

# NEUROLOGY RESIDENT HANDBOOK

2009-2010



DEPARTMENT OF NEUROLOGY  
UNIVERSITY OF ROCHESTER  
SCHOOL OF MEDICINE AND DENTISTRY

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## FOREWORD

This Neurology Resident Handbook is intended as a handy reference for all Neurology clinical faculty, residents and administrative staff. The handbook is divided into seven sections as follows:

- ACGME Core Competency Project: This section contains specific program goals and objectives for the neurology residency, the neurology core competencies that are part of the ACGME core competency project, and descriptions of specific evaluation instruments used to evaluate neurology residents at the University of Rochester.
- Research Initiatives and Conferences: This section includes information about the resident research experience and descriptions of several of the neurology conference series.
- Inpatient Rotation Guidelines: This section contains guidelines for the neurology residents for all of the core inpatient rotations.
- Elective Guidelines: This section contains guidelines for the neurology residents for departmental and inter-departmental electives.
- Outpatient Rotation Guidelines: This section contains guidelines for the resident firms and the Chief Resident Faculty Practice clinics.
- Policies: This section contains all of the specific policies that involve neurology residents, as mandated by the ACGME.
- Bibliographies: This section contains a bibliography for adult and child neurology, and should be used as a guide to reading for neurology residents.
- Schedules: The final section of this handbook contains all of the rotation and clinic schedules for neurology residents and faculty for the current academic year.

The Residency Review Committee for Neurology mandates that we collate all of this information and distribute it annually to all clinical faculty and residents in our department. All neurology faculty and residents should be familiar with the goals and objectives, rotation guidelines and policies included in this handbook. A thorough understanding of these goals, guidelines and policies will help insure that our residency program runs smoothly and meets its mission of excellence in patient care, education and research.

Ralph F. Józefowicz, MD  
Residency Program Director  
Department of Neurology

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# **GOALS OF THE NEUROLOGY RESIDENCY TRAINING PROGRAM**

## **Overall Competency-Based Program Goals**

### **Patient Care**

Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

### **Medical Knowledge**

Residents must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care.

### **Practice-based Learning and Improvement**

Residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning. Residents are expected to develop skills and habits to be able to meet the following goals:

1. Identify strengths, deficiencies, and limits in one's knowledge and expertise
2. Set learning and improvement goals
3. Identify and perform appropriate learning activities
4. Systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement
5. Incorporate formative evaluation feedback into daily practice
6. Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems
7. Use information technology to optimize learning
8. Participate in the education of patients, families, students, residents and other health professionals

### **Interpersonal and Communication Skills**

Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals. Residents are expected to:

1. Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds
2. Communicate effectively with physicians, other health professionals, and health related agencies

3. Work effectively as a member or leader of a health care team or other professional group
4. Act in a consultative role to other physicians and health professionals
5. Maintain comprehensive, timely, and legible medical records

### **Professionalism**

Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. Residents are expected to demonstrate:

1. Compassion, integrity, and respect for others
2. Responsiveness to patient needs that supersedes self-interest
3. Respect for patient privacy and autonomy
4. Accountability to patients, society and the profession
5. Sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation

### **Systems-based Practice**

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. Residents are expected to:

1. Work effectively in various health care delivery settings and systems relevant to their clinical specialty
2. Coordinate patient care within the health care system relevant to their clinical specialty
3. Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate
4. Advocate for quality patient care and optimal patient care systems
5. Work in inter-professional teams to enhance patient safety and improve patient care quality
6. Participate in identifying system errors and implementing potential systems solutions

## Overall Program Goals

1. To prepare the physician for the independent practice of clinical neurology by providing training based on supervised clinical work with increasing responsibility for outpatients and inpatients. *PC*
2. To provide a foundation of organized instruction in the basic neurosciences. *MK*
3. To provide an opportunity to develop and maintain an investigative career in the basic neurosciences and in clinical neurology. *MK*
4. To acquire an appreciation for the history of neurology and the rich traditions of our specialty. *SBP*
5. To acquire the many personal attributes necessary for becoming an effective physician, including honesty, compassion, reliability, and effective communication skills. *P, ICS*

## Goals for the First Year

1. To elicit an accurate neurologic history and to perform and interpret a neurological examination on patients presenting with neurological symptoms. *PC*
2. To appropriately order laboratory studies in neurology: EEG, EMG, nerve conduction studies, evoked potentials, lumbar puncture, CT and MR imaging of the brain and spinal cord. *PC*
3. To appropriately evaluate and treat common neurological problems:
  - Neurological Emergencies: Coma and mental status changes, stroke, seizures. *MK, PC*
  - Common outpatient neurological problems: Headache, dizziness, back and neck pain, peripheral neuropathies. *MK, PC*
4. To demonstrate effective written and oral communication skills. *ICS*

## Goals for the Second Year

1. To diagnose, evaluate and treat multiple sclerosis, Parkinson's disease and other movement disorders, neuromuscular diseases, dementia, central nervous system infections, and tumors of the nervous system. *PC, MK*
2. To perfect the resident's history-taking skills and neurologic exam in infants and children. *PC*
3. To interrelate abnormalities of the nervous system with normal growth and development of the nervous system. *PC*
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. *PBLI*

## **Goals for the Third Year**

1. To independently evaluate and manage patients presenting with a wide variety of inpatient and outpatient neurological disorders. *PC*
2. To perform and interpret EMG's, Nerve Conduction Studies, EEG's and evoked potential testing. *PC, MK*
3. To supervise junior residents on the inpatient neurology services at Strong Memorial Hospital. *PBLI, SBP*
4. To participate as a laboratory instructor in the Medical Student Nervous System Course. *PBLI*

## **Goals for the SMH General Neurology Rotation**

1. To develop skills in obtaining complete neurological histories, in performing accurate neurological examinations, and in selecting appropriate therapies on a general neurology consultation service in a tertiary referral center. *PC*
2. To acquire in-depth knowledge of major categories of neurological disease, with special emphasis on epilepsy, coma and mental status changes, movement disorders, neuromuscular disorders, demyelinating disorders, infections of the nervous system, tumors of the nervous system, head trauma and dementia. *MK*
3. To gain experience in the appropriate ordering and interpretation of neurodiagnostic tests, including head and spine CT and MR scans, EEG, Evoked Potential Testing, Neurovascular testing, and EMG and nerve conduction studies. *PC, SBP*
4. To develop and improve written and oral communication skills. *ICS*

## **Goals for the SMH Stroke Rotation**

1. To recognize the signs and symptoms of acute ischemic stroke. *PC*
2. To utilize current treatment guidelines for ischemic stroke, especially concerning blood pressure management, anticoagulation, and use of thrombolytic therapy. *MK*
3. To identify common risk factors for stroke. *MK*
4. To utilize current recommendations for the use of anti-platelet agents and oral anti-coagulants in stroke prevention. *MK*
5. To utilize strategies for preventing and treating increased intracranial pressure. *MK*
6. To perform and record the National Institutes of Health Stroke Scale. *PC, SBP*

## Goals for the SMH Chief Resident Rotation

1. To become independent in the evaluation and management of patients presenting with a wide variety of inpatient and outpatient neurological disorders. *PC*
2. To gain experience supervising junior residents on the inpatient neurology services at Strong Memorial Hospital. *PBLI, SBP*
3. To develop administrative skills with respect to organizing and scheduling teaching conferences for the department of neurology. *SBP*

### Key to Core Competencies:

*PK* Patient care  
*MK* Medical knowledge  
*PBLI* Practice-based learning and improvement  
*ICS* Interpersonal and communication skills  
*P* Professionalism  
*SBP* Systems-based practice

*Goals for other rotations and electives are included with the specific rotation guidelines below.*



## **ACGME OUTCOME PROJECT**

At its February 1999 meeting, the ACGME endorsed general competencies for residents in the areas of

- Patient care
- Medical knowledge
- Practice-based learning and improvement
- Interpersonal and communication skills
- Professionalism
- Systems-based practice

Identification of general competencies is the first step in a long-term effort designed to emphasize educational outcome assessment in residency programs and in the accreditation process. As of July 2002, the ACGME's Residency Review and Institutional Review Committees have incorporated the general competencies into their Requirements. The following Neurology Core Competencies were developed and endorsed by the Graduate Education Subcommittee of the AAN, and represent what each graduate of the adult neurology residency training program at the University of Rochester is expected to learn by the end of his/her residency. All evaluation instruments will be keyed to the following core competencies:

# AMERICAN BOARD OF PSYCHIATRY & NEUROLOGY

## NEUROLOGY CORE COMPETENCIES

### I. Patient Care

- A. General: Physicians shall demonstrate the following abilities:
  - 1. To perform and document a relevant history and examination on culturally diverse patients to include as appropriate:
    - a. Chief complaint
    - b. History of present illness
    - c. Past medical history
    - d. A comprehensive review of systems
    - e. A biological family history
    - f. A sociocultural history
    - g. A developmental history (especially for children)
    - h. A situationally germane general and neurological examination
  - 2. To delineate appropriate differential diagnoses
  - 3. To evaluate, assess, and recommend effective management of patients
- B. Based on a comprehensive neurological assessment, physicians shall demonstrate the following abilities:
  - 1. To determine:
    - a. If a patient's symptoms are the result of a disease affecting the central and/or peripheral nervous system or are of another origin (e.g., of a systemic, psychiatric, or psychogenic illness)
    - b. A formulation, differential diagnosis, laboratory investigation, and management plan
  - 2. To develop and maintain the technical skills to:
    - a. Perform comprehensive neurological examination
    - b. Perform screening psychiatric examination
    - c. Perform lumbar puncture, edrophonium, and caloric testing
    - d. Identify and describe abnormalities seen in common neurological disorders on radiographic testing, including plain films, myelography, angiography, CT, isotope, and MRI
    - e. Evaluate the application and relevance of investigative procedures and interpretation in the diagnosis of neurological disease, including the following:
      - i. Electroencephalogram
      - ii. Motor and nerve conduction studies
      - iii. Electromyography

- iv. Evoked potentials
  - v. Polysomnography
  - vi. Autonomic function testing
  - vii. Electronystagmogram
  - viii. Audiometry
  - ix. Perimetry
  - x. Psychometry
  - xi. CSF analysis
  - xii. Imaging with ultrasound (Duplex, transcranial Doppler)
  - xiii. Radiographic studies as outlined above
- f. Identify and describe gross and microscope specimens taken from the normal nervous system and from patients with major neurological disorders

## **II. Medical Knowledge**

### **A. General: Physicians shall demonstrate the following:**

1. Knowledge of major disorders, including considerations relating to age, gender, race, and ethnicity, based on the literature and standards of practice. This knowledge shall include:
  - a. The epidemiology of the disorder
  - b. The etiology of the disorder, including medical, genetic, and sociocultural factors
  - c. The phenomenology of the disorder
  - d. An understanding of the impact of physical illness on the patient's functioning
  - e. The experience, meaning, and explanation of the illness for the patient and family, including the influence of cultural factors and culture-bound syndromes
  - f. Effective treatment strategies
  - g. Course and prognosis
2. Knowledge of healthcare delivery systems, including patient and family counseling
3. Systems-Based Practice
4. Knowledge of the application of ethical principles in delivering medical care
5. Ability to reference and utilize electronic systems to access medical, scientific, and patient information

### **B. Physicians shall demonstrate knowledge of the following:**

1. Basic neuroscience that is critical to the practice of neurology
2. Pathophysiology and treatment of major psychiatric and neurological disorders and familiarity with the scientific basis of neurology, including:
  - a. Neuroanatomy
  - b. Neuropathology
  - c. Neurochemistry
  - d. Neurophysiology
  - e. Neuropharmacology
  - f. Neuroimmunology/neurovirology
  - g. Neurogenetics/molecular neurology and neuroepidemiology
  - h. Neuroendocrinology
  - i. Neuroimaging
  - j. Neuro-ophthalmology
  - k. Neuro-otology
  - l. Child neurology
  - m. Geriatric neurology
  - n. Interventional neurology (basic principles only)
3. Neurologic disorders and diseases across the lifespan, including treatment for the following:
  - a. Dementia and behavioral neurology disorders
  - b. Epilepsy and related disorders
  - c. Neuromuscular disorders
  - d. Demyelinating and dysmyelinating disorders of the central nervous system
  - e. Cerebrovascular disorders
  - f. Infectious diseases of the nervous system
  - g. Neoplastic disorders and tumors of the nervous system
  - h. Nervous system trauma
  - i. Toxic and metabolic disorders of the nervous system
  - j. Acute, chronic pain
  - k. Sleep disorders
  - l. Changes in mental state second to therapy
  - m. Critical care and emergency neurology
  - n. Coma and brain death
  - o. Headache and facial pain
  - p. Movement disorders including abnormalities caused by drugs

- q. End of life care and palliative care
- 4. Psychiatric disorders and diseases across the lifespan, including treatment for the following:
  - a. Psychopathology, epidemiology, diagnostic criteria, and clinical course for common psychiatric disorders
  - b. Disorders usually first diagnosed in infancy, childhood, or adolescence
  - c. Delirium, dementia, amnesic, and other cognitive disorders
  - d. Mental disorders due to a general medical condition
  - e. Substance-related disorders
  - f. Schizophrenic and other psychotic disorders
  - g. Mood disorders
  - h. Anxiety disorders
  - i. Somatoform disorders
  - j. Factitious disorders
  - k. Dissociative disorders
  - l. Sexual and gender identity disorders
  - m. Eating disorders
  - n. Sleep disorders
  - o. Impulse control disorders not elsewhere classified
  - p. Adjustment disorders
  - q. Other conditions that may be a focus of clinical attention
  - r. Paranoid personality disorder
  - s. Schizoid personality disorder
  - t. Schizotypal personality disorder
  - u. Antisocial personality disorder
  - v. Borderline personality disorder
  - w. Histrionic personality disorder
  - x. Narcissistic personality disorder
  - y. Avoidant personality disorder
  - z. Dependent personality disorder
  - aa. Obsessive-compulsive personality disorder
  - bb. Personality disorder not otherwise specified
  - cc. Mental retardation
  - dd. Drug dependence and substance abuse
    - i. Phenomena of withdrawal, tolerance, etc.

- ii. Therapy – medication and psychological issues
- iii. Supportive services generally available (e.g., Alcoholics Anonymous)
- iv. Neurological side effects of alcohol and substance abuse
- ee. Interplay between psychosomatic and neurologic clinical manifestations, including somatization and conversion
- ff. Recognition of child and adult victims of abuse who manifest neurologic symptoms and/or signs:
  - i. Signs of battering in children and adults
  - ii. Chronic uncharacterized pain
  - iii. Pseudoseizures
  - iv. Drug seeking behavior
  - v. Conversion
  - vi. Somatization
- gg. Management of uncomplicated psychiatric disorders and indications for consultation
- hh. Psychopharmacology
  - i. Major drugs used for treatment (e.g., antipsychotics, antidepressants, antianxiety agents, mood stabilizers)
  - ii. Side effects of drugs used for treatment (e.g., acute, motor, neuroleptic malignant syndrome)
  - iii. Iatrogenic disorders in psychiatry and neurology, changes in mental status, and movement disorders
  - iv. Nonpharmacologic treatments and management
- 5. Patient evaluation and treatment selection, including:
  - a. The nature of patients' history and physical findings and the ability to correlate the findings with a likely localization for neurological dysfunction
  - b. Likely diagnoses and differential diagnoses
    - i. In adults
    - ii. In children
  - c. Planning for evaluation and management
  - d. Potential risks and benefits of potential therapies, including surgical procedures
- 6. Employment of principles of quality improvement in practice

### **III. Interpersonal and Communications Skills**

- A. Physicians shall demonstrate the following abilities:

1. To listen to and understand patients and to attend to nonverbal communication
  2. To communicate effectively with patients using verbal, nonverbal, and written skills as appropriate
  3. To develop and maintain a therapeutic alliance with patients by instilling feelings of trust, honesty, openness, rapport, and comfort in the relationship with physicians
  4. To partner with patients to develop an agreed upon healthcare management plan
  5. To transmit information to patients in a clear and meaningful fashion
  6. To understand the impact of physicians' own feelings and behavior so that it does not interfere with appropriate treatment
  7. To communicate effectively and work collaboratively with allied healthcare professionals and with other professionals involved in the lives of patients and families
  8. To educate patients, their families, and professionals about medical, psychosocial, and behavioral issues
  9. To preserve patient confidentiality
- B. Physicians shall demonstrate the ability to obtain, interpret, and evaluate consultations from other medical specialties. This shall include:
1. Knowing when to solicit consultation and having sensitivity to assess the need for consultation
  2. Formulating and clearly communicating the consultation question
  3. Discussing the consultation findings with the consultant
  4. Discussing the consultation findings with the patient and family
- C. Physicians shall serve as an effective consultant to other medical specialists, mental health professionals, and community agencies by demonstrating the abilities to:
1. Communicate effectively with the requesting party to refine the consultation question
  2. Maintain the role of consultant
  3. Communicate clear and specific recommendations
  4. Respect the knowledge and expertise of the requesting professionals
- D. Physicians shall demonstrate the ability to communicate effectively with patients and their families by:
1. Gearing all communication to the educational and intellectual levels of patients and their families
  2. Demonstrating sociocultural sensitivity to patients and their families

3. Providing explanations of psychiatric and neurological disorders and treatment that are jargon-free and geared to the educational/intellectual levels of patients and their families
  4. Providing preventive education that is understandable and practical
  5. Respecting the patients' cultural, ethnic, religious, and economic backgrounds
  6. Developing and enhancing rapport and a working alliance with patients and their families
  7. Ensuring that the patient and/or family have understood the communication
- E. Physicians shall maintain up-to-date medical records and write legible prescriptions. These records must capture essential information while simultaneously respecting patient privacy, and they must be useful to health professionals outside neurology.
- F. Physicians shall demonstrate the ability to effectively lead a multidisciplinary treatment team, including being able to:
1. Listen effectively
  2. Elicit needed information from team members
  3. Integrate information from different disciplines
  4. Manage conflict
  5. Clearly communicate an integrated treatment plan
- G. Physicians shall demonstrate the ability to communicate effectively with patients and their families while respecting confidentiality. Such communication may include:
1. The results of the assessment
  2. Use of informed consent when considering investigative procedures
  3. Genetic counseling and palliative care when appropriate
  4. Consideration and compassion for the patient in providing accurate medical information and prognosis
  5. The risks and benefits of the proposed treatment plan, including possible side-effects of medications and/or complications of nonpharmacologic treatments
  6. Alternatives (if any) to the proposed treatment plan
  7. Appropriate education concerning the disorder, its prognosis, and prevention strategies

#### **IV. Practice-Based Learning and Improvement**

- A. Physicians shall recognize limitations in their own knowledge base and clinical skills, and understand and address the need for lifelong learning.

- B. Physicians shall demonstrate appropriate skills for obtaining and evaluating up-to-date information from scientific and practice literature and other sources to assist in the quality care of patients. This shall include, but not be limited to:
  - 1. Use of medical libraries
  - 2. Use of information technology, including Internet-based searches and literature databases (e.g., Medline)
  - 3. Use of drug information databases
  - 4. Active participation, as appropriate, in educational courses, conferences, and other organized educational activities both at the local and national levels
- C. Physicians shall evaluate caseload and practice experience in a systematic manner. This may include:
  - 1. Case-based learning
  - 2. Use of best practices through practice guidelines or clinical pathways
  - 3. Review of patient records
  - 4. Obtaining evaluations from patients (e.g., outcomes and patient satisfaction)
  - 5. Employment of principles of quality improvement in practice
  - 6. Obtaining appropriate supervision and consultation
  - 7. Maintaining a system for examining errors in practice and initiating improvements to eliminate or reduce errors
- D. Physicians shall demonstrate an ability to critically evaluate relevant medical literature. This ability may include:
  - 1. Using knowledge of common methodologies employed in psychiatric and neurological research
  - 2. Researching and summarizing a particular problem that derives from their own caseloads
- E. Physicians shall demonstrate the ability:
  - 1. To review and critically assess scientific literature to determine how quality of care can be improved in relation to one's practice (e.g., reliable and valid assessment techniques, treatment approaches with established effectiveness, practice parameter adherence). Within this aim, physicians shall be able to assess the generalizability or applicability of research findings to one's patients in relation to their sociodemographic and clinical characteristics
  - 2. To develop and pursue effective remediation strategies that are based on critical review of the scientific literature

## **V. Professionalism**

- A. Physicians shall demonstrate responsibility for their patients' care, including:

1. Responding to communication from patients and health professionals in a timely manner
  2. Establishing and communicating back-up arrangements, including how to seek emergent and urgent care when necessary
  3. Using medical records for appropriate documentation of the course of illness and its treatment
  4. Providing coverage if unavailable, (for example, when out of town or on vacation)
  5. Coordinating care with other members of the medical and/or multidisciplinary team
  6. Providing for continuity of care, including appropriate consultation, transfer, or referral if necessary
- B. Physicians shall demonstrate ethical behavior, integrity, honesty, compassion, and confidentiality in the delivery of care, including matters of informed consent/assent, professional conduct, and conflict of interest.
- C. Physicians shall demonstrate respect for patients and their families, and their colleagues as persons, including their ages, cultures, disabilities, ethnicities, genders, socioeconomic backgrounds, religious beliefs, political leanings, and sexual orientations.
- D. Physicians shall demonstrate understanding of and sensitivity to end of life care and issues regarding provision of care.
- E. Physicians shall review their professional conduct and remediate when appropriate.
- F. Physicians shall participate in the review of the professional conduct of their colleagues.
- G. Physicians shall be aware of safety issues, including acknowledging and remediating medical errors, should they occur.

## **VI. Systems-Based Practice**

- A. Physicians shall have a working knowledge of the diverse systems involved in treating patients of all ages, and understand how to use the systems as part of a comprehensive system of care in general and as part of a comprehensive, individualized treatment plan. This will include the:
1. Use of practice guidelines
  2. Ability to access community, national, and allied health professional resources that may enhance the quality of life of patients with chronic psychiatric and neurological illnesses
  3. Demonstration of the ability to lead and delegate authority to healthcare teams needed to provide comprehensive care for patients with psychiatric and neurological disease

4. Demonstration of skills for the practice of ambulatory medicine, including time management, clinical scheduling, and efficient communication with referring physicians
  5. Use of appropriate consultation and referral mechanisms for the optimal clinical management of patients with complicated medical illness
  6. Demonstration of awareness of the importance of adequate cross-coverage
  7. Use of accurate medical data in the communication with and effective management of patients
- B. In the community system, physicians shall:
1. Recognize the limitation of healthcare resources and demonstrate the ability to act as an advocate for patients within their sociocultural and financial constraints
  2. Demonstrate knowledge of the legal aspects of psychiatric and neurological diseases as they impact patients and their families
  3. Demonstrate an understanding of risk management.
- C. Physicians shall demonstrate knowledge of and interact with managed health systems, including:
1. Working within the system of care to maximize cost effective utilization of resources
  2. Participating in utilization review communications and, when appropriate, advocating for quality patient care
  3. Educating patients concerning such systems of care
- D. Physicians shall demonstrate knowledge of community systems of care and assist patients to access appropriate care and other support services. This requires knowledge of treatment settings in the community, which include ambulatory, consulting, acute care, partial hospital, skilled care, rehabilitation, and substance abuse facilities; halfway houses; nursing homes and home care; and hospice organizations. Physicians shall demonstrate knowledge of the organization of care in each relevant delivery setting and the ability to integrate the care of patients across such settings.



## **DEPARTMENT OF NEUROLOGY RESIDENT EVALUATION INSTRUMENTS**

Valid evaluation systems must employ several different instruments, since no single evaluation instrument can assess each of the six ACGME Core Competencies. The following seven evaluation instruments will be used to evaluate University of Rochester Neurology Residents' mastery of the Core Competencies:

- RITE (Residency In-service Training Examination)
- Clinical Skills Evaluation
- Attending Global Assessment
- Medical Student Assessment
- Chart Review
- Resident Case Log
- 360° Assessment
- Resident Portfolio

Each of these evaluation instruments is described below. In addition, three tables delineate where the six core competencies are taught during the residency program, and how they will be evaluated.



# THE RESIDENCY IN-SERVICE TRAINING EXAM (RITE)

## Objective

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

## Examination Features

- A carefully weighted, in-depth examination featuring questions in each of the following areas of neurology and neuroscience:
  - Anatomy
  - Behavioral/Psychiatry
  - Clinical adult
  - Clinical pediatric
  - Contemporary issues
  - Neuroimaging
  - Pathology
  - Pharmacology/Chemistry
  - Physiology
- Graphics that include:
  - CT scans
  - MR images
  - EEG's
  - Full color pathologic representations
- A review by a committee of recognized experts to ensure:
  - Content clarity
  - Question relevance
  - Topical balance
- A scanning and scoring process conducted by a professional data systems company to ensure the highest quality data collection with an accuracy rate in excess of 99.9 percent
- A downloadable discussion and reference manual accessible to all examinees identifying:
  - Discussions of answer options and rationale for correct responses of all questions
  - References for further information

## 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 program director receives a composite of the individuals' scores in his/her program as well as a summary report with averages for the entire population of examinees
- Scores are released approximately eight weeks after the examination

## **RITE Content**

Questions on the RITE are distributed according to the following blueprint:

<b>Content Area</b>	<b>Number of Items</b>	<b>Percentage of Exam</b>
Clinical Adult	70	16%
Physiology	65	15%
Neuroimaging	60	14%
Behavioral/Psychiatry	50	11%
Pathology	50	11%
Anatomy	45	10%
Clinical Pediatrics	45	10%
Pharmacology/Chemistry	45	10%
Contemporary Issues	15	3%
<b>TOTAL</b>	<b>445</b>	<b>100%</b>

## **Test Dates**

The examination is scheduled for the first Saturday in March, and is given in two sessions during the same day. Each session lasts three and a half hours.

