# Table of Contents

I. Program Goals and Objectives:  
   Adult Neurology  
   - 2

II. Program Goals and Objectives:  
   Pediatric Neurology  
   - 5

III. Hospitals  
   - 8

IV. Inpatient Rotations  
   - 9

V. Outpatient Rotations  
   - 11

VI. Electives  
   - 12

VII. Didactics  
   - 13

VIII. Teaching  
   - 15

IX. Evaluations  
   - 17

X. Policies  
   - 18

XI. Rotation Goals and Objectives:  
    Adult Neurology  
    - 38

XII. Rotation Goals and Objectives:  
     Pediatric Neurology  
     - 101
SUNY Downstate Adult Neurology Residency
Program Goals and Objectives

The aim of the Adult Neurology Residency Training Program at SUNY-Downstate Medical Center is to provide the graduate with extensive, high-quality, clinical training in neurology so that he or she is prepared to practice neurology competently and independently. The training takes place over four years.

PGY 1 Goals:

• To develop a solid foundation of internal medicine.
• The resident will also begin to develop a foundation in inpatient and outpatient neurology.

PGY 1 Objectives:

• To successfully complete rotations in general medical wards, intensive care, hematology-oncology, and ambulatory care at UHB, KCH, and BVA.
• To successfully complete 1 month each of neurology and psychiatry.
• To successfully attend Neurology continuity clinic.

PGY 2 Goals:

• To develop competency in the neurologic exam and evaluation of neurologic patients for common neurologic conditions including epilepsy, neuroimmunology, neuro-oncology, and neurovascular disorders.
• To develop skills in the neurologic exam and in the evaluation of patients in inpatient and outpatient settings.
• To develop an understanding of the pathophysiologic basis of diseases of the nervous system
• To develop competency presenting at conferences.

PGY 2 Objectives:

• To successfully perform rotations on the ward and consultation services at KCH, the general and stroke services at BH, and the neuro-oncology consultation service at MSKCC.
• To successfully complete a rotation in neuropathology.
- To present cases and topics at junior resident conferences (Case conference and Directors Rounds) and morning report.
- To complete the first NEX exam.

PGY 3 Goals:
- To develop consultation skills on the KCH consultation service, the UHB general and stroke services, and the consultation service at BH.
- To begin subspecialty elective training.
- To begin to develop skill in pediatric neurology.
- To continue to develop outpatient evaluation skills in Continuity Clinic.

PGY 3 Objectives:
- To complete an initial month of pediatric neurology.
- To successfully lead clinical teams at UHB and BH as the senior resident for the general and stroke consultation services.
- To present at subspecialty conferences (Neurobehavior and Neurovascular) and morning report.
- To give a mentored, in-depth, departmental presentation.
- To complete 3 NEX exams.

PGY 4 Goals:
- To develop leadership skills on the KCH ward and consultation services.
- To develop subspecialty expertise in the remaining 2 months of pediatric neurology.
- To complete subspecialty elective training.
- To hone outpatient clinical skills in continuity clinic, epilepsy clinic, neuromuscular clinic, and screening clinic.

PGY 4 Objectives:
- To successfully serve as a senior resident on the KCH ward and consultation services.
- To complete subspecialty elective training that meets the resident’s self-assessed plan of study.
- To give a final departmental presentation.
- To prepare a publication or manuscript of publication quality.
- To present at subspecialty conference (epilepsy conference, other specialty conferences) and morning report.
- To have completed a total of 5 NEX exams in neuromuscular, neurobehaviour, neurocritical care, outpatient, and child neurology.
The ACGME competencies are integrated and developed throughout the residency. In the PGY 1 year, residents acquire the basics of patient care, medical knowledge, practice based learning and improvement, interpersonal communication skills, professionalism, and systems-based practice in the inpatient rotations, their neurology continuity clinic, and in didactic conferences.

In the PGY 2 – 4 years, residents further develop skills in the 6 ACGME competencies. Patient care skills are developed on the ward, consultation, general and stroke services at the various sites. The general services provide exposure to a wide range of neurologic disease while the stroke service provides comprehensive care in this specialty. Medical knowledge is advanced through the residency and is enhanced with the final departmental presentation. Practice based learning and improvement is developed throughout the 4 years with the residents taking on more active roles in journal club, presenting at conferences, and in applying evidence based medicine techniques to seek information to support patient care. Senior residents use this approach to lead their clinical teams. Interpersonal and communication skills are developed as the residents interact with their colleagues, members of other services, and staff. Residents participate in and take leadership roles in interdisciplinary team rounds as they progress to senior residents. Residents evaluate their performance and develop individual plans for improvement. Professionalism is developed throughout the residency. As residents get progressively more responsibility and autonomy, professionalism is stressed and supported. In preparation for the ward senior month, leadership and professionalism skills are discussed in an interactive senior residents meeting. Systems based practice is nurtured throughout the residency as junior residents participate in interdisciplinary rounds and quality assurance meetings and projects. As residents progress to senior residents, they lead these meetings and develop projects to enhance patient safety and quality of care by addressing systems issues.

