UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM
GOALS AND OBJECTIVES

1. Teach resident physicians the clinical knowledge and skills needed to be excellent clinical neurologists. (PC, MK, PBL)

2. Teach residents to be excellent physicians as exemplified by their medical management skills, clinical judgment, and professional responsibility, as well as by their interactions with patients, families, physicians, and other co-workers. (PC, P, ICS)

3. Provide resident physicians the background in neuroscience necessary for the state-of-the-art practice of neurology. (PBL)

4. Teach residents the practice of continuing self-education. (PBL)

5. Allow residents to demonstrate progressive levels of responsibility throughout the duration of training. (PC, P, SBP)

6. Teach residents to understand and be capable of interacting effectively with different systems of care, and to incorporate consideration of cost-awareness and risk-benefit analysis in patient care decisions. (SBP)

Revised 4/8/14
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM
LEARNING OBJECTIVES FOR RESIDENTS
PGY-2 year

Patient Care:
1. Provide compassionate, appropriate and effective patients care for the treatment of health problems and the promotion of health.
2. Understand how to appropriately prioritize patient problems and develop an appropriate diagnostic plan.
3. Prescribe medications appropriately.
4. Show an appropriate balance between attention to the details of patient care and the overall context of treating the patient’s illness.
5. Obtain consultations appropriately.
6. Perform technical procedures adequately, including lumbar puncture.
7. Be able to take a neurological history and perform a neurological examination competently in both adults and children.
8. Become familiar with the basics of diagnosis and treatment of common neurological problems, and begin to gain exposure to uncommon neurological problems.

Medical Knowledge
1. Demonstrate knowledge of evolving biomedical, clinical, epidemiological and social/behavioral sciences as well as the application of this knowledge to patient care.
2. Assess diagnostic information critically and constructively.
3. Acquire basic skills in neuroanatomic localization.
4. Recognize psychosocial aspects of illness.
5. Critically evaluate the medical literature and apply new knowledge to the delivery of safe and effective patient care.
6. Gain basic knowledge of the use and interpretation of neuroimaging studies, basic knowledge of the appropriate use of electroencephalography, basic knowledge of the use of other neurodiagnostic and laboratory studies, and basic knowledge of the interpretation of cerebrospinal fluid results.
7. Begin to acquire knowledge of important principles of many areas of neuroscience, including neurochemistry, neurophysiology, neuroanatomy, neuropharmacology, and molecular neuroscience.

Practice-Based Learning and Improvement
1. Critically evaluate the care of patients.
2. Appraise and assimilate scientific evidence and continuously improve patient care delivered on the basis of ongoing self-evaluation and learning.
3. Use knowledge to educate patient families, medical students, allied health personnel, peers, and other health professionals as appropriate.
4. Identify strengths, deficiencies, and limits of your knowledge and expertise.
5. Be receptive to constructive criticism (formative evaluation feedback) regarding the care of patients and physician performance.
6. Set learning and improvement goals and identify and perform activities appropriate to meeting these goals.
7. Begin to read critically one or more key neurological journals on a regular basis.
8. Become familiar with key resources in the neurological literature and develop the ability to search the literature for more detailed and current information using internet-based resources and reference texts.

Interpersonal and Communication Skills
1. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, families, and other health professionals. These skills include the ability to communicate effectively across a broad range of socio-economic and cultural backgrounds and with physicians, health professionals, and health related agencies.
2. Maintain comprehensive, timely, articulate medical records.
3. Work effectively as a member of a healthcare team and serve appropriately as a consultant to other physicians and health professionals.

Professionalism
1. Be committed to carrying out professional responsibilities and adhering to ethical principles
2. Demonstrate respect for patient privacy and autonomy.
3. Be accountable to patient, society, and the medical profession for your actions.
4. Demonstrate compassion, integrity and respect for others.
5. Demonstrate responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
6. Demonstrate the ability to manage personal stress effectively.
7. Answer pages or messages in a timely fashion.
8. Understand how to maintain appropriate professional boundaries.

Systems-Based Practice
1. Understand and be capable of interacting effectively with different systems of care.
2. Demonstrate the ability to provide high-quality care in a cost-effective manner.
3. Incorporate consideration of cost-awareness and risk-benefit analysis in patient care decisions.
4. Advocate for high quality care for all patients.
5. Recognize situations where input is needed from physicians from other specialties or from other medical professionals.
6. Understand the role of a Neurology specialist within the greater context of a healthcare team.
7. Recognize situations where the input of more experienced neurologists is needed.

Revised 4/8/14
Patient Care:
1. Provide compassionate, appropriate and effective patients care for the treatment of health problems and the promotion of health.
2. Understand how to appropriately prioritize patient problems and develop an appropriate diagnostic plan.
3. Prescribe medications appropriately.
4. Show an appropriate balance between attention to the details of patient care and the overall context of treating the patient’s illness.
5. Obtain consultations appropriately.
6. Perform technical procedures adequately, including lumbar puncture.
7. Be able to take a neurological history and perform a neurological examination competently in both adults and children.
8. Be able to manage common neurologic problems independently, and gain further exposure to uncommon neurological problems.
9. Learn to supervise the management of a large number of patients, and delegate responsibility to other members of the team when appropriate.

Medical Knowledge
1. Demonstrate knowledge of evolving biomedical, clinical, epidemiological and social/behavioral sciences as well as the application of this knowledge to patient care.
2. Assess diagnostic information critically and constructively.
3. Acquire advanced skills in neuroanatomic localization.
4. Recognize psychosocial aspects of illness.
5. Critically evaluate the medical literature and apply new knowledge to the delivery of safe and effective patient care.
6. Gain advanced knowledge of the use and interpretation of neuroimaging studies, laboratory studies, and cerebrospinal fluid studies.
7. Acquire basic ability at interpretation of electroencephalograms, electromyography, and nerve conduction studies and advanced knowledge of their use in clinical practice.
8. Acquire a level of knowledge of most areas of neuroscience adequate for the independent practice of neurology, including neurochemistry, neurophysiology, neuroanatomy, neuropharmacology, neurogenetics, neuroimmunology, neurovirology, neuroepidemiology, neuroendocrinology, neuro-ophthalmology, neuro-otology and molecular neuroscience.

Practice-Based Learning and Improvement
1. Critically evaluate the care of patients.
2. Appraise and assimilate scientific evidence and continuously improve patient care delivered on the basis of ongoing self-evaluation and learning.
4. Use knowledge to educate patient families, medical students, allied health personnel, peers, and other health professionals as appropriate.
5. Identify strengths, deficiencies, and limits of your knowledge and expertise.
6. Be receptive to constructive criticism (formative evaluation feedback) regarding the care of patients and physician performance.
7. Set learning and improvement goals and identify and perform activities appropriate to meeting these goals.
8. Continue to read critically one or more key neurological journals on a regular basis.
9. Become familiar with key resources in the neurological literature and develop the ability to search the literature for more detailed and current information using internet-based resources and reference texts.
10. Develop a scholarly project in basic or clinical neuroscience.
   a. Become familiar with the basics of research methodology.
   b. Design a research project under the guidance of a faculty mentor.
   c. Become familiar with the basics of institutional review board (IRB)
   d. Present a poster or platform at an institutional meeting, demonstrating either a completed scholarly project or an incomplete project for which you have designed a study, designed study methods, and begun data collection.

Interpersonal and Communication Skills
1. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, families, and other health professionals. These skills include the ability to communicate effectively across a broad range of socio-economic and cultural backgrounds and with physicians, health professionals, and health related agencies.
2. Maintain comprehensive, timely, articulate medical records.
3. Work effectively as a leader of a healthcare team and serve appropriately as a consultant to other physicians and health professionals.
4. Clearly lead daily work rounds, when appropriate.
5. Become skilled at supervising and teaching less experienced members of the team.

Professionalism
1. Be committed to carrying out professional responsibilities and adhering to ethical principles.
2. Demonstrate respect for patient privacy and autonomy.
3. Be accountable to patient, society, and the medical profession for your actions.
4. Demonstrate compassion, integrity and respect for others.
5. Demonstrate responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
6. Demonstrate the ability to manage personal stress effectively.
7. Answer pages or messages in a timely fashion.
8. Understand how to maintain appropriate professional boundaries.

Systems-Based Practice
1. Understand and be capable of interacting effectively with different systems of care.
2. Demonstrate the ability to provide high-quality care in a cost-effective manner.
3. Incorporate consideration of cost-awareness and risk-benefit analysis in patient care decisions.
4. Advocate for high quality care for all patients.
5. Recognize situations where input is needed from physicians from other specialties or from other medical professionals.
6. Understand the role of a Neurology specialist within the greater context of a healthcare team.
7. Recognize situations where the input of more experienced neurologists is needed.

Revised 4/8/14
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM
LEARNING OBJECTIVES FOR RESIDENTS
PFY-4 Year

Patient Care:
1. Provide compassionate, appropriate and effective patients care for the treatment of health
   problems and the promotion of health.
2. Understand how to appropriately prioritize patient problems and develop an appropriate
diagnostic plan.
3. Prescribe medications appropriately.
4. Show an appropriate balance between attention to the details of patient care and the overall
   context of treating the patient’s illness.
5. Obtain consultations appropriately.
6. Perform technical procedures with a high level of expertise, including lumbar puncture.
7. Be able to take a neurological history and perform a neurological examination competently in
   both adults and children at the advanced level of an independently practicing neurologist.
8. Develop advanced knowledge in the diagnosis and treatment of common neurological
   problems, and most aspects of diagnosis and treatment of uncommon problems.
9. Have fully developed skills in independent patient management.
10. Learn to supervise the management of a large number of patients, and delegate responsibility
to other members of the team when appropriate.

Medical Knowledge
1. Demonstrate knowledge of evolving biomedical, clinical, epidemiological and
   social/behavioral sciences as well as the application of this knowledge to patient care.
2. Assess diagnostic information critically and constructively.
3. Have advanced skills in neuroanatomic localization.
4. Recognize psychosocial aspects of illness.
5. Critically evaluate the medical literature and apply new knowledge to the delivery of safe and
effective patient care.
6. Gain advanced knowledge of the use and interpretation of neuroimaging studies, laboratory
   studies, and cerebrospinal fluid studies.
7. Acquire basic ability at interpretation of electroencephalograms, electromyography, and nerve
   conduction studies and advanced knowledge of their use in clinical practice.
8. Have the knowledge of neuroscience necessary for the highly competent independent practice
   of neurology, including knowledge of neurochemistry, neurophysiology, neuroanatomy,
   neuropharmacology, neurogenetics, neuroimmunology, neurovirology, neuroepidemiology,
   neuroendocrinology, neuro-ophthalmology, neuro-otology and molecular neuroscience.
9. Develop a fundamental knowledge of psychiatry, including psychopathology and diagnostic
   criteria for common psychiatric disorders, alcohol and substance abuse, psychopharmacology,
   non-pharmacologic therapeutic modalities, psychiatric problems associated with medical
disease, and forensic psychiatry.

Practice-Based Learning and Improvement
1. Critically evaluate the care of patients.
2. Appraise and assimilate scientific evidence and continuously improve patient care delivered on
   the basis of ongoing self-evaluation and learning.
3. Use knowledge to educate patient families, medical students, allied health personnel, peers,
   and other health professionals as appropriate.
4. Identify strengths, deficiencies, and limits of your knowledge and expertise.
5. Be receptive to constructive criticism (formative evaluation feedback) regarding the care of patients and physician performance.
6. Set learning and improvement goals and identify and perform activities appropriate to meeting these goals.
7. Continue to read critically one or more key neurological journals on a regular basis.
8. Be experienced at searching the literature for more detailed and current information on neurological topics.
9. Develop a scholarly project in basic or clinical neuroscience.
   a. Become familiar with the basics of research methodology.
   b. Design a research project under the guidance of a faculty mentor.
   c. Become familiar with the basics of institutional review board (IRB)
   d. Present a poster or platform at an institutional meeting, demonstrating a completed scholarly project.

Interpersonal and Communication Skills
1. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, families, and other health professionals. These skills include the ability to communicate effectively across a broad range of socio-economic and cultural backgrounds and with physicians, health professionals, and health related agencies.
2. Maintain comprehensive, timely, articulate medical records.
3. Work effectively as a leader of a healthcare team and serve appropriately as a consultant to other physicians and health professionals.
4. Clearly lead daily work rounds, when appropriate.
5. Become skilled at supervising and teaching less experienced members of the team.

Professionalism
1. Manifest responsibility, honesty, integrity, and high ethical standards at the level expected of an independently practicing physician.
2. Demonstrate respect for patient privacy and autonomy.
3. Be accountable to patient, society, and the medical profession for your actions.
4. Demonstrate compassion, integrity and respect for others.
5. Demonstrate responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
6. Demonstrate the ability to manage personal stress effectively.
7. Answer pages or messages in a timely fashion.
8. Understand how to maintain appropriate professional boundaries.

Systems-Based Practice
1. Understand and be capable of interacting effectively with different systems of care.
2. Demonstrate the ability to provide high-quality care in a cost-effective manner.
3. Incorporate consideration of cost-awareness and risk-benefit analysis in patient care decisions.
4. Advocate for high quality care for all patients.
5. Recognize situations where input is needed from physicians from other specialties or from other medical professionals.
6. Understand the role of a Neurology specialist within the greater context of a healthcare team.
7. Recognize uncommon situations where referral to a neurologist with more specialized expertise would be beneficial.

Revised 4/8/14
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM
GOALS AND OBJECTIVES

Neurology Inpatient Service Rotation for Junior Residents

**Patient Care:**
1. Assess, manage, and serve as primary contact for inpatients.
2. Provide compassionate, appropriate and effective patients care for the treatment of health problems and the promotion of health.
3. Understand how to appropriately prioritize patient problems and develop an appropriate diagnostic plan.
4. Prescribe medications appropriately.
5. Show an appropriate balance between attention to the details of patient care and the overall context of treating the patient’s illness.
6. Obtain consultations appropriately.
7. Perform lumbar puncture adequately.
8. Be able to take a neurological history and perform a neurological examination competently.

**Medical Knowledge**
1. Demonstrate knowledge of evolving biomedical, clinical, epidemiological and social/behavioral sciences as well as the application of this knowledge to patient care.
2. Assess diagnostic information critically and constructively.
3. Acquire basic skills in neuroanatomic localization.
4. Recognize psychosocial aspects of illness.
5. Critically evaluate the medical literature and apply new knowledge to the delivery of safe and effective patient care.
6. Gain basic knowledge of the use and interpretation of neuroimaging studies, basic knowledge of the appropriate use of electroencephalography, basic knowledge of the use of other neurodiagnostic and laboratory studies, and basic knowledge of the interpretation of cerebrospinal fluid results.
7. Begin to acquire knowledge of important principles of many areas of neuroscience, including neurochemistry, neurophysiology, neuroanatomy, neuropharmacology, and molecular neuroscience.
8. Gain exposure to the diagnosis and management of neurologic emergencies in the ICU, including coma, hypertensive crisis, cerebral edema, malignant stroke, etc.

