



**SAN ANTONIO
REGIONAL HOSPITAL**

Neurology Rotation Curriculum with Goals & Objectives

SARH Inpatient Neurology — Internal Medicine Residency

Goals & Objectives Stratified by Level of Training

(Mandatory 2weeks in PGY-1 & Elective in special cases PGY-2 / PGY-3)

Specialty Rotation Director: Martin Constante, MD

Overview and Organization

Organization / Site: SARH inpatient neurology service and neurology consultation service.

The Neurology rotation provides residents the opportunity to evaluate and treat patients with neurological disorders. The goal is for residents to feel comfortable with the evaluation and management of neurologic conditions commonly seen in general medicine practice, while also gaining exposure to more complex neurological problems. The rotation is conducted on the inpatient neurology service, where residents evaluate hospitalized patients and neurology consultations. The focus is on developing the resident's ability to take a focused neurologic history and perform a detailed neurologic examination, learn appropriate diagnostic workup (including indications for procedures and neuroimaging), manage common neurologic disease in the hospitalized patient, and recognize appropriate indications for referral.

Rotation requirement and level of training: The Neurology rotation is a required rotation during the PGY-1 year for 2weeks. For PGY-2 and PGY-3 residents, Neurology is offered as an elective. The PGY-2 and PGY-3 objectives below apply to residents who choose additional neurology experience as an elective, with expectations advancing according to level of training and prior experience.

General Educational Goals

Across the rotation and progressively across all three years, residents will:

- Develop proficiency in the focused neurologic history and detailed neurologic examination.
- Learn neuroanatomical localization and build an evidence-based approach to common neurologic conditions.
- Understand the indications, interpretation, and limitations of neurologic diagnostics and procedures.
- Manage common neurologic disease and recognize appropriate indications for referral.
- Communicate effectively with patients, families, and the healthcare team.
- Assume responsibility in a graded fashion, progressing toward independent practice by the end of three years of training.

Levels of Supervision

Residents are supervised by an attending neurologist for all patients. Levels of supervision include:

- Direct Supervision — the supervising physician is physically present with the resident and patient; residents are initially directly observed to build history-taking and examination skills.

- Indirect Supervision, with direct supervision immediately available — the supervising physician is within the site and immediately available.
- Indirect Supervision, with direct supervision available — the supervising physician is immediately available by phone or electronic means.

As residents become more proficient, they interact independently with patients and present cases to faculty. Initial emphasis is on diagnosis and basic management; once these are mastered, the focus shifts to medical decision-making and finalizing the care plan with the supervising physician.

Assessment Scale — Entrustment

The basic evaluation unit is entrustment. Attendings determine the level at which they trust the resident to perform each skill:

- 1 — Cannot perform the skill even with assistance (critical deficiency).
- 2 — Can perform the skill under proactive, full supervision.
- 3 — Can perform the skill with reactive supervision (readily available upon request).
- 4 — Can perform the skill independently.
- 5 — Can act as a supervisor and instructor for the skill.

The Six ACGME Core Competencies — Objectives by Level of Training

Objectives are stratified for PGY-1, PGY-2, and PGY-3 residents, reflecting increasing entrustment: PGY-1 residents build foundational skills under supervision; PGY-2 residents evaluate and manage independently and handle complexity; PGY-3 residents lead, supervise, and teach.

1. Patient Care and Procedural Skills

All residents must provide compassionate, culturally sensitive, and appropriate care to prevent and treat neurologic disease.

PGY-1 — Build foundational skills under supervision

- Take a pertinent, focused neurologic history and perform a detailed neurologic examination.
- Demonstrate basic neuroanatomical localization and differentiate stable from unstable symptoms.
- Differentiate neurologic from psychiatric disease.
- Understand the indications, contraindications, complications, limitations, and interpretation of lumbar puncture.
- Initiate diagnosis and basic management of common neurologic conditions under direct observation.

