**TABLE OF CONTENTS**

<table>
<thead>
<tr>
<th>Goals and Objectives</th>
<th>3-95</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Program Goals</td>
<td>3-4</td>
</tr>
<tr>
<td>Ambulatory Care Center Senior (ACC Sr.)</td>
<td>5-8</td>
</tr>
<tr>
<td>Child Neurology</td>
<td>9-12</td>
</tr>
<tr>
<td>Consult Liaison Psychiatry</td>
<td>13-16</td>
</tr>
<tr>
<td>Continuity Clinic</td>
<td>17-23</td>
</tr>
<tr>
<td>EEG</td>
<td>24-29</td>
</tr>
<tr>
<td>EMG</td>
<td>30-33</td>
</tr>
<tr>
<td>Movement Disorders</td>
<td>34-37</td>
</tr>
<tr>
<td>Neurocritical Care</td>
<td>38-40</td>
</tr>
<tr>
<td>Neuroimaging and Neurointerventional (Winchester)</td>
<td>41-43</td>
</tr>
<tr>
<td>Neurology Clinics (VA)</td>
<td>44-46</td>
</tr>
<tr>
<td>Neurology Consults (MCV)</td>
<td>47-51</td>
</tr>
<tr>
<td>Neurology Consults (VA)</td>
<td>52-54</td>
</tr>
<tr>
<td>Neurology Wards (MCV)</td>
<td>55-58</td>
</tr>
<tr>
<td>Neurology Wards (VA)</td>
<td>59-62</td>
</tr>
<tr>
<td>Neuro-ophthalmology</td>
<td>63-65</td>
</tr>
<tr>
<td>Neuropathology</td>
<td>66-68</td>
</tr>
<tr>
<td>Neuroradiology (MCV)</td>
<td>69-71</td>
</tr>
<tr>
<td>Nightfloat</td>
<td>72-77</td>
</tr>
<tr>
<td>Research</td>
<td>78-80</td>
</tr>
<tr>
<td>Sleep</td>
<td>81-83</td>
</tr>
<tr>
<td>Ward Senior</td>
<td>84-86</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Policies</th>
<th>87-97</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment and Promotion</td>
<td>87</td>
</tr>
<tr>
<td>Conference Attendance</td>
<td>87</td>
</tr>
<tr>
<td>Duty Hours</td>
<td>88-89</td>
</tr>
<tr>
<td>Grievance</td>
<td>90</td>
</tr>
<tr>
<td>Housestaff Leave and Unexpected Absence</td>
<td>91-92</td>
</tr>
<tr>
<td>Moonlighting</td>
<td>93</td>
</tr>
<tr>
<td>Selection</td>
<td>94</td>
</tr>
<tr>
<td>Supervision</td>
<td>95</td>
</tr>
<tr>
<td>Educational Travel Stipend Policy</td>
<td>96-97</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Evaluation</th>
<th>98-110</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Block Rotation Evaluation (Formative Evaluation)</td>
<td>98-99</td>
</tr>
<tr>
<td>Multiple Evaluator Evaluations</td>
<td>100</td>
</tr>
<tr>
<td>Patient</td>
<td>100</td>
</tr>
<tr>
<td>Nursing</td>
<td>101</td>
</tr>
<tr>
<td>Student</td>
<td>102</td>
</tr>
<tr>
<td>Peer</td>
<td>103</td>
</tr>
<tr>
<td>Self</td>
<td>104</td>
</tr>
<tr>
<td>Residency In-Service Training Examination (RITE)</td>
<td>105</td>
</tr>
<tr>
<td>American Board of Psychiatry and Neurology Clinical Evaluations</td>
<td>106-107</td>
</tr>
<tr>
<td>Semi-Annual Program Director Meetings</td>
<td>108-109</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Individual Education Plans (IEPs)</td>
<td>110</td>
</tr>
<tr>
<td>Faculty Mentors</td>
<td>111</td>
</tr>
<tr>
<td>Resident Case Log</td>
<td>112</td>
</tr>
<tr>
<td>PGY-2 Baseline Neurology Quiz</td>
<td>113</td>
</tr>
<tr>
<td>Journal Club</td>
<td>114</td>
</tr>
<tr>
<td>Framework for Manuscript Analysis</td>
<td>115</td>
</tr>
<tr>
<td>Basic Science Podcasting Curriculum</td>
<td>116</td>
</tr>
<tr>
<td>Continuum Assignments</td>
<td>117</td>
</tr>
<tr>
<td>Noon Conference</td>
<td>118</td>
</tr>
<tr>
<td>Crash Course Lecture Series</td>
<td>118</td>
</tr>
<tr>
<td>Competency Committee</td>
<td>119</td>
</tr>
<tr>
<td>Education Committee</td>
<td>119</td>
</tr>
<tr>
<td>New Innovations</td>
<td>120</td>
</tr>
<tr>
<td>Scholarly Activities</td>
<td>121-123</td>
</tr>
<tr>
<td>Research Experience</td>
<td>121</td>
</tr>
<tr>
<td>PGY-3 Case Study</td>
<td>122</td>
</tr>
<tr>
<td>PGY-4 Grand Rounds presentation</td>
<td>124</td>
</tr>
</tbody>
</table>
1. To prepare the physician for the independent and competent practice of neurology by providing training based on supervised clinical work with increasing responsibility for outpatients and inpatients.

2. To provide a foundation of organized instruction in the basic neurosciences.

3. To provide an opportunity to develop and maintain an investigative career in the basic neurosciences and in clinical neurology.

4. To gain an appreciation for the history of neurology and the rich traditions of our specialty.

5. To develop the many personal attributes necessary for becoming an effective physician, including honesty, compassion, reliability, and effective communication skills.

6. To provide this education for the residents based on the ACGME six core competencies of:
   a. Medical Knowledge
   b. Patient Care
   c. Interpersonal and Communication Skills
   d. Practice-Based Learning and Improvement
   e. Systems-Based Practice
   f. Professionalism

Goals for PGY-2

1. To learn how to obtain an accurate neurologic history and to perform and interpret a neurological examination.

2. To learn the appropriate indications for ordering laboratory studies in neurology: EEG, EMG, nerve conduction studies, evoked potentials, lumbar puncture, CT and MR imaging of the brain and spinal cord.

3. To learn how to evaluate and treat common neurological problems:
   a. Neurology Emergencies: Coma and mental status changes, stroke, seizures
   b. Common outpatient neurological problems: Headache, dizziness, back and neck pain, peripheral neuropathies
   c. Gain initial exposure to other neurological diseases such as: Multiple sclerosis, Parkinson’s disease and other movement disorders, neuromuscular diseases, dementia, central nervous system infections, and tumors of the nervous system

4. To develop and improve written and oral communication skills.
Goals for PGY-3

1. To learn how to diagnose, evaluate and treat multiple sclerosis, Parkinson's diseases and other movement disorders, neuromuscular diseases, neuro-ophthalmologic disorders, dementia, central nervous system infections, tumors of the nervous system, and common pediatric neurology disorders

2. To perfect the resident’s history-taking skills and neurologic exam in infants and children

3. To learn the interrelationship of abnormalities of the nervous system with normal growth and development of the nervous system

4. To provide the resident with an exposure to and a forum for discussion of a wide variety of neurologic problems in adults and pediatric patients

5. To begin to gain experience supervising junior residents on the inpatient neurology services

6. To improve the resident’s teaching skills by participating in the annual Case Presentation Evening as well as presenting M-3 student Case Study Lectures

Goals for PGY-4

1. To become independent in the evaluation and management of patients presenting with a wide variety of inpatient and outpatient neurological disorders

2. To gain further experience in performing and interpreting EMGs, Nerve Conduction Studies, EEG’s and evoked potential testing

3. To gain experience supervising junior residents on the inpatient neurology services

4. To further improve the resident’s teaching skills by presenting a Grand Rounds lecture and M-3 student Case Study Lectures

5. To expand medical knowledge in gross and microscopic neuropathology

6. To obtain a broad clinical experience in the diagnosis and management of psychiatric patients on the consult liaison psychiatry rotation
Rotation: Ambulatory Neurology Clinic (ACC Sr.)
Coordinator: Scott A. Vota, D.O.
svota@mcvh-vcu.edu or 828-3633

Responsibilities: The ACC Sr. serves as the clinic resident learner, participating in subspecialty neurology clinics, as well as the urgent neurology clinic. The ACC Sr. will additionally handle any urgent patient care messages for the clinic.

Supervision: The ACC Sr resident receives “indirect supervision with direct supervision immediately available” by the attending with whom the resident learner is working.

Rotation Site: MCV

Evaluation: Performance evaluations are completed by faculty supervisors at the end of each clinic, based on the objectives outlined below. The resident learner is expected to ask each faculty supervisor to complete a Subspecialty Clinic Evaluation form card in new innovations.

Core Competencies:
Patient Care:
Resident learner is able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Resident learner will gain experience of the dynamics of a busy outpatient practice, in terms of scheduling, message management, and documentation.

Medical Knowledge:
Resident learner demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences relating to neurology, as well as the application of this knowledge to patient care. Neurology resident learners must be able to demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases.

Practice Based Learning and Improvement:
Resident learner is able to investigate and evaluate his/her patient care practices, appraise and assimilate scientific evidence and improve his/her patient care practices. Resident learners are expected to demonstrate skill in the following areas:
- Care-based learning
- Use of best practices through practice guidelines and clinical pathways
- Participation in Quality Assurance and Improvement
- Utilize information technology to optimize patient care, life-long learning and other activities
- Resident learner will also lead one (1) neurology journal club during the rotation.

Interpersonal and Communication Skills:
Resident learner is able to counsel fellow physicians, patients and families regarding diagnostic and therapeutic options for the effective management of neurologic symptoms and disorders with specific regard to:
- Interdisciplinary care and involvement of health professionals
- Genetic counseling and palliative care when appropriate
- Consideration and compassion for the patient in providing accurate medical information and prognosis

Professionalism:
Resident learner demonstrates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient population.
Resident learner is able to:
- Demonstrate personal and professional attitudes of integrity, honesty and compassion in the delivery principle or consultative patient care
- Regularly review one’s own skills and knowledge, realize limitations and respond to others evaluation of his/her professional performance
• Demonstrate a commitment to excellence in clinical practice through the establishment of life-long learning habits and continuing medical education
• Demonstrate respect for patient’s cultural, ethnic, religious and socioeconomic background in providing patient care
• Demonstrate appreciation of end-of-life care and issues regarding provision or withholding of care

Systems Based Practice:
Resident learner recognizes that he/she is a part of a large and intricate health system that has many implications for his/her ability to care for patients and, more importantly, impact upon his/her patients’ human needs and financial resources. The resident learner should:
• Recognize the limitation of resources for health care and demonstrate the ability to act as an advocate for patients within their social and financial constraints
• Be willing to participate in utilization review and comply with documentation requirements in medical records
• Develop awareness of practice guidelines, community, national and allied health professional resources which may enhance the quality of life of patients with chronic neurological illness
• Develop the ability to lead and delegate authority to health care teams needed to provide comprehensive care for patients with neurologic disease

PGY-3 and PGY-4 Objectives:
Patient Care:
• Elicit a complete neurological history and perform an appropriate general and neurologic examination
• Be able to perform a lumbar puncture and send the cerebrospinal fluid for the appropriate laboratory tests
• Demonstrate the ability to independently develop a plan for diagnosis, treatment, and follow-up of common ambulatory neurologic disorders
• Demonstrate confidence that is appropriate to level of competence, and that inspires the patient’s trust
• PGY-3’s should complete and pass the ABPN Ambulatory and Neurgodegenerative clinical exams during the rotation.
• PGY-4’s should complete and pass the ABPN Neuromuscular clinical exam during the rotation.

Medical Knowledge:
• Critically assess the neurologic literature as it relates to patient diagnosis, investigation and treatment:
  o Develop criteria for evaluating neurological literature
  o Critically assess the neurologic literature using these criteria

Practice-based Learning and Improvement:
• Provide accurate chart documentation and determine the appropriate level of billing for services rendered

Interpersonal Skills and Communication and Professionalism:
• Demonstrate interpersonal skills and documentation habits needed for effective communication with fellow physicians, patients, families and allied health professionals, including:
  o Effective listening
  o Use of informed consent when ordering investigative procedures
  o Maintenance of accurate, timely and legible medical records
• Explain the risks and obtain informed consent for a lumbar puncture

Systems-based Practice:
• Develop skills for the practice of ambulatory medicine including time management, clinic scheduling and efficient communication with referring physicians
• Facilitate learning of patients, house staff/students and other health care professionals

PGY-3 and PGY-4 Goals:
Patient Care:
• Demonstrate appropriate chart documentation for patient visits
• Utilize diagnostic tests and management plans in a medically appropriate and cost effective manner, with understanding of their limitations. Be able to explain to a patient what a particular test involves and why it is being performed
• Demonstrate the ability to perform this history and physical examination in 20 minutes for a follow up patient and 60 minutes for a new patient

Medical Knowledge
• Gain a working knowledge of the symptoms, signs, pathophysiology, and treatment of patients with:
  o Brain tumors
  o Epilepsy
  o Migraines and other headache disorders
  o Cerebrovascular disorders
  o Neuromuscular disease
• Demonstrate the ability to reference and utilize electronic information systems to access medical, scientific and patient information

Interpersonal Skills and Communication:
• Be able to counsel patients and others about the prevention of neurologic disorders, including risk factors, genetic and environmental concerns

Practice-Based Learning and Improvement:
• Gain experience of the dynamics of a busy outpatient practice, in terms of scheduling, message management, documentation, and appropriate level of billing
• Improving practice based learning in an area of knowledge in which the resident learner has noted a deficiency or would like to learn more by leading one (1) neurology journal club.

Professionalism
• Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved

Systems-based Practice:
• Utilize diagnostic tests in a medically appropriate and cost effective manner, with understanding of the limitations
• Update procedure log when a procedure is performed
• Present daily M-3 Case Study lectures
• Facilitate monthly Journal Club

PGY-3 and PGY-4 Daily Schedule:

<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 am - 12pm</td>
<td>8 am neuromuscular conference</td>
<td>LP Clinic</td>
<td>Seizure Clinic (Waterhouse/Gowda)</td>
<td>Movement Disorders (Baron)</td>
<td>LP Clinic</td>
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<td></td>
<td>9 am - 12 pm Neuromuscular clinic (Sadeghian)</td>
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<td>1 pm - @ 5 PM</td>
<td>Neuromuscular Clinic (Vota/Sadeghian)</td>
<td>Urgent Care Clinic (Resident clinic attending)</td>
<td>Neuro-ophthalmology Clinic (Felton/Haines) or Dementia (Taylor)</td>
<td>Headache (Towne)</td>
<td>MS Clinic (Dr. Oh)</td>
</tr>
</tbody>
</table>
Suggested Bibliography:

**Description:** Adult Neurology resident learners will rotate on Child Neurology inpatient services for a total of three blocks during the PGY-3 and PGY-4 years.

**Rotation Site:** MCV

**Evaluation:** Performance evaluations are completed by faculty supervisors at the end of each clinic, based on the objectives outlined below.

**Supervision:** Resident learners receive “indirect supervision with direct supervision immediately available” from 8 am – 5 pm daily from the supervising attending. On weekends and during night at home call, resident learners receive “direct supervision available” from the on call supervising attending.

**Core Competencies:**

**Patient Care:**
Resident learner is able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Resident learner will gain experience of the dynamics of a busy child neurology service and outpatient clinic, in terms of scheduling, message management, and documentation.

**Medical Knowledge:**
Resident learner demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences relating to neurology, as well as the application of this knowledge to patient care. Neurology resident learners must be able to demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases.

**Practice Based Learning and Improvement:**
Resident learner is able to investigate and evaluate his/her patient care practices, appraise and assimilate scientific evidence and improve his/her patient care practices. Resident learners are expected to demonstrate skill in the following areas:
- Care-based learning
- Use of best practices through practice guidelines and clinical pathways
- Participation in Quality Assurance and Improvement
- Collection and analysis of patient data
- Utilize information technology to optimize patient care, life-long learning and other activities

**Interpersonal and Communication Skills:**
Resident learner is able to counsel fellow physicians, patients and families regarding diagnostic and therapeutic options for the effective management of neurologic symptoms and disorders with specific regard to:
- Interdisciplinary care and involvement of health professionals
- Genetic counseling and palliative care when appropriate
- Consideration and compassion for the patient in providing accurate medical information and prognosis

**Professionalism:**
Resident learner demonstrates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient population. Resident learner is able to:
- Demonstrate personal and professional attitudes of integrity, honesty and compassion in the delivery principle or consultative patient care
- Regularly review one’s own skills and knowledge, realize limitations and respond to others evaluation of his/her professional performance
• Demonstrate a commitment to excellence in clinical practice through the establishment of lifelong learning habits and continuing medical education
• Demonstrate respect for patient's cultural, ethnic, religious and socioeconomic background in providing patient care
• Demonstrate appreciation of end-of-life care and issues regarding provision or withholding of care

**Systems Based Practice:**
Resident learner recognizes that he/she is a part of a large and intricate health system that has many implications for his/her ability to care for patients and, more importantly, impact upon his/her patients' human needs and financial resources. The resident learner should:
• Recognize the limitation of resources for health care and demonstrate the ability to act as an advocate for patients within their social and financial constraints
• Be willing to participate in utilization review and comply with documentation requirements in medical records
• Develop awareness of practice guidelines, community, national and allied health professional resources which may enhance the quality of life of patients with chronic neurological illness
• Develop the ability to lead and delegate authority to health care teams needed to provide comprehensive care for patients with neurologic disease

**PGY-3 Objectives:**
**Patient Care:**
• Obtain a complete and reliable history, and perform a focused and reliable pediatric neurologic examination
• Distinguish normal from abnormal findings on the pediatric neurologic examination
• Localize the likely site(s) in the nervous systems where a lesion could produce a patient's symptoms and signs
• Formulate a differential diagnosis based on lesion localization, time course, relevant historical and demographic features
• Perform relevant procedures such as lumbar puncture on pediatric patients

**Practice Based Learning and Improvement:**
• Review and interpret the medical literature pertinent to specific issues of patient care
• Participate in the education of patients, families, students, residents, and other health professionals

**Interpersonal and Communication Skills:**
• Counsel patients and families regarding psychosocial issues relating to pediatric neurologic disease
• Communicate effectively with physicians, other health professionals, and health related agencies
• Maintain comprehensive and timely medical records

**Professionalism**
• Demonstrate the following professional skills in time management:
  o Recognize that effective use of time depends upon punctuality
  o Recognize that effective use of time requires planning
  o Develop speed as well as accuracy in clinical skills
  o Reserve time for reading and keeping current with the neurologic literature

**PGY-3 Goals:**
**Patient Care:**
• Gain proficiency in the pediatric neurologic examination, including the evaluation of head circumference, cutaneous exam, cardiac, respiratory, and abdominal examinations, developmental reflexes, power and tone, deep tendon reflexes, general sensory responses, and cranial nerve evaluation
• Awareness of the use and interpretation of common tests used in diagnosing pediatric neurologic disease
• Awareness of the principles underlying the systematic approach to the management of common pediatric neurologic diseases
• Gain knowledge and experience in management of relevant neurosurgical patients, especially VP shunts

Medical Knowledge:
• Become familiar with inpatient and outpatient pediatric neurologic conditions, including clinical presentation,, differential diagnoses, etiology and pathophysiology, treatment and prognosis
• Learn the developmental milestones and how to assess them clinically
• Lead one noon conference presentation on child neurology

Practice Based Learning and Improvement:
• Locate, appraise and assimilate evidence from scientific studies related to patients’ health problems

Interpersonal and Communication Skills:
• Communicate effectively with patients, families and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds

Professionalism:
• Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved

PGY-4 Objectives:
Patient Care:
• Obtain a complete and reliable history, and perform a focused and reliable pediatric neurologic examination
• Distinguish normal from abnormal findings on the pediatric neurologic examination
• Localize the likely site(s) in the nervous systems where a lesion could produce a patients’ symptoms and signs
• Formulate a differential diagnosis based on lesion localization, time course, relevant historical and demographic features
• Perform relevant procedures such as lumbar puncture on pediatric patients
• Complete and pass the ABPN Child neurology exam

Practice Based Learning and Improvement:
• Review and interpret the medical literature pertinent to specific issues of patient care
• Participate in the education of patients, families, students, residents, and other health professionals

Interpersonal and Communication Skills:
• Counsel patients and families regarding psychosocial issues relating to pediatric neurologic disease
• Communicate effectively with physicians, other health professionals, and health related agencies
• Maintain comprehensive and timely medical records

Professionalism
• Demonstrate the following professional skills in time management:
  o Recognize that effective use of time depends upon punctuality
  o Recognize that effective use of time requires planning
  o Develop speed as well as accuracy in clinical skills
  o Reserve time for reading and keeping current with the neurologic literature

PGY-4 Goals:
Patient Care:
• Gain proficiency in the pediatric neurologic examination, including the evaluation of head circumference, cutaneous exam, cardiac, respiratory, and abdominal examinations, developmental reflexes, power and tone, deep tendon reflexes, general sensory responses, and cranial nerve evaluation
• Awareness of the use and interpretation of common testses used in diagnosing pediatric neurologic disease
- Awareness of the principles underlying the systematic approach to the management of common pediatric neurologic diseases
- Gain knowledge and experience in management of relevant neurosurgical patients, especially VP shunts

**Medical Knowledge:**
- Become familiar with inpatient and outpatient pediatric neurologic conditions, including clinical presentation, differential diagnoses, etiology and pathophysiology, treatment and prognosis
- Learn the developmental milestones and how to assess them clinically
- Lead one noon conference presentation on child neurology

**Practice Based Learning and Improvement:**
- Locate, appraise and assimilate evidence from scientific studies related to patients’ health problems

**Interpersonal and Communication Skills:**
- Communicate effectively with patients, families and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds

**Professionalism:**
- Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved

**PGY-3 and PGY-4 Daily Schedule:**

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<th>Thursday</th>
<th>Friday</th>
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<tr>
<td>AM</td>
<td>Inpatient</td>
<td>Inpatient</td>
<td>Inpatient</td>
<td>Inpatient</td>
<td>Inpatient</td>
</tr>
<tr>
<td>PM</td>
<td>Inpatient</td>
<td>Child Neurology resident clinic</td>
<td>Pediatric neuromuscular clinic</td>
<td>Child Seizure Clinic</td>
<td>Inpatient</td>
</tr>
</tbody>
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**Suggested Bibliography:**
Rotation: Consult Liaison Psychiatry and Medical Psychiatry Clinic (Psychiatry)
Coordinator: James Levenson, M.D., Yaacov Pushkin, M.D., Sherif Meguid, MD, Chris Kogut, MD
828-9158

Responsibilities: The Consultation-Liaison Psychiatry (C-L) Service is to assist consultees in the non-psychiatric hospital setting in the assessment and treatment of psychiatric symptoms and disorders in the medically ill. Hospital rounds are made on a formally scheduled daily basis and an eclectic biopsychosocial approach is implemented in an attempt to understand the patient and his or her illness in the context of the hospital and broader social systems. Consultations may involve diagnostic and treatment issues, disputes between patients and healthcare providers, staff reactions to patients, requests for transfer or outpatient referrals. The common clinical entities that are seen include delirium, depressive and anxiety disorders, questions regarding capacity for informed consent, somatizing and personality disturbances in the medical setting, and suicide attempts. Residents are exposed to a wide general psychiatric diagnostic spectrum which occurs in the context of comorbid medical conditions involving various systems including neurologic, cardiovascular, pulmonary, immune, renal, hepatic and endocrine. Responsiveness, effectiveness in communication and feedback are all essential elements of C-L Psychiatry.

The Medical Psychiatry Clinic is a sub-specialty clinic within the general ambulatory psychiatry clinic. This clinic specializes in the delivery of psychiatric care to patients with medical conditions. Residents are exposed to a wide general psychiatric diagnostic spectrum, which occurs in the context of comorbid medical conditions involving various systems including neurologic, cardiovascular, pulmonary, immune, renal, hepatic and endocrine.

Supervision: The neurology resident on Psychiatry receives “indirect supervision with direct supervision immediately available” by the attending with whom the resident learner is working.

Rotation Site(s): MCV

Evaluation: Performance evaluations are completed by faculty supervisors following the block assignment, based on the objectives outlined.

Core Competencies:
Patient Care:
Resident learner is able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Resident learner will gain experience of the dynamics of a busy outpatient practice, in terms of scheduling, message management, and documentation.

Medical Knowledge:
Resident learner demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences relating to neurology, as well as the application of this knowledge to patient care. Neurology resident learners must be able to demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases.