**Practice-Based Learning and Improvement**
1. Critically evaluate the care of patients.
2. Appraise and assimilate scientific evidence and continuously improve patient care delivered on the basis of ongoing self-evaluation and learning.
3. Use knowledge to educate patient families, medical students, allied health personnel, peers, and other health professionals as appropriate.
4. Identify strengths, deficiencies, and limits of your knowledge and expertise.
5. Be receptive to constructive criticism (formative evaluation feedback) regarding the care of patients and physician performance.
6. Set learning and improvement goals and identify and perform activities appropriate to meeting these goals.
7. Become familiar with key resources in the neurological literature and develop the ability to search the literature for more detailed and current information using internet-based resources and reference texts.
8. Become familiar with the use of the NIH stroke scale.
9. Attend didactic conferences on neurologic topics.

Interpersonal and Communication Skills
1. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, families, and other health professionals. These skills include the ability to communicate effectively across a broad range of socio-economic and cultural backgrounds and with physicians, health professionals, and health related agencies.
2. Learn to effectively present information about complicated patients with multi-system disease.
3. Maintain comprehensive, timely, articulate medical records.
4. Work effectively as a member of a healthcare team and serve appropriately as a consultant to other physicians and health professionals.
5. Provide medical students with feedback on their histories, physical examinations, and daily assessment and management of inpatients.

Professionalism
1. Be committed to carrying out professional responsibilities and adhering to ethical principles
2. Demonstrate respect for patient privacy and autonomy.
3. Be accountable to patients, society, and the medical profession for your actions.
4. Demonstrate compassion, integrity and respect for others.
5. Demonstrate responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
7. Answer pages or messages in a timely fashion.
8. Understand how to maintain appropriate professional boundaries.

Systems-Based Practice
1. Understand and be capable of interacting effectively with different systems of care.
2. Demonstrate the ability to provide high-quality care in a cost-effective manner.
3. Incorporate consideration of cost-awareness and risk-benefit analysis in patient care decisions.
4. Advocate for high quality care for all patients.
5. Recognize situations where input is needed from physicians from other specialties or from other medical professionals.
6. Understand the role of a Neurology specialist within the greater context of a healthcare team.
7. Recognize situations where the input of more experienced neurologists is needed.
8. Participate in multidisciplinary rounds on neurology inpatients at least twice a week.

Revised 4/8/14
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM
GOALS AND OBJECTIVES

Neurology Inpatient Service Rotation for Senior Residents

Patient Care:
1. Assess, manage, and serve as primary contact for inpatients, supervising the care of all patients on the service.
2. Provide compassionate, appropriate and effective patients care for the treatment of health problems and the promotion of health.
3. Understand how to appropriately prioritize patient problems and develop an appropriate diagnostic plan.
4. Prescribe medications appropriately.
5. Show an appropriate balance between attention to the details of patient care and the overall context of treating the patient’s illness.
6. Obtain consultations appropriately.
7. Perform lumbar puncture adequately.
8. Be able to take a neurological history and perform a neurological examination competently.
9. Be able to manage common neurologic problems independently, including rapidly evolving illnesses requiring escalation of care, and gain further exposure to uncommon neurological problems requiring inpatient care, neurological complications of systemic disease, neurological complications of surgical procedures, and medical complications of neurologic disease.
10. Learn to supervise the management of a large number of patients, and delegate responsibility to other members of the team when appropriate.

Medical Knowledge
1. Demonstrate knowledge of evolving biomedical, clinical, epidemiological and social/behavioral sciences as well as the application of this knowledge to patient care.
2. Assess diagnostic information critically and constructively.
3. Acquire advanced skills in neuroanatomic localization.
4. Recognize psychosocial aspects of illness.
5. Critically evaluate the medical literature and apply new knowledge to the delivery of safe and effective patient care.
6. Gain advanced knowledge of the use and interpretation of neuroimaging studies, laboratory studies, and cerebrospinal fluid studies.
7. Acquire basic ability at interpretation of electroencephalograms, electromyography, and nerve conduction studies and advanced knowledge of their use in clinical practice.
8. Acquire a level of knowledge adequate for the independent management of inpatients with neurologic disorders. Areas of focus include neurophysiology, neuroanatomy, neuropharmacology, neurogenetics, neuroimmunology, neurovirology, neuroepidemiology, neuroendocrinology, neuro-ophthalmology, and neuro-otology.

Practice-Based Learning and Improvement
1. Critically evaluate the care of patients.
2. Appraise and assimilate scientific evidence and continuously improve patient care delivered on the basis of ongoing self-evaluation and learning.
3. Use knowledge to educate patient families, medical students, allied health personnel, peers, and other health professionals as appropriate.
4. Identify strengths, deficiencies, and limits of your knowledge and expertise
5. Be receptive to constructive criticism (formative evaluation feedback) regarding the care of patients and physician performance.
6. Set learning and improvement goals and identify and perform activities appropriate to meeting these goals.
7. Become familiar with key resources in the neurological literature and develop the ability to search the literature for more detailed and current information using internet-based resources and reference texts.
8. Become familiar with the use of the NIH stroke scale.
9. Attend didactic conferences on neurologic topics
10. Identify and present cases for weekly Localization Rounds.

Interpersonal and Communication Skills
1. Serve as the point of communication between the neurology team and other services.
2. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, families, and other health professionals. These skills include the ability to communicate effectively across a broad range of socio-economic and cultural backgrounds and with physicians, health professionals, and health related agencies.
3. Learn to effectively present information about critically ill patients with multi-system disease.
4. Develop the ability to streamline communication with the attending physician, so as to triage the most urgent and relevant information pertaining to a large volume of patients and relay this to the attending in a timely fashion.
5. Maintain comprehensive, timely, articulate medical records.
6. Work effectively as a leader of a healthcare team.
7. Clearly lead daily work rounds, when appropriate.
8. Become skilled at supervising and teaching less experienced members of the team.
9. Provide medical students and junior residents with guidance and mentorship in day to day activities.
10. Provide medical students and junior residents with didactic and bedside educational sessions to help them learn the basics of neurologic disease, the neurologic physical examination, and common procedures such as lumbar puncture.
11. Provide medical students with formative and summative feedback on their histories, physical examinations, and daily assessment and management of inpatients.

Professionalism
1. Be committed to carrying out professional responsibilities and adhering to ethical principles.
2. Demonstrate respect for patient privacy and autonomy.
3. Be accountable to patient, society, and the medical profession for your actions.
4. Demonstrate compassion, integrity and respect for others.
5. Demonstrate responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
6. Demonstrate the ability to manage personal stress effectively.
7. Answer pages or messages in a timely fashion.
8. Understand how to maintain appropriate professional boundaries.

Systems-Based Practice
1. Understand and be capable of interacting effectively with different systems of care.
2. Demonstrate the ability to provide high-quality care in a cost-effective manner.
3. Incorporate consideration of cost-awareness and risk-benefit analysis in patient care decisions.
4. Advocate for high quality care for all patients.
5. Recognize situations where input is needed from physicians from other specialties or from other medical professionals.
6. Understand the role of a Neurology specialist within the greater context of a healthcare team.
7. Recognize situations where the input of more experienced neurologists is needed.
8. Participate in multidisciplinary rounds on neurology inpatients at least twice a week.

Revised 4/8/14
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM
GOALS AND OBJECTIVES

Day Float Service

Patient Care:
1. Assess, manage, and serve as primary contact for inpatients on several services.
2. Provide compassionate, appropriate and effective patients care for the treatment of health problems and the promotion of health.
3. Understand how to appropriately prioritize patient problems and develop an appropriate diagnostic plan.
4. Develop the ability to evaluate and treat inpatients and new consultations with indirect supervision and direct supervision available by an in-house faculty member.
5. Recommend and prescribe medications appropriately.
6. Show an appropriate balance between attention to the details of patient care and the overall context of treating the patient’s illness.
7. Perform lumbar puncture adequately.
8. Be able to take a neurological history and perform a neurological examination competently.
9. Be able to manage common neurologic problems independently, including rapidly evolving illnesses requiring intensive care, and gain further exposure to uncommon neurological problems requiring inpatient care, neurological complications of systemic disease and neurological complications of surgical procedures.
10. Learn to supervise the management of a large number of patients and consults.

Medical Knowledge
1. Demonstrate knowledge of evolving biomedical, clinical, epidemiological and social/behavioral sciences as well as the application of this knowledge to patient care.
2. Assess diagnostic information critically and constructively.
3. Acquire skills in neuroanatomic localization.
4. Recognize psychosocial aspects of illness.
5. Critically evaluate the medical literature and apply new knowledge to the delivery of safe and effective patient care.
6. Gain knowledge of the use and interpretation of neuroimaging studies, laboratory studies, and cerebrospinal fluid studies.
7. Acquire a level of knowledge adequate for the management of inpatients with neurologic disorders. Areas of focus include neurophysiology, neuroanatomy, neuropharmacology, neurogenetics, neuroimmunology, neurovirology, neuroepidemiology, neuroendocrinology, neuro-ophthalmology, and neuro-otology.
8. Develop knowledge in the diagnosis and management of neurologic emergencies in the ICU, including coma, hypertensive crisis, cerebral edema, malignant stroke, etc.

Practice-Based Learning and Improvement
1. Critically evaluate the care of patients.
2. Appraise and assimilate scientific evidence and continuously improve patient care delivered on the basis of ongoing self-evaluation and learning.
3. Use knowledge to educate patient families, allied health personnel, peers, and other health professionals as appropriate.
4. Identify strengths, deficiencies, and limits of your knowledge and expertise.
5. Be receptive to constructive criticism (formative evaluation feedback) regarding the care of patients and physician performance.
6. Set learning and improvement goals and identify and perform activities appropriate to meeting these goals.
7. Become familiar with key resources in the neurological literature and develop the ability to search the literature for more detailed and current information using internet-based resources and reference texts.

8. Become familiar with the use of the NIH stroke scale.

Interpersonal and Communication Skills
1. Serve as the primary point of communication between the neurology team and other services.
2. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, families, and other health professionals. These skills include the ability to communicate effectively across a broad range of socio-economic and cultural backgrounds and with physicians, health professionals, and health related agencies.
3. Learn to effectively present patients over the phone, including information about complicated patients with multi-system disease.
4. Develop the ability to streamline communication with the attending physician, so as to triage the most urgent and relevant information pertaining to a large volume of patients and relay this to the attending in a timely fashion.
5. Maintain comprehensive, timely, articulate medical records.
6. Work effectively as a leader of a healthcare team and serve appropriately as a consultant to other physicians and health professionals.

Professionalism
1. Be committed to carrying out professional responsibilities and adhering to ethical principles.
2. Demonstrate respect for patient privacy and autonomy.
3. Be accountable to patient, society, and the medical profession for your actions.
4. Demonstrate compassion, integrity and respect for others.
5. Demonstrate responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
6. Recognize when personal stress is interfering with ability to care for patients.
7. Answer pages or messages in a timely fashion.
8. Understand how to maintain appropriate professional boundaries.

Systems-Based Practice
1. Understand and be capable of interacting effectively with different systems of care.
2. Demonstrate the ability to provide high-quality care in a cost-effective manner.
3. Incorporate consideration of cost-awareness and risk-benefit analysis in patient care decisions.
4. Advocate for high quality care for all patients.
5. Recognize situations where input is needed from physicians from other specialties or from other medical professionals.
6. Understand the role of a Neurology specialist within the greater context of a healthcare team.
7. Recognize situations where the input of more experienced neurologists is needed.

Revised 4/8/14
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM
GOALS AND OBJECTIVES

Neurology Consultation Service

Patient Care:
1. Provide compassionate, appropriate and effective patients care for the treatment of health problems and the promotion of health.
2. Understand how to appropriately prioritize patient problems and develop an appropriate diagnostic plan.
3. Recommend medications appropriately.
4. Show an appropriate balance between attention to the details of patient care and the overall context of treating the patient’s illness.
5. Be able to take a neurological history and perform a neurological examination competently.
6. Be able to recognize common neurologic problems independently, including rapidly evolving illnesses requiring intensive care, and gain further exposure to uncommon neurological problems requiring inpatient care, neurological complications of systemic disease and neurological complications of surgical procedures.
7. Learn to supervise the management of a large number of consults, and delegate responsibility to other members of the team when appropriate.

Medical Knowledge
1. Demonstrate knowledge of evolving biomedical, clinical, epidemiological and social/behavioral sciences as well as the application of this knowledge to patient care.
2. Assess diagnostic information critically and constructively.
3. Acquire advanced skills in neuroanatomic localization.
4. Recognize psychosocial aspects of illness.
5. Critically evaluate the medical literature and apply new knowledge to the delivery of safe and effective patient care.
6. Gain advanced knowledge of the use and interpretation of neuroimaging studies, laboratory studies, and cerebrospinal fluid studies.
7. Acquire basic ability at interpretation of electroencephalograms, electromyography, and nerve conduction studies and advanced knowledge of their use in clinical practice.
8. Acquire a level of knowledge adequate for the independent management of inpatients with neurologic disorders. Areas of focus include neurophysiology, neuroanatomy, neuropathology, neurogenetics, neuroimmunology, neurovirology, neuroepidemiology, neuroendocrinology, neuro-ophthalmology, and neuro-otology.

Practice-Based Learning and Improvement
1. Critically evaluate the care of patients.
2. Appraise and assimilate scientific evidence and continuously improve patient care delivered on the basis of ongoing self-evaluation and learning.
3. Use knowledge to educate patient families, medical students, allied health personnel, peers, and other health professionals as appropriate.
4. Identify strengths, deficiencies, and limits of your knowledge and expertise.
5. Be receptive to constructive criticism (formative evaluation feedback) regarding the care of patients and physician performance.
6. Set learning and improvement goals and identify and perform activities appropriate to meeting these goals.
7. Become familiar with key resources in the neurological literature and develop the ability to search the literature for more detailed and current information using internet-based resources and reference texts.
8. Become familiar with the use of the NIH stroke scale.
9. Attend didactic conferences on neurologic topics.
10. Identify and present cases for weekly Localization Rounds.