Sufficient flexibility has been built-in to permit maturation of individual talents within the broad range of the neurological sciences. Our faculty has subspecialty expertise in epilepsy, movement disorders, memory and cognitive disorders, neuro-critical care, neuromuscular diseases, neurovascular disorders, and pediatric neurology. We have partnered with Memorial-Sloan-Kettering Cancer Center for neuro-oncology. Faculty from the related specialties of Neuropathology, Neuroradiology, Neurosurgery, and Psychiatry also participate in didactic and clinical activities in the Neurology residency. Residents perform self-assessments and plan their subspecialty education tailored to meeting their individual career goals.
SUNY Downstate Pediatric Neurology Residency
Program Goals and Objectives

General

During the 3 year program residents are provided with a broad and deep foundation in general neurology and, specifically, pediatric neurology, thereby preparing them for independent practice or entry into a subspecialty/fellowship. Extensive clinical experience with diverse populations and bedside teaching are emphasized and are supplemented with a variety of didactic sessions. Particular attention is given to the humanistic, social and ethical aspects of neurology practice, as well as to the acquisition of academic knowledge and appreciation of the intellectual challenges of the specialty.

Year 1:

The main goal of training in the first year is for each resident to achieve competence in the performance of the neurological evaluation and the development of management skills with both inpatients and outpatients. Specifically, the resident should show proficiency in collecting the relevant historical information, performing an accurate general and neurological examination, localizing the lesion to the appropriate areas of the nervous system, and beginning to develop differential diagnoses and management skills for the more common neurological entities. This is accomplished through 6 months of supervised experience on the adult neurology ward and consultation services at our University Hospital and at Kings County Hospital Center. There are 3 months of OPD rotation (one month in 1st, 2nd and 3rd years); this provides an opportunity to concentrate on adult neurology outpatient care. Residents are also assigned to a half day per week in a general pediatric neurology continuity clinic. They attend this continuity clinic all three years. Two months of electives allow the resident to obtain additional training in subspecialties, such as neuroradiology, neuropathology, epilepsy/EEG, neuromuscular/EMG. Early in the academic year, there is an introductory lecture series covering neurological emergencies, and another introductory lecture series on neuroradiology.

All residents are required to take the RITE exam each year. The advisors, the program director and the Neurology Department Education Committee (CEC) review exam results and the advisors meet with residents to review their performance. To prepare for the Board Examination, sessions covering the major topics on the RITE exam and Boards are conducted to motivate self-study.

Throughout the first year, the resident’s clinical skills are monitored by the ward, consult, and continuity clinic attendings and the senior residents. Progress is reviewed monthly by the program director and the CEC. When the resident is
deemed sufficiently competent, on-call responsibilities in the emergency room (i.e. without the additional presence of a senior resident) are assigned.

Each resident is assigned a faculty advisor. During all three years of training advisors meet with their assigned residents at least twice a year to review the resident’s performance and address any concerns. Six-month summary evaluation forms are completed and submitted to the Program Director. Failure to achieve minimum competence (indicated by borderline and/or unsatisfactory evaluations from clinical rotations) is presented to the Education Committee (CEC), and appropriate action is determined (e.g. probation or suspension, need for repetition of a rotation, examination, or complete year or development of a remediation plan). The Committee’s decision is reviewed by the Chairman, and, if agreed, the Chairman and Program Director, meet with the resident to discuss the Committee’s determination and the plan for remediation.

**Year 2:**

Pediatric neurology residents begin their 6 months of inpatient rotations on pediatric neurology in the second year. During these rotations the residents develop the skills required to lead a team of rotating residents and students and to responsibly monitor the management of inpatients under the supervision of the attending. They also provide consultations in the emergency rooms at UHB and KCH and on inpatients on other services. They learn to manage pediatric neurology emergencies and to communicate with residents and attendings on other services. During the first several months of the inpatient rotations, the second year resident is closely supervised by a third year resident. Residents also attend their continuity clinic plus the subspecialty and a general pediatric neurology clinic each week.

Residents are also required to spend a full month on child psychiatry. The second month of adult neurology outpatient rotation occurs this year. Three to four months of additional electives or research are available this year. Electives must be approved by the program director.

**Year 3:**

During their final 6 months of inpatient rotations on pediatric neurology the residents improve the skills required to lead a team of residents as a ward senior. This is monitored closely by the attending. They closely supervise the 2nd year residents during their initial 2-3 months on the pediatric neurology inpatient/consult service and are involved in supervising and teaching rotating residents and students. They also continue to attend the subspecialty clinics and their continuity clinic during this time. As noted previously one month is spent on adult neurology outpatient service.
Six months of elective time allows the resident to pursue other interests, such as neurodevelopmental disabilities, movement disorders, genetic metabolic disorders, neuro-oncology, clinical neurophysiology and research. These must be approved by the program director.

Teaching responsibilities for both 2\textsuperscript{nd} and 3\textsuperscript{rd} year residents involve supervision and training of residents and medical students rotating on pediatric neurology. The residents also participate in teaching medical students during the students’ neuroscience block. Residents are also responsible for preparation of 2-3 case presentations/ topic reviews, 1-2 epilepsy reviews, 1-2 journal clubs and a major presentation to the entire department each year. All these are under the direction of an assigned attending.

At the end of training the Program Director, along with input from the advisors and the Education Committee, provide a final evaluation verifying that the resident has achieved adequate ability to practice competently and independently.