PGY-2 — Evaluate and manage independently (in addition to PGY-1)

- Independently evaluate and manage common neurologic conditions with indirect supervision.
- Formulate and refine diagnostic and therapeutic plans for patients with multiple or complex neurologic problems.
- Recognize neurologic emergencies (e.g., acute stroke, status epilepticus) and initiate timely management and escalation.
- Perform or assist with lumbar puncture as appropriate and interpret results in clinical context.

PGY-3 — Lead, supervise, and teach (in addition to PGY-1 and PGY-2)

- Independently manage complex and undifferentiated neurologic presentations and lead the care plan.
- Supervise and teach juniors and students in neurologic history, examination, and localization.

- Determine appropriate indications for referral, neuroimaging, and procedures, and model high-value decision-making.

Instructional / Training Methods: Supervised patient care on the inpatient neurology service, direct observation, case-based learning.

Evaluation Methods: Bedside Mini-CEX, direct observation and feedback, faculty entrustment ratings.

2. Medical Knowledge

Residents will demonstrate knowledge of the pathophysiology, evaluation, and management of neurologic disease and apply it to patient care.

PGY-1 — Develop foundational knowledge under supervision

- Develop an understanding of the basic pathophysiology and approach to the following common neurologic conditions:
 - Altered mental status, delirium, and coma
 - Back and neck pain
 - Cognitive impairment and dementia
 - Concussion
 - Dizziness
 - Dystonic reaction
 - Headache disorders
 - Hearing loss
 - Localized pain syndromes
 - Movement disorders
 - Neurologic manifestations of HIV
 - Numbness and sensory loss
 - Seizures
 - Sleep disorders
 - Syncope
 - Tremor
 - Stroke, TIA, weakness, and paralysis
- Understand the indications for ordering and the interpretation of the following laboratory values and procedures:
 - Audiometry
 - ANA
 - Vitamin B12 or MMA, folic acid
 - Carotid duplex
 - CRP or sedimentation rate
 - CSF analysis
 - CT and MRI scanning
 - Drug levels
 - EEG, EMG, and nerve conduction studies
 - Screen for toxins and heavy metals
 - Thyroid function tests
 - VDRL, FTA, RPR

PGY-2 — Apply to complex presentations (in addition to PGY-1)

- Apply knowledge to atypical and complex presentations and correlate examination findings with imaging and electrodiagnostic studies.
- Justify, based on best evidence, diagnostic and treatment choices for common neurologic disease.

PGY-3 — Demonstrate breadth and teach (in addition to PGY-1 and PGY-2)

- Demonstrate comprehensive knowledge across the breadth of neurologic disease encountered in general medicine.
- Integrate conflicting data to reach a diagnosis in ambiguous cases and teach the underlying evidence to the team.

Instructional / Training Methods: Case-based learning, specialty-specific didactics, journal and textbook reading (Gelb, *Introduction to Clinical Neurology*).

Evaluation Methods: Case-based questioning, chart review, faculty written evaluation.

3. Practice-Based Learning and Improvement

Residents will investigate and evaluate their patient-care practices, appraise and assimilate scientific evidence, and improve their practices.

PGY-1 — Build foundational skills under supervision

- Seek, receive, and act on feedback and reflect on performance.
- Identify personal knowledge and skill gaps and use point-of-care resources to address them.
- Engage in case-based learning driven by patients seen during the rotation.

PGY-2 — Manage independently (in addition to PGY-1)

- Perform focused literature searches to answer clinical questions and appraise study quality.
- Improve performance based on external feedback and self-reflection.

PGY-3 — Lead, supervise, and teach (in addition to PGY-1 and PGY-2)

- Deliver a short presentation to the group on a pertinent neurology topic.
- Facilitate the learning of junior residents and students and model self-directed, lifelong learning.

Instructional / Training Methods: Feedback on rounds, patient-based research questions, topic presentations, independent study.

Evaluation Methods: Self-assessment and reflection, Mini-CEX, teaching evaluations.

4. Interpersonal and Communication Skills

Residents will demonstrate communication skills that result in effective information exchange with patients, families, and professional associates.

PGY-1 — Build foundational skills under supervision

- Demonstrate organized, articulate electronic and verbal communication that builds rapport with patients and families.
- Convey information effectively to other healthcare professionals and provide timely, accurate chart documentation.