**Interpersonal and Communication Skills**
1. Serve as the primary point of communication between the neurology team and other services.
2. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, families, and other health professionals. These skills include the ability to communicate effectively across a broad range of socio-economic and cultural backgrounds and with physicians, health professionals, and health related agencies.
3. Develop the ability to streamline communication with the attending physician, so as to triage the most urgent and relevant information pertaining to a large volume of patients and relay this to the attending in a timely fashion.
4. Maintain comprehensive, timely, articulate medical records.
5. Work effectively as a leader of a healthcare team and serve appropriately as a consultant to other physicians and health professionals.
6. Clearly lead daily work rounds, when appropriate.
7. Become skilled at supervising and teaching less experienced members of the team.
8. Provide medical students and junior residents with guidance and mentorship in day to day activities.
9. Provide medical students, junior residents, and outside rotators with didactic and bedside educational sessions to help them learn the basics of neurologic disease, the neurologic physical examination, and common procedures such as lumbar puncture.
10. Provide medical students with formative and summative feedback on their histories, physical examinations, and daily assessment and management of inpatients.

**Professionalism**
1. Be committed to carrying out professional responsibilities and adhering to ethical principles.
2. Demonstrate respect for patient privacy and autonomy.
3. Be accountable to patient, society, and the medical profession for your actions.
4. Demonstrate compassion, integrity and respect for others.
5. Demonstrate responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
6. Recognize when personal stress is interfering with your ability to care for patients.
7. Answer pages or messages in a timely fashion.
8. Understand how to maintain appropriate professional boundaries.

**Systems-Based Practice**
1. Understand and be capable of interacting effectively with different systems of care.
2. Demonstrate the ability to provide high-quality care in a cost-effective manner.
3. Incorporate consideration of cost-awareness and risk-benefit analysis in patient care decisions.
4. Advocate for high quality care for all patients.
5. Recognize situations where input is needed from physicians from other specialties or from other medical professionals.
6. Understand the role of a Neurology specialist within the greater context of a healthcare team.
7. Recognize situations where the input of more experienced neurologists is needed.

Revised 4/8/14
Patient Care:
1. Assess, manage, and serve as primary contact for inpatients on several services.
2. Provide compassionate, appropriate and effective patients care for the treatment of health problems and the promotion of health.
3. Understand how to appropriately prioritize patient problems and develop an appropriate diagnostic plan.
4. Develop the ability to evaluate and treat inpatients and new consultations with indirect supervision and direct supervision available by an in-house faculty member.
5. Prescribe medications appropriately.
6. Show an appropriate balance between attention to the details of patient care and the overall context of treating the patient’s illness.
7. Obtain consultations appropriately.
9. Be able to take a neurological history and perform a neurological examination competently.
10. Be able to manage common neurologic problems independently, including rapidly evolving illnesses requiring intensive care, and gain further exposure to uncommon neurological problems requiring inpatient care, neurological complications of systemic disease and neurological complications of surgical procedures.
11. Learn to supervise the management of a large number of patients and consults.

Medical Knowledge
1. Demonstrate knowledge of evolving biomedical, clinical, epidemiological and social/behavioral sciences as well as the application of this knowledge to patient care.
2. Assess diagnostic information critically and constructively.
3. Acquire skills in neuroanatomic localization.
4. Recognize psychosocial aspects of illness.
5. Critically evaluate the medical literature and apply new knowledge to the delivery of safe and effective patient care.
6. Gain knowledge of the use and interpretation of neuroimaging studies, laboratory studies, and cerebrospinal fluid studies.
7. Acquire a level of knowledge adequate for the management of inpatients with neurologic disorders. Areas of focus include neurophysiology, neuroanatomy, neuropharmacology, neurogenetics, neuroimmunology, neurovirology, neuroepidemiology, neuroendocrinology, neuro-ophthalmology, and neuro-otology.
8. Develop knowledge in the diagnosis and management of neurologic emergencies in the ICU, including coma, hypertensive crisis, cerebral edema, malignant stroke, etc.

Practice-Based Learning and Improvement
1. Critically evaluate the care of patients.
2. Appraise and assimilate scientific evidence and continuously improve patient care delivered on the basis of ongoing self-evaluation and learning.
3. Use knowledge to educate patient families, allied health personnel, peers, and other health professionals as appropriate.
4. Identify strengths, deficiencies, and limits of your knowledge and expertise.
5. Be receptive to constructive criticism (formative evaluation feedback) regarding the care of patients and physician performance.
6. Set learning and improvement goals and identify and perform activities appropriate to meeting these goals.
7. Become familiar with key resources in the neurological literature and develop the ability to search the literature for more detailed and current information using internet-based resources and reference texts.
8. Become familiar with the use of the NIH stroke scale.

**Interpersonal and Communication Skills**
1. Serve as the primary point of communication between the neurology team and other services.
2. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, families, and other health professionals. These skills include the ability to communicate effectively across a broad range of socio-economic and cultural backgrounds and with physicians, health professionals, and health related agencies.
3. Learn to effectively present patients over the phone, including information about critically ill patients with multi-system disease.
4. Develop the ability to streamline communication with the attending physician, so as to triage the most urgent and relevant information pertaining to a large volume of patients and relay this to the attending in a timely fashion.
5. Maintain comprehensive, timely, articulate medical records.
6. Work effectively as a leader of a healthcare team and serve appropriately as a consultant to other physicians and health professionals.

**Professionalism**
1. Be committed to carrying out professional responsibilities and adhering to ethical principles
2. Demonstrate respect for patient privacy and autonomy.
3. Be accountable to patient, society, and the medical profession for your actions.
4. Demonstrate compassion, integrity and respect for others.
5. Demonstrate responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
6. Demonstrate the ability to manage personal stress effectively.
7. Answer pages or messages in a timely fashion.
8. Understand how to maintain appropriate professional boundaries.

**Systems-Based Practice**
1. Understand and be capable of interacting effectively with different systems of care.
2. Demonstrate the ability to provide high-quality care in a cost-effective manner.
3. Incorporate consideration of cost-awareness and risk-benefit analysis in patient care decisions.
4. Advocate for high quality care for all patients.
5. Recognize situations where input is needed from physicians from other specialties or from other medical professionals.
6. Understand the role of a Neurology specialist within the greater context of a healthcare team.
7. Recognize situations where the input of more experienced neurologists is needed.

Revised 4/8/14
GOALS AND OBJECTIVES

VA Hospital Rotations for Neurology Junior Residents

Patient Care:
1. Assess, manage, and serve as primary contact for inpatients and outpatients.
2. Provide compassionate, appropriate and effective patients care for the treatment of health problems and the promotion of health.
3. Understand how to appropriately prioritize patient problems and develop an appropriate diagnostic plan.
4. Prescribe medications appropriately.
5. Show an appropriate balance between attention to the details of patient care and the overall context of treating the patient’s illness.
6. Obtain consultations appropriately.
7. Perform technical procedures adequately, including lumbar puncture.
8. Be able to take a neurological history and perform a neurological examination competently.
10. Become familiar with the basics of diagnosis and treatment of common neurological problems among veterans and in the elderly. This experience will include both primary neurological disorders as well as neurological complications of medical illnesses, and it will include both acute neurological problems that require hospitalization as well as subacute and chronic neurological problems that can be managed in the outpatient setting.

Medical Knowledge
1. Demonstrate knowledge of evolving biomedical, clinical, epidemiological and social/behavioral sciences as well as the application of this knowledge to patient care.
2. Assess diagnostic information critically and constructively.
3. Acquire basic skills in neuroanatomic localization.
4. Recognize psychosocial aspects of illness.
5. Critically evaluate the medical literature and apply new knowledge to the delivery of safe and effective patient care.
6. Gain basic knowledge of the use and interpretation of neuroimaging studies, basic knowledge of the appropriate use of electroencephalography, basic knowledge of the use of other neurodiagnostic and laboratory studies, and basic knowledge of the interpretation of cerebrospinal fluid results.
7. Begin to acquire knowledge of important principles of many areas of neuroscience, including neurochemistry, neurophysiology, neuroanatomy, neuropharmacology, and molecular neuroscience.
8. Gain exposure to the diagnosis and management of neurologic emergencies in the ICU, including coma, hypertensive crisis, cerebral edema, malignant stroke, etc.

Practice-Based Learning and Improvement
1. Critically evaluate the care of patients.
2. Appraise and assimilate scientific evidence and continuously improve patient care delivered on the basis of ongoing self-evaluation and learning.
3. Use knowledge to educate patient families, medical students, allied health personnel, peers, and other health professionals as appropriate.
4. Identify strengths, deficiencies, and limits of your knowledge and expertise.
5. Be receptive to constructive criticism (formative evaluation feedback) regarding the care of patients and physician performance.
6. Set learning and improvement goals and identify and perform activities appropriate to meeting these goals.
7. Become familiar with key resources in the neurological literature and develop the ability to search the literature for more detailed and current information using internet-based resources and reference texts.
8. Become familiar with the use of the NIH stroke scale.
9. Attend (or view remotely) didactic conferences on neurologic topics.

Interpersonal and Communication Skills
1. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, families, and other health professionals. These skills include the ability to communicate effectively across a broad range of socio-economic and cultural backgrounds and with physicians, health professionals, and health related agencies.
2. Maintain comprehensive, timely, articulate medical records.
3. Work effectively as a member of a healthcare team and serve appropriately as a consultant to other physicians and health professionals.
4. Provide medical students with formative and summative feedback on their histories, physical examinations, and daily assessment and management of inpatients.

Professionalism
1. Be committed to carrying out professional responsibilities and adhering to ethical principles.
2. Demonstrate respect for patient privacy and autonomy.
3. Be accountable to patient, society, and the medical profession for your actions.
4. Demonstrate compassion, integrity and respect for others.
5. Demonstrate responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
6. Demonstrate the ability to manage personal stress effectively.
7. Answer pages or messages in a timely fashion.
8. Improve skills in coordinating care, including patient contact via telephone and taking responsibility for test interpretation between visits.
9. Understand how to maintain appropriate professional boundaries.
10. Complete assigned tasks in a timely fashion.

Systems-Based Practice
1. Understand and be capable of interacting effectively with different systems of care.
2. Demonstrate the ability to provide high-quality care in a cost-effective manner.
3. Incorporate consideration of cost-awareness and risk-benefit analysis in patient care decisions.
4. Advocate for high quality care for all patients.
5. Recognize situations where input is needed from physicians from other specialties or from other medical professionals.
6. Understand the role of a Neurology specialist within the greater context of a healthcare team.
7. Recognize situations where the input of more experienced neurologists is needed.

Revised 4/8/14
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM
GOALS AND OBJECTIVES

VA Hospital Rotations for Neurology Senior Residents

Patient Care:
1. Assess, manage, and serve as primary contact for inpatients, directly supervising the care of all patients on the service.
2. Provide compassionate, appropriate and effective patients care for the treatment of health problems and the promotion of health.
3. Understand how to appropriately prioritize patient problems and develop an appropriate diagnostic plan.
4. Prescribe medications appropriately.
5. Show an appropriate balance between attention to the details of patient care and the overall context of treating the patient’s illness.
6. Obtain consultations appropriately.
7. Perform technical procedures adequately, including lumbar puncture.
8. Be able to take a neurological history and perform a neurological examination competently.
9. Be able to manage common neurologic problems independently, including rapidly evolving illnesses requiring intensive care, and gain further exposure to uncommon neurological problems requiring inpatient care, neurological complications of systemic disease and neurological complications of surgical procedures.
10. Develop advanced skills in the diagnosis and treatment of common and uncommon neurological problems among veterans and in the elderly. This experience will include both primary neurological disorders as well as neurological complications of medical illnesses, and it will include both acute neurological problems that require hospitalization as well as subacute and chronic neurological problems that can be managed in the outpatient setting.
11. Learn to supervise the management of a large number of patients and consults, and delegate responsibility to other members of the team when appropriate.

Medical Knowledge
1. Demonstrate knowledge of evolving biomedical, clinical, epidemiological and social/behavioral sciences as well as the application of this knowledge to patient care.
2. Assess diagnostic information critically and constructively.
3. Acquire advanced skills in neuroanatomic localization.
4. Recognize psychosocial aspects of illness.
5. Critically evaluate the medical literature and apply new knowledge to the delivery of safe and effective patient care.
6. Gain advanced knowledge of the use and interpretation of neuroimaging studies, laboratory studies, and cerebrospinal fluid studies.
7. Acquire advanced knowledge in the interpretation of electroencephalograms.
8. Acquire further knowledge in the interpretation of electromyography and nerve conduction studies and advanced knowledge of their use in clinical practice.
9. Acquire a level of knowledge adequate for the independent management of inpatients with neurologic disorders. Areas of focus include neurophysiology, neuroanatomy, neupharmacology, neurogenetics, neuroimmunology, neurovirology, neuroepidemiology, neuroendocrinology, neuro-ophthalmology, and neuro-otology.
10. Develop advanced knowledge in the diagnosis and management of neurologic emergencies in the ICU, including coma, hypertensive crisis, cerebral edema, malignant stroke, etc.

Practice-Based Learning and Improvement
1. Critically evaluate the care of patients.
2. Appraise and assimilate scientific evidence and continuously improve patient care delivered on the basis of ongoing self-evaluation and learning.
3. Use knowledge to educate patient families, medical students, allied health personnel, peers, and other health professionals as appropriate.
4. Identify strengths, deficiencies, and limits of your knowledge and expertise
5. Be receptive to constructive criticism (formative evaluation feedback) regarding the care of patients and physician performance.
6. Set learning and improvement goals and identify and perform activities appropriate to meeting these goals.
7. Become familiar with key resources in the neurological literature and develop the ability to search the literature for more detailed and current information using internet-based resources and reference texts.
8. Become familiar with the use of the NIH stroke scale.
9. Attend (or view remotely) didactic conferences on neurologic topics

Interpersonal and Communication Skills
1. Serve as the primary point of communication between the neurology team and other services.
2. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, families, and other health professionals. These skills include the ability to communicate effectively across a broad range of socio-economic and cultural backgrounds and with physicians, health professionals, and health related agencies.
3. Maintain comprehensive, timely, articulate medical records.
4. Work effectively as a leader of a healthcare team and serve appropriately as a consultant to other physicians and health professionals.
5. Clearly lead daily work rounds, when appropriate.
6. Become skilled at supervising and teaching less experienced members of the team.
7. Maintain comprehensive, timely, articulate medical records.
8. Provide medical students and junior residents with guidance and mentorship in day to day activities.
9. Provide medical students and junior residents with didactic and bedside educational sessions to help them learn the basics of neurologic disease, the neurologic physical examination, and common procedures such as lumbar puncture.
10. Provide medical students with formative and summative feedback on their histories, physical examinations, and daily assessment and management of inpatients.

Professionalism
1. Be committed to carrying out professional responsibilities and adhering to ethical principles
2. Demonstrate respect for patient privacy and autonomy.
3. Be accountable to patient, society, and the medical profession for your actions.
4. Demonstrate compassion, integrity and respect for others.
5. Demonstrate responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
6. Demonstrate the ability to manage personal stress effectively.
7. Answer pages or messages in a timely fashion.
8. Understand how to maintain appropriate professional boundaries.