The American Board of Psychiatry and Neurology (ABPN) now mandates that demonstration of clinical skills competency is required in order to apply for specialty certification and that this competency should be achieved during residency. Demonstration of competency in evaluating a minimum of five different patients during residency is required. For Child Neurology Residents this involves examination of one adult and four pediatric patients. An ABPN-certified faculty member observes the resident’s performance and scores the resident’s interviewing skills; neurological exam skills; humanistic qualities, professionalism and counseling skills. The adult patient exam is completed in the 1\textsuperscript{st} year, three of the four pediatric exams in the 2\textsuperscript{nd} year and the final pediatric exam early in the 3\textsuperscript{rd} year.

***Adult neurology residents are required by the RRC to complete three months rotation on Pediatric Neurology during their training. They rotate one month second year and two months during third year.-
Hospitals

1. **University Hospital of Brooklyn (UHB):** The growing subspecialty services currently provide training in epilepsy, dementia, movement disorders, neuromuscular disorders, and stroke. The consultation and ward services also provide basic neurology training. Residents rotate through UHB throughout their neurology residency.

2. **Kings County Hospital (KCH):** The major teaching affiliate. Provides a forum for learning the basics of neurology and a stroke unit. Residents rotate through KCH for all four years of neurology residency.

3. **Brooklyn Hospital (BH):** The stroke and general neurology consultation services are integral parts of the residents’ education. Residents have rotations at BH their second and third years of residency.

4. **Memorial Sloan-Kettering Cancer Center (MSKCC):** Residents rotate on the neuro-oncology consultation service in their PGY 2 year.

5. **Brooklyn Veterans Administration Hospital (BVA):** A Veterans Administration hospital that provides training in general internal medicine, hematology/oncology, intensive care, ambulatory care, and palliative care in the PGY 1 year.
Neurology Inpatient Rotations

The inpatient exposure takes place in a variety of clinical teaching settings. Throughout all rotations intensive attending teaching and supervision is provided with progressively more autonomy given as each resident’s skill increases.

Subspecialty inpatient unit exposure takes place in the Stroke Units at UHB, and KCH, BH, and in the Epilepsy Monitoring Unit at UHB.

Neurology Inpatient Services:

1. **Kings County Hospital Center (KCH)**
   **CONTACT PERSON:** Dr Helen Valsamis (Pager: 917-760-0888)
   - **Ward Service**
     i. Inpatient general neurology ward and stroke services
     ii. Senior (PGY 4), Neuro juniors (PGY 2), Internal Medicine rotators (PGY 1 & 2), EM-IM rotators (PGY 2), and medical students (MS 3-4)
   - **Consultation Service**
     i. Inpatient and Emergency Room consultations including
     ii. Senior (PGY 3,4), Neuro juniors are (PGY 2-3), Internal Medicine rotators (PGY 1 & 2), EM-IM (PGY 2), and medical students (MS 3-4)

2. **University Hospital of Brooklyn (UHB)**
   **CONTACT PERSON:** Dr Yaacov Anziska (Pager: 917-218-4313)
   - **General Service**
     i. Inpatient general neurology ward and consultation service
     ii. Neuro resident (PGY 3), Internal medicine rotators (PGY 2), Psychiatry rotators (PGY 1), and medical students (MS 3-4)
   - **Stroke Service**
     i. Inpatient stroke ward and consultations service
     ii. Neuro resident (PGY 3), Internal medicine rotators (PGY 2), Psychiatry rotators (PGY 1), and medical students (MS 3-4)

3. **Brooklyn Hospital (BH)**
   **CONTACT PERSON:** Dr Jonathan Perk (Pager: 917-205-4388)
   - **General Service**
     i. Inpatient general neurology ward and consultation service
     ii. Neuro residents (PGY 2-3), Internal medicine rotators (PGY 2-3), Family medicine rotators (PGY 2-3), and medical students (MS 3-4)
• Stroke Service
  i. Inpatient stroke ward and consultations service
  ii. Neuro residents (PGY 2-3), Internal medicine rotators (PGY 2-3), Family medicine rotators (PGY 2-3), and medical students (MS 3-4)

**Preliminary Internal Medicine Inpatient Rotations**

The inpatient exposure takes place in a variety of clinical teaching settings. Throughout all rotations intensive attending teaching and supervision is provided with progressively more autonomy given as each resident’s skill increases.

Most of the preliminary year is general internal medicine. Subspecialty inpatient unit exposure takes place in the Intensive Care Units at KCH, and the VA, in the Hematology/Oncology Unit at the VA and in the Emergency Room at KCH.

**Medicine Inpatient Services:**

1. **Kings County Hospital Center (KCH)**
   - Ward Service
     i. Inpatient general medicine services (Blue and Red teams)
     ii. Senior (PGY-3), juniors (PGY 1), medical students (MS3)
   - Emergency Department
     i. All adult areas of Emergency Room (CCT, A, B)
     ii. Residents (PGY 1) work directly with the attending

2. **University Hospital of Brooklyn (UHB)**
   - Ward Service
     i. Inpatient general Medicine services
     ii. Senior (PGY 2), 2 juniors (PGY1), and medical students (MS3)

3. **Brooklyn Veterans Administration Hospital (VA)**
   - Ward Service
     i. Inpatient general Medicine services
     ii. Senior (PGY 2), 2 juniors (PGY1), and medical students (MS3)
   - Hematology Oncology Service
     i. Inpatient general Medicine services
     ii. Senior (PGY 2), 2 juniors (PGY1), and medical students (MS3)
   - Medical Intensive Care Unit
i. Inpatient critical care service
ii. Senior (PGY 2), 2 juniors (PGY1)

Psychiatry Inpatient Service:

1. Location TBD
   - Residents (PGY 1) work directly with the attending

Neurology Outpatient Training

Outpatient Training

Training in outpatient neurology takes place in the general continuity clinic, in subspecialty clinics, and in outpatient rotations.