## CLINICAL SKILLS EVALUATION

The Clinical Skills Evaluation is an Objective Structured Clinical Examination (OSCE) that has two components: a patient hour and a vignette hour. The examination takes place on two Saturday mornings in March.

- **Patient Hour:** During the patient hour, each resident is observed taking a history and performing a neurologic examination on a patient, under the direct supervision of two faculty members. The faculty members then quiz the resident as to the differential diagnosis, evaluation and treatment plan. The patient hour will incorporate the ABPN Clinical Skills Evaluation of residents (see below) and will count for three of the five required patient evaluations.
- **Vignette Hour:** During the vignette hour, each resident is asked to discuss six short vignettes with two faculty members. One of these vignettes is a child neurology vignette. Some of the vignettes will evaluate the core competencies of professionalism, interpersonal and communication skills, and systems based practice.
- **Evaluation and Feedback:** A numeric grade is assigned by each faculty member for each component of the patient evaluation and for each vignette. Feedback is then provided to each resident by the faculty.
- **Failure:** Residents who fail any hour of the examination must successfully re-take and pass that hour of the examination before the end of the academic year.

## ABPN CLINICAL SKILLS EVALUATION OF RESIDENTS

The American Board of Psychiatry and Neurology (ABPN) mandates that demonstration of clinical skills competency is a basic requirement in order to apply for certification in the specialties of neurology and neurology with special qualification in child neurology. Competency in these skills should be achieved during residency. The ABPN requires that residents demonstrate competency in the following areas:

- Medical interviewing
- Neurological examination
- Humanistic qualities, professionalism, and counseling skills

Demonstration of competency in evaluating a minimum of five different patients during residency training is required, as follows:

1. Critical care: One critically ill adult patient with neurological disease (may be in either an intensive care unit or emergency department setting or an emergency consultation from another inpatient service)
2. Neuromuscular: One adult patient with a neuromuscular disease (may be in either an inpatient or outpatient setting)
3. Ambulatory: One adult patient with an episodic disorder, such as seizures or migraine (most likely in an outpatient setting)
4. Neurodegenerative: One adult patient with a neurodegenerative disorder, such as dementia, a movement disorder, or multiple sclerosis (most likely in an outpatient setting)
5. Child patient: One child patient with a neurological disorder (most likely in an outpatient setting)

Three of these patient evaluations (neuromuscular, ambulatory and neurodegenerative) will be completed during the Clinical Skills Evaluation (one per year). The critical care patient evaluation will occur in the PGY-3 year during the general neurology or stroke rotations. The child patient evaluation will occur in the PGY-3 year during the pediatric neurology rotation.

NB:

- The clinical skills evaluation session must be scheduled with the attending in advance and the evaluation form must be completed by and discussed with the attending immediately following the encounter. Retrospective completion of the evaluation form by the attending is not allowed by the ABPN.
- All five clinical skills evaluations must be successfully completed prior to the end of residency training. Residency training requirements will not be considered satisfied until all five clinical skills evaluations are successfully completed.

## **MEDICAL STUDENT ASSESSMENT**

UR medical students complete evaluation forms on neurology residents using the E\*Value system. All neurology residents are evaluated by 3<sup>rd</sup> year medical students for their teaching efforts during the 3<sup>rd</sup> year neurology clerkship. In addition, the neurology chief residents are evaluated by the 2<sup>nd</sup> year medical students for their teaching efforts in the Mind, Brain and Behavior course, where the residents function as laboratory instructors and PBL tutors. The program director reviews this medical student feedback with each resident during the semi-annual evaluation meetings. This feedback is also filed in each resident's evaluation folder.

## **ATTENDING GLOBAL ASSESSMENT**

Global rating forms are distinguished from other rating forms in that (a) a rater judges general categories of ability (e.g. patient care skills, medical knowledge, interpersonal and communication skills) instead of specific skills, tasks or behaviors; and (b) the ratings are completed retrospectively based on general impressions collected over a period of time (e.g., end of a clinical rotation) derived from multiple sources of information (e.g., direct observations or interactions; input from other faculty, residents, or patients; review of work products or written materials).

All rating forms contain scales that the evaluator uses to judge knowledge, skills, and behaviors listed on the form. Typical rating scales consist of qualitative indicators and often include numeric values for each indicator, for example, (a) very good = 1, good =2, fair = 3, poor =4; or (b) superior =1, satisfactory =2, unsatisfactory =3. Written comments are important to allow evaluators to explain the ratings.

Global rating forms are most often used for making end of rotation and summary assessments about performance observed over days or weeks. Scoring rating forms entails combining numeric ratings with comments to obtain a useful judgment about performance based upon more than one rater.

A Global Rating Form has been constructed for neurology residents, which must be completed by each attending at the end of his two-week rotation with a specific resident. This Global Rating Form addresses all six Core Competencies, and is found on-line at <http://www.gmetoolkit.com>. The Program Director reviews the Global Rating Forms with each resident during his/her semi-annual evaluation meeting.

## NEUROLOGY RESIDENT EVALUATION FORM

Resident's Name

Rotation Name

Attending's Name

Rotation Period

Evaluation Date

In evaluating the resident's performance, use as your standard the level of knowledge, skills and attitudes expected from the clearly satisfactory resident at this stage of training. For any component that needs attention or is rated a 4 or less, please provide specific comments and recommendations on the back of the form. Be as specific as possible, including reports of critical incidents and/ or outstanding performance. Global adjectives or remarks, such as "good resident," do not provide meaningful feedback to the resident.

	<b>Unsatisfactory</b>			<b>Satisfactory</b>			<b>Superior</b>			
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	
<b>1. Patient Care</b>										
Incomplete, inaccurate medical interviews, neurological examinations, and review of other data; incompetent performance of essential procedures; fails to analyze clinical data and consider patient preferences when making medical decisions										Superb, accurate, comprehensive medical interviews, neurological examinations, review of other data, and procedural skills; always makes diagnostic and therapeutic decisions based on available evidence, sound judgment, and patient preferences
↑ Insufficient contact to judge				↑ Performance needs attention						
<b>2. Medical Knowledge</b>										
Limited knowledge of basic and clinical sciences; minimal interest in learning; does not understand complex relations, mechanisms of disease										Exceptional knowledge of basic and clinical sciences; highly resourceful development of knowledge; comprehensive understanding of complex relationships, mechanisms of disease
↑ Insufficient contact to judge				↑ Performance needs attention						
<b>3. Practice- Based Learning Improvement</b>										
Fails to perform self- evaluation; lacks insight, initiative; resists or ignores feedback; fails to use information technology to enhance patient care or pursue self-improvement										Constantly evaluates own performance, incorporates feedback into improvement activities; effectively uses technology to manage information for patient care and self-improvement
↑ Insufficient contact to judge				↑ Performance needs attention						
<b>4. Interpersonal and Communication Skills</b>										
Does not establish even minimally effective therapeutic relationships with patients and families; does not demonstrate ability to build relationships through listening, narrative or nonverbal skills; does not provide education or counseling to patients, families, or colleagues										Establishes a highly effective therapeutic relationship with patients and families; demonstrates excellent relationship building through listening, narrative and nonverbal skills; excellent education and counseling of patients, families, and colleagues; always "interpersonally" engaged
↑ Insufficient contact to judge				↑ Performance needs attention						

	<b>Unsatisfactory</b>			<b>Satisfactory</b>			<b>Superior</b>			
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	
<b>5. Professionalism</b> Lacks respect, compassion, integrity, honesty; disregards need for self- assessment; fails to acknowledge errors; does not consider needs of patients, families, colleagues; does not display responsible behavior ↑ Insufficient contact to judge										Always demonstrates respect, compassion, integrity, honesty; teaches/ role models responsible behavior; total commitment to self- assessment; willingly acknowledges errors; always considers needs of patients, families, colleagues
			↑							Performance needs attention
<b>6. System- Based Learning</b> Unable to access/ mobilize outside resources; actively resists efforts to improve systems of care; does not use systematic approaches to reduce error and improve patient care ↑ Insufficient contact to judge										Effectively accesses/ utilizes outside resources; effectively uses systematic approaches to reduce errors and improve patient care; enthusiastically assists in developing systems' improvement
			↑							Performance needs attention
<b>Resident's Overall Clinical Competence in Neurology on Rotation</b>										
			↑							Performance needs attention

**Attending's Comments:**

Signatures: Resident's \_\_\_\_\_ Attending's \_\_\_\_\_

## CHART REVIEW

Chart review can provide evidence about clinical decision-making, follow-through in patient management and preventive health services, and appropriate use of clinical facilities and resources (e.g., appropriate laboratory tests and consultations).

Each resident will select one new patient consultation or admission note, and one new outpatient clinic note semi-annually and submit these to the supervising attendings for their review. The neurology attendings will complete the form below and will also provide verbal feedback to the resident concerning the written notes.

The following items from each note will be specifically reviewed by the attending:

- Chief complaint or reason for consultation
- History of the Present Illness
- Past medical history
- Neurological examination
- Assessment and differential diagnosis
- Diagnostic and treatment plan

**Department of Neurology  
University of Rochester  
Resident Chart Review**

**Resident** \_\_\_\_\_ **Year in training** \_\_\_\_\_

**Attending physician** \_\_\_\_\_ **Rotation** \_\_\_\_\_

**Patient ID number** \_\_\_\_\_ **Date of review** \_\_\_\_\_

Each resident will select one new patient consultation or admission note, and one new outpatient clinic note quarterly and submit these to the supervising attendings for their review. The neurology attendings will complete the form below and will also provide verbal feedback to the resident concerning the written notes.

	<b>Satisfactory</b>	<b>Unsatisfactory</b>
<b>Chief complaint or reason for consultation</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>History of the Present Illness</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Past medical history</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Neurological examination</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Assessment and differential diagnosis</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Diagnostic and treatment plan</b>	<input type="checkbox"/>	<input type="checkbox"/>

**Comments:**

**Attending signature** \_\_\_\_\_ **Date** \_\_\_\_\_

**Resident signature** \_\_\_\_\_ **Date** \_\_\_\_\_

*Please return to Clara Vigelette by* \_\_\_\_\_

## **RESIDENT CASE LOG**

Case logs document each patient encounter by medical conditions seen. Patient case logs involve recording of some number of consecutive cases in a designated time frame.

Logs of types of cases seen are useful for determining the scope of patient care experience. Regular review of logs can be used to help the resident track what cases must be sought out in order to meet residency requirements or specific learning objectives. Patient logs documenting clinical experience for the entire residency can serve as a summative report of that experience; the numbers reported do not necessarily indicate competence.

The Neurology Resident Inpatient Database is available on line. Each resident is responsible for logging all inpatients seen by the resident into this database on a daily basis. Patient encounters that should be included in this database are:

- ED consultations
- Hospital adult consultations
- Hospital pediatric consultations
- 5-1600 inpatients
- Highland Hospital consultations

Semi-annual reports will be generated from this database that include a listing of all patients seen by each resident for the preceding 6-month period, sorted by diagnosis.

Each resident will include these semi-annual case log summaries in his/her portfolio. The Program Director will review the Case Logs with each resident during his/her semi-annual evaluation meeting.

## **360-DEGREE EVALUATION**

360-degree evaluations consist of measurement tools completed by multiple people in a person's sphere of influence. Evaluators completing rating forms in a 360-degree evaluation usually are superiors, peers, subordinates, and patients and families. Most 360-degree evaluation processes use a survey or questionnaire to gather information about an individual's performance on several topics (e.g., teamwork, communication, management skills, decision-making). Most 360-degree evaluations use rating scales to assess how frequently a behavior is performed (e.g., a scale of 1 to 5, with 5 meaning "all the time" and 1 meaning "never"). The ratings are summarized for all evaluators by topic and overall to provide feedback.

A 360-degree evaluation can be used to assess interpersonal and communication skills, professional behaviors, and some aspects of patient care and systems-based practice.

Two 360-degree evaluation instruments have been developed by the American Board of Psychiatry and Neurology: a patient feedback form and a peer feedback form. Each resident will be asked semi-annually to select five patients and five peers in his/her sphere of influence (nurses, ancillary support staff, clinic secretaries), who will then complete the 360-degree survey instrument for that resident. Data will be collected and collated and aggregate, anonymous results will be sent to the Program Director, who will review the results with the resident during his semi-annual evaluation meeting.

**UNIVERSITY OF ROCHESTER  
DEPARTMENT OF NEUROLOGY  
360 DEGREE ASSESSMENT**

<b>Resident:</b>					
<b>Evaluator:</b>					
<b>Site:</b>					
<b>Period:</b>					
<b>Dates of Activity:</b>					
<b>Position:</b>					
<b>Evaluation Type:</b>	Trainee				

  

**Core Competencies**

**Interpersonal and Communication Skills**

**Available to Staff** *(Question 1 of 7 - Mandatory)*

The resident was available to staff within a reasonable time when assistance was needed.

No Interaction	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
0	1	2	3	4	5

  

**Communicated Effectively and Respectfully** *(Question 2 of 7 - Mandatory)*

The resident communicated effectively and respectfully with patients and their family members.

No Interaction	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
0	1	2	3	4	5

  

**Professionalism**

**Demonstrated Respect and Compassion** *(Question 3 of 7 - Mandatory)*

The resident demonstrated respect and compassion for patients and their family members.

No Interaction	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
0	1	2	3	4	5

  

**Demonstrated Respect for Staff** *(Question 4 of 7 - Mandatory)*

The resident demonstrated respect for the role and opinions of staff.

No Interaction	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
0	1	2	3	4	5



## RESIDENT PORTFOLIO

A portfolio is a collection of products prepared by the resident that provides evidence of learning and achievement related to a learning plan. A portfolio typically contains written documents but can include video- or audio-recordings, photographs, and other forms of information. The ACGME Core Competency Project includes a resident portfolio as a valid assessment method.

Reflecting upon what has been learned is an important part of constructing a portfolio. In addition to products of learning, the portfolio can include statements about what has been learned, its application, remaining learning needs, and how they can be met.

In graduate medical education, a portfolio might include a log of clinical procedures performed; a summary of the research literature reviewed when selecting a treatment option; a quality improvement project plan and report of results; ethical dilemmas faced and how they were handled; a computer program that tracks patient care outcomes; or a recording or transcript of counseling provided to patients.

Each neurology resident will receive a three-ring binder with dividers at the beginning of his/her residency. The resident will be responsible for maintaining the portfolio. Examples of items to be included in the Neurology Resident Portfolio are:

- Neurology Grand Rounds PowerPoint presentations
- Medical student lectures and presentations
- Case Log, reported semi-annually
- Resident research project results
- Abstracts presented at national meetings
- Papers published during the residency
- Listing of meetings attended each year
- Curriculum vitae
- Semi-annual self reflection with an individualized learning plan

The Neurology Residency Program Director will review the Portfolio with the resident every six months, during his semi-annual evaluation meeting with the resident.

**ACGME Core Competency Project**  
**University of Rochester Neurology Residency Training Program**  
**Methods of Evaluation**

Competency	RITE	Clinical Skills Evaluation	Chart Review	Resident Case Log	Attending Global Assessment	360° Evaluation	Resident Portfolio
Patient Care		X	X	X	X		X
Medical Knowledge	X	X	X		X		X
Practice-Based Learning and Improvement					X	X	X
Interpersonal & Communication Skills		X	X		X	X	
Professionalism		X			X	X	
Systems-Based Practice		X			X	X	

**ACGME Core Competency Project**  
**University of Rochester Neurology Residency Training Program**  
**Methods of Instruction - Sites**

<b>Competency</b>	<b>Inpatient Neurology Rotation</b>	<b>Inpatient Consultation Rotation</b>	<b>VA Rotation</b>	<b>ED Consultations</b>	<b>Neurology Firm</b>	<b>Chief Resident WR Clinic</b>	<b>Resident Conferences and Rounds</b>
<b>Patient Care</b>	X	X	X	X	X	X	X
<b>Medical Knowledge</b>	X	X	X	X	X	X	X
<b>Practice-Based Learning and Improvement</b>	X	X	X	X	X	X	X
<b>Interpersonal &amp; Communication Skills</b>	X	X	X	X	X	X	X
<b>Professionalism</b>	X	X	X	X	X	X	X
<b>Systems-Based Practice</b>	X	X	X	X	X	X	X

**ACGME Core Competency Project**  
**University of Rochester Neurology Residency Training Program**  
**Methods of Instruction - Conferences**

<b>Competency</b>	<b>Morning Report</b>	<b>Attending and Professor Rounds</b>	<b>Journal Club</b>	<b>Resident Noon Conferences</b>	<b>Health Team Rounds</b>	<b>Grand Rounds</b>	<b>Resident Neuroscience Conference</b>
<b>Patient Care</b>	X	X	X	X	X	X	
<b>Medical Knowledge</b>	X	X	X	X		X	X
<b>Practice-Based Learning and Improvement</b>	X	X	X	X		X	X
<b>Interpersonal &amp; Communication Skills</b>		X		X	X		
<b>Professionalism</b>		X		X			
<b>Systems-Based Practice</b>		X		X	X		

## **DEPARTMENT OF NEUROLOGY RESIDENT RESEARCH EXPERIENCE**

The Department of Neurology has a strong tradition of both basic and clinical research. Many internationally recognized clinician-researchers are members of the faculty. The department consistently ranks as one of the top five neurology departments in the United States for extramural research funding from the National Institutes of Health.

The philosophy of the Department of Neurology is that research should be part of each resident's educational experience. The Residency Review Committee in Neurology also mandates resident participation in scholarly pursuits. Accordingly, residents are required to participate in a clinical or basic research project during their residency, culminating in a formal departmental presentation. Abstract submission to the American Academy of Neurology, the American Neurological Association, or a subspecialty meeting is also highly encouraged.

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, implementation, and reporting relevant to the research project.

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

Elective time may be used for research projects, up to a total of two months. Research may be conducted during a block rotation or longitudinally.

A suggested timeframe for this research experience is as follows:

- First year:        Identify a faculty mentor and meet to discuss possible projects  
                         Inform the Program Director of your project and mentor
  
- Second year:    Begin research project during an elective block or longitudinally
  
- Third year:       Complete research project  
                         Submit an abstract to a national meeting  
                         Prepare a Grand Rounds presentation based on the research

Drs. Jonathan Mink and Charles Thornton will serve as faculty coordinators for the Neurology resident research experience.

## **DEPARTMENT OF NEUROLOGY RESIDENT AND FELLOW RESEARCH SYMPOSIUM**

This annual Steven R. Schwid, MD Neurology/Neurosurgery Resident and Fellow Research Symposium occurs each June and is scheduled to coincide with the annual Goldberg Family Lecture. The symposium highlights a very broad range of basic, translational, and clinical research performed in the departments of neurology and neurosurgery. This program is an excellent way to work toward integrating the clinical, educational, and research missions in both departments.

All Neurology PGY-3 and PGY-4 residents are expected to prepare a poster presentation for this symposium, describing an aspect of their current research, a case report, or the equivalent. The residents should submit an abstract summarizing their presentation (maximum 250 words) via email to Clara Vigelette by early May. Funds are available to support printing charges for the residents. Prizes will be awarded for the best clinical and basic science posters. Please contact Drs. Jonathan Mink or Karl Kieburtz with questions.

## **DEPARTMENT OF NEUROLOGY NEUROSCIENCE CONFERENCE SERIES**

The purpose of this conference is to supplement residency education in areas of neuroscience. In particular, the topics to be covered are anatomy, physiology (cellular and systems), pharmacology, genetics and molecular biology, development, neuropathology and neurochemistry. Twelve topics will be selected per year. Basic science faculty will be the lecturers for this series.

## **DEPARTMENT OF NEUROLOGY HISTORY OF NEUROLOGY CONFERENCE SERIES**

The specialty of neurology arose in the mid 19th century. It has a rich and varied history with contributions by many notable physicians and scientists. Our department is fortunate in that many members have made major contributions to chronicling the history of our specialty. A series of lectures is offered to the residents every other year in the history of neuroscience.

## DEPARTMENT OF NEUROLOGY RESIDENT JOURNAL CLUB

Journal Club occurs monthly, usually on a Thursday at 6:30 pm. Neurology faculty members host Journal Club at their homes on a rotating basis. This enhances the practical understanding of evidence-based neurology, and also provides an informal setting for the discussion of journal articles with the active involvement of attendings.

The purpose of Journal Club is to review a clinically relevant journal article and to consider:

- Study design (clinical question and selection of germane evidence)
- Potential areas of bias and error in design and execution
- Evidence validity, impact and applicability

The first Journal Club of the year will be devoted to a review of evidence based principles. For each subsequent Journal Club, the hosting faculty member selects a journal article for discussion, in consultation with the chief resident organizing Journal Club for the year. This will be a chance for the faculty member to bring his/her own clinical interests into a forum of discussion with the neurology house staff. One resident will be asked to review the article using evidence based principles, and will be asked to prepare a one-page summary analyzing the quality of the evidence. This resident will also lead the discussion. The faculty member provides a light supper and refreshments.

The reference book for Journal Club is Biller and Bogousslavsky's *Clinical Trials in Neurologic Practice: The Blue Books of Practical Neurology #25*.

## **DEPARTMENT OF NEUROLOGY PATIENT MANAGEMENT CONFERENCE SERIES**

The patient management conference series is designed as clinically oriented, case-based conferences that provide guidance on practical issues that arise during the routine outpatient care of patients with specific neurological disorders. These conferences occur weekly on Thursdays at noon in the Garvey Room.

The format involves the attendance of a patient at the conference, at which time relevant historical points are discussed and relevant physical exam findings are demonstrated. If the patient is unable to attend, a videotape of the patient can be shown that demonstrates the relevant history and physical exam findings. If neither of the above two options are possible, the conference facilitator will simply present the case for discussion.

The scope of the conference includes, but is not limited to the diagnosis, interpretation of laboratory and radiographic findings, and management of neurological patients. It is strongly preferable that the discussion be focused primarily on issues that arise in the outpatient setting.

The schedule of this series is as follows:

- First and third Thursdays                      Neuromuscular unit
- Second, fourth (and fifth) Thursdays      Other subspecialties (Neuroimmunology, Cognitive and Behavioral Neurology, HIV Neurology, Neuro-oncology, Neuro-ophthalmology and Child Neurology)

Although individual residents can arrange with the conference facilitator to present a particular patient from resident firm, because of the minimal representation of certain disorders in the resident firms, the primary responsibility for choosing a case for discussion belongs to the conference facilitator.



# GENERAL GUIDELINES FOR THE ACTIVITY OF THE NEUROLOGY RESIDENT AT SMH

## Organization of the Neurology Inpatient Service (5-1600)

### Organization:

- The Adult Neurology Inpatient Unit consists of twenty-four beds, which are divided among three teams: the Red and Blue Teams (Neurology Inpatient Service), and the Green Team (Epilepsy Service). The Neurology Unit is responsible for the care of all patients with neurologic disorders admitted from the emergency department, from the neurology outpatient clinics, or electively.
- The Red and Blue Teams follow all patients admitted to the neurology inpatient service, with the exception of those admitted to the Epilepsy Service for long-term video EEG monitoring. Each team consists of a neurology PGY-2, a medicine PGY-1, a 3<sup>rd</sup> year medical student and, on occasion, and a 4<sup>th</sup> year neurology extern. The neurology PGY-4 (chief resident) supervises both of these teams. Each team alternates admitting patients to their respective team. The organization of the Red and Blue Teams (Neurology Inpatient Service) is described below.
- The Epilepsy Service (Green Team) follows all patients admitted to the Strong Epilepsy Center for long-term EEG monitoring and treatment of seizures. The epilepsy team consists of the Epilepsy Attending, an epilepsy nurse practitioner, and an epilepsy fellow or a neurology PGY-2.

### Personnel:

- **Attending:** There are two primary attending neurologists who supervise the residents on the Red and Blue Teams: the Stroke Attending and the General Neurology Inpatient Attending. In addition, the Neuromuscular Attendings follow occasional patients within their respective specialty disciplines. Neuro-oncology, Neuroimmunology and Movement Disorders Attendings are available on a consultative basis only. The Neurology Attendings are ultimately responsible for all decisions regarding the care of their patients.

The Stroke and General Neurology Inpatient Attendings are responsible for making thrice weekly teaching rounds with the Red and Blue Teams, and for providing daily teaching, feedback and a final evaluation for each house officer whom they supervise. In order to do this, they must be readily available between 8:00 am and 5:00 p.m. daily for patient care and teaching activities. Pre-scheduled meetings are to be kept to a minimum and should be easily canceled if necessary. Outpatient clinics are not to be scheduled for the attendings when they are on service.

- **Neurology Chief Resident:** The Neurology Chief Resident (PGY-4) is responsible for the smooth running of the neurology inpatient and consultation services. He or she makes work rounds with the Red and Blue Teams on an alternating basis and participates in attending rounds. In addition, he/she conducts daily sign-out rounds with the Red and Blue Teams. The Neurology Chief Resident provides support to the “on-call” neurology resident.

- **Neurology PGY-2:** The Neurology PGY-2's are responsible for all admissions to the neurology inpatient service. They admit patients every day, on an alternating basis, between 8:00 a.m. and 4:00 p.m., Mon - Fri.
- **Medicine PGY-1:** The Medicine PGY-1's work together with the Neurology PGY-2's on the Red or Blue Teams, and are responsible for assisting the neurology PGY-2's in managing their floor teams. The Medicine PGY-1's write progress notes daily on all inpatients on their teams.
- **Fourth Year Medical Extern:** The fourth year medical externs work together with the Neurology PGY-2's on the Red or Blue Teams. They function as a substitute intern (PGY-1), splitting the patients and admissions on their team. They also write progress notes daily on all inpatients on their teams.
- **Third Year Medical Student:** The third year medical students work directly under the neurology PGY-2's. Each student is responsible for obtaining a complete history, performing a complete general and neurological examination, generating a differential diagnosis and formulating a plan of treatment for approximately three new patients per week. He/she will be responsible for completing the work-up on the same day that the patient is evaluated, and for presenting each assigned patient as needed on rounds. Progress notes are to be written daily on all inpatients that are followed by the student.