Systems-Based Practice
1. Understand and be capable of interacting effectively with different systems of care.
2. Demonstrate the ability to provide high-quality care in a cost-effective manner.
3. Incorporate consideration of cost-awareness and risk-benefit analysis in patient care decisions.
4. Advocate for high quality care for all patients.
5. Recognize situations where input is needed from physicians from other specialties or from other medical professionals.
6. Understand the role of a Neurology specialist within the greater context of a healthcare team.
7. Recognize situations where the input of more experienced neurologists is needed.

Revised 4/8/14
Rotation Goals and Objectives

VA CL Psychiatry rotation for Neurology residents (V3 Rotation)

Rotation Description

Time is split between neurology clinic in the mornings and, inpatient psychiatry C/L in the afternoons, Mondays through Fridays, except Thursday, at which time the residents will have their continuity clinics at the Taubman Center.

The goals and objectives for the neurology portion of the rotation are the same as those for the VA Junior rotation.

The psychiatry portion of the rotation exposes neurology residents to consultative psychiatry, both hospital and primary care based. This Service entails management of patients with psychiatric symptoms on the medical floor and in the emergency room. It involves dealing with psychiatric complications of medical problems, and medications; drug-drug interactions, co-managing medical complications of psychiatric illnesses, educating medical team and co-managing behavior problems, managing psychiatric emergencies as well as being part of discharge planning for these patients.

**Hours:** 1pm-4.30pm, Monday, Tuesday, Wednesday, and Friday
**Rounds:** 2pm-3pm daily
**Dress code:** White coat suggested but not required.

**Goals and Objectives:**

At the completion of this rotation, the resident will have developed the necessary knowledge, skills, attitudes, and behaviors to accomplish the following:

**Patient Care**
At the end of the rotation, Residents will be able to

- Identify psychiatric conditions in primary care and medically hospitalized patients. (Supervisor evaluation, chart review, clinical work sampling)
- Identify and refer patients who need more intensive psychiatric treatment. (Supervisor evaluation, chart review)
- Co-manage selected patients as appropriate. (Supervisor evaluation, chart review)
- Perform practical interventions with patients with problematic health defeating behaviors. (Supervisor evaluation, chart review)

**Medical Knowledge**
• Identify common psychiatric co-morbidities in primary care and acute medical settings.  
  (Supervisor evaluation)

• Evaluate medication risks and benefits in the context of medical illness and drug interactions.  
  (Supervisor evaluation)

**Practice-based Learning and Improvement**

• Be active in self-education, reading and participating in supervisory discussions regularly.  
  (Supervisor evaluation)

• Show appropriate progress toward independent functioning.  (Supervisor evaluation)

**Interpersonal and Communication Skills**

• Be an effective educator of consulting physicians.  (Supervisor evaluation)

**Professionalism**

• Serve as an effective representative of Psychiatry to consulting physicians and other staff.  
  (Supervisor evaluation)

• Provide prompt, effective consultation and communication on cases.  (Supervisor evaluation,  
  chart review)

**Systems-based Practice and Improvement**

• Provide care for patients as part of a team.  (Supervisor evaluation)

• Practice effective ways to identify and treat patients with psychiatric disorders within the  
  primary care and acute medical care setting.  (Supervisor evaluation)

• Provide timely formal consultations on appropriate patients referred.  (Supervisor evaluation,  
  chart review)

• Provide informal consultation to primary providers on a wide range of cases.  (Supervisor  
  evaluation)

**Training Experiences**

1. The resident will provide evaluation and formal consultation for patients referred.
2. The resident will co-manage appropriate patients with the primary clinician.
3. The resident will learn to identify and refer patients who need more intensive specialty  
   treatment.

**Didactic Experiences**
The resident will receive individual supervision from rotation faculty. The supervisory sessions will occur around patients at least once a week, with additional formal teaching as time permits. Topics that will be covered during these formal teaching sessions include:

1. Epidemiology of psychiatric disorders within a primary care setting
2. The use of rating scales in the acute care setting
3. Treatment of depression in the acute care setting
4. Brief interventions and outpatient/inpatient management of the alcoholic
5. Outpatient management of dementia
6. Somatization in the acute care setting
7. Effective medical teaching
8. Patient compliance
9. Nicotine addiction and smoking cessation
10. Psychosocial interventions for the medically ill, including group psychotherapy
11. Diagnosis and management of delirium
12. Assessment of decision making capacity
13. Management of substance withdrawal in the acute care setting

**Clinical Responsibilities**

1. The resident will be available for face-to-face patient care, both during the initial evaluation and follow up care as needed.

2. The resident will provide informal consultation to the primary care providers on a wide variety of cases as needed.

**Teaching Responsibilities**

1. The resident will provide relevant feedback to referring team staff, attending, nurses and residents.

2. The resident will provide feedback medical students rotating on the psychiatry service.

We hope to make this rotation a fun learning experience, however if there are concerns, please communicate this directly to the faculty.

**Faculty**

1. Esther Akinyemi MD  
   Chief, CL Service, VAAAHS  
   Tel: 734 845 5356  
   Pager: 11954

Revised 5/12/15
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM
GOALS AND OBJECTIVES

Mixed Clinic Rotation

Patient Care:
1. Assess, manage, and serve as primary contact for outpatients.
2. Provide compassionate, appropriate and effective patients care for the treatment of health problems and the promotion of health.
3. Understand how to appropriately prioritize patient problems and develop an appropriate diagnostic plan.
4. Prescribe medications appropriately.
5. Show an appropriate balance between attention to the details of patient care and the overall context of treating the patient’s illness.
6. Obtain consultations appropriately.
7. Be able to take a neurological history and perform a neurological examination competently.
9. Become familiar with the basics of diagnosis and treatment of common neurological problems in the outpatient setting, including epilepsy, headaches, neuromuscular disorders, gait disorders, cognitive disorders, movement disorders, neoplastic disorders of the nervous system, the long term management and prevention of stroke, sleep disorders, neuro-genetic disorders, and multiple sclerosis.

Medical Knowledge
1. Demonstrate knowledge of evolving biomedical, clinical, epidemiological and social/behavioral sciences as well as the application of this knowledge to patient care.
2. Assess diagnostic information critically and constructively.
3. Develop skills in neuroanatomical localization.
4. Recognize psychosocial aspects of illness.
5. Critically evaluate the medical literature and apply new knowledge to the delivery of safe and effective patient care.
6. Gain basic knowledge of the use and interpretation of neuroimaging studies, basic knowledge of the appropriate use of electroencephalography, basic knowledge of the use of other neurodiagnostic and laboratory studies, and basic knowledge of the interpretation of cerebrospinal fluid results.
7. Begin to acquire knowledge of important principles of many areas of neuroscience, including neurochemistry, neurophysiology, neuroanatomy, neuropharmacology, and molecular neuroscience.

Practice-Based Learning and Improvement
1. Critically evaluate the care of patients.
2. Appraise and assimilate scientific evidence and continuously improve patient care delivered on the basis of ongoing self-evaluation and learning.
3. Use knowledge to educate patient families, medical students, allied health personnel, peers, and other health professionals as appropriate.
4. Identify strengths, deficiencies, and limits of your knowledge and expertise.
5. Be receptive to constructive criticism (formative evaluation feedback) regarding the care of patients and physician performance.
6. Set learning and improvement goals and identify and perform activities appropriate to meeting these goals.
7. Become familiar with key resources in the neurological literature and develop the ability to search the literature for more detailed and current information using internet-based resources and reference texts.
8. Attend didactic conferences on neurologic topics.
Interpersonal and Communication Skills
1. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, families, and other health professionals. These skills include the ability to communicate effectively across a broad range of socio-economic and cultural backgrounds and with physicians, health professionals, and health related agencies.
2. Learn to effectively present information about outpatients in a concise fashion.
3. Maintain comprehensive, timely, articulate medical records.
4. Work effectively as a member of a healthcare team and serve appropriately as a consultant to other physicians and health professionals.
5. Provide medical students with formative and summative feedback on their histories, physical examinations, and daily assessment and management of inpatients.

Professionalism
1. Be committed to carrying out professional responsibilities and adhering to ethical principles.
2. Demonstrate respect for patient privacy and autonomy.
3. Be accountable to patient, society, and the medical profession for your actions.
4. Demonstrate compassion, integrity and respect for others.
5. Demonstrate responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
6. Demonstrate the ability to manage personal stress effectively.
7. Answer pages or messages in a timely fashion.
8. Improve skills in coordinating care, including patient contact via telephone and taking responsibility for test interpretation between visits.
9. Understand how to maintain appropriate professional boundaries.
10. Complete assigned tasks in a timely fashion.

Systems-Based Practice
1. Understand and be capable of interacting effectively with different systems of care.
2. Demonstrate the ability to provide high-quality care in a cost-effective manner.
3. Incorporate consideration of cost-awareness and risk-benefit analysis in patient care decisions.
4. Advocate for high quality care for all patients.
5. Recognize situations where input is needed from physicians from other specialties or from other medical professionals.
6. Understand the role of a Neurology specialist within the greater context of a healthcare team.
7. Recognize situations where the input of more experienced neurologists is needed.

Revised 4/8/14
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM
GOALS AND OBJECTIVES

Pediatric Neurology rotations for Adult Neurology Residents

Patient Care:
1. Assess, manage, and serve as primary contact for pediatric inpatients and outpatients.
2. Provide compassionate, appropriate and effective patients care for the treatment of health problems and the promotion of health.
3. Understand how to appropriately prioritize patient problems and develop an appropriate diagnostic plan.
4. Prescribe medications appropriately.
5. Show an appropriate balance between attention to the details of patient care and the overall context of treating the patient’s illness.
6. Obtain consultations appropriately.
7. Be able to take a neurological history from a pediatric patient and his/her family, and perform a developmentally appropriate neurological examination competently on children of all ages.
9. Become familiar with the basics of diagnosis and treatment of common neurological problems among children. This experience will include developmental disorders, epilepsy, infectious disease, metabolic and endocrine disorders, movement disorders, muscle diseases, neoplastic diseases, and behavioral disorders. This will include both acute neurological problems that require hospitalization as well as subacute and chronic neurological problems that can be managed in the outpatient setting.

Medical Knowledge
1. Demonstrate knowledge of evolving biomedical, clinical, epidemiological and social/behavioral sciences as well as the application of this knowledge to patient care.
2. Assess diagnostic information critically and constructively.
3. Acquire basic skills in neuroanatomic localization.
4. Recognize psychosocial aspects of illness for children and their families.
5. Critically evaluate the medical literature and apply new knowledge to the delivery of safe and effective patient care.
6. Gain basic knowledge of the use and interpretation of neuroimaging studies, basic knowledge of the appropriate use of electroencephalography, basic knowledge of the use of other neurodiagnostic and laboratory studies, and basic knowledge of the interpretation of cerebrospinal fluid results.
7. Acquire knowledge of important principles of many areas of neuroscience, including neurochemistry, neurophysiology, neuroanatomy, neuropharmacology, and molecular neuroscience.
8. Develop an appreciation of issues in therapeutic decision-making that differ between pediatric and adult patients, and gain awareness of maturational stage and age-related issues in clinical decision making.

Practice-Based Learning and Improvement
1. Critically evaluate the care of patients.
2. Appraise and assimilate scientific evidence and continuously improve patient care delivered on the basis of ongoing self-evaluation and learning.
3. Use knowledge to educate patient families, medical students, allied health personnel, peers, and other health professionals as appropriate.
4. Identify strengths, deficiencies, and limits of your knowledge and expertise.
5. Be receptive to constructive criticism (formative evaluation feedback) regarding the care of patients and physician performance.
6. Set learning and improvement goals and identify and perform activities appropriate to meeting these goals.
7. Become familiar with key resources in the neurological literature and develop the ability to search the literature for more detailed and current information using internet-based resources and reference texts.
8. Attend didactic conferences on neurologic topics.

Interpersonal and Communication Skills
1. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, families, and other health professionals. These skills include the ability to communicate effectively across a broad range of socio-economic and cultural backgrounds and with physicians, health professionals, and health related agencies.
2. Maintain comprehensive, timely, articulate medical records.
3. Work effectively as a member of a healthcare team and serve appropriately as a consultant to other physicians and health professionals.

Professionalism
1. Be committed to carrying out professional responsibilities and adhering to ethical principles.
2. Demonstrate respect for patient privacy and autonomy.
3. Be accountable to patient, society, and the medical profession for your actions.
4. Demonstrate compassion, integrity and respect for others.
5. Demonstrate responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
6. Demonstrate the ability to manage personal stress effectively.
7. Answer pages or messages in a timely fashion.
8. Improve skills in coordinating care, including patient contact via telephone and taking responsibility for test interpretation between visits.
9. Understand how to maintain appropriate professional boundaries.
10. Complete assigned tasks in a timely fashion.

Systems-Based Practice
1. Understand and be capable of interacting effectively with different systems of care.
2. Demonstrate the ability to provide high-quality care in a cost-effective manner.
3. Incorporate consideration of cost-awareness and risk-benefit analysis in patient care decisions.
4. Advocate for high quality care for all patients.
5. Recognize situations where input is needed from physicians from other specialties or from other medical professionals.
6. Understand the role of a pediatric neurologist within the greater context of a healthcare team.
7. Recognize situations where the input of more experienced neurologists is needed.

Revised 4/8/14
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM

GOALS AND OBJECTIVES

Rotation for Neurology Residents in EEG and Epilepsy

**Patient Care:**

1. Assess, manage, and serve as primary contact for inpatients with epilepsy.
2. Provide compassionate, appropriate and effective patients care for the treatment of health problems and the promotion of health.
3. Understand how to appropriately prioritize patient problems and develop an appropriate diagnostic plan.
4. Prescribe antiepileptic medications appropriately.
5. Show an appropriate balance between attention to the details of patient care and the overall context of treating the patient’s illness.
6. Be able to take a neurological history and perform a neurological examination on patients with epilepsy or spells.
7. Become familiar with the basics of diagnosis and treatment of epilepsy, status epilepticus, and non-epileptic seizures.

**Medical Knowledge**

1. Develop an understanding of anti-epileptic medications, their side effects, and appropriate monitoring.
2. Gain basic knowledge in the interpretation of electroencephalography in several settings, including outpatient EEG in adults and children and inpatient long-term video EEG monitoring in adults.
3. Gain exposure to ictal and inter-ictal EEG recordings.
4. Pass the EEG self-assessment examination that is provided during the rotation.
5. Demonstrate knowledge of evolving biomedical, clinical, epidemiological and social/behavioral sciences as well as the application of this knowledge to patient care.
6. Assess diagnostic information critically and constructively.
7. Recognize psychosocial aspects of illness.
8. Critically evaluate the medical literature and apply new knowledge to the delivery of safe and effective patient care.
9. Acquire knowledge of important principles of neuroscience as they pertain to epilepsy, including neurochemistry, neurophysiology, neuroanatomy, neuropharmacology, and molecular neuroscience.