Practice Based Learning and Improvement:
Resident learner is able to investigate and evaluate his/her patient care practices, appraise and assimilate scientific evidence and improve his/her patient care practices. Resident learners are expected to demonstrate skill in the following areas:
- Care-based learning
- Use of best practices through practice guidelines and clinical pathways
- Participation in Quality Assurance and Improvement
- Collection and analysis of patient data
- Utilize information technology to optimize patient care, life-long learning and other activities
Interpersonal and Communication Skills:
Resident learner is able to counsel fellow physicians, patients and families regarding diagnostic and therapeutic options for the effective management of neurologic symptoms and disorders with specific regard to:

- Interdisciplinary care and involvement of health professionals
- Genetic counseling and palliative care when appropriate
- Consideration and compassion for the patient in providing accurate medical information and prognosis

Professionalism:
Resident learner demonstrates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient population.
Resident learner is able to:

- Demonstrate personal and professional attitudes of integrity, honesty and compassion in the delivery principle or consultative patient care
- Regularly review one’s own skills and knowledge, realize limitations and respond to others evaluation of his/her professional performance
- Demonstrate a commitment to excellence in clinical practice through the establishment of life-long learning habits and continuing medical education
- Demonstrate respect for patient's cultural, ethnic, religious and socioeconomic background in providing patient care
- Demonstrate appreciation of end-of-life care and issues regarding provision or withholding of care

Systems Based Practice:
Resident learner recognizes that he/she is a part of a large and intricate health system that has many implications for his/her ability to care for patients and, more importantly, impact upon his/her patients' human needs and financial resources. The resident learner should:

- Recognize the limitation of resources for health care and demonstrate the ability to act as an advocate for patients within their social and financial constraints
- Be willing to participate in utilization review and comply with documentation requirements in medical records
- Develop awareness of practice guidelines, community, national and allied health professional resources which may enhance the quality of life of patients with chronic neurological illness
- Develop the ability to lead and delegate authority to health care teams needed to provide comprehensive care for patients with neurologic disease

PGY-4 Objectives:

Patient Care:

- Be able to perform a comprehensive consultation, including assessment of the patient, as well as the care environment
- Construct a formulation and recommendations to the referring service
- Ascertain and demonstrate knowledge that is both established and evolving in regard to the biopsychosocial sciences and apply this knowledge to patient care
- Demonstrate appropriate investigatory and analytic thinking through the evaluation process

Medical Knowledge:

- Provide competent and compassionate care for patients suffering from psychiatric disorders and medical comorbidity
- Gather historical information and make informed decisions about diagnostic and therapeutic interventions
- Develop a complete differential diagnosis based on a biopsychosocial formulation and to form subsequent appropriate treatment plans
- Explain, discuss and negotiate all reasonable treatment options with the patient, while respecting and recognizing the patient’s preferences in this negotiation
- Demonstrate judicious clinical judgment in diagnostic assessments including the appropriate selection of laboratory and imaging studies as well as medication and other therapies
Practice Based Learning and Improvement:
- Demonstrate the ability to use information technology and literature resources to answer questions regarding care of the medically ill psychiatry patient
- Participate in the education of patients, families, students, resident learners and other health professionals
- Employ an evidence-based approach in the care of patients using peer reviewed literature, and assimilating evidence from relevant scientific studies

Interpersonal and Communication Skills:
- Communicate formulations and recommendations to the referring service
- Develop a good liaison relationship with staff
- Be able to assume a liaison stance with consulting physicians and staff
- Be able to establish initial rapport and a therapeutic alliance with patients

Professionalism:
- Demonstrate professionalism in interactions with referring physicians, nurses and other staff, patients, families, and other involved parties or agencies
- Perform professional responsibilities with adherence to ethical principals and sensitivity to diverse populations within the clinic setting
- Demonstrate respect, compassion and integrity as well as a sense of dedication to responding to the needs of patients

Systems Based Practice:
- Demonstrate an awareness of the larger health care system beyond the local clinical environment
- Advocate for patients and assist them in attaining appropriate resources such as vocational rehabilitation or disability or other social services
- Interact with various entities that affect the lives of patients, including primary and other medical practices

PGY-4 Goals:
Patient Care:
- Conduct medical psychotherapy with several patients during the rotation
- Become well versed in general psychiatry and DSM-IV diagnosis, and also in areas of psychopharmacology and supportive psychotherapies
- Gain appreciation for medical conditions which may present with psychiatric symptoms and understand the significance of the effects of substances, medications, and one’s genetic predisposition in the formation of psychiatry symptoms
- Understand the importance of developmental and social dynamics in order to understand the meaning of illness to each patient
- Appreciate an appropriate laboratory and imaging study workup in the evaluation and treatment of disorders in the clinic population
- Understand the evaluation of medical entities including delirium, dementia, mood disorders, anxiety disorders, substance use disorders, somatizing presentation and personality disorders in the general medical setting (both in terms of prevalence and phenomenology) and be able to develop treatment plans accordingly
- Become familiar with comorbid medical conditions which can mimic psychiatric disorders (i.e., metabolic, anoxic, traumatic, infectious, pulmonary, cardiac, autoimmune, endocrine, vascular, neurologic, nutritional, etc)
- Appreciate bi-directional influences of disease (i.e. how medical conditions affect psychiatric disorders and vice versa)

Medical Knowledge:
- Understand the specific syndromes of importance in inpatient consult setting, e.g. Somatoform disorders, delirium, dementia, depression and anxiety in the medically ill, behavioral effects of medical and physical disorders, and management of pain and suicidal/homicidal patients
- Understand the psychopharmacology in the medically ill
Understand brief psychotherapy in the medically ill

Practice Based Learning and Improvement:
- Develop ability to evaluate patient care practices, assimilate scientific evidence and improve patient care activities

Interpersonal and Communication Skills:
- Increase empathy and ability to work with medically ill patients
- Interact professionally and appropriately with staff and other members of the outpatient clinical milieu
- Directly observe and learn from attending role models

Professionalism:
- Understand parameters of confidentiality, informed consent and proper business practices
- Demonstrate sensitivity regarding culture, age, gender, sexual preference, and disability
- Exhibit a professional demeanor and appearance at all times and be punctual in attendance

Systems Based Practice:
- Appreciate the significance of communication between various disciplines and specialties
- Develop an understanding of the roles of clinical care coordinators, social workers, as well as other health care professionals

PGY-4 Daily Schedule:
Please note that this schedule is subject to change because of faculty obligations and vacation schedules.

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General Psychiatry clinic is located on Nelson 2.
Rotation: Continuity Clinic  
Coordinator: Scott A. Vota, D.O.  
svota@mcvh-vcu.edu or 828-3633

Description: Each Neurology resident learner will be scheduled a continuity clinic one half day per week, throughout all three years of residency training. The purpose of resident learner continuity clinic is for neurology resident learners to learn how to diagnose neurologic disorders and care for the patients over time to gain understanding into the progression of disease and treatment modifications.

Rotation Site: MCV

Evaluation: Performance evaluations cards are completed at the end of each continuity clinic by the faculty supervisors based on the objectives outlined below and then quarterly in new innovations in new innovations.

Supervision:

a. PGY 2 - 4 neurology resident learners who are involved in outpatient clinical care at VCUHS are provided with “indirect supervision with direct supervision immediately available” by the supervising attending for that day or assigned clinic. Yearly Attending coverage schedules are made available prior to the beginning of the academic year to the resident learners, attendings, administrative staff, and nurses involved in the respective clinics. The attending schedules are also posted on the VCU Neurology blackboard site for immediate availability to the resident learners. Additionally, the schedule is attached to the end of this document.

b. A PGY 2 resident learner can see no more than 5 patients in a clinic visit

c. A PGY 3 resident learner can see no more than 8 patients in a clinic visit

d. A PGY 4 resident learner can see no more than 8 patients in a clinic visit.

Core Competencies:

Patient Care:  
Resident learner is able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Resident learner will gain experience of the dynamics of a busy outpatient practice, in terms of scheduling, message management, and documentation.

Medical Knowledge:  
Resident learner demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences relating to neurology, as well as the application of this knowledge to patient care. Neurology resident learner learners must be able to demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases.

Practice Based Learning and Improvement:  
Resident learner is able to investigate and evaluate his/her patient care practices, appraise and assimilate scientific evidence and improve his/her patient care practices. Resident learner learners are expected to demonstrate skill in the following areas:

- Care-based learning
- Use of best practices through practice guidelines and clinical pathways
- Participation in Quality Assurance and Improvement
- Collection and analysis of patient data
- Utilize information technology to optimize patient care, life-long learning and other activities

Interpersonal and Communication Skills:  
Resident learner is able to counsel fellow physicians, patients and families regarding diagnostic and therapeutic options for the effective management of neurologic symptoms and disorders with specific regard to:

- Interdisciplinary care and involvement of health professionals
- Genetic counseling and palliative care when appropriate
- Consideration and compassion for the patient in providing accurate medical information and prognosis
Professionalism:
Resident learner demonstrates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient population. Resident learner is able to:

- Demonstrate personal and professional attitudes of integrity, honesty and compassion in the delivery principle or consultative patient care
- Regularly review one’s own skills and knowledge, realize limitations and respond to others evaluation of his/her professional performance
- Demonstrate a commitment to excellence in clinical practice through the establishment of life-long learning habits and continuing medical education
- Demonstrate respect for patient’s cultural, ethnic, religious and socioeconomic background in providing patient care
- Demonstrate appreciation of end-of-life care and issues regarding provision or withholding of care

Systems Based Practice:
Resident learner recognizes that he/she is a part of a large and intricate health system that has many implications for his/her ability to care for patients and, more importantly, impact upon his/her patients’ human needs and financial resources. The resident learner should:

- Recognize the limitation of resources for health care and demonstrate the ability to act as an advocate for patients within their social and financial constraints
- Be willing to participate in utilization review and comply with documentation requirements in medical records
- Develop awareness of practice guidelines, community, national and allied health professional resources which may enhance the quality of life of patients with chronic neurological illness
- Develop the ability to lead and delegate authority to health care teams needed to provide comprehensive care for patients with neurologic disease

PGY-2 Objectives:

Patient Care:
 Clinical Skills
- Elicit a complete neurological history and perform an appropriate general and neurologic examination

Technical Skills
- Identify and describe abnormalities seen in common neurologic disorders on radiographic testing, including plain films, myelography, angiography, CT, MRI neuroaxis
- Evaluate the application and relevance of investigative procedures and their interpretation in the diagnosis of neurologic disease including electroencephalogram, motor and sensory nerve conduction studies, electromyography, evoked potentials, polysomnography, electronystagmogram, CSF analysis and radiographic studies as outlined above

Medical Knowledge:
- Be able to critically assess the neurologic literature as it relates to patient diagnosis, investigation and treatment:
  o Develop criteria for evaluating neurological literature
  o Critically assess the neurologic literature using these criteria

Practice-based Learning and Improvement:
- Provide accurate chart documentation and determine the appropriate level of billing for services rendered

Interpersonal Skills and Communication:
- Demonstrate interpersonal skills and documentation habits needed for effective communication with fellow physicians, patients, families and allied health professionals, including:
  o Effective listening
  o Maintenance of accurate, timely and legible medical records
Professionalism
- Demonstrate the following professional skills in time management:
  - Recognize that effective use of time depends upon punctuality
  - Recognize that effective use of time requires planning
  - Develop speed as well as accuracy in clinical skills

Systems-based Practice:
- Develop skills for the practice of ambulatory medicine including time management, clinic scheduling and efficient communication with referring physicians
- Facilitate learning of patients, house staff/students and other health care professionals

PGY-2 Goals:
Patient Care:
- Demonstrate appropriate chart documentation for patient visits
- Utilize diagnostic tests and management plans in a medically appropriate and cost effective manner, with understanding of their limitations. Be able to explain to a patient what a particular test involves and why it is being performed
- Demonstrate the ability to perform a history and physical examination in 30 minutes for a follow up patient and 75 minutes for a new patient

Medical Knowledge
- Demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases
- Demonstrate the ability to reference and utilize electronic information systems to access medical, scientific and patient information

Interpersonal Skills and Communication:
- Neurology resident learners must be able to counsel patients and others about the prevention of neurologic disorders, including risk factors, genetic and environmental concerns

Professionalism
- Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved

Systems-based Practice:
- Update procedure log when a procedure is performed

PGY-3 Objectives:
Patient Care:
Clinical Skills
- Elicit a complete neurological history and perform an appropriate general and neurologic examination

Technical Skills
- Identify and describe abnormalities seen in common neurologic disorders on radiographic testing, including plain films, myelography, angiography, CT, MRI
- Evaluate the application and relevance of investigative procedures and their interpretation in the diagnosis of neurologic disease including electroencephalogram, motor and sensory nerve conduction studies, electromyography, evoked potentials, polysomnography, electronystagmogram, CSF analysis and radiographic studies as outlined above

Medical Knowledge:
- Be able to critically assess the neurologic literature as it relates to patient diagnosis, investigation and treatment:
  - Develop criteria for evaluating neurologic literature
  - Critically assess the neurologic literature using these criteria
Practice-based Learning and Improvement:
- Provide accurate chart documentation and determine the appropriate level of billing for services rendered

Interpersonal Skills and Communication:
- Neurology resident learners must demonstrate interpersonal skills and documentation habits needed for effective communication with fellow physicians, patients, families and allied health professionals, including:
  - Effective listening
  - Maintenance of accurate, timely and legible medical records

Professionalism
- Demonstrate the following professional skills in time management:
  - Recognize that effective use of time depends upon punctuality
  - Recognize that effective use of time requires planning
  - Develop speed as well as accuracy in clinical skills

Systems-based Practice:
- Develop skills for the practice of ambulatory medicine including time management, clinic scheduling and efficient communication with referring physicians
- Facilitate learning of patients, house staff/students and other health care professionals

PGY-3 Goals:
Patient Care:
- Demonstrate appropriate chart documentation for patient visits
- Utilize diagnostic tests and management plans in a medically appropriate and cost effective manner, with understanding of their limitations. Be able to explain to a patient what a particular test involves and why it is being performed
- Demonstrate the ability to perform this history and physical examination in 20 minutes for a follow up patient and 60 minutes for a new patient

Medical Knowledge
- Demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases
- Demonstrate the ability to reference and utilize electronic information systems to access medical, scientific and patient information

Interpersonal Skills and Communication:
- Neurology resident learners must be able to counsel patients and others about the prevention of neurologic disorders, including risk factors, genetic and environmental concerns

Professionalism
- Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved

Systems-based Practice:
- Update procedure log when a procedure is performed

PGY-4 Objectives:
Patient Care:
Clinical Skills
- Elicit a complete neurological history and perform an appropriate general and neurologic examination

Technical Skills
- Identify and describe abnormalities seen in common neurologic disorders on radiographic testing, including plain films, myelography, angiography, CT, MRI
• Evaluate the application and relevance of investigative procedures and their interpretation in the diagnosis of neurologic disease including electroencephalogram, motor and sensory nerve conduction studies, electromyography, evoked potentials, polysomnography, electronystagmogram, CSF analysis and radiographic studies as outline above

Medical Knowledge:
• Be able to critically assess the neurologic literature as it relates to patient diagnosis, investigation and treatment:
  o Develop criteria for evaluating neurological literature
  o Critically assess the neurologic literature using these criteria

Practice-based Learning and Improvement:
• Provide accurate chart documentation and determine the appropriate level of billing for services rendered

Interpersonal Skills and Communication:
• Neurology resident learners must demonstrate interpersonal skills and documentation habits needed for effective communication with fellow physicians, patients, families and allied health professionals, including:
  o Effective listening
  o Maintenance of accurate, timely and legible medical records

Professionalism
• Demonstrate the following professional skills in time management:
  o Recognize that effective use of time depends upon punctuality
  o Recognize that effective use of time requires planning

Development speed as well as accuracy in clinical skills

Systems-based Practice:
• Develop skills for the practice of ambulatory medicine including time management, clinic scheduling and efficient communication with referring physicians
• Facilitate learning of patients, house staff/students and other health care professionals

PGY-4 Goals:

Patient Care:
• Demonstrate appropriate chart documentation for patient visits
• Utilize diagnostic tests and management plans in a medically appropriate and cost effective manner, with understanding of their limitations. Be able to explain to a patient what a particular test involves and why it is being performed
• Demonstrate the ability to perform this history and physical examination in 20 minutes for a follow up patient and 45 minutes for a new patient

Medical Knowledge
• Demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases
• Demonstrate the ability to reference and utilize electronic information systems to access medical, scientific and patient information

Interpersonal Skills and Communication:
• Neurology resident learners must be able to counsel patients and others about the prevention of neurologic disorders, including risk factors, genetic and environmental concerns

Professionalism
• Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved
**Systems-based Practice:**
- Update procedure log when a procedure is performed

**Suggested Bibliography:**
- DeJong’s The Neurologic Examination (Campbell, The Neurologic Examination). Lippincott Williams & Wilkins; Sixth Edition edition (April 1, 2005).
VCU NEUROLOGY ATTENDING SCHEDULE FOR RESIDENT'S CONTINUITY CLINIC

All Faculty are required to staff continuity clinics each month with the exception of the following individuals who are currently responsible for staffing at least 2 specialty resident clinics per month as follows:
- Drs. Waterhouse/ Gowda/Sivaraaman - Seizure Clinics (weekly)
- Drs. Vota and Sadeghian - MDA clinic (weekly)

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Faculty are expected to find coverage to staff resident continuity and specialty clinics when they are on service, on vacation or unavailable (quid pro quo). If coverage is not found she/he will be responsible for their clinic whether on service or not.
Rotation: EEG
Coordinators: Lydia Kemitsky, M.D., Lawrence Morton, M.D., Elizabeth Waterhouse, M.D.
lkemitsky@mcvh-vcu.edu or 828-0445, lmorton@mcvh-vcu.edu or 828-0445,
ewaterhouse@mcvh-vcu.edu or 828-9583

Description / Responsibilities: Resident learners will participate in EEG reading sessions and seizure clinics.

Evaluation Sites: MCV and VA

Evaluation: Performance evaluations are completed by faculty supervisors following the block assignment, based on the objectives outlined. The resident learner is expected to ask each faculty supervisor to complete a Seizure Clinic Evaluation form card and submit completed cards to the Program Director or Program Coordinator weekly.

Supervision: Resident learners receive “indirect supervision with direct supervision immediately available” during the time in the EEG reading room and in seizure clinic.

Core Competencies:
Patient Care:
Resident learner is able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Resident learner will gain experience of the dynamics of a busy epilepsy practice, in terms of scheduling, message management, and documentation.

Medical Knowledge:
Resident learner demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences relating to neurology, as well as the application of this knowledge to patient care. Neurology resident learners must be able to demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases.

Practice Based Learning and Improvement:
Resident learner is able to investigate and evaluate his/her patient care practices, appraise and assimilate scientific evidence and improve his/her patient care practices. Resident learners are expected to demonstrate skill in the following areas:
- Care-based learning
- Use of best practices through practice guidelines and clinical pathways
- Participation in Quality Assurance and Improvement
- Utilize information technology to optimize patient care, life-long learning and other activities

Interpersonal and Communication Skills:
Resident learner is able to counsel fellow physicians, patients and families regarding diagnostic and therapeutic options for the effective management of neurologic symptoms and disorders with specific regard to:
- Interdisciplinary care and involvement of health professionals
- Genetic counseling and palliative care when appropriate
- Consideration and compassion for the patient in providing accurate medical information and prognosis

Professionalism:
Resident learner demonstrates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient population.
Resident learner is able to:
- Demonstrate personal and professional attitudes of integrity, honesty and compassion in the delivery principle or consultative patient care
- Regularly review one’s own skills and knowledge, realize limitations and respond to others evaluation of his/her professional performance
- Demonstrate a commitment to excellence in clinical practice through the establishment of life-long learning habits and continuing medical education
• Demonstrate respect for patient’s cultural, ethnic, religious and socioeconomic background in providing patient care
• Demonstrate appreciation of end-of-life care and issues regarding provision or withholding of care

**Systems Based Practice:**
Resident learner recognizes that he/she is a part of a large and intricate health system that has many implications for his/her ability to care for patients and, more importantly, impact upon his/her patients’ human needs and financial resources. The resident learner should:
• Recognize the limitation of resources for health care and demonstrate the ability to act as an advocate for patients within their social and financial constraints
• Be willing to participate in utilization review and comply with documentation requirements in medical records
• Develop awareness of practice guidelines, community, national and allied health professional resources which may enhance the quality of life of patients with chronic neurological illness
• Develop the ability to lead and delegate authority to health care teams needed to provide comprehensive care for patients with neurologic disease

**PGY-2 Objectives:**
**Patient Care:**
• Know which AEDs are appropriate for different seizure syndromes

**Medical Knowledge:**
**Analysis**
• Recognize:
  o Normal waking and sleep EEG patterns in adults and children
  o Epileptiform discharges – sharps, spokes, and spike/waves, and be able to localize them
  o Seizures and ictal patterns
  o Basic patterns of encephalopathy and coma
• Appreciate the difference between bipolar and referential montages

**Epileptology**
• Demonstrate knowledge of
  o Classification of seizures and seizure syndromes
  o Semiology of partial and generalized seizures
  o Characteristics of seizures with onset in different cortical areas

**Practice Based Learning and Improvement:**
• Appraise and assimilate evidence from scientific studies related to epilepsy and EEG
• Correlate EEG findings with neuroimaging and outcomes to improve interpretation
• Participate in the education of students, patients and other health professionals

**Interpersonal and Communication Skills:**
• Effectively communicate the ramifications of different EEG readings to non-neurology health personnel, including attending and resident physicians on other services

**Professionalism:**
• Demonstrate respect and sensitivity for different cultural beliefs and for varied socioeconomic levels, particularly when discussing the goals of seizure management

**Systems Based Practice:**
• Know the utility of EEG for assessing altered mental status

**PGY-2 Goals:**
**Patient Care:**
• Learn the efficacy and side effects of the different AEDs

**Medical Knowledge:**
Basic Neurophysiology

- Understand:
  - Basic neuronal mechanisms that produce the EEG
  - Neuronal membrane properties, including ion channels and resting and action potentials

Indications

- Understand:
  - Implications of a provoked versus an unprovoked seizure
  - Limitations of a routine EEG in diagnosing epilepsy
  - Utility of EEG in assessing coma and altered mental status, including brain death

Instrumentation and Techniques of recording

- Understand:
  - Differences between digital and analog recording systems
  - Calibration signals
  - How sensitivity and filter settings can effect the visual display of the EEG
  - International 10-20 system of electrode placement
  - Common sources of artifact

Interpersonal and Communication Skills:

- Be able to counsel patients and their families, across a broad range of socioeconomic and cultural backgrounds, about seizures (prognosis, risks and therapeutic options)
- Learn how to interpret and dictate EEG reports that effectively communicate findings

Professionalism

- Show appropriate respect for patients and their families, peers and all those involved with patient care

Systems-based Practice:

- Understand the indications for diagnostic studies to evaluate episodic events that may be seizures

PGY-3 Objectives:

Patient Care:

- Integrate knowledge of
  - Seizure syndromes with counseling of patients regarding their options for seizure management
  - AED side effects and drug interactions in discussing risks and benefits of different therapeutic options

Medical Knowledge: Analysis

- Be able to localize epileptiform and slow activity, even when it involves “end of chain” phenomenon
- Recognize normal EEG patterns of the premature infant and the elderly, in addition to those of children and adults
- Recognize the distinctive patterns found in association with coma and altered mental status
  - Burst suppression
  - Periodic patterns
  - Triphasic waves
  - Ictal activity
  - Focal versus generalized slowing
- Recognize status epilepticus and seizures on EEG

Epileptology

- Demonstrate understanding of the pharmacokinetics and pharmacodynamics of AEDs in the clinical setting
- Know the prognosis of the various seizure syndromes

Practice Based Learning and Improvement:
Discuss how recent literature supports efficacy of recently introduced AEDs for specific seizure syndromes
Assess efficacy and side effects of various treatments on established patients
Participate in the education of others, including patients and other health professionals

Interpersonal and Communication Skills:
- Effectively communicate the ramifications of different EEG readings to non-neurology health personnel, including attending and resident physicians on other services

Professionalism:
- Demonstrate respect and sensitivity for different cultural beliefs and for varied socioeconomic levels, particularly when discussing poor EEG prognostic indicators for long term favorable outcomes

Systems Based Practice:
- Explain expected benefits of different treatment options for patients with status epilepticus, with knowledge of outcomes based on etiology

PGY-3 Goals:
Patient Care:
- Learn the efficacy and side effects of the different AEDs

Medical Knowledge:
Basic Neurophysiology
- Understand the relationship of different EEG patterns in coma with prognosis, and be able to counsel families about long term outcomes

Indications
- Understand the clinical settings that require prolonged or special EEGs for assessment
  - Coma with subclinical seizures
  - ICU patients at risk for seizures and requiring neuromuscular blockade
  - Episodic events that are not clearly seizures; particularly in patients whose baseline EEGs are abnormal
  - Monitoring of patients who are placed into burst suppression for management of status epilepticus

Instrumentation and Techniques of recording
- Understand the utility of activation techniques
- Learn to bring out ictal patterns by modification of filters and time base

Interpersonal and Communication Skills:
- Be able to counsel patients and their families, across a broad range of socioeconomic and cultural backgrounds, about seizures (prognosis, risks and therapeutic options)
- Learn how to interpret and dictate EEG reports that effectively communicate findings
- Learn how to communicate with families of patients whose EEGs carry poor prognostic indicators of favorable long-term outcomes

Professionalism:
- Show appropriate respect for patients and their families, peers and all those involved with patient care

Systems-based Practice:
- Understand the economic burdens of choosing different AEDs based on various health care plans

PGY-4 Objectives:
Patient Care:
- Understand the approach to managing seizures in special situations (symptomatic seizures, febrile seizures, first seizures, neonatal seizures, seizures in the very young and in the elderly)
- Evaluate the appropriateness of termination of antiepileptic drug treatment in patients with a history of chronic epilepsy
- Understand the side effect profiles and toxicities of the antiepileptic drugs and be able to put these into perspective for patients
- Be able to counsel women about issues related to antiepileptic drugs, seizures and their effects on contraception, pregnancy and the fetus; be proactive in counseling young women as they enter childbearing years
- Be able to counsel patients about legal and safety issues related to driving, sports and job activities
- Be able to evaluate comorbidity and discuss SUDEP

**Medical Knowledge:**

**Analysis**
- Recognize benign, but epileptiform appearing EEG patterns
- Recognize pathological patterns in patients of all ages, including premature infants
- Evaluate a cerebral death study
- Evaluate prolonged bedside and outpatient recordings

**Epileptology**
- Know when it is appropriate to order prolonged recordings, and which type
- Know when patients need urgent EEGs, and be able to evaluate and manage patients at the bedside using EEG monitoring
- Assess the role of genetics in management and expression of epilepsy
- Devise rational age-, sex- and cultural-specific treatments of seizures

**Practice Based Learning and Improvement:**
- Discuss how recent literature supports efficacy of recently introduced AEDs for specific seizure syndromes
- Know the utility of lab monitoring for drug levels and side effects

**Interpersonal and Communication Skills:**
- Continue to improve communication with patients and their families - understanding different fears and expectations in people of various cultures and socioeconomic levels

**Professionalism:**
- Demonstrate respect and sensitivity for different cultural beliefs and for varied socioeconomic levels, particularly when discussing poor EEG prognostic indicators for long term favorable outcomes

**Systems Based Practice:**
- Know how to utilize other resources (psychiatry, psychology, genetics, physical and occupational therapy, nutrition and rehabilitation) to help patients deal with epilepsy and its frequently associated co-morbidities
- Know how to coordinate resources for epileptic patients, including social services and education and vocational counselors

**PGY-4 Goals:**

**Patient Care:**
- Gain knowledge of treatment options for refractory epilepsy, including surgery, vagus nerve stimulator placement, ketogenic and low glycemic diets, experimental drugs

**Medical Knowledge:**

**Basic Neurophysiology**
- Understand current concepts of how AEDs affect ion channel properties

**Indications**
- Learn the guidelines for electrocerebral silence
- Learn when referral for video-EEG monitoring or ambulatory monitoring is appropriate
Instrumentation and Techniques of recording

- Learn the:
  - Limitations of ambulatory EEG recordings
  - Guidelines for recording ECS studies
  - Artifacts of EEG recordings in ICUs, and ways to identify or modify them (e.g. Neuromuscular blockade)

Practice Based Learning and Improvement:

- Learn to be proactive in modifying seizure treatments for patients of different ages, sexes and cultures—anticipating problems they will faxed based on past experience with patients in similar situations
- Learn to use updated information from the scientific literature to maximize patient options and outcomes

Interpersonal and Communication Skills:

- Be able to counsel patients and their families, across a broad range of socioeconomic and cultural backgrounds, about seizures (prognosis, risks and therapeutic options)
- Learn to effectively communicate results of EEGs and their meaning to other health professionals, as well as to patients and families

Professionalism:

- Show appropriate respect for patients and their families, peers and all those involved with patient care
- Demonstrate responsiveness to patient needs, spending time listening to their fears and hopes in the context of their particular situation

Systems-based Practice:

- Learn when to call on chaplain services or religious leaders when holding family meetings in grave situations

PGY-2, PGY-3 and PGY-4 Daily Schedule:

<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 am – 12 pm</td>
<td>EEG reading room</td>
<td>EEG reading room</td>
<td>MCV Seizure Clinic</td>
<td>EEG reading room</td>
<td>EEG reading room</td>
</tr>
<tr>
<td>1 pm - @ 5 PM</td>
<td>EEG reading room</td>
<td>EEG reading room</td>
<td>VA Seizure Clinic</td>
<td>MCV Child Seizure Clinic</td>
<td>EEG reading room</td>
</tr>
</tbody>
</table>

Suggested Bibliography:
*Copies of text available for borrowing.

