

MARSHALL UNIVERSITY SCHOOL OF MEDICINE NEUROLOGY RESIDENCY TRAINING PROGRAM

LETTER OF AGREEMENT FOR THE COOPERATIVE TRAINING OF RESIDENTS/FELLOWS FROM MARSHALL UNIVERSITY JOAN C. EDWARDS SCHOOL OF MEDICINE (MUSOM) AND VETERANS AFFAIRS MEDICAL CENTER ("VAMC") (Participating Site)

This letter of agreement is an educational statement that sets forth important points of agreement between Marshall University School of Medicine ("MUSOM") and Veterans Affairs Medical Center ("VAMC"). This statement of educational purpose is not intended to supersede or change any current contracts and institutional affiliation agreements between the institutions.

This Letter of Agreement is effective from August 1, 2020, and will remain in effect for ten (10) years, or until updated, changed, or terminated as set forth herein. All such changes, unless otherwise indicated, must be approved in writing by all parties.

1. Persons Responsible for Education and Supervision

At MUSOM: Justin Nolte, M.D., Neurology Residency Program Director

At VAMC: Lawrence Clapp, M.D. – Site Director

The above mentioned people are responsible for the education and supervision of the residents/fellows while rotating at the Participating Site.

2. Responsibilities

The faculty at the Participating Site must provide appropriate supervision of residents/fellows in patient care activities and maintain a learning environment conducive to educating the residents/fellows in the ACGME competency areas. The faculty must evaluate resident performance in a timely manner during each rotation or similar educational assignment and document this evaluation at completion of the assignment.

3. Content and Duration of the Educational Experiences

The content of the educational experiences has been developed according to ACGME Residency/Fellowship Program Requirements and are delineated in the attached goals and objectives for each rotation.

As program director, Dr. Justin Nolte, is ultimately responsible for the content and conduct of the educational activities at all sites, including VAMC. The Program Director/Participating Site director and the faculty are responsible for the day-to-day activities of the residents/fellows to ensure that the outlined goals and objectives are met during the course of the educational experiences.

Rotations may be in two (2) week blocks, but generally rotations are a month in duration.

The day-to-day supervision and oversight of resident/fellow activities will be determined by the specialty service where they are assigned. Amanda Jones, Program Administrator, is responsible for oversight of some resident/fellow activities, including coordination of evaluations, arrangements of conferences, sick leave, annual leave and benefits.

4. Assignments

MUSOM will provide to VAMC the name of the resident(s)/fellow(s) assigned to the site, the service they will be training on and other relevant information. Residents/fellows will remain on MUSOM's payroll; remain eligible for all resident benefits, including annual leave, sick leave, and health insurance, etc. Resident's will be covered under MUSOM'S malpractice policy in the amount of one million dollars per occurrence. The policy also provides tail coverage and legal defense.

5. Responsibility for supervision and evaluation of residents

Residents/Fellows will be expected to behave as peers to the faculty, but be supervised in all their activities commensurate with the complexity of care being given and the resident's/fellow's own abilities and level of training. Such activities include, but are not limited to the following:

- Patient care in clinics, inpatient wards and emergencies
- Conferences and lectures
- Interactions with administrative staff and nursing personnel
- Diagnostic and therapeutic procedures
- Intensive Care unit or Ward patient care

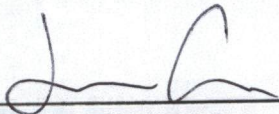
The evaluation form will be developed and administered by the Neurology Residency Program. Residents/Fellows will be given the opportunity to evaluate the teaching faculty, clinical rotation and Participating Site at the conclusion of the assignment.

6. Policies and Procedures for Education

During assignments to VAMC, residents/fellows will be under the general direction of MUSOM's Graduate Medical Education Committee's and Neurology Residency's Policy and Procedure Manual as well as the policies and procedures of the Participating Site for patient confidentiality, patient safety, medical records, etc.