**Practice-Based Learning and Improvement**

1. Critically evaluate the care of patients.
2. Appraise and assimilate scientific evidence and continuously improve patient care delivered on the basis of ongoing self-evaluation and learning.
3. Use knowledge to educate patient families, medical students, allied health personnel, peers, and other health professionals as appropriate.
4. Identify strengths, deficiencies, and limits of your knowledge and expertise.
5. Be receptive to constructive criticism (formative evaluation feedback) regarding the care of patients and physician performance.
6. Set learning and improvement goals and identify and perform activities appropriate to meeting these goals.
7. Become familiar with key resources in the neurological literature and develop the ability to search the literature for more detailed and current information using internet-based resources and reference texts.
8. Attend didactic conferences on neurologic topics.
Interpersonal and Communication Skills
1. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, families, and other health professionals. These skills include the ability to communicate effectively across a broad range of socio-economic and cultural backgrounds and with physicians, health professionals, and health related agencies.
2. Learn to effectively present information about critically ill patients with multi-system disease.
3. Maintain comprehensive, timely, articulate medical records, including both inpatient notes and EEG reports.
4. Report significant outpatient EEG results to the referring physician in a timely fashion.
5. Work effectively as a member of a healthcare team and serve appropriately as a consultant to other physicians and health professionals.
6. Give effective sign-outs to the other neurology teams if they are covering the long-term EEG monitoring patients over night or on weekends.

Professionalism
1. Be committed to carrying out professional responsibilities and adhering to ethical principles.
2. Demonstrate respect for patient privacy and autonomy.
3. Be accountable to patient, society, and the medical profession for your actions.
4. Demonstrate compassion, integrity and respect for others.
5. Demonstrate responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
6. Demonstrate the ability to manage personal stress effectively.
7. Answer pages or messages in a timely fashion.
8. Improve skills in coordinating care, including patient contact via telephone and taking responsibility for test interpretation between visits.
9. Understand how to maintain appropriate professional boundaries.
10. Complete assigned tasks in a timely fashion.

Systems-Based Practice
1. Understand and be capable of interacting effectively with different systems of care.
2. Demonstrate the ability to provide high-quality care in a cost-effective manner.
3. Incorporate consideration of cost-awareness and risk-benefit analysis in patient care decisions.
4. Advocate for high quality care for all patients.

Revised 4/8/14
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM
GOALS AND OBJECTIVES
Rotation for Neurology Residents in Electromyography and Neuromuscular Disease
(First Two Months of EMG)

Patient Care:
1. Assess, manage, and serve as primary contact for outpatients with neuromuscular diseases.
2. Provide compassionate, appropriate and effective patients care for the treatment of health problems and the promotion of health.
3. Understand how to appropriately prioritize patient problems and develop an appropriate diagnostic plan.
4. Prescribe medications appropriately.
5. Show an appropriate balance between attention to the details of patient care and the overall context of treating the patient’s illness.
6. Be able to do a focused neuromuscular examination.
7. Become familiar with the basics of diagnosis and treatment of motor neuron diseases, radiculopathies, plexopathies, neuropathies, neuromuscular junction disorders, and myopathies.
8. Develop in a setting of direct supervision the skills necessary to perform the clinical electromyography examination as an extension of the neurological examination. Components learned will include basic sensory and motor nerve conduction studies, F wave latency measurements, evaluation of neuromuscular transmission, and needle EMG.
9. Develop and demonstrate an understanding of materials important in clinical electromyography, including anatomy, muscle and nerve pathology, neuromuscular physiology, electrophysiology, and instrumentation.

Medical Knowledge
1. Develop an understanding of medications commonly used in neuromuscular patients, including immune modulating drugs.
2. Become familiar with the indications for nerve and muscle biopsy and the interpretation of pathological specimens.
3. Gain basic knowledge in the interpretation of EMG and NCS. (Medical knowledge objectives pertaining to EMG are listed separately.)
4. Demonstrate knowledge of evolving biomedical, clinical, epidemiological and social/behavioral sciences as well as the application of this knowledge to patient care.
5. Assess diagnostic information critically and constructively.
6. Recognize psychosocial aspects of illness.
7. Critically evaluate the medical literature and apply new knowledge to the delivery of safe and effective patient care.
8. Acquire knowledge of important principles of neuroscience as they pertain to neuromuscular disease, including neurochemistry, neurophysiology, neuroanatomy, neuropharmacology, and molecular neuroscience.
9. Pass the EMG machine test, nerve conduction test, written test, and video test during the first month of the rotation.

Practice-Based Learning and Improvement
1. Critically evaluate the care of patients.
2. Appraise and assimilate scientific evidence and continuously improve patient care delivered on the basis of ongoing self-evaluation and learning.
3. Use knowledge to educate patient families, medical students, allied health personnel, peers, and other health professionals as appropriate.
4. Identify strengths, deficiencies, and limits of your knowledge and expertise.
5. Be receptive to constructive criticism (formative evaluation feedback) regarding the care of patients and physician performance.
6. Set learning and improvement goals and identify and perform activities appropriate to meeting these goals.
7. Become familiar with key resources in the neurological literature and develop the ability to search the literature for more detailed and current information using internet-based resources and reference texts.
8. Attend didactic conferences on neuromuscular topics and neuropathology conference.

**Interpersonal and Communication Skills**

1. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, families, and other health professionals. These skills include the ability to communicate effectively across a broad range of socio-economic and cultural backgrounds and with physicians, health professionals, and health related agencies.
2. Maintain comprehensive, timely, articulate medical records, including both outpatient notes and EMG reports.
3. Report significant outpatient EMG results to the referring physician in a timely fashion.
4. Work effectively as a member of a healthcare team and serve appropriately as a consultant to other physicians and health professionals.

**Professionalism**

1. Be committed to carrying out professional responsibilities and adhering to ethical principles.
2. Demonstrate respect for patient privacy and autonomy.
3. Be accountable to patient, society, and the medical profession for your actions.
4. Demonstrate compassion, integrity and respect for others.
5. Demonstrate responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
6. Demonstrate the ability to manage personal stress effectively.
7. Answer pages or messages in a timely fashion.
8. Improve skills in coordinating care, including patient contact via telephone and taking responsibility for test interpretation between visits.
9. Understand how to maintain appropriate professional boundaries.
10. Complete assigned tasks in a timely fashion.

**Systems-Based Practice**

1. Understand and be capable of interacting effectively with different systems of care.
2. Demonstrate the ability to provide high-quality care in a cost-effective manner.
3. Incorporate consideration of cost-awareness and risk-benefit analysis in patient care decisions.
4. Advocate for high quality care for all patients.
5. Become familiar with issues pertaining to safety in electromyography, including risks of bleeding, infection, and cardiac arrhythmia.

Revised 4/8/14
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM
GOALS AND OBJECTIVES

Rotation for Neurology Residents in Electromyography and Rehabilitation (Third month EMG)

Patient Care:
1. Develop advanced skills with needle electromyography, so that you can perform the study with indirect supervision with direct supervision immediately available. Components learned will include basic sensory and motor nerve conduction studies, F wave latency measurements, evaluation of neuromuscular transmission, and needle EMG.
2. Be able to do a focused neuromuscular examination.
3. Become familiar with the basics of diagnosis and treatment, and rehabilitation of motor neuron diseases, radiculopathies, plexopathies, neuropathies, neuromuscular junction disorders, and myopathies.
4. Develop and demonstrate an advanced understanding of materials important in clinical electromyography, including anatomy, muscle and nerve pathology, neuromuscular physiology, electrophysiology, and instrumentation.

Medical Knowledge
1. Develop an understanding of medications and treatments commonly used in patients with spinal cord injuries.
2. Become familiar with the indications for nerve and muscle biopsy and the interpretation of pathological specimens.
3. Gain advanced knowledge in the interpretation of EMG and NCS. (Medical knowledge objectives pertaining to EMG are listed separately.)
4. Assess diagnostic information critically and constructively.
5. Recognize psychosocial aspects of illness.
6. Critically evaluate the medical literature and apply new knowledge to the delivery of safe and effective patient care.
7. Acquire knowledge of important principles of neuroscience as they pertain to neuromuscular disease, including neurochemistry, neurophysiology, neuroanatomy, neuropharmacology, and molecular neuroscience.

Practice-Based Learning and Improvement
1. Critically evaluate the care of patients.
2. Appraise and assimilate scientific evidence and continuously improve patient care delivered on the basis of ongoing self-evaluation and learning.
3. Use knowledge to educate patient families, medical students, allied health personnel, peers, and other health professionals as appropriate.
4. Identify strengths, deficiencies, and limits of your knowledge and expertise.
5. Be receptive to constructive criticism (formative evaluation feedback) regarding the care of patients and physician performance.
6. Set learning and improvement goals and identify and perform activities appropriate to meeting these goals.
7. Become familiar with key resources in the neurological and physiatric literature and develop the ability to search the literature for more detailed and current information using internet-based resources and reference texts.
8. Attend didactic conferences on neuromuscular and rehabilitation topics and neuropathology conference.

Interpersonal and Communication Skills
1. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, families, and other health professionals. These skills include the ability to communicate effectively across a broad range of socio-economic and cultural backgrounds and with physicians, health professionals, and health related agencies.

2. Maintain comprehensive, timely, articulate EMG reports.

3. Develop advanced skills in reporting needle EMG and nerve conduction study results, including indications for electrodiagnostic studies, a summary of the data, and a diagnostic interpretation.

4. Report significant outpatient EMG results to the referring physician in a timely fashion.

5. Work effectively as a member of a healthcare team and serve appropriately as a consultant to other physicians and health professionals.

Professionalism

1. Be committed to carrying out professional responsibilities and adhering to ethical principles.

2. Demonstrate respect for patient privacy and autonomy.

3. Be accountable to patient, society, and the medical profession for your actions.

4. Demonstrate compassion, integrity and respect for others.

5. Demonstrate responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.

6. Demonstrate the ability to manage personal stress effectively.

7. Answer pages or messages in a timely fashion.

8. Improve skills in coordinating care, including patient contact via telephone and taking responsibility for test interpretation between visits.

9. Understand how to maintain appropriate professional boundaries.

10. Complete assigned tasks in a timely fashion.

Systems-Based Practice

1. Understand and be capable of interacting effectively with different systems of care.

2. Demonstrate the ability to provide high-quality care in a cost-effective manner.

3. Incorporate consideration of cost-awareness and risk-benefit analysis in patient care decisions.

4. Advocate for high quality care for all patients.

5. Become familiar with issues pertaining to safety in electromyography, including risks of bleeding, infection, and cardiac arrhythmia.

Revised 4/8/14
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM

GOALS AND OBJECTIVES

Clinic - Multiple Sclerosis/Neuroimmunology

ROTATION LENGTH: 2 weeks-1 month

PRIMARY ROTATION LOCATION: Multiple Sclerosis Clinic—EAA, VA, Taubman

ROTATION SUPERVISORS: Rob Pace, MD (faculty liaison), Tiffany Braley MD, Benjamin Segal MD, David Irani MD, Yang Mao-Draayer MD PhD, Jeanie Cote, MD

ROTATION DESCRIPTION / PHILOSOPHY:
The Multiple Sclerosis/Neuroimmunology rotation provides a clinical setting for evaluation of patients with multiple sclerosis (MS), and an educational program for instruction in the immunological basis of MS as well as other less common demyelinating diseases of the CNS. PGY-2, PGY-3 and PGY-4 residents will rotate through the MS Clinics for a two-week to one-month period, with the opportunity for a second rotation based on interest and career goals. The clinical rotations will be supplemented with readings, weekly discussions, and a lecture series presented by the rotation supervisors. The experience will expose the residents to current neuroimmunological concepts, basic neuroradiological features of MS and its mimics, a working knowledge of MS therapy, ongoing clinical trials of novel therapies for MS, and long-term management of MS patients. The program is designed to provide a fund of knowledge about the basic and clinical features of MS, sufficient to fulfill the core competencies needed for successful completion of residency training.

GOALS/OBJECTIVES:
1. To develop a detailed skill set for the diagnosis and management of MS and other demyelinating diseases. Core Competencies: MK, PC, PBL, SBP, ICS, P
2. To develop and understand the skills necessary to elicit an informative history to diagnose the different subtypes of MS and exclude conditions that can mimic MS. Core Competencies: MK, PC, PBL, SBP, ICS
3. To develop the skills needed to discuss MS, its prognosis, options for therapy, and current clinical research with patients and families. Core Competencies: SBP, ICS, P
4. To develop an understanding of the basic immunological features of MS. Core Competencies: MK, PBL
5. To provide a setting for gradually increasing level of responsibility and expected level of performance. Core Competencies: PBL, SBP, ICS, P

FUNDAMENTAL PROFICIENCIES:
1. Performance of a detailed neurologic history and examination targeted to patients with possible MS. Core Competencies: PC, ICS, PBL, P
2. Development of a basic understanding of neuroimmunology and its relevance to MS. Core Competencies: MK
3. Development of detailed differential diagnosis of MS and diagnostic workup to confirm or exclude the diagnosis. Core Competencies: MK, PC, PBL
4. Demonstration of the appropriate use of corticosteroids in management of acute exacerbations of MS. Core Competencies: MK, PC, PBL
5. Demonstration of an understanding of approved disease modifying agents and their use. Core Competencies: MK, PC, PBL, SBP
6. Demonstration of an understanding of the symptomatic management of MS and appropriate use of available agents for spasticity, pain, bladder management, and other symptoms. Core Competencies: MK, PC, PBL
7. Demonstration of knowledge and differentiation of MS phenotypes. Core Competencies: MK, PBL
8. Demonstration of competence in reading and interpreting MRI scans related to demyelinating diseases. Core Competencies: MK, PBL, ICS
9. Demonstration of ability to discuss clinical and prognostic features of demyelinating diseases with patients and families. Core Competencies: PC, ICS, P

SCHEDULE:

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<th>Clinic Day</th>
<th>Location</th>
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<td>Mon.</td>
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<td>Wed</td>
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<td>Conferences</td>
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<td>Thurs.</td>
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<td>Fri.</td>
<td>a.m.</td>
<td>Taubman</td>
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<td>p.m.</td>
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<td>Taubman</td>
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RESOURCES:
Compton A. et al. McAlpine’s Multiple Sclerosis. Selected readings.
Murray TJ. Multiple Sclerosis: The History of a Disease.
Murray TJ, Bowling A. Multiple Sclerosis: Guide to Treatment and Management, 6th ed.
Lecture series on MS and variants by Drs Braley, Segal, Irani and Mao-Draayer
1. MS Diagnosis
2. Immunopathogenesis
3. Mimics of MS
4. FDA Approved Therapies
5. Emerging Therapies
6. MS Symptom Management
7. MS Variants
8. CNS Infections
9. Case Discussions

Selected journal articles chosen by rotation supervisors in the following categories (4-6 per week)
1. Immunology, pathology and pathogenesis of MS
2. Diagnostic and prognostic features of MRI in MS
3. Current therapeutic options in MS: clinical trials, mechanisms of action, adverse effects
4. Ongoing clinical trials of novel therapies, including elements of trial design.