1. Continuity Clinic (General Neurology Clinic)
   a. Residents follow patients for four years in the general neurology clinics where they see a wide spectrum of neurologic disorders. The general clinic rotation is designed to provide the opportunity to provide continued care and exposure to a wide variety of neurologic conditions.
   b. Continuity clinics are at KCH and UHB

2. Subspecialty Outpatient Training
   a. Third year neurology residents (PGY 4) spend 4 months in epilepsy, neuromuscular, and ED screening clinics.
   b. Residents rotate through the following subspecialty clinics at various points in their residency: Epilepsy (UHB), neuromuscular/MDA (UHB), movement disorders (UHB, KCH), memory disorders (UHB), spina bifida (UHB), and pediatric neurobehavior (UHB), ED screening (KCH). The subspecialty clinic rotations are designed to provide exposure to state of the art treatment of selected conditions.

3. Outpatient Rotation
   a. May be done as a 1 month elective.
   b. Additional subspecialty exposure can be arranged individually. Residents have done outpatient subspecialty months in areas such as neurodegenerative diseases or headache or an outpatient rotation in multiple disciplines.
Internal Medicine Outpatient Training

1. **Ambulatory Care**
   a. This is done at the VA in a one month block.
   b. Medicine general and specialty clinics (pulmonary, rheumatology, GI) are attended as well as a didactic curriculum.

Neurology Department Approved Subspecialty Electives

1. Epilepsy (EEG/EMU) Grant (718) 270-2959 (7105)
2. EMG Y. Anziska (718) 270-3215
3. Neurodegenerative IBW/Crystal (718) 270-1482
4. Movement Disorders IBW/Cabassa (718) 270-1482
5. Neuropathology TBD (NP) (718) 245-5325
6. Neuroradiology Linden (R) (718) 270-1118
7. Dementia Crystal (718) 270-2748
8. Movement Disorders at NI Fahn (NI) (212) 330-1000
9. Neurocritical Care TBD TBD
10. Neurosurgery Sadr (718) 245-4707
11. Neuro-oncology DeAngelis (MSKCC) (212) 639-6340

**Research electives:**
- Research electives are encouraged.
- They must be discussed individually with the program director and the faculty mentor.

**Designer electives:**
- It is very possible for residents to do other electives or design their own.
- Any elective not on this list must be approved by the program director at least 3 months beforehand to enable us to handle the scheduling.
- Some examples have included headache, neuro-ethics, pain

**Away electives:**
- If you want to do an away elective, there are insurance issues that need time for clarification.
- You must meet with the program director to discuss the particular issues for your proposed elective.
- You must start the paperwork 3 months before the assignment or it will not be approved.
Examples include: NICU at CPMC, Movement Disorders at Beth Israel, Multiple Sclerosis at Mount Sinai

Didactics

Conferences are mandatory, except as noted. You are expected to attend conferences while on elective rotations. The chief residents make up the monthly conference schedule. It is then distributed by email and posted prominently.

PRELIMINARY INTERNAL MEDICINE CONFERENCES

1. Downstate Campus
   a. Introductory Lecture Series (July and August)
   b. Core Lecture Series
   c. Medicine Grand Rounds
   d. Intern Morning Report
   e. UHB Morbidity and Mortality Report (UHB)
   f. KCH Morbidity and Mortality Report (KCH)
   g. Professor Rounds

2. Brooklyn VA Conferences
   a. Core Lecture Series
   b. VA Grand Rounds
   c. Intern Morning Report
   d. EBM/Journal Club
   e. Professor Rounds

NEUROLOGY CONFERENCES

1. Downstate Campus
   a. Introductory Conferences (July and August)
      i. Introductory Neurology Lectures*
      ii. Introduction to Neuroradiology
   b. Year Round (12 months)
      i. Directors Rounds
      ii. Neuroradiology
      iii. Morning Report (UHB, KCH, and Peds Neuro at UHB)
      iv. Epilepsy Conference*
      v. Morbidity and Mortality Report (UHB, KCH)
      vi. Special Events*
   c. Rest of the Year (Sept – June)
      i. Grand Rounds*
      ii. Case conference (adult and pediatric)
      iii. 2nd and 3rd Year Resident Departmental Presentations
iv. Journal Club (adult and pediatric)
v. Basic Science Conference*
vi. Neuropathology
vii. Neuroradiology
viii. Neurobehavior Conference (adult and pediatric)
ix. Neurovascular Conference*
x. Neuromuscular Conference
xi. Movement Disorders Conference
xii. EEG Conference*
d. Other Conferences
   i. Neuroophthalmology (April - June)*
   ii. NeuroRehabilitation (May)*
   iii. Ethics (April-May)*
e. Optional Conferences (mandatory while on pertinent rotations)
   i. Clinical Neurophysiology Pediatric
   ii. Pediatric Neurobehavior
   iii. Clinical Electrophysiology
   iv. Pediatric Pathophysiology Lecture Series

2. Brooklyn Hospital
   a. Grand Rounds*
   b. Neuroradiology Conference
   c. Neurophysiology Conference
   d. Epilepsy Conference
   e. Movement disorder Conference
   f. Quality Assurance Conference

3. Memorial Sloan Kettering Cancer Center
   a. Grand Rounds
   b. Professors Rounds
   c. Brain Tumor Conference
   d. Pediatric Brain Tumor Conference
   e. Neuropathology Conference
   f. Dr. Posner’s Clinical Conference
   g. Pain Conference
   h. Clinical Research Meeting

* Conference is streamed to BH.
Teaching

Teaching is an integral part of your neurology residency education. Teaching is one of the best ways to learn. At an academic institution, teaching opportunities abound. Residents interested in additional opportunities should contact the program director.