Responsibilities: Resident learners begin in an observational capacity in the EMG laboratory and gradually become more hands-on as their level of knowledge and experience increases. Resident learners who meet the appropriate educational milestones may begin designing and performing their own EMG studies under supervision by about the end of their first rotation block.

There are two tests that resident learners sit for sequentially in the course of their first rotation. Each test serves as a milestone, and both must be satisfactorily completed before resident learners are allowed to begin performing needle examinations.

The first test is called the Nerve Conduction Studies Test, and is usually administered between days 5 - 10 of the rotation. In this test, the learner must correctly place the stimulating, recording, and reference electrodes and interpret the latency, amplitude, and conduction velocity of the nerves by examining the waveforms.

The second test is the EMG Written Test, and it is usually administered between days 15 - 20 of the rotation. This is a 50-question multiple choice test that encompasses the medical knowledge and interpretation skills that are outlined in the EMG Rotation Objectives. A minimum score of 70% must be achieved to begin performing needle examinations. For those learners who do not achieve 70%, a make up test is administered between days 20-25 of the rotation.

Rotation Site(s): MCV, VA,

Evaluation: Performance evaluations are completed by faculty supervisors following the block assignment, based on the objectives outlined. The resident learner is expected to ask each faculty supervisor to complete a neuromuscular clinic Evaluation form card after each clinic and submit completed cards to the Program Director or Program Coordinator weekly.

Supervision: Residents learners receive “indirect supervision with direct supervision immediate available” while in neuromuscular clinic. Resident learners receive “direct supervision” in the EMG laboratory.

Core Competencies:

Patient Care: Resident learner is able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

Medical Knowledge: Resident learner demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences relating to neurology, as well as the application of this knowledge to patient care. Neurology resident learners must be able to demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases.

Practice Based Learning and Improvement: Resident learner is able to investigate and evaluate his/her patient care practices, appraise and assimilate scientific evidence and improve his/her patient care practices. Resident learners are expected to demonstrate skill in the following areas:

- Care-based learning
- Use of best practices through practice guidelines and clinical pathways
- Participation in Quality Assurance and Improvement
- Collection and analysis of patient data
- Utilize information technology to optimize patient care, life-long learning and other activities
Interpersonal and Communication Skills:
Resident learner is able to counsel fellow physicians, patients and families regarding diagnostic and therapeutic options for the effective management of neurologic symptoms and disorders with specific regard to:

- Interdisciplinary care and involvement of health professionals
- Genetic counseling and palliative care when appropriate
- Consideration and compassion for the patient in providing accurate medical information and prognosis

Professionalism:
Resident learner demonstrates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient population.
Resident learner is able to:

- Demonstrate personal and professional attitudes of integrity, honesty and compassion in the delivery principle or consultative patient care
- Regularly review one's own skills and knowledge, realize limitations and respond to others evaluation of his/her professional performance
- Demonstrate a commitment to excellence in clinical practice through the establishment of life-long learning habits and continuing medical education
- Demonstrate respect for patient's cultural, ethnic, religious and socioeconomic background in providing patient care
- Demonstrate appreciation of end-of-life care and issues regarding provision or withholding of care

Systems Based Practice:
Resident learner recognizes that he/she is a part of a large and intricate health system that has many implications for his/her ability to care for patients and, more importantly, impact upon his/her patients' human needs and financial resources. The resident learner should:

- Recognize the limitation of resources for health care and demonstrate the ability to act as an advocate for patients within their social and financial constraints
- Be willing to participate in utilization review and comply with documentation requirements in medical records
- Develop awareness of practice guidelines, community, national and allied health professional resources which may enhance the quality of life of patients with chronic neurological illness
- Develop the ability to lead and delegate authority to health care teams needed to provide comprehensive care for patients with neurologic disease

PGY-3 Objectives:
Medical Knowledge:

- Demonstrate knowledge of the peripheral nerve and nerve root innervations of the muscles commonly studied
- Understand the principles of nerve conduction and synaptic transmission

Practice-based Learning and Improvement:

- Provide accurate chart documentation and determine the appropriate level of billing for services rendered

Interpersonal Skills and Communication and Professionalism:

- Demonstrate interpersonal skills and documentation habits needed for effective communication with fellow physicians, patients, families and allied health professionals, including:
  - Effective listening
  - Use of informed consent when ordering investigative procedures
  - Maintenance of accurate, timely and legible medical records

Systems-based Practice:

- Develop skills for the practice of ambulatory medicine including time management, clinic scheduling and efficient communication with referring physicians
- Facilitate learning of patients, resident learners, students, and other health care professionals
PGY-3 Goals:
Patient Care:
- Participate in neuromuscular clinic, becoming familiar with the clinical presentations, diagnostic evaluation, treatment options, and social issues associated with neuromuscular disease

Medical Knowledge:
- Understand the principles of nerve conduction and synaptic transmission
- Learn to perform sensory and motor conduction studies
- Learn the basics of needle EMG examination, including normal end plate activity, normal motor unit action potential and recruitment, age related findings, findings produced by low temperature

Practice-based Learning and Improvement:
- Participate in weekly Neuromuscular Clinical Neurophysiology fellow conference
- Achieve a passing score on the NCS and EMG written tests, perform an independent review of questions answered incorrectly and be able to explain correct answers to attending

Professionalism
- Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved

Systems-based Practice:
- Utilize diagnostic tests in a medically appropriate and cost effective manner, with understanding of the limitations
- Update procedure log when a procedure is performed

PGY-4 Objectives:
Medical Knowledge:
- Understand and perform F wave and H reflex studies
- Perform and interpret repetitive nerve stimulation studies
- Recognize abnormalities of spontaneous activity and their physiologic basis, including fibrillation potentials, fasciculation potentials, myotonic discharges, complex repetitive discharges, myoclonic discharges, and neuromyotonic discharges
- Identify abnormalities of motor unit action potentials (MUPAS) and their physiologic basis, including MUPAS of small amplitude or short duration, MUPAS with large amplitude or long duration, unstable MUPAS, rapid recruitment, and delayed recruitment
- Recognize abnormalities of repetitive nerve stimulation and their physiologic phases, including decremental response and facilitation response

Practice-based Learning and Improvement:
- Provide accurate chart documentation and determine the appropriate level of billing for services rendered

Interpersonal Skills and Communication and Professionalism:
- Demonstrate interpersonal skills and documentation habits needed for effective communication with fellow physicians, patients, families and allied health professionals, including:
  - Effective listening
  - Use of informed consent when ordering investigative procedures
  - Maintenance of accurate, timely and legible medical records

Systems-based Practice:
- Develop skills for the practice of ambulatory medicine including time management, clinic scheduling and efficient communication with referring physicians
- Facilitate learning of patients, resident learners, students, and other health care professionals
PGY-4 Goals:

**Patient Care:**
- Participate in neuromuscular clinic, becoming familiar with the clinical presentations, diagnostic evaluation, treatment options, and social issues associated with neuromuscular disease

**Medical Knowledge:**
- Understand abnormalities of nerve conduction studies and their physiological basis, including axonal and demyelination
- Appreciate the clinical management and electrodiagnostic findings in various diseases, including central nervous system dysfunction, anterior horn cell disease, Radiculopathy, Plexopathy, mononeuropathy, Polyneuropathy, sensory neuronopathy, neuromuscular junction disease, myopathy
- Understand how to select tests for maximal diagnostic utility, including genetic testing, muscle biopsy, and biochemical analyses

**Practice-based Learning and Improvement:**
- Participate in weekly Neuromuscular Clinical Neurophysiology fellow conference
- Achieve a passing score on the NCS and EMG written tests, perform an independent review of questions answered incorrectly and be able to explain correct answers to attending

**Professionalism**
- Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved

**Systems-based Practice:**
- Gain insight into the appropriate use and limitations of nerve conduction studies and EMG
- Update procedure log when a procedure is performed

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**PGY-3 and PGY-4 Daily Schedule:**

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<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
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<tbody>
<tr>
<td>8 am - 12 pm</td>
<td>8:00 - 9:00 - Neuromuscular Conference 9 - 12 EMG (Vota)</td>
<td>EMG (Sadeghian)</td>
<td>EMG - VCU</td>
<td>EMG (Sadeghian/Vota)</td>
</tr>
<tr>
<td>1 pm - 5 pm</td>
<td>Neuromuscular clinic (Vota/Sadeghian)</td>
<td>EMG (Sadeghian)</td>
<td>Pediatric MDA clinic 1st and 3rd, Dr. Sadeghian's neuromuscular clinic 2nd, 4th, 5th</td>
<td>EMG (Sadeghian/Vota)</td>
</tr>
</tbody>
</table>

**Suggested Bibliography:**
Copies of these texts are located in the Resident Library and EMG Laboratory.


Rotation: Movement Disorders  
Coordinator: Mark Baron, MD, Leslie Cloud, MD, & Claudia Testa, MD  
mbaron@mcvh-vcu.edu or 828-0054, lcloud@mcvh-vcu.edu, ctesta@mcvh-vcu.edu

Responsibilities: Resident learners actively participate in the care of patients with movement disorders. Resident learners are expected to learn how to accurately diagnose specific movement disorders and understand the pathophysiology of these disorders. The resident learner will be expected to learn the pharmacologic and non-pharmacological treatments and potential treatment side effects in treating movement disorders. Resident learners will also gain understanding of the natural histories and prognoses associated with a variety of movement disorders, so that they may effectively counsel patients and their families about these issues.

Rotation Sites: MCV, VA, PMDC

Evaluation: Performance evaluations are completed by faculty supervisors following the block assignment, based on the objectives outlined.

Supervision: Residents receive “indirect supervision with direct supervision immediately available” from the supervising attending.

Core Competencies:
Patient Care:  
Resident learner is able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Resident learner will gain experience of the dynamics of a busy movement disorders clinic, in terms of scheduling, message management, and documentation.

Medical Knowledge:  
Resident learner demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences relating to neurology, as well as the application of this knowledge to patient care. Neurology resident learners must be able to demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases.

Practice Based Learning and Improvement:  
Resident learner is able to investigate and evaluate his/her patient care practices, appraise and assimilate scientific evidence and improve his/her patient care practices. Resident learners are expected to demonstrate skill in the following areas:
- Care-based learning
- Use of best practices through practice guidelines and clinical pathways
- Participation in Quality Assurance and Improvement
- Collection and analysis of patient data
- Utilize information technology to optimize patient care, life-long learning and other activities

Interpersonal and Communication Skills:  
Resident learner is able to counsel fellow physicians, patients and families regarding diagnostic and therapeutic options for the effective management of neurologic symptoms and disorders with specific regard to:
- Interdisciplinary care and involvement of health professionals
- Genetic counseling and palliative care when appropriate
- Consideration and compassion for the patient in providing accurate medical information and prognosis

Professionalism:  
Resident learner demonstrates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient population. Resident learner is able to:
• Demonstrate personal and professional attitudes of integrity, honesty and compassion in the delivery principle or consultative patient care
• Regularly review one’s own skills and knowledge, realize limitations and respond to others evaluation of his/her professional performance
• Demonstrate a commitment to excellence in clinical practice through the establishment of life-long learning habits and continuing medical education
• Demonstrate respect for patient’s cultural, ethnic, religious and socioeconomic background in providing patient care
• Demonstrate appreciation of end-of-life care and issues regarding provision or withholding of care

**Systems Based Practice:**
Resident learner recognizes that he/she is a part of a large and intricate health system that has many implications for his/her ability to care for patients and, more importantly, impact upon his/her patients’ human needs and financial resources. The resident learner should:
- Recognize the limitation of resources for health care and demonstrate the ability to act as an advocate for patients within their social and financial constraints
- Be willing to participate in utilization review and comply with documentation requirements in medical records
- Develop awareness of practice guidelines, community, national and allied health professional resources which may enhance the quality of life of patients with chronic neurological illness
- Develop the ability to lead and delegate authority to health care teams needed to provide comprehensive care for patients with neurologic disease

**PGY-3 Objectives:**
**Patient Care:**
- Demonstrate competence in performing a detailed history in the patient with a movement disorder
- Demonstrate competence in performing a detailed examination of the patient with a movement disorder

**Medical Knowledge:**
- Recognize various types abnormal movements
- Begin to formulate appropriate differential diagnoses for movement disorders

**Interpersonal Skills and Communication:**
- Demonstrate interpersonal skills and documentation habits needed for effective communication with fellow physicians, patients, families and allied health professionals, including:
  - Effective listening
  - Use of informed consent when ordering investigative procedures
  - Maintenance of accurate, timely and legible medical records

**Practice-based Learning and Improvement:**
- Provide accurate chart documentation and determine the appropriate level of billing for services rendered
- Access up to date information on movement disorders from a variety of sources including PubMed and similar search engines, specialty foundation websites, printed materials.
- Convey appropriate learning materials to other providers, and to patients and families.

**Professionalism**
- Demonstrate compassion, integrity, and respect for others
- Demonstrate responsiveness to patient needs that supersedes self-interest

**Systems-based Practice:**
- Develop skills for the practice of ambulatory medicine including time management, clinic scheduling and efficient communication with referring physicians
- Facilitate learning of patients, house staff/students and other health care professionals
PGY-4 Objectives:
Patient Care:
- Demonstrate competence in performing a detailed history in the patient with a movement disorder
- Demonstrate competence in performing a detailed examination of the patient with a movement disorder

Medical Knowledge:
- Recognize various types of abnormal movements
- Begin to formulate appropriate differential diagnoses for movement disorders

Interpersonal Skills and Communication:
- Demonstrate interpersonal skills and documentation habits needed for effective communication with fellow physicians, patients, families and allied health professionals, including:
  o Effective listening
  o Use of informed consent when ordering investigative procedures
  o Maintenance of accurate, timely and legible medical records

Practice-based Learning and Improvement:
- Provide accurate chart documentation and determine the appropriate level of billing for services rendered
- Access up to date information on movement disorders from a variety of sources including PubMed and similar search engines, specialty foundation websites, printed materials.
- Convey appropriate learning materials to other providers, and to patients and families.

Professionalism
- Demonstrate compassion, integrity, and respect for others
- Demonstrate responsiveness to patient needs that supersedes self-interest

Systems-based Practice:
- Develop skills for the practice of ambulatory medicine including time management, clinic scheduling and efficient communication with referring physicians
- Facilitate learning of patients, house staff/students and other health care professionals

PGY-3 Goals:
Patient Care:
- Learn appropriate work-up for patients presenting with a new onset movement disorder
- Assess a variety of patients with movement disorders, to include: Parkinson disease, parkinsonisms, essential tremor, dystonia, Huntington disease

Medical Knowledge:
- Gain experience with medications used to treat movement disorders, and the side effects
- Recognize appropriate use of interdisciplinary approach to movement disorders workup and treatment, including roles of neuropsychology, psychiatry, rehabilitation and wellness disciplines, genetic counseling, and social work
- Develop deeper understanding of the natural histories and prognoses associated with a variety of movement disorders
- Recognize the clinical situations (medical failure or side effects) in which deep brain stimulation is a good option.
- Understand the pros and cons of deep brain stimulation.

Interpersonal Skills and Communication:
- Be able to counsel patients and others about the prevention of neurologic disorders, including risk factors, genetic and environmental concerns
- Be able to counsel patients on the prognosis associated with their movement disorder
Professionalism
- Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved

PGY-4 Goals:
Patient Care:
- Learn appropriate work-up for patients presenting with a new onset movement disorder
- Assess a variety of patients with movement disorders, to include: Parkinson disease, parkinsonisms, essential tremor, dystonia, Huntington disease

Medical Knowledge:
- Gain experience with medications used to treat movement disorders, and the side effects
- Recognize appropriate use of interdisciplinary approach to movement disorders workup and treatment, including roles of neuropsychology, psychiatry, rehabilitation and wellness disciplines, genetic counseling, and social work
- Develop deeper understanding of the natural histories and prognoses associated with a variety of movement disorders
- Recognize the clinical situations (medical failure or side effects) in which deep brain stimulation is a good option.
- Understand the pros and cons of deep brain stimulation.

Interpersonal Skills and Communication:
- Be able to counsel patients and others about the prevention of neurologic disorders, including risk factors, genetic and environmental concerns
- Be able to counsel patients on the prognosis associated with their movement disorder

Professionalism
- Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved

Daily Schedule:

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<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
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<tbody>
<tr>
<td>AM</td>
<td>Baron (VA)</td>
<td>Cloud (PMDC)</td>
<td>Testa (PMDC)</td>
<td>Baron (MCV and PMDC, every other week)</td>
<td>Didactics with PMDC group VA Clinic PM, or DBS OR time as available</td>
</tr>
<tr>
<td>PM</td>
<td>Bennett (PMDC) or independent study</td>
<td>Cloud (PMDC)</td>
<td>Testa (PMDC)</td>
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Didactics will include resident learner presentations of topics as determined with input from faculty supervisors. Texts and slide sets will be provided to aid resident learners.

Suggested Bibliography:
Rotation: Neurocritical Care (NSICU)
Coordinator: Courteney Leahman, M.D.
cegordon@vcu.edu or 828-9160

Responsibilities: Each PGY-2 Neurology resident will spend one four-week rotation on the neurosurgery/neurocritical care service in the VCUHS NSICU. These clinical units are state-of-the-art intensive care units with all the standard facilities to manage critically ill patient in a Level 1 Trauma Center. A continuous flow of neurocritical care patients are seen under direct faculty supervision.

Rotation Site(s): MCV

Evaluation: Performance evaluations are completed by faculty supervisors following the block assignment, based on the objectives outlined.

Supervision:
- PGY 2 neurology resident learners on icu rotations at VCUHS receive “indirect supervision with direct supervision immediately available” by the PGY 3 or 4 resident learner assigned to the respective service. A second level of “indirect supervision with direct supervision immediately available” if provided by the supervising attending if escalation is necessary above the initial level of supervision daily from 8 am - 5pm.
- PGY 2 resident learners receive “direct supervision” in any procedures which may be performed.

Core Competencies:

Patient Care:
Resident learner is able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

Medical Knowledge:
Resident learner demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences relating to neurology, as well as the application of this knowledge to patient care. Neurology resident learners must be able to demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases.

Practice Based Learning and Improvement:
Resident learner is able to investigate and evaluate his/her patient care practices, appraise and assimilate scientific evidence and improve his/her patient care practices. Resident learners are expected to demonstrate skill in the following areas:
- Care-based learning
- Use of best practices through practice guidelines and clinical pathways
- Participation in Quality Assurance and Improvement
- Collection and analysis of patient data
- Utilize information technology to optimize patient care, life-long learning and other activities

Interpersonal and Communication Skills:
Resident learner is able to counsel fellow physicians, patients and families regarding diagnostic and therapeutic options for the effective management of neurologic symptoms and disorders with specific regard to:
- Interdisciplinary care and involvement of health professionals
- Genetic counseling and palliative care when appropriate
- Consideration and compassion for the patient in providing accurate medical information and prognosis

Professionalism:
Resident learner demonstrates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient population.
Resident learner is able to:
• Demonstrate personal and professional attitudes of integrity, honesty and compassion in the delivery of patient care
• Regularly review one’s own skills and knowledge, realize limitations and respond to others evaluation of his/her professional performance
• Demonstrate a commitment to excellence in clinical practice through the establishment of life-long learning habits and continuing medical education
• Demonstrate respect for patient’s cultural, ethnic, religious and socioeconomic background in providing patient care
• Demonstrate appreciation of end-of-life care and issues regarding provision or withholding of care

**Systems Based Practice:**
Resident learner recognizes that he/she is a part of a large and intricate health system that has many implications for his/her ability to care for patients and, more importantly, impact upon his/her patients’ human needs and financial resources. The resident learner should:

• Recognize the limitation of resources for health care and demonstrate the ability to act as an advocate for patients within their social and financial constraints
• Be willing to participate in utilization review and comply with documentation requirements in medical records
• Develop awareness of practice guidelines, community, national and allied health professional resources which may enhance the quality of life of patients with chronic neurological illness
• Develop the ability to lead and delegate authority to health care teams needed to provide comprehensive care for patients with neurologic disease

**PGY-2 Objectives:**

**Patient Care:**
• Obtain an orderly and detailed history from the patient and/or family members
• Correctly integrate the findings from the history and neurological and medical examination to localize the neurologic/neurosurgical and critical care problems
• Formulate a diagnostic plan incorporating appropriate laboratory, physiologic data and imaging
• Define a comprehensive management plan for the patient’s neurocritical care problems

**Medical Knowledge:**
• Attend weekly Neurosurgical conferences, including CPC and journal club which are held Thursday mornings at 7:30 AM
• Participate in case presentations and lectures at the direction of the Intensivist

**Interpersonal and Communication Skills:**
• Maintain comprehensive, timely, and legible medical records
• Actively participate in daily Neurocritical care interdisciplinary rounds

**Professionalism:**
• Demonstrates compassion, integrity and respect for others
• Demonstrates responsiveness to patient needs that supersedes self-interest

**Systems Based Practice:**
• Demonstrates understanding of the management of end-of-life issues, palliative care, and counseling of patients and families, including issues related to brain death and the vegetative state

**PGY-2 Goals:**

**Patient Care:**
• Evaluate and manage, under direct faculty and senior neurosurgery resident supervision, all neurosurgery patients admitted to the neuroscience critical care unit
• Participate in daily teaching rounds with the neurosurgery attending, Intensivist, chief resident, and other neurosurgery residents
• Become familiar with the brain death exam and ancillary assessments of brain death
• Manage various aspects of hemorrhagic stroke such as subarachnoid, intracerebral, subdural, and epidural hemorrhages
- Manage routine critical care and medical aspects of patient care
- Function as a full member of the NSICU service

**Medical Knowledge:**
- Become familiar with cerebral hemodynamics as they relate to management of various neurologic and neurosurgical disease
- Learn about the principles of intracranial pressure monitoring and the medical management of increased intracranial pressure and cerebral edema
- Become familiar with the diagnosis and management of fluid and electrolyte abnormalities associated with neurosurgical diseases such as SIADH and diabetes insipidus

**Professionalism**
- Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved

**Systems-based Practice:**
- Update procedure log when a procedure is performed

**Daily Schedule:**

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<th>Monday</th>
<th>Tuesday</th>
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<tr>
<td>6am – 6pm</td>
<td>ICU Rounds 8:30-11:30am</td>
<td>6am – 6pm</td>
<td>ICU Rounds 8:30-11:30am</td>
<td>6am – 6pm</td>
<td>ICU Rounds 8:30-11:30am</td>
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<tr>
<td><strong>PM</strong></td>
<td>2:30-3:30pm Work Rounds</td>
<td>Work Rounds</td>
<td>2:30-3:30pm Work Rounds</td>
<td>2:30-3:30pm Work Rounds</td>
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<td>Sign Out Rounds 5:00pm</td>
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**Didactic Series:**
Resident learners will participate in lectures Tuesday and Thursdays at 11am, and MRICU lectures at 8am with the MRICU team on Tuesdays and Wednesdays.
In order to complete this rotation, the resident learner must first submit a request to rotate outside of VCUHS. This form can be downloaded from the GME website.

**Responsibilities:** The resident learner participates in the interpretation of neuroimaging studies. Additionally, the resident learner participates in an observational capacity in neurointerventional procedures and gradually becomes more hands-on as his/her level of knowledge and experience increases.

**Rotation Site(s):** Winchester Neurological Consultants, Winchester Medical Center

**Evaluation:** Performance evaluations are completed by faculty supervisors following the block assignment, based on the objectives outlined.

**Supervision:** Residents receive “indirect supervision with direct supervision immediately available” from the supervising attending.

**Core Competencies:**

**Patient Care:**
Resident learner is able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Resident learner will gain experience of the dynamics of a busy outpatient practice, in terms of scheduling, message management, and documentation.

**Medical Knowledge:**
Resident learner demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences relating to neurology, as well as the application of this knowledge to patient care. Neurology resident learners must be able to demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases.