EVALUATION OF RESIDENTS AND PROGRAM: (evaluations are based in the 6 core competencies)
1. Completeness and accuracy of the clinical evaluation, differential diagnosis, and care of patients will be the primary evaluation to be captured in the end-of-rotation summary.
2. Competency will also be assessed by discussion of individual patients, review of patient management, and by review of clinical summaries dictated by the resident.
3. Clinical and basic knowledge will be assessed during literature reviews and at the journal club presentation by the resident.
4. Performance on RITE will serve as a self-assessment.
5. Patient comments specific to each resident will be noted, as they reflect core competencies.
6. The resident will also review his or her overall experience at the end of the rotation.

Revised 6/16/15
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM
GOALS AND OBJECTIVES

Neurocritical Care Rotation

Rotation Length: 2-4 weeks

Primary Rotation Location: Neurosurgical Intensive Care Unit, 4DNI, University Hospital

Rotation Supervisors: Teresa Jacobs, MD (ICU Director, Clinical Associate Professor)
Venkatakrishna Rajajee, MD (Clinical Assistant Professor)
Kyle Sheehan, MD (Clinical Instructor)

Rotation Description:

The purpose of this rotation is to provide the Neurology Resident with the experience of caring for the critically ill neurological patients in the setting of a sub-specialty ICU. Residents in their PGY 2 – PGY 4 year will be allowed to make a selection of this rotation to enhance their neurology resident education. The resident will have the responsibility of managing several patients throughout their ICU rotation. Aside from a clinical component, the rotation will have didactic and Socratic teaching during ICU rounds as well as separate didactic sessions given by the Neurocritical Care physicians. Additional literature and reading material will be provided to each resident to encourage external self-teaching. Through this experience, the resident should, by receiving education and providing service, become confident with being able to admit, diagnose and treat those neurological patients whose acuity level requires intensive care.

Cognitive Domain Objectives

1. Prepare a complete written admission summary for a patient with severe neurological dysfunction. Include a comprehensive differential diagnosis with diagnostic potentials. (PC, MK, IC)
2. Discuss system illnesses and their impact on the NICU patient (such as coagulopathy, renal failure, cardiac dysfunction/arrhythmia, hemodynamic instability, etc.). Identify the role of the consultant in care of system issues. (MK, PC, SBP)
3. Explain the concept of autoregulation with explanation of the variables and variability of cerebral blood flow, cerebral perfusion pressure, including intracranial pressure and mean arterial pressure. (PC, MK, PBL)
4. Discuss the components of therapy used in patients with elevated intracranial pressure and why they each should work. (PBL, MK, PC)
5. Describe the concept of neurogenic respiratory failure. Explain when patients should be considered for intubation. State what appropriate ventilatory settings apply to the neurological patients. Discuss spontaneous breathing trials and other parameters used to determine the best time for extubation. Be able to work with respiratory therapy in patient care. (MK, SBP, P, PC)
6. Diagram cerebrospinal fluid diversion devices and describe their usefulness, complications, and placement.
7. State the reason for GI, VTE, and other prophylaxis in the ICU patient. (MK, PC, SBP)
8. Indicate methods by which the patient’s volume status and tissue perfusion can be ascertained. (MK, PC)
9. Discuss various diagnostic tests, such as CT, MRI, EEG, SSEPs, etc., and their usefulness in the critically ill patient. (MK, PC, SBP)
10. Be aware of basic guideline statements and how they are accessed. (SBP, MK)
11. Attend all didactic lectures and daily rounds. (PBL, P, MK)

Care Domain Objective

1. Complete a history and physical exam on a critically ill patient. (PBL, PC, IC)
2. Place ICU level orders for a patient admitted who is critically ill. (SBP, PC)
3. Order appropriate diagnostic studies to evaluate the patient’s underlying neurological condition and any systemic issues that may be contributing to their illness. (MK, PC, SBP)
4. Provide on-going follow-up for the critically ill patient and provide complete concise daily rounding reports to the ICU team. (IC, MK, PC, P)
5. Correctly identify the nutritional needs of a sick neurological patient. Interface with Speech pathology and Nutritional consults as needed. (MK, PC, P, SBP)
6. Identify and order correct antibiotics related to infectious conditions of the ICU patients. (PC, MK)
7. Accurately read and interpret chest X-rays and abdominal films. (PC, MK)
8. Manage acute patient issues such as respiratory failure, cardiac arrhythmias, elevated intracranial pressures, status epilepticus, etc. (PC, MK, SBP)
9. Participate in bedside procedures such as arterial and central line placement, percutaneous tracheostomy, bronchoscopy, etc. (SBP, PC)
10. Identify the need additional assistance and demonstrate an ability to acquire it. (SBP, P, IC, PC)

Schedule

Daily: Report to the NICU at 8AM
       Sign out at 4:30PM and end at 5:00PM
       • No overnight call, unless the resident chooses to do so (then the resident will work with Dr. Jacobs to assure no duty hour violations occur).
       • The resident may decide to attend Neurosurgery AM rounds at 6AM. This is NOT required, but available only if the resident seeks it. Work hours will be re-adjusted for those arriving early by discussion with Dr. Jacobs or the ICU intensivist on service.

Weekends: One weekend day every two weeks is expected. Alternatives can be discussed prior to the rotation, if needed.

Resources

- Each resident will be given a set of articles representing basic ICU evidenced based medicine for their use and review.
- Dr. Jacobs maintains a library of critical care texts that can be borrowed for the rotation. Including:
  - Handbook of Neurocritical Care
  - Neurological Emergencies
  - Fundamentals of Critical Care Support
  - Many others
- The didactic lectures given by the faculty are available to the residents by e-mailing the faculty to request the slide set.
Guideline statements will be available for use from free domain sites such as the American Academy of Neurology, American Heart Association, Neurocritical Care Society, etc. The residents will be shown how to access these sites if they are unfamiliar with them.

Established May 2013
**UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM**

**GOALS AND OBJECTIVES**

**Clinic – Neuromuscular**

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<th>Morning</th>
<th>Afternoon</th>
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<tr>
<td>Monday</td>
<td>Neuromuscular clinic (Goutman)</td>
<td>EMG lab (Teener, Goutman)</td>
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<tr>
<td>Tuesday</td>
<td>Neuromuscular clinic (Gallagher)</td>
<td>Neuromuscular clinic (London)</td>
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<tr>
<td>Wednesday</td>
<td>9 am Neuromuscular conference (Dejong library)</td>
<td>Motor Neuron Disease clinic (Goutman or various, Taubman Center)</td>
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<tr>
<td>Thursday</td>
<td>Neuromuscular/EMG (London)(EMG lab)</td>
<td>Protected time for reading</td>
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<tr>
<td>Friday</td>
<td>Muscular Dystrophy clinic (Ramchandren)</td>
<td>Continuity clinic (Taubman Center)</td>
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The attending for each clinic is subject to change.

**Additional Goals and Objectives - Neuromuscular**

The goals and objectives are identical to those for the neurology resident Clinic Rotation, with the following additions:

**Patient Care:**
1. Learn to take a focused history and perform a thorough neuromuscular examination.
2. Be able to diagnose and formulate a treatment plan for patients with neuromuscular-related complaints.
3. Learn to distinguish among different patterns of peripheral neuropathy.
   a. Axonal vs. demyelinating
   b. Acquired vs. hereditary
   c. Large fiber vs. small fiber
   d. Sensory vs. motor
   e. Distal symmetric vs. focal vs. multifocal
4. Understand the differential diagnosis and appropriate diagnostic evaluation for common patterns in neuromuscular disease including:
   a. Generalized weakness
      i. Proximal
      ii. Distal
      iii. Multifocal
   b. Focal weakness
      i. Foot drop
      ii. Wrist drop
      iii. Weakness of intrinsic hand muscles
      iv. Quadriceps weakness
   c. Generalized numbness
      i. Distal symmetric
ii. Multifocal
d. Focal numbness  
   i. Median distribution
   ii. Ulnar distribution
   iii. Peroneal distribution
e. Pain syndromes  
   i. Distal symmetric neuropathic
   ii. Myalgia
f. Autonomic neuropathy

5. Gain experience with the appropriate treatment of neuromuscular problems in the outpatient setting, including:
a. Peripheral neuropathy
b. ALS
c. Myasthenia gravis
d. Muscle disease (metabolic, dystrophic, inflammatory, congenital, toxic.)

Medical Knowledge
1. Develop skills in neuroanatomic localization within the peripheral nervous system.
2. Gain advanced knowledge of the use and interpretation of diagnostic testing in neuromuscular disease, including electromyography, laboratory testing including genetic testing, muscle biopsy, nerve biopsy, skin biopsy, and autonomic testing.
3. Become familiar with AAN practice guidelines that pertain to neuromuscular disease.
   a. The appropriate laboratory evaluation for distal symmetric polyneuropathy. (January 2009)
   b. The care of the patient with amyotrophic lateral sclerosis (October 2009)
   c. Treatment of painful diabetic neuropathy (April 2011)
   d. The appropriate use of intravenous immunoglobulin in the treatment of neuromuscular disorders (March 2012)

4. Complete the assigned multiple choice test.

Practice-Based Learning and Improvement
1. Attend didactic conferences on neurologic topics, including the neuromuscular conference Wednesday mornings from 8am-9am.
2. Develop a commitment to achieving personal and professional excellence, including self-directed learning, assimilating new information, and applying this knowledge to patient care.

Interpersonal and Communication Skills
1. Demonstrate interpersonal communication skills that facilitate empathic relationships with patients.
2. Participate in the delivery of an ALS diagnosis to a patient.

Professionalism
1. Demonstrate and maintain the professional attributes of compassion, altruism, respect, and commitment to addressing the needs of a diverse society.

Systems-Based Practice
1. Demonstrate an awareness of and responsiveness to the larger context and system of health care;
2. Exhibit the ability to effectively draw on system resources to provide care that is of optimal value.

Reading Material
1. AAN Practice Parameters
   a. The appropriate laboratory evaluation for distal symmetric polyneuropathy. (January 2009)
   b. The care of the patient with amyotrophic lateral sclerosis (October 2009)
   c. Treatment of painful diabetic neuropathy (April 2011)
   d. The appropriate use of intravenous immunoglobulin in the treatment of neuromuscular disorders (March 2012)

Revised 5/8/14
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM
GOALS AND OBJECTIVES

Clinic - Epilepsy

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<th>Monday</th>
<th>Morning</th>
<th>Afternoon</th>
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<tr>
<td></td>
<td><strong>Epilepsy clinic</strong></td>
<td><strong>LTM adult/peds</strong></td>
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<td><em>(Minecan and Mihaylova)</em></td>
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<tr>
<td>Tuesday</td>
<td><strong>Continuity clinic</strong></td>
<td><strong>LTM adult</strong></td>
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<td><em>(Gelb)</em></td>
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<tr>
<td>Wednesday</td>
<td><strong>Conferences</strong></td>
<td><strong>Epilepsy clinic</strong></td>
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<td><em>(Selwa)</em></td>
<td><em>(Selwa)</em></td>
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<tr>
<td>Thursday</td>
<td><strong>LTM-peds</strong></td>
<td><strong>3pm – Refractory Epilepsy Conference</strong> <em>(Dejong library)</em></td>
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<tr>
<td>Friday</td>
<td><strong>Epilepsy clinic</strong></td>
<td><strong>Epilepsy clinic</strong></td>
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<td><em>(Glynn)</em></td>
<td><em>(Selwa)</em></td>
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The attending for each clinic is subject to change.

Additional Goals and Objectives - Epilepsy

The goals and objectives are identical to those for the neurology resident Clinic Rotation, with the following additions:

**Patient Care:**
1. Manage the delivery of the diagnosis of epilepsy, including provision of education about reproductive, legal, and employment responsibilities.
2. Generate notes for patient visits that meet new standard guidelines for epilepsy care.
3. Learn indications for referral for inpatient monitoring, and consider referral for epilepsy surgery in appropriate candidates.

**Medical Knowledge**
1. Learn indications for starting and stopping treatment with seizure medications
2. Learn indications and side effect profiles for seizure medications
3. Learn what the surgical evaluation entails, and the likelihood of seizure control in different clinical syndromes and settings.
4. Learn to recognize MRI concomitants of epilepsy including mesial temporal sclerosis and cortical dysplasias.
5. Complete the assigned multiple choice test.

**Practice-Based Learning and Improvement**
1. Participate in journal clubs and Refractory Epilepsy conferences when possible that allow continuous evaluation of your own skills in epilepsy management.
2. Develop the skills needed to evaluate unusual epilepsy syndromes based on evidence available in recent journals.

**Interpersonal and Communication Skills**
1. Learn to interact sensitively and effectively with patients who have been given the diagnosis of non-epileptic seizures.
2. Learn to discuss care issues between teams on inpatient and ambulatory epilepsy rotations.
3. Consider participating in refractory epilepsy conference about patients known to you from clinic to provide cross-disciplinary information.
4. Ask about mental health issues in a fashion that encourages open communication.

**Professionalism**
1. Write letters and notes for documentation as required for patient needs, possibly including notes on long term monitoring patients, as well as clinic notes.
2. Respond to patient calls about seizures in a timely and effective manner, asking for advice where needed.

**Systems-Based Practice**
1. Understand the structure and timing of consultations and requests for care involved in referral for epilepsy surgery.
2. Understand potential routes for obtaining epilepsy medications for indigent patients.
3. Interact with surgical and medical services to determine what needs are best served by LTM.

**Required Readings**
5. French JA, Pedley TA, Initial management of Epilepsy. *NEJM* 2008;359:166-76
9. The chapter in Ebersole and Pedley *Current practice of Clinical EEG* – Chapter 17, seizures and epilepsy p 506-587.

Revised 5/7/13
University of Michigan Health System

Sleep Medicine Elective

Version date: May 9, 2013

Subspecialty Education Coordinator: Shelley Hershner, M.D. and Judy Thompson,
Faculty curriculum author: Shelley Hershner, M.D.

**Rotation Goals and Educational Purpose**

Sleep is a vital component of good health. Normal, healthy sleep, may help prevent many chronic medical conditions including obesity, diabetes, hypertension, myocardial infarction and stroke.