7. Authorized Signatures

VETERANS AFFAIRS MEDICAL CENTER



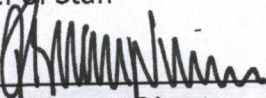
Lawrence Clapp, M.D.
Program Site Director

6/29/20
Date



Na Su M.D., Medical Director
Chief of Staff

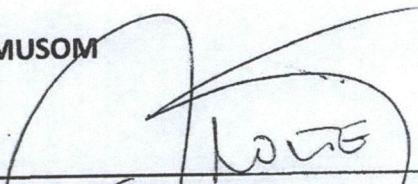
8/7/2020
Date



Brian Nimmo, Director

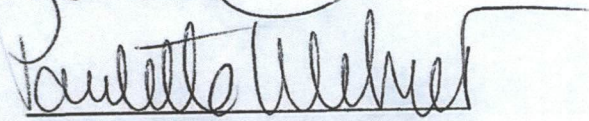
8/10/2020
Date

MUSOM




Justin Nolte, M.D.
Neurology Residency
Program Director

5/20/2020
Date



Paulette Wehner, M.D., DIO
Vice Dean for GME

5/25/2020
Date



Joseph Shapiro, M.D.
Dean

6/29/20
Date



MARSHALL UNIVERSITY
Joan C. Edwards School of Medicine

Marshall Neurology Residency Program

Goals & Objectives

Veterans Affairs Medical Center

Rotation: Inpatient Consultation/Clinic Service PGY-2 Veteran's Affairs Medical Center



Site Director: Lawrence Clapp, MD

Faculty: Ijaz Ahmad, MD

Rotation Hours: Mon - Fri, 730am to 5pm; **On-call responsibility:** Presentation of any cases appropriate for morbidity and mortality monthly; **Presentation of a case monthly at case conference**

History - Patient Care

- Obtains a complete and relevant neurologic history
- Performs complete neurological exam accurately

Management/Treatment - Patient Care

- Discusses general approach to initial treatment of common neurologic disorders, including risks and benefits of treatment
- Identifies neurologic emergencies

Neuroimaging - Patient Care

- Recognizes emergent imaging findings on brain MR and CT
- Identifies basic neuroanatomy on spine MR and CT
- Identifies major vascular anatomy on angiography

Lumbar Puncture - Patient Care

- Lists the complications of lumbar puncture and their management

Localization - Medical Knowledge

- Localizes lesions to general regions of the nervous system

Formulation - Medical Knowledge

- Summarizes key elements of history and exam findings
- Identifies relevant pathophysiologic categories to generate a broad differential diagnosis

Diagnostic Investigation - Medical Knowledge

- Discusses general diagnostic approach appropriate to clinical presentation
- Lists risks and benefits of tests to patient

Systems Thinking, including cost and risk effective practice - Systems-Based Practice

- Describes cost and risk benefit ratios in patient care

Work in inter-professional teams to enhance patient safety - Systems-Based Practice

- Describes cost and risk benefit ratios in patient care

Self-directed learning — Practice-based Learning and Improvement

- Identify strengths, deficiencies, and limits in one's knowledge and expertise
- Set learning and improvement goals
- Identify and perform appropriate learning activities
- Use information technology to optimize learning
- Incorporates feedback

Locate, appraise, and assimilate evidence from scientific studies related to the patient's health problems - Practice-based Learning and Improvement

- Uses scholarly articles and guidelines to answer patient care issues

Compassion, integrity, accountability, and respect for self and others — Professionalism

- Demonstrates appropriate steps to address impairment in self
- Consistently demonstrates professional behavior, including dress and timeliness

Knowledge about, respect for, and adherence to the ethical principles relevant to the practice of medicine, remembering in particular that responsiveness to patients that supersedes self-interest is an essential aspect of medical practice — Professionalism

- Determines presence of ethical issues in practice

Relationship development, teamwork, and managing conflict — Interpersonal and Communication Skills

- Manages simple patient/family-related conflicts
- Engages patients in shared decision-making

Information sharing, gathering, and technology — Interpersonal and Communication Skills