**Practice Based Learning and Improvement:**
Resident learner is able to investigate and evaluate his/her patient care practices, appraise and assimilate scientific evidence and improve his/her patient care practices. Resident learners are expected to demonstrate skill in the following areas:

- Care-based learning
- Use of best practices through practice guidelines and clinical pathways
- Participation in Quality Assurance and Improvement
- Collection and analysis of patient data
- Utilize information technology to optimize patient care, life-long learning and other activities

**Interpersonal and Communication Skills:**
Resident learner is able to counsel fellow physicians, patients and families regarding diagnostic and therapeutic options for the effective management of neurologic symptoms and disorders with specific regard to:

- Interdisciplinary care and involvement of health professionals
- Genetic counseling and palliative care when appropriate
- Consideration and compassion for the patient in providing accurate medical information and prognosis

**Professionalism:**
Resident learner demonstrates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient population. Resident learner is able to:

- Demonstrate personal and professional attitudes of integrity, honesty and compassion in the delivery principle or consultative patient care
• Regularly review one’s own skills and knowledge, realize limitations and respond to others evaluation of his/her professional performance
• Demonstrate a commitment to excellence in clinical practice through the establishment of life-long learning habits and continuing medical education
• Demonstrate respect for patient’s cultural, ethnic, religious and socioeconomic background in providing patient care
• Demonstrate appreciation of end-of-life care and issues regarding provision or withholding of care

**Systems Based Practice:**
Resident learner recognizes that he/she is a part of a large and intricate health system that has many implications for his/her ability to care for patients and, more importantly, impact upon his/her patients’ human needs and financial resources. The resident learner should:
• Recognize the limitation of resources for health care and demonstrate the ability to act as an advocate for patients within their social and financial constraints
• Be willing to participate in utilization review and comply with documentation requirements in medical records
• Develop awareness of practice guidelines, community, national and allied health professional resources which may enhance the quality of life of patients with chronic neurological illness
• Develop the ability to lead and delegate authority to health care teams needed to provide comprehensive care for patients with neurologic disease

**PGY-3 and PGY-4 Objectives:**

**Patient Care:**
• Explain the risks and complications involved with invasive studies to patients

**Medical Knowledge:**
• Demonstrate knowledge of the technical limitations of CT and MR
• Demonstrate knowledge of the absolute and relative contraindications of MR imaging
• Demonstrate knowledge of the appropriate benefit and limitation of IV contrast materials in imaging procedures and related side effects
• Recognize the normal anatomy of the brain and spine on CT and MR imaging
• Recognize pathologic entities involving the head, spine and adjacent structures on CT and MR imaging by a systematic review of each study and be able to provide or dictate a concise report or interpretation
• Correlate image findings with the clinical presentation
• Identify the risks and complications involved with invasive studies (angiography, myelography)

**Practice Based Learning and Improvement:**
• Present a case presentation at the end of the rotation during an imaging conference

**Interpersonal and Communication Skills:**
• Demonstrate the ability to communicate effectively with
  o Patients, families and the public across a broad range of socioeconomic and cultural backgrounds
  o Physicians, other health professionals and health related agencies
• Maintain comprehensive, timely and legible medical records

**Professionalism:**
• Demonstrate compassion, integrity and respect for others and for patient privacy and autonomy

**Systems-based Practice:**
• Ensure pager status is set to “out of hospital, not available”

**PGY-3 and PGY-4 Goals:**

**Patient Care:**
• Observe and assist in neurointerventional procedures
Medical Knowledge:
- Understand basic technical principles of CT and MR that allow image production
- Understand major differences and similarities between CT and MR to allow appropriate use of each
- Understand the appropriate indications of invasive studies such as myelography and angiography

Practice Based Learning and Improvement:
- Locate, appraise and assimilate evidence from scientific studies related to patients' health problems
- Participate in the education of patients, families, students, residents, and other health professionals

Professionalism
- Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved

Daily Schedule:

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Conferences:
Each Wednesday: 7:00 a.m. Neuroimaging Conference

Every other Friday: 12 noon to 1:00 p.m.: Neuroimaging Webinar

Suggested Bibliography:
   - This text is designed for MRI technicians and physicians and in very basic terms teaches MRI physics and basic principals. The first five chapters are particularly useful to familiarize a resident with MRI basics that need to be appreciated.
2. Diagnostic and Surgical Imaging Anatomy, Brain, Head and Spine by H. Ric Hamsberger, Ann Osborn, Jeff Ross and Andre McDonald.
Description: The VA resident learner participates in VA resident clinic and subspecialty clinics. There is a different patient population at the VA which is not cared for at MCV. This includes a large elderly population, as well as patients with combat-related neurologic conditions.

Rotation Site: VA

Evaluation: Performance evaluations are completed by faculty supervisors following the block assignment, based on the objectives outlined.

Supervision:

a. PGY-2 neurology resident learners who are involved in outpatient clinical care both at the Hunter Holmes McGuire VAMC are provided with “indirect supervision with direct supervision immediately available” by the supervising attending for that day or assigned clinic. Yearly Attending coverage schedules are made available prior to the beginning of the academic year to the resident learners, attendings, administrative staff, and nurses involved in the respective clinics. The attending schedules are also posted on the VCU Neurology blackboard site for immediate availability to the resident learners. Additionally, the schedule is attached to the bottom of this document.

Core Competencies:

Patient Care:
Resident learner is able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Resident learner will gain experience of the dynamics of a busy outpatient practice, in terms of scheduling, message management, and documentation.

Medical Knowledge:
Resident learner demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences relating to neurology, as well as the application of this knowledge to patient care. Neurology resident learners must be able to demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases.

Practice Based Learning and Improvement:
Resident learner is able to investigate and evaluate his/her patient care practices, appraise and assimilate scientific evidence and improve his/her patient care practices. Resident learners are expected to demonstrate skill in the following areas:

- Care-based learning
- Use of best practices through practice guidelines and clinical pathways
- Participation in Quality Assurance and Improvement
- Utilize information technology to optimize patient care, life-long learning and other activities

Interpersonal and Communication Skills:
Resident learner is able to counsel fellow physicians, patients and families regarding diagnostic and therapeutic options for the effective management of neurologic symptoms and disorders with specific regard to:

- Interdisciplinary care and involvement of health professionals
- Genetic counseling and palliative care when appropriate
- Consideration and compassion for the patient in providing accurate medical information and prognosis

Professionalism:
Resident learner demonstrates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient population.
Resident learner is able to:
• Demonstrate personal and professional attitudes of integrity, honesty and compassion in the delivery of patient care
• Regularly review one’s own skills and knowledge, realize limitations and respond to others’ evaluation of professional performance
• Demonstrate a commitment to excellence in clinical practice through the establishment of life-long learning habits and continuing medical education
• Demonstrate respect for patient’s cultural, ethnic, religious and socioeconomic background in providing patient care
• Demonstrate appreciation of end-of-life care and issues regarding provision or withholding of care

**Systems Based Practice:**

Resident learner recognizes that he/she is a part of a large and intricate health system that has many implications for his/her ability to care for patients and, more importantly, impact upon his/her patients’ human needs and financial resources. The resident learner should:

- Recognize the limitation of resources for health care and demonstrate the ability to act as an advocate for patients within their social and financial constraints
- Be willing to participate in utilization review and comply with documentation requirements in medical records
- Develop awareness of practice guidelines, community, national and allied health professional resources which may enhance the quality of life of patients with chronic neurological illness
- Develop the ability to lead and delegate authority to health care teams needed to provide comprehensive care for patients with neurologic disease

**PGY-2 Objectives:**

**Patient Care and Medical Knowledge:**

- Demonstrate the ability to synthesize a patient’s complaints and take a directed history and perform a focused but appropriately thorough neurological examination
- Perform lumbar punctures and send the cerebrospinal fluid for the appropriate laboratory tests

**Practice Based Learning and Improvement:**

- Demonstrate appropriate chart documentation for patient visits with a clearly written assessment and plan for all patients
- Become proficient in the use of and careful review of the computerized outpatient medical record and use it as a tool to communicate with referring physicians and ancillary staff; to obtain tests, treatments and services for patients; and to retrieve important data on patients

**Interpersonal Skills and Communication and Professionalism:**

- Demonstrate interpersonal skills and documentation habits needed for effective communication with fellow physicians, patients, families and allied health professionals, including:
  - Effective listening
  - Use of informed consent when ordering investigative procedures
  - Maintenance of accurate, timely and legible medical records
- Be able to explain the risks and obtain informed consent for a lumbar puncture

**PGY-2 Goals:**

**Patient Care and Medical Knowledge:**

- Recognize and assess risk factors for neurological illnesses. Provide ongoing surveillance of these risk factors and enlist support of primary care physicians in intervention as needed
- Gain a working knowledge of the symptoms, signs, pathophysiology, and outpatient treatment of patients with:
  - Brain tumors
  - Epilepsy
  - Migraines and other headache disorders
  - Movement disorders
  - Memory disorders/dementia
  - Cerebrovascular disorders
  - Disorders of the spine
Disorders of the peripheral nervous system
Post Traumatic Stress related disorders
Combat associated neurologic disorders

Practice Based Learning and Improvement:
- Develop time management skills. Demonstrate the ability to evaluate and complete documentation on a follow up patient in 30-40 minutes, and a new patient in 60 minutes
- Understand the dynamics of an outpatient veterans’ clinic in terms of scheduling appointments, message management, and following up on outstanding data

Systems Based Practice:
- Utilize diagnostic tests in a medically appropriate and cost effective manner, with understanding of their limitations. Be able to explain to a patient what a particular test involves and why it is being performed
- Understand the need for and comply with oversight institutional requirements such as those required by JCAHO (medication reconciliation, pain documentation, other annual patient safety goals as applicable to outpatient care)

PGY-2 Daily Schedule:

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<td>Seizure Clinic (Towne/Waterhouse)</td>
<td>Dementia Clinic (Taylor)</td>
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Suggested Bibliography:

VAMC Neurology Clinic Attending Schedule 2012-2013

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<td>Dr. Towne (Primary)</td>
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<td>Dr. Du (Secondary)</td>
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Rotation: Neurology Consults (MCV Consults)  
Coordinator: Scott A. Vota, D.O.  
svota@mcvh-vcu.edu or 828-3633

Responsibilities: The resident learner functions as an active consultant in the care of patients admitted to non-neurologic services. The resident learner receives consultations directly from the primary service, performs the history and physical examinations, provides documentation for the encounters, discusses the cases with the supervising neurology attending, and provides recommendation(s) to the primary service. Consult resident learners are expected to cover the consult pager (6634) from 8:00 AM through 8:00 PM, Monday–Friday, and participate in RAMS sign out rounds with the incoming Nightfloat Senior resident.

Rotation Site: MCV

Evaluation: Written Performance evaluations are completed by faculty supervisors following the block assignment, based on the objectives outlined. Verbal performance evaluations should be provided each Friday reviewing performance for that week.

Supervision:

a. PGY-2 neurology resident learners on consult rotations at MCV receive “indirect supervision with direct supervision immediately available” by the PGY 3 or 4 neurology resident learner assigned to the respective service. A second level of “indirect supervision with direct supervision immediately available” if provided by the supervising ward/consult attending if escalation is necessary above the initial level of supervision daily from 8 am – 5 pm. In the evening hours (5 pm – 8 am the subsequent day), this second level of supervision is provided by the on-call attending in a means of “direct supervision is available”.

b. PGY-3/4 neurology resident learners on consult rotations at MCV provide “indirect supervision with direct supervision immediately available” to the PGY 2 resident who is assigned to the same respective service. The PGY 3 or 4 receives “indirect supervision with direct supervision immediately available” by the supervising ward/consult attending from 8 am – 5 pm. In the evening hours (5 pm – 8 am the subsequent day), PGY 3/4 neurology resident learners continues to provide “indirect supervision with direct supervision immediately available” to the PGY 2 resident who is assigned to the same respective service and receives supervision by the on-call attending in a means of “direct supervision is available”.

Core Competencies:
Patient Care:  
Resident learner is able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Resident learner will gain experience of the dynamics of a busy consult service, in terms of scheduling, patient management, and documentation.

Medical Knowledge:  
Resident learner demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences relating to neurology, as well as the application of this knowledge to patient care. Neurology resident learners must be able to demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases.

Practice Based Learning and Improvement:  
Resident learner is able to investigate and evaluate his/her patient care practices, appraise and assimilate scientific evidence and improve his/her patient care practices. Resident learners are expected to demonstrate skill in the following areas:
- Care-based learning
- Use of best practices through practice guidelines and clinical pathways
- Participation in Quality Assurance and Improvement
- Utilize information technology to optimize patient care, life-long learning and other activities
Interpersonal and Communication Skills:
Resident learner is able to counsel fellow physicians, patients and families regarding diagnostic and therapeutic options for the effective management of neurologic symptoms and disorders with specific regard to:
- Interdisciplinary care and involvement of health professionals
- Genetic counseling and palliative care when appropriate
- Consideration and compassion for the patient in providing accurate medical information and prognosis

Professionalism:
Resident learner demonstrates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient population.
Resident learner is able to:
- Demonstrate personal and professional attitudes of integrity, honesty and compassion in the delivery of care or consultative patient care
- Regularly review one’s own skills and knowledge, realize limitations and respond to others’ evaluation of his/her professional performance
- Demonstrate a commitment to excellence in clinical practice through the establishment of life-long learning habits and continuing medical education
- Demonstrate respect for patient’s cultural, ethnic, religious and socioeconomic background in providing patient care
- Demonstrate appreciation of end-of-life care and issues regarding provision or withholding of care

Systems Based Practice:
Resident learner recognizes that he/she is a part of a large and intricate health system that has many implications for his/her ability to care for patients and, more importantly, impact upon his/her patients’ human needs and financial resources. The resident learner should:
- Recognize the limitation of resources for health care and demonstrate the ability to act as an advocate for patients within their social and financial constraints
- Be willing to participate in utilization review and comply with documentation requirements in medical records
- Develop awareness of practice guidelines, community, national and allied health professional resources which may enhance the quality of life of patients with chronic neurological illness
- Develop the ability to lead and delegate authority to health care teams needed to provide comprehensive care for patients with neurologic disease

PGY-2 Objectives:
Patient Care:
- Demonstrate competence in obtaining the neurologic history using a variety of sources (the patient, patient’s caregiver(s), hospital chart, other practitioners involved in the patient’s care)
- Perform an appropriate general and neurologic examination, on awake and comatose patients

Medical Knowledge:
- Perform literature reviews and provide the primary services with diagnostic and therapeutic recommendations utilizing evidence based medicine
- Demonstrate understanding of factors affecting prognosis of critically ill patients

Practice Based Learning and Improvement:
- Use online databases (e.g. PubMed) to access current literature, use this information to optimize patient care

Interpersonal and Communication Skills:
- Demonstrate respect for the cultural, ethnic, religious, and socioeconomic background of others
- Communicate effectively with consulting physicians, both verbally and in written notes

48
Professionalism:
- Demonstrate professional attitudes and responsible follow-up when responding to requests for consultations

Systems Based Practice:
- Demonstrate ability to function in a team setting
- Demonstrate compliance with documentation requirements

PGY-2 Goals:
Medical Knowledge:
- Recognize the signs, symptoms, physical findings, and demonstrate understanding of the pathophysiology of the following neurologic disease categories:
  - ICU Neurology
  - Epilepsy
  - Geriatric neurology
  - Headache and facial pain
  - Movement disorders
  - Multiple sclerosis
  - Neuro-oncology
  - Sleep medicine
  - Stroke and vascular neurology
  - Neuromuscular
  - Spinal cord conditions

Practice Based Learning and Improvement:
- Consult American Academy of Neurology practice parameters and guidelines

Professionalism:
- Demonstrate appreciation for end-of-life care and issues regarding provision or withholding of care

Systems Based Practice:
- Develop awareness of practice parameters/guidelines and other resources that may enhance patient care
- Develop appropriate time management skills and prioritization of consultations
- Comply with the requirements of Health Insurance Privacy and Portability Act (HIPPA)

PGY-3 Objectives:
Patient Care:
- Demonstrate competence in obtaining the neurologic history using a variety of sources (the patient, patient’s caregiver(s), hospital chart, other practitioners involved in the patient’s care)
- Perform an appropriate general and neurologic examination, on awake and comatose patients
- Develop the ability to prioritize consultative requests and explain this to the primary service

Medical Knowledge:
- Perform literature reviews and provide the primary services with diagnostic and therapeutic recommendations utilizing evidence based medicine
- Demonstrate understanding of factors affecting prognosis of critically ill patients

Practice Based Learning and Improvement:
- Use online databases (e.g. PubMed) to access current literature, use this information to optimize patient care

Interpersonal and Communication Skills:
- Demonstrate respect for the cultural, ethnic, religious, and socioeconomic background of others
- Communicate effectively with consulting physicians, both verbally and in written notes

Professionalism:
- Demonstrate professional attitudes and responsible follow-up when responding to requests for consultations

**Systems Based Practice:**
- Demonstrate ability to function in a team setting
- Demonstrate compliance with documentation requirements
- Provide constructive feedback to PGY 2 resident learners in reference to examination findings, differential diagnoses, and treatment recommendations

**PGY-3 Goals:**

**Medical Knowledge:**
- Recognize the signs, symptoms, physical findings, and demonstrate understanding of the pathophysiology of the following neurologic disease categories:
  - ICU Neurology
  - Epilepsy
  - Geriatric neurology
  - Headache and facial pain
  - Movement disorders
  - Multiple sclerosis
  - Neuro-oncology
  - Sleep medicine
  - Stroke and vascular neurology
  - Neuromuscular
  - Spinal cord conditions

**Practice Based Learning and Improvement:**
- Consult American Academy of Neurology practice parameters and guidelines

**Professionalism:**
- Demonstrate appreciation for end-of-life care and issues regarding provision or withholding of care

**Systems Based Practice:**
- Develop awareness of practice parameters/guidelines and other resources that may enhance patient care
- Develop appropriate time management skills and prioritization of consultations
- Comply with the requirements of Health Insurance Privacy and Portability Act (HIPPA)

**PGY-4 Objectives:**

**Patient Care:**
- Demonstrate competence in obtaining the neurologic history using a variety of sources (the patient, patient’s caregiver(s), hospital chart, other practitioners involved in the patient’s care)
- Perform an appropriate general and neurologic examination, on awake and comatose patients
- Develop the ability to prioritize consultative requests and explain this to the primary service

**Medical Knowledge:**
- Perform literature reviews and provide the primary services with diagnostic and therapeutic recommendations utilizing evidence-based medicine
- Demonstrate understanding of factors affecting prognosis of critically ill patients

**Practice Based Learning and Improvement:**
- Use online databases (e.g. PubMed) to access current literature, use this information to optimize patient care

**Interpersonal and Communication Skills:**
- Demonstrate respect for the cultural, ethnic, religious, and socioeconomic background of others
- Communicate effectively with consulting physicians, both verbally and in written notes
Professionalism:
- Demonstrate professional attitudes and responsible follow-up when responding to requests for consultations

Systems Based Practice:
- Demonstrate ability to function in a team setting
- Demonstrate compliance with documentation requirements
- Provide constructive feedback to PGY 2 resident learners in reference to examination findings, differential diagnoses, and treatment recommendations

PGY-4 Goals:
Medical Knowledge:
- Recognize the signs, symptoms, physical findings, and demonstrate understanding of the pathophysiology of the following neurologic disease categories:
  - ICU Neurology
  - Epilepsy
  - Geriatric neurology
  - Headache and facial pain
  - Movement disorders
  - Multiple sclerosis
  - Neuro-oncology
  - Sleep medicine
  - Stroke and vascular neurology
  - Neuromuscular
  - Spinal cord conditions

Practice Based Learning and Improvement:
- Consult American Academy of Neurology practice parameters and guidelines

Professionalism:
- Demonstrate appreciation for end-of-life care and issues regarding provision or withholding of care

Systems Based Practice:
- Develop awareness of practice parameters/guidelines and other resources that may enhance patient care
- Develop appropriate time management skills and prioritization of consultations
- Comply with the requirements of Health Insurance Privacy and Portability Act (HIPPA)

PGY-2, PGY-3 and PGY-4 Daily Schedule:
Consult resident learners are expected to cover the adult neurology consult pager from 8:00 AM – 8:00 PM, Monday through Friday, and participate in RAMS sign-out rounds at 8:00 PM with the incoming nightfloat resident learner.

The Senior consult resident learner is expected to cover the pagers of all other neurology residents on the consult service from 12:15-1:15 PM Monday through Friday.

Suggested Bibliography:
Rotation: Neurology Consults (VA Consults)  
Coordinator: William Maragos, M.D., Ph.D.  
wmaragos@mcvh-vcu.edu or 675-5127

Description: The resident learner functions as an active consultant in the care of patients admitted to non-neurologic services. The resident learner receives consultations directly from the primary service, performs the history and physical examinations, provides documentation for the encounters, discusses the cases with the supervising neurology attending, and provides recommendation(s) to the primary service. There is a different patient population at the VA which is not cared for at MCV. This includes a large elderly population, as well as patients with combat-related neurologic conditions.

Rotation Site: Hunter Holmes McGuire VA, 1201 Broad Rock Boulevard, Richmond, VA 23249

Evaluation: Performance evaluations are completed by faculty supervisors following the block assignment, based on the objectives outlined.

Supervision:

a. PGY 3/4 neurology resident learners on inpatient consult rotations at Hunter Holmes McGuire VAMC provide “indirect supervision with direct supervision immediately available” to the PGY 2 ward resident who is assigned to the same respective service from 8 am – 5 pm. The PGY 3 or 4 receives “indirect supervision with direct supervision immediately available” by the supervising consult attending from 8 am – 5 pm. In the evening hours (5 pm – 8 am the subsequent day), the PGY 3/4 neurology resident learners takes at home call and receives supervision by the on-call attending in a means of “direct supervision is available”.

Core Competencies:

Patient Care: 
Resident learner is able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Resident learner will gain experience of the dynamics of a busy consult service, in terms of scheduling, consult prioritization, and documentation.

Medical Knowledge: 
Resident learner demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences relating to neurology, as well as the application of this knowledge to patient care. Neurology resident learners must be able to demonstrate knowledge and understanding of the pathophysiology of major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases.

Practice Based Learning and Improvement: 
Resident learner is able to investigate and evaluate his/her patient care practices, appraise and assimilate scientific evidence and improve his/her patient care practices. Resident learners are expected to demonstrate skill in the following areas:
- Care-based learning
- Use of best practices through practice guidelines and clinical pathways
- Participation in Quality Assurance and Improvement
- Collection and analysis of patient data
- Utilize information technology to optimize patient care, life-long learning and other activities

Interpersonal and Communication Skills: 
Resident learner is able to counsel fellow physicians, patients and families regarding diagnostic and therapeutic options for the effective management of neurologic symptoms and disorders with specific regard to:
- Interdisciplinary care and involvement of health professionals
- Genetic counseling and palliative care when appropriate
- Consideration and compassion for the patient in providing accurate medical information and prognosis
**Professionalism:**
Resident learner demonstrates a commitment to carrying out professional responsibilities, adherence to top ethical principles, and sensitivity to diverse patient population.

Resident learner is able to:
- Demonstrate personal and professional attitudes of integrity, honesty and compassion in the delivery principle or consultative patient care
- Regularly review one’s own skills and knowledge, realize limitations and respond to others evaluation of his/her professional performance
- Demonstrate a commitment to excellence in clinical practice through the establishment of life-long learning habits and continuing medical education
- Demonstrate respect for patient’s cultural, ethnic, religious and socioeconomic background in providing patient care

Demonstrate appreciation of end-of-life care and issues regarding provision or withholding of care

**Systems Based Practice:**
Resident learner recognizes that he/she is a part of a large and intricate health system that has many implications for his/her ability to care for patients and, more importantly, impact upon his/her patients’ human needs and financial resources. The resident learner should:
- Recognize the limitation of resources for health care and demonstrate the ability to act as an advocate for patients within their social and financial constraints
- Be willing to participate in utilization review and comply with documentation requirements in medical records
- Develop awareness of practice guidelines, community, national and allied health professional resources which may enhance the quality of life of patients with chronic neurological illness
- Develop the ability to lead and delegate authority to health care teams needed to provide comprehensive care for patients with neurologic disease

**Objectives:**

**Patient Care:**
- Demonstrate competence in obtaining the neurologic history using a variety of sources (the patient, patient’s caregiver(s), hospital chart, other practitioners involved in the patient’s care)
- Perform an appropriate general and neurologic examination, on awake and comatose patients
- Demonstrate ability to perform a “brain death” assessment

**Medical Knowledge:**
- Perform literature reviews and provide the primary services with diagnostic and therapeutic recommendations utilizing evidence based medicine
- Demonstrate understanding of factors affecting prognosis of critically ill patients

**Practice Based Learning and Improvement:**
- Use online databases (e.g. PubMed) to access current literature, use this information to optimize patient care

**Interpersonal and Communication Skills:**
- Demonstrate respect for the cultural, ethnic, religious, and socioeconomic background of others
- Communicate effectively with consulting physicians, both verbally and in written notes

**Professionalism:**
- Demonstrate professional attitudes and responsible follow-up when responding to requests for consultations

**Systems Based Practice:**
- Demonstrate awareness of and appropriately utilize the resources available to Veterans
- Demonstrate ability to function in a team setting
- Demonstrate compliance with documentation requirements
Goals:
Medical Knowledge:
- Recognize the signs, symptoms, physical findings, and demonstrate understanding of the pathophysiology of the following neurologic disease categories:
  - ICU Neurology
  - Epilepsy
  - Geriatric neurology
  - Headache and facial pain
  - Movement disorders
  - Multiple sclerosis
  - Neuro-oncology
  - Sleep medicine
  - Stroke and vascular neurology
  - Neuromuscular
  - Spinal cord conditions

Practice Based Learning and Improvement:
- Consult American Academy of Neurology practice parameters and guidelines

Professionalism:
- Demonstrate appreciation for end-of-life care and issues regarding provision or withholding of care

Systems Based Practice:
- Develop awareness of practice parameters/guidelines and other resources that may enhance patient care
- Develop appropriate time management skills and prioritization of consultations
- Comply with the requirements of Health Insurance Privacy and Portability Act (HIPPA)

Daily Schedule: Residents are available for Neurology consults from 8:00 a.m. – 5:00 p.m. Monday through Friday. Consults may be received from general/specialty medical floors, ICUs, the Emergency Department, Spinal Cord Unit and Extended Care Facility. The consult resident carries the ward and consult pager between 12:15 – 1 pm for the Junior resident to attend conference.

Suggested Bibliography:
Rotation: Neurology Wards (MCV Wards)  
Coordinator: Scott A. Vota, D.O.  
svota@mcvh.vcu.edu or 828-3633

Description: The resident learner functions as the primary caretaker for patients with neurologic disorders admitted to MCVH. It is expected that the resident learner provide daily neurologic care, order entry, and documentation. Resident learners are expected to participate in daily RAMS sign out rounds with incoming Nightfloat Ward Junior resident at 8:00 PM. Resident learners are also expected to perform timely discharge summaries of patients and send to the referring physicians. Ward residents are expected to cover the neurology ward pager from 8:00 AM – 8:00 PM.

Rotation Site: MCV

Evaluation: Written performance evaluations are completed by faculty supervisors following the block assignment, based on the objectives outlined. Verbal performance evaluations should be performed each Friday to discuss performance of that week.