### Teaching Rounds:

- Attending Rounds are held daily, as follows:

Monday	10:00 am – 12:00 pm	Attending Rounds
Tuesday	11:00 am – 12:00 pm	Professor's Rounds
Wednesday	10:00 am – 12:00 pm	Attending Rounds
Thursday	10:00 am – 12:00 pm	Attending Rounds
Friday	9:00 am – 10:30 am	Neurology Grand Rounds

The goals and objectives for Attending Rounds, as well as guidelines for conducting them, are included elsewhere in this handbook.

### Admission Guidelines - Weekdays:

- The Red and Blue Teams admit stroke or general neurology patients every day, on an alternating basis. Decisions as to which team admits a patient are made by the neurology chief resident, taking into consideration team size and who is in clinic that afternoon.
- **Elective admissions:** Elective admissions must be called to the floor prior to 4:00 p.m., and are admitted by the team that is up for the next admission. Admissions called to the floor after 4:00 p.m. are evaluated by the on-call neurology resident and are picked up the following day by the team that is up for the next admission.
- **ED admissions:** Patients seen in the ED prior to 4:00 p.m. and subsequently admitted to Neurology are picked up that day by the admitting team that is up for the

next admission. Patients seen in the ED after 4:00 p.m. by the on-call neurology resident and subsequently admitted to Neurology are picked up by the appropriate team the following day.

- The Medicine PGY-1's may leave the hospital at any time following sign-out rounds and once they have finished all their work, but only after signing out to the medicine evening float. The PGY-1's must let the neurology on-call resident know that they have signed out to the evening float.

### **Admission Guidelines - Weekends:**

- The neurology PGY-2, the medicine PGY-1 and the medical student on the Red and Blue teams each have one day off every weekend. For each team, the neurology PGY-2 rounds with the medical student on one weekend day, and the medicine PGY-1 rounds with the neurology chief resident on the other weekend day.
- The neurology PGY-2 can sign out his/her team to the medicine weekend float (typically the PGY-1 on the other neurology team) once he/she is finished rounding on his team and reviewing all new admissions.

### **Evening and Night Call:**

- The medicine evening float covers any medical emergencies on 5-1600 between 4:00 pm and 8:00 pm, and the medicine night float covers any emergencies between 8:00 pm and 8:00 am the following morning. The medicine PGY-1's must sign out to the evening float prior to leaving the hospital each evening. The neurology on-call resident provides back-up supervision to the medicine evening float and medicine night float for all neurology inpatients on 5-1600.

### **Teaching Responsibilities:**

- The neurology PGY-2 is responsible for running work rounds, which begin at 8:30 am Monday through Thursday, and at 7:45 am on Friday. Work rounds on the weekends begin at 8:00 am.
- The neurology PGY-2 is responsible for supervising any medical students assigned to their team, including reviewing their patient work-ups.

### **Miscellaneous Considerations:**

- The neurology PGY-2 is responsible for obtaining consults from other services.
- Discharge summaries are to be dictated by the neurology PGY-2 within 48 hours of discharge. The Social Worker will occasionally ask for discharge summaries prior to discharge for patients awaiting placement at nursing facilities. Dictation guidelines for discharge summaries are listed below.
- The neurology PGY-2's on each team cross-cover for one another when either of them is in clinic.

- The neurology PGY-3's, PGY-2's, the medical PGY-1's and all medical students on the Red and Blue Teams are expected to be present at sign-out rounds which are held at 4:00 p.m. Monday – Friday.
- The medicine PGY-1's attend their afternoon General Medicine outpatient clinic once per week. The neurology PGY-2's provide patient care and help write progress notes on those afternoons when their PGY-1 is in clinic.
- The intern teams will be capped at 10 patients per team, due to medicine RRC program requirements. When the number of patients on the red or blue teams exceeds 10 patients, the most stable stroke patients will be transferred to the stroke nurse practitioner on service, who will follow these patients together with the red or blue team neurology PGY-2 until discharge.

## **Organization of the Neurology Consult Services**

- **Organization:** There are two adult neurology consultation services at SMH: the general neurology service and the stroke service. An attending neurologist, a neurology PGY-3, and two 3<sup>rd</sup> year medical students staff each service. A PM&R resident, an anesthesiology resident or a neurosurgery resident may be assigned to one of the consultation services on occasion.
- **General neurology service:** The general neurology service provides general neurology consultations on the adult hospital wards, in R wing, in the ED, and in the ICU's.
- **Stroke service:** The stroke service provides consultations for patients suspected of having a stroke, TIA, intracerebral hemorrhage or subarachnoid hemorrhage, or for evaluation of therapeutic hypothermia. Patients may be seen on the adult hospital wards, in R wing, in the ED, or in the ICU's.
- **Consultation hours:** 8:00 am - 4:00 p.m. Monday through Friday. Any consultation called to the general or stroke neurology PGY-3 during those hours is seen by the resident that day. Deferring or “handing-off” consults called late in the day to the evening call resident is not appropriate.
- **Consult rounds:** Each consultation team will round with the Attending daily at a mutually convenient time. All new patient consultations should be formally presented to the Attending on rounds that day. Follow-up patients may be seen by the Attending as needed.
- **Transfer notes and orders:** The neurology PGY-3's on each consultation service are responsible for writing a transfer note for any of their patients who are being transferred to 5-1600 from the ICU or another service. Transfer orders also need to be written, and may be entered by either the consult resident or the accepting team.

- **Cross-Coverage:** The neurology PGY-3's on each consultation service cross-cover for one another when either of them is in clinic, or if any one service becomes exceedingly busy.
- **Weekend coverage:** The neurology PGY-3's cross-cover for one another each weekend. This allows each neurology resident to have one day off every weekend. The residents mutually agree upon the exact schedule.

## Documentation Forms

- **Form 181A MR – Adult Neurology New Patient/Consultation Note:** This form is to be completed for all new patients seen by the neurology service, both admissions to the neurology inpatient unit and consultations. The neurology resident, the medical intern, the sub-intern, or the 3rd year medical student may complete this form, and only one form needs to be completed for each new patient.
- **Form 181B MR – Neurology Resident Addendum:** This form must be completed by the neurology resident for each new patient seen with a medical student, either an admission or consultation, if the medical student completes form 181A MR.

## Evening and Night Call

- Since July 2004, the UR Neurology Residency program has had an evening and night float system to improve continuity of care and to comply with the New York State and ACGME guidelines on resident work hours.
- The neurology evening and night float residents are responsible for all adult ED patients triaged to neurology, as well as adult and pediatric neurology consultations in the hospital, the ED, and the ICU's. They may be called concerning problems with patients already being followed on the consult services. In addition, they provide back-up coverage to the medicine evening float and night float covering neurology inpatients on 5-1600.
- On Saturdays and Sundays, the neurology weekend and night float residents are responsible for all neurology consultations and admissions, including direct admissions to 5-1600.
- The night float is expected to attend morning report on Mondays, Tuesdays and Wednesdays, and the Neuroradiology Conference on Thursdays.
- The night float rotation is 2 weeks in length. Neurology PGY-2's do three 2-week blocks as night float. Neurology PGY-3's do one 2-week block as night float.
- All first and second year neurology residents alternate taking weekend call.
- The Neurology Chief Residents are responsible for constructing the Evening Float and Weekend call schedules.

### Evening and Night float hours:

<b>Night float:</b>	Sunday through Friday:	8 PM – 8 AM (home by 9 AM)
	Saturday:	Off
<b>Evening float:</b>	Monday through Friday:	4 PM – 8 PM (off by 9:30 PM)
<b>Weekends:</b>	Saturday call:	8 AM – 8 PM
	Saturday night call:	8 PM – 8 AM
	Sunday call:	8 AM – 8 PM

### Attending and Chief Resident Back-up:

- The general neurology inpatient attending or stroke attending should be notified of all patients admitted to their services on 5-1600 at the time of admission.
- The general neurology consult attending or stroke attending should be notified of any ICU admission to their service as well as of all ICU consults shortly after the patient is seen.
- All consults seen during a particular shift must be discussed with the attending by the resident prior to leaving the hospital following the evening or night float shift.
- The general neurology consult attendings and stroke attendings are available for help with any adult patients seen in consultation by the on-call resident.
- The on-call pediatric neurology attending should be notified of all pediatric consultations seen.
- The chief resident should be informed of all overnight admissions before morning report. The chief resident is available 24 hours a day for telephone back up for the on-call resident.

### Miscellaneous considerations:

- The on-call resident can order an after-hour emergency EEG to verify brain death for organ donation, in cases of suspected herpes encephalitis, and in cases of suspected electrical status epilepticus. In these cases, the on-call resident pages the EEG attending and then the EEG technician through the page office. The EEG technician will be called in to perform the study, and the EEG attending will then read the tracings.
- All consultations during the night and on weekends are to be seen at that time. Deferring non-emergent consults for the following day is not appropriate.
- The neurology web-based patient log should always be updated daily by the on-call residents, the consult residents and the floor residents, listing the names of the

patients seen, their medical record numbers, their ages, locations, diagnoses and the date seen.

- The on-call resident is responsible for answering patient calls from neurology firm patients, Westfall Road general neurology patients, Highland Hospital general neurology patients, subspecialty neurology patients (with several exceptions), and child neurology patients. The attending neurologist on call for each of these services is always available for consultation if necessary. An email should be sent to each practitioner regarding patient calls after-hours.
- The evening float should receive sign-out from each floor team and consult team.
- If the evening float resident is on an off-site rotation and unable to attend morning report, he or she must contact the appropriate residents first thing in the morning to discuss the patients seen the prior evening.

## Responsibilities of the Neurology Chief Resident

- **General Responsibilities:** The neurology Chief Resident is responsible for the smooth operation of the Neurology Inpatient Service on 5-1600. He/she should briefly see and evaluate all patients admitted to the unit, monitor their work-ups and management, provide guidance to the house staff on 5-1600, and provide feedback and evaluations concerning the performance of the house staff.
- **Sign-in Rounds:** The neurology Chief Resident is responsible for meeting each morning at 8:30 am (following morning report) with the resident on-call the previous night, the neurology PGY-2's and Medicine PGY-1's on the Red and Blue teams, the PGY-3's on the stroke and general neurology services, and the pediatric neurology resident. All patients seen the previous night by the on-call resident should be discussed briefly at this time.
- **Work rounds on 5-1600:** The Chief Resident should round each morning with the Red and Blue teams, on an alternating basis. This allows the Chief Resident to monitor the progress of all patients admitted to 5-1600.
- **Afternoon sign-out rounds:** The Chief Resident runs sign-out rounds, which usually occur daily from approximately 4:00 p.m. until 4:30 p.m. All patients on 5-1600 should be reviewed briefly with the medicine PGY-1's, the neurology PGY-2's and all medical students on the Red and Blue teams. Admissions to and consultations from the ICU's should also be reviewed at that time with the PGY-3's. In addition, sign-out rounds are a prime opportunity for the Chief Resident to teach the residents and medical students about interesting patients on the service.
- **Support for the on-call Resident:** The Chief Resident provides primary support for the neurology on-call resident. This is particularly crucial for the neurology PGY-2's, and especially during the first six months of their residency. Although most of these consultations will occur via telephone, the Chief Resident may be required to see patients in the emergency room, on 5-1600 and in the Intensive Care Units if necessary.

- **Availability:** The Chief Resident is expected to be available at all times, including weekends.
- **Weekend cross-coverage:** The chief residents "cross-cover" for one another each weekend. This allows the acting chief resident to have one day off every weekend. The chief residents mutually agree upon the exact schedule and provide this schedule to the Program Director.
- **Urgent Outpatient Consultations:** The Chief Resident is responsible for arranging to see any outpatients who need to be seen urgently and who cannot be scheduled in the firms within a week. He/she will have a room reserved in the neurology OPD one afternoon each week for these patients. The General Neurology Attending is responsible for staffing these patients with the chief resident.
- **Morning Report:** The Chief Resident is responsible for running Morning Report on rare occasions when the Neurology Department Chair or Associate Chair for Education is unavailable.
- **Grand Rounds:** The Chief Residents are responsible for scheduling Grand Rounds, with consultation from the Chair of Neurology. The acting Chief Resident is also responsible for the smooth running of Grand Rounds, including introducing the speaker, moderating the discussion, and adhering to the time schedule.
- **Monday and Friday Resident Conferences, Grand Rounds Resident Cases, Patient Management Conference, Journal Club and Neuroscience Course:** The Chief Residents are responsible for organizing and scheduling these conferences, in consultation with the Program Director.
- **On-call Schedule:** The Chief Residents are responsible for creating the neurology resident on-call schedule for the year.

## Neurology Conference Schedule

### Monday

7:45 - 8:30 a.m.	Morning Report	5-5220
10:00 - 12:00 p.m.	Attending Rounds	5-2555
12:00 - 1:00 p.m.	Neurology Clinical Conference	5-5220
4:00 - 4:30 p.m.	Sign-out Rounds	5-2555

### Tuesday

7:45 - 8:30 a.m.	Morning Report	5-5220
10:00 - 11:00 a.m.	Brain Cutting	1-6428 (K-1)
11:00 - 12:00 p.m.	Professor's Rounds	5-5220
12:00 - 1:00 p.m.	Functional Neuroimaging Conference	5-5220
4:00 - 4:30 p.m.	Sign-out Rounds	5-2555

### Wednesday

7:45 - 8:30 a.m.	Morning Report	5-5220
10:00 - 12:00 p.m.	Attending Rounds	5-2555
12:00 - 1:00 p.m.	EEG Conference	K-207
4:00 - 4:30 p.m.	Sign-out Rounds	5-2555

### Thursday

7:30 - 8:15 a.m.	Neuroradiology Conference	G-3270
10:00 - 12:00 p.m.	Attending Rounds	5-2555
12:00 - 1:00 p.m.	Patient Management Conference	5-5220
4:00 - 4:30 p.m.	Sign-out Rounds	5-2555

### Friday

9:00 - 10:30 a.m.	Neurology Grand Rounds	K-307
11:00 - 12:00 p.m.	Neurology Clinical Conference	5-5220
12:00 - 1:00 p.m.	Resident Lunch	5-5220
4:00 - 4:30 p.m.	Sign-out Rounds	5-2555

### Saturday

8:45 - 9:00 a.m.	Sign-in Rounds	5-2555
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### Sunday

8:45 - 9:00 a.m.	Sign-in Rounds	5-2555
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Work rounds are held on Monday, Tuesday, Wednesday and Thursday from 8:30 until 10:00 a.m., on Friday from 7:45 until 9:00 a.m., and on Saturday and Sunday from 8:00 until 10:00 a.m.

## **Discharge Summary Format Department of Neurology**

Patient name  
Unit number  
Date of birth  
Date of admission  
Date of discharge  
Name of attending physician

Chief complaint  
Brief summary of present illness  
Past medical history  
General and Neurologic exams  
Admission laboratories

Hospital course (by problem, if complicated)

Discharge diagnoses  
Discharge medications  
Data pending at discharge  
Condition at discharge  
Follow-up appointments

Names of other physicians to whom the discharge summary should be sent

N.B. The discharge summary should be succinct, no more than 1-2 typewritten pages, and must be dictated within 48 hours of patient discharge.

# INPATIENT ATTENDING PHYSICIAN'S RESPONSIBILITIES

## Teaching Responsibilities

1. The primary responsibility of the Stroke and General Neurology Attending Physicians is to teach the House Staff on the inpatient and consultation services. A focal point of this teaching are the Attending Rounds and Professor's Rounds, which occur daily according to the following schedule:

Monday	10:00 am – 12:00 pm	Attending Rounds
Tuesday	11:00 am – 12:00 pm	Professor's Rounds
Wednesday	10:00 am – 12:00 pm	Attending Rounds
Thursday	10:00 am – 12:00 pm	Attending Rounds
Friday	9:00 am – 10:30 am	Neurology Grand Rounds

2. Residents are asked to be well prepared for Attending and Professor's Rounds and to meet promptly at the appointed hour. Each resident is expected to be at Rounds unless an acutely ill patient needs immediate attention.
3. Rounds should be built around the patient's central problem with teaching directed primarily at the first year neurology residents. Patient presentations should take place at the bedside, when possible.
4. During Attending Rounds, each resident team will spend one hour each with the stroke and general inpatient attendings. Attending Rounds will include formal case presentations by the intern or medical student, bedside teaching by the attendings, and management discussions with the team.
5. Interruption of Rounds should be kept to a minimum. Where there is an acute problem needing attention, the chief resident should excuse him or herself and see the patient allowing the PGY-1 and PGY-2 to remain at Rounds.
6. Attending Rounds should be directed actively by the Attending with appropriate challenge to the residents, including give-and-take Socratic teaching. Primary data should be challenged as to their accuracy and completeness; residents should defend logically their diagnostic and therapeutic plans; and they should be stimulated to acquire new knowledge. Cost-effectiveness and evidence-based medicine should be stressed.
7. A variable approach to Rounds is encouraged which will depend on the problems the patient presents. Areas to be covered include: basic science correlation and pathophysiology of disease, clinical skills used to acquire and record clinical data, diagnostic reasoning, differential diagnosis, up-to-date description of disease entities, personal and social problems of the patient, medical ethics, discriminative laboratory utilization, appropriate use of consultants, individualized therapy and knowledge of drug action, preventive medicine, and follow-up plans for the patient.

## Evaluation Responsibilities

1. The Residency Program Director is required to certify that each resident, at the end of his or her residency training, is clinically competent in each of the six ACGME Core Competencies in order to be qualified to sit for the ABPN Certifying Examinations. Ongoing evaluation is required of faculty members who teach and supervise residents.
2. Global Assessment Forms evaluating all six ACGME Core Competencies are available on the web and must be filled out by the Attending for each resident with whom he/she has worked for at least one week. It is important to write at least 2 or 3 sentences at the bottom of the form summarizing the resident's performance. In order to provide more accurate evaluations, the attending should keep notes on the performance of each resident throughout the attending period.
3. The attending should direct teaching not only to enhance medical knowledge and clinical judgment, but also to improve individual clinical skills. During the attending period, the PGY-1 or PGY-2 should be asked to demonstrate for 5-10 minutes at the bedside, selected interview and physical diagnosis skills.
4. At least one medical record must be reviewed by the Attending to determine the quality of record keeping, including clinical decision-making, follow-through in patient management and preventive health services, and appropriate use of clinical facilities and resources (e.g., appropriate laboratory tests and consultations). Each neurology resident will select a new patient consultation note or admission note and submit this to the attending for his/her review. The neurology attending will complete the resident chart review form and provide verbal feedback to the resident concerning the written note.
5. Feedback should be provided to the PGY-1's, PGY-2's, PGY-3's, Chief Residents, and medical students on an ongoing basis. Ideally, the attending should meet briefly immediately after Attending Rounds with the resident who presented the case. In addition, the attending is expected to meet individually with each resident and medical student at the end of his/her rotation to provide verbal feedback.
6. The Residency Program Director should be contacted personally if any particular Neurology resident is performing unsatisfactorily.

## Evaluation of Attendings

Each resident is asked to evaluate the attending on the following 10 areas:

	Low				High
	1	2	3	4	5
1. Interest in Teaching	_____				
2. Ability to Teach Outside Own Specialty	_____				
3. Demonstrating Appropriate Physician Attitudes	_____				
4. Bedside Teaching of Interview and Physical Dx	_____				
5. Basic Science Correlation	_____				
6. Teaching Diagnostic Reasoning	_____				
7. Teaching Medical Facts	_____				
8. Appropriate Involvement of all on Rounds	_____				
9. Stimulating Acquisition of New Knowledge	_____				
10. Review of Medical Records with Comments	_____				
OVERALL RATING	_____				

Attendings are encouraged to review their own evaluation file kept in the Chairman's office.



## **CANANDAIGUA VAMC NEUROLOGY RESIDENT ROTATION**

The Canandaigua VA Medical Center is a 500-bed chronic care facility for patients with neuropsychiatric disorders. The Neurology Unit consists of 46 inpatient beds dedicated to the treatment of patients with Alzheimer's disease and other dementias. The first year resident provides primarily outpatient consultations to patients with cognitive and behavioral disorders, vascular diseases, epilepsy, age-related degenerative diseases and neurological complications of systemic illness. Inpatient facilities are located in Canandaigua, and outpatient facilities are located both in Canandaigua and in Rochester.

Canandaigua VAMC  
400 Fort Hill Avenue  
Canandaigua, NY 14424  
Tel: 585-394-2000

VA Outpatient Facility  
Clinton Crossing, Bldg B  
Rochester, NY 14620  
Tel: 585-463-2600

### **Faculty**

Richard Beresford, M.D.  
Fred Marshall, M.D.

### **Objectives**

- To develop skills in obtaining complete neurological histories, in performing accurate neurological examinations, and in selecting appropriate therapies with respect to an in-patient and out-patient population of largely male veterans with a high burden of neurological and systemic disease.
- To gain in-depth knowledge of major categories of neurological disease, with special emphasis on dementia, cerebrovascular disease, movement and neurobehavioral disorders, epilepsy and neuromuscular disorders.
- To gain experience in the appropriate ordering and interpretation of neurodiagnostic tests, including head and spine CT and MR scans, and EMG and nerve conduction studies.
- To participate in the teaching of medical students and non-neurological clinicians.
- To gain skills in use of an advanced electronic medical records system.

## Weekly Schedule – Canandaigua VAMC

<b>Monday:</b>	AM	Neurology Outpatient Clinic	CDGA	Dr. Beresford
	PM	Neurology Outpatient Clinic	CDGA	Dr. Beresford
<b>Tuesday:</b>		No scheduled activities		
<b>Wednesday:</b>	AM	Neurology Outpatient Clinic	ROPC	Dr. Marshall
	PM	Neurology Outpatient Clinic	ROPC	Dr. Beresford
<b>Thursday:</b>	AM	Neurology Outpatient Clinic	ROPC	Dr. Beresford
	PM	Neurology Outpatient Clinic	ROPC	Dr. Beresford
<b>Friday:</b>	AM	Neurology Grand Rounds	SMH	
	PM	Neurology Outpatient Clinic	CDGA or ROPC	Dr. Beresford

CDGA – Canandaigua VA Medical Center

ROPC – Rochester Outpatient VA Clinic

SMH – Strong Memorial Hospital

## **HIGHLAND HOSPITAL NEUROLOGY RESIDENT ROTATION**

Highland Hospital is a 261-bed, full service hospital established in 1889. It became part of the University of Rochester Medical Center in 1997, and has developed centers of excellence in geriatric medicine, women's health, obstetrics, bariatric surgery, and joint replacement surgery. While it is part of a major medical center, Highland Hospital has been able to maintain its identity and important role as a smaller, patient-centered, community-based hospital. In many departments, the medical staff is comprised of physicians in private practice as well as physicians who are employed by URM.

The URM Department of Neurology began providing full consultative neurological services at Highland Hospital in 2004. While the faculty members of Highland Neurology provide attending coverage for the neurology consult service during most of the year, some weeks are covered by our excellent colleagues from other divisions within the department. The neurology service attends on patients who present with acute stroke and are treated with t-PA while they are in the ICU. Otherwise, there is no neurology attending service at Highland Hospital at this time. With the exception of neonatal and child neurology, first-year neurology residents on service at Highland should expect to encounter the full spectrum of neurological disease.

Highland Hospital is a New York State designated Stroke Center. All patients who present to the Emergency Department with symptoms of acute stroke are first evaluated by a well trained and coordinated stroke team comprised of emergency medicine physicians, PA's, and nurses. While all acute stroke cases are discussed with the attending neurologist on call prior to initiating acute therapies, the emergency department medical staff is prepared to administer t-PA to patients without in-house involvement of a neurologist. "Code 15" refers to a patient with symptoms of acute stroke either in the ED or inpatients on the medical/surgery floors. First responders to inpatient Code 15's are internal medicine or ICU Physician's Assistants who are trained to perform the NIH stroke scale and evaluate patients with acute neurologic symptoms. Darlene Welsh, NP is our stroke nurse practitioner. She assists in coordinating both inpatient and outpatient stroke care, insuring that current guidelines are met and adequate follow up is arranged.

One goal of this rotation is to use Highland's "community hospital" atmosphere to simulate the consultative feel of the private general neurology practice environment in which most neurologists work. The neurology resident also gains experience supervising and teaching medical students and residents rotating from other services (especially Internal Medicine and Family Practice).

### **Highland Neurology Faculty**

- Heidi Schwarz, MD, unit chief
- Paul Twydell, DO
- Anthony Maroldo, MD
- Chris Burke, MD
- Darlene Welsh, NP

## Location

Highland Hospital  
1000 South Avenue  
Rochester, NY 14620  
(585) 341-6743

Highland Neurology  
Physician Office Building  
990 South Avenue, Suite 202  
Rochester, NY 14620  
(585) 341-0100  
(585) 341-0074 (back line)

## Goals for the Highland Hospital Rotation

1. Develop skills obtaining complete neurological histories, performing accurate neurological examinations, developing appropriate and complete differential diagnoses, and selecting appropriate therapies.
2. Become comfortable accepting, triaging, and performing emergency department and inpatient neurological consultations in an efficient and professional manner.
3. Gain aptitude at communicating recommendations for evaluation and treatment of patients with neurological disease to the healthcare providers on attending medical and surgical teams, as well as working with those providers in an ongoing consultative role during a patient's hospital stay.
4. Gain in-depth knowledge of major categories of neurological disease, especially with respect to the populations represented at Highland Hospital (i.e., geriatrics).
5. Become familiar with changes in the neurologic exam associated with normal and abnormal aging.
6. Become familiar with special considerations in the evaluation and treatment of common neurological disorders (i.e. migraine, seizure, peripheral neurology) during pregnancy.