- Effectively communicates during team meetings, discharge planning, and other transitions of care
- Educates patients about their disease and management, including risks and benefits of treatment options
- Completes all documentation accurately, including use of EHR, to promote patient safety

Expectations for this rotation:

Residents will gain a comprehensive knowledge of the following:

- To learn to perform a thorough but succinct neurologic interview and physical exam and develop an appropriate differential diagnosis with workup and treatment algorithm based on the most likely diagnoses.
- To learn the technical skills involved in performing a lumbar puncture and become confident with performing the procedure on hospitalized patients
- To learn the indications for ordering neurodiagnostics and become familiar with their reports and begin to understand the results with regard to their patient complaints and exam findings.

Relevant learning activities on this rotation

- Development of an appropriate differential diagnosis based on initial history and physical exam
- Become comfortable with indications for ordering neurodiagnostics and become more comfortable with reviewing neuroradiographic images to assist with patient care and management decisions.

Curriculum content and what methods are used

- Attending rounds - daily rounds on all inpatients with neurologic consultation will occur with the assigned staff attending who will be responsible for reviewing all the pertinent parts of the

case and individualizing any educational opportunities based on the patient and resident's perceived fund of knowledge.

- Attending Clinics - residents will provide initial consultation or follow-up on clinic patients under supervision of the assigned staff attending who will be responsible for reviewing all the pertinent parts of the case and individualizing any educational opportunities based on the patient and resident's perceived fund of knowledge.
- Directly Supervised Procedure - all procedures performed by the resident will be under direct supervision by the assigned neurology faculty.
- Attendance at monthly case presentations during which time the residents will be expected to present an interesting case that they experienced during the previous month with focus on presentation and physical exam and differential diagnosis and subsequent workup and management decisions.
- Attendance at monthly mortality and morbidity conference during which time any patient deemed to have had an unexpected outcome will be presented and discussed in an effort to improve future patient care.
- Online resources are readily available as well as the Marshall University School of Medicine Library on campus in order for residents to pursue self-directed learning outside of formal rounds

Supervision: The supervision is direct and occurs in a one-on-one setting.

Evaluation Process: *(residents will be evaluated on each rotation using a competency-based system on New Innovations mirroring the ACGME recommended Milestones).*

Since this rotation will be taken more than once in the course of training experience, it is expected that residents will demonstrate increasing competence and skill in the evaluation and management of inpatient neurological patients. Feedback is given daily, with a formal end of rotation evaluation.

By the end of the first year, it will be expected that residents be able to provide an initial impression and offer an initial workup plan to the referring service line that is appropriate but succinct, showing growth in an ability to be able to determine the appropriateness and applicability of specific testing in specific disease process presentation. It will be expected that the resident is able to perform a successful lumbar puncture with minimal supervision and be proficient enough to teach off service residents and medical students. By completion of training residents will be expected to be able to direct the initial interview based on their evolving differential diagnosis and offer counseling regarding the appropriate diagnosis and then further counseling based on the results of the testing with appropriate treatment regimens.

Clinical Operations:

- Inpatient rounds: All documentation is to be performed in the patient's electronic medical record by the covering resident before the end of the day of service and reviewed and added by the assigned neurology faculty within 24 hours.
- Outpatient clinics: All documentation is to be performed in the patient's electronic medical record by the covering resident before the end of the day of service and reviewed and added by the assigned neurology faculty within 24 hours.
- Electroencephalogram (EEG) - are performed as routine studies in the inpatient setting as well as continuous EEG studies in dedicated long term monitoring (LTM) rooms. Reports are generated by the reading epileptologists as the studies are completed or intermittently throughout the day as they are reviewed (LTM studies).
- Electromyography (EMG) - are capable of being performed in the inpatient setting but when patient is able will be performed in the attached neurophysiology lab and reports are generated on day of service when the study is completed.
- Neuroimaging/Vascular Imaging (MRI, CT, US) - on site radiology suite including two thin slice, helical CT scanners, a 3T and 1.5T MRI machine and two interventional radiology suites equipped for intra-arterial procedures. Results are reported at the completion of the study and sent to the ordering physician for their review across the EMR.