Supervision:

a. PGY 2 neurology resident learners on inpatient ward rotations at VCUHS receive “indirect supervision with direct supervision immediately available” by the PGY 3 or 4 neurology resident learner assigned to the respective service. A second level of “indirect supervision with direct supervision immediately available” if provided by the supervising ward/consult attending if escalation is necessary above the initial level of supervision daily from 8 am – 5pm. In the evening hours (5 pm – 8 am the subsequent day), this second level of supervision is provided by the on-call attending in a means of “direct supervision is available”.

b. PGY 3/4 neurology resident learners on inpatient ward rotations at VCUHS provide “indirect supervision with direct supervision immediately available” to the PGY 2 resident who is assigned to the same respective service. The PGY 3 or 4 receives “indirect supervision with direct supervision immediately available” by the supervising ward/consult attending from 8 am – 5pm. In the evening hours (5 pm – 8 am the subsequent day), PGY 3/4 neurology resident learners continues to provide “indirect supervision with direct supervision immediately available” to the PGY 2 resident who is assigned to the same respective service and receives supervision by the on-call attending in a means of “direct supervision is available”.

Core Competencies:

Patient Care:
Resident learner is able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Resident learner will gain experience of the dynamics of a busy inpatient service, in terms of time management, patient prioritization and documentation.

Medical Knowledge:
Resident learner demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences relating to neurology, as well as the application of this knowledge to patient care. Neurology resident learners must be able to demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases.

Practice Based Learning and Improvement:
Resident learner is able to investigate and evaluate his/her patient care practices, appraise and assimilate scientific evidence and improve his/her patient care practices. Resident learners are expected to demonstrate skill in the following areas:
  - Care-based learning
  - Use of best practices through practice guidelines and clinical pathways
  - Participation in Quality Assurance and Improvement
  - Collection and analysis of patient data
  - Utilize information technology to optimize patient care, life-long learning and other activities
Interpersonal and Communication Skills:
Resident learner is able to counsel fellow physicians, patients and families regarding diagnostic and therapeutic options for the effective management of neurologic symptoms and disorders with specific regard to:
- Interdisciplinary care and involvement of health professionals
- Genetic counseling and palliative care when appropriate
- Consideration and compassion for the patient in providing accurate medical information and prognosis

Professionalism:
Resident learner demonstrates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient population.
Resident learner is able to:
- Demonstrate personal and professional attitudes of integrity, honesty and compassion in the delivery of patient care
- Regularly review one's own skills and knowledge, realize limitations and respond to others' evaluation of professional performance
- Demonstrate a commitment to excellence in clinical practice through the establishment of life-long learning habits and continuing medical education
- Demonstrate respect for patient's cultural, ethnic, religious and socioeconomic background in providing patient care
- Demonstrate appreciation of end-of-life care and issues regarding provision or withholding of care

Systems Based Practice:
Resident learner recognizes that he/she is a part of a large and intricate health system that has many implications for his/her ability to care for patients and, more importantly, impact upon his/her patients' human needs and financial resources. The resident learner should:
- Recognize the limitation of resources for health care and demonstrate the ability to act as an advocate for patients within their social and financial constraints
- Be willing to participate in utilization review and comply with documentation requirements in medical records
- Develop awareness of practice guidelines, community, national and allied health professional resources which may enhance the quality of life of patients with chronic neurological illness
- Develop the ability to lead and delegate authority to health care teams needed to provide comprehensive care for patients with neurologic disease

PGY-2 Objectives:
Patient Care:
Clinical Skills
- Elicit a complete neurological history and perform an appropriate general and neurologic examination

Technical Skills
- Identify and describe abnormalities seen in common neurologic disorders on radiographic testing, including plain films, myelography, angiography, CT, isotope, MRI and PET/SPECT imaging of the neuroaxis
- Evaluate the application and relevance of investigative procedures and their interpretation in the diagnosis of neurologic disease including EEG, motor and sensory NCS, EMG, EP, polysomnography, electronystagmogram, audiometry, perimetry, CSF analysis
- Recognize and treat potentially life-threatening neurologic disorders

Medical Knowledge:
- Critically assess the neurologic literature as it relates to patient diagnosis, investigation and treatment
  - Develop criteria for evaluating neurological literature
Interpersonal Skills and Communication:
- Participate daily in the interdisciplinary rounds with speech therapy, nursing, occupational therapy, and physical therapy for the rehabilitation and care needed for patients with neurologic diseases.
- Demonstrate interpersonal skills and documentation habits needed for effective communication with fellow physicians, patients, families and allied health professionals, including:
  - Effective listening
  - Use of informed consent when ordering investigative procedures
  - Maintenance of accurate, timely and legible medical records

Professionalism
- Demonstrate the following professional skills in time management:
  - Recognize that effective use of time depends upon punctuality
  - Recognize that effective use of time requires planning
  - Develop speed as well as accuracy in clinical skills
  - Reserve time for reading and keeping current with the neurologic literature

Systems-based Practice:
- Utilize appropriate consultation and referral for the optimal management of patients with complicated medical issues
- Facilitate learning of patients, house staff/students and other health care professionals

PGY-2 Goals:
Patient Care:
Clinical Skills
- Determine whether a patient's symptoms and signs are the result of organic or psychological disease and provide localization of possible organic pathologies

Technical Skills
- Identify and describe gross and microscopic specimens taken from the normal nervous system and from patients with major neurologic disorders
- Evaluate, assess and recommend cost-effective management of patients with neurologic symptoms and disease

Medical Knowledge:
- Understand the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases
- Demonstrate the ability to reference and utilize electronic information systems to access medical, scientific and patient information

Interpersonal Skills and Communication:
- Be able to counsel patients and others about the prevention of neurologic disorders, including risk factors, genetic and environmental concerns

Professionalism
- Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved

Systems-based Practice:
- Demonstrate awareness of the importance of adequate cross-coverage and availability of accurate medical data in the communication with and efficient management of patients

Suggested Bibliography:
Description: The resident learner functions as the primary caretaker for patients with neurologic disorders admitted to the VA neurology service. It is expected that the resident learner provide daily neurologic care, order entry, and documentation. Resident learners are expected to participate in daily sign out rounds with on call resident at 5:00 PM. Resident learners are also expected to perform timely discharge summaries of patients and send to the referring physicians. Ward residents are expected to cover the neurology ward pager from 8:00 AM – 5:00 PM, Monday through Friday. There is a different patient population at the VA which is not cared for at MCV. This includes a large elderly population, as well as patients with combat-related neurologic conditions.

Rotation Site: VA

Evaluation: Performance evaluations are completed by faculty supervisors following the block assignment, based on the objectives outlined.

Supervision:

a. PGY 2 neurology resident learners on inpatient ward rotations at the Hunter Holmes McGuire VAMC receive “indirect supervision with direct supervision immediately available” by the PGY 3 or 4 neurology resident learner assigned to the respective service from 8 am – 5 pm daily. A second level of “indirect supervision with direct supervision immediately available” if provided by the supervising ward/consult attending if escalation is necessary above the initial level of supervision daily from 8 am – 5pm. In the evening hours (5 pm – 8 am the subsequent day), the PGY 2 neurology resident learners takes at home call and receives supervision by the on-call attending in a means of “direct supervision is available”.

Core Competencies:

Patient Care:
Resident learner is able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Resident learner will gain experience of the dynamics of a busy outpatient practice, in terms of scheduling, message management, and documentation.

Medical Knowledge:
Resident learner demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences relating to neurology, as well as the application of this knowledge to patient care. Neurology resident learners must be able to demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases.

Practice Based Learning and Improvement:
Resident learner is able to investigate and evaluate his/her patient care practices, appraise and assimilate scientific evidence and improve his/her patient care practices. Resident learners are expected to demonstrate skill in the following areas:
- Care-based learning
- Use of best practices through practice guidelines and clinical pathways
- Participation in Quality Assurance and Improvement
- Collection and analysis of patient data
- Utilize information technology to optimize patient care, life-long learning and other activities

Interpersonal and Communication Skills:
Resident learner is able to counsel fellow physicians, patients and families regarding diagnostic and therapeutic options for the effective management of neurologic symptoms and disorders with specific regard to:
- Interdisciplinary care and involvement of health professionals
- Genetic counseling and palliative care when appropriate
• Consideration and compassion for the patient in providing accurate medical information and prognosis

Professionalism:
Resident learner demonstrates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient population.
Resident learner is able to:
• Demonstrate personal and professional attitudes of integrity, honesty and compassion in the delivery of patient care
• Regularly review own skills and knowledge, realize limitations and respond to others’ evaluation of his/her professional performance
• Demonstrate a commitment to excellence in clinical practice through the establishment of life-long learning habits and continuing medical education
• Demonstrate respect for patient’s cultural, ethnic, religious and socioeconomic background in providing patient care
• Demonstrate appreciation of end-of-life care and issues regarding provision or withholding of care

Systems Based Practice:
Resident learner recognizes that he/she is a part of a large and intricate health system that has many implications for his/her ability to care for patients and, more importantly, impact upon his/her patients’ human needs and financial resources. The resident learner should:
• Recognize the limitation of resources for health care and demonstrate the ability to act as an advocate for patients within their social and financial constraints
• Be willing to participate in utilization review and comply with documentation requirements in medical records
• Develop awareness of practice guidelines, community, national and allied health professional resources which may enhance the quality of life of patients with chronic neurological illness
• Develop the ability to lead and delegate authority to health care teams needed to provide comprehensive care for patients with neurologic disease

PGY-2 Objectives:
Patient Care:
Clinical Skills
• Elicit a complete neurological history and perform an appropriate general and neurologic examination

Technical Skills
• Identify and describe abnormalities seen in common neurologic disorders on radiographic testing, including plain films, myelography, angiography, CT, isotope, MRI and PET/SPECT imaging of the neuroaxis
• Evaluate the application and relevance of investigative procedures and their interpretation in the diagnosis of neurologic disease including EEG, motor and sensory NCS, EMG, EP, polysomnography, electronystagmogram, audiometry, perimetry, CSF analysis
• Recognize and treat potentially life-threatening neurologic disorders

Medical Knowledge:
• Be able to critically assess the neurologic literature as it relates to patient diagnosis, investigation and treatment
  o Develop criteria for evaluating neurological literature

Interpersonal Skills and Communication:
• Participate daily in the interdisciplinary rounds with speech therapy, nursing, occupational therapy, and physical therapy for the rehabilitation and care needed for patients with neurologic diseases
• Demonstrate interpersonal skills and documentation habits needed for effective communication with fellow physicians, patients, families and allied health professionals, including:
  o Effective listening
  o Use of informed consent when ordering investigative procedures
  o Maintenance of accurate, timely and legible medical records
Professionalism
- Demonstrate the following professional skills in time management:
  - Recognize that effective use of time depends upon punctuality
  - Recognize that effective use of time requires planning
  - Develop speed as well as accuracy in clinical skills
  - Reserve time for reading and keeping current with the neurologic literature

Systems-based Practice:
- Utilize appropriate consultation and referral for the optimal management of patients with complicated medical issues
- Facilitate learning of patients, house staff/students and other health care professionals

PGY-2 Goals:
Patient Care:
Clinical Skills
- Determine whether a patient’s symptoms and signs are the result of organic or psychological disease and provide localization of possible organic pathologies

Technical Skills
- Identify and describe gross and microscopic specimens taken from the normal nervous system and from patients with major neurologic disorders
- Evaluate, assess and recommend cost-effective management of patients with neurologic symptoms and disease

Medical Knowledge:
- Understand the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases
- Demonstrate the ability to reference and utilize electronic information systems to access medical, scientific and patient information

Interpersonal Skills and Communication:
- Be able to counsel patients and others about the prevention of neurologic disorders, including risk factors, genetic and environmental concerns

Professionalism
- Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved

Systems-based Practice:
- Demonstrate awareness of the importance of adequate cross-coverage and availability of accurate medical data in the communication with and efficient management of patients

PGY-2 Daily Schedule:
Ms. Teresa Crumper, RN who is involved in the smooth functioning of the VA inpatient ward service. In order to be in compliance with regulations, interdisciplinary rounds (IDTs) must be held twice a week. This meeting, with the social worker and a nurse have typically occurred on Tuesdays at 8:30 a.m. and Thursdays at 2:00 p.m. and last for about 15-20 minutes. In an effort to not break up the day or pull residents from their other duties, we have settled on 8:30 a.m. both Tuesday and Thursday.

In addition to IDTs, Residents have also been required to attend a once monthly orientation. Neurology resident participation has been sketchy at best and this hour long talk is intended to provide all residents with useful information to make their time on the wards more efficient and inform them of items that they need to pay attention to.

Resident orientation occurs every 28 days on Wednesday at 8:00 am and last for about 1 hour.
A Power Point Presentation given at orientation includes the information that we discussed on Discharge appointments, Medication reconciliation, IDT meetings and the role of the case manager.

Suggested Bibliography:
Rotation: Neuro-ophthalmology
Coordinator: Warren L. Felton III, M.D.
wfeltoniii@mcv.vcu.edu or 828-0078

Responsibilities: Each Neurology resident learner rotates on the Neuro-ophthalmology service for one block during his/her training, usually during the second year. The resident learner can also perform additional elective rotations on the service. During this rotation, the resident learner’s time is devoted exclusively to neuro-ophthalmology with the exception of continuity clinic. The clinical experience is focused on outpatient care supplemented by inpatient consultations. Resident learners see patients under the direct supervision of the Division of Neuro-ophthalmology faculty. During this rotation, resident learners receive a broad and in-depth exposure to patients with neuro-ophthalmologic conditions with key findings reviewed by the faculty.

Rotation Sites: MCV, VA, VCUHS-Stony Point, MCVP - Mayland Medical Center

Evaluation: Performance evaluations are completed by faculty supervisors following the block assignment, based on the objectives outlined.

Supervision: Resident learners receive “indirect supervision with direct supervision immediately available” from the supervising attending.

Core Competencies:
Patient Care:
Resident learner is able to provide patient care that is compassionate, appropriate and effective for the treatment of health problems and the promotion of health. Resident learner will gain experience of the dynamics of a busy outpatient practice, in terms of scheduling, message management and documentation.

Medical Knowledge:
Resident learner demonstrates knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences relating to neurology, as well as the application of this knowledge to patient care. Neurology resident learners must be able to demonstrate knowledge and understanding of the pathophysiology and major neuro-ophthalmologic disorders and be familiar with the scientific basis of these disorders.

Practice Based Learning and Improvement:
Resident learner is able to investigate and evaluate his/her patient care practices, appraise and assimilate scientific evidence and improve his/her patient care practices. Resident learners are expected to demonstrate skill in the following areas:
- Care-based learning
- Use of best practices through practice guidelines and clinical pathways
- Participation in Quality Assurance and Improvement
- Collection and analysis of patient data
- Utilize information technology to optimize patient care, life-long learning and other activities

Interpersonal and Communication Skills:
Resident learner is able to counsel fellow physicians, patients and families regarding diagnostic and therapeutic options for the effective management of neurologic symptoms and disorders with specific regard to:
- Interdisciplinary care and involvement of health professionals
- Genetic counseling and palliative care when appropriate
- Consideration and compassion for the patient in providing accurate medical information and prognosis

Professionalism:
Resident learner demonstrates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Resident learner is able to:
- Demonstrate personal and professional attitudes of integrity, honesty and compassion in the delivery of principle or consultative patient care
- Regularly review one’s own skills and knowledge, realize limitations and respond to others’
evaluation of his/her professional performance
- Demonstrate a commitment to excellence in clinical practice through the establishment of life-long
learning habits and continuing medical education
- Demonstrate respect for patient’s cultural, ethnic, religious and socioeconomic background in
providing patient care
- Demonstrate appreciation of end-of-life care and issues regarding provision of withholding of care

**Systems Based Practice:**
Resident learner recognizes that he/she is a part of a large and intricate health system that has many
implications for his/her ability to care for patients and, more importantly, impact upon his/her patients’ human
needs and financial resources. The resident learner should:
- Recognize the limitation of resources for health care and demonstrate the ability to act as an
advocate for patients within their social and financial constraints
- Be willing to participate in utilization review and comply with documentation requirements in
medical records
- Develop awareness of practice guidelines, community, national and allied health professional
resources which may enhance the quality of life of patients with chronic neurological illness
- Develop the ability to lead and delegate authority to health care teams needed to provide
comprehensive care for patients with neurologic disease

**PGY-3 Objectives:**
**Medical Knowledge and Patient Care:**
- Demonstrate the ability to obtain a neuro-ophthalmologic patient history, including visual loss of
both transient and permanent character, symptoms of disorders of extra-ocular motility, disorders of
papillary function, pain as it may relate to above or occur independently
- Be able to obtain and perform a neuro-ophthalmologic examination, including
  - Neurologic examination
  - Measurement of visual acuity
  - Color vision testing
  - Pupillary appearance and function
  - Direct ophthalmoscopy
  - External appearance
  - Use of Hertel exophthalmometer
  - Ocular motor function
  - Visual field testing
  - Ocular Coherence Tomography

**PGY-3 Goals:**
**Medical Knowledge:**
- Demonstrate and have a working knowledge of the neuroanatomy of neuro-ophthalmologic
disorders, including
  - Visual pathway
  - Pupillary function pathways
  - Extra-ocular motor anatomy
  - Cranial nerves of facial, auditory and vestibular function
- Demonstrate a working knowledge of neuroanatomy and neurophysiology as they relate to neuro-
ophthalmologic disorders
- Demonstrate knowledge of the symptoms, signs, pathophysiology, evaluation, and treatment of
patients with neuro-ophthalmologic entities, including
  - Disorders of the pre-chiasmal visual pathways
  - Disorders of the optic chiasm
  - Retrochiasmal visual pathway disorders and disorders of higher cortical visual function
  - Supranuclear and internuclear disorders of ocular motility
  - Nystagmus and related other oscillations
  - Nuclear and infranuclear disorders of eye movement
  - Extra-ocular Myopathies and disorders of the neuromuscular junction
- Congenital ocular motor disorders
- Orbital disorders
- Disorders of the pupil
- Disorders of the eyelids
- Migraine headache and other pain as related to visual disorders
- Vascular disorders relating to neuro-ophthalmologic conditions

**Daily Schedule:**
*This schedule may vary, please confirm with Dr. Felton at the beginning of your rotation.*

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<th>Monday</th>
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<tbody>
<tr>
<td>8 am - 12 pm</td>
<td>Clinic - AM &amp; PM</td>
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<td>Clinic - AM &amp; PM</td>
<td>Continuity Clinic</td>
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<td>1 pm - @ 5 pm</td>
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**Description:** This rotation provides a graded collection of self-instructional packages which allows residents to proceed at their own pace. We also have an excellent collection of microscopic case materials. Attendance at Brain Cutting Conferences every Friday is mandatory. Daily neurosurgical case sign-out sessions and attendance at the Friday 1pm neuro-oncology conference and Friday morning neuropath didactic conferences is also mandatory. The rotator is expected to give one 50 minute clinical-neuropathologic case study presentation at the Tuesday noon Neurology teaching session, present a neuropathology-related journal article of choice at monthly Neuropathology Journal club, and will also be given a comprehensive final examination at the end of the rotation to identify areas of deficiency.

**Rotation Site:** MCV

**Evaluation:** Performance evaluations are completed by faculty supervisors following the block assignment, based on the objectives outlined.

**Supervision:** Residents receive “indirect supervision with direct supervision immediately available” from the supervising attending

**Core Competencies:**

**Medical Knowledge:**
Resident learner demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences relating to neurology, as well as the application of this knowledge to patient care. Neurology resident learners must be able to demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases.

**Practice Based Learning and Improvement:**
Resident learner is able to investigate and evaluate his/her patient care practices, appraise and assimilate scientific evidence and improve his/her patient care practices.

**Interpersonal and Communication Skills:**
Resident learner is able to counsel fellow physicians, patients and families regarding diagnostic and therapeutic options for the effective management of neurologic symptoms and disorders.

**Professionalism:**
Resident learner demonstrates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient population.

**PGY-4 Objectives:**

**Medical Knowledge**

- Formulate a differential diagnosis and a strategic evaluation plan for brain neoplasms.
- Demonstrate familiarity with general concepts of nerve and muscle diseases and how to diagnose them using enzyme histochemistry and other ancillary testing as needed.
- Demonstrate knowledge of gross and microscopic findings of common congenital, traumatic, infectious, and neurodegenerative conditions.
- Demonstrate ability to make clinicopathological correlations.

**Patient Care**

- Demonstrate proper handling of autopsy brain and spinal cord samples.
- Demonstrate proper handling of neurosurgical biopsy material, including the performance of intraoperative frozen sections, and peripheral nerve and muscle biopsies.
- Demonstrate knowledge of the advantages and limitations of the various methods employed in neuropathology.
**Interpersonal and Communication Skills**
- Present clinical aspects of neurosurgical and autopsy cases in clear, brief organized summaries

**Practice-Based Learning and Improvement**
- Demonstrate knowledge of relevant medical/pathology literature and be able to apply it to the clinical cases

**Professionalism**
- Arrive and depart in a timely fashion. Demonstrate flexibility in adapting to necessary schedule changes.

**PGY-4 Goals:**
**Practice-Based Learning and Improvement**
- Use hospital information systems, online resources, and departmental reading/case material to develop medical knowledge.
- Demonstrate knowledge of relevant medical/pathology literature and be able to apply it to the clinical cases.
- Locate, appraise, and assimilate evidence from scientific studies related to patients' health problems.
- Participate in the education of patients, families, students, residents, and other health professionals.

**Interpersonal and Communication Skills**
- Communicate effectively with patients, families and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds.
- Communicate effectively with physicians, other health professionals, and health related agencies.
- Maintain comprehensive, timely, and legible medical records.

**Professionalism**
- Demonstrate compassion, integrity, and respect for others.
- Demonstrate responsiveness to patient needs that supersedes self-interest.
- Demonstrate respect for patient privacy and autonomy.
- Demonstrate sensitivity and responsiveness to a diverse patient population.

**Systems-based Practice**
- Utilize systematic approaches to diagnosis, management and communication to reduce error, where appropriate.
- Work effectively in various health care delivery settings and systems.
- Advocate for quality patient care and optimal patient care systems

**Daily Schedule:**

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<tr>
<td>AM</td>
<td>Self study</td>
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<td>9am Brain Cutting</td>
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<td>Neurosurg signout immediately following</td>
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</tbody>
</table>
Suggested Bibliography:
4. Ellison and Love (eds) Neuropathology
Rotation: Neuroradiology  
Coordinator: Warren Stringer, M.D.  
wstringer@vcu.edu

Responsibilities: The resident learner participates in the interpretation of neuroimaging studies.

Rotation Site: MCV

Evaluation: Performance evaluations are completed by faculty supervisors following the block assignment, based on the objectives outlined.

Supervision: resident learning receive ‘direct supervision” from the supervising attending.

Core Competencies:
Medical Knowledge:  
Resident learner demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences relating to neurology, as well as the application of this knowledge to patient care. Neurology resident learners must be able to demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases.

Interpersonal and Communication Skills:
Resident learner is able to counsel fellow physicians, patients and families regarding diagnostic and therapeutic options for the effective management of neurologic symptoms and disorders with specific regard to:
- Interdisciplinary care and involvement of health professionals
- Genetic counseling and palliative care when appropriate
- Consideration and compassion for the patient in providing accurate medical information and prognosis

Professionalism:
Resident learner demonstrates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient population.
Resident learner is able to:
- Demonstrate personal and professional attitudes of integrity, honesty and compassion in the delivery principle or consultative patient care
- Regularly review one’s own skills and knowledge, realize limitations and respond to others evaluation of his/her professional performance
- Demonstrate a commitment to excellence in clinical practice through the establishment of life-long learning habits and continuing medical education
- Demonstrate respect for patient’s cultural, ethnic, religious and socioeconomic background in providing patient care
- Demonstrate appreciation of end-of-life care and issues regarding provision or withholding of care

PGY-2 Objectives:
Medical Knowledge:
- Demonstrate knowledge of the technical limitations of CT and MR
- Demonstrate knowledge of the absolute and relative contraindications of MR imaging
- Demonstrate knowledge of the appropriate benefit and limitation of IV contrast materials in imaging procedures and related side effects
- Recognize the normal anatomy of the brain and spine on CT and MR imaging
- Recognize pathologic entities involving the head, spine and adjacent structures on CT and MR imaging by a systematic review of each study and be able to provide or dictate a concise report or interpretation
- Correlate image findings with the clinical presentation
- Identify the risks and complications involved with invasive studies (angiography, myelography)
Interpersonal and Communication Skills:
- Demonstrate the ability to communicate effectively with
  - Patients, families and the public across a broad range of socioeconomic and cultural backgrounds
  - Physicians, other health professionals and health related agencies
- Maintain comprehensive, timely and legible medical records

Professionalism:
- Demonstrate compassion, integrity and respect for others and for patient privacy and autonomy

PGY 3 Objectives:
Medical Knowledge:
- Demonstrate further knowledge of the technical limitations of CT and MR
- Demonstrate further knowledge of the absolute and relative contraindications of MR imaging
- Demonstrate further knowledge of the appropriate benefit and limitation of IV contrast materials in imaging procedures and related side effects
- Improve on recognizing the normal anatomy of the brain and spine on CT and MR imaging
- Improve on recognizing the pathologic entities involving the head, spine and adjacent structures on CT and MR imaging by a systematic review of each study and be able to provide or dictate a concise report or interpretation
- Correlate image findings with the clinical presentation
- Identify the risks and complications involved with invasive studies (angiography, myelography)

Interpersonal and Communication Skills:
- Demonstrate the ability to communicate effectively with
  - Patients, families and the public across a broad range of socioeconomic and cultural backgrounds
  - Physicians, other health professionals and health related agencies
- Maintain comprehensive, timely and legible medical records

Professionalism:
- Demonstrate compassion, integrity and respect for others and for patient privacy and autonomy

PGY-4 Objectives:
Medical Knowledge:
- Demonstrate further knowledge of the technical limitations of CT and MR
- Demonstrate further knowledge of the absolute and relative contraindications of MR imaging
- Demonstrate further knowledge of the appropriate benefit and limitation of IV contrast materials in imaging procedures and related side effects
- Begin to teach the normal anatomy of the brain and spine on CT and MR imaging to junior resident learners
- Recognize pathologic entities involving the head, spine and adjacent structures on CT and MR imaging by a systematic review of each study and be able to provide or dictate a concise report or interpretation
- Correlate image findings with the clinical presentation
- Identify the risks and complications involved with invasive studies (angiography, myelography)

Interpersonal and Communication Skills:
- Demonstrate the ability to communicate effectively with
  - Patients, families and the public across a broad range of socioeconomic and cultural backgrounds
  - Physicians, other health professionals and health related agencies
- Maintain comprehensive, timely and legible medical records

Professionalism:
- Demonstrate compassion, integrity and respect for others and for patient privacy and autonomy
PGY-2 Goals:
Medical Knowledge:
- Understand basic technical principles of CT and MR that allow image production
- Understand major differences and similarities between CT and MR to allow appropriate use of each
- Understand the appropriate indications of invasive studies such as myelography and angiography

Professionalism
- Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved

PGY-3 Goals:
Medical Knowledge:
- Fully understand basic technical principles of CT and MR that allow image production
- Fully understand major differences and similarities between CT and MR to allow appropriate use of each
- Fully understand the appropriate indications of invasive studies such as myelography and angiography

Professionalism
- Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved

PGY-4 Goals:
Medical Knowledge:
- Begin to teach the basic technical principles of CT and MR that allow image production
- Begin to teach the major differences and similarities between CT and MR to allow appropriate use of each
- Begin to teach the appropriate indications of invasive studies such as myelography and angiography

Professionalism
- Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved

Daily Schedule:
Review studies with neuroradiology attending daily.