Poor sleep and sleep disorders are components of many neurologic disorders. REM sleep behavior disorder (RBD) may present years before clinical signs of Parkinson’s disease and obstructive sleep apnea may contribute to chronic daily headaches and migraines. Some seizures disorders had a predilection for nocturnal seizures and parasomnias may mimic epilepsy. Due to the high prevalence of sleep disorders, neurologists need to be vigilant for compromised sleep as many patients may not volunteer sleep concerns or daytime sleepiness.

This hands-on elective, with clinic, interpretation of polysomnograms, interaction with durable medical equipment company (Medequip), and self-directed learning, will provide a unique opportunity to gain familiarity with presentations of several common sleep disorders and their evaluation in a sleep clinic and sleep laboratory with approaches to effective treatment.

This rotation is elective for residents at the HO2-HO4 levels.

**Rotation Competency Objectives**

I. **Patient Care and Medical Knowledge**

a. **Core Knowledge**: By completion of the elective rotation residents will:

1. Demonstrate an understanding of the pathophysiology and clinical presentations of sleep apnea in its several different forms (obstructive sleep apnea/upper airway resistance syndrome, and central sleep apnea).
2. Understand treatment modalities, including positive air pressure (CPAP and Bi-level PAP), oral appliances.
3. Understand the diagnosis and treatment algorithm of restless legs syndrome, including evaluation of iron stores and treatment with dopamine agonists and other agents.
4. Demonstrate awareness of other common sleep disorders, including circadian rhythm disorders, parasomnias, and hypersomnias.

b. History & Physical Examination: Residents will elicit historical clues and physical exam findings suggestive for obstructive sleep apnea. In appropriate patients, residents will evaluate for symptoms and physical exam findings suggestive of an underlying neurodegenerative disorder such as Parkinson’s.

c. Medical decision making and patient management: By completion of the rotation, residents will be able to formulate a systematic approach and differential diagnosis for the evaluation of snoring, daytime sleepiness, and hypersomnia.

d. Studies/Procedures: Residents will become familiar with the available standard sleep studies including diagnostic polysomnograms, titration studies, and occasional alternatives, such as split-night polysomnograms and home studies. Residents will learn the classification of respiratory events including apneas, hypopneas, and respiratory-effort-related arousals (RERAs), as well as the significance of the apnea-hypopnea index and how it helps classify the severity of obstructive sleep apnea.

II. Interpersonal and communication skills: Residents will:

1. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, families, and health professionals.
2. Employ techniques to help facilitate CPAP/BiPAP adherence.
3. Demonstrate communication skills (including listening) that support respectful, culturally-competent, and patient-centered care.
4. Recognize the importance of patient education in the treatment of sleep disorders.
5. Generate appropriate written documentation of patient visits and complete dictations in a timely manner, using standard documentation.

III. Professionalism: Throughout the rotation, residents will demonstrate a commitment to professionalism, ethical behavior, and culturally-competent behavior.

IV. Practice-Based Learning and Improvement: Residents will utilize technology to enhance their own knowledge, as well as patient education. They will demonstrate a willingness to learn from error, using scientific evidence for self-education and to improve patient care.

V. Systems-Based Practice: Residents will:

1. Practice quality health care that is cost-effective.
2. Be advocates for patients within the health system.
3. Understand when referrals are necessary to other medical specialties and how to effectively communicate recommendations back to primary care practices.
4. Constructively work with medical assistants, nurses, and staff.

VI. Teaching Methods

1. Supervised patient care in general sleep clinics and multidisciplinary clinics
   a. Residents will independently evaluate a patient then present to a supervising faculty physician. Patient-centered, case-based faculty discussions review each patient and each sleep study. The supervising faculty physician works with the resident to develop a diagnostic and therapeutic plan.
   c. Residents will demonstrate progressive independence in interpreting Polysomnograms with direct one-on-one teaching by the attending.

2. Didactic conference occurs weekly on Wednesday at 4 am.

   a. Provided materials will include the following (please contact Judy Thompson phone 647-9064), and return books to her at the end of the rotation):
      i. American Academy of Neurology – Sleep Disorders – Continuum, February 2013
      ii. Sleep Medicine Pearls 2nd Edition by Richard B. Berry
   b. Additional online resources for independent study:
      ii. American Academy of Sleep Medicine Practice Standards: http://www.aasmnet.org/PracticeParameters.aspx
      v. Residents are encouraged to access the Johns Hopkins Internet Learning Center modules: http://www.hopkinsilc.org

4. A brief trial of CPAP, BiPAP, C-flex and Bi-flex. This can be arranged during the afternoon where one of the technicians will introduce the equipment and allow the resident to experience positive air pressure. We will arrange during the rotation unless the resident declines.

5. Optional: A visit to the sleep lab in the evening where the hook-up and equipment can be demonstrated and explained. The typical time would be 8-9pm. Please contact Dr. Hershner at 936-6295 if shershnr@umich.edu if interested.

VII. Evaluation Methods: Formative feedback to residents by the attending occurs at the end of the rotation. Informal feedback will also occur during review of polysomnograms and during patient clinic evaluations. Attendings will complete online competency-based evaluations of each resident.

Case-based evaluation:
At the end of the rotation, the resident will staff a baseline polysomnogram and a CPAP titration with an attending (any available). The attending will complete an evaluation form. On the polysomnogram the resident will identify the sleep stages and respiratory events (apneas, hypopneas, mixed apneas, and central apneas) and verbally describe the process for an effective positive airway pressure titration.

An informal case-based discussion focusing on disorders which are typically on the RITE exam will be completed before the end of the rotation. Cases will cover in general: REM sleep behavior disorder, narcolepsy, and restless legs syndrome. This needs to be scheduled with Dr. Hershner at the start of the rotation.

The evaluation is shared with the resident, available for on-line review by the resident, and sent to the residency office for internal review. The evaluation is part of the resident file and is incorporated into semi-annual performance reviews for directed resident feedback. Residents also complete a service evaluation of the rotation and rotation faculty at the end of the rotation.

This rotation does not include overnight call. Residents have weekends free of duty. Continuity clinic continues for the residents throughout the rotation.

Revised 5/9/2013
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM
GOALS AND OBJECTIVES
Clinic – Neurodegenerative Diseases (Cognitive and Movement Disorders)

<table>
<thead>
<tr>
<th>Day</th>
<th>Morning Activities</th>
<th>Afternoon Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>TC - Neurogenetics clinic 1st and 2nd Mon (Fink)</td>
<td>Continuity clinic (Lorincz)</td>
</tr>
<tr>
<td>Tuesday</td>
<td>Movement clinic (Albin &amp; Frey)</td>
<td>Cognitive clinic (Paulson &amp; Barmada (Barbas through July 2015)) Movement clinic (Dauer)</td>
</tr>
<tr>
<td>Wednesday</td>
<td>8:30 am Movement disorders conference (Dejong library)</td>
<td>Chemodenervation clinic (Chou)</td>
</tr>
<tr>
<td>Thursday</td>
<td>Movement clinic (Dayalu) (Chou) (Lorincz)</td>
<td>Movement clinic (Dayalu)</td>
</tr>
<tr>
<td>Friday</td>
<td>Cognitive clinic (Heidebrink) (Barbas)</td>
<td>Cognitive clinic (Heidebrink – has some VA Consult service) (Bly-Hospitalist rotations)</td>
</tr>
<tr>
<td></td>
<td>Ataxia clinic (Shakkottai)</td>
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<tr>
<td></td>
<td>3rd &amp; 4th Fri of month: Ataxia clinic (Shakkottai) (Todd)</td>
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<tr>
<td></td>
<td>4th or 5th Fri of month: Reading time or continuity clinic</td>
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Additional Goals and Objectives – Cognitive and Movement Disorders
The goals and objectives are identical to those for the neurology resident Clinic Rotation, with the following additions:

Patient Care:
A. Cognitive Disorders
1. Be able to take a focused cognitive history and perform a thorough and accurate cognitive examination.
2. Learn to distinguish among different patterns of cognitive impairment and dementia.
   a. Neurologic vs. non-neurologic (e.g., depression, medication-induced) causes of cognitive impairment
   b. Identifying major dementing disorders: Alzheimer disease, frontotemporal dementia, dementia with Lewy bodies, and vascular dementia
c. Recognizing mild cognitive impairment versus dementia versus delirium
d. Recognizing easily treatable causes of cognitive dysfunction
e. Recognizing rapidly progressive dementia

3. Understand the differential diagnosis and appropriate diagnostic evaluation for common patterns in cognitive disorders including:
   a. Understanding the concept of cognitive domains, their neuroanatomical substrate, and patterns of impairment with clinical tools (especially MMSE, MoCA)
      i. Executive function and attention
      ii. Memory
      iii. Language
      iv. Visuospatial function
   b. Understanding the role of neuropsychological evaluation and how to interpret such tests
   c. Understanding the role of CT, MRI, and PET brain imaging in the workup of cognitive disorders
   d. Understanding the role of other ancillary studies (serologies, particularly for reversible conditions such as B12 deficiency and thyroid disease; other studies such as EEG or lumbar puncture when necessary)

4. Gain experience with the appropriate pharmacologic and supportive treatment for cognitive disorders and dementia in the outpatient setting, including:
   a. Alzheimer disease,
   b. Frontotemporal dementia,
   c. Dementia with Lewy bodies
   d. Vascular dementia

B. Movement disorders

1. Be able to take a focused history and perform a thorough and accurate motor examination.
2. Learn how to recognize, via history and examination, major categories of disordered movement including:
   a. Parkinsonism
   b. Chorea
   c. Dystonia
   d. Tics and stereotypies
   e. Myoclonus
   f. Tremor
   g. Ataxia
   h. Psychogenic movement disorders

3. Understand the differential diagnosis and appropriate diagnostic evaluation for the categories listed in 10.
   a. In particular, learn to prioritize in the differential diagnosis those easily treatable or reversible movement disorders such as medication-induced movement disorders, movement disorders due to a general medical condition, Wilson disease, and dopa-responsive dystonia.
   b. Learn the diagnostic value of a levodopa trial in parkinsonism
   c. Learn the uses and limitations of neuroimaging, particularly structural and functional brain imaging, in these disorders

4. Become more familiar with the genetics of neurodegenerative disease and ataxia, including concepts such as:
   a. Dominant vs. recessive,
   b. Autosomal vs. X-linked,
   c. Nucleotide-repeat disorders (especially ataxias and Huntington disease)
   d. Mitochondrial, and
e. Penetrance and Expressivity
5. Understand the role and limitations of genetic tests, and how to interpret them
6. Gain experience with the appropriate pharmacologic and supportive treatment for movement disorders in the outpatient setting, including:
   a. Parkinson disease
   b. Parkinson-plus disorders
   c. Drug-induced movement disorders
   d. Essential tremor
   e. Huntington disease
   f. Dystonias
   g. Tourette syndrome
   h. Ataxias, both sporadic and inherited
7. Become familiar with the indications for, and the limitations of, the following procedures in movement disorders:
   a. Botulinum toxin therapy
   b. Deep brain stimulation

Medical Knowledge
A. Cognitive disorders
   1. Medical knowledge immediately pertinent to patient care is outlined above.
   2. In addition, gain knowledge in pathogenesis of dementing neurodegenerations, including current theories of disease progression, proteinopathy, and major research directions.

B. Movement disorders
   1. Medical knowledge immediately pertinent to patient care is outlined above.
   2. In addition, gain knowledge in pathogenesis of movement disorders and ataxias, including current theories of disease progression, proteinopathy, and major research directions.
   3. Begin to understand structure-function relationships within the basal ganglia.

Practice-Based Learning and Improvement
1. Attend movement disorder conference at 8:30 AM every Wednesday.
2. Attend other required didactic lectures on neurologic topics, both basic and clinical.
3. Read select articles in the Cognitive and Movement disorder selective syllabus.

Interpersonal and Communication Skills
1. Learn to interact sensitively and effectively with patients who have cognitive impairment, and their families.
2. Ask about mental health issues in a fashion that encourages open communication.
3. Learn to sensitively address psychogenic movement disorders.
4. Learn how to address complex genetic information, and their implications to patients and families.

Professionalism
1. No additional objectives over regular clinic rotation.

Systems-Based Practice
See regular clinic rotation; also,
1. Understand the role of multidisciplinary care in the neurodegenerative and geriatric populations, including social work, nursing, physical and occupational therapy, community living assistance, and hospice.
Revised 5/5/15
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM
GOALS AND OBJECTIVES

Clinic - Headache and Neuropathic Pain Clinic

Schedule:

<table>
<thead>
<tr>
<th>Day</th>
<th>Morning</th>
<th>Afternoon</th>
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<tbody>
<tr>
<td>Monday</td>
<td>Neuropathic Pain Clinic</td>
<td>Neuropathic Pain Clinic</td>
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<tr>
<td></td>
<td>(Schultz)</td>
<td>(Schultz)</td>
</tr>
<tr>
<td>Tuesday</td>
<td>Addiction Medicine</td>
<td>Addiction Medicine</td>
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<tr>
<td></td>
<td>(Malinoff)</td>
<td>(Malinoff)</td>
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<tr>
<td></td>
<td>Interventional Pain Clinic</td>
<td>Interventional Pain Clinic</td>
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<tr>
<td></td>
<td>(Chiravuri)</td>
<td>(Chiravuri)</td>
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<tr>
<td></td>
<td>*Alternates every other week</td>
<td>*Alternates every other week</td>
</tr>
<tr>
<td>Wednesday</td>
<td>Conferences</td>
<td>Continuity Clinic</td>
</tr>
<tr>
<td>Thursday</td>
<td>Headache Clinic</td>
<td>Headache Clinic</td>
</tr>
<tr>
<td></td>
<td>(Cooper)</td>
<td>(Cooper)</td>
</tr>
<tr>
<td>Friday</td>
<td>Chemodenervation Clinic</td>
<td>Headache Clinic</td>
</tr>
<tr>
<td></td>
<td>(Cornblath)</td>
<td>(Cooper)</td>
</tr>
</tbody>
</table>

The attending for each clinic is subject to change.