Role of the resident during inpatient consultation rotation

The resident will serve as the primary contact point for all new neurology consultations and will be responsible for the initial evaluation of each patient and subsequently discuss each case with the covering neurology attending to outline an initial plan of care. Further plan of care will be outlined on rounds during which time the resident will be responsible for ensuring pertinent results are related to the covering attending and any changes in the initial plan of management are relayed to the referring physicians. The resident will respond to all urgent emergency room consultations and provide initial input to the covering attending who will determine the need for their immediate presence in certain instances like status epilepticus, intracerebral hemorrhage with cerebral edema or ischemic stroke being considered for acute reperfusion therapy. They will also be responsible for performing all lumbar punctures once they have satisfactorily shown their competency in this procedure under direct supervision. In the outpatient setting the residents will serve as the initial interviewer and examiner and confer with the staff attending to outline a workup and treatment plan with attending supervision.

Case Conferences/Mortality and Morbidity: Each conference will be held monthly and the residents will be responsible for bringing an appropriate case (cases) to allow for review by the conference attendees in an effort to improve educational opportunities and improve future patient care.

Neurology VAMC Attendings:

These attendings will provide assigned covered during normal working hours (M-F 0730-1700) and apart from staffing the neurology consultations and follow-ups will be responsible for resident education both in the informal rounds setting but also during informal lectures throughout the week as time allows.

**Rotation: Inpatient Consultation/Clinic Service PGY-3
Veteran's Affairs Medical Center**



Site Director: Lawrence Clapp, MD

Faculty: Ijaz Ahmad, MD

Rotation Hours: Mon - Fri, 730am to 5pm; **On-call responsibility:** Presentation of any cases appropriate for morbidity and mortality monthly; **Presentation of a case monthly at case conference**

History and Neurologic Exam - Patient Care

- Obtains a complete, relevant, and organized neurologic history
- Performs a relevant neurological exam incorporating some additional appropriate maneuvers
- Visualizes papilledema
- Accurately performs a neurological exam on the comatose patient

Management/Treatment - Patient Care

- Individualizes treatment for specific patients
- Initiates management for neurologic emergencies and triages patient to appropriate level of care
- Appropriately requests consultations from non-neurologic care providers for additional evaluation and

Neuroimaging - Patient Care

- Describes abnormalities of the brain and spine on MR and CT
- Identifies major abnormalities on angiography

Lumbar Puncture - Patient Care

- Performs lumbar puncture under direct supervision

Localization - Medical Knowledge

- Accurately localizes lesions to specific regions of the nervous system

Formulation - Medical Knowledge

- Synthesizes information to focus and prioritize diagnostic possibilities
- Correlates the clinical presentation with basic anatomy of the disorder

Diagnostic Investigation - Medical Knowledge

- Individualizes diagnostic approach to the specific patient
- Accurately interprets results of common diagnostic tests

Systems Thinking, including cost and risk effective practice - Systems-Based Practice

- Makes clinical decisions that balance cost and risk benefit ratios

Work in inter-professional teams to enhance patient safety - Systems-Based Practice

- Describes potential sources of system failure in clinical care such as minor, major, and sentinel events

Self-directed learning — Practice-based Learning and Improvement

- Identify strengths, deficiencies, and limits in one's knowledge and expertise
- Set learning and improvement goals
- Identify and perform appropriate learning activities
- Use information technology to optimize learning
- Develops an appropriate learning plan based upon clinical experience

Locate, appraise, and assimilate evidence from scientific studies related to the patient's health problems - Practice-based Learning and Improvement

- Critically evaluates scientific literature

Compassion, integrity, accountability, and respect for self and others — Professionalism

- Demonstrates compassionate practice of medicine, even in context of disagreement with patient beliefs
- Incorporates patients' socio-cultural needs and beliefs into patient care
- Demonstrates appropriate steps to address impairment in colleagues