Bibliography:
   - This text is designed for MRI technicians and physicians and in very basic terms teaches MRI physics and basic principles. The first five chapters are particularly useful to familiarize a resident with MRI basics that need to be appreciated.
2. Diagnostic and Surgical Imaging Anatomy, Brain, Head and Spine by H. Ric Hamsberger, Ann Osborn, Jeff Ross and Andre McDonald.
**Description:** The nightfloat rotation is two-weeks in duration. The nightfloat week starts on Sunday night and ends on Saturday morning. The nightfloat residents are active members of inpatient and consult neurology teams.

The PGY-2 resident learner is expected to cover the inpatient neurology service and perform any Emergency Department consults from 8:00 PM until 8:00 AM. The resident learner will participate in interdisciplinary rounds and morning report prior to leave the hospital by 9:00 AM.

The PGY-3 and PGY-4 resident learners are expected to cover the inpatient neuroscience intensive care unit patients as well as perform any emergent (non-Emergency Department) consults from 8:00 PM until 8:00 AM. The PGY-3 and PGY-4 resident learners will provide “indirect supervision with direct supervision immediately available” to the PGY-2 resident learner throughout the night. This may include confirming physical examination findings, assisting in placing medical orders, reviewing prolonged EEG monitoring, and discussing differential diagnoses. The PGY-3 and PGY-4 resident learners will field all outside calls from physicians and patients (those followed by both attendings and residents). The one exception is outside calls related to strokes. Each outside call needs to be presented the next morning to the supervising attending. If a call is taken from a patient followed by one of the neurology attendings or residents, please also create a brief Cerner note about the encounter and forward it to the relevant attending and/or resident.

**Rotation Site:** MCV

**Evaluation:** Written Performance evaluations are completed by faculty supervisors following the block assignment, based on the objectives outlined. Verbal performance evaluations should be provided by the supervising attending each Friday reviewing the week’s performance.

**Supervision:**

a. PGY 2 neurology resident learners on a nightfloat rotation at VCUHS receive “indirect supervision with direct supervision immediately available” by the PGY 3 or 4 neurology resident learner assigned to the respective service. A second level of supervision is provided by the on-call attending in a means of “direct supervision is available”

b. PGY 3/4 neurology resident learners on a nightfloat rotation at VCUHS provide “indirect supervision with direct supervision immediately available” to the PGY 2 resident who is assigned to the same respective service. The PGY 3 or 4 receives supervision by the on-call attending in a means of “direct supervision is available”.

**Core Competencies:**

**Patient Care:**
Resident learner is able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Resident learner will gain experience of the dynamics of a busy inpatient service, in terms of time management, prioritizing and documentation.

**Medical Knowledge:**
Resident learner demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences relating to neurology, as well as the application of this knowledge to patient care. Neurology resident learners must be able to demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases.

**Practice Based Learning and Improvement:**
Resident learner is able to investigate and evaluate his/her patient care practices, appraise and assimilate scientific evidence and improve his/her patient care practices. Resident learners are expected to demonstrate skill in the following areas.
- Care-based learning
- Use of best practices through practice guidelines and clinical pathways
- Participation in Quality Assurance and Improvement
- Collection and analysis of patient data
- Utilize information technology to optimize patient care, life-long learning and other activities

**Interpersonal and Communication Skills:**
Resident learner is able to counsel fellow physicians, patients and families regarding diagnostic and therapeutic options for the effective management of neurologic symptoms and disorders with specific regard to:
- Interdisciplinary care and involvement of health professionals
- Genetic counseling and palliative care when appropriate
- Consideration and compassion for the patient in providing accurate medical information and prognosis

**Professionalism:**
Resident learner demonstrates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient population.
Resident learner is able to:
- Demonstrate personal and professional attitudes of integrity, honesty and compassion in the delivery of patient care
- Regularly review one’s own skills and knowledge, realize limitations and respond to others evaluation of his/her professional performance
- Demonstrate a commitment to excellence in clinical practice through the establishment of life-long learning habits and continuing medical education
- Demonstrate respect for patient’s cultural, ethnic, religious and socioeconomic background in providing patient care
- Demonstrate appreciation of end-of-life care and issues regarding provision or withholding of care

**Systems Based Practice:**
Resident learner recognizes that he/she is a part of a large and intricate health system that has many implications for his/her ability to care for patients and, more importantly, impact upon his/her patients' human needs and financial resources. The resident learner should:
- Recognize the limitation of resources for health care and demonstrate the ability to act as an advocate for patients within their social and financial constraints
- Be willing to participate in utilization review and comply with documentation requirements in medical records
- Develop awareness of practice guidelines, community, national and allied health professional resources which may enhance the quality of life of patients with chronic neurological illness
- Develop the ability to lead and delegate authority to health care teams needed to provide comprehensive care for patients with neurologic disease

**PGY-2 Objectives:**

**Patient Care:**
- Elicit a complete neurological history and perform an appropriate general and neurologic examination
- Identify and describe abnormalities seen in common neurologic disorders on radiographic testing, including plain films, myelography, angiography, CT, and MRI
- Evaluate the application and relevance of investigative procedures and their interpretation in the diagnosis of neurologic disease including EEG, motor and sensory NCS, EMG, EP, polysomnography, electronystagmogram, CSF analysis
- Recognize and treat potentially life-threatening neurologic disorders

**Medical Knowledge:**
- Be able to critically assess the neurologic literature as it relates to patient diagnosis, investigation and treatment
  - Develop criteria for evaluating neurological literature

**Interpersonal Skills and Communication:**
• Participate daily in the interdisciplinary rounds with speech therapy, nursing, occupational therapy, and physical therapy for the rehabilitation and care needed for patients with neurologic diseases
• Demonstrate interpersonal skills and documentation habits needed for effective communication with fellow physicians, patients, families and allied health professionals, including:
  o Effective listening
  o Use of informed consent when ordering investigative procedures
  o Maintenance of accurate, timely and legible medical records

**Professionalism**
• Demonstrate the following professional skills in time management:
  o Recognize that effective use of time depends upon punctuality
  o Recognize that effective use of time requires planning
  o Develop speed as well as accuracy in clinical skills
  o Reserve time for reading and keeping current with the neurologic literature

**Systems-based Practice:**
• Utilize appropriate consultation and referral for the optimal management of patients with complicated medical issues
• Facilitate learning of patients, resident learners, students, and other health care professionals

**PGY-2 Goals:**
**Patient Care:**
• Determine whether a patient’s symptoms and signs are the result of organic or psychological disease and provide localization of possible organic pathologies
• Identify and describe gross and microscopic specimens taken from the normal nervous system and from patients with major neurologic disorders
• Evaluate, assess and recommend cost-effective management of patients with neurologic symptoms and disease

**Medical Knowledge:**
• Understand the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases
• Demonstrate the ability to reference and utilize electronic information systems to access medical, scientific and patient information

**Interpersonal Skills and Communication:**
• Be able to counsel patients and others about the prevention of neurologic disorders, including risk factors, genetic and environmental concerns

**Professionalism**
• Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved

**Systems-based Practice:**
• Demonstrate awareness of the importance of adequate cross-coverage and availability of accurate medical data in the communication with and efficient management of patients

**PGY-3 Objectives:**
**Patient Care:**
• Elicit a complete neurological history and perform an appropriate general and neurologic examination
• Identify and describe abnormalities seen in common neurologic disorders on radiographic testing, including plain films, myelography, angiography, CT, and MRI
• Evaluate the application and relevance of investigative procedures and their interpretation in the diagnosis of neurologic disease including EEG, motor and sensory NCS, EMG, EP, polysomnography, electronystagmogram, CSF analysis
• Recognize and treat potentially life-threatening neurologic disorders

Medical Knowledge:
• Be able to critically assess the neurologic literature as it relates to patient diagnosis, investigation and treatment

Interpersonal Skills and Communication:
• Demonstrate interpersonal skills and documentation habits needed for effective communication with fellow physicians, patients, families and allied health professionals, including:
  o Effective listening
  o Use of informed consent when ordering investigative procedures
  o Maintenance of accurate, timely and legible medical records

Professionalism
• Demonstrate the following professional skills in time management:
  o Recognize that effective use of time depends upon punctuality
  o Recognize that effective use of time requires planning
  o Develop speed as well as accuracy in clinical skills
  o Reserve time for reading and keeping current with the neurologic literature

Systems-based Practice:
• Utilize appropriate consultation and referral for the optimal management of patients with complicated medical issues
• Facilitate learning of patients, resident learners, students, and other health care professionals

PGY-3 Goals:
Patient Care:
• Determine whether a patient's symptoms and signs are the result of organic or psychological disease and provide localization of possible organic pathologies
• Identify and describe gross and microscopic specimens taken from the normal nervous system and from patients with major neurologic disorders
• Evaluate, assess and recommend cost-effective management of patients with neurologic symptoms and disease

Medical Knowledge:
• Understand the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases
• Demonstrate the ability to reference and utilize electronic information systems to access medical, scientific and patient information

Interpersonal Skills and Communication:
• Be able to counsel patients and others about the prevention of neurologic disorders, including risk factors, genetic and environmental concerns

Professionalism
• Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved

Systems-based Practice:
• Demonstrate awareness of the importance of adequate cross-coverage and availability of accurate medical data in the communication with and efficient management of patients
**PGY-4 Objectives:**

**Patient Care:**
- Elicit a complete neurological history and perform an appropriate general and neurologic examination
- Identify and describe abnormalities seen in common neurologic disorders on radiographic testing, including plain films, myelography, angiography, CT, and MRI
- Evaluate the application and relevance of investigative procedures and their interpretation in the diagnosis of neurologic disease including EEG, motor and sensory NCS, EMG, EP, polysomnography, electronystagmogram, CSF analysis
- Recognize and treat potentially life-threatening neurologic disorders

**Medical Knowledge:**
- Be able to critically assess the neurologic literature as it relates to patient diagnosis, investigation and treatment

**Interpersonal Skills and Communication:**
- Demonstrate interpersonal skills and documentation habits needed for effective communication with fellow physicians, patients, families and allied health professionals, including:
  - Effective listening
  - Use of informed consent when ordering investigative procedures
  - Maintenance of accurate, timely and legible medical records

**Professionalism**
- Demonstrate the following professional skills in time management:
  - Recognize that effective use of time depends upon punctuality
  - Recognize that effective use of time requires planning
  - Develop speed as well as accuracy in clinical skills
  - Reserve time for reading and keeping current with the neurologic literature

**Systems-based Practice:**
- Utilize appropriate consultation and referral for the optimal management of patients with complicated medical issues
- Facilitate learning of patients, resident learners, students, and other health care professionals

**PGY-4 Goals:**

**Patient Care:**
- Determine whether a patient’s symptoms and signs are the result of organic or psychological disease and provide localization of possible organic pathologies
- Identify and describe gross and microscopic specimens taken from the normal nervous system and from patients with major neurologic disorders
- Evaluate, assess and recommend cost-effective management of patients with neurologic symptoms and disease

**Medical Knowledge:**
- Understand the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases
- Demonstrate the ability to reference and utilize electronic information systems to access medical, scientific and patient information

**Interpersonal Skills and Communication:**
- Be able to counsel patients and others about the prevention of neurologic disorders, including risk factors, genetic and environmental concerns

**Professionalism**
- Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved
Systems-based Practice:
- Demonstrate awareness of the importance of adequate cross-coverage and availability of accurate medical data in the communication with and efficient management of patients

Suggested Bibliography:
**Rotation: Independent Research (Research)**
**Coordinator: Scott A. Vota, D.O.**
svota@mcvh-vcu.edu or 828-3633

**Responsibilities:** The philosophy of the Department of Neurology is that research should be a part of each resident learner’s educational experience. This will be a valuable experience that will benefit the resident learner throughout his/her years of practice, whether it is in an academic or private practice setting. Examples of previous research projects include basic and translational science, clinical research, outcomes and health care utilization research, education research, clinical case presentation with review of the literature. Each resident will choose a faculty mentor to support this project. In addition to overseeing the specific project, the mentor will instruct the resident in more general issues of study design, funding, and implementation. **A summary report of the research rotation and what was accomplished must be submitted to the program director and faculty mentor on the final day of the rotation. For 2012-2013, directing and leading a quality improvement project will count towards the research requirement. If you are using your quality improvement project as your independent research project, please let Dr. Vota know.**

**Note:** The Research Rotation Planning form must be submitted to the Program Director by July 1 of the academic year the research rotation is planned for. A copy of this form can be found below.

**Rotation Sites:** MCV, VA, Sleep Center, (dependent upon the project and mentor selected)

**Evaluation:** Performance evaluations are completed by faculty supervisors following the block assignment, based on the objectives outlined.

**Supervision:** Resident learners receive “Direct supervision is available” from the supervising attending.

**Core Competencies:**

**Patient Care:**
Resident learner is able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

**Medical Knowledge:**
Resident learner demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences relating to neurology, as well as the application of this knowledge to patient care. Neurology resident learners must be able to demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases.

**Practice Based Learning and Improvement:**
Resident learner is able to investigate and evaluate his/her patient care practices, appraise and assimilate scientific evidence and improve his/her patient care practices. Resident learners are expected to demonstrate skill in the following areas:
- Care-based learning
- Use of best practices through practice guidelines and clinical pathways
- Participation in Quality Assurance and Improvement
- Collection and analysis of patient data
- Utilize information technology to optimize patient care, life-long learning and other activities

**Professionalism:**
Resident learner demonstrates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient population.
Resident learner is able to:
- Regularly review one’s own skills and knowledge, realize limitations and respond to others evaluation of his/her professional performance
- Demonstrate a commitment to excellence in clinical practice through the establishment of life-long learning habits and continuing medical education
**PGY-2 Objective:**
- Complete and submit the Research Rotation Request Form to the Program Director by June 1 of the PGY-2 year

**PGY-2 Goal:**
- Identify a faculty mentor and meet to discuss possible projects

**PGY-3 Objectives:**
**Patient Care:**
Developed in clinical research projects
- Care for patients within the confines of a clinical research study
- Demonstrate the conduct of clinical research in the most compassionate manner

**Medical Knowledge:**
Obtained in background literature review in the research topic of interest
- Demonstrate an in-depth understanding of the research project
- Demonstrate knowledge of HIPPA regulations and sound research methodology
- Demonstrate knowledge of good clinical practices (GCP), and human subjects protection in the conduct of clinical research

**Practice Based Learning and Improvement:**
- Be able to use computerized and non-computerized information systems to facilitate research

**Interpersonal and Communication Skills:**
- Obtain informed consent, enroll patients, and communicate with regulatory personnel
- Communicate effectively with research mentor, other collaborators, research subjects, their families, clinic and research staff, and the patient’s referring physicians

**Professionalism:**
- Meet research project timelines

**PGY-3 Goals:**
**Patient Care:**
- Respect HIPPA regulations at all times while doing proper research

**Medical Knowledge:**
- Develop practical knowledge of statistical analyses

**Practice Based Learning and Improvement:**
- Develop ability to use research to guide personal growth in neurology

**Professionalism:**
- Develop attitudes that foster honesty, respectfulness towards patients, good work ethic and willingness to acknowledge mistakes
- Develop ability to recognize and deal effectively with ethical issues that arise in the conduct of research

**Systems based Practice:**
- Understand how to complete projects within regulatory environment
- Understand how your research can improve the delivery of care for your patients and their communities

**Daily Schedule:**
Daily schedule determined by faculty mentor.

**Suggested Bibliography:**
2. Videos of the 2008 Research Conference series are available in the GME office lending library
RESIDENT RESEARCH PROJECT REPORT
Department of Neurology
Virginia Commonwealth University

Date Submitted_____________                          □ New Project    □ Continuation

Resident:____________________________________________________________________

Project Title:____________________________________________________________________

Principal Investigator:____________________________________________________________________

Co-Investigator(s):____________________________________________________________________

IRB approval status (check one):

☐ None    ☐ Submitted

☐ Obtained (if obtained, check type): ☐ Full   ☐ Expedited   ☐ Exempt

Project Status (check one):
☐ Planning    ☐ Data Collection    ☐ Data Analysis    ☐ Completed

Publication (check one):
☐ None planned    ☐ In Progress    ☐ Submitted    ☐ Accepted

New Projects
Please attach summary including the following:

1. Project title
2. Aim of project (numbered list of question(s) to be answered, goals)
3. Background and significance
4. Methods (include type of study, technique(s) to be used, and resources required)
5. Expected results (outcome measures)
6. Plan/Timeline for completion

Continuing Projects
Please attach summary including the following:

1. Project Title
2. Progress report (include number subjects tested, preliminary results, problems encountered, issues to be resolved)
3. Plan/Timeline for completion

Reviewed by:_________________________________________          Date:_________

Program Director
Rotation: Sleep Medicine (Sleep)
Coordinator: David Leszczyszyn, M.D., Ph.D.
dleszczyszyn@mcvh-vcu.edu or 323-2255

Description / Responsibilities: Residents will read and interpret sleep studies at the VCU and VA labs.

Rotation Site(s): VCU and VA
VCU Sleep Center
2529 Professional Road
Richmond, VA  23235

Evaluation: Performance evaluations are completed by faculty supervisors following the block assignment, based on the objectives outlined.

Supervision: Resident learners receive “indirect supervision with direct supervision immediately available” from the supervising attending.

Core Competencies:
Patient Care:
Resident learner is able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Resident learner will gain experience of the dynamics of a busy sleep medicine practice, in terms of scheduling, message management, and documentation.

Medical Knowledge:
Resident learner demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences relating to neurology, as well as the application of this knowledge to patient care. Neurology resident learners must be able to demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases.

Practice Based Learning and Improvement:
Resident learner is able to investigate and evaluate his/her patient care practices, appraise and assimilate scientific evidence and improve his/her patient care practices. Resident learners are expected to demonstrate skill in the following areas:
- Care-based learning
- Use of best practices through practice guidelines and clinical pathways
- Participation in Quality Assurance and Improvement
- Collection and analysis of patient data
- Utilize information technology to optimize patient care, life-long learning and other activities

Interpersonal and Communication Skills:
Resident learner is able to counsel fellow physicians, patients and families regarding diagnostic and therapeutic options for the effective management of neurologic symptoms and disorders with specific regard to:
- Interdisciplinary care and involvement of health professionals
- Genetic counseling and palliative care when appropriate
- Consideration and compassion for the patient in providing accurate medical information and prognosis

Professionalism:
Resident learner demonstrates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient population.
Resident learner is able to:
- Demonstrate personal and professional attitudes of integrity, honesty and compassion in the delivery principle or consultative patient care
- Regularly review one’s own skills and knowledge, realize limitations and respond to others evaluation of his/her professional performance
- Demonstrate a commitment to excellence in clinical practice through the establishment of life-long learning habits and continuing medical education
- Demonstrate respect for patient’s cultural, ethnic, religious and socioeconomic background in providing patient care
- Demonstrate appreciation of end-of-life care and issues regarding provision or withholding of care

**Systems Based Practice:**
Resident learner recognizes that he/she is a part of a large and intricate health system that has many implications for his/her ability to care for patients and, more importantly, impact upon his/her patients’ human needs and financial resources. The resident learner should:
- Recognize the limitation of resources for health care and demonstrate the ability to act as an advocate for patients within their social and financial constraints
- Be willing to participate in utilization review and comply with documentation requirements in medical records
- Develop awareness of practice guidelines, community, national and allied health professional resources which may enhance the quality of life of patients with chronic neurological illness
- Develop the ability to lead and delegate authority to health care teams needed to provide comprehensive care for patients with neurologic disease

**PGY-3/4 Objectives:**

**Medical Knowledge:**
- Learn to score and interpret polysomnograms in these categories:
  - Sleep-disoriented breathing, including obstructive, central and mixed types
  - Periodic limb movements
  - Sleep-related hypoxia
  - Insomnia
- Learn to management patients with sleep-disoriented breathing, including diagnosis, related evaluation, and use of PAP and supplemental oxygen treatment
- Learn to diagnose and manage periodic limb movements and restless legs syndrome
- Learn the essentials of evaluating and managing insomnia

**Practice Based Learning and Improvement:**
- Participate in the education of patients, families, students, residents, and other health professionals

**Interpersonal Skills and Communication:**
- Demonstrate interpersonal skills and documentation habits needed for effective communication with fellow physicians, patients, families and allied health professionals, including:
  - Effective listening
  - Maintenance of accurate, timely and legible medical records

**Professionalism:**
- Demonstrate the following professional skills in time management:
  - Recognize that effective use of time depends upon punctuality
  - Recognize that effective use of time requires planning
  - Develop speed as well as accuracy in clinical skills

**Systems-based Practice:**
- Develop skills for the practice of sleep medicine including time management, clinic scheduling and efficient communication with referring physicians
- Facilitate learning of patients, house staff/students and other health care professionals

**PGY-3/4 Goals:**

**Medical Knowledge:**
- Become familiar with the diagnosis and management of narcolepsy and idiopathic hypersomnia, including the use of stimulant medications
- Become familiar with the evaluation and treatment of parasomnias
Interpersonal Skills and Communication:
- Be able to counsel patients and others about the prevention of neurologic disorders, including risk factors, genetic and environmental concerns

Professionalism
- Show appropriate respect for the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved

Systems-based Practice:
- Update procedure log when a procedure is performed

Daily Schedule:
Please check with Dr. Leszczyn on the first day of the rotation to determine the daily schedule. It may change weekly depending on responsibilities of sleep faculty.

Suggested Bibliography:
4. Chokroverty S: Sleep Disorders Medicine: Basic Science, Technical Considerations, and Clinical Aspects,
Rotation: Senior Ward Education Resident (Ward Sr.)
Coordinator: Scott A. Vota, D.O.
svota@mcvh-vcu.edu or 828-3633

Description: The senior ward education resident coordinates ward activities, supervises morning report and sign-out, acts as a resource for resident learners and students, supplies relevant educational material (i.e., researches articles to present to the team), and coordinates lectures on the basic neurology topics for medical students. The resident should be actively participating in the preround with the residents in which he/she is supervising in preparation for rounds. The resident should also actively participate and supervise daily handoff nightfloat ward team.

Rotation Site: MCV

Evaluation: Written Performance evaluations are completed by faculty supervisors following the block assignment, based on the objectives outlined. Verbal performance evaluations should be performed by the faculty supervisors each Friday reviewing that week’s performance.

Supervision:
   a. PGY 3/4 neurology resident learners on inpatient ward rotations at VCUHS provide “indirect supervision with direct supervision immediately available” to the PGY 2 resident who is assigned to the same respective service. The PGY 3 or 4 receives “indirect supervision with direct supervision immediately available” by the supervising ward/consult attending from 8 am – 5pm. In the evening hours (5 pm – 8 am the subsequent day), PGY 3/4 neurology resident learners continues to provide “indirect supervision with direct supervision immediately available” to the PGY 2 resident who is assigned to the same respective service and receives supervision by the on-call attending in a means of “direct supervision is available”.

Core Competencies:

Patient Care:
Resident learner is able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

Medical Knowledge:
Resident learner demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences relating to neurology, as well as the application of this knowledge to patient care. Neurology resident learners must be able to demonstrate knowledge and understanding of the pathophysiology and major neurologic and psychiatric disorders and be familiar with the scientific basis of neurologic diseases.