## Expectations of Residents

1. The resident will be available to be called with and see new consults between 8 AM and 5PM Monday through Thursday, and between 1 PM and 5 PM on Friday, except on the afternoon that he or she sees patients in the resident firm. There is no overnight neurology resident coverage. The actual times that the workday begins and ends will vary depending on the case load.
2. The resident will round with the attending and see new consults from the previous night on one morning each weekend.
3. The resident will educate himself or herself about the neurological disorders encountered on the consult service by reading appropriate texts, journals, and on-line materials. Please refer to the updated Bibliography for Adult Neurology in this handbook for appropriate references.
4. The resident will supervise and teach the 3<sup>rd</sup> year medical student that is rotating on the inpatient consult service.

5. The resident will attend and present a case at the Internal Medicine/Family Medicine resident morning report on two Mondays during a 4-week rotation.
6. The resident will attend and be prepared to present, or supervise the 3<sup>rd</sup> year medical student presenting, a patient at the bedside for weekly Professor Rounds.
7. The resident will attend and be prepared to present, or supervise the 3<sup>rd</sup> year medical student presenting, a clinical case as part of an informal case discussion with the consult team and Highland Neurology faculty in the outpatient office at 8 AM each Thursday.



# CHILD NEUROLOGY RESIDENT ROTATION

## Objectives

The overall goal for the three-month rotation in Child Neurology is for the neurology resident to be proficient in obtaining histories and performing neurologic examinations on infants and children. Additional goals include learning about normal growth and development and understanding the interrelationship between development and abnormalities of the nervous system.

In order to achieve these goals, the resident should be involved in the work-up and management of infants and children of various ages in both the inpatient and outpatient settings. Furthermore, the resident should have an opportunity to discuss and read about the problems he/she is seeing.

The common neurologic problems of childhood are to be emphasized. These include:

- 1) Perinatal Problems in Premature and Full Term Infants
  - a) Perinatal asphyxia
  - b) Intracranial hemorrhage and hydrocephalus
  - c) Marked hypotonia
  - d) Seizures
  - e) Birth injuries to the nervous system (including Erb's palsy)
- 2) Developmental Delay and Mental Retardation
  - a) Global delay
  - b) Delayed motor development (including cerebral palsy)
  - c) Delayed speech/language development
  - d) Delayed cognitive development
  - e) Abnormal social development (including autism)
- 3) Degenerative Disorders
- 4) Childhood Seizures
  - a) Febrile seizures
  - b) Primary generalized seizures (including absence seizures)
  - c) Partial and secondarily generalized seizures
  - d) Infantile spasms
  - e) Lennox-Gastaut syndrome
- 5) Headaches
  - a) Migraine
  - b) Migraine variants
  - c) Tension headaches
- 6) School problems
  - a) Attention deficit disorder (inattentive, hyperactive, and combined types)
  - b) Learning disabilities (including dyslexia)
  - c) Developmental coordination disorder

- 7) Behavioral Problems
- 8) CNS Infections
- 9) Movement Disorders
  - a) Tics
  - b) Dystonia
  - c) Ataxia
  - d) Others, including choreoathetosis
- 10) Head injuries
  - a) Acute and subacute care
  - b) Sequelae and rehabilitation
- 11) CNS Tumors:
  - a) Acute and subacute care
  - b) PNS & CNS complications of radiation and chemotherapy

Ideally, there will also be opportunities for the resident to evaluate children with less common problems, including strokes in infancy and childhood, central nervous system dysgenesis, and the neurologic complications of both childhood systemic diseases and immunizations.

## **Child Neurology Rotation Overview**

The Child Neurology rotation is divided into three services: inpatient, urgent, and outpatient. Each resident will spend approximately 4 weeks on each service.

### **General Expectations**

- The resident is expected to actively participate in patient care, as this leads to the best learning experience.
- If, at any time during the rotation, the resident cannot be present, he/she should speak with the attending.
- The adult neurology resident rotating in Child Neurology will cover the pediatric neurology resident's pager during his/her continuity clinic and vice versa. Pager coverage should be between the residents on the inpatient and urgent services (i.e. the resident on outpatient should only cover the pager under extenuating circumstances).
- The resident is expected to teach medical students and residents who are rotating from other services.
- The resident is expected to attend conferences (see the descriptions of the various services for specifics), including the Child Neurology Conference, held each Thursday (September – May) from 8:15 a.m. to 9 a.m. in the Neurobiology & Anatomy Conference Room (5-7432). The Neurology resident will be expected to

present at least one journal article and at least one clinical case over the 3 months of the rotation.

- While on the Child Neurology service, the resident will be assigned to round on inpatients one weekend each month. Weekend rounds will be scheduled in coordination with the Child Neurology attending physician. Adult neurology residents rotating in Child Neurology will *not* be responsible for taking pager call.
- The neurology resident will be expected to read about the problems he/she is seeing, both in the standard pediatric neurology texts and in the literature. A suggested reading list with links to articles is available on the Neurology intranet page under Pediatric Neurology (<http://intranet.urmc-sh.rochester.edu/depts/neurology/peds/>).

## Responsibilities of the Neurology Resident

### Inpatient Service

#### Workflow

- Patients *admitted* to the Child Neurology service should have a daily note written by the neurology resident.
- Patients seen in *consultation* by the Child Neurology service should have notes written at intervals appropriate to the nature of the patient's problem.
- Inpatient duties are the primary responsibility of the neurology resident. When an emergency arises, this will take precedence over all other obligations, including outpatient responsibilities (with the exception of the resident's firm) and conferences.
- Work Rounds - The resident should conduct daily work rounds with the medical students and the residents who are rotating from other services.
- Attending Rounds – The attending on-service will designate a time for rounding with the entire team. Rounds are usually held in the late morning and/or late afternoon, when lab values are back, tests have been done, and the team has gathered this information. *The inpatient resident is responsible for contacting the urgent resident to notify them about when and where attending rounds will occur.*

#### Consults

- The inpatient resident is expected to work-up all patients who are admitted to the Child Neurology service, as well as all consults from the floors. Pediatric patients and consults are on three pediatric units (4-1400, adolescents; 4-3600, toddlers; and 4-1600, infants), as well as the Pediatric ICU, Neonatal ICU, and Child & Adolescent Psychiatry inpatient unit (4-9200).
- The inpatient resident may also be required to work-up and follow pediatric SEC (epilepsy) inpatients at the discretion of the epilepsy service.
- Consults should be completed on the day that the consult request is received. If a consult call is received overnight, the patient should be evaluated by the 1<sup>st</sup> call adult neurology resident who is in-house and then should be seen by the inpatient resident the following day.

### Sign-out/Call

- In the morning, the resident should communicate with the evening/night float and/or with the pediatric neurology resident on pager call to find out about any problems, consults, or admissions from the previous night or weekend.
- At the end of the day, the resident should sign-out any patients who are ill or who need to be checked on overnight to the 1<sup>st</sup> call adult neurology resident and to the pediatric neurology resident who is on pager call.

### Teaching/Conferences

- The inpatient and urgent residents are *both* responsible for teaching the medical students and the residents who are rotating from other services.
- The resident will be expected to give a 30-minute didactic presentation to the team on a clinically relevant topic during their month on-service.
- The inpatient resident is expected to attend Morning Report, the Child Neurology Conference on Thursday mornings, noon conference, and Grand Rounds/Friday teaching conferences. He/she should attend other conferences (e.g. brain cutting, Professor Rounds) when possible; however, these conferences should not interfere with the resident's clinical responsibilities.

## **Urgent / Emergency Service**

### Consults

- The neurology resident will respond to consult requests from the Pediatric ED between the hours of 8 AM – 4 PM.

### Phone Triage

- The resident will triage calls from primary care physicians who wish to refer patients for urgent consultation. *It is the responsibility of the neurology resident to assure that these patients are scheduled and seen.*
- In general, there should be two urgent appointment slots per day (1 p.m. and 2 p.m.), though these times should be confirmed with the attending at the beginning of the rotation.
- The Child Neurology attending on-service will provide back-up if the resident needs assistance triaging a patient and will supervise the urgent visits.
- The resident will also field phone calls from outside hospitals, including Rochester General Hospital, as well as Child Neurology clinic calls during the lunch hour.

### Teaching/Conferences

- The urgent resident is expected to round with the inpatient team everyday unless he/she is engaged in an urgent consult.

- The inpatient and urgent residents are *both* responsible for teaching the medical students and the residents who are rotating from other services.
- The urgent resident is expected to attend Morning Report, the Child Neurology Conference on Thursday mornings, noon conference, and Grand Rounds/Friday teaching conferences. They should attend other conferences (e.g. brain cutting, Professor Rounds) when possible; however, these conferences should not interfere with the resident's clinical responsibilities.
- It is expected that the neurology resident will have time for reading on child neurology topics during this rotation.

## **Outpatient Service**

### Clinic

- The neurology resident will receive a clinic schedule for the month that he/she is on the outpatient rotation. The resident will see patients with all of the child neurology attendings over the course of the rotation.
- The resident will not have his/her own patient schedule. Rather, he/she will see the attending neurologist's patients. We do not divide our patients by mechanism of payment for medical care.
- The resident is expected to see both new and follow-up patients.
- The resident should obtain a history, perform a physical examination, formulate a plan, and then present his/her findings and plan to the attending. The attending will review the plan and then see the patient in conjunction with the resident.

### Teaching/Conferences

The outpatient resident is expected to attend the Child Neurology Conference on Thursday mornings, noon conference, and Grand Rounds/Friday teaching conferences.



## **PSYCHIATRY ROTATION For Neurology Residents**

### **Director**

Glenn Currier, MD, MPH      275-6917

### **Location**

SMH Psychiatric Emergency Department  
SMH Psychiatry Consultation Liaison Service (PCLS)

### **Description**

The four-week psychiatry rotation for neurology residents has been designed to teach fundamentals of psychiatry most beneficial for the practice of neurology. This new rotation was established as a result of the new neurology RRC guidelines, which mandate a one-month rotation in Psychiatry, under the direction of a board-certified psychiatrist. This rotation will consist of two 2-week experiences: the SMH Psychiatric Emergency Department, and the SMH Inpatient Consult Liaison Service. Descriptions of each component of the rotation, as well as specific learning objectives, are listed below.

## **EMERGENCY PSYCHIATRY (CPEP) ROTATION**

### **Director:**

Mary Lou Meyers, M.D.    275-4501

### **Faculty:**

CPEP Attendings

### **Rotation Hours:**

Monday-Friday      8:00 AM – 5:00 PM

### **Program Description**

The Emergency Department of Strong Memorial Hospital maintains a dedicated Psychiatric Emergency Department with its own rooms, secretarial staff, psychiatric nurses, social workers, and physicians. Attending psychiatrists staff the department around the clock and directly supervise psychiatry and neurology residents during their rotation. Psychiatric emergency physicians provide emergency consultation to the general hospital and inpatient services. In providing emergency psychiatric evaluations for adults and children of Monroe County and its outlying areas, Psychiatry ED usually sees between 3500 and 4000 patients each year.

The rotation will begin with more intensive didactic course work provided by the multidisciplinary emergency psychiatry staff. The resident will then play a primary role in the evaluation of a wide range of individuals with varying degrees of pathology. The challenge is to evaluate and intervene effectively in as comprehensive a biopsychosocial way as possible. With direct supervision by attending psychiatrists, along with an experienced staff of psychiatric nurses and social workers, the resident will develop emergency room skills, such as rapid acquisition of data through directive interview techniques.

### **Learning Objectives**

1. Discuss aspects of general medicine and neurology as they relate to Psychiatric Emergency presentation.
2. Develop proficiency in pharmacotherapy of psychiatric emergencies.
3. Develop an understanding of substance abuse emergencies.
4. Develop an understanding of the legal issues of emergency psychiatry, particularly civil commitment, right to refuse treatment, confidentiality, and competency.
5. Perform risk assessments including suicide, violence, homicide and self-injury.
6. Evaluate and manage violent behavior in the ER.
7. Manage seclusions and restraints.
8. Manage crisis intervention and crisis family intervention.

### **Responsibilities**

The neurology resident will work closely with the attending in the Emergency Department learning how to function as a vital member of a multidisciplinary team. The resident will perform primary emergent psychiatric assessments and consultations to the medical emergency department. Each resident will be assigned an ED preceptor who will meet regularly with the resident to discuss his or her performance on the rotation.

## **PSYCHIATRY CONSULTATION/LIAISON SERVICE (PCLS)**

### **Director:**

Michael Privitera, MD 275-3592

### **Faculty:**

Julie Fudge, MD  
Tana Grady-Weliky MD

### **Clinical Coordinator:**

Barbara Olesko, M.S., R.N., C.S., N.P.

### **Rotation Hours:**

Monday-Friday 8:00 AM – 5:00 PM

### **Program Description**

The Psychiatric Consultation–Liaison Service (PCLS) provides evaluation and assistance with the management of psychiatric disorders occurring in medically ill inpatients throughout SMH. During their C/L rotation, neurology residents will develop skills in the assessment of psychiatric problems in a medical setting, master the understanding of the interaction of medical and neurological conditions with psychiatric disorders, and begin to develop the skills of a specialty consultant.

A wide variety of neuropsychiatric, forensic and psychosomatic problems are frequently encountered on the C/L Service, including:

- Acute confusional states and delirium
- Dementing disorders
- Depression in the elderly or medically ill
- Capacity to make informed decisions
- Suicide attempts and suicidality on the medical floors
- Somatoform and factitious disorders
- Pseudoseizures
- Anxiety/agitation in the medically ill
- Secondary anxiety, mood and psychotic disorders
- AIDS-related secondary mental disorders
- Substance abuse

## Learning Objectives

1. Develop a knowledge base of psychiatric and neurologic aspects of psychiatry, psychosomatic disorders, delirium, depression and anxiety in the elderly and the medically ill patient.
2. Develop the ability to make informed decisions about the management of primary mental disorders and mental disorders secondary to medical conditions in the medical setting.
3. Develop knowledge of potential risks/benefits of using psychotropic medications in the medically ill and geriatric patient.
4. Develop knowledge about suicide assessment and management on the medical floor.
5. Conduct comprehensive and accurate psychiatric interviews and review of data.

## Responsibilities

The neurology resident will work closely with the Attending Psychiatrist on the C/L Service learning how to function as a vital member of a multidisciplinary team. The resident will perform primary psychiatric assessments and consultations on the SMH inpatient hospital units. The C/L Attending Psychiatrist will meet regularly with the resident to discuss his or her performance on the rotation.

## Weekly Schedule

8:30 AM	"Bed" meeting	
9:00 AM (8:45 AM on Wednesday)	Triage meeting	Thaler Room, 1-8136
9:00 AM – 5:00 PM	Inpatient consultations	Inpatient units
1:00 PM	Triage meeting	Thaler Room, 1-8136

# INTEGRATED NEUROMUSCULAR DISEASE – EMG ROTATION

## Description of the Rotation

All PGY-4 Neurology Residents spend one 6-week block on the EMG rotation. Those residents who are interested in a neuromuscular disease experience may spend an additional 6 weeks on this rotation, resulting in a 3-month integrated Neuromuscular Disease/EMG rotation.

Patients are seen in the EMG laboratory nine half-days per week, the exception being Friday morning. Three to four EMG laboratories are used simultaneously, and in each half-day session 6-8 patients are seen. Patients are evaluated in a 90-minute time slot.

The goals of each electrophysiologic study are to localize the lesion precisely, and determine its pathophysiology, severity and prognosis. This is accomplished as follows: A directed history and a neurological examination are performed and recorded. A diagnostic hypothesis is generated, and an individualized electrodiagnostic study is then planned and performed. Nerve conduction studies are performed first, followed by needle electromyography. As the results of the study come in, the hypothesis may be changed and the study may be redesigned as necessary. At the end of the study, the electrophysiologic abnormalities must be internally consistent and correlate closely with the patient's signs and symptoms.

It follows that clinical electrodiagnosis requires knowledge of neuromuscular diseases, detailed knowledge of anatomy of the peripheral nervous system, understanding of normal and abnormal electrophysiology of nerve and muscle, technical expertise in performing the various tests and ability to differentiate abnormal from normal electrical signals. The resident rotation in EMG is designed to teach the fundamentals in these various areas.

During the first half of the EMG rotation, residents will begin to learn the detailed spatial anatomy of the peripheral nervous system with reference to surface landmarks. In addition, they will gain a basic understanding of the electrical signature of the various neuromuscular diseases affecting nerve, neuromuscular junction, and muscle. They will begin to learn to perform nerve conduction studies using surface electrodes and percutaneous nerve stimulation.

During the second half of the EMG rotation, the residents will have an opportunity to perform nerve conduction studies of the common nerves in patients referred to the laboratory. This will be done under direct supervision, and only after they pass a test documenting basic knowledge of peripheral anatomy, electrophysiological abnormalities of the most important neuromuscular diseases, and demonstrate that they are technically competent in placement of electrodes, stimulation of nerves, and use of the EMG machine. Needle electromyography is also an option for the resident who is motivated.

In addition to the supervised evaluation of patients, there are other teaching opportunities. There is a daily EMG sign-out at which time all the cases from the day are reviewed and reports are generated. There is also an EMG conference once a week from 11:00 am to noon on Fridays after Grand Rounds. This is a didactic lecture series,

given by EMG staff and Fellows, in which the basic principles of electrodiagnosis, and the clinical and electrophysiologic findings of the major neuromuscular diseases are reviewed.

## **Faculty and Staff**

Eric Logigian, M.D.	EMG Laboratory Director
Chad Heatwole, MD	Electromyographer
Emma Cialfoni, MD	Electromyographer
David Herrmann, MD	Electromyographer
Michael Stanton, MD	Electromyographer
Paul Twydell, DO	Electromyographer
Marlene Downs	EMG Technician and Office Manager
Michelle Ferguson	EMG Technician
Kathryn Macko	EMG Technician
Nicole Rheinwald	EMG Technician

## **General Overview of the Combined 3-Month Rotation**

The following components will run concurrently for the combined 3-month rotation:

1. EMG laboratory - 4 half days/week
2. Neuromuscular clinics - 3 half days/week
3. Muscle/nerve and skin biopsy conference - alternate Tuesdays (8:30 AM - 9:30 AM)
4. Thursday lunchtime neuromuscular conference
5. Weekly EMG conference - Friday mornings - 1 hour didactic teaching in EMG
6. Sign out conference in the EMG lab - daily 4 – 5 PM. (Applicable when resident is scheduled in EMG)
7. Continuity experience:
  - a. Residents who rotate through neuromuscular clinics on Monday, Wednesday and Thursday mornings will participate in and perform electromyography studies on their clinic patients (from the morning), the same afternoon where possible.
  - b. Clinic patient seen in the first half of the rotation will generally be scheduled for initial follow up in neuromuscular clinic while the resident is still on the rotation, to provide a longitudinal care experience.
  - c. Residents will interact with all members of the neuromuscular faculty during their rotations.

## **Goals of the EMG Rotation**

1. To learn the fundamentals of neuromuscular diseases.
2. To learn the detailed spatial anatomy of the peripheral nervous system with reference to surface landmarks.

3. To localize peripheral nerve lesions precisely, and to determine their pathophysiology, severity and prognosis.
4. To gain a basic understanding of the electrical signature of the various neuromuscular diseases affecting nerve, neuromuscular junction, and muscle.
5. To learn to perform nerve conduction studies for common nerves using surface electrodes and percutaneous nerve stimulation.

### **Objectives of the EMG Rotation**

1. Learn as much peripheral neuropathy as possible.
2. Learn the basic physiology of nerve conduction and EMG.
3. Understand the strategy to rule in or out:
  - a. Myopathy
  - b. Disorder of muscle membrane
  - c. Disease of NMJ
  - d. Polyneuropathy
    - i. Axonal
    - ii. Demyelinating
    - iii. Sensory, motor, autonomic
  - e. Mononeuritis multiplex
  - f. Entrapment neuropathy
  - g. Plexopathy
  - h. Radiculopathy
  - i. Motor neuron disease
  - j. Sensory neuronopathy
4. Be able to perform basic nerve conduction studies independently but understand advanced conduction studies, late responses, reflex studies, repetitive stimulation and needle examination.

### **Objectives of the Neuromuscular Clinic and Muscle/Nerve Pathology Component**

1. To expose the resident to a wide variety of acquired and inherited disorders of muscle, nerve, neuromuscular junction and anterior horn cells.
2. To develop a comfort level in the clinical evaluation, selection and interpretation of diagnostic testing and management of neuromuscular disorders.
3. To develop a comfort level in decision making in neuromuscular disorders – e.g. when to admit a myasthenic patient, when to use plasma exchange or IVIg in myasthenia gravis.

4. To gain experience in the use and indications for various immune therapies in neuromuscular disorders (steroids, azathioprine, methotrexate, mycophenolate, cyclosporine, IVIg, plasma exchange).
5. To gain experience in the supportive management of patients with chronic neuromuscular disorders (e.g. ALS, CMT, muscular dystrophy).
6. To learn basic histopathology of common neuromuscular disorders.
7. To develop a sound theoretical knowledge base in neuromuscular disorders through targeted reading, clinical exposure and faculty teaching.

## **Resident Responsibilities**

### **First Week**

8. Observe for 1-2 days; help fellows.
9. Read introductory chapters in Preston & Shapiro, Chapters 1-4.
10. Learn surface anatomy for nerves and muscles in the arm (See Aids to the Examination of the PNS).
11. Read chapter 9: Routine Upper Extremity Nerve Conduction Techniques.
12. Practice on self/Fellows/Technicians: learn to perform median, ulnar motor and sensory nerve conduction studies and F responses.

### **Second Week**

1. Practical test for upper extremity: Ms. Hogan and Ms. Rheinwald
2. Read chapter 8: Artifacts and Technical factors.
3. Perform median and ulnar nerve conduction studies with supervision in patients with carpal tunnel syndrome, ulnar neuropathy, and cervical radiculopathy.
4. Read relevant chapters in Preston & Shapiro on each patient seen (chapter 16: median neuropathy, 17: ulnar neuropathy, 25: radiculopathy).

### **Third Week**

1. Read chapter 10: Routine Lower Extremity Nerve Conduction Studies.
2. Learn surface anatomy for lower extremity (Aids to the Examination of the PNS).
3. Learn to perform peroneal, tibial motor and sensory NCS; F and H responses.
4. Practical test for lower extremity; Ms. Hogan and Ms. Rheinwald
5. Perform NCS on patients with suspected peripheral neuropathy.
6. Read chapter 23: Polyneuropathy.

## Fourth Week

1. Read chapters 12, 13, 14 on needle EMG; view videotapes of EMG activity.
2. Begin needle examination with supervision.
3. Perform 3 Hz repetitive stimulation of the ulnar nerve.
4. Read chapter 15: Clinical and Electrophysiologic Correlations: Overview and Common Patterns.
5. Multiple choice examination – testing neuroanatomy, and principles of electromyography.

## Months 2 and 3

1. Residents will be assigned cases in the electromyography laboratory, and will perform all aspects of the electrodiagnostic evaluation on their cases.
2. Residents will be given cases of increasing complexity during the latter part of the rotation.
3. Residents will learn to perform independent electrodiagnostic examinations for cases of low-moderate complexity.
4. Residents perform electrodiagnostic examinations on cases they refer from the neuromuscular clinics.

## Sample Schedule

	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
<b>AM</b>	Clinic Logigian or Barbano	EMG	NMD Clinic Ciafaloni, Tawil, Twydell or Thornton	Clinic Herrmann or Stanton	Grand Rounds
<b>PM</b>	EMG	Resident Firm	EMG	EMG	Westfall Road



## CLINICAL NEUROPHYSIOLOGY and EPILEPSY ROTATIONS FOR 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> YEAR NEUROLOGY RESIDENTS

### Faculty:

Robert Gross, M.D., Ph.D.  
Michel Berg, M.D.  
James Burchfiel, Ph.D.  
Giuseppe Erba, M.D.  
Jim Fessler, M.D.

Craig Henry, M.D.  
Lynn Liu, M.D.  
David Loiselle, Ph.D.  
David Wang, M.D.

The Clinical (central) Neurophysiology Laboratory is part of the epilepsy unit and is under the leadership of Robert Gross, MD, Ph.D. Michel Berg, MD is the medical director of the neurophysiology laboratory. David Loiselle, Ph.D. is in charge of the EP laboratory, including the intraoperative spinal cord monitoring service. Lynn Liu, MD supervises the fellow and residency training. The laboratory structure is highly integrated with the clinical operation.

### SEC Resident Rotations: General Guidelines

- Each of the first year neurology residents (PGY-2) spends a 4-week block on the inpatient SEC service.
- Each of the second year neurology residents (PGY-3) may spend a 2-4 week block on the EEG service and is directly supervised by the neurophysiology fellow and attending.
- Each of the third year neurology residents (PGY-4) optionally spends a 6-week block on the advanced neurophysiology rotation, which may consist of a mixture of the clinical epilepsy service and the EEG service.
- While on the EEG service the residents have no other epilepsy service clinical responsibilities (specifically they have no outpatient or inpatient direct care responsibilities), except for their weekly outpatient resident firm or Westfall Road Clinic.
- Performance is evaluated at the end of each resident rotation by the clinical director, based on the reports from the various attendings and the ability of the resident to achieve the goals of the rotation.

## **First Year Neurology Resident (PGY-2) SEC Rotation**

### **Description:**

The neurology resident on the SEC service is responsible for care of all epilepsy service inpatients with the SEC attending. During this rotation the resident will be introduced to the field of epilepsy and basic EEG.