Knowledge about, respect for, and adherence to the ethical principles relevant to the practice of medicine, remembering in particular that responsiveness to patients that supersedes self-interest is an essential aspect of medical practice — Professionalism

- Analyzes and manages ethical issues in straightforward clinical situations

Relationship development, teamwork, and managing conflict — Interpersonal and Communication Skills

- Manages conflict in complex situations
- Uses easy-to-understand language in all phases of communication

Information sharing, gathering, and technology — Interpersonal and Communication Skills

- Effectively communicates the results of a neurologic consultation in a timely manner
- Effectively gathers information from collateral sources when necessary
- Demonstrates synthesis, formulation, and thought process in documentation

Expectations for this rotation:

Residents will gain a comprehensive knowledge of the following:

- To learn to perform a thorough but succinct neurologic interview and physical exam and develop an appropriate differential diagnosis with workup and treatment algorithm based on the most likely diagnoses.
- To learn the technical skills involved in performing a lumbar puncture and become confident with performing the procedure on hospitalized patients
- To learn the indications for ordering neurodiagnostics and more comfortable for self-review and understanding the clinical correlation to assist in subsequent medication decision making.

Relevant learning activities on this rotation

- Development of an appropriate differential diagnosis based on initial history and physical exam
- Junior level residents will become comfortable with indications for ordering neurodiagnostics and as their experience increases will be expected to become more comfortable with reviewing neuroradiographic images to assist with patient care and management decisions.

Curriculum content and what methods are used

- Attending rounds - daily rounds on all inpatients with neurologic consultation will occur with the assigned staff attending who will be responsible for reviewing all the pertinent parts of the case and individualizing any educational opportunities based on the patient and resident's perceived fund of knowledge.
- Outpatient clinic - residents will be responsible for the initial evaluation for neurologic consultation and follow-up with supervision by the assigned staff attending who will be responsible for reviewing all the pertinent parts of the case and individualizing any educational opportunities based on the patient and resident's perceived fund of knowledge.
- Directly Supervised Procedure - all procedures performed by the resident will be under direct supervision by the assigned neurology faculty.
- Attendance at monthly case presentations during which time the residents will be expected to present an interesting case that they experienced during the previous month with focus on presentation and physical exam and differential diagnosis and subsequent workup and management decisions.
- Attendance at monthly mortality and morbidity conference during which time any patient deemed to have had an unexpected outcome will be presented and discussed in an effort to improve future patient care.
- Online resources are readily available as well as the Marshall University School of Medicine Library on campus in order for residents to pursue self-directed learning outside of formal rounds

Supervision: The supervision is direct and occurs in a one-on-one setting.

Evaluation Process: (residents will be evaluated on each rotation using a competency-based system on New Innovations per the ACGME Milestones).

Since this rotation will be taken more than once in the course of training experience, it is expected that residents will demonstrate increasing competence and skill in the evaluation and management of inpatient neurological patients. Feedback is given daily, with a formal end of rotation evaluation.

By the end of the second year, it will be expected that residents be able to provide an initial impression and offer an initial workup plan to the referring service line that is appropriate but succinct, showing growth in an ability to be able to determine the appropriateness and applicability of specific testing in specific disease process presentation. It will be expected that the resident is able to master the successful removal of CSF by performance and teaching of a successful lumbar puncture with minimal supervision. By completion of training residents will be expected to be able to direct the initial interview based on their evolving differential diagnosis and offer counseling regarding the appropriate diagnosis and then further counseling based on the results of the testing with appropriate treatment regimens.