Your garden variety teaching opportunities will occur on a daily basis. As a junior resident, you will teach/learn from each other. On your clinical teams, medical students and rotators from other disciplines will be plentiful. You will be expected to perform bedside and didactic teaching on a regular basis. As a senior resident, you will have more responsibility for leading bedside and formal teaching.

You will be asked to present (teach) at many conferences, particularly a departmental presentation in your 2nd year of neurology and a grand rounds in your 3rd year.

In particular, residents play a pivotal role in the teaching of medical students.

Medical Student Teaching:

1. Medical Student Neuroscience Curriculum
   a. First Year
      i. Anatomy Labs and Neuroscience Course (anatomy dissection demonstrations)
   b. Second Year
      i. Neurology Behavior System Block
         1. small group instruction on neuro exam
      ii. Review of neurology prior to clinical years
   c. Third/Fourth Year
      i. Neurology Clerkship
         1. All residents teach students on the wards/consult service. Practical management is taught on work rounds
         2. Students present patients to the junior or consult resident on call and to the team on work rounds
         3. Junior and senior residents review student notes
         4. Senior resident meets with students three times per week for basic neurology teaching at SIUH
         5. Senior residents examine for medical student oral exams
      ii. Neurology Sub-Internship
1. Senior resident supervises the sub-intern and provides appropriate guidance in conjunction with the attending (the student functions as an intern whenever possible)

2. Formal Medical Student Teaching During the Neurology Clerkship

The medical students receive lectures and are assigned readings. They also participate in small group exercises. Only the topics formally covered will be tested at the end of the rotation. The following are formally covered in the Friday sessions:

- **Adult Neurology topics:** Seizures, headache, stroke dizziness, coma, meningitis, dementia, delirium, back pain
- **Pediatric Neurology topics:** Hypotonia, cerebral palsy, seizures, CNS tumors, neurocutaneous syndromes, congenital malformations

Residents provide a crucial part of the medical student educational experience. When students rotate on the neurology service, the residents provide most of the teaching of the practice of neurology and much of the didactic teaching. At Kings County, University Hospital, and BH attendings provide much of the didactic teaching.

At all of our institutions the residents are the most important source of bedside teaching. Probably the most important skill you teach your students is your approach to the patient. Your bedside manner and your ability to elicit a coherent history and pertinent findings are best taught by example and practice. Treating patients with courtesy and respect can only be taught by setting a good example. In addition, the process of thinking through a differential is essential to neurology and all aspects of medicine. This is most effectively learned through active participation and discussion in small groups (as in rounds or informal meetings) or one on one.

Students participate as junior members of the ward or consult team. They must attend morning work rounds, carry patients, and participate in patient care with resident supervision. The junior resident participates in student teaching in the daily discussions of patient care. The senior resident includes the students on work rounds and may hold teaching sessions if time permits. The students function as part of the team and should present the patients they follow on work and attending rounds. At the end of the rotation the students will be tested with a both a written and an oral exam.

Teaching medical students is an opportunity for you to review many aspects of neurology. Students often ask unexpected questions and test the thoroughness of your understanding. In addition, communicating knowledge is
an important part of being a physician. We hope you find this aspect of your residency training rewarding and fun.

Evaluations

Neurology Residents are evaluated in several ways. Your evaluations are kept in your portfolio (binder).

1. **Evaluation of your performance on a rotation**
   a. Monthly
      i. Service attendings
      ii. Medical students (4 week blocks)

2. **Evaluation of your performance in outpatient clinics**
   a. Bi-annually (Dec, June)
      i. Clinic attendings

3. **Inservice performance**
   a. AAN-RITE
   b. Reviewed with program director. Used ONLY for educational purposes.

4. **360 Evaluation**
   a. Annually
   b. UHB and KCH

5. **Milestones**
   a. Semi-annually, from multiple sources

6. **Your evaluations (the ones you fill out)**
   a. Attendings for each rotation (monthly)
   b. Residents (annually)
   c. Nurses (annually)
   d. Patients (annually)
   e. Students (monthly)
   f. The program (annually)

Blank copies of any of evaluation forms are available in the office. Most of these forms are now on New Innovations.
Policies

**Duty Hours in Neurology (ACGME 07/01/2012)**

- Minimum Time Off between Scheduled Duty Periods: Intermediate-level residents [as defined by the Review Committee] should have 10 hours free of duty, and must have eight hours between scheduled duty periods. They must have at least 14 hours free of duty after 24 hours of in-house duty.

- Minimum Time Off between Scheduled Duty Periods: Residents in the final years of education [as defined by the Review Committee] must be prepared to enter the unsupervised practice of medicine and care for patients over irregular or extended periods.