Practice Based Learning and Improvement:
Resident learner is able to investigate and evaluate his/her patient care practices, appraise and assimilate scientific evidence and improve his/her patient care practices. Resident learners are expected to demonstrate skill in the following areas:
   • Care-based learning
   • Use of best practices through practice guidelines and clinical pathways
   • Participation in Quality Assurance and Improvement
   • Collection and analysis of patient data
   • Utilize information technology to optimize patient care, life-long learning and other activities

Interpersonal and Communication Skills:
Resident learner is able to counsel fellow physicians, patients and families regarding diagnostic and therapeutic options for the effective management of neurologic symptoms and disorders with specific regard to:
   • Interdisciplinary care and involvement of health professionals
   • Genetic counseling and palliative care when appropriate
   • Consideration and compassion for the patient in providing accurate medical information and prognosis
Professionalism:
Resident learner demonstrates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient population.
Resident learner is able to:
- Demonstrate personal and professional attitudes of integrity, honesty and compassion in the delivery of patient care
- Regularly review one’s own skills and knowledge, realize limitations and respond to others' evaluation of his/her professional performance
- Demonstrate a commitment to excellence in clinical practice through the establishment of life-long learning habits and continuing medical education
- Demonstrate respect for patient’s cultural, ethnic, religious and socioeconomic background in providing patient care
- Demonstrate appreciation of end-of-life care and issues regarding provision or withholding of care

Systems Based Practice:
Resident learner recognizes that he/she is a part of a large and intricate health system that has many implications for his/her ability to care for patients and, more importantly, impact upon his/her patients' human needs and financial resources. The resident learner should:
- Recognize the limitation of resources for health care and demonstrate the ability to act as an advocate for patients within their social and financial constraints
- Be willing to participate in utilization review and comply with documentation requirements in medical records
- Develop awareness of practice guidelines, community, national and allied health professional resources which may enhance the quality of life of patients with chronic neurological illness
- Develop the ability to lead and delegate authority to health care teams needed to provide comprehensive care for patients with neurologic disease

PGY-3 Objectives:
Patient Care:
- Participate in daily rounds and provide leadership with patient care decisions
- Assist junior resident in localizing lesion, developing differential diagnosis and assessment/plan upon admission of each new patient
- Assist junior residents with lumbar punctures, obtaining diagnostic results and other patient care issues
- Manage transfers from outside hospitals and other services

Practice Based Learning and Improvement:
- Facilitate learning of medical students, psychiatry interns, and PGY-2 neurology residents
- Review the neurologic literature as it pertains to patients on the inpatient ward service

Interpersonal and Communication Skills:
- Participate daily in the interdisciplinary rounds with speech therapy, nursing, occupational therapy, and physical therapy for the rehabilitation and care needed for patients with neurologic diseases
- Supervise daily morning report

PGY-4 Objectives:
Patient Care:
- Participate in daily rounds and provide leadership with patient care decisions
- Assist junior resident in localizing lesion, developing differential diagnosis and assessment/plan upon admission of each new patient
- Assist junior residents with lumbar punctures, obtaining diagnostic results and other patient care issues
- Manage transfers from outside hospitals and other services

Practice Based Learning and Improvement:
- Facilitate learning of medical students, psychiatry interns, and PGY-2 neurology residents
- Review the neurologic literature as it pertains to patients on the inpatient ward service

Interpersonal and Communication Skills:
- Participate daily in the interdisciplinary rounds with speech therapy, nursing, occupational therapy, and physical therapy for the rehabilitation and care needed for patients with neurologic diseases
- Supervise daily morning report

**PGY-3 Goals:**

**Medical Knowledge:**
- Gain additional exposure to a wide variety of inpatient neurologic diseases

**Practice Based Learning and Improvement:**
- Provide informal teaching to medical students, including once weekly physical finding rounds, and providing feedback on medical student presentations
- Select patient for weekly Friday Morning Patient Care Conference

**Professionalism:**
- Counsel patients, students, and housestaff regarding social, ethical and economic issues as they arise in the course of patient care

**Systems Based Practice:**
- Obtain experience in team leadership

**PGY-4 Goals:**

**Medical Knowledge:**
- Gain additional exposure to a wide variety of inpatient neurologic diseases

**Practice Based Learning and Improvement:**
- Provide informal teaching to medical students, including once weekly physical finding rounds, and providing feedback on medical student presentations
- Select patient for weekly Friday Morning Patient Care Conference

**Professionalism:**
- Counsel patients, students, and housestaff regarding social, ethical and economic issues as they arise in the course of patient care

**Systems Based Practice:**
- Obtain experience in team leadership by beginning to lead education rounds.

**Daily Schedule:**
Cover pagers of all Neurology Ward residents between 12:00 – 1:00 PM Monday through Friday. Participates and supervises daily handoffs

**Suggested Bibliography:**
Assessment and Promotion Policy

The Neurology residency program follows the Virginia Commonwealth University Health System (VCUHS) policy on assessment of housestaff. Further specifics are documented below:

Assessment
Following each rotation, a written evaluation is completed by the responsible attending utilizing the New Innovations online residency management suite. Resident learners are evaluated on patient care, medical knowledge, interpersonal and communication skills, professionalism, practice-based learning and improvement, systems-based practice, clinical judgment, medical knowledge, clinical skills, medical care, humanistic attributes, attitudes and professional behavior, teaching and interest in continuing medical education. An overall performance grade is given to the resident learner for each rotation. Each resident learner can access their evaluations through the New Innovations online residency suite. Alternatively each resident learner has access to his/her evaluations which are compiled in the resident learner’s file. These are reviewed by his/her advisor with the resident learners in meetings with the advisor. The resident learners meet with the program director twice annually to review overall progress, address problems and plan for their future careers. Any serious problem is dealt with immediately by the supervising attending, the program director and the Neurology Educational Progress committee which meets quarterly and on an as needed basis, if necessary.

Promotion
Resident learners must sit for and pass the United States Medical Licensing Examination (USMLE) Step 3, before he/she will be promoted to PGY-3 status. A copy of the USMLE Step 3 score report must be provided to the Program Director upon successful completion.

Conference Attendance Policy

Neurology resident learners are required to attend 80% of the lectures given as part of the VCU Neurology noon conference series, including Neurology Grand Rounds, Neurology/Emergency Medicine Conference, Neuro x 5 Conference, and the GME Core Lecture Series. Most lectures occur Monday through Friday, from 12:15 – 1:15 P.M., and a monthly schedule is both distributed to the department and posted on the Neurology website.

Resident learners who do not attend conference because of approved absences (vacation, night float, pre-approved leave) will be excused and these missed conferences will not be included in the resident learner’s attendance percentage.

An attendance sheet will be available at the beginning of each lecture and it is the responsibility of the resident learner to sign the form. At the end of each 4-week rotation block, the percentage of conferences attended will be calculated. If a resident’s conference attendance percentage is less than 80%, a meeting will be arranged with the program director to discuss why conferences were missed.

An educational assignment based on topics presented in lectures not attended by the resident learner may be assigned by the program director. The resident learner will have one week to complete the assignment. If the assignment is not completed, disciplinary actions will be sanctioned at the discretion of the program director.

It is the expectation of that the senior resident (Ward Senior, Consult Senior, VA senior) carries all pagers for their respective services between 12:15 - 1 pm.
Duty Hours Policy

The Neurology residency program follows the Virginia Commonwealth University Health System (VCUHS) and ACGME policy requirements for resident learner duty hours. This is monitored daily by the resident learner him/herself, as well as senior resident learners and chief resident learners on the inpatient services under the guidance and supervision of the faculty and by monthly card swipe reports reviewed by the program director for compliance. **Resident learners are required to swipe in and out each day. If a resident learner is non-compliant, PEA funds will be suspended.**

ACGME Requirements

1. Supervision of Resident learners
   a) All patient care must be supervised by qualified faculty. The program director must ensure, direct, and document adequate supervision of resident learners at all times. Resident learners must be provided with rapid, reliable systems for communicating with supervising faculty.
   b) Faculty schedules must be structured to provide resident learners with continuous supervision and consultation.
   c) Faculty and resident learners must be educated to recognize the signs of fatigue and adopt and apply policies to prevent and counteract the potential negative effects.

2. Duty Hours
   a) Duty hours are defined as all clinical and academic activities related to the residency program, i.e., patient care (both inpatient and outpatient), administrative duties related to patient care, the provision for transfer of patient care, time spent in-house during call activities, and scheduled academic activities such as conferences. Duty hours do not include reading and preparation time spent away from the duty site.
   b) Duty hours must be limited to 80 hours per week, averaged over a four-week period, inclusive of all in-house call activities.
   c) Resident learners must be provided with 1 day in 7 free from all educational and clinical responsibilities, averaged over a 4-week period, inclusive of call. One day is defined as one continuous 24-hour period free from all clinical, educational, and administrative activities.
   d) Adequate time for rest and personal activities must be provided. This should consist of a 10-hour time period provided between all daily duty periods and after in-house call.

3. On-Call Activities

   The objective of on-call activities is to provide resident learners with continuity of patient care experiences throughout a 24-hour period. In-house call is defined as those duty hours beyond the normal work day when resident learners are required to be immediately available in the assigned institution.

   a) In-house call must occur no more frequently than every third night, averaged over a four-week period.
   b) Continuous on-site duty, including in-house call, must not exceed 24 consecutive hours. Resident learners may remain on duty for up to six additional hours to participate in didactic activities, transfer care of patients, conduct outpatient clinics, and maintain continuity of medical and surgical care as defined in Specialty and Subspecialty Program Requirements.
   c) No new patients, as defined in Specialty and Subspecialty Program Requirements, may be accepted after 24 hours of continuous duty.
   d) At-home call (pager call) is defined as call taken from outside the assigned institution.
      1. The frequency of at-home call is not subject to the every third night limitation. However, at-home call must not be so frequent as to preclude rest and reasonable personal time for each resident learner. Resident learners taking at-home call must be provided with 1 day in 7 completely free from all educational and clinical responsibilities, averaged over a 4-week period.
      2. When resident learners are called into the hospital from home, the hour’s resident learners spend in-house are counted toward the 80-hour limit.
      3. The program director and the faculty must monitor the demands of at-home call in their
programs and make scheduling adjustments as necessary to mitigate excessive service demands and/or fatigue.

4. **Moonlighting**

   a) Because residency education is a full-time endeavor, the program director must ensure that moonlighting does not interfere with the ability of the resident learner to achieve the goals and objectives of the educational program.

   b) The program director must comply with the sponsoring institution's written policies and procedures regarding moonlighting, in compliance with the Institutional Requirements III.

   c) Moonlighting that occurs within the residency program and/or the sponsoring institution or the non-hospital sponsor's primary clinical site(s), i.e., internal moonlighting, must be counted toward the 80-hour weekly limit on duty hours.

5. **Oversight**

   a) Each program must have written policies and procedures consistent with the Institutional and Program Requirements for resident learner duty hours and the working environment. These policies must be distributed to the resident learners and the faculty. Monitoring of duty hours is required with frequency sufficient to ensure an appropriate balance between education and service.

   b) Back-up support systems must be provided when patient care responsibilities are unusually difficult or prolonged, or if unexpected circumstances create resident learner fatigue sufficient to jeopardize patient care.

________________________________________________________________________

Neurology Resident   Date

________________________________________________________________________

Scott A. Vota, DO
Residency Program Director
Department of Neurology
Grievance Policy

The Virginia Commonwealth University Neurology Residency has implemented and abides by the Virginia Commonwealth University Health System Graduate Medical Education Grievance Policy and Procedure. This policy can be located on the GME website:  http://www.medschool.vcu.edu/gme/index.html
Vacation and Leave Policy

The policies and procedures for resident leave used by the Department of Neurology - adhere to the general policies and procedures set forth in the Housestaff Leave Policy approved by the Graduate Medical Education Committee (GMEC) of Virginia Commonwealth University. These policies are set to assure resident compliance with the requirements of the American Board of Psychiatry and Neurology and also to the requirements of federal laws pertaining to employees.

The specific policies and procedures for resident leave used within the Department of Neurology are detailed in the following paragraphs.

I. Types of Leave

1. Family and Medical Leave, Bereavement Leave/Family Sick Leave, Leave of Absence
   a. The Department of Neurology shall adhere to the guidelines for these types of leave set forth by the GMEC of VCUHS.

2. Vacation Leave
   a. All residents within the department will receive fifteen (15) working days of vacation leave per academic year. This does not include the additional five (5) working days of vacation that the residency program provides to each resident in late December/early January.
   b. Vacation leave should be taken in blocks no longer than 2 weeks. Resident full week vacation blocks are to be scheduled in advance, before July 1st of the upcoming academic year. No more than 4 residents will be permitted to take weeklong vacation blocks at the same time, unless an exception is granted by the program director. Two weeks of vacation leave must be taken as contiguous Monday – Friday blocks. The third week may be divided into 2 shorter blocks of total duration five (5) weekday working days.
   c. Vacation leave time will not carry over between academic years.
   d. Graduating residents are required to use vacation time if leaving their residency obligations prior to June 30 (or the last weekday in June, whichever is earlier). Leaving clinical duties prematurely will be considered breech of resident contract, and will be grounds for withholding salary payment to cover the time of absence (in days) beyond the resident’s allowable vacation leave time, and may jeopardize residency completion and board eligibility.
   e. Vacation leave should not be taken during July and August. Scheduled vacations should also avoid dates of the Residency In-Service Examination (RITE). Special approval may be granted at the discretion of the Program Director for special circumstances (wedding, childbirth, eg).

3. Educational Leave
   a. Educational Leave will be used for attendance at approved educational conferences, courses, and symposia.
   b. Educational leave will consist of up to eight (8) weekday working days total for each resident, per academic year.
   c. Attendance at Department-sponsored courses such as Hans Berger, Chemodenervation Workshop, How to be a Teacher Workshop, etc. will not be counted against Educational leave allotment.
   d. Educational leave time will not carry over to successive academic years.
   e. Resident travel for humanitarian missions (i.e. MDA summer camp) is encouraged. Leave for such travel will generally be counted against a resident’s Educational Leave balance. No more than 5 days of total leave (weekday work days) will be given for travel to humanitarian missions. In the event that meeting attendance for research presentation purposes has left inadequate Educational Travel balance (in days) to allow such travel, Professional Discretionary Leave may be granted, at the approval of the Program Director, to provide for a full 5 days of leave. Required travel for such purposes beyond this limit must be taken as vacation leave. Any days of Professional Discretionary Leave granted by the Program Director for Humanitarian Mission Travel will be applied toward the fifteen day limit as outlined in section 4 below.
4. Professional Discretionary Leave
   A. Professional Discretionary Leave will include time used for employment or fellowship interview travel, travel for humanitarian missions as outlined above, or other special circumstances as approved by the Program Director.
   
   B. A maximum of five (5) weekday working days may be taken for Professional Discretionary Leave. Residents requiring more than 5 days leave for job or fellowship interviews will be required to use vacation time for this purpose. Residents are encouraged to anticipate interview travel needs, and plan vacation leave accordingly.

5. Sick Leave
   GMEC policy grants residents up to 30 calendar days per year in sick leave. This cannot be carried over to successive years. Extra compensation will not be granted in lieu of sick leave. Sick leave may not be used for vacation or conference attendance.

6. Educational Training Leave
   Elective educational rotations away from VCUHS and its affiliated training sites will only be permitted upon approval by the program director, when such rotations, whether clinical or research oriented, might provide for a scope or depth of educational experience not available within the residency program. The duration of any such educational leave will generally not exceed 1 month, and will be established by the Program Director in consultation with the Director of Graduate Medical Education for VCUHS.

II. General Leave Policies and Procedures
1. It is the responsibility of the Chief Resident to coordinate resident vacation schedules at or prior to the beginning of each Academic year to allow for adequate coverage of clinical care needs, in compliance with the guidelines set forth in this policy.

2. All requests for planned leave (Educational leave and professional discretionary leave) must be submitted in writing to the Chief Resident and Residency Coordinator at least 2 months in advance, so that any necessary adjustments to clinical schedules can be made. All requests must be approved by the Program Director and the Chief Resident. The response from the program director will occur no less than 6 weeks prior to the requested leave.

3. In the event of an unplanned absence or an illness: call to inform the Chief Resident(s) and Program Director, call the Attending Physician with whom you are working, call the VA if you are on rotation (675-5127), call the Program Coordinator (828-9940).

3. A maximum of four residents will be allowed to be on Vacation, Educational or Professional leave at the same time. Exceptions may be made, at the discretion of the Program Director, and pending clinical coverage needs, for more than four residents to take Educational leave. In the event that more than four residents wish to take leave simultaneously, leave requests will be approved in the order in which they were submitted. However priority in approving Educational leave will be given to residents requiring educational leave to present original research.

4. Residents with unexcused absences (e.g. not for illness, vacation, or emergency situation) will be subject to disciplinary action at the discretion of the Program Director and Chairman, which may include probationary status or dismissal from the program.

___________________________________________________
Neurology Resident  Date

__________________________________________________
Scott A. Vota, D.O.  Date
Residency Program Director
Moonlighting Policy

The purpose of this policy is to ensure that moonlighting by Neurology resident learners does not interfere with the primary educational objectives of the residency program. In addition to the guidelines listed below, resident learners must also conform to the Virginia Commonwealth University Health System (VCUHS) GME Policy on Housestaff Moonlighting.

Guidelines:

1. Moonlighting may be performed only after successful completion of the junior (PGY2) year, and with written permission of the program director. **All moonlighting shifts must be provided to the Program Director and approved in advance.**

2. Moonlighting is restricted to those resident learners who are in academic good standing. Academic good standing is defined as: (a) attendance at required departmental conferences each month; and (b) no unsatisfactory evaluations by faculty within the previous year. Continued moonlighting for any resident learner requires satisfactory (50th percentile ranking or greater among examinees in the same year of training) and interval improvement on the in-service exam.

3. Moonlighting at outside institutions or practices may be permitted, after discussion of the specifics with the program director. The resident learner must provide evidence of full and unrestricted licensure with their written request to participate in moonlighting activities. The training license (limited license) is not adequate. Written documentation of malpractice coverage by the outside institution must be provided to the program director.

4. A Moonlighting Request Form must be submitted to the GME office for approval every 6 months.

5. Moonlighting activities must not interfere with any required obligations of the residency program, including regular clinical hours, on-call periods, weekend coverage, and conferences. In order to comply with the ACGME mandated resident work hour rules, moonlighting is not permitted on Sunday through Thursday nights. It is permitted on Friday through Sunday nights only if the following restrictions are met:
   a) the resident learner does not have assigned residency duties on the post-moonlighting day;
   b) total work hours (including moonlighting) do not exceed 80 hours per week; and
   c) the resident learner has one day off per week during which he/she has no moonlighting or resident duties.

6. While assigned to inpatient ward services, moonlighting is not permitted.

7. Moonlighting activities must be limited to no more than four shifts per month.

8. A resident learner's moonlighting privileges may be suspended at the discretion of the program director.

9. Those failing to adhere to the moonlighting policy will be subject to disciplinary action, which may include probationary status and dismissal from the program.

10. Any resident learner who is prohibited from moonlighting on the basis of these guidelines may submit a written appeal which will be considered by the Neurology Residency Education Committee. Further appeal may be made in writing to the Department Chair.
Selection Policy

The program follows the VCUHSGME Resident Eligibility and Selection policy, with the following addition:

Minimum criteria for the specialty:
1. Prior to beginning Neurology training, the resident learner must successfully complete an initial first year of graduate education accredited by the ACGME or the Royal College of Physicians and Surgeons of Canada that includes a broad clinical experience in general internal medicine.
2. All applicants for a residency program at the PGY2 level must have passed Steps 1, 2, and 3 of the USMLE or COMLEX.
Supervision Policy

The program follows the Virginia Commonwealth University Health System (VCUHS) policy on the supervision of housestaff. Further specifics are documented below:

1. Neurology resident learners on ward and consult rotations at VCUHS and at the Hunter Holmes McGuire Veteran’s Affairs Medical Center (VA) are supervised by the ward and consult attendings during daytime hours (8:00 AM - 5:00 PM). In the evening hours, the on-call attending is available by pager to supervise patient care and related issues.
   - At VCUHS the PGY-3 or PGY-4 neurology resident learner is available immediately in the hospital to assist and supervise the PGY-2 resident learner.
   - A PGY-3 or PGY-4 neurology resident learner is available by telephone/pager for the VA.
2. Ward and Consult resident learners will communicate with their attending about the patients on their service during rounds, at about 5 p.m. (before leaving for the day), and as needed at other times.
3. Patients who are being discharged from the Emergency Department will be discussed with the Senior Resident Learner (if applicable), and then with the attending. The attending will be the Ward or Consult attending during the day, and the attending on call at night. This communication will occur before the patient is actually discharged.
4. At night, the resident on call will discuss new patients and urgent medical issues with the Senior Resident, who will assist him/her in formulating the case and developing a care plan. The resident on call will communicate with the attending on call about admissions and patient care.
5. Any acute stroke patient who is being considered for administration of TPA must be discussed with the stroke attending on call for that day/night.
6. The Program Director may be reached at any time by pager or by home telephone or mobile phone.
7. During the months of outpatient care, EEG, EMG, neuroradiology, neuropathology, or elective, the resident learner is supervised by the physician coordinator for that rotation, or the specialty attending that she/he designates. The Program Director is available, if needed.
8. During Resident Continuity Clinic, the resident learner is supervised by the attending assigned to that clinic, which is present and immediately available.
9. During Child Neurology rotations, the resident learners are supervised by the on-site attending covering that service during the day. All patients consulted on at night are discussed with the designated attending by telephone.

Factors the Require Attending notification:
1. Possible Emergency Department discharge
2. Admission to the hospital
3. Transfer of the patient to the intensive care unit
4. Need for intubation or ventilator support
5. Cardiac arrest or significant changes in hemodynamic status
6. Death of patient
7. Development of significant neurological changes
8. Development of major wound complications
9. Medication errors requiring clinical intervention
10. Any significant clinical problem that will require an invasive procedure or operation
11. Any other time the resident learner has a question or concern about patient care or safety

Educational Travel, Stipend, and Reimbursement Policy

The Department of Neurology at the Virginia Commonwealth University recognizes the importance to the resident educational experience of participation in professional society meetings, symposia, and educational conferences. To that end, the Department shall make every effort to foster resident research leading to submission of papers for presentation at such meetings, and also to allow resident attendance at conferences and symposia of particular educational value. The following policy is created to provide the necessary financial support to allow resident travel to and thus participation in such educational experiences.
Resident Educational Travel Policy

1. Any resident planning educational travel must complete a departmental leave request form. This must be submitted to the Chief Resident and Residency Coordinator for approval by the Program Director at least 2 months prior to the beginning of the month in which the travel will occur to allow for any needed adjustments in call or clinic schedules. A response will be provided by the program director no later than 6 weeks prior to requested leave. Special allowances may be granted at the discretion of the program director if adequate advance notice is not possible. The maximum number of days a resident may take for educational leave for meeting attendance is given in the Resident Leave Policy. Residents may attend more than one meeting in any given academic year, provided the number of days falls within the limit for educational leave set for their post-graduate year. The limits do not apply to the courses listed in items 4 and 5 below, or any of the Departmental courses given throughout the year, as these meetings and courses are considered an integral part of the educational program.

2. For any meeting or educational experience requiring travel, the resident must submit a travel expense proposal to the Program Coordinator for approval by the Program Director, or travel expenses will not be reimbursed. This must also be submitted at least 2 months prior to the beginning of the month in which the travel will occur. This must include a listing of major expenses, including, but not limited to meeting registration, airfare/transportation, lodging, and food. Society dues will be reimbursed only if society membership is required for attendance to the meeting being attended. It should be noted that all residents are provided with required yearly dues for membership in the American Academy of Neurology. All residents are provided by the department with $1000.00 educational stipend to help support and foster educational leave. Additional scholarships sponsored by the Department may also be used to help support such travel.

3. All residents will be registered for the annual Hans Berger symposium and encouraged to attend. The Department will pay for the registration. Dates of attendance will not be counted against the resident’s leave balance.

4. Travel to other Educational Meetings/Symposia. Residents are also encouraged to seek out educational courses of particular educational merit sponsored by industry and professional societies. Attendance at such meetings will be counted toward resident educational leave allotment, and thus subject to limits on resident educational leave. No funding will be provided by the department.

8. Resident Travel Funds – provided appropriate leave and expense proposal forms have been submitted as specified above, resident travel expenses will be provided as follows:

   a. Each resident will be allocated a maximum of $1000 to travel to a meeting of significant educational value. These funds are for the entirety of his/her residency. All receipts need to be turned into the residency coordinator within thirty (30) days of return from the educational meeting. Additionally, all graduating residents must complete travel and have completed receipt return, forty-five (45) days prior to anticipated graduation.

9. Specific travel expenses and issues:

   a. Food allowance: The maximum daily reimbursement for food will be that set by Virginia Commonwealth University. If meals are provided by the conference, separate reimbursement will not be approved. Cost of alcoholic beverages will not be reimbursed. If itemized bill/receipt is not available, reimbursement may be withheld.
   
   b. Lodging: Residents will be required to share rooms whenever possible. Residents choosing not to share a room, and traveling with a spouse or other companion, will receive reimbursement for only 50% of lodging expenses. Only overnight lodging required to allow participation in meeting educational activities will be reimbursed. As such, lodging expenses for nights in excess of the length of the meeting will not be reimbursed.
   
   c. Airfare/transportation: Residents will only be reimbursed for the coach fare. Boarding passes must be submitted for reimbursement. Rental cars will not be reimbursed, except in cases where rental costs
approximate the total costs of airport shuttles or taxis incurred by all resident(s) sharing the rental car. Expenses for use of personal car for travel will be reimbursed per guidelines set by Virginia Commonwealth University.

d. Receipts: A Travel reimbursement form with itemized receipts and boarding passes must be submitted within 30 days of return from trip, or reimbursement will not be made.

e. Meeting registration and society dues: All meeting registration and course fees will be reimbursed up to the limits outlined elsewhere in this policy. Society dues will be reimbursed only if society membership is required for attendance at meeting attended.

___________________________________________________________
Resident Signature       Date
___________________________________________________________
Scott A. Vota, D.O.                        Date
Residency Program Director
Sample Block Rotation Evaluation (Formative)

There is a customized evaluation form for each rotation, based on the goals and objectives for that rotation. Below is a sample evaluation form for the PGY-2 Neurology Ward Rotation.

Neurology Wards (MCV) PGY-2

Instructions: Evaluate the resident learner on the overall performance of each of the following competencies based on the objectives for the rotation by selecting a rating which best describes your opinion of the learner.

The resident learner demonstrated/was able to:

1. Elicit a complete neurological history and perform an appropriate general and neurologic examination
   - Below competence
   - Needs improvement, but competent
   - Competent
   - Superior Performance

2. Identify and describe abnormalities seen in common neurologic disorders on radiographic testing, including plain films, myelography, angiography, CT, and MRI
   - Below competence
   - Needs improvement, but competent
   - Competent
   - Superior Performance
   - N/A

3. Evaluate the application and relevance of investigative procedures and their interpretation in the diagnosis of neurologic disease including EEG, motor and sensory NCS, EMG, EP, polysomnography, electronystagmogram, CSF analysis
   - Below competence
   - Needs improvement, but competent
   - Competent
   - Superior Performance
   - N/A

4. Recognize and treat potentially life-threatening neurologic disorders
   - Below competence
   - Needs improvement, but competent
   - Competent
   - Superior Performance

5. Critically assess the neurologic literature as it relates to patient diagnosis, investigation and treatment
   - Below competence
   - Needs improvement, but competent
   - Competent
   - Superior Performance

6. Participate daily in the interdisciplinary rounds with speech therapy, nursing, occupational therapy, and physical therapy for the rehabilitation and care needed for patients with neurologic diseases
   - Below competence
   - Needs improvement, but competent
   - Competent
   - Superior Performance

7. Demonstrate interpersonal skills and documentation habits needed for effective communication with fellow physicians, patients, families and allied health professionals, including:
   - Effective listening
   - Use of informed consent when ordering investigative procedures
   - Maintenance of accurate, timely and legible medical records
Below competence Needs improvement, but competent Competent Superior Performance

8 Demonstrate the following professional skills in time management:
- Recognize that effective use of time depends upon punctuality
- Recognize that effective use of time requires planning
- Develop speed as well as accuracy in clinical skills
- Reserve time for reading and keeping current with the neurologic literature

Below competence Needs improvement, but competent Competent Superior Performance

9 Utilize appropriate consultation and referral for the optimal management of patients with complicated medical issues

Below competence Needs improvement, but competent Competent Superior Performance

10 Facilitate learning of patients, house staff/students and other health care professionals

Below competence Needs improvement, but competent Competent Superior Performance

11 Overall Assessment

Below competence Needs improvement, but competent Competent Superior Performance

Overall Comments:
Multiple Evaluator Evaluations

The program utilizes a multiple evaluator evaluation process. These evaluations consist of measurement tools completed by multiple individuals, including patients, nurses, medical students, peers, and self evaluations.