Clinical Operations:

- Inpatient rounds: All documentation is to be performed in the patient's electronic medical record by the covering resident before the end of the day of service and reviewed and addended by the assigned neurology faculty within 24 hours.
- Outpatient clinics: All documentation is to be performed in the patient's electronic medical record by the covering resident before the end of the day of service and reviewed and addended by the assigned neurology faculty within 24 hours.
- Electroencephalogram (EEG) - are performed as routine studies in the inpatient setting as well as continuous EEG studies in dedicated long term monitoring (LTM) rooms. Reports are generated by the reading epileptologists as the studies are completed or intermittently throughout the day as they are reviewed (LTM studies).
- Electromyography (EMG) - are capable of being performed in the inpatient setting but when patient is able will be performed in the attached neurophysiology lab and reports are generated on day of service when the study is completed.
- Neuroimaging/Vascular Imaging (MRI, CT, US) - on site radiology suite including two thin slice, helical CT scanners, a 3T and 1.5T MRI machine and two interventional radiology suites equipped for intra-arterial procedures. Results are reported at the completion of the study and sent to the ordering physician for their review across the EMR.

Role of the resident during inpatient consultation rotation

The resident will serve as the primary contact point for all new neurology consultations and will be responsible for the initial evaluation of each patient and subsequently discuss each case with the covering neurology attending to outline an initial plan of care. Further plan of care will be outlined on rounds during which time the resident will be responsible for ensuring pertinent results are related to the covering attending and any changes in the initial plan of management are relayed to the referring physicians. The resident will respond to all urgent emergency room consultations and provide initial input to the covering attending who will determine the need for their immediate presence in certain instances like status epilepticus, intracerebral hemorrhage with cerebral edema or ischemic stroke being considered for acute reperfusion therapy. They will also be responsible for performing all lumbar punctures once they have satisfactorily shown their competency in this procedure under direct supervision. In the outpatient clinic setting the resident will serve as the initial interviewer and examiner for all new and follow-up clinic encounters with supervision by the assigned neurology attending who will assist in outlining an appropriate plan of care.

Case Conferences/Mortality and Morbidity: Each conference will be held monthly and the residents will be responsible for bringing an appropriate case (cases) to allow for review by the conference attendees in an effort to improve educational opportunities and improve future patient care.

Neurology VAMC Attendings:

These attendings will provide assigned covered during normal working hours (M-F 0730-1700) and apart from staffing the neurology consultations and follow-ups will be responsible for resident education both in the informal rounds setting but also during informal lectures throughout the week as time allows.

Rotation: Inpatient Consultation/Clinic Service PGY-4 Veteran's Affairs Medical Center



Site Director: Lawrence Clapp, MD

Faculty: Ijaz Ahmad, MD

Rotation Hours: Mon - Fri, 730am to 5pm; On-call responsibility; Presentation of any cases appropriate for morbidity and mortality monthly; Presentation of a case monthly at case conference

History and Neurologic Exam - Patient Care

- Efficiently obtains a complete, relevant, and organized neurologic history
- Efficiently performs a relevant neurological exam accurately incorporating all additional appropriate maneuvers
- Accurately performs a brain death examination

Management/Treatment - Patient Care

- Adapts treatment based on patient response
- Identifies and manages complications of therapy
- Independently directs management of patients with neurologic emergencies
- Appropriately requests consultations from a neurologic subspecialist for additional evaluation or management

Neuroimaging - Patient Care

- Interprets MR and CT neuroimaging of brain and spine

Lumbar Puncture - Patient Care

- Performs lumbar puncture without direct supervision

Localization - Medical Knowledge

- Efficiently and accurately localizes lesions to specific regions of the nervous system

- Describes advanced neuroanatomy

Formulation - Medical Knowledge

- Efficiently synthesizes information to focus and prioritize diagnostic possibilities
- Accurately correlates the clinical presentation with detailed anatomy of the disorder
- Continuously reconsiders diagnostic differential in response to changes in clinical circumstances
- Diagnoses brain death

Diagnostic Investigation - Medical Knowledge

- Explains diagnostic yield and cost-effectiveness of testing
- Accurately interprets results of less common diagnostic testing
- Recognizes indications and implications of genetic testing
- Recognizes indications of advanced imaging and other diagnostic studies

Systems thinking, including cost and risk effective practice - Systems-Based Practice