### **Objectives:**

1. Learn about characteristics of seizures and epilepsy syndromes including different types and treatments.
2. Improve basic understanding of the etiologies and pathophysiology of seizures and the clinical implications.
3. Demonstrate competency/proficiency in evaluation and management of patients with epilepsy, including all aspects of neurophysiological, medication, psychosocial, and surgical approaches.
4. Display a thorough understanding of the psychosocial implications and limitations of seizures and develop an empathetic approach towards these patients.
5. Participate in the diagnosis and treatment of psychogenic seizures (conversion disorders), by learning the etiologies, psychosocial dynamics, and approaches to treatment.
6. By the end of the rotation, be able to competently formulate and institute treatment plans for patients with seizures, epilepsy and the differential diagnoses of paroxysmal events.

### **Responsibilities:**

1. Management of SEC inpatients:
  - Round on the SEC inpatient service with the SEC attending every week day and one week end day. Develop the plan for the day and document in daily progress notes and enter CIS orders.
  - Evaluate and admit all scheduled patients to the SEC service; perform history and physical exam, thoroughly discuss the plan with attending; write standard admission note.
  - Perform inpatient and urgent outpatient SEC consultations. Evaluate and discuss the plan for the patient with the SEC attending.
  - Attend the mandatory daily LTM conference (typically 11:00-11:30 AM) in the LTM room. The resident presents each case briefly and makes note of the video-EEG findings, MRI findings, and discussion in their daily progress note.

- Participate in outpatient SEC clinic once per week seeing initial clinic evaluations and follow up patients to experience all aspects of the epilepsy evaluation and treatment.
  - Observe at least one LTM patient hook-up, and review LTM data with the technicians and fellows.
  - Observe insertion of deep sphenoidal electrodes. If interested, learn insertion technique.
2. Attend:
    - Intraoperative electrocorticography sessions
    - Brain mapping sessions in patients with grids
    - Intracarotid amobarbital procedures (Wada tests)
  3. Attend Wednesday Noon Neurophysiology conferences
  4. As time permits, attend Wednesday 3:00 PM Patient Review Conference (PRC).

## **Second Year Neurology Resident (PGY-3) EEG Elective**

### **Description:**

The purpose of the Second Year EEG rotation is to provide an introduction to EEG and other neurophysiological procedures.

### **Objectives:**

1. Become familiar with EEG recording techniques and equipment in all age groups and conditions, including the variety of sources responsible for artifacts.
2. Understand the basic neurophysiological generators of the EEG patterns.
3. Be able to recognize normal adult and child recordings and their various patterns in all normal states.
4. Be able to recognize common abnormal EEG patterns including:
  - Encephalopathy and coma
  - Epileptiform discharges and ictal patterns
  - Gross focal features and asymmetries
5. Become familiar with other applications of EEG and Evoked Potentials (e.g. intraoperative).
6. Demonstrate competence generating normal EEG reports using ACNS guidelines.

### **Responsibilities:**

On your first day, contact Steve Erickson and Lynn Liu to arrange access to EEG reading room and login to the computer system.

### ***During the first two weeks:***

1. Attend from start to finish at least one:
  - Inpatient EEG adult and child
  - Have an EEG done and demonstrate reactivity of occipital rhythm, mu rhythm, lambda waves, and stimulus evoked K-complexes.
  - Portable EEG (Coma, r/o status epilepticus, ECI)
  - Neonatal EEG
  - Evoked potential study
2. Introduction to the EEG machine
  - Learn to run a study with one of the EEG technicians
  - Learn electrode placement system on mannequins
  - If interested, place electrodes on a human with the EEG technician

### 3. Writing Reports

- Write a report on an EEG assigned by the fellow
- Receive feedback on each report from an EEG attending
- Read about the EEG finding and associated epilepsy syndrome or clinical condition

#### ***During the entire session:***

3. Learn basic approach to EEG interpretation; study daily outpatient and inpatient EEGs with fellows and attending.
4. Attend at least:
  - One intraoperative monitoring during carotid endarterectomy, tilt table test with EEG and electrocorticography
  - One intraoperative EP recording during complex spine surgery
5. Attend weekly conferences:
  - Monday thru Friday daily LTM conference 11:00-noon - LTM room
  - Wednesday 3:00-5:30 PM patient review conference (PRC) – Garvey room
  - Wednesday Noon Neurophysiology - EEG conference - Garvey room / K-307 / K207
6. Insert sphenoidal electrodes (if interested, rotate with NP, after instruction).
7. Spend all other time in the EEG reading room.

#### **Recommended reading list:**

1. Handouts
  - ACNS Guidelines for writing an EEG report
2. Ebersole and Pedley, Chapters:
  - 2: Electrical Fields & Recording Techniques
  - 4: Artifacts
  - 6: An Orderly Approach to Visual Analysis: Characteristics of the Normal EEG of Adults & Children
  - 8: Benign EEG Variants & Patterns of Uncertain Clinical Significance
  - 9: An Orderly Approach to the Abnormal EEG
3. Niedermeyer, Chapters:
  - 5: EEG recording and operation of the apparatus
  - 6: The EEG signal: Polarity and Field Determination
  - 45: Neonatal EEG

## **Third Year Neurology Resident (PGY-4) SEC Rotation Advanced SEC/ Neurophysiology**

### **Description:**

- The third year neurology resident may work either as a junior fellow on the SEC service or in the EEG lab.
- On the SEC service, the resident will be responsible for direct supervision of inpatient care in consultation with the SEC attending and support of the SEC Fellow or NP.
- In the neurophysiology lab, the resident is expected to improve EEG skills by reviewing daily EEGs and focus on increasingly difficult EEGs and act as a junior fellow in the EEG lab reading and writing EEG reports under the supervision of the EEG fellow and attending.

### **Objectives:**

1. Solidify knowledge of seizures and epilepsy (enhance all objectives expected for PGY-2 year).
2. Improve basic foundation of reading and interpreting EEG and LTM.
3. Demonstrate competence generating normal and some abnormal EEG reports.
4. Expand skills in the evaluation of patients with seizures and epilepsy.
5. Participate in diagnosis and treatment of psychogenic seizures (conversion disorders), learning the etiologies, psychosocial dynamics, and approach to treatment.
6. By the end of the rotation, be able to competently formulate and institute treatment plans for patients with seizures, epilepsy and related conditions.

### **Responsibilities:**

- Round on the SEC inpatient service with the SEC attending every week day and one week end day. Develop the plan for the day and document in daily progress notes and enter CIS orders.
- Evaluate and admit all scheduled patients to the SEC service; perform history and physical exam, thoroughly discuss the plan with attending; write fellow/attending level note.
- Perform inpatient and urgent outpatient SEC consultations. Evaluate and discuss the plan for the patient with the SEC attending.
- Daily review LTM with the LTM fellow and the LTM or SEC attending.

- Observe at least one LTM patient set-up and several hours of LTM playback with the Technician and Fellow.
1. Daily reading of EEGs with fellow and attending:
    - Daily review of outpatient and inpatient EEGs as directed by EEG fellow.
    - Generate EEG reports of normal and abnormal EEGs using ACNS guidelines.
  2. Attend at least:
    - One intraoperative electrocorticography session
    - One intracarotid amobarbital procedure (Wada test)
    - One intraoperative EEG monitoring during carotid endarterectomy or tilt table test if available
    - One intraoperative EP recording during complex spine surgery
  3. Attend LTM, PRC & EEG Conferences.
  4. Insert sphenoidal electrodes (rotate with NP, after instruction).

**Recommended reading list:**

Ebersole and Pedley, Chapters:

- 5: Physiological Basic of the EEG
- 7: Electroencephalography of the Newborn
- 10: Epilepsy and Syncope
- 11: Focal Brain Lesions
- 12: Diffuse Encephalopathies
- 13: Organic Brain Syndromes and Dementias
- 14: Coma, Other States of Altered Responsiveness and Brain Death
- 15: Drug Effects
- 16: Long-Term Monitoring
- 17: Chronic Intracranial Recording and Electrocorticography
- 23: Intraoperative Monitoring

Niedermeyer, Chapters:

- 9: The Normal EEG of the Waking Adult
- 10: Sleep and EEG
- 11: Maturation of the EEG: Development of Waking and Sleep Patterns

Pedley/Engel or Wyllie chapters on seizures and epilepsy, as directed by the SEC attending.



# GUIDELINES FOR THE RESIDENT FIRMS

## Philosophy of the Firms

The neurology resident firms were established in 1987 to provide the best possible patient care and resident education in a hospital-based neurology continuity clinic. The firms were set up in such a way as to simulate, as much as possible, a private-practice setting. Continuity of patient care and resident education were a high priority in the design of the firms. Hence, residents are assigned to a specific firm, headed by one or two attending neurologists, for their entire three years of their residency. Also, the patients are maintained as much as possible in the same firm, even though residents change every four years. In this way, the firm attendings will be familiar with the more complex firm patients and smooth the transition of resident turnover.

We view the firms as the most important outpatient activity for the neurology residents, since they provide a continuity experience for learning how to care for a cohort of patients. In addition, a unique mentoring relationship develops between the residents and the firm attendings over four years.

In order to ensure that the firms operate as efficiently as possible, the following guidelines have been developed:

## Appointments

Patient appointments for the Neurology Resident Firms at Strong Memorial Hospital are scheduled from 1:00 - 5:00 p.m. during the week. Appointments are made by the Scheduling Center in the Department of Neurology, according to the following rules:

- PGY-1 residents are allotted one hour for both new and follow-up patients from July through September. Starting in October, they will be allotted one hour for new patients and 30 minutes for follow up patients, and will have a 30-minute break in their schedule for paperwork.
- PGY-2 and PGY-3 residents will be allotted one hour for new patients and 30 minutes for follow up patients, and will have a 30-minute break in the schedule for paperwork.
- Chief Residents (PGY-4) will be allotted one hour for new patients and 30 minutes for follow up patients with no breaks.
- An emergency slot will be held open each afternoon for each resident, (with the exception of the PGY-1 residents from July through September). If the emergency slots have not been filled 48 hours prior to the appointment, the scheduling center will fill these open slots with routine patients.

Appointment length summary:

New	60 minutes
Follow-up	30 minutes (60 minutes for PGY-1's for the first 3 months)
Break	30 minutes for PGY-1's, PGY-2's and PGY-3's only

Residents may not change their schedules without prior, written approval of their firm attending. Once a change is approved, please email the staff with the change and the name of the person covering.

Residents are expected to personally follow in their own firm those patients they treated as inpatients or in the ED. The neurology resident must personally schedule a follow-up clinic appointment in his/her firm for any 5-1600 inpatient or ED patient who needs follow-up at the time of discharge. Urgent clinic slots may be used for this purpose, if needed. Patients should not be expected to arrange their own follow-up appointments upon discharge.

It is the responsibility of the resident to see patients in a timely manner. Residents should inform waiting patients if they are running late. Patients should not be turned away because a resident is running behind schedule.

Every effort is made to obtain the medical record and/or medical information for every patient. Occasionally no information is available at the time of the visit. Patients are to be seen whether or not a medical record is available at the time of the appointment.

No appointments can be scheduled for patients with private insurance unless they have a valid referral number. This includes patients being scheduled for follow-up after a 5-1600 admission. No exceptions can be made. The patients' primary care physicians provide referral numbers.

Follow-up appointments are scheduled at checkout at the convenience of the patient. If the hour is late and an appointment cannot be scheduled at checkout, please ask the patient to call the scheduling office the following day. The GNU does not send out appointment cards. Please do not tell patients that the office will send a card when they are due for a follow-up visit.

Reminder calls are made to each patient prior to a regularly scheduled appointment.

Test scheduling: A requisition must be completed by the resident for each test in order for the test to be scheduled. Checkout staff cannot schedule tests without a properly completed test requisition.

## **Messages**

Routine patient messages and messages concerning prescription renewals are tasked to the resident as soon as they are received. Residents are responsible for checking and addressing their task list for messages throughout the day. All non-urgent messages should be addressed within 24 hours.

The resident will be tasked and paged with any urgent messages taken on a day that the resident is not in clinic. Being paged to the office should alert the resident that it is necessary to personally respond to a message. This page should be returned as soon as possible. The resident must also return the patient's call personally. The support staff is not medically qualified, and therefore cannot relay urgent messages to the patient for the resident.

A Registered Nurse in the infusions center is available for the support staff to refer clinical questions or concerns for triaging. The RN triages these questions and concerns, working collaboratively with the residents to meet patient needs.

## Phone Numbers

The patient appointment number is: 275-1200 (press 1 to bypass the menu.)

The in-house line is: 275- 0275. This line is for hospital staff only and should NEVER be given out to patients or to the public.

Other useful numbers:

Support staff/schedulers	5-1201
Direct line to secretaries (not for patient use)	5-0275
Check-in	5-7198
Check-out	5-1247
Administrator	5-8796
Assistant to administrator	6-4200
Staffing room	5-1202 5-7199
Fax	756-5189

## Correspondence/Forms

All mail (in-house and out-of-hospital) should be placed in the mail bin in room 2-5003. All inter-office mail should go in a blue envelope. Please do not use pre-stamped envelopes for inter-office mail.

Please complete all forms (DMV, Disability, etc.) in a timely fashion, and return them to the support staff in the scheduling office for faxing and mailing. A copy of the completed form will be scanned into the record by the support staff.

There are various consent/ release of information forms (i.e., hospital to patient, physician's office to hospital, etc.) Be sure that you are using the correct form for a timely response to the request.

All patient notes must now be entered electronically into the medical record using the Allscripts system. The HPI and Assessment and Plan should be complete, organized and typed in prose into the electronic patient record. The medications, allergies, and PMH must be entered into Allscripts for all new patients and should be updated at each visit. The support staff will attempt to input the information they receive from the referring physician prior to the visit.

Medication reconciliation: Medication reconciliation is a hospital and Joint Commission requirement. The purpose of medication reconciliation is to avoid medication errors, which include errors of omission, duplication of therapy, drug-drug and drug-disease interactions. All Allscripts snapshots are printed prior to the patient visit, allowing the patient to review their medication list upon arrival in the clinic and make any changes.

The updated medication list should be reviewed by the resident to insure that it is complete and that all medications prescribed are appropriate. The medication list must then be entered into Allscripts, and any changes should be noted in the clinic note. Staff will print an updated medication list at the check-out desk at the end of the visit, and will give the updated list to the patient. These lists will be audited and the resident will be notified if the lists are incomplete.

Summary List: It is a hospital and Joint Commission requirement for ambulatory care areas to maintain an updated summary list for each patient that contains significant medical diagnoses, and operative and invasive procedures. Please review and update this list at each visit.

An Encounter Form will be provided for every patient seen in the clinic. This form includes demographic information about the patient, including home address, home telephone, primary physician and type of insurance. It is the resident's responsibility to complete the billing portion of this form, including length of visit, diagnosis, and next appointment. This form must be returned to checkout. The check out desk will enter all patient charges. If information (CPT and ICD-9 code) is missing, the charge cannot be entered.

## **X-ray Returns**

To return SMH X-rays to the radiology department, please place them in the "X-ray return" box in the staffing room. Any X-ray that needs to be mailed to an outside facility should be brought by the resident directly to the back office for mailing. CD's containing neuroimages that need to be uploaded into the Imagecast system should be placed in the folder in the physicians' work room with the appropriate form completed. The back office staff will deliver the CD's to the radiology department for uploading. If you want the CD's returned, please note that on the form.

## **Vacations and Cancellation of Clinic**

According to department policy, residents receive four weeks of vacation per year. This includes one week of conference time. All vacations must be scheduled annually in advance, and all vacation requests must be approved by the Program Director.

Vacations may not be taken during the first year SMH inpatient rotations, second year general neurology, stroke, pediatric neurology or psychiatry rotations, or during the third year chief resident or MBB rotations.

A resident's clinic may only be canceled in the event of an emergency. If a resident requests that his/her clinic be rescheduled for any reason other than a true emergency, the firm attending must be notified and must approve the schedule change. The support staff will make every effort to reschedule the patients for the next available appointment.

## **Coverage**

Residents must arrange for coverage of their patients whenever they are away. In general, coverage is best provided by another resident in the same firm. The support staff and firm attending must both be informed in writing as to which resident is providing

coverage. The covering resident will monitor and respond appropriately to tasks for the resident whom he/she covering.

### **Scheduling Errors**

A scheduling error may occur on occasion, resulting in a patient arriving in clinic without an appointment. If this occurs, the patient will be informed of the error and will be given the option of rescheduling the appointment or being seen later that afternoon by a resident as soon as a time slot is available. The firm attending will decide which resident will see that patient. **No patient should be turned away from clinic due to a scheduling error without being seen!**

### **Policy for Providers when Patients Arrive Late for Appointment**

Patients who arrive within 30 minutes of their scheduled appointment will be given the opportunity to be seen by their provider. If the provider is unable to see the patient in sequence, the patient will be given the option to be worked in by the end of the day, or to reschedule.

Patients who have been “lost” in the medical center will be given special consideration. Patients who travel from a distance will also be given special consideration. Patients who are more than 30 minutes late will be given the opportunity to reschedule their appointment. If concern is expressed over the emergent nature of the visit, the provider will discuss this directly with the patient.

### **Patient Cancellations**

Please note that if a patient cancels a clinic appointment, every effort is made by the scheduling staff to fill the open slot. If the schedule that you receive the day before clinic has an open slot, please do not assume that this time slot will be free the next day. We will always try to have full-booked clinics.

## Allscripts Clinic Notes

All notes documenting a patient visit, including new or follow-up patients, should be typed into Allscripts. The basic steps to complete a note are as follows:

- Go into Allscripts and open your schedule
- Click on Chart in the vertical toolbar on the left
- Click on the Note tab on the horizontal toolbar
  - Under Note, select New (use Existing if you want to edit a note created previously)
  - Then select Structured Note.
  - Your Group will be Neurology-GNU
  - The Note Type will be Neurology Clinic Note (you may use Ambulatory Follow up, but this is less identifiable)
  - Then select from Existing Encounter—this ties your note to the current visit.
- There is a Table of Contents on the left hand side of the screen. This lists all the sections that will part of your note.
  - The first section, Neurology Clinic Correspondence, has been incorporated into the note automatically. To access the template to edit it, click on the blue hyperlink: Dear Dr.
  - Problems, meds, allergies, PMH, Family Hx, Personal Hx, and vital signs will also be brought into the note automatically. In order for any of this information to populate the note, these areas of the medical record must be completed.
  - To access the remainder of the items in the Table of Contents, you may double click on the item, e.g. HPI, or highlight the item and click the button labeled Text. This will open a popup window with a blank text box. Here you can enter free text or use Dragon voice recognition software. When finished with that text box, click on OK.
- When finished with the note, click on Save then click on CC: in the top left corner of the note. This opens a pop-up box that enables you to copy the PCP and other providers. Then sign your note.
- A task box will come up that requires you to task the attending physician for co-signature. This step is required and you cannot bypass this screen.
- Once the attending co-signs the note, the system automatically faxes a copy to the people listed in CC:.
- If you open your schedule, you will see the note pad icon in front of the patient's name on your schedule if you have started a note. When the attending signs the note, you will see a check mark over the note pad, indicating that the note has been signed and finalized.

## **Recommended Style for "Letter" or "Note for the File"**

DATE:

REFERRING PHYSICIAN FULL NAME AND ADDRESS:

PATIENT'S NAME, DATE OF BIRTH and UNIT NUMBER:

DEAR DR., MR., MS., MRS.:

CHIEF COMPLAINT:

HISTORY OF PRESENT ILLNESS:

PAST MEDICAL HISTORY:

CURRENT MEDICATIONS:

DRUG ALLERGIES:

HABITS: (alcohol, tobacco, illicit drugs)

FAMILY HISTORY:

SOCIAL HISTORY:

PHYSICAL EXAMINATION:

NEUROLOGICAL EXAMINATION:

IMPRESSION:

PLAN:

SINCERELY:

XC: (Give full name and address)



## Chief Resident (PGY-4) Faculty Practice/Subspecialty Clinics

**University of Rochester Neurology**  
919 Westfall Road, Bldg C, Suite 220  
Patient Telephone: 341-7500  
Front Desk Secretary: 341-7513  
Scheduling Secretary: 341-7512  
Fax: 341-7510

**Highland Hospital Neurology**  
990 South Avenue, Suite 202  
Rochester, NY 14620  
Patient Telephone: 341-0100  
Back line (MD's only): 341-0074

- **Chief Resident Clinics:** Third year neurology residents will have two afternoon clinics per week: a resident firm and a Faculty Practice/Subspecialty clinic. The Faculty Practice Clinics are located at two sites: University of Rochester Neurology at Westfall Road and Highland Hospital Neurology. The Subspecialty Clinics are located at two sites: SMH Neurology OPD and University of Rochester Neurology at Westfall Road.
- **Faculty Practice Clinics:** Third year residents will be assigned to work with a particular WR or HH attending or in a subspecialty clinic for a three-month period. The resident will see new patients only, and these will be scheduled for 1 hour and 10 minutes – 1 hour for the resident to see the patient and 10 minutes for the resident to review the patient with the attending. The attending will have this 10-minute block of time prescheduled to review the patient with the resident. The first new patient is scheduled at 1:20 PM. All residents will have three patients scheduled for each afternoon. The acting chief resident will not have a faculty practice/subspecialty clinic.
- **Attending absence:** If a faculty practice attending is away on vacation or at a meeting, the resident assigned to that attending will have no WR or HH patients that day.
- **Patient presentations:** All presentations of the patient to the attending are to be done at the "bedside", and should be succinct -- no more than 5 minutes in length!
- **Dictations:** The resident will be responsible for the dictation on the patient, and this dictation must be done before the resident leaves for the day.
- **Execuscribe:** The dictation service that is used is *Execuscribe*. To access this service, follow the directions given on the laminated wallet card with your *Execuscribe* ID on it. *Execuscribe* will post your dictation into the Softmed system. You must access this system and correct and send the dictation to the attending for his/her signature. After he/she signs it, the dictation prints to the WR or HH offices and is faxed to the referring physician. When beginning your dictation, please identify yourself on the telephone, identify the attending with whom you are working, and note the date.
- **Attending's responsibilities:** The patient is considered the attending's private patient, and not the resident's. All telephone calls, messages, communications with the referring physician, review of laboratory data and paper work concerning the patient will be the responsibility of the attending physician. The attending should nonetheless provide an update to the resident about patients whom they have seen together.

- **Follow-up appointments:** In general, follow-up appointments are to be scheduled with the attending physician, and not with the resident. If the resident is still working with the same attending when the follow-up visit is scheduled, the resident may see the patient in follow-up with the attending.

# NEURO-ONCOLOGY ELECTIVE

## For 2<sup>nd</sup> and 3<sup>rd</sup> year Neurology Residents

### Faculty

- Nimish Mohile, MD
- Steven Goldman, MD, PhD

### Description

The practice of neuro-oncology involves the diagnosis and treatment of intracranial tumors as well as the neurological complications of cancer. The most common malignant tumor in adults is glioblastoma, and treatment of patients with this disease can be challenging. In addition patients with cancer present with a gamut of neurological diseases and symptoms. Patients with primary brain tumors and neurological complications are seen in both the inpatient and outpatient setting.

The goal of this rotation is to introduce residents to a growing field in neurology. Residents are encouraged to evaluate patients independently, and formulate assessments and plans for treatment on their own. They will do this under the guidance of the attending on-service, and our plan is to be readily available so that patients are discussed and seen together, and feedback is immediate. Residents are encouraged to read relevant literature and when appropriate, pertinent texts or papers will be provided.

### Learning Objectives

1. Become familiar with the diagnosis, prognosis and treatment options for gliomas.
2. Become familiar with the diagnosis, prognosis and treatment options for brain metastases.
3. Become familiar with the diagnosis and management of common neurological complications of cancer including neuropathy, seizures, cord compression, radiation necrosis, steroid myopathy.
4. Become familiar with appropriate palliative interventions and treatments.
5. Gain experience with discussing prognosis, goals of care, and advance directives with patients and families.

### Resident Responsibilities

1. Inpatient: Residents will see new inpatient and ED consults during the day (8am-4pm), and staff them with the attending on-service. They will also see follow-up consults as needed.

1. Outpatient: The resident will attend neuro-oncology clinic on Wednesdays at the James P. Wilmot Cancer Center. Priority will be given to seeing new patients or follow-up patients with active problems.
2. Call Schedule: There is no evening, weekend or overnight call on this rotation.
3. Conferences: Residents will attend the weekly multi-disciplinary Brain Tumor Conference on Thursday mornings at 8:15am. They will also attend the outpatient pre-clinic conference on Monday mornings at 9:30 am in the Cancer Center.

## Evaluation

Your evaluation will be completed on the standard form provided by the Department of Neurology, and will be heavily weighted upon your level of interest and involvement.

## Required Reading

### Glioblastoma Multiforme

1. Stupp R. Chemoradiotherapy in malignant glioma: Standard of care and future directions. *Journal of clinical oncology*. 2007;25(26):4127.
2. Stupp R. Radiotherapy plus concomitant and adjuvant temozolomide for glioblastoma. *New England Journal of Medicine, The*. 2005;352(10):987.
3. Hegi ME. MGMT gene silencing and benefit from temozolomide in glioblastoma. *New England Journal of Medicine, The*. 2005;352(10):997.
4. Keime-Guibert F. Radiotherapy for glioblastoma in the elderly. *New England Journal of Medicine, The*. 2007;356(15):1527.
5. Brandsma D. Molecular targeted therapies and chemotherapy in malignant gliomas. *Current opinion in oncology*. 2007;19(6):598.
6. Vredenburgh JJ. Bevacizumab plus irinotecan in recurrent glioblastoma multiforme. *Journal of clinical oncology*. 2007;25(30):4722.
7. Singh SK. Identification of a cancer stem cell in human brain tumors. *Cancer research*. 2003;63(18):5821.

### Anaplastic Oligodendroglioma and Low grade Gliomas

8. van den Bent, Martin J. Adjuvant procarbazine, lomustine, and vincristine improves progression-free survival but not overall survival in newly diagnosed anaplastic oligodendrogliomas and oligoastrocytomas: A randomized european organisation for research and treatment of cancer phase III trial. *Journal of clinical oncology*. 2006;24(18):2715.
9. Cairncross G. Phase III trial of chemotherapy plus radiotherapy compared with radiotherapy alone for pure and mixed anaplastic oligodendroglioma: Intergroup

radiation therapy oncology group trial 9402. Journal of clinical oncology. 2006;24(18):2707.

