requested work including evaluations.

Recommended Resources

1. Harrison's Principles of Internal Medicine, 20e, by Jameson et al.: Part 13; sections 1-3. (Available on Access Medicine)

2. Adams and Victor Principles of Neurology 11e, Allan H. Ropper, et al. (On Access Medicine)

3. Clinical Neurology 10e Roger P. Simon, Michael J. Aminoff, David A. Greenberg

4. Preparation for Shelf Exam prep: one of the following
    a. Neurology Pretest Self-Assessment and Review, 9th edition, by David Anschel (for shelf exam prep) Note: Also available in USMLE Easy.
    b. NBME Clinical Sciences Subject Exam Self-Assessment Tests (fee required)

5. Case Files in Neurology (in Access Medicine) – for clinical rotation information

Summary of Core Clerkship Policies and Expectations

All third-year medical students are expected to follow the policies outlined in the **M3 Clerkship General Handbook**. This guide establishes consistent standards across all core clerkships, supporting a professional, equitable, and safe learning environment. Below is a high-level summary of key policies. Students are responsible for reviewing the full handbook for details. For full policy details, grading rubrics, and institutional resources, please refer to the M3 Clerkship General Handbook.

Professionalism Expectations

Students must demonstrate integrity, accountability, respect, and ethical behavior at all times. Professional lapses—such as tardiness, dishonesty, or unprofessional conduct—may result in grade penalties, formal remediation, or referral to the Student Promotions Committee.

Patient Confidentiality & HIPAA Compliance

Students must strictly protect patient privacy. This includes not accessing unauthorized records, avoiding discussions in public areas, and never storing PHI on personal devices. Violations may result in disciplinary action or dismissal from clinical duties.

Preceptor Responsibilities

Preceptors are responsible for daily supervision, direct observation, clinical teaching, and timely feedback. They must complete mid-clerkship and final evaluations (including narrative comments on strengths and areas for growth) within three weeks of the rotation's end. Narrative comments may support grade adjustments in borderline cases. Preceptors may not medically treat students under their supervision. Best practices include encouraging independent patient encounters, assigning focused tasks, and using brief debriefings and readings to enhance learning.

Clerkship Clinical Supervision

All patient care activities must occur under the supervision of licensed professionals. Students are expected to work within their level of training and seek guidance when needed. Preceptors are responsible for real-time oversight and feedback.

Formative Feedback and Mid-Clerkship Evaluations

Students are expected to seek and respond to regular feedback throughout the rotation. Preceptors will provide ongoing feedback on clinical skills, professionalism, and communication. A formal mid-clerkship evaluation is required to assess progress and set goals for improvement. Feedback plays a critical role in student development and contributes to the final evaluation.

Attendance and Absences

Full attendance and punctual arrival are expected. Excused absences may be granted for illness, emergencies, or approved events, with advance notice and documentation. Excessive or unexcused absences must be made up and may impact professionalism evaluation.

Clinical Rotation Duty Hours

Students must not exceed **80 hours per week** of clinical duties (averaged over four weeks). Students must have **10 hours off between shifts**, **1 full day off per 7-day week**, and are limited in the frequency of overnight call. These guidelines protect wellness and patient safety.

Immunization and Screening Requirements

Students must maintain up-to-date immunizations, including annual TB testing and a tetanus-diphtheria booster every 10 years. Site-specific immunizations may also be required. All documentation must be complete at least one month before third- and fourth-year clinical coursework. Incomplete records may delay rotations or graduation. A background check and drug screening are required before clinical work; random or for-cause screenings may occur throughout enrollment.

Workplace Injuries & Needlestick Protocols

Students must report all workplace exposures immediately, follow proper first-aid procedures, and seek medical care at designated facilities. CNUCOM students are covered under **Workers' Compensation** for clinical-related injuries.

Mistreatment and Harassment

Any behavior that undermines student dignity or creates a hostile learning environment is strictly prohibited. This includes verbal abuse, discrimination, or exclusion. Concerns can be reported confidentially to the Clerkship Director, Clinical Education, or Student Affairs.

Clerkship Grading

Final clerkship grades are based on a combination of:

- **NBME Shelf Exam performance** (nationally standardized exam)
- **Clinical evaluations** by preceptors and Clerkship Directors
- **Didactic participation and assignments** Grades may be adjusted based on clinical performance and professionalism. A "Y" grade may be issued for incomplete or remediated components
- **Students are expected to pass all 3 components individually to acquire a passing grade for the clerkship**

Preceptor Evaluation of Student Performance Form

Preceptors must complete student evaluations within three weeks post-rotation using a standardized rubric across ten domains (e.g., history-taking, clinical reasoning, communication, professionalism). Ratings range from "Fail" to "Honors," with "Insufficient Contact" as an option when applicable. Be sure to review the actual questions in the **M3 Clerkship General Handbook**.

Student Evaluation of Clinical Experiences

At the end of each clerkship, students must complete evaluations of their preceptor, clinical site, and overall rotation. These evaluations are submitted through a secure online system and are reviewed only after a threshold is met to ensure anonymity. Honest, constructive feedback is essential for improving the quality of clinical education.

For full policy details, grading rubrics, and access to institutional support, please consult the M3 Clerkship General Handbook.

Appendix 1: Guidelines for a Comprehensive Neurologic Examination

All medical students should be able to perform the following parts of the neurologic examination.