- Minimum Time Off between Scheduled Duty Periods: This preparation must occur within the context of the 80-hour, maximum duty period length, and one-day-off-in-seven standards. While it is desirable that residents in their final years of education have eight hours free of duty between scheduled duty periods, there may be circumstances [as defined by the Review Committee] when these residents must stay on duty to care for their patients or return to the hospital with fewer than eight hours free of duty.

- Maximum Frequency of In-House Night Float: Residents must not be scheduled for more than six consecutive nights of night float.

**Absences and Coverage**

1. **Emergent Absences**
   a. Coverage is provided by the residents on elective and is set up by the Chief Resident.
   b. You must contact your chief resident and service (senior resident).
   c. More than one day in a row or frequent absences require a doctor’s note.

2. **Planned Absences**
   a. Coverage must be arranged IN ADVANCE with residents on NON-CLINICAL rotations.
   b. Permission is granted ONLY for interviews, conferences and urgent issues on an individual basis at the discretion of the program director.
   c. You must arrange for coverage yourself and confer with the Chief Resident to be sure no work hour violations occur.
d. Excused absence form must be filled out. That way we have a written record where you are and of the coverage in your absence.

Age Guidelines for patient care by adult and pediatric neurology services at UHB and KCH

1. Consults on all patients in the Adult ER will be seen by the Adult Neurology Service. Consults on patients in the Pediatric ER will be seen by the Pediatric Neurology Service.

2. If a patient (less than 21 years of age) seen in the ER, is admitted to an adult floor (ICU, Medicine, Surgery, OB/GYN, Trauma), this patient will be followed by the Adult Neurology Service.

3. Consults on inpatients (less than 21 years of age) on an adult floor (ICU, Medicine, Surgery, OB/GYN, Trauma) will be seen by the Adult Neurology Service.

4. All Stroke Codes are seen initially by the Adult Neurology Service.

5. If the patient (seen in the Adult ER) is admitted to a pediatric floor, the patient will be followed by the Pediatric Neurology Service. If the patient is admitted to an adult floor, the patient will be followed by the Adult Neurology Service.

Charting and Documentation
All History & Physicals, Progress Notes, and Discharge Notes are electronic at KCH and UHB.

1. Inpatient Notes – Ward Services
   a. All notes document date, time, type of note, and attending input. All resident notes are evaluated and cosigned by the attending.
   b. Admission (consult, database, RAN)
      i. The body of the note: in depth history, exam, DDx, assessment, and plan of care
      ii. Junior Resident – Database
      iii. Senior Resident – Resident Admission Note
      iv. These are ON ADMISSION.
   c. Follow up
      i. Date, time, type of note, and attending input and signature as above.
ii. These are DAILY for active patients and when the patient’s condition dictates.

iii. For ALOC patients (KCH only), resident notes are written 3 x week and if the patient condition dictates.

iv. Routine follow up
   1. Daily Progress Note
      a. Summary of condition, recent events, exam, pertinent lab /test values, assessment, and plan.
   2. Addenda

v. Changes in condition
   1. As needed
   2. IMMEDIATELY after an adverse event

vi. Procedures
   1. LP etc.
   2. Procedure notes must document supervision by credentialed supervisor until you are credentialed.

2. Inpatient – Consultation Services
   a. Initial consultation
      i. All notes document date, time, type of note, and attending input. All resident notes are evaluated and cosigned by the attending.
      ii. In depth history, exam, DDx, Assess/Plan
   b. Follow up
      i. Date, time, type of note, and attending input and signature as above.
      ii. Summary of present condition and recent events, pertinent exam, pertinent workup, assessment, and plan.

3. Outpatient – Clinic Notes
   a. All notes document date, time, type of note, and attending input. All resident notes are evaluated and cosigned by the attending.
   b. Initial evaluation
      i. In depth history, exam, DDx, Assess/Plan
   c. Follow up
      i. Summary of present condition and recent events
      ii. Pertinent exam
      iii. Pertinent workup
      iv. Assess/Plan

4. General Rules for Documentation
   a. All notes document date, time, type of note, and attending or senior resident input. All resident notes are evaluated and cosigned by the attending.
   b. “If it’s not in your note, then it didn’t happen”
Credentialed

Each hospital requires that each department establish credentialing standards for procedures performed. Resident credentials are maintained by the department. As you may know, when you apply for privileges at hospitals in the future, they contact your residency for privileges. We have pared down the list of privileges to the absolute minimum. If you have not obtained certification, we will not be able to attest to it. You are required to submit completed credentialing slips to the residency coordinator so they can be recorded. Please get these procedures certified promptly.

Here is the list and time frame:

1. First Year
   a. tPA administration
   b. peripheral IV
   c. ABG
   d. Urethral catheter
   e. Lumbar puncture

2. Second Year
   a. Tensilon test

3. Third Year
   a. Brain Death Evaluation

End-of-the-year Guidelines for the Neurology Residency

1. The official end of the year date varies by year. The last full day of work in June will be determined by the program. You are expected to be here on the last day, and you may use part of that day to do your completion paperwork.

2. The resident who is covering Kings County Hospital will have a full last day of work, including completion of paperwork with a sign out in the afternoon.
3. If you are starting a fellowship in another location and have obligations (orientations etc.), you must contact the Neurology program director for approval. If you wish to do this you must speak to the program director at least 2 weeks in advance.