10. Macdonald DR. Successful chemotherapy for newly diagnosed aggressive oligodendroglioma. Annals of neurology. 1990;27(5):573.
11. Schiff D. Outcome in adult low-grade glioma: The impact of prognostic factors and treatment. Neurology. 2007;69(13):1366.

### Brain Metastases

12. Patchell RA. A randomized trial of surgery in the treatment of single metastases to the brain. New England Journal of Medicine, The. 1990;322(8):494.
13. Patchell RA. Radiosurgery plus whole-brain radiation therapy for brain metastases. JAMA. 2006;296(17):2089.
14. Andrews DW. Whole brain radiation therapy with or without stereotactic radiosurgery boost for patients with one to three brain metastases: Phase III results of the RTOG 9508 randomised trial. Lancet, The. 2004;363(9422):1665.
15. Aoyama H. Stereotactic radiosurgery plus whole-brain radiation therapy vs stereotactic radiosurgery alone for treatment of brain metastases: A randomized controlled trial. JAMA. 2006;295(21):2483.

### Primary CNS Lymphoma

16. Abrey LE. Treatment for primary CNS lymphoma: The next step. Journal of clinical oncology. 2000;18(17):3144.
17. Shah GD. Combined immunochemotherapy with reduced whole-brain radiotherapy for newly diagnosed primary CNS lymphoma. Journal of clinical oncology. 2007;25(30):4730.

### Reference Texts

- Intracranial Tumors. Diagnosis and Treatment. DeAngelis LM, Gutin PH, Leibel SA and Posner JB. Martin Dunitz. 1995
- Neurologic Complications of Cancer. Posner JB. F.A. Davis. 1995.



# **NEURO-OPHTHALMOLOGY AND HEADACHE MEDICINE ELECTIVE For 2<sup>nd</sup> and 3<sup>rd</sup> year Neurology Residents**

**Director:**

Deborah I. Friedman, MD

**Faculty:**

Deborah I. Friedman, MD	275-5332
Steven E. Feldon, MD, MBA	275-1126

**Location:**

Strong Memorial Hospital Department of Ophthalmology

## **Description**

About 1/3 of brain structure is related to the afferent or efferent visual pathways, or the cortical processing of visual input. Therefore, an understanding of neuro-ophthalmology is crucial for a neurologist. Neuro-ophthalmic disorders can occur with diseases at any level of the nervous system, including CNS, PNS, neuro-muscular junction and muscle. There is also considerable interface with general medicine, pediatrics, and a myriad of other clinical specialties.

The faculty in the neuro-ophthalmology section at U of R is multifaceted, as Dr. Feldon's background is in ophthalmology and Dr. Friedman is neurology trained. There are also many research faculty members interested in vision disorders related to the nervous system. Thus, residents will be exposed to the field from different perspectives.

## **Learning Objectives**

1. Perform a neuro-ophthalmic history and examination, focusing on examination techniques that are useful in a general neurologic practice (that is, not emphasizing the use of ophthalmic equipment that is generally unavailable to neurologists).
2. Learn to differentiate optic nerve disease from other ophthalmic causes of visual loss based on the history and exam.
3. Become proficient in identifying normal optic nerve anatomy, optic disc edema, papilledema, and optic atrophy.
4. Familiarize the resident with ophthalmic terminology and documentation.
5. Gain exposure to the techniques and interpretation of manual and automated visual field testing.
6. Learn about common neuro-ophthalmic disorders including optic neuritis, idiopathic intracranial hypertension, internuclear ophthalmoplegia, nystagmus, ischemic optic neuropathy, visual field defects, papillary abnormalities, and cranial neuropathies.
7. Observe surgical procedures relevant to neuro-ophthalmology (e.g., optic nerve sheath decompression, trans-antral orbital decompression, strabismus and eyelid procedures)

8. Become more familiar with the diagnosis and treatment of headache disorders encountered in neuro-ophthalmic and outpatient neurologic practice.
9. Take a comprehensive history from patients with headache
10. Diagnose and manage common headache disorders

### **Responsibilities of the Resident**

1. Serve as the initial examiner for new and follow-up patients.
2. See in-patient hospital neuro-ophthalmology consultations initially, and discuss with the attending physician.
3. Attend neuro-ophthalmology conference (Tuesdays at 7:00 AM)
4. Attend other conferences in the ophthalmology department that are relevant to neuro-ophthalmology, if scheduled during the rotation (e.g., Grand Rounds).
5. Follow neuro-ophthalmology/headache inpatients with neurology service.

### **General Guidelines**

The rotation is 4 weeks in duration and primarily involves outpatient neuro-ophthalmology. The residents will see patients with both Drs. Friedman and Feldon and attend neuro-ophthalmology conferences. Prior to scheduling the rotation, the resident should contact Dr. Friedman to make sure that there is not a major conflict with faculty travel during that time block. It is expected that after a day or two of observation, the resident will start seeing patients as the initial examiner and will be able to perform most of the relevant ophthalmic examination.

The resident should plan to read one of the following recommended textbooks while on service:

- Miller NR, Newman NJ, Biouesse V, Kerrison JB. Walsh and Hoyt's Clinical Neuro-Ophthalmology : The Essentials. 2<sup>nd</sup> ed., Lippincott Williams & Wilkins, 2008.
- Leigh J and Zee D, The Neurology of Eye Movements. 4th ed., Oxford University Press, New York, 2006.
- Silberstein SD, Lipton RB, Dodick DW. Wolff's Headache and Other Head Pain, 8<sup>th</sup> edition. Oxford University Press, 2008.
- Pane A, Burdon M, Miller NR. The Neuro-Ophthalmology Survival Guide, Mosby, 2006.

A Manual for the Beginning Ophthalmology Resident, published by the American Academy of Ophthalmology, is also helpful for understanding various ophthalmic procedures and examination techniques that will be encountered on service.

Other reading material, including journal articles, will be incorporated as relevant to patient exposure.

### **General Schedule**

<b>Monday</b>		No scheduled activities, consults as needed	
<b>Tuesday</b>	7:00 – 8:00 AM PM	Neuro-ophthalmology teaching conference Outpatient clinic	Dr. Feldon
<b>Wednesday</b>	All day 5:30 – 6:30 PM	Outpatient clinic Problem rounds	Dr. Friedman
<b>Thursday</b>	AM AM (1/month)	Outpatient clinic Resident clinic	Dr. Feldon Dr. Friedman
<b>Friday</b>	AM PM	Surgery Outpatient clinic	Dr. Feldon Dr. Friedman

### **Evaluation**

The evaluation will be completed on the standard form used by the department and will be heavily weighted on level of interest, quality of work-ups and presentations, ability to generate a neuro-ophthalmic diagnosis and treatment plan, motivation and effort, and patient rapport.



# **NEUROPATHOLOGY ELECTIVE**

## **For 2<sup>nd</sup> and 3<sup>rd</sup> Year Neurology Residents**

**Director:**

Gabrielle Yeane MD            273-4581

**Faculty:**

Mahlon Johnson MD PhD    276-3087  
James Powers MD            275-3201

### **Description**

During this elective, the neurology resident will acquire a basic understanding of the reactions of the central nervous system and will formulate a diagnosis for the most common and classical neuropathologic lesions encountered at autopsy and at the surgical bench, with particular attention to the diagnosis of brain tumors, cerebrovascular diseases, Alzheimer disease and common neuromuscular diseases. The neurology resident will gain insight into how the neuropathologist completes his/her diagnostic workup.

### **Learning Objectives**

**Brain cutting conferences**

1. To become familiar with the gross neuroanatomical landmarks and areas to be sampled.
2. To describe the gross abnormalities using pathologic terminology.
3. To understand the basic concept of tissue processing (i.e. what happens from the bench to the slide).
4. To review the slides upon their completion prior to the sign-out.
5. To recognize and articulate the microscopic abnormalities and formulate a clinical pathologic diagnosis on each case.

**Neurosurgical Specimens**

1. To understand the process of intraoperative evaluation of tissue samples.
2. To formulate a differential diagnosis based on the clinical history and CT/ MR imaging findings, and to correlate this with the gross and histologic specimens during intraoperative evaluation.
3. To participate in the evaluation of the cytologic and histologic preparations at the time of the examination of the specimen with the attending.
4. To formulate a diagnosis prior to the reviewing the slides with the attending.

5. To manage the cases from the medical and cost effective point of views; to learn which specialized techniques such as immunohistochemistry or electron microscopy should be used to help formulate/solidify a diagnosis.
6. To interpret the special studies which have been requested on specific neurosurgical or autopsy brain cases.

## **Responsibilities of the Resident**

- Review neuropathologic autopsy and surgical slides and formulate diagnoses independently prior to meeting with the attending and then review with the attending.
- Review the next day's OR schedule and look up history on potential neurosurgical cases that may require intraoperative evaluation and then review the history/ imaging with the attending on call.
- Attend calls for intraoperative evaluation of neurosurgical cases during weekdays from 8 am-5 pm.
- Attend Brain-cutting Conference.

## **Evaluation**

Your evaluation will be completed on the standard form provided by the Department of Neurology, and will be weighted for your level of interest and involvement.

## **References**

1. Gray F, et al., Escourolle and Poirier's Manual of Basic Neuropathology (paperback) Butterworth-Heinemann; 4 ed (2003)
2. Prayson: Foundations in Diagnostic Pathology: Neuropathology
3. Burger PC, Scheithauer BW, AFIP Fascicle: Tumors of the CNS (hardcover) American Registry of Pathology (2007)
4. Burger PC, Scheithauer BW., Vogel FS, Surgical Pathology of the Nervous System and Its Coverings (hardcover) Churchill Livingstone; 4 ed (2002)
5. Ellison D, Love S, et al. Neuropathology: A Reference Text of CNS Pathology (hardcover) Mosby; 2 ed (2003)
6. Esiri M, Perl D, Oppenheimer's Diagnostic Neuropathology: A Practice Manual (hardcover) Hodder Arnold Publication (2006)
7. Kumar V, Fausto N, Abbas A. Robbins and Cotran Pathologic Basis of Disease 7th Ed (Hardcover) (2004)—Chapters 27, 28
8. Louis DN, Ohgaki H, et al. WHO Classification of Tumours of the Central Nervous System (paperback) (2007)
9. Love S, Louis DN, Ellison DW. Greenfield's Neuropathology, 8th Edition (2 Volume) (hardcover) Oxford University Press, USA (2008)
10. Sternberg SS: Histology for Pathologists, 1997, Chapters 11, 12

# NEURORADIOLOGY ELECTIVE

## Neuroradiology Faculty

- Jeevak Almast, M.D.
- John Deveikis, M.D.
- Sven E. Ekholm, M.D., Ph.D.
- Henry Z. Wang, M.D., Ph.D.
- P-L Westesson, M.D., Ph.D., D.D.S.

The administrator for the neurology elective in neuroradiology is the neuroradiology division secretary, Belinda De Libero (x5-1839).

## Learning Objectives

1. Residents will gain familiarity with indications and contraindications for ordering CT and MR of the head, neck and spine.
2. Residents will gain familiarity with indications and contraindications for ordering angiography of the head, neck and spine as well as myelography.
3. Residents will understand the limitations of each neuroimaging study.
4. Residents will gain appreciation for the risks and consequences of invasive studies.
5. Residents will develop an ability to preliminarily interpret an imaging study on an emergency basis.
6. Residents will gain exposure to neuroimaging research and future neuroimaging techniques.

## Neurology Resident Responsibilities

- Attend morning and afternoon read-out sessions.
- Attend weekly and monthly neuroradiology conferences
- Observe invasive procedures including myelography, and diagnostic and interventional angiography.
- Prepare two cases for the neuroradiology web-based teaching file.
- Review one paper for presentation at neuroradiology journal club.

## Daily Schedule

8:45 am - 12:00 noon	Morning read-out/observe procedures
1:00 - 5:00 pm	Afternoon read-out session

## Weekly Conferences

### Conferences in Diagnostic and Interventional Neuroradiology

Monday	Tuesday	Wednesday	Thursday	Friday
<p><b>12:00-1:00 PM</b> Neuroradiology Journal Club</p> <p><i>Neuroradiology Conference</i> Room 1-4719</p>	<p><b>12:00-1:30 PM</b> Didactic Neuroradiology Conference based on interesting cases during the week</p> <p><i>Neuroradiology Conference</i> Room 1-4719</p>	<p><b>7:45-8:45 AM</b> Multidisciplinary Neuro-oncology Conference with participation from Neurosurgery, Radiation Therapy, Neuroradiology and Neuro-oncology</p> <p><i>Imaging Sciences Conference Room G-3302</i></p>	<p><b>7:30-8:30</b> Clinical Neurovascular Conference (1<sup>st</sup> Thursday)</p> <p><i>Imaging Sciences Conference Room G-3302</i></p> <p><b>7:30-8:30</b> Clinical Neuro-oncology Conference (2<sup>nd</sup> Thursday)</p> <p><i>Imaging Sciences Conference Room G-3302</i></p> <p><b>7:30-8:30</b> Clinical Neuroscience Conference – Pediatrics (3<sup>rd</sup> Thursday)</p> <p><i>Imaging Sciences Conference Room G-3302</i></p> <p><b>7:30-8:30</b> Clinical Neuroscience Conference – Spine (4<sup>th</sup> Thursday)</p> <p><i>Imaging Sciences Conference Room G-3302</i></p> <p><b>10:00</b> Pathologic Clinical Correlative Conference (Brain Cutting)</p> <p><i>Room K-1</i></p> <p><b>4:00</b> Head and Neck Clinical Oncology Conference (2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> Thursday)</p> <p><i>Flamingo Room 2-3615</i></p>	<p><b>9:00-10:30</b> Neurology Grand Rounds</p> <p><i>Room K-307</i></p> <p><b>12:00-1:00</b> Didactic Neuroradiology Conference with Video Presentation</p> <p><i>Neuroradiology Conference Room 1-4719</i></p>

### Evaluation of Residents

A written evaluation form from each attending will be completed for each neurology resident at the end of each neuroradiology elective.

## **PAIN MANAGEMENT ELECTIVE For 2nd and 3rd year Neurology Residents**

**Director:**

John Markman, MD                      276-3217

**Faculty:**

John Markman, MD                      276-3217  
Shirley Rast, FNP                        276-3616

### **Description**

The Pain Management elective is conducted in the Neuromedicine Pain Management Center in the Department of Neurosurgery.

The Neuromedicine Pain Management Center is an outpatient clinic located at 125 Lattimore Road (Suite 180) and an off-site procedure suite with recovery rooms located in the Brighton Surgery Center. Faculty trained in Neurology and Anesthesiology-based pain management evaluate and treat adult patients with chronic pain problems. Residents will also be exposed to the ongoing clinical trials in the Translational Pain Research program within the department. These studies focus on the chronic pain problem of neurogenic intermittent claudication in patients with lumbar spinal stenosis. Dr. Markman is the Director of the Neuromedicine Pain Management Center.

### **Learning Objectives**

1. Understand diagnostic and treatment strategies for managing common chronic pain conditions.
2. Identify indications for interventional and surgical therapies for chronic pain conditions.
3. Develop familiarity with common fluoroscopy-based procedures including epidural interventions, radiofrequency ablation, spinal cord stimulation, and intrathecal drug delivery for the treatment of pain.
4. Recognize the varied psychosocial factors that play a role in initiating, maintaining, and exacerbating chronic pain from the perspective of providers with varied backgrounds.
5. Gain exposure to clinical research in chronic pain conditions.

## **Responsibilities of the Resident**

The resident will initially participate as an observer in the outpatient clinic. Once familiar with the assessment approach, the resident will perform independent outpatient assessment of chronic pain patients and formulation of treatment plans with close faculty supervision.

The resident will be exposed to basic pain management procedures. The resident will assist in the performance of basic injection and ablation techniques.

## **General Guidelines**

The rotation is intended to be four weeks in duration, and should include time with each of the faculty in order to ensure a sufficiently broad clinical exposure. Your reading should include a review of the pain center's manual and summary journal articles provided at the start of the rotation, selected review of a clinical text, and participation in the conferences offered at the center.

## **Evaluation**

Your evaluation will be completed on the standard form provided by the Department of Neurology, and will be heavily weighted upon your level of interest and involvement. The standard resident evaluation forms provided by the Department of Anesthesiology will also be completed.

## **References**

1. John D. Loeser; Stephen H. Butler; C. Richard Chapman; and Dennis C. Turk (eds.) *Bonica's Management of Pain*. Lippincott Williams & Wilkins; 2001.
2. Burchiel K. *Surgical Management of Pain*. Thieme; 2002.
3. Waldman S. *Atlas of Interventional Pain Management*. W.B. Saunders; 2003.
4. Benzon HT (ed.). *Essentials of Pain Medicine and Regional Anesthesia 2ed*. Churchill Livingstone; 1999.

## **Selected Journal Articles for Review**

1. Ballantyne JC. Mao J. Opioid therapy for chronic pain. *New England Journal of Medicine*. 349(20):1943-53, 2003 Nov 13
2. Dreyfuss P. Halbrook B. Pauza K. Joshi A. McLarty J. Bogduk N. Efficacy and validity of radiofrequency neurotomy for chronic lumbar zygapophysial joint pain. *Spine*. 25(10):1270-7, 2000 May 15.

3. Dworkin RH. Advances in neuropathic pain: diagnosis, mechanisms, and treatment recommendations. *Archives of Neurology*. 60(11):1524-34, 2003 Nov.
4. Kalso E. Edwards JE. Moore RA. McQuay HJ. Opioids in chronic non-cancer pain: systematic review of efficacy and safety. *Pain*. 112(3):372-80, 2004
5. Rowbotham MC. Twilling L. Davies PS. Reisner L. Taylor K. Mohr D. Oral opioid therapy for chronic peripheral and central neuropathic pain. *New England Journal of Medicine*. 348(13):1223-32, 2003 Mar 27.
6. North RB. Kidd DH. Zahurak M. James CS. Long DM. Spinal cord stimulation for chronic, intractable pain: experience over two decades. *Neurosurgery*. 32(3):384-94; discussion 394-5, 1993 Mar.
7. Woolf CJ. American College of Physicians. American Physiological Society. Pain: moving from symptom control toward mechanism-specific pharmacologic management. *Annals of Internal Medicine*. 140(6):441-51, 2004 Mar 16
8. Treede RD, Jensen TS, Campbell JN, Cruccu G. et al. Neuropathic Pain: Redefinition and a grading system for clinical and research purposes. *Neurology* 70;18:1630-1635.





Palliative care works with patient, family and the medical team to address pain and other uncomfortable symptoms, as well as to assist and support patients and families while making difficult medical decisions. Palliative care is often delivered alongside very aggressive disease-directed treatment, although in some circumstances it becomes the predominant treatment approach.

## **Learning Objectives**

1. Understand the role of palliative care in the evaluation and management of patients and families with serious illness, including neurological illness, and to appreciate and demonstrate an ability to effectively work within the palliative care multidisciplinary team.
2. Develop basic knowledge and skill about pain management, including equianalgesic dose conversions.
3. Develop basic knowledge and skill in the management of other physical symptoms that afflict seriously ill patients, including constipation, dyspnea, depression, and delirium.
4. To identify common neurological conditions often appropriate for palliative care and demonstrate an ability to estimate and communicate prognosis of life expectancy and outcomes important to patients.
5. Learn how to talk with and listen to severely ill patients and their families about non-physical suffering, including issues of loss, hope, meaning, spirituality, and religion.
6. To develop a framework for initiating and conducting end-of-life discussions in patients with serious illness, including neurological illness.
7. To understand the role and use of hospice and other support services in the evaluation and management of patients with serious illness, including neurological illness.
8. Develop self-awareness about one's own personal responses to severely ill and dying patients.

## **Responsibilities of the Resident**

1. Responsible for performing 3-5 palliative care consultations per week as part of the palliative care consultation team
  - Discuss with referring attending and staff
  - Interview patient and family, examine patient, and review chart as guided by consultation assessment form
  - Develop recommendations with palliative care attending
  - Round daily on assigned patients; join team for rounds when possible
  - First call for palliative care problems on assigned patients

- At end of rotation, discuss patient transfer/follow-up with next resident coming on rotation
2. No on-call responsibility for palliative care service on weekends
  3. Attend the weekly Wednesday morning multidisciplinary team meeting (7:30-9 am in the Social Work Conference Rm. 1-1450) and the Wednesday noon conference series on Clinical Ethics, Palliative Care, and Schwartz Rounds.
  4. Read the required readings and Unipacs, complete pain cases and calculations, and discuss answers with Dr. Holloway or attending on service

## Orientation Schedule

In advance, Sherri Seeger from the Palliative Care Office will send you a schedule. Please review the schedule for any conflicts (i.e. clinic schedule, urgent care clinic, post-call conflicts, etc.) Please pick up syllabus from the Palliative Care office, Rm. 1-6305 near the Miner Library.

Then, on first day of service meet with Marcia Buckley or Laura Hogan, Palliative Care Nurse Practitioners and/or Palliative Care Physician Consultant to review the following:

- Rounding schedule / patient assignment / time of weekly session to review readings
- Consult availability and documentation requirements

## Core Activities

1. Palliative Care Team Rounds – daily Monday to Friday, at times agreed upon by the team at the beginning of each week
2. Palliative Care Interdisciplinary Team Meeting – Wednesdays, 7:30-9 am in the Social Work Conference Room 1-1450 (across from the main Lab near the main lobby)
3. Wednesday Noon Conference Series:

1 <sup>st</sup> Wednesday	Medical Humanities Conference, K-207, URM
2 <sup>nd</sup> Wednesday	Interdisciplinary Clinical Ethics Conference, K-207, URM
3 <sup>rd</sup> Wednesday	Schwartz Rounds Conference, Whipple Auditorium, 2-6424, URM
4 <sup>th</sup> Wednesday	Palliative Care Conference, K-207, URM
5 <sup>th</sup> Wednesday	Spiritual Care Conference, K-207, URM
[1 <sup>st</sup> Tuesday	<i>Ethics Committee Mtg., Anderson Room, G-8543, URM</i> ]

## Evaluation

Your evaluation will be completed on the standard form provided by the Department of Neurology, and will be heavily weighted upon your level of interest and involvement. Your performance on the self-assessment exam will not be included in the final evaluation.

## Required General Palliative Care Reading

1. Quill TE, Holloway RG, Shah MS, Caprio TV, Storey CP. *Primer of Palliative Care*. 4th Edition. American Academy of Hospice and Palliative Medicine, Glenview IL, 2007.
2. UNIPAC One: The Hospice/Palliative Medicine Approach to End of Life Care, 3<sup>rd</sup> ed. 2005. 15-21.
3. UNIPAC Three: Assessment and Treatment of Pain in the Terminally Ill, 2<sup>nd</sup> ed. 2005. 25-39.
4. UNIPAC Four: Management of Selected Non-pain Symptoms in the Terminally Ill, 2<sup>nd</sup> ed. 2005. 22-25, 29-35, 36-43, 47-51.

## Additional Palliative Care Reading

### General Palliative Care

1. Quill, TE. Chapter 7: Discussing Palliative Care with Patients. *Caring for Patients at the End of Life: Facing an Uncertain Future Together*. Oxford University Press, 2001.
2. Quill TE. Arnold RM. Platt F. "I wish things were different": expressing wishes in response to loss, futility, and unrealistic hopes. *Annals of Internal Medicine*. 2001;135:551-5.
3. Meier DE. Back AL. Morrison RS. The inner life of physicians and care of the seriously ill. *JAMA*. 2001;286:3007-14.
4. Quill, TE. Chapter 12: Palliative options of last resort: a comparison of practices, justifications, and safeguards. *Caring for Patients at the End of Life: Facing an Uncertain Future Together*. Oxford University Press, 2001.
5. Casarett D. Kutner JS. Abraham J. End-of-Life Care Consensus Panel. Life after death: a practical approach to grief and bereavement. *Annals of Internal Medicine*. 134(3):208-15, 2001 Feb 6.

### Neurology Palliative Care

1. Voltz R, Bernat JL, Borasio GD, Maddocks I, Oliver D, and Portenoy RK. *Palliative Care in Neurology*. New York, NY: Oxford University Press, 2004.
2. Maddocks I, Brew B, Heather W, and Williams I. *Palliative Neurology*. New York, NY: Cambridge University Press, 2006.
3. Holloway RG, Benesch C, Burgin WS, Zentner J. Prognosis and decision-making in severe stroke. *JAMA*, 2005;294:725-733.
4. Wijdicks, EFM. *Brain Death*. Philadelphia, PA: Lippincott Williams & Wilkins, 2001.
5. Bauby, J. *The Diving Bell and the Butterfly*. New York, NY: Random House, Inc., 1997.

## **PRIVATE NEUROLOGY PRACTICE ELECTIVE For 2<sup>nd</sup> and 3<sup>rd</sup> year Neurology Residents**

### **Faculty:**

Daniel E Britton MD, MS  
Caren Douenias, MD

### **Location:**

Neurology Associates  
56 East First Street  
Corning, NY 14830

25 Walnut Street  
Wellsboro, PA 16901

### **Description**

The residency program in Neurology at Strong Memorial Hospital emphasizes academic and research neurology. Experience in private practice Neurology is limited. This rotation will provide neurology residents the opportunity to explore private practice Neurology in a rural setting.

Dr. Britton has been in private practice since 1978 in multi-specialty group practice, partnership, and solo practice. Experienced in a variety of non-academic practice opportunities, he will be able to share that valuable perspective with residents. He is in partnership with Dr. Caren Douenias in Corning, NY and in solo practice in Wellsboro, PA.

The residents will be able to encounter the private sector and see if that has an appeal and which type of private arena best suits them.