Additional Goals and Objectives – Headache Medicine

The goals and objectives are identical to those for the neurology resident Clinic Rotation, with the following additions:

**Patient Care:**
A. Headache Medicine
   8. Be able to take a focused headache/neuropathic pain history and perform a thorough and accurate focused examination.
   9. Learn to distinguish among different patterns of Headache.
      a. Migraine
      b. Cluster Headache
      c. Other Trigeminal Autonomic Cephalgias
      d. Secondary Headache
      e. Trigeminal Pain
   10. Understand the differential diagnosis and appropriate diagnostic evaluation for common pain presentations including:
       a. Focal headache or body pain
       b. Generalized headache
       c. Centralized pain
          i. Fibromyalgia
          ii. Irritable Bowel Syndrome
          iii. Painful Bladder Syndrome
          iv. Pelvic Pain Syndrome
       d. Peripheral neuropathy
11. Gain experience with the appropriate treatment of Headache and Neuropathic Pain in the outpatient setting, including:
   a. Migraine
   b. New Daily Persistent Headache Syndrome
   c. Cluster Headache
   d. Centralized Pain
   e. Peripheral Neuropathy
   f. Trigeminal Neuralgia

**Medical Knowledge**
A. Headache and Neuropathic Pain
   1. Develop skills in neuroanatomic localization within the central and peripheral nervous system.
   2. Gain advanced knowledge of the use and interpretation of diagnostic testing in headache and neuropathic pain, including laboratory testing and diagnostic imaging.
   3. Become familiar with AAN practice guidelines that pertain to Headache and Neuropathic Pain.

**Practice-Based Learning and Improvement**
1. Headache and Neuropathic Pain
   a. Attend didactic conferences on neurologic topics, including the multidisciplinary team meeting for clinical review of pain patients Tuesdays 7:00am.

**Interpersonal and Communication Skills**
A. Headache and Neuropathic Pain
   a. Continued development of interaction skills with those with chronic pain.
   b. Continued development of communication skills pertaining to previous life trauma and healing.
   c. Further experience with discussing pain issues between health care providers.

**Professionalism**
A. Headache and Neuropathic Pain
   1. Provide documentation as required for patient needs
   2. Respond to patient calls regarding headache and pain issues within a timely and effective manner.

**Systems-Based Practice**
A. Headache and Neuropathic Pain Clinic
   a. Understand the structure and utility of multidisciplinary team consultations for care of patients with high complexity.

Revised 5/7/12
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM
GOALS AND OBJECTIVES

Clinic - Neuro-Oncology

All neuro-oncology clinics are located in the first floor of the Cancer Center, team 7 staff room:

<table>
<thead>
<tr>
<th></th>
<th>Morning</th>
<th>Afternoon</th>
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</thead>
<tbody>
<tr>
<td>Monday</td>
<td>Neuro-oncology</td>
<td>Neuro-oncology</td>
</tr>
<tr>
<td></td>
<td>(Mammoesser)</td>
<td>(Mammoesser)</td>
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<tr>
<td>Tuesday</td>
<td>Continuity clinic - Taubman</td>
<td>Neuro-oncology</td>
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<tr>
<td></td>
<td>Center</td>
<td>(Junck)</td>
</tr>
<tr>
<td>Wednesday</td>
<td>Conferences</td>
<td>Neuro-oncology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Junck)</td>
</tr>
<tr>
<td>Thursday</td>
<td>Neuro-oncology</td>
<td>Neuro-oncology</td>
</tr>
<tr>
<td></td>
<td>(Mammoesser)</td>
<td>(Junck)</td>
</tr>
<tr>
<td>Friday</td>
<td>Neuro-oncology</td>
<td>Independent study</td>
</tr>
<tr>
<td></td>
<td>(Junck)</td>
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</tbody>
</table>

The attending for each clinic is subject to change.

The goals and objectives are identical to those for the neurology resident Clinic Rotation, with the following additions:

**Patient Care:**
1. To learn to take a focused history and perform a thorough neuro-oncologic examination.
2. Become familiar with management of neurologic complications of patients with neuro-oncologic disease.
3. In patients with CNS metastatic disease, CNS lymphoma, ependymoma and/or medulloblastoma, understand the basics of an appropriate and complete “staging” evaluation.
4. Understand the different treatments and prognosis for different histologies and grades of primary brain tumors, and how this information impacts patient care.
5. Understand the impact of molecular studies on treatment approach in primary brain tumors, and how this information impact prognosis and patient care.
6. Understand the role of surgery, radiation, chemotherapy and clinical trials in treatment of primary and secondary brain tumors, and how these roles impact treatment recommendations.
7. Gain experience discussing emotionally difficult diagnoses, complicated treatments, and relative uncertainty of treatment outcome with patients in a professional and compassionate manner.

**Medical Knowledge**
5. Develop skills in anticipating neurologic deficits based on tumor location and proficiency in documenting the presence or absence of expected deficits.
6. Develop skills in anticipating neurologic deficits related to mechanism of disease spread, especially with respect to lymphoma or metastatic disease, and perform an appropriate screening history/exam to evaluate for presence/absence of disease progression.
7. Recommend appropriate screening tests based on presence/absence of clinical signs/symptoms of disease progression/involvement.
8. Gain advance knowledge of PET-CT, MR Spectroscopy, MRI, and CT imaging of the brain in the setting of the ambiguity of tumor progression versus treatment related changes and understand the strengths and shortcomings of these imaging modalities.
9. Become familiar with practice changing studies in neuro-oncology as pertains to surgery, radiation, and chemotherapy treatments.
10. Become familiar with neurologic and non-neurologic side effects of treatment

**Practice-Based Learning and Improvement**
1. Attend didactic conferences on neurologic topics, including the neuro-oncology conference, typically the first Monday of the month (5:30 deJong/Neurosurgery Conference Room 3898 Taubman), as well as attending Multidisciplinary Brain Tumor Board every Friday morning at 7:00 in the Neurosurgery conference room.
2. Develop a commitment to achieving personal and professional excellence, including self-directed learning, assimilating new information, and applying this knowledge to patient care.

**Interpersonal and Communication Skills**
1. Demonstrate interpersonal communication skills that facilitate empathic relationships with patients and their families.
2. Participate in the delivery of a glioblastoma diagnosis to a patient.
3. Participate in a discussion pertaining to goals of care, benefits and risks of further treatment, and consideration of hospice care in the setting of end-stage disease.

**Professionalism**
1. Demonstrate and maintain the professional attributes of compassion, altruism, respect, and commitment to addressing the needs of a diverse society.
2. Interact effectively with other services within the multidisciplinary neuro-oncologic care model to arrange for appropriate and timely care of patients.
3. Provide appropriate and timely recommendations to consulting services, with appropriate supporting medical documentation.

**Systems-Based Practice**
1. Demonstrate an awareness of and responsiveness to the larger context and system of health care;
2. Exhibit the ability to effectively draw on system resources to provide care that is of optimal value.
4. Demonstrate an understanding of when to provide the appropriate referrals to other specialties within the multi-disciplinary care model (palliative care/hospice, home nursing, PT/OT, symptom management, in addition to those listed above).

**Performance Objectives**
1. Recognizes common clinical presentations of a brain or spine mass.
2. Identifies neuro-oncological emergencies and initiates management.
3. Provides differential diagnosis of brain or spine mass.
4. Identifies neurologic complications due to cancer or the treatment of cancer.
5. Appropriately refers for advanced testing, including biopsy.
6. Manages neurologic complications due to cancer or the treatment of cancer.

*Revised 6/2/15*
Neurology Quality Improvement Rotation - Global Objectives

As a result of this selective, the resident will be able to:

1. Explain how quality improvement pertains to, and will advance healthcare.
2. Define basic terms of quality improvement.
   a. Identify the PDCA Cycle.
   b. Use the PDCA Cycle to show how improvement steps work.
   c. Identify the components of scoping a problem using a SIPOC.
3. Complete the reading assignments provided on QI and Lean.
4. Understand the A3 as a structure means to achieve quality improvement
   a. Identify the sections of the A3.
   b. Describe the contents of the main sections of the A3 and how one derives them.
   c. Dissect an existing A3 with critical analysis.
   d. Construct an A3 for an individual project.
5. Determine an area in Neurology that can benefit from quality improvement. Design and implement a Quality Improvement Project.
6. Summarize the results of the individual QI project. Present a short summary of the QI project at a monthly department QA meeting.
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM
GOALS AND OBJECTIVES

Basic Neuroscience Elective

1. In a setting of close supervision, join an existing research project or initiate an independent research project in basic neuroscience. This involves learning the process of framing a hypothesis and designing a set of experiments to evaluate the hypothesis, learning the relevant experimental techniques, performing the experiments and interpreting results.

2. Learn the background knowledge relevant to the chosen project.

3. Begin to develop the ability to read and evaluate basic science literature critically.

4. Acquire knowledge of the strengths and limitations of relevant techniques.

5. Begin to develop the scientific communication skills of summarizing and presenting results.

Revised 05/10/10
1. In a setting of close supervision, join an existing clinical research project or initiate a clinical research project. This involves learning the process of framing a hypothesis, collecting data to test the hypothesis, and interpreting results.

2. Learn the background knowledge relevant to the chosen project.

3. Develop the ability to read and evaluate relevant clinical and scientific literature critically.

4. Where applicable, learn the use of a statistical approach in hypothesis testing.

5. Where applicable, begin to develop the communication skills of summarizing and presenting results.

6. Enhance one’s knowledge of the neurological subspecialty relevant to the project.

7. Where applicable, explore one’s interest in a career emphasizing clinical research in this neurological subspecialty.

Revised 05/10/10
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM
GOALS AND OBJECTIVES

Neurological Subspecialty Elective

1. Gain knowledge of some of the major clinical and scientific issues in this subspecialty.

2. Enhance one’s skills in the relevant portions of the neurological history and examination.

3. Gain knowledge and experience in diagnosis including the appropriate use and interpretation of ancillary studies.

4. Where applicable, gain skill and experience in performing procedures.

5. Increase one’s knowledge of treatments, including their indications and side effects.

6. Learn to read and evaluate relevant clinical and scientific literature critically.

7. Where applicable, explore one’s interest in a career emphasizing this subspecialty.

Revised 05/10/10
1. Learn the assessment of visual function, eye movements and alignment, optic fundus abnormalities, and pupillary abnormalities.

2. Become familiar with the interpretation of perimetric results.

3. Deepen understanding of neurologic diseases that affect the visual and ocular motor pathways.

4. Increase awareness of when and how to use the resources provided by ophthalmologists and neuro-ophthalmologists.

Revised 05/10/10
1. Learn the appearance of histologic sections of normal brain, nerve and muscle.

2. Understand the utility of commonly used tissue staining techniques.

3. Develop skills and gain experience needed to review brain, nerve and muscle histologic sections independently; describe the findings; and develop a differential diagnosis.

4. Recognize common pathologic findings in brain, muscle and nerve tissue preparations.

5. Develop skills and gain experience in performing gross examination of the brain, including brain cutting.

Revised 05/10/10
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM

GOALS AND OBJECTIVES

Neuroradiology Elective

1. Improve skills at interpreting neuroimaging studies including CT, MRI (including the newer “functional” techniques), angiography, myelography, and nuclear medicine studies.

2. Become familiar with the technical aspects of neuroimaging procedures and of biopsies performed by neuroradiologists.

3. Learn the advantages, disadvantages, and risks associated with neuroimaging procedures.

4. Learn the approximate cost of neuroimaging procedures.

5. Gain an appreciation for the experience of the patient during the various neuroimaging procedures and learn how much patient cooperation is necessary.

6. Become familiar with the indications, techniques, and risks of neurointerventional procedures.

7. Learn the types of contrast material used for neuroimaging, their indications, risks, means of reducing those risks, and potential alternatives to contrast-enhanced imaging.

8. Learn what information to provide the neuroradiologist on a requisition to ensure that the correct imaging examination is performed.

Revised 05/10/10
1. Learn the features and management of neurosurgical emergencies.
2. Learn the features and management of common neurosurgical illnesses.
3. Understand the practical aspects of neurosurgical intervention.
4. Gain exposure to structural and anatomical features of common nervous system lesions as well as functional correlation of neuroanatomical lesions.
5. Develop skills and experience needed to interact closely with neurosurgical colleagues.

Revised 05/10/10
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM
GOALS AND OBJECTIVES

Speech-Language Pathology Elective

1. Improve ability to diagnose motor speech, language, cognitive-communicative, and swallowing disorders.

2. Improve skills at bedside examination of motor speech, language, cognitive-communicative function, and swallowing.

3. Become familiar with the formal testing performed by Speech-Language Pathology.

4. Learn to recognize when referral to Speech-Language Pathology is needed or helpful.

Revised 05/10/10
UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM

GOALS AND OBJECTIVES

Psychiatry Rotation at the University of Michigan

1. **Medical Knowledge**
   a. *Learn essential clinical psychiatry:*
      1. Review skills in performing a psychiatric interview and assessment.
      2. Enhance familiarity with the diagnosis and treatment of the range of disorders within psychiatry.
   b. *Learn principles of neuroscience applicable to psychiatry:*
      1. Begin to acquire knowledge of important principles of neuroscience as they pertain to psychiatry.
      2. Appreciate the shared neural circuitry and processes involved in both psychiatry and neurology.

2. **Become an excellent physician:**
   a. *Patient care:*
      1. Learn basic skills in delivering psychiatric care as part of a team, including skills at patient management, communication with patients, and communication with medical professionals.
   b. *Communication:*
      1. Enhance skills in effective communication with patients and families.
      2. Enhance skills in effective communication with other medical professionals.
   c. *Systems-Based Practice:*
      1. Understand the role of the psychiatrist within the greater context of a healthcare team.
      2. Recognize situations where psychiatric opinion and intervention is needed.
   d. *Professionalism:*
      1. Manifest responsibility, honesty, integrity, and high ethical standards.
      2. Become proficient in timely and appropriate medical documentation.

3. **Learn continuing self-education:**
   a. Whenever possible, participate in educational activities relevant to psychiatry during the rotation.
   b. Become familiar with key resources in the psychiatric literature, including internet-based resources and reference texts

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UNIVERSITY OF MICHIGAN NEUROLOGY RESIDENCY PROGRAM
GOALS AND OBJECTIVES

Neurology Rotation in Rehabilitation Medicine (UH PMR)

Residents will be expected to spend two weeks rotating through one or more rehabilitation subspecialty clinics, including:

- Spine Clinic
- Medical Rehabilitation, Musculoskeletal Clinic and Traumatic Brain Injury Clinic
- Occupational and Physical Medicine Clinic.
- Polio Clinic
- Pediatric Rehabilitation, including the Ventilator Clinic and Baclofen Pump Clinic.
- Spinal Cord Clinic

During this time, residents will:

1. Learn the basic principles of rehabilitation for neurologic disorders.

2. Become familiar with the medical treatment approaches of ambulatory patients with a variety of chronic pains.

3. Understand the purpose and use of the modalities and procedures used in the outpatient rehabilitation clinics. They will also become familiar with the elements of a therapeutic treatment plan and with the evaluation, goal setting and rationale of treatment.

4. Gain exposure to the outpatient multidisciplinary team approach including epidural injections, Botox injections, and baclofen pump testings.

5. Learn the basic principles of physical and occupational therapy and conditioning exercise.

6. Develop the skills in evaluating and decision making for patients with acute musculoskeletal injury, acute and chronic pain, outpatient stroke, head injury, and spinal cord injury.

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