Patient Evaluation

As part of an evaluation process by the VCU Medical Center Residency Program for Neurology, you are being asked to complete this brief questionnaire about the physician pictured below.

Your answers to the following questions will remain confidential. Participation will not affect your current or future care at the VCU Medical Center.

Did this physician:

1. Listen to you carefully
   - Outstanding
   - Satisfactory
   - Poor

2. Use words you can understand when explaining your evaluation and treatment
   - Outstanding
   - Satisfactory
   - Poor

3. Seek your input before making decisions
   - Outstanding
   - Satisfactory
   - Poor

4. Answer your questions
   - Outstanding
   - Satisfactory
   - Poor

5. Show interest in your condition
   - Outstanding
   - Satisfactory
   - Poor

Would you recommend this physician to a friend and/or family member?
- YES
- NO

Please return the completed form to your patient services representative or to your nurse.

Thank you for your time and input.
NEUROLOGY HOUSESTAFF PERFORMANCE NURSING EVALUATION FORM

Resident Name: _________________________ Date: ______________

The resident learner:

PATIENT CARE
1. Exhibits compassion and genuine concern for patients.
   □ Outstanding  □ Satisfactory  □ Poor

2. Demonstrates respect of patients' rights and privacy.
   □ Outstanding  □ Satisfactory  □ Poor

3. Demonstrates willingness to be available for counseling and educating patients and families.
   □ Outstanding  □ Satisfactory  □ Poor

INTERPERSONAL AND COMMUNICATION SKILLS
4. Functions effectively as leader or team member in patient management.
   □ Outstanding  □ Satisfactory  □ Poor

5. Available to nursing staff within a reasonable time when assistance is needed.
   □ Outstanding  □ Satisfactory  □ Poor

6. Communicates effectively and respectfully with nursing staff and other ancillary staff members.
   □ Outstanding  □ Satisfactory  □ Poor

PROFESSIONALISM
7. Displays sensitivity to diverse patient populations.
   □ Outstanding  □ Satisfactory  □ Poor

8. Demonstrates ability to handle ethical issues in a professional manner.
   □ Outstanding  □ Satisfactory  □ Poor

9. Exhibits professional attitude toward nursing staff and team members.
   □ Outstanding  □ Satisfactory  □ Poor

10. Demonstrates responsible and dependable behavior.
    □ Outstanding  □ Satisfactory  □ Poor

11. Adheres to protocols for infection control and proper waste disposal.
    □ Outstanding  □ Satisfactory  □ Poor

COMMENTS:
__________________________________________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________

101
### Student Evaluation of Resident

This person improved my knowledge and skills in clinical medicine.

<table>
<thead>
<tr>
<th>Rating</th>
<th>Rating Description</th>
<th>Frequency</th>
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<tbody>
<tr>
<td>5</td>
<td>Strongly Agree</td>
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<tr>
<td>4</td>
<td>Agree</td>
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<tr>
<td>3</td>
<td>Neither Agree nor Disagree</td>
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</tr>
<tr>
<td>2</td>
<td>Disagree</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Strongly Disagree</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>N/A</td>
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</tbody>
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Average: 

Comments: 

This person demonstrated skill at effective information exchange and teamwork with patients, their families, and other health professionals.

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<tr>
<td>3</td>
<td>Neither Agree nor Disagree</td>
<td></td>
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<tr>
<td>2</td>
<td>Disagree</td>
<td></td>
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<tr>
<td>1</td>
<td>Strongly Disagree</td>
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<tr>
<td>0</td>
<td>N/A</td>
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</table>

Average: 

Comments: 

This person demonstrated a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.

<table>
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<tr>
<td>4</td>
<td>Agree</td>
<td></td>
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<tr>
<td>3</td>
<td>Neither Agree nor Disagree</td>
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</tr>
<tr>
<td>2</td>
<td>Disagree</td>
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</tr>
<tr>
<td>1</td>
<td>Strongly Disagree</td>
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<tr>
<td>0</td>
<td>N/A</td>
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</tbody>
</table>

Average: 

Comments:
Resident Commendation or Concern Notice

Please complete this form if you wish to recognize exemplary behavior or wish to note concerns of a Neurology resident.

Resident Name: ___________________________                     Date: ____________
Person Originating this Notice Printed Name: _______________________________
Person Originating this Notice Signature: _______________________________
Title/Role of Person Originating this Notice: _______________________________

This form is being completed based on:
☐ my direct observations/encounters with the resident
☐ information provided to me by a third party

Please mark the area which best describes your concerns about this resident. Provide comments in the space provided below.

| Medical Knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care | Exemplary | Comments: |
| Patient Care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health | Exemplary | |
| Interpersonal and Communication Skills that result in effective information exchange and teaming with patients, their families, and other health professionals | Exemplary | |
| Professionalism as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population | Exemplary | |
| Practice-Based Learning and Improvement that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, and improvements in patient care | Exemplary | |
| Systems-Based Practice as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value | Exemplary | |

Intervention:

________________________________________________________________________________________________
________________________________________________________________________________________________
________________________________________________________________________________________________

Follow-Up:

________________________________________________________________________________________________
________________________________________________________________________________________________
________________________________________________________________________________________________

Resident Signature: __________________________________________
Program Director Signature: _________________________________
How do you feel about your progression and maturation in clinical care over the past six months? What areas of CLINICAL neurology do you feel that you need to improve?

How do you plan to improve on your areas of deficiencies to better prepare for the boards? (Be specific, "read more" is not an acceptable answer)

How many ABPN exams have you completed to date?

Please describe some of your short term career goals (fellowship, private practice, etc.)

**For PGY 2 Residents Only:**
What are some areas of research you would like to explore in the upcoming year?
Residency In-Service Training Examination (RITE)

Objective

The American Academy of Neurology (AAN) Residency In-Service Training Examination (RITE) is a self-assessment tool designed to gauge the knowledge of neurology and neuroscience, identify areas for potential growth, and provide references and discussions for each.

For more information about the RITE, including a content outline, please visit:
http://www.aan.com/go/education/residents/rite

RITE Scores

- Each examinee receives an individual report of his/her scores, including percent correct, percentile rankings compared to entire examinee population, and percentile rankings compared to others in the same level of training
- Each resident will meet with the program director on an individual basis to discuss results and areas of improvement
- Board Review and RITE Review courses for the following academic year will address specific weaknesses identified on the previous year’s RITE.

Test Dates

The examination is scheduled for the last Thursday and Friday in February, and is given in two sessions during the same day. Each session lasts three and a half hours.
NEUROLOGY CLINICAL EVALUATION EXERCISE (NEX.v1)

Examiner Name: ___________________________    Examiner Signature:  ___________________

Resident Name: ___________________________    Resident Signature:  ___________________

Case Scenario (check one)      Date:  __________

- Critical Care
- Ambulatory
- Neuromuscular
- Neurodegenerative
- Child Neurology for Adult Neurology Resident
- Adult Neurology for Child Neurology Resident

Level of Training PG ___

Age of Patient (for Pediatric Cases) ___

Performance Ratings

<table>
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<td>5 Acceptable</td>
</tr>
<tr>
<td>2 Poor</td>
<td>6 Very Good</td>
</tr>
<tr>
<td>3 Unsatisfactory</td>
<td>7 Excellent</td>
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<tr>
<td>4 Borderline but Unacceptable</td>
<td>8 Outstanding</td>
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<td>3</td>
<td>7</td>
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<td>4</td>
<td>8</td>
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</tbody>
</table>

A. Medical Interviewing Skills
B. Evaluation of Neurological Examination Skills
   - Mental Status
   - Cranial Nerves
   - Sensory
   - Motor Exam
   - Reflexes
   - Cerebellar
   - Station and gait
C. Humanistic Qualities, Professionalism, and Counseling Skills

D. Overall Evaluation (score 1-8) ____________  □ Unacceptable □ Acceptable
E. Presentation/Formulation (score 1-8) ____________

Evaluator’s Comments:
(Main strengths, weaknesses, and goals for improvement)
Summary of Faculty Evaluations

Reviewed resident learner's research project progress to date

Yes Yes No

Comments

Resident learner is on track with ABPN Clinical exam progress
PGY-2 year, complete 2 exams
PGY-3 year, complete 2 exams
PGY-4 year, complete 1 exam

Yes Yes No

Comments

Reviewed Resident Learner's IEP

Yes Yes No

Comments

Reviewed resident learner's procedure logs

Yes Yes No

Other Comments

For PGY-2 resident learners only: Step 3 status
Evaluator:  Subject:
Rotation:
Employer:

Summary of RITE result discussion

Reviewed resident learner's plan to improve RITE deficiencies

Yes  No

Comments

Reviewed multiple evaluator evaluations (patient, nurse, student, peer, self)

Yes  No

Comments
Sample Resident IEP Form

Resident Learner IEP
Evaluator:  Subject:
Rotation:
Employer:

Learning Objectives: Please list at least three measurable things that you want to learn in the next 6 months and feel necessary to your education as a neurologist (can be areas of medical knowledge, patient care, professionalism, interpersonal and communication skills, systems-based practice)

Comments

Learning Resources and Strategies: Indicate the resources you intend to utilize to attain your learning objectives listed above. These can be print, media, electronic, faculty members

Comments

Evidence of Accomplishment of Objectives: How will you know that you have achieved your learning objectives? How will you measure success? Also please indicate how you will implement this learning into your practice (practice-based learning).

Comments

Criteria and Means for Validating Evidence: How can you show that you have learned and retained the information? Examples: Improvement on rotation evaluations completed by faculty, comments from faculty, nurses, patients; improvement on self-study board review questions, improvement on RITE

Comments
**Faculty Mentors**

The residency program is creating a new mentoring program for our residents. Each residency class will have a faculty mentor who will meet with each group once a month or every other month. The mentoring group will have $500 to use to supply food for these meetings. These meetings can take place on campus or off. The intent is for each residency class to discuss issues pertinent to their pgy level with one mentor. Some topics which may be discussed include:
- evolution from learner to teacher
- career development
- time management
- documentation and billing
- research
- resident’s well being
- areas of concern at a class level
- improving medical knowledge

These meetings can be as formal or informal as the group wishes. Residents will still be able to look to other faculty members for advice as it relates to a specific subspeciality, etc.

For the 2012–2013 academic year, the faculty mentors are:

PGY 2: Dr. Soundarya Gowda  
PGY 3: Dr. Scott Haines  
PGY 4: Dr. Hamid Sadeghian
Resident Case Log

Case logs help to document medical procedures in which a resident may perform. While the ABPN does not require procedure logs, it would be a good idea for residents to track procedures performed.

At VCUHS, in order to obtain credentials to perform lumbar punctures and central lines independently, residents are required to track these two procedures in New Innovations. A minimum of three LPs and central lines are required to be tracked and signed off as “passed” by faculty or resident supervisors.
PGY-2 Baseline Neurology Knowledge

As part of orientation during the first month of training, each PGY-2 Neurology resident should review the online modules concerning basic neurology. A quiz will be given after the second month of resident (ample opportunity to review the online lectures as well as participate in the neurology crash course. This is basic neurology medical knowledge that each incoming resident should possess, as determined by the program director and faculty.

A minimum score of 75% is expected, if a resident scores less than 80%, the resident will be expected to review online lectures created by the faculty on deficient topics and will meet with the residency director to discuss areas of deficiency.

The online lectures can be found on the M-3 Neurology website at:
https://ecurriculum.som.vcu.edu/portal/resources/m3corelectures/neurology/index.html

EID and password required.
To determine your EID and set password: https://ecurriculum.som.vcu.edu/portal/login/eID.html
Neurology Resident Journal Club (monthly)

The ACC Sr. Resident is responsible for selection of the journal article with Dr. Vota.

Journal Club is held monthly. Please see the noon conference schedule and yellow book to see when each resident is scheduled.

The program utilizes the American Academy of Neurology’s Evidence Based Medicine (EBM) Journal Club Framework. Resident learners are asked to read the selected article and review the framework of analysis (found on the next page) before the journal club.

The resident learner assigned to facilitate the session leads a discussion of the resident learners’ and faculty members’ responses based on the framework of analysis.
Framework for Manuscript Analysis

I. Is there a valid statistical association:

Is the association likely to be due to chance?
  p-values
  confidence intervals

Is the association likely to be due to bias?
  Selection bias
  Information bias
  Recall bias
  Observer bias

Were substantial numbers of patients lost to follow-up or otherwise unevaluable?
  Flow diagram

Is the association likely to be due to confounding?

Is there effect modification?

How substantial is the non-differential misclassification?

II. Can this valid statistical association be judged as cause and effect:

Is there a strong association?

Is there biological credibility to the hypothesis?

Is there consistency with other studies?

Is the time sequence plausible?

Is there evidence of a dose-response relationship?

Is there supportive experimental evidence?

Can analogies be drawn from other diseases which support the conclusion?

III. To what groups is this cause and effect relationship generalizable:

Is the study group representative of the larger population of patients with this disease

Are the interventions and study procedures applicable outside of the investigational setting?
Basic neuroscience podcasting curriculum

To ensure that residents have basic neuroscience lectures available to them while not minimizing clinical exposure, a basic neuroscience podcast curriculum has been developed for residents to independently review. Residents can access these podcasts through the VCU School of Medicine website and go to the ecurriculum section.

The link to the website is: https://ecurriculum.som.vcu.edu/portal/student/course.aspx?id=2286

Recommended listening curriculum:

July:  
- Basic Organization of the Nervous System
- Survey of Human Neuroanatomy

August:  
- Cranial and Spinal nerves
- Meninges and Ventricles
- Blood Supply and the Blood-Brain Barrier

September:  
- Metabolism and the Brain
- Functional Neurohistology
- Glia

October:  
- Synaptic Transmission
- Neurotransmitters and their Receptors
- Synaptic Plasticity
- Sensory Receptors

November:  
- Somatosensory Circuitry: touch and Proprioception
- Somatosensory Physiology: touch and Proprioception
- Somatosensory Circuitry: Pain and Temperature
- Somatosensory Physiology: Pain and Temperature

December:  
- The Auditory System
- The Vestibular System
- Clinical Correlation: Auditory/Vestibular System
- Clinical Correlation: Sensory Systems

January:  
- The Chemical Senses
- Vision: The Eye
- Central Visual Pathways
- Visual Defects and Reflexes

February:  
- Lower Motor Neurons: Circuits and Motor Control
- Upper Motor Neurons control of the Brainstem and Spinal Cord 1
- Upper Motor Neurons control of the Brainstem and Spinal Cord 2

March:  
- Modulation of Movement by the Basal Ganglia
- Modulation of Movement by the Cerebellum
- Eye movements and Sensory Motor integration
- The visceral motor system

April:  
- The Hypothalamus
- Emotion
- Thalamus
- Higher Cortical Processing

May:  
- Memory
- Trauma and the Brain
- Vascular Lesions and the Brain
- Aging of the Nervous System
- Repair and Regeneration in the Nervous System

June:  
- Brain development 1: Early Brain development
- Brain development 2: construction of the neural circuits
- Brain development 3: Modification of neural Circuits
Continuum Assignment

The next semiannual Continuum examination has been scheduled for Friday morning December 7, 2012. The required reading material for the examination are in these issues of Continuum:

2. Peripheral Neuropathy February 2012
3. Neurooncology April 2012

These are available as a hard copy in Dr. Vota's office. They are also available online at www.AAN.com and can be accessed through the VCU library. If you need assistance, please contact the residency coordinator and/or chief residents.

The exam will consist of 40 questions taken directly from the text. It is expected that an individual scores at least 70% on the examination.

The exam will be given at 7:30 am and 8 am. A schedule will be distributed prior to the examination.

Good luck.

-The Neurology Education Committee
Neurology Noon Conference Series

The noon conference series is designed as clinically oriented, case-based conferences that provide guidance on practical issues that arise during the routine care of patients with specific neurological disorders. After the neurology crash course, the curriculum has changed for this academic year. We have moved to a subspeciality based curriculum. For example, when the lecture topic is epilepsy, the child neurology, pathology, neuroradiology, journal club, and board review will all have that same common theme. This will continue throughout the academic year.

Crash Course Lecture Series

During the months of July and August as part of the neurology noon conference series a Crash Course is held daily at noon in the Main Hospital 11th floor conference room.

This intent of this conference is to provide all neurology residents, with emphasis placed towards the new PGY-2 residents, a Crash Course of how to perform a neurologic examination, what resources are available to the residents, ethics, diagnosis and treatment of common neurologic ailments, pharmacology of common neurologic medications, neurocritical care, and many more useful topics.

This series is not intended to be all inclusive, however, will smooth the transition for incoming neurology residents into their chosen specialty, and provide the framework for future development along their path to a successful residency.

For the PGY-3 and PGY-4 resident, the intent of this Crash Course is to solidify their basic fund of knowledge in neurology as well as using this course to help prepare for upcoming board examinations. This Crash Course is well received by all residents.

Lectures are given by Neurology faculty members, faculty members in other specialties, as well as other individuals in the medical community which has expertise in their fields (Speech pathologist, physical therapists, etc.)
**Competency Committee**

The Neurology Competency Committee is a group of four faculty members who monitor the progress of all neurology residents. The committee meets and discusses residents on a quarterly basis, and more frequently, as the need arises. The goal of the committee is to ensure that all residents are progressing through their neurology training at an appropriate level. The committee wants to ensure that all graduating neurology residents have obtained the necessary education to be competent neurologists.

If a concern arises, the competency committee reviews all the necessary documents and proposes disciplinary actions (if needed), as well as recommendations for improvement/remediation.

The voting members are: Dr. Elizabeth Waterhouse, Dr. Sam Taylor, Dr. Soundarya Gowda, and Dr. Xinli Du. Dr. Scott Vota, the program director, moderates the meetings and acts as a non-voting resident advocate. If a non-majority decision is rendered, the department chair makes the final decision.

A resident has the ability to appeal a decision of the education committee through the VCU GME appeals process which is outlined in the VCU Grievance Policy.

**Education Committee**

The Neurology Education committee is a group of faculty and residents who will meet on a quarterly basis to review the educational curriculum and continually look for ways to improve the educational experience for our residents. The committee will meet for one hour. The faculty serving on the committee include: Dr. Olavo Vasconceles, Dr. Leslie Cloud, Dr. Larry Morton, and Dr. Shekar Raman. The chief residents will attend these meetings as well as at least one resident from each PGY level.
New Innovations

New Innovations is an online residency management program which is utilized by VCU. The Department of Neurology uses the following features:

1. Evaluations
   a. Attendings evaluations of residents
      i. Residents must log in and electronically acknowledge that they have reviewed the evaluations of their performance on each rotation
   b. Resident evaluations of attendings
      i. After each block rotation residents will be asked to anonymously evaluate their attendings. The program eliminates the resident’s name and the dates of rotation.

2. Goals and Objectives Distribution
   a. Prior to the start of each block rotation residents are required to log in to New Innovations and review the goals and objectives for that rotation, and electronically acknowledge doing do

3. Procedure Log
   a. Residents are required to maintain a log of procedures performed.

New Innovations Instructions

Website address: http://www.new-innov.com
Institution: VCUHS (must be in caps)
Username: first initial last name – jdoe (must be in lowercase)
Password: default is username
(Contact Camille Smith or Jennifer Cheatham if you need your password reset)

COMPLETING EVALUATIONS
- To complete an evaluation, select EVALUATIONS from the main menu, or from your Welcome Screen
- Scroll down to the bottom of the page, under TOOLS, select COMPLETE EVALUATIONS

SIGNING EVALUATIONS
- To sign an evaluation, select EVALUATIONS from the main menu, or from your Welcome Screen
- Scroll down to the bottom of the page, under TOOLS, select SIGN EVALUATIONS

PROCEDURE LOGGER
- To enter a procedure, select PROCEDURE LOGGER from the main menu
- Click “Add Procedure Logs”

CURRICULUM
- To view Curriculum, select CURRICULUM from Main Menu

PORTFOLIO
- To view or add to your Portfolio, select PORTFOLIO from Main Menu
- To add:
  - Select the item to add from the drop down menu, click ADD and follow instructions on the screen
- To view:
  - Click VIEW ACTIVITIES
Scholarly Activities

Resident Research Experience

The Department of neurology has a strong tradition of both basic and clinical research and intends to actively involve our neurology residents in these endeavors.

The philosophy of the Department of Neurology is that research should be a part of each resident’s educational experience. This will be a valuable experience that will benefit the resident throughout his/her many years of practice, whether it is in an academic or private practice setting. The ACGME Residency Review Committee in Neurology also mandates resident participation in scholarly pursuit. Our residents are already quite active in assisting the Neurology attendings in ongoing clinical trials, as well as performing literature searches for their PGY-3 case presentations, and their PGY-4 formal Grand Rounds presentations.

To better enhance the resident research experience, the department has developed an exciting research experience plan for residents to complete during their residency. Abstract submission to the American Academy of Neurology, the American Neurological Association, or a subspecialty meeting is also highly encouraged.

Examples of research projects include the following:
  - Basic and translational science
  - Clinical research
  - Outcomes and health care utilization research
  - Education research
  - Clinical case presentation with review of the literature

Each resident, upon matriculating to the Virginia Commonwealth University Neurology residency program will be given a list of the active, ongoing research being performed by each faculty member.

Each resident will choose a faculty mentor to support this project. In addition to overseeing the specific project, the mentor will instruct the resident in more general issues of study design, funding, and implementation. Formal lectures on research are given in the neurology Crash Course lecture series.

A suggestive timeframe for this research experience is as follows:
PGY-2 year: Identify a faculty mentor and meet to discuss possible projects
  - Inform your advisor and program director of your project
PGY-3 year: Begin research project during a four-week rotation independent research block
  - Provide year end summary of progress made to mentor and program director
PGY-4 year: Complete research project
  - Present at VCU Resident Research Day
  - Submit an abstract to a national meeting
  - If appropriate, prepare the formal PGY-4 grand rounds presentation based on the research performed.

Dr. Scott Vota will serve as faculty coordinators for the Neurology resident research experience. The Quality Improvement projects can count as a resident’s research experience.
PGY-3 Case Study

This assignment is designed to help you develop a well-rounded and independent approach to the care of neurology patients, to explore in depth a topic of interest to you, and to emphasize the Core Competencies required by the ACGME.

The PGY-3 year is an ideal year for this project—you have a little more time available to explore a topic of your interest, you may be trying to figure out if there is a subspecialty that interests you for future training, and you rotate through consults and specialty clinics, seeing a wide variety of diagnoses.

Your advisor will be available to assist you if you need help, or would like someone to review it. You may ask any neurology faculty member for advice or assistance.

You will present your case at a dinner event, held during the last week of April.

You first need to submit your case as a Word document, with attached figures and/or images to the program director one week prior to the dinner event. Number each of the portions of the submission, according to the nine numbered items listed below. References and formatting should follow the recommendations to authors for the journal Neurology (available at http://submit.neurology.org).

1) **Succinct case report**, focusing on the essentials of the patient’s history, exam, and laboratory values, and any other relevant information (pertinent aspects of the family & social history, pertinent medications, etc.). This should be no longer than 2 paragraphs. The case may be something common or rare, inpatient or outpatient. Common things, such as carpal tunnel syndrome, optic neuritis, or migraine, are always good to learn more about. Less common diagnoses, such as nemaline rod myopathy, or Creutzfeldt-Jakob disease are important too, and you wouldn’t want to miss these diagnoses! An illustrative image or figure (i.e. MRI, EEG, muscle biopsy, EMG waveform etc.) may be included.

2) **A differential diagnosis**

3) The **final diagnosis** and a discussion of how this diagnosis was arrived at.

4) **Pose a clinical question** that the case made you wonder about (i.e. What percent of carpal patients require surgery? What is the risk of stroke in a young female patient on oral contraceptives with migraines? How effective is the ketogenic diet for intractable epilepsy? How sensitive and specific is the 14-3-3-protein for diagnosing CJD? What are the data to support carotid endarterectomy as a treatment for carotid stenosis?) Perform a literature search and find 2 articles, published over the past 5 years, that you think are enlightening, and relate to the question(s) you have posed. One may be a review article, and one should be a clinical or basic science research that is directly related to the diagnosis or treatment. Provide the references, and if possible, online links.

5) List the **therapeutic options** for the diagnosis. For each therapy, include a 1 to 2 sentence summary of the mechanism of action, if known.

6) Provide at least two resources to help patients/families with this diagnosis. These may be hospital-supported resources, patient support groups, local or national organizations. Include contact information, website addresses, and links, if possible.

7) Review (one paragraph) the **outcomes** of this condition, utilizing data from the literature, if available.

8) Provide three board-type multiple choice questions (5 choice answers), with a one-paragraph explanation of the correct answer. These should illustrate concepts or facts that you learned from the case or from related reading.

9) Provide any **other comments** you would like to make about the case or what you found interesting about it.
The Grand Rounds presentation is designed to be given in the spring of the resident’s senior year as part of the Neurology Grand Round schedule. The audience is composed of members of the VCU medical community, which includes, but is not limited to, Neurology attendings, residents, nurses, medical students, as well as physicians from other specialties through the VCU Health Systems. Neurologists from the Richmond community are also welcome to attend the Grand Rounds lecture series.

Presentations are expected to last 50 minutes, with 10 minutes reserved at the end of the presentation for a question and answer session.

The topic of the presentation is at the discretion of the presenter. Topics may include, but are not limited to:

1. A summary of the resident’s research experience which he/she was involved during his/her residency
2. An updated, evidence-based review of a topic in neurology which the resident has developed a keen interest during his/her residency and plan on pursuing though a fellowship
3. An in-depth, detailed presentation of a certain neurologic disorder or syndrome which may have been based on a specific case or patient the resident may have encountered during his/her residency.

Please see the VCU Neurology residency website for examples of previous Grand Rounds presentations.

The resident’s advisor or research mentor will be available to assist and guide the resident if needed.

An electronic copy of the presentation will be given to the residency coordinator to be displayed on the residency webpage.