PGY-2 — Manage independently (in addition to PGY-1)

- Communicate diagnostic reasoning and management plans clearly to patients, families, and referring providers.

- Provide concise, focused answers when performing consults.

PGY-3 — Lead, supervise, and teach (in addition to PGY-1 and PGY-2)

- Lead difficult discussions (e.g., prognosis in dementia or stroke) with patients and families.
- Model effective communication and coach junior residents and students.

Instructional / Training Methods: Direct observation, supervised patient encounters, case presentations to faculty.

Evaluation Methods: Direct observation, Mini-CEX, faculty and multisource feedback.

5. Professionalism

Residents will demonstrate a commitment to professional responsibilities, ethical principles, and sensitivity to a diverse patient population.

PGY-1 — Build foundational skills under supervision

- Demonstrate a strong commitment to professional responsibilities through conduct, ethical behavior, professional attire, collegial interactions, and devotion to patient care.
- Educate patients and families in a manner respectful of gender, age, culture, race, religion, disability, national origin, socioeconomic status, and sexual orientation regarding choices about their care.

PGY-2 — Manage independently (in addition to PGY-1)

- Model professional behavior for students and interns.
- Manage competing responsibilities reliably and maintain professionalism under stress.

PGY-3 — Lead, supervise, and teach (in addition to PGY-1 and PGY-2)

- Serve as a professional role model and address lapses constructively within the team.
- Advocate for patients and lead ethically complex discussions.

Instructional / Training Methods: Role modeling by attendings, direct patient care, patient and family encounters.

Evaluation Methods: Faculty ratings, multisource feedback, self-reflection.

6. Systems-Based Practice

Residents will demonstrate awareness of the larger health-care system and provide care of optimal value.

PGY-1 — Build foundational skills under supervision

- Understand that diagnostic and treatment decisions involve cost and risk and affect quality of care.

PGY-2 — Manage independently (in addition to PGY-1)

- Practice cost-effective, high-value neurologic care and order diagnostics and imaging judiciously.
- Coordinate appropriate referrals and safe transitions of care, including discharge planning and follow-up arrangements.

PGY-3 — Lead, supervise, and teach (in addition to PGY-1 and PGY-2)

- Lead care coordination for inpatient neurology patients, including safe transitions of care at discharge.
- Champion high-value care and the appropriate use of neuroimaging and consultative services.

Instructional / Training Methods: Supervised inpatient care, case-based discussion of cost and value, multidisciplinary collaboration.

Evaluation Methods: Direct observation, chart review, faculty ratings.

Teaching Methods

Supervised Patient Care

- Residents are initially directly observed with patients to facilitate the acquisition of excellent history-taking and physical examination skills.
- As residents become more proficient, they interact independently with patients and present cases to faculty.
- Initial emphasis is on diagnosis and basic management; once mastered, focus shifts to medical decision-making and finalizing the care plan with supervising physicians.

Conferences and Independent Study

- Specialty-specific didactics.
- Journal and textbook reading as assigned by the neurology attending, including Gelb D. Introduction to Clinical Neurology. Oxford University Press, 2024.
- Online educational resources: UpToDate and ClinicalKey.

Evaluation

- Mini-CEX bedside evaluation tool.
- Verbal mid-rotation individual feedback.
- Attending written evaluation of the resident at the end of the month, based on rotation observations and chart review.

Rotation Structure

- Residents should contact the attending neurologist three days prior to the rotation to determine start time and location.
- Residents spend the rotation on the inpatient neurology service; there is no clinic component.
- Rotations are a hands-on learning experience; residents are sent in to see patients and follow them daily throughout their hospital admission.
- Case-based learning is emphasized, with patient-based questions to research and report back, and short topic presentations to the group.
- When performing consults, residents should understand the question asked and provide a concise answer.
- Weekend responsibilities are determined by the attending. Hours must comply with ACGME requirements and are subject to approval by the Program Director.
- Residents have specialty-specific didactics at noon and should be excused in a timely fashion to attend.