Educational Goals & Objectives

The Neurology rotation will provide residents with an opportunity to evaluate and treat patients with neurological disorders.

The goal is to learn about the presentation and management of a variety of neurologic diseases in the inpatient and outpatient setting, and to develop the ability to perform a consultation and physical examination appropriate to adequately evaluate, diagnose, provide therapy, and advice for inpatients and outpatients with suspected and confirmed neurologic disorders.

PGY1 residents will rotate on the CMH Neurology service for one month at a time, for a total of two months.

Faculty will facilitate learning in the 6 core competencies as follows:

Patient Care and Procedural Skills

I. All residents must be able to provide compassionate, culturally-sensitive, and appropriate care for patients to prevent and treat neurologic disease. By the end of the rotations, residents should have the knowledge to seek directed and appropriate specialty or surgical consultation when necessary to further patient care.

II. Residents will demonstrate the ability to take a pertinent neurological history and perform a focused physical exam. By the end of the PGY1 year;
   - Residents should be able to demonstrate basic neuroanatomical localization and differentiate between stable and unstable symptoms.
   - Residents should be able to differentiate between neurologic and psychiatric disease symptoms.
   - Residents should be able to elicit useful findings on exam of a comatose patient and understand physical findings necessary for diagnosis of brain death.

III. Residents will understand the indications, contraindications, complications, limitations, and interpretation of the following procedures, and, if circumstances permit, will perform them under supervision:
   - Lumbar puncture
   - EMG

Medical Knowledge

I. Initially, residents will 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
• Hearing loss
• Localized pain syndromes
• Movement disorders
• Neurologic manifestations of HIV
• Numbness and sensory loss
• Seizure
• Sleep disorders
• Syncope
• Tremor
• Weakness and paralysis

II. By the end of the PGY1 year, residents will also develop a progressively more sophisticated understanding of the pathophysiology, clinical presentation, and targeted therapy for the following acute neurologic conditions, as they are exposed to patients with these conditions:
• Central vertigo
• Elevated intracranial pressure
• Guillain Barré
• Hypertensive emergency
• Meningitis, encephalitis, and lymphocytic pleocytosis in CSF
• Multiple sclerosis exacerbation
• Myasthenic crisis
• Neoplasms involving the CNS
• Status Epilepticus
• Stroke and TIA
• Subarachnoid and intracranial hemorrhage
• Trigeminal neuralgia

III. Initially, residents will be able to understand the indications for ordering and the interpretation of the following laboratory values and procedures:
• Audiometry
• ANA
• B12 or MMA, folic acid
• Carotid duplex
• CRP or sed rate
• CSF analysis
• CT/MRI scanning
• Drug levels
• EEG/EMG and nerve conduction studies
• Screen for toxins, heavy metals
• Thyroid function tests
• VDRL, FTA, RPR

By the end of the PGY1 year, residents will also demonstrate knowledge of the indications for ordering and the interpretation of:
• Cerebral angiography
• Evoked potentials
• Myelography
• Neuropsychologic testing
• Polysomnography
• Tensilon test
• Vestibular function tests
• Visual field testing

IV. Residents will be fully trained in treatment and infection control protocols and procedures (e.g. personal protective equipment [PPE]) and trained clinically to properly recognize and care for COVID-19 patients.

Systems-Based Practice

I. PGY1s must have a basic understanding that their diagnostic and treatment decisions involve cost and risk and affect quality of care.

II. By the end of the PGY1 year, residents must be able to discuss alternative care strategies and the cost and risks involved in current quality issues in neurology, such as appropriateness of surgical treatment versus stenting in stroke.

Practice-Based Learning and Improvement

I. All residents should be able to access current national guidelines (e.g. American Academy of Neurology Practice Guidelines [https://www.aan.com/policy-and-guidelines/guidelines]) to apply evidence-based strategies to patient care.

II. By the end of the PGY1 year, residents should develop skills in evaluating new studies in published literature, through Journal Club and independent study.

III. All residents should participate in case-based therapeutic decision-making, involving the primary care provider and neurologist. Residents should learn to coordinate patient care as part of a larger team, including the nurse, pharmacist, therapists, dietician, and social worker to optimize patient care.

IV. All residents should respond with positive changes to feedback from members of the health care team.
Professionalism

I. All residents must demonstrate strong commitment to carrying out professional responsibilities as reflected in their conduct, ethical behavior, attire, interactions with colleagues and community, and devotion to patient care.

II. PGY1s should be able to educate patients and their families in a manner respectful of gender, age, culture, race, religion, disabilities, national origin, socioeconomic status, and sexual orientation on choices regarding their care.

III. By the end of the PGY1 year, residents should be able to counsel patients and families both on diagnostic and treatment decisions and on withdrawal of care.

Interpersonal and Communication Skills

I. Initially, residents must demonstrate organized and articulate electronic and verbal communication skills that build rapport with patients and families, convey information to other health care professionals, and provide timely documentation in the chart.

II. By the end of the PGY1 year, residents must also develop interpersonal skills that facilitate collaboration with patients, their families, and other health professionals.

III. By the end of the PGY1 year, residents must be able to elicit information or agreement in situations with complex social dynamics, for example, identifying the power of attorney or surrogate decision maker, and resolving conflict among family members with disparate wishes.

Teaching Methods

I. Supervised patient care in the inpatient and outpatient setting.
   • Residents will initially be directly observed with patients, to facilitate the acquisition of excellent history taking and physical exam skills.
   • As residents become more proficient, they will interact more independently with patients and present cases to faculty.
     • Initial emphasis will be on diagnosis and basic management.
     • When residents have mastered these skills, focus will be on medical decision-making, and residents will work with supervising physicians to finalize a care plan.

II. Conferences
   • Daily noon conference
   • Journal club

III. Independent study
   • Journal and Textbook reading as assigned by neurology attending
     • Kaufman’s Clinical Neurology for Psychiatrists, 8th Edition.
• Online educational resources
  • Up to Date
  • Clinical Key
  • World Health Organization: How to put on and remove personal protective equipment (PPE) https://openwho.org/courses/IPC-PPE-EN

Evaluation
I. Mini-CEX bedside evaluation tool
II. Verbal mid-rotation individual feedback
III. 360 Evaluation
IV. Attending written evaluation of resident at the end of the month based on rotation observations and chart review, entered in New Innovations, Neurology (for Psychiatry Residents) Evaluation.

Rotation Structure
I. Residents should contact the attending neurologist the day prior to determine start time and location.
II. Residents will divide their time between the hospital and the clinic as appropriate to achieve the above educational goals.
  • Rotations are a “hands-on” learning experience. If you have a resident, send them in to see a patient.
  • If the same patient returns during the rotation, send the resident in to see the follow-up.
  • Case-based learning is very effective. Give your resident patient-based questions to research and report back to you.
  • Consider having your resident do a short presentation to the group on a pertinent topic.
  • When doing consults, ensure the resident understands the question asked and provides a concise answer.
III. Call and weekend responsibilities to be determined by the attending physician.
  • Hours worked must be consistent with ACGME requirements and are subject to approval by the Program Director.
IV. Residents have noon conferences and should be excused in a timely fashion to attend.