4. Emergency coverage will be provided by 3rd year residents through the last day, if needed.

5. The last 2 weekends of the year will be covered by second years (PGY-3).

6. You are excused from your LAST clinic day of the academic year.

7. There will be consequences for residents who do not meet their obligations in their final days.

Transitions of Care

Duty hour standards for residents have increased the number of transitions of care throughout residency programs. Miscommunications are a leading cause of adverse events in hospitals, and so optimizing the handoff system is essential for patient safety.

At University Hospital of Brooklyn, Kings County Hospital Center, and The Brooklyn Hospital Center, residents will use the I-PASS system at all times when a transition of care needs to happen, as outlined below:

<table>
<thead>
<tr>
<th>I</th>
<th>Illness Severity</th>
<th>Is the patient ‘stable’, a ‘watcher’, or ‘unstable’?</th>
</tr>
</thead>
</table>
| P | Patient Summary | * Summary statement  
* Events leading up to admission  
* Hospital Course  
* Ongoing Assessment  
* Plan |
| A | Action List | * To do list  
* Time line and ownership |
| S | Situation Awareness, Contingency Planning | * Know what’s going on  
* Plan for what might happen |
| S | Synthesis by Receiver | * Receiver summarizes what was heard  
* Asks questions  
* Restates key action/to do items |

Here’s a sample handoff:

<table>
<thead>
<tr>
<th>I</th>
<th>Illness Severity</th>
<th>“Ok, this is our sickest patient and he’s full code”</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>Patient Summary</td>
<td>Resident presents main points of HPI</td>
</tr>
<tr>
<td>---</td>
<td>----------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>A</td>
<td>Action List</td>
<td>Resident relays what needs to be done: Check vitals at a certain time, check on certain labs, follow up imaging results, etc. Times should be included if possible</td>
</tr>
<tr>
<td>S</td>
<td>Situation Awareness</td>
<td>For example: If this patient develops shortness of breath, please obtain a CXR as he/she may be developing an effusion</td>
</tr>
<tr>
<td>S</td>
<td>Synthesis by Receiver</td>
<td>Receiver summarizes the key points of the HPI as well as when/if to check vitals, labs, and imaging results</td>
</tr>
</tbody>
</table>

Outlined are the lines of responsibility at each hospital:

**University Hospital of Brooklyn**

Transitions of care will happen at the following times. The use of the I-PASS system is mandatory during each hand-off process.

- The stroke team and general neurology team will sign out to both the neurology resident on short call and the ward resident on short call, which will occur between 4:30-5pm. Both call residents must be present to receive sign outs simultaneously to give ample opportunity for questions/discussions regarding the patients.
- The next sign out will occur at 8pm when the neurology call resident and the ward resident will be present to transition care to the night floater. All three parties must be present to give/receive sign out.
- The night floater will sign out to the stroke neurology and general neurology teams at 7 am. All parties for a given team must be present for proper sign out to occur.
- Once transition of care is properly established, the pagers can be handed off to the appropriate residents.
- Whenever a transition of care must happen between residents, the I-PASS system is now mandatory as the only acceptable form of handing off patient care.

- **All patients, whether admitted to neurology or consulted on, must be transitioned to new residents using the I-PASS system.**

**Kings County Hospital Center**

Transitions of care will happen at the following times. The use of the I-PASS system is mandatory during each hand-off process:

- The ward team and consult team will sign out to both the neurology resident on short call and the ward resident on short call, which will occur between 4:30-5pm. Both call residents must be present to receive sign outs simultaneously to give ample opportunity for questions/discussions regarding the patients.
- The next sign out will occur at 8pm when the neurology call resident and the ward resident will be present to transition care to the night floater. All three parties must be present to give/receive sign out.
- The night floater will sign out to the ward neurology and consult neurology teams at 7 am. All parties for a given team must be present for proper sign out to occur.
- Once transition of care is properly established, the pagers can be handed off to the appropriate residents. The stroke code pager and consult pager will go to the neurology consult team (specific pager designation to be determined by the consult senior) and the ward pager to the ward team.
- Consulted patients to be admitted to the ward team must be personally presented by the resident who saw the patient to the ward senior, once again using the I-PASS system. Any other form of admitting a patient to the neurology ward is deemed inappropriate and subjects patients to unnecessary danger.
- Whenever a transition of care must happen between residents, the I-PASS system is now mandatory as the only acceptable form of handing off patient care.
- **All patients, whether admitted to neurology or consulted on, must be transitioned to new residents using the I-PASS system.**

The Brooklyn Hospital Center

Transitions of care will happen at the following times. The use of the I-PASS system is mandatory during each hand-off process:

- The general team and stroke team will sign out to both the neurology resident on short call and the ward resident on short call, which will occur between 4:30-5pm. Both call residents must be present to receive sign outs simultaneously to give ample opportunity for questions/discussions regarding the patients.
- The neurology call resident will hold the pagers and sign out using the I-PASS system at 7 am the next day to the stroke and general teams. All team members must be present to hear presentations of new patients and overnight events on existing patients.