- Incorporates available quality measures in patient care

Work in inter-professional teams to enhance patient safety - Systems-Based Practice

- Participates in a team-based approach to medical error analysis

Self-directed learning — Practice-based Learning and Improvement

- Identify strengths, deficiencies, and limits in one's knowledge and expertise
- Set learning and improvement goals
- Identify and perform appropriate learning activities
- Use information technology to optimize learning
- Completes an appropriate learning plan based upon clinical experience

Locate, appraise, and assimilate evidence from scientific studies related to the patient's health problems - Practice-based Learning and Improvement

- Incorporates appropriate evidence-based information into patient care
- Understands the limits of evidence-based medicine in patient care

Compassion, integrity, accountability, and respect for self and others — Professionalism

- Mentors others in the compassionate practice of medicine, even in context of disagreement with patient beliefs
- Mentors others in sensitivity and responsiveness to diverse and vulnerable populations
- Advocates for quality patient care

Knowledge about, respect for, and adherence to the ethical principles relevant to the practice of medicine, remembering in particular that responsiveness to patients that supersedes self-interest is an essential aspect of medical practice — Professionalism

- Analyzes and manages ethical issues in complex clinical situations

Relationship development, teamwork, and managing conflict — Interpersonal and Communication Skills

- Manages conflict across specialties and systems of care
- Leads team-based patient care activities

Information sharing, gathering, and technology — Interpersonal and Communication Skills

- Effectively leads family meetings
- Effectively and ethically uses all forms of communication
- Mentors colleagues in timely, accurate, and efficient documentation

Expectations for this rotation:

Residents will gain a comprehensive knowledge of the following:

- To master a thorough but succinct neurologic interview and physical exam and develop an appropriate differential diagnosis with workup and treatment algorithm based on the most likely diagnoses.
- To master the technical skills involved in performing a lumbar puncture and become confident with performing the procedure on hospitalized patients
- To master the review of neuroradiographic imaging as well as neurodiagnostics and be able to review the reports and understand the results with regard to their patient complaints and exam findings and alter treatment strategy based on those results.

Relevant learning activities on this rotation

- Development of an appropriate differential diagnosis based on initial history and physical exam
- Become comfortable with self-review of neuroimaging and neurodiagnostics and offer initial impression based on those results, even before they are formally read to expedite patient workup/management decision making and improve patient care.

Curriculum content and what methods are used

- Attending rounds - daily rounds on all inpatients with neurologic consultation will occur with the assigned staff attending who will be responsible for reviewing all the pertinent parts of the

case and individualizing any educational opportunities based on the patient and resident's perceived fund of knowledge.

- Outpatient clinics - residents will interview and examine patients scheduled in an outpatient neurology clinic with supervision of the staff attending who will be responsible for reviewing all the pertinent parts off the case and individualizing any educational opportunities based on the patient and resident's perceived fund of knowledge.
- Directly Supervised Procedure - all procedures performed by the resident will be under direct supervision by the assigned neurology faculty.
- Attendance at monthly case presentations during which time the residents will be expected to present an interesting case that they experienced during the previous month with focus on presentation and physical exam and differential diagnosis and subsequent workup and management decisions.
- Attendance at monthly mortality and morbidity conference during which time any patient deemed to have had an unexpected outcome will be presented and discussed in an effort to improve future patient care.
- Online resources are readily available as well as the Marshall University School of Medicine Library on campus in order for residents to pursue self-directed learning outside of formal rounds

Supervision: The supervision is direct and occurs in a one-on-one setting.

Evaluation Process: (*residents will be evaluated on each rotation using a competency-based system on New Innovations per the ACGME Milestones*).

Since this rotation will be taken more than once in the course of training experience, it is expected that residents will demonstrate increasing competence and skill in the evaluation and management of inpatient neurological patients. Feedback is given daily, with a formal end of rotation evaluation.