A. Mental Status
   1. Level of alertness
   2. Language function (fluency, comprehension, repetition, and naming)
   3. Memory (short-term and long-term)
   4. Calculation
   5. Visuospatial processing
   6. Abstract reasoning

B. Cranial Nerves
   1. Vision (visual fields, visual acuity & funduscopic examination. Specify how visual fields and acuity are tested)
   2. Pupillary light reflex
   3. Eye movements
   4. Facial sensation (checking V1-3 distributions)
   5. Facial strength (muscles of facial expression and muscles of facial expression)
   6. Hearing (specify how hearing test performed)
   7. Palatal movement
   8. Speech
   9. Neck movements (head rotation, shoulder elevation)
   10. Tongue movement

C. Motor Function
   1. Muscle Bulk
   2. Tone (resistance to passive manipulation)
   3. Pronator Drift
   4. Strength (shoulder abduction, elbow flexion/extension, wrist flexion/extension, finger flexion/extension/abduction, hip flexion/extension, knee flexion/extension, ankle dorsiflexion/plantar flexion)
   5. Involuntary movements (watch throughout assessment)

D. Coordination and Gait
   1. Coordination (fine finger movements, rapid alternating movements, finger-to-nose, and heel-to-shin)
   2. Gait (casual, on toes, on heels, and tandem gait)
   3. Romberg

E. Reflexes
   1. Deep tendon reflexes (biceps, triceps, brachioradialis, patellar, Achilles)
   2. Plantar responses

F. Sensation (2 or more depending what is appropriate for case)
   1. Light touch (more than touch by hand)
   2. Pain or temperature
   3. Proprioception
   4. Vibration
   5. Extinction

Appendix 2: Guidelines for a Screening Neurologic Examination

All medical students should be able to perform a brief, screening neurologic examination that is sufficient to detect significant neurologic disease even in patients with no neurologic complaints. Although the exact format of such a screening examination may vary, it should contain at least some assessment of mental status, cranial nerves, gait, coordination, strength, reflexes, and sensation. One example of a screening examination is given here.

A. Mental Status
    1. Level of alertness, appropriateness of responses, orientation to date and place
    2. General speech

B. Cranial Nerves
    1. Visual acuity and Visual Fields (and how tested)
    2. Pupillary light reflex
    3. Eye movements
    4. Facial strength (smile, eye closure)
    5. Hearing
    6. Tongue movement

C. Motor Function
    1. Muscle bulk and tone
    2. Strength (shoulder abduction, elbow extension, wrist extension, finger abduction, hip flexion, knee flexion, ankle dorsiflexion)

D. Coordination and Gait
    1. Coordination (finger-to-nose)
    2. Gait (casual, tandem)

E. Reflexes
    1. Deep tendon reflexes (biceps, patellar, Achilles)
    2. Plantar responses

F. Sensation (one modality include distally at toes)

Note: If there is reason to suspect neurologic disease based on the patient's history or the results of any components of the screening examination, a more complete neurologic examination may be necessary.

Appendix 3: Guidelines for Patients with Altered Level of Consciousness

A. Mental Status
    1. Level of arousal (if responds, check orientation, speech, etc)
    2. Response to auditory stimuli (including voice)
    3. Response to visual stimuli
    4. Response to noxious stimuli (applied centrally and to each limb individually)

B. Cranial Nerves (depending on level of consciousness some or all of these maybe appropriate)
    1. Response to visual threat
    2. Pupillary light reflex
    3. Oculocephalic (doll's eyes) reflex
    4. Vestibulo-ocular (cold caloric) reflex
    5. Corneal reflex
    6. Gag reflex

C. Motor Function
    1. Voluntary movements (spontaneous vs. voluntary withdrawal)
    2. Reflex withdrawal
    3. Spontaneous, involuntary movements
    4. Tone (resistance to passive manipulation)

D. Reflexes
    1. Deep tendon reflexes
    2. Plantar responses

E. Sensation (to noxious stimuli)

Appendix 4: Principles of Localization and Differential Diagnosis

A. Differentiate focal, multifocal, and diffuse processes.

B. Determine if the history and examination indicate a neurological disorder.

C. Differentiate anatomically, aphasia, dysarthria, and confusion.

D. Differentiate dominant hemisphere from non-dominant hemisphere deficits.

E. Describe the anatomical basis for brainstem lesions with respect to crossed deficits and dysconjugate gaze.

F. Contrast conjugate gaze deficits for cortical vs. brainstem lesions.

G. Localize the following visual field deficits:
   1. Deficits isolated to one eye
   2. Bitemporal deficits
   3. Homonymous deficits (e.g. homonymous hemianopia)

H. Differentiate central from peripheral facial palsy.

I. Differentiate between an upper motor neuron (UMN) and a lower motor neuron (LMN) deficit with regard to patterns of weakness, muscle bulk, the presence of fasciculation, altered tone, reflex changes, and the plantar reflex.

J. Discuss the significance of a sensory level and dissociated sensory deficits (contralateral spinothalamic and dorsal column deficits).

K. List the major deficits due to cerebellar lesions and distinguish midline deficits from those a hemisphere.

L. Define the characteristics of a lesion of the following:
   1. Nerve root
   2. Plexus
   3. Peripheral nerve
   4. Neuromuscular junction
   5. Muscle