**All patients, whether admitted to neurology or consulted on, must be transitioned to new residents using the I-PASS system.**

*** If there is any confusion regarding transitions of care, or if a resident feels that patients are not being transitioned appropriately to their care, it is their responsibility to notify a chief immediately so that the proper action can be taken, whether that be in the form of having a chief present for transitions of care or otherwise. ***

Escalation of Responsibility in Patient Care

1) Lines of Responsibility – see **Supervision Policy**

2) Moving up the chain of command and mechanisms for doing so
   a) All residents and attendings must be available either in person or by beeper while on service
   b) The junior resident contacts the senior resident or the attending directly
   c) In the event that the attending cannot be reached, the Chief of Service at each hospital is to be paged
d) In the event that the Chief of Service cannot be reached, the Department Chair is to be paged

3) Events that must be escalated:
   a) Patient decompensation – i.e., ICU transfer, CCU transfer, code 66, 88, or 99, stroke code, DNR, herniation, respiratory or cardiac failure, death
   b) Disputes over patient disposition i.e., the ED plans to admit a medically unstable patient

4) Monitoring and Compliance
   a) This is monitored informally at Morning Report on a daily basis
   b) This is monitored at the monthly Residents’ Meeting
   c) The Neurology Department expects 100% compliance with these policies. Non-compliance may be grounds for dismissal

5) Documentation of Attending Input in Decision-Making – See Chart Documentation Policy

BH ICU Policy

The intent of this policy is for the patient with neurological illness to receive appropriate critical care under the guidance and expertise of Medicine, and appropriate neurologic care under the guidance and expertise of Neurology in a collaborative team approach.

When a neurology patient is admitted to the Intensive Care Unit, the medical team will have primary responsibility for management of the patient (regardless of the Attending of Record). The Neurology team will act as hands-on consultants, providing daily assistance with neurological issues.

Moonlighting Policy

1. Please be aware that the policy of the Neurology Residency Regulatory Committee (RRC) is that moonlighting should not interfere with any aspect of residency training.

2. SUNY-Downstate Neurology Department’s policy is that the only days available for moonlighting are Fridays and Saturdays as residency schedules allow. Overnight moonlighting is expressly forbidden when you have a working day the next day (i.e., Sundays, the last day of a 3 day weekend etc.). The reason for this is that residents are not allowed to remain post call in order to comply with 405 and ACGME regulations. Both clinical and elective rotations are critical components of residency education. Missing residency time from either one is illegal according to
the RRC. This is the type of offense that can shut a residency program down.

3. In order to be allowed to moonlight, you must score 70% correct or more on the neurology inservice exam.

4. If the criteria are met and you wish to moonlight, you must meet with the program director to be sure your plans mesh with the 405 and ACGME work hour regulations.

**Neurosurgery Consult Guidelines at UHB for Adult Neurology**

As Neurosurgery does not have residents in house, they are asked to come in by the ACRC attendings every time anyone writes for a neurosurgery consult. After discussion with Neurosurgery and Emergency Medicine, the following guidelines were agreed upon.

Please remember that guidelines are no substitute for common sense and that the Neurosurgery attendings want to be called if there is any question about consulting them. They are available via the page operator.

1. Please note on your consult if the Neurosurgery consult is EMERGENT OR NON-EMERGENT.

2. If the consult is non-emergent, it will be placed by the admitting team (often us) the next morning.

3. If the consult is emergent the Neurosurgery attending will come in. Please write your note and CALL THE NEUROSURGEON DIRECTLY. We give them a lot more neurologic information than the ER attendings do. In addition, you will benefit from presenting to the neurosurgeon directly.

4. If there is any question, CALL THE NEUROSURGERY ATTENDING. Yes, you read that correctly. You should directly call the neurosurgery attending on call. They all have PACCS at home. They will be able to go over the case with you and help determine if they need to come in or see the case first thing in the morning.

5. Please note that you are, as always, presenting each case to your very own Neurology Attending who remains your attending for this patient.

**Pharmaceutical Industry Interaction Policy : Guidelines for the Relationship between the Pharmaceutical Industry and the SUNY Downstate Department of Neurology**
1 **Recognize the inherent conflict** between drug company sales motive and department's professionalism ethic

2 **Pharmaceutical Gifts to the Department**
   a. Pharmaceutical gifts to the department of Neurology shall consist solely of the sponsorship of educational activities. No other donations are authorized.

   b. “Drug lunches”: Drug companies may sponsor lunches only for educational activities such as a residency conference or Grand Rounds.

      i. All drug lunches shall be approved by the conference supervisor.

      ii. There will be NO unsupervised contact between trainees (residents, fellows, medical students) and drug reps.

      iii. Drug reps may provide written promotional material.

      iv. Drug reps MAY NOT SPEAK or make any other presentations.

      v. No gifts without educational value

      vi. Unrestricted educational grants are encouraged.

   c. Scholarships: These shall be for the purpose of educational activities such as sponsoring attendance at approved conferences. The drug company shall have no say in the educational content of the conference.

   d. Fellowship salary support: This shall be for the purpose of supporting the salary of a fellow. The drug company shall have no say in the educational content of the fellowship.

   e. Book program: Drug companies may make book donations to the residents/fellows. This is to be supervised by the program director.

3 **Faculty ties to industry.** These shall be disclosed to the departmental chair and decided on an individual basis.
Selection, Promotion, Dismissal, and Due Process

1. Selection:
The Neurology Department participates in the Neurology Match with NEMP. All residents are selected through that program. Residents must independently obtain a preliminary year in medicine, although Staten Island University Hospital gives candidates matching with us special attention.

Prior to starting Neurology Residency applicants must satisfy the one year of training in Internal Medicine or an acceptable equivalent as required by the