### **Learning Objectives**

1. Get exposure to private practice in a rural setting
2. Experience the diversity of patient encounters.
3. Meet with experienced and expert people who deal with insurance and billing in the office.
4. Have an understanding of CPT and ICD-9 codes and how they affect reimbursement.
5. Appreciate that rural practice is unique.

## **Responsibilities of the Resident**

1. Visit the Corning practice for a period of up to 2 weeks in an observational role outpatient setting.
2. Choose the days of the week to participate based on agreement with Neurology Associates and the resident.
3. Plan to be at the office at 0900 Monday through Friday on selected days.
4. Talk with staff.
5. Observe patient care visits conducted by Dr. Britton.
6. Visit the Corning Community and see the surrounding area.
7. Visit the office in Wellsboro, PA on one or both Thursdays of the rotation.

## **General Guidelines**

The resident has a choice of commuting on a daily basis or staying locally. *My wife and I would welcome the person to stay with us. We have a private guest room which would accommodate the resident and his family if desired.*

## **Evaluation**

The resident evaluation will be completed on the standard form used by the department.



2. Directed review of polysomnographic studies, progressing to sleep scoring and interpretation as deemed appropriate by the clinic faculty.

## **General Guidelines**

The rotation is intended to be four weeks in duration, and should include time with each of the faculty, in order to ensure a sufficiently broad clinical exposure. Your reading should include a review of summary journal articles provided at the start of the rotation, selected review of a clinical text, and review of the International Classification of Sleep Disorders-2.

During the rotation, the resident should take the opportunity to review the journal Sleep. At the conclusion of the rotation a self-assessment examination will be available. Additional references for the rotation are listed below.

## **Evaluation**

Your evaluation will be completed on the standard form provided by the Department of Neurology, and will be heavily weighted upon your level of interest and involvement. Your performance on the self-assessment exam will not be included in the final evaluation.

## **References**

1. Iber, C, Ancoli-Israel, S, Chesson, AL, et al. The AASM Manual for the Scoring of Sleep and Associated Events. American Academy of Sleep Medicine, Westchester, IL 2007.
2. American Academy of Sleep Medicine. The International Classification of Sleep Disorders, 2nd Edition: Diagnostic Coding Manual. Westchester, IL 2005.
3. Chokroverty, S (ed.): Sleep Disorders Medicine: Basic Science, Technical Considerations, and Clinical Aspects. Butterworth-Heinemann; Boston, MA, 1999.
4. Kryger, MH, Roth T, Dement, WC (eds.): Principles and Practice of Sleep Medicine. W. B. Saunders Co.; Philadelphia, PA, 2005.
5. Sheldon SH: Evaluating Sleep in Infants and Children. Lippincott-Raven; Philadelphia, PA, 1996.

## Selected Journal Articles for Review

1. Practice parameters for the use of stimulants in the treatment of narcolepsy. Standards of Practice Committee of the American Sleep Disorders Association. Erratum appears in *Sleep* 1994 Dec;17(8):748. *Sleep* 1994;17:348-51.
2. Hening WA, Allen RP, Earley CJ, Picchiatti DL, Silber MH, Restless Legs Syndrome Task Force of the Standards of Practice Committee of the American Academy of Sleep Medicine. An update on the dopaminergic treatment of restless legs syndrome and periodic limb movement disorder. *Sleep* 2004;27:560-83.
3. Chesson A, Jr, Hartse K, Anderson WM, et al. Practice parameters for the evaluation of chronic insomnia. An American Academy of Sleep Medicine report. Standards of Practice Committee of the American Academy of Sleep Medicine. *Sleep* 2000;23:237-41.
4. Kushida CA, Littner MR, Hirshkowitz M, et al. Practice parameters for the use of continuous and bilevel positive airway pressure devices to treat adult patients with sleep-related breathing disorders. *Sleep* 2006;29:375-80.
5. Kushida CA, Morgenthaler TI, Littner MR, et al. Practice parameters for the treatment of snoring and Obstructive Sleep Apnea with oral appliances: an update for 2005. *Sleep* 2006;29:240-3.
6. Morgenthaler TI, Kapen S, Lee-Chiong T, et al. Practice parameters for the medical therapy of obstructive sleep apnea. *Sleep* 2006;29:1031-5.
7. Littner M, Johnson SF, McCall WV, et al. Practice parameters for the treatment of narcolepsy: an update for 2000. *Sleep* 2001;24:451-66.
8. Littner M, Kushida CA, Anderson WM, et al. Practice parameters for the role of actigraphy in the study of sleep and circadian rhythms: an update for 2002.see comment. *Sleep* 2003;26:337-41.
9. Schenck CH, Mahowald MW. REM sleep behavior disorder: clinical, developmental, and neuroscience perspectives 16 years after its formal identification in SLEEP. *Sleep* 2002;25:120-38.
10. Littner MR, Kushida C, Anderson WM, et al. Practice parameters for the dopaminergic treatment of restless legs syndrome and periodic limb movement disorder. *Sleep* 2004;27:557-9.



## **Department of Neurology Policy on Selection of Residents**

Graduates of LCME-accredited US or Canadian medical schools applying for a Neurology residency at the University of Rochester are selected on the basis of the following:

- Performance in medical school, as evidenced by their official transcript
- Performance in the basic and clinical science years, as evidenced by the Dean's Letter
- Performance on the USMLE Step 1 and Step 2 examinations
- A letter of reference from the Chairman of Neurology at their medical school
- Two additional letters of reference from faculty at their medical school
- Personal and professional traits, based on an interview with the Program Director and several other faculty and residents in the Department of Neurology at the University of Rochester.

International Medical Graduates applying for a Neurology residency at the University of Rochester are selected on the basis of the same criteria as above. In addition, they must have the following:

- ECFMG certification at the time of application to the residency program
- Only J-1 visas are accepted for training

The Neurology Residency Selection Committee, consisting of the Chair of Neurology, Residency Program Director, the Associate Residency Program Director, a neurology Chief Resident and an ad-hoc faculty member, reviews all information on candidates and constructs the match list.

## **Department of Neurology Policy on Resident Supervision**

All patients admitted to the neurology inpatient unit and seen on the consultation services are directly supervised by full-time neurology faculty, who round daily with the residents on their patients. These attendings are readily available to the residents via pager on evenings, nights and weekends.

In compliance with accreditation standards of the New York State Health Code, resident patient care activities are supervised by a senior resident or attending physician. These activities are appropriately covered by the "General" designation, which is defined as follows: The supervising physician needs to be physically present when a procedure is performed except when the resident:

- Has documented adequate training (i.e., has been credentialed) to do the procedure, and
- Has permission of the supervising physician to perform the procedure.

## **Department of Neurology**

### **Policy on Progressive Responsibility for Patient Management**

Neurology residents assume progressive responsibility for patient care as they progress through the residency program due to the structure of the program:

- PGY-2 residents primarily work in a supervised inpatient setting.
- PGY-3 residents primarily work on the consultation services, where they have more autonomy.
- PGY-4 residents serve as chief residents, overseeing the inpatient teams and the more junior residents, and also coordinate medical student teaching.

Decision making is shared by the residents and attending physicians, with residents becoming more autonomous in their decision making as they proceed through the residency program.

## **Department of Neurology Policy on Resident Work Hours**

The Department of Neurology is fully committed to maintaining high standards of patient care and resident education, and realizes that monitoring and regulating work hours are key aspects of this standard of care. The Department also expects to be in full compliance with the New York State 405 Work Hours Regulations. The following policy on Resident Work Hours has therefore been established:

- A resident may not work more than 80 hours in a single week. Activities included in these 80 hours are all time spent in the hospital in the care of both inpatients and outpatients, all educational conferences and rounds, and all time on-call during which the resident is involved in the care of patients.
- Each resident will have a 24-hour period off each week.
- Each resident must have 10 hours off between shifts.
- No resident may work more than 24 consecutive hours involved in direct patient care.
- A 3-hour grace period is allowed post-call for residents to sign-out patients seen overnight. No new patient responsibilities can be assumed during this 3-hour grace period.

Resident work hours are monitored twice yearly with a survey by the Graduate Medical Education Committee.

## **Department of Neurology Policy on Evaluation and Promotion of Residents**

The following is the Department of Neurology policy on Evaluation and Promotion of Residents:

- The evaluation system for neurology residents is designed to assess educational outcomes in all six of the ACGME core competencies: patient care; medical knowledge; practice-based learning and improvement; interpersonal and communication skills; professionalism; and systems-based practice.
- Specific Neurology Core Competencies have been developed by the ABPN and are included in this syllabus. All neurology residents are expected to achieve mastery of these competencies at the time of completion of the training program.
- The following evaluation instruments will be used to evaluate mastery of these six competencies: RITE; mock oral board examination; chart review; resident case log; attending global assessment; 360° assessment; and resident portfolio. These evaluation instruments are described elsewhere in this syllabus.
- Neurology residents receive regular formal and informal feedback that is both quantitative and qualitative. Written documentation of each individual feedback meeting is filed in each resident's performance folder.
- All neurology residents take the Residency In-service Training Examination (RITE) each year. The program director reviews each resident's performance on this examination at the June evaluation and feedback meeting.
- A clinical skills examination is administered yearly to all of the residents. The program director reviews each resident's performance on this examination at the June evaluation and feedback meeting.
- Written faculty global assessments are obtained on each resident following each rotation or elective. Each resident is assessed as to his knowledge, skills and attitudes, and achievement of the six core competencies and the specific goals for each rotation. Written evaluations are also obtained on each resident in the outpatient firm and the faculty practice clinic experience (for PGY-4's). The faculty member meets with each resident following each rotation to discuss the evaluation with the resident. The completed evaluation is then sent to the program director for review.
- The Program Director meets semi-annually with each resident to review progress and to discuss career planning. A written summary of this meeting is provided to each resident for his review and signature, and is filed in the resident's evaluation folder.
- A residency promotions committee, consisting of the department chair, program director and associate program director, meets in June of each year to review each resident's progress in the program and determines if the resident is qualified to advance to the next year of training. Advancement is contingent upon meeting the specific objectives for each year of training, as well as the specific objectives for each individual rotation or elective.

- A resident who is deemed unqualified to advance to the next year of training, based upon not meeting the specific objectives noted above, will be given a program of remediation. If remediation is unsuccessful in the allotted period of time, the resident may be asked to repeat the year.
- The Department Chair meets with each resident at least annually to review progress and to provide career planning.

## **Department of Neurology Policy on Evaluation of Faculty and the Residency Program**

- Faculty members are regularly evaluated in writing by all residents following each rotation. The program director and chair then review these written evaluations. The chair meets at least yearly with each faculty member to discuss this feedback. Faculty members receiving poor feedback as to their teaching methods are given specific suggestions for improvement.
- The program director meets monthly with all residents to discuss program structure.
- Residents complete an on-line questionnaire regarding the residency program at the end of each academic year. This questionnaire is structured to provide feedback regarding clinical rotations, electives, teaching conferences and suggestions for change. The results are collated and summarized in a written report, and the report is distributed to all clinical faculty and residents and discussed at a meeting of the neurology residency steering committee as well as at a general faculty meeting.
- The residency steering committee, consisting of four clinical faculty, four residents, and the program director, meets monthly to discuss the residency program. The neurology residents select the resident members on this committee. This committee reviews the structure of the residency program on a regular basis and suggests changes in program structure, based on feedback from the residents and faculty. Minutes from these meetings are distributed to all residents and faculty members.
- A Department of Neurology Education Retreat is held biennially to discuss specific aspects of the residency program. All clinical faculty members and residents attend this retreat. Formal minutes are taken and distributed to all clinical faculty members and residents.

## **Department of Neurology Policy on Moonlighting**

Professional activities outside the neurology training program are prohibited to the extent that they may interfere with training program responsibilities.

Prior to seeking such employment, Neurology residents who wish to engage in outside activities (moonlighting):

- Are required to have written approval from the Neurology Department Chair and Program Director
- Should seek written assurance of malpractice and workers' compensation coverage from any outside employer
- Must have a valid New York State medical license and Federal DEA number.

Please keep the following points in mind when considering moonlighting:

- Moonlighting is not allowed for first year neurology residents.
- When residency responsibility and moonlighting activities are combined, the following conditions must be met:
  - Residents must spend at least 1 full day out of 7 away from clinical work.
  - Combined night-call duty may not occur more frequently than an average of every third night.
  - Total working hours per week may not exceed an average of 80 hours.
  - Each resident must have at least 10 hours off between shifts.
  - No resident may work more than 24 consecutive hours involved in direct patient care.
- Resident working hours are monitored by the GME Office. The number of hours devoted to moonlighting activities must be added to the training program work hours and must be reported on the GME office work hours survey.
- Residents should be aware that University of Rochester malpractice insurance does not cover moonlighting activities.

## **Department of Neurology Policy on Support for Resident Travel to Scientific Meetings**

- The Department of Neurology will provide up to \$500 annually for each Neurology Resident to cover travel expenses to an approved scientific meeting or to purchase medical textbooks.
- This stipend expires at the end of each academic year and cannot be carried over into the next academic year. (Use it or lose it!)
- If the resident is presenting a paper at a scientific meeting, the appropriate departmental unit will provide support for any travel expenses exceeding the \$500 provided by the Department of Neurology, up to a maximum of \$1000.
- It is the resident's responsibility to arrange for resident coverage for any clinical responsibilities while he/she is away from the Medical Center. Written documentation of such coverage must be approved by the Program Director.

## **Department of Neurology Residency Steering Committee**

- The Department of Neurology Residency Steering Committee is an advisory committee of the Department that reviews the structure of the residency program on a regular basis and suggests changes in program structure, based on feedback from the residents and faculty.
- Committee membership:
  - Four (4) neurology residents, at least one from each year of training. The neurology residents select the resident members on this committee.
  - Four (4) clinical neurology faculty, selected by the faculty.
  - The Committee is chaired by the program director.
  - The Chair and Vice Chair of Neurology are ex officio members of the Committee.
- The residency program coordinator provides administrative support to the committee and takes minutes.
- Minutes from committee meetings are distributed to all residents and clinical faculty members.
- The Committee meets monthly, usually on the third Thursday of each month, at 4:00 pm in the Garvey Room.

## BIBLIOGRAPHY FOR ADULT NEUROLOGY

### General Neurology

1. Ropper A and Samuels M: Adams and Victor's Principles of Neurology. (9<sup>th</sup> ed.), New York, McGraw-Hill Professional, 2009
2. Rowland LP: Merritt's Textbook of Neurology. (11<sup>th</sup> ed.), Baltimore, Lippincott Williams & Wilkins, 2005
3. Patten J, Neurological Differential Diagnosis. (2<sup>nd</sup> ed.), Springer, London, 1998
4. Brazis P, Masdeu J, and Biller J, Localization in Clinical Neurology. (5<sup>th</sup> ed.), Lippincott Williams & Wilkins, 2006
5. Posner JB, Saper CB, Schiff N, and Plum F, Diagnosis of Stupor and Coma. (4<sup>th</sup> ed.), Oxford University Press, USA, 2007
6. Aminoff M, Neurology and General Medicine (4<sup>th</sup> ed.), Churchill Livingstone, New York, 2007
7. Griggs RC and Joynt RJ, Baker's and Joynt's Clinical Neurology. Lippincott, Williams and Wilkins, Philadelphia, 2004
8. Campbell WW, DeJong's the Neurologic Examination (6<sup>th</sup> ed.), Lippincott Williams & Wilkins, 2005
9. DeMyer W, Technique of the Neurological Examination (5<sup>th</sup> ed.), McGraw-Hill Professional, 2003
10. Brain, Aids to the Examination of the Peripheral Nervous System (4<sup>th</sup> ed.), Saunders Ltd., 2000

### Child Neurology

11. Menkes, Textbook of Child Neurology. 5<sup>th</sup> ed., Williams & Wilkins, Baltimore, 1995
12. Fenichel, Clinical Pediatric Neurology: a signs and symptoms approach. 3<sup>rd</sup> ed., Saunders, Philadelphia, 1997
13. David RB, Child and Adolescent Neurology. Mosby, St. Louis, 1998
14. Swaiman and Wright, Pediatric Neurology: principles and practice. Vol. 1 & 2, Mosby, St. Louis, 1994
15. Aicardi J, Epilepsy in Children. 2<sup>nd</sup> ed., Raven Press, New York, 1994
16. Dodson E and Pellock J, Pediatric Epilepsy: diagnosis and therapy. 1<sup>st</sup> ed., Demo Publications, New York, 1993

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17. Engel J, Pedley TA, Aicardi, Dichter M. Epilepsy, A Comprehensive Textbook Lippincott-Raven, Philadelphia, 2007
18. Leppick I, Contemporary Diagnosis and Management of the Patient With Epilepsy. 6<sup>th</sup> ed., Handbooks in Health Care, Newton (PA), 2006
19. Wyllie E, Gupta A, Lachhwani DK. The Treatment of Epilepsy: Principles and Practices. 4<sup>th</sup> ed., Lippincott, Williams & Wilkins, Baltimore, 2005

## **EEG**

20. Ebersole JS and Pedley TA, Current Practice of Clinical Electroencephalography. 3<sup>rd</sup> ed. Lippincott Williams & Wilkins, New York, 2003

## **EMG**

21. Preston D and Shapiro B, Electromyography and Neuromuscular Disorders. Butterworth-Heinemann, Boston, 1998

## **Evoked Potentials**

22. Chiappa KH, Evoked Potentials in Clinical Medicine. 3<sup>rd</sup> ed., Lippincott-Raven, Philadelphia, 1997
23. Misulis KE, Spehlmann's Evoked Potential Primer. 3<sup>rd</sup> ed., Butterworth-Heinemann, Boston, 2001

## **Headache Medicine**

24. Silberstein SD, Lipton RB, Dodick DW. Wolff's Headache and Other Head Pain, 8<sup>th</sup> edition. Oxford University Press, 2008.

## **Movement Disorders**

25. Rowland, Parkinson's Disease: a general practice approach. 2<sup>nd</sup> ed. Parkinson's Association of WA, Subiaco (WA), 1997
26. Watts and Koller, Movement Disorders: neurologic principles and practice. McGraw Hill, New York, 1997

## **Multiple Sclerosis**

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28. McAlpine, Multiple Sclerosis. Churchill Livingstone, New York , WB Matthews ed., 1991

## **Neuro-ophthalmology**

29. Miller NR, Newman NJ, Biousse V, Kerrison JB. Walsh and Hoyt's Clinical Neuro-Ophthalmology : The Essentials. 2<sup>nd</sup> ed., Lippincott Williams & Wilkins, 2008.
30. Leigh J and Zee D, The Neurology of Eye Movements. 4th ed., Oxford University Press, New York, 2006.

## **Neuromuscular Disorders**

31. Brooke M, A Clinicians View of Neuromuscular Diseases. 2<sup>nd</sup> ed., Williams & Wilkins, Baltimore, 1986

## **Neurology of AIDS**

32. Harrison M and McArthur J, AIDS and Neurology, Churchill Livingstone, New York, 1995

## **Neuropsychiatry**

33. Fogel B, Schiffer R, and Rao S, Neuropsychiatry. Williams & Wilkins, Baltimore, 1996

## **Pain Management**

34. Loeser JD, Butler SH, Chapman CR, Turk DC. Bonica's Management of Pain, Lippincott Williams and Wilkins, Philadelphia 2001.

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35. Kryger, MH, Roth T, Dement, WC (eds.): Principles and Practice of Sleep Medicine. W. B. Saunders Co.; Philadelphia, PA, 2005
36. Chokroverty, S (ed.): Sleep Disorders Medicine: Basic Science, Technical Considerations, and Clinical Aspects. Butterworth-Heinemann; Boston, MA, 1999

## **Stroke Neurology**

37. Bogousslavsky J, Caplan L: Stroke Syndromes Cambridge University Press, New York 1996

## **Evidence-Based Medicine**

38. Sackett D, Evidence-Based Medicine: how to practice and teach EBM. Churchill Livingstone, New York, 1997

## **Basic Sciences**

39. Seigel, Basic Neurochemistry. Lippincott-Raven, Philadelphia.

40. Kandel ER, Schwartz JH, Jessell TM: Principles of Neural Science (4<sup>th</sup> ed.), New York: McGraw Hill, 2000

### **Neuro-Critical Care**

41. Wijdicks EFM, The Clinical Practice of Critical Care Neurology (2<sup>nd</sup> ed.), Oxford University Press, USA, 2003
42. Wijdicks EFM, Catastrophic Neurologic Disorders in the Emergency Department (2<sup>nd</sup> ed.), Oxford University Press, 2004

### **Neuropathology**

43. Gray F, De Girolami U, and Poirier J, Escourolle and Poirier Manual of Basic Neuropathology (4<sup>th</sup> ed.), Butterworth Heinemann, 2004
44. Fishman RA, Cerebrospinal Fluid in Diseases of the Nervous System (2<sup>nd</sup> ed.), WB Saunders, 1980

### **Neuroradiology**

45. Grossman RI, Yousem DM, Neuroradiology: The Requisites (2<sup>nd</sup> ed.), Mosby, 2003

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## Required Readings

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2. Lombroso CT: Sylvian seizures and mid temporal spike foci in children. Arch Neurol 17:52-59, 1967.
3. Lombroso CT & Lerman P: Breath-holding spells (cyanotic and pallid infantile syncope) Pediatr 39:563-81, 1967.
4. Myers, G. Neurological examinations of the newborn. Seminars in Neurology, 3/
5. Rothner A: Headaches in children, a review. Headache 19:156-162, 1979.
6. Shinnar S et al: Discontinuing antiepileptic medications in children with epilepsy after two year without seizures. NEJM 313:976-80, 1985.
7. Stumpf, D: The inherited ataxias. Pediatr Neurol 1:129-134, 1985.

## Suggested Readings

### Main Texts

8. Menkes, JH: Textbook of Child Neurology. 3rd edition, Lea & Febiger, Philadelphia, 1985.
9. Swaiman, KF & Wright FS (ed): The Practice of Pediatric Neurology. 3rd edition, Vol. I & 2, Mosby, St. Louis, 1989.
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### General Reading

11. Peterson H de C: Neurologic examination of the young child. Pediatric Annals, August 1975, 429-437.
12. Prechtl H: The Neurological Examination of the Full-term Newborn. 2nd edition, Clinics in Developmental Medicine No. 63, Spastics International Medical Publications, London, 1977.
13. The neurological examination of the newborn. In Neurology of the Newborn by J. Volpe, 2nd edition, 1987, pp.70-96.

## **Perinatal Problems**

14. Fenichel, G: Neonatal Neurology.
15. Volpe JJ: Neurology of the Newborn. Vol. XXII, Series of major problems in clinical pediatrics. (WB Saunders Co.) 1987. Chapter 5: Neonatal seizures. Chapter 9: Hypoxic-ischemic encephalopathy: clinical aspects. Chapter 10, 11: Intracranial hemorrhage; Periventricular, intraventricular hemorrhage.
16. The chapters on metabolic disorders and muscle disorders of neurology of the newborn by J. Volpe are very good.

## **Developmental Delay and Mental Retardation**

17. The Child with Developmental Disabilities. Pediatric Clinics of North America, Vol. 40, No. 3, June 1993.
18. Iivanainen M: A study on the origins of mental retardation. Clinics in Developmental Medicine, No 51, Spastics international Medical Publications, 1974.

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## **School Problems**

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### **Attention Deficit Disorders (ADHD)**

The child neurology nurse practitioners have several resources pertaining to ADHD.

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### **Tics and Tourettes**

42. Erenberg G et al: Gilles de la Tourette's syndrome: effects of stimulant drugs. Neurology 35:1346-1348, 1985.
43. Senger HS et al: Gilles de la Tourette syndrome: further studies and thoughts. Ann Neurol 4:21-25-, 1978.

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### **Metabolic (Degenerative) Disorders**

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### **Neuromuscular Disease**

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### **Neuro-Oncology**

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65. Neurologic Complications of Cancer Treatment. D. Rottenberg (Ed). Butterworth-Heinemann, 1991.