By the end of the rotation it will be expected that residents be able to provide an appropriate initial impression and treatment plan and follow-up on any testing and modify their initial treatment plan based on those results to optimize patient care. It will be expected that the resident has mastered the lumbar puncture with minimal supervision and be proficient enough to teach off service residents and medical students. By completion of training residents will be expected to be able to direct the initial interview based on their evolving differential diagnosis and offer counseling regarding the appropriate diagnosis and then further counseling based on the results of the testing with appropriate treatment regimens.

Clinical Operations:

- Inpatient rounds: All documentation is to be performed in the patient's electronic medical record by the covering resident before the end of the day of service and reviewed and added by the assigned neurology faculty within 24 hours.
- Outpatient clinics: All documentation is to be performed in the patient's electronic medical record by the covering resident before the end of the day of service and reviewed and added by the assigned neurology faculty within 24 hours.
- Electroencephalogram (EEG) - are performed as routine studies in the inpatient setting as well as continuous EEG studies in dedicated long term monitoring (LTM) rooms. Reports are generated by the reading epileptologists as the studies are completed or intermittently throughout the day as they are reviewed (LTM studies).
- Electromyography (EMG) - are capable of being performed in the inpatient setting but when patient is able will be performed in the attached neurophysiology lab and reports are generated on day of service when the study is completed.
- Neuroimaging/Vascular Imaging (MRI, CT, US) - on site radiology suite including two thin slice, helical CT scanners, a 3T and 1.5T MRI machine and two interventional radiology suites equipped for intra-arterial procedures. Results are reported at the completion of the study and sent to the ordering physician for their review across the EMR.

Role of the resident during inpatient consultation rotation

The resident will serve as the primary contact point for all new neurology inpatient and outpatient neurology consultations and follow-ups and will be responsible for the assignment of residents and medical students to specific patients and discussing an plan for diagnostics and management with the more junior level trainees when available. The resident involved with the initial evaluation will discuss each case with the supervising attending after completion of their evaluation. Further plan of care will be outlined on rounds during which time the resident will be responsible for ensuring pertinent results are related to the covering attending and any changes in the initial plan of management are relayed to the referring physicians. The resident will respond to all urgent emergency room consultations and provide initial input to the covering attending who will determine the need for their immediate presence in certain instances like status epilepticus, intracerebral hemorrhage with cerebral edema or ischemic stroke being considered for acute reperfusion therapy. They will also be responsible for performing all lumbar punctures once they have satisfactorily shown their competency in this procedure under direct supervision.

Case Conferences/Mortality and Morbidity: Each conference will be held monthly and the residents will be responsible for bringing an appropriate case (cases) to allow for review by the conference attendees in an effort to improve educational opportunities and improve future patient care.

Neurology VAMC Attendings:

These attendings will provide assigned covered during normal working hours (M-F 0730-1700) and apart from staffing the neurology consultations and follow-ups will be responsible for resident education both in the informal rounds setting but also during informal lectures throughout the week as time allows.

LEGENDS

ACS	Amulatory Care Series	DSP	Directly Supervised Procedure	PS	Professionalism Series
AR	Attending Rounds	EC	Ethics Conference	PIP	Performance Improvement Project
AU	Autopsy Report	FS	Faculty Supervision	RC	Research Conference
BP	Billing Practices	GR	Grand Rounds	RLS	Resident Lecture Series
BR	Board Review	IC	Imaging Conference	RM	Risk Management/HIPPA Practices
BSL	Basic Science Lecture	JC	Journal Club		
CC	Case Conference	LS	Lecture Series		
COR	Core Curriculum	MM	Morbidity & Mortality Conference		
DPC	Direct Patient Care	NS	Neuropathology Series		

A. Evaluation Methods for Neurology Residents			
AE	Attending Evaluations	PE	Patient/Health Professional Evaluation
DSP	Direct Supervised Procedures	PL	Procedure Logs
ECR	Educational Committee Review (twice annually)	PR	Peer Review
FP	Resident Portfolios	RR	Record Review
IE	In-Service Exams	CEX	Clinical Skills Exam