# DEPARTMENT OF NEUROLOGY CLINICAL FACULTY

## Administration:

Steven Goldman, MD, PhD  
Richard T. Moxley, MD  
Robert G. Holloway, MD  
Ralph F. Józefowicz, MD  
Charles Thornton, MD  
Karl Kieburtz, MD  
Heidi Schwarz, MD

Chair  
Associate Chair for Academic Affairs  
Associate Chair for Clinical Programs  
Associate Chair for Educational Programs  
Associate Chair for Basic Research  
Associate Chair for Clinical Research  
Associate Chair for Community Affairs

## General Neurology Unit:

Daniel Britton, MD  
Robert G. Holloway, MD  
Gerald Honch, MD  
Robert J. Joynt, MD, PhD  
Ralph F. Józefowicz, MD  
Michael Yurcheshen, MD

## Stroke Unit:

Curtis Benesch, MD  
Jeff Burdett, MD  
Scott Burgin, MD  
Todd Holmquist, MD  
Adam Kelly, MD  
David Rempe, MD, PhD

## Sleep Disorders Center

Lynn Liu, MD  
Michael Yurcheshen, MD

## Epilepsy Unit:

Michel Berg, MD  
James Burchfiel, PhD  
Giuseppe Erba, MD  
James Fessler, MD  
Robert Gross, MD, PhD  
Craig Henry, MD  
John Langfitt, PhD  
Lynn Liu, MD

## Neuromuscular Disease Unit:

Emma Ciafaloni, MD  
Robert C. Griggs, MD  
Chad Heatwole, MD  
David Herrmann, MD  
Eric Logigian, MD  
Richard Moxley, MD  
Michael Stanton, MD  
Rabi Tawil, MD  
Charles Thornton, MD

## Movement Disorders Unit:

Kevin Biglan, MD  
Michelle Burack, MD  
Peter Como, PhD  
Ray Dorsey, MD  
Karl Kieburtz, MD  
Roger Kurlan, MD  
Frederick Marshall, MD  
Bernard Ravina, MD  
Irene Richard, MD  
Ira Shoulson, MD

## Neuro-oncology Unit:

Steven Goldman, MD, PhD  
Nimish Mohile, MD

## Highland Hospital

Chris Burke, MD  
Anthony Maroldo, MD  
Heidi Schwarz, MD  
Paul Twydell, DO

## HIV Unit:

Giovanni Schifitto, MD

## Neuroimmunology Unit:

Andrew Goodman, MD  
Lawrence Samkoff, MD

## Cognitive and Behavioral Neurology Unit:

Charles Duffy, MD, PhD  
Mark Mapstone, PhD

## Neuro-ophthalmology Unit:

Charles Duffy, MD, PhD  
Deborah Friedman, MD  
Gary Paige, MD, PhD

## Pediatric Neurology Unit:

Erika Augustine, MD  
Harris Gelbard, MD, PhD  
Jennifer Kwon, MD  
Rebecca Lehman, MD  
Jonathan Mink, MD  
Gary Myers, MD  
David Wang, MD

## Rochester General Hospital:

Richard Barbano, MD  
Scott Burgin, MD  
Jeffrey Burdett, MD  
Jebin Checko, MD  
Amy Chen, MD  
Michael Chilungu, MD  
Marc Halterman, MD, PhD  
Lawrence Samkoff, MD  
Olga Selioutski, MD

## Canandaigua VA Hospital:

Richard Beresford, MD  
Frederick Marshall, MD

## St. Mary's Brain Injury Unit:

Mary Dombovy, MD  
Mark Livechi, MD  
Marc Schieber, MD, PhD

# 1<sup>ST</sup> YEAR NEUROLOGY RESIDENT SCHEDULE 2009 – 2010

Resident Name	7/1-7/19	7/20-8/2	8/3-8/16	8/17-8/30	8/31-9/13	9/14-9/27	9/28-10/11	10/12-10/25	10/26-11/8	11/9-11/22	11/23-12/6	12/7-12/20	12/21-1/3	1/4-1/17	1/18-1/31	2/1-2/14	2/15-2/28	3/1-3/14	3/15-3/28	3/29-4/11	4/12-4/25	4/26-5/9	5/10-5/23	5/24-6/6	6/7-6/20	6/21-6/30
Inna Hughes	SMH		SEC	HH	NF	VAC	HH	SMH	RES	NF	RES	NMD	VAC	NF	SEC	SMH	HH	SMH								
Adam Juersivich	VA	AMB	SMH	SEC	SMH	NF	VAC	HH	SMH	VA	NF	SMH	VAC	NF	HH	SMH	VA									
Jonathan Smith	SEC	HH	SMH	AMB	NF	SMH	VA	NF	VAC	SMH	HH	SMH	VAC	NF	VA	SMH										
Jessica Robb	HH	SMH	VA	SMH	VAC	NF	SMH	HH	NF	AMB	SMH	VA	SMH	VAC	NF	SEC										
Katie Hoskins	SMH	VA	SMH	HH	MATERNITY LEAVE		VAC	NF	SMH	HH	VA	SMH	NF	AMB	SMH	VAC	NF									

**AMB = Ambulatory Subspecialty Clinics at SMH**  
**HH = Highland Hospital**  
**NF = Night Float Rotation**  
**NMD = Neuromuscular Diseases**  
**RES = Research**

**SEC = Strong Epilepsy Center**  
**SMH = Strong Memorial Hospital Neurology Inpatient Service**  
**VA = Veterans Administration (Canandaigua and Rochester)**  
**VAC = Vacation**

## 2<sup>ND</sup> YEAR NEUROLOGY RESIDENT SCHEDULE 2009 – 2010

Resident Name	7/1-7/19	7/20-8/2	8/3-8/16	8/17-8/30	8/31-9/13	9/14-9/27	9/28-10/11	10/12-10/25	10/26-11/8	11/9-11/22	11/23-12/6	12/7-12/20	12/21-1/3	1/4-1/17	1/18-1/31	2/1-2/14	2/15-2/28	3/1-3/14	3/15-3/28	3/29-4/11	4/12-4/25	4/26-5/9	5/10-5/23	5/24-6/6	6/7-6/20	6/21-6/30
Justin Rymanowski	NF	VAC	STROKE		PEDS OUTPT	SLEEP		GEN		PEDS INPT	STROKE	PSYCH	GEN		PEDS URG	VAC	MVT	STROKE	NF	MS						
Nicholas Johnson	GEN		NRAD	NF	STROKE	PEDS URG	PEDS INPT	NPATH	VAC	GEN	PEDS URG	PEDS INPT	STROKE	RES	VAC	GEN	PSYCH	NF	SLEEP	PEDS OUTPT						
Thomas Wychowski	RES/EEG		GEN	VAC	NF	STROKE	PEDS URG	PSYCH	SLEEP	GEN	PEDS INPT	NF	VAC	STROKE	PEDS OUTPT	GEN	PSYCH	STROKE								
Elisabeth Lucassen	PEDS INPT & ED	NF	VAC	GEN	PEDS OUTPT	STROKE	NF	RES	GEN	PALL	PEDS OUTPT	PEDS URG	STROKE	VAC	SLEEP	GEN	PSYCH	STROKE								
Matthew Bellizzi	STROKE	PEDS OUTPT	NF	VAC	GEN	PSYCH	STROKE	NRAD	GEN	PEDS INPT	NF	VAC	STROKE	PEDS OUTPT	PEDS URG	GEN	RES									

EEG = Basic EEG

GEN = General Neurology Consultation Service

MS = Multiple Sclerosis Elective

MVT = Movement Disorders Elective

NF = Night Float Rotation

NPATH = Neuropathology

NRAD = Neuroradiology

PALL = Palliative Care

PEDS = Pediatric Neurology Service

RES = Research

SLEEP = Sleep Disorders Clinic

STROKE = Stroke Consultation Service

VAC = Vacation

### 3<sup>RD</sup> YEAR NEUROLOGY RESIDENT SCHEDULE 2009 – 2010

Resident Name	7/1-7/26	7/27-8/9	8/10-10/11 *	10/12-11/8	11/9-12/6	12/7-1/3	1/4-1/31	2/1-2/28	3/1-3/28	3/29-4/25	4/26-5/23	5/24-6/30
(# of weeks)	3½	2	9	4	4	4	4	4	4	4	4	5 ½
<b>Constantine Farmakidis</b>	CHF	VAC	MBB	CHF AMB	EEG	EEG VAC	PSYCH	INT MED	EMG	EMG	CHF	ETHICS NSURG
<b>Megan Hyland</b>	SLEEP	CHF	MBB	N-ONC CHF	EMG	EMG	NSURG REHAB	NRAD	CHF	AMB	EEG	EEG
<b>Roberto Fernandez</b>	NPATH	RES	MBB	RES NOPHTH	CHF	AMB	VAC EEG	EEG	SLEEP	CHF	EMG/ POLAND	VAC EMG
<b>Milton Medeiros</b>	EEG		MBB	EEG	NSURG VAC	CHF	EMG	EMG	AMB	N-ONC VAC	POLAND	CHF
<b>John Scagnelli</b>	EMG		MBB	EMG	SLEEP	N-ONC	CHF	CHF	EEG	EEG	NPATH/ POLAND	AMB

\* Chief Resident Schedule during MBB course:

8/10 – 8/16  
8/17 – 8/30  
8/31 – 9/13  
9/14– 9/27  
9/28– 10/11

Megan Hyland  
Milton Medeiros  
John Scagnelli  
Roberto Fernandez  
Constantine Farmakidis

**AMB = Ambulatory Subspecialty Clinics at SMH**  
**CHF = Chief Resident**  
**EEG = Advanced Neurophysiology**  
**EMG = EMG/Neuromuscular Rotation**  
**ETHICS = Ethics Elective**  
**INT MED = Internal Medicine**  
**MBB = Mind, Brain and Behavior Medical Student Course**  
**N-ONC = Neuro-oncology**

**NOPHTH = Neuro-ophthalmology**  
**NPATH = Neuropathology**  
**NRAD = Neuroradiology**  
**NSURG = Neurosurgery**  
**POLAND = Teaching elective, Kraków, Poland**  
**PSYCH = Psychiatry**  
**REHAB = Neuro-rehabilitation at St. Mary's Hospital**  
**RES = Research**

### 3<sup>RD</sup> YEAR CHILD NEUROLOGY RESIDENT SCHEDULE 2009 – 2010

Resident Name	7/1-7/19	7/20-8/2	8/3-8/16	8/17-8/30	8/31-9/13	9/14-9/27	9/28-10/11	10/12-10/25	10/26-11/8	11/9-11/22	11/23-12/6	12/7-12/20	12/21-1/3	1/4-1/17	1/18-1/31	2/1-2/14	2/15-2/28	3/1-3/14	3/15-3/28	3/29-4/11	4/12-4/25	4/26-5/9	5/10-5/23	5/24-6/6	6/7-6/20	6/21-6/30
Laurie Seltzer	OUTPT		INPT/ URG		URG	INPT	INPT	URG	OUTPT/ VAC	OUTPT		OUTPT	INPT	VAC/ OUTPT	OUTPT		URG		OUTPT	INPT	VAC	OUTPT	URG	INPT/ URG	INPT	URG
Laura Tomaselli	LEAVE	ELECTIVE			INPT	URG	OUTPT		INPT		URG		VAC	URG	URG	OUTPT	OUTPT		INPT	OUTPT	INPT/ URG	INPT	INPT	VAC	URG	INPT

INPT = Inpatient Pediatric Service  
OUTPT – Outpatient Pediatric Service

URG = Urgent Care Pediatric Service  
VAC = Vacation

## 4<sup>TH</sup> YEAR CHILD NEUROLOGY RESIDENT SCHEDULE 2009 – 2010

Resident Name	7/1-7/19	7/20-8/2	8/3-8/16	8/17-8/30	8/31-9/13	9/14-9/27	9/28-10/11	10/12-10/25	10/26-11/8	11/9-11/22	11/23-12/6	12/7-12/20	12/21-1/3	1/4-1/17	1/18-1/31	2/1-2/14	2/15-2/28	3/1-3/14	3/15-3/28	3/29-4/11	4/12-4/25	4/26-5/9	5/10-5/23	5/24-6/6	6/7-6/20	6/21-6/30
Jenn Mulbury	NRAD VAC	NF	NRAD	MBB (8/10 – 10/11)			NPATH	SEC	CHILD PSYCH	NMD	VAC	N- OPHTH	SEC	EEG	NPATH	NRAD	POLAND	NRAD	NSURG	RES	VAC					
Denia Ramirez	NMD		EEG	MBB (8/10 – 10/11)			HH	SMH	SEC	NRAD	VAC	SMH	AMB	HH	RES	POLAND	VAC	HH								

**AMB = Ambulatory Subspecialty Clinics at SMH**  
**EEG = Advanced Neurophysiology**  
**HH = Highland Hospital**  
**NF = Night Float Rotation**  
**NMD = Neuromuscular Diseases**  
**NRAD = Neuroradiology**  
**NPATH = Neuropathology**

**N-OPHTH = Neuro-ophthalmology**  
**NSURG = Neurosurgery**  
**POLAND = Teaching Elective – Krakow, Poland**  
**RES = Research**  
**SEC = Strong Epilepsy Center**  
**SMH = Strong Memorial Hospital Neurology Inpatient Service**  
**VAC = Vacation**

## NEUROLOGY RESIDENT VACATION SCHEDULES 2009-2010

### 1<sup>ST</sup> Year Residents

Name	Vacation dates	# of Weeks
Kathryn Hoskins	11/23/09 – 12/6/09	2
	6/7/10 – 6/20/10	2
Inna Hughes	10/12/09 – 10/25/09	2
	2/15/10 – 2/28/10	2
Adam Juersivich	11/9/09 – 11/22/09	2
	3/15/10 – 3/28/10	2
Jessica Robb	10/26/09 – 11/8/09	2
	5/10/10 – 5/23/10	2
Jonathan Smith	1/4/10 – 1/17/10	2
	4/12/10 – 4/25/10	2

### 2<sup>ND</sup> Year Residents

Name	Vacation dates	# of Weeks
Matthew Bellizzi	9/14/09 – 9/27/09	2
	3/1/10 – 3/14/10	2
Nicholas Johnson	11/9/09 – 11/22/09	2
	3/1/10 – 3/14/10	2
Elizabeth Lucassen	8/17/09 – 8/30/09	2
	3/15/10 – 3/28/10	2
Justin Rymanowski	7/20/09 – 8/2/09	2
	4/12/10 – 4/25/10	2
Thomas Wychowski	8/31/09 – 9/13/09	2
	3/29/10 – 4/11/10	2

## NEUROLOGY RESIDENT VACATION SCHEDULE 2009-2010

### 3<sup>RD</sup> Year Residents

Name	Vacation dates	# of Weeks	Rotation
Constantine Farmakidis	7/27/09 – 8/9/09	2	VAC
	12/21/09 – 1/3/10	2	EEG
Roberto Fernandez	1/4/10 – 1/17/10	2	EEG
	5/24/10 – 6/6/10	2	EMG
Megan Hyland	7/20/09 – 7/26/09	1	Sleep
	12/28/09 – 1/3/10	1	EMG
	2/15/10 – 2/21/10	1	Neuroradiology
	5/17/10 – 5/23/10	1	EEG
Milton Medeiros	11/23/09 – 12/6/09	2	Neurosurgery
	4/12/10 – 4/25/10	2	Neuro-oncology
John Scagnelli	7/13/09 – 7/19/09	1	EMG
	11/30/09 – 12/13/09	2	Sleep/Neuro-oncology
	5/17/10 – 5/23/10	1	Neuropathology

### Child Neurology Residents

Name	Vacation dates	# of Weeks
Denia Ramirez	1/7/10 – 1/17/10	2
	5/24/10 – 6/6/10	2
Jennifer Mulbury	7/13/09 – 7/19/09	1
	1/18/10 – 1/31/10	2
	6/21/10 – 6/27/10	1
Laurie Seltzer	11/2/09 – 11/8/09	1
	1/4/10 – 1/10/10	1
	4/12/10 – 4/25/10	2
Laura Tomaselli	12/21/09 – 1/3/10	2
	5/24/10 – 6/6/10	2

**DEPARTMENT OF NEUROLOGY  
UNIVERSITY OF ROCHESTER  
FIRM ASSIGNMENTS FOR 2009-2010**

<b>FIRM</b>	<b>ATTENDINGS</b>	<b>RESIDENTS</b>	<b>YEAR</b>
<b>Monday</b>	Robert Joynt	John Scagnelli	PGY 4
	Heidi Schwarz	Matthew Bellizzi	PGY 3
		Ajay Abad	PGY 1
		Rachel Biemiller	PGY 1
<b>Tuesday</b>	Gerald Honch	Milton Medeiros	PGY 4
	Larry Samkoff	Nicholas Johnson	PGY 3
		Kathryn Hoskins	PGY 2
		Deana Grattan	PGY 1
<b>Wednesday</b>	Anthony Maroldo	Roberto Fernandez	PGY 4
	Robert Holloway	Elizabeth Lucassen	PGY 3
		Adam Juersivich	PGY 2
		Michael Manchak	PGY 1
<b>Thursday</b>	Andrew Goodman	Megan Hyland	PGY 4
	TBD	Justin Rymanowski	PGY 3
		Jessica Robb	PGY 2
		Michele Scully	PGY 1
<b>Friday</b>	Ralph Józefowicz	Constantine Farmakidis	PGY 4
	Daniel Britton	Thomas Wychowski	PGY 3
		Jonathan Smith	PGY 2
		Roople Unia	PGY 1

**DEPARTMENT OF NEUROLOGY  
UNIVERSITY OF ROCHESTER  
AMBULATORY BLOCK ROTATION FOR FIRST YEAR RESIDENTS  
2009-2010**

	<b>MONDAY</b>	<b>TUESDAY</b>	<b>WEDNESDAY</b>	<b>THURSDAY</b>	<b>FRIDAY</b>
<b>AM</b>	Epilepsy Clinic*	MS Clinic	Neuromuscular Clinic	Movement Clinic *	Grand Rounds
<b>PM</b>	Epilepsy Clinic*	Stroke Clinic	Neuromuscular Clinic	Movement Clinic *	Headache Clinic ***

\* 919 Westfall Road \*\* Highland Hospital \*\*\*Ophthalmology Clinic - SMH

- First year residents also have a weekly afternoon Firm. The Firm assignments are listed below. The Firm takes precedence over a subspecialty clinic.

**NEUROLOGY FIRST YEAR RESIDENT FIRMS**

<b>MONDAY</b>	<b>TUESDAY</b>	<b>WEDNESDAY</b>	<b>THURSDAY</b>	<b>FRIDAY</b>
	Kathryn Hoskins	Adam Juersivich	Jessica Robb	Jonathan Smith

**DEPARTMENT OF NEUROLOGY  
UNIVERSITY OF ROCHESTER  
AMBULATORY BLOCK ROTATION FOR THIRD YEAR RESIDENTS  
2009-2010**

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<b>AM</b>	Epilepsy Clinic**	Stroke Clinic	Neuromuscular Clinic	Movement Clinic **	Grand Rounds
<b>PM</b>	Headache Clinic***	MS Clinic	Neuromuscular Clinic	Movement Clinic **	Dementia Clinic
<b>PM FPC</b>		Schwarz*	Józefowicz**	Barbano**	Maroldo*

FPC=Faculty Practice Clinic \* Highland Hospital \*\* 919 Westfall Road \*\*\*Ophthalmology Clinic - SMH

- All clinics occur in the afternoon and are located in the SMH neurology OPD unless indicated otherwise.
- Third year residents have a weekly afternoon Firm and a weekly afternoon Faculty Practice or subspecialty clinic. These clinics are listed below. The Resident Firm takes precedence over all Faculty Practice or Subspecialty Clinics.
- The acting chief resident has no Faculty Practice or Subspecialty Clinics, including during the Mind, Brain and Behavior Course (8/10/09 – 10/9/09).

**NEUROLOGY THIRD YEAR RESIDENT FIRMS**

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
John Scagnelli	Milton Medeiros	Roberto Fernandez	Megan Hyland	Constantine Farmakidis

**NEUROLOGY THIRD YEAR RESIDENT FACULTY PRACTICE/SUBSPECIALTY CLINIC SCHEDULE**

	Scagnelli		Medeiros		Fernandez		Hyland		Farmakidis	
<b>JUL-SEP</b>	Tu	MS	We	Józefowicz	Tu	Schwarz	Fr	Dementia	Th	Movement
<b>OCT-DEC</b>	Th	Barbano	Th	Movement	Fr	Dementia	Fr	Maroldo	Tu	MS
<b>JAN-MAR</b>	Th	Movement	Fr	Dementia	Tu	MS	We	NMD	Tu	Peds/Mink
<b>APR-JUN</b>	Fr	Dementia	Th	MS	Th	Movement	Tu	Stroke	Tu	Schwarz

\* Highland Hospital \*\* 919 Westfall Road \*\*\*Ophthalmology Clinic – SMH

## Department of Neurology 2009–2010 SMH, Highland and RGH Attending Schedules

Dates*	SMH General Consults	SMH General Inpatient	SMH Stroke	SMH Child	Highland	RGH General	RGH Stroke
June 22 – July 5	Logigian	Heatwole	Kelly Benesch	Mink	Maroldo Twydell	Burdett Samkoff	Burdett Holmquist
July 6– July 19	Liu	Evans	Kelly Holmquist	Wang	Burke Maroldo	Burdett Chacko	Burdett Chacko
July 20 – Aug 2	Goldman	Józefowicz	Burgin Schwarz	Kwon	Burke Twydell	Burdett Haltermann	Burdett Haltermann
Aug 3 – Aug 16	Maroldo	Marshall	Holmquist Benesch	Myers	Burke Schwarz	Chilungu Burdett	Burgin Burdett
Aug 17 – Aug 30	Heatwole	Mohile	Burgin Kelly	Wang	Burke Twydell	Burack Burdett	Holmquist Burdett
Aug 31 – Sept 13	Richard	Henry	Rempe Holmquist	Kwon	Burke Schwarz	Chen Burdett	Barbano Burdett
Sept 14 – Sept 27	Biglan	Fessler	Benesch Kelly	Gelbard	Burgin Burke	Chacko Burdett	Chacko Burdett
Sept 28 – Oct 11	Ravina	Dorsey	Rempe Holmquist	Wang	Schwarz Burke	Burack Burdett	Burgin Burdett
Oct 12 – Oct 25	Holloway	Berg	Burgin Benesch	Myers	McGarry	Chen Burdett	Samkoff Burdett
Oct 26 – Nov 8	Józefowicz	Kurlan	Holloway Holmquist	Gelbard	Twydell Maroldo	Chilungu Chen	Barbano Burgin
Nov 9 – Nov 22	Marshall	Schifitto	Rempe Kelly	Mink	Schwarz Burke	Burdett Haltermann	Burdett Haltermann
Nov 23 – Dec 6	Chacko	Stanton	Holmquist Benesch	Myers	Burke Maroldo	Burdett Chilungu	Burdett Samkoff
Dec 7 – Dec 20	Tawil	Ravina	Griggs	Augustine	Burgin Burke	Burack Burdett	Holmquist Burdett
Dec 21 – Jan 3	Dorsey	Chilungu	Kelly Burgin	Wang	Schwarz Maroldo	Chen Burdett	Barbano Burdett
Jan 4 – Jan 17	Henry	Richard	Kelly Benesch	Kwon	Evans Burke	Haltermann Burack	Haltermann Burgin
Jan 18– Jan 31	Berg	Holloway	Rempe Kelly	Mink	Chilungu Schwarz	Burdett Chen	Burdett Holmquist
Feb 1 – Feb 14	Richard	Kieburtz	Benesch Kelly	Myers	Burgin Maroldo	Burdett Chilungu	Burdett Samkoff
Feb 15 – Feb 28	Samkoff	Yurcheshen	Schwarz Benesch	Lehman	Twydell Burke	Burdett Barbano	Burdett Holmquist
Mar 1 – Mar 14	Thornton	Herrmann	Kelly Goldman	Mink	Maroldo Chilungu	Burdett Burack	Burdett Burgin
Mar 15 – Mar 28	Ciafaloni	Liu	Goldman Holmquist	Myers	Twydell Schwarz	Burdett Chen	Burdett Barbano
Mar 29 – Apr 11	Kurlan	Biglan	Burgin Holmquist	Mink	Maroldo Evans	Burdett Haltermann	Burdett Haltermann
Apr 12 – Apr 25	McGarry	Richard	Benesch Kelly	Wang	Burke Maroldo	Chacko Samkoff	Chacko Holmquist
Apr 26 – May 9	Chen	Gross	Burdett Benesch	Augustine	Twydell Burke	Chilungu Burgin	Burgin Burdett
May 10 – May 23	Kieburtz	Goodman	Burgin Burdett	Mink Kwon	Schwarz Maroldo	Burack Chacko	Barbano Chacko
May 24 – June 6	Schifitto	Tawil	Holloway Kelly	Augustine	Twydell Burke	Burdett Chen	Burdett Samkoff
June 7 – June 20	Duffy	Ciafaloni	Benesch Rempe	Lehman	Chilungu Burke	Burdett Chen	Burdett Samkoff

\*When two names are listed in a block, the block is split into two equal weeks, with each week beginning on a Monday.

## Child Neurology Weekend Coverage 2009-2010

July	4-5	Seltzer/ Ramirez
	11-12	Ramirez
	18-19	Seltzer
	25-26	Seltzer/ Ramirez
August	1-2	Seltzer
	8-9	Ramirez
	15-16	Mulbury
	22-23	Seltzer
	29-30	Ramirez
September	5-6	Mulbury
	12-13	Ramirez
	19-20	Mulbury
	26-27	Tomaselli
October	3-4	Seltzer
	10-11	Ramirez
	17-18	Tomaselli
	24-25	Lucassen
	31-1	Tomaselli
November		
	7-8	Mulbury
	14-15	Tomaselli
	21-22	Wychowski
	28-29	Tomaselli
December	5-6	Mulbury
	12-13	Seltzer
	19-20	Rymanowski
	26-27	Seltzer

January	2-3	Johnson
	9-10	Tomaselli
	16-17	Johnson
	23-24	Tomaselli
	30-31	Lucassen
February	6-7	Bellizzi
	13-14	Tomaselli
	20-21	Seltzer
	27-28	Tomaselli
March	6-7	Seltzer
	13-14	Tomaselli
	20-21	Rymanowski
	27-28	Tomaselli
April	3-4	Seltzer
	10-11	Tomaselli
	17-18	Bellizzi
	24-25	Tomaselli
May	1-2	Seltzer
	8-9	Tomaselli
	15-16	Seltzer
	22-23	Wychowski
	29-30	Seltzer
June	5-6	No fellow
	12-13	Tomaselli
	19-20	Seltzer
	26-27	Tomaselli

## Department of Neurology Residency Program

### Important Dates for 2009-2010

Department Retreat	Friday, September 11, 2009
RITE	Saturday, February 27, 2010
Clinical Skills Examination	Saturday, March 13, 2010 Saturday, March 20, 2010
Resident & Fellow Poster Session	Friday, June 18, 2010
Resident Graduation	Saturday, June 19, 2010

### 2009-2010 Neurology Chief Resident Responsibilities

Grand Rounds	Roberto Fernandez
Journal Club	Milton Medeiros
Monday, Thursday, and Friday Conferences	Constantine Farmakidis, John Scagnelli
On-call schedules	Megan Hyland

### 2009-2010 Neurology Resident Committee Assignments

Clinic liaison	Roberto Fernandez
SIGN liaison	Megan Hyland
Residency Selection Committee	John Scagnelli
Clerkship Grading Committee	Milton Medeiros
GMEC representative	Constantine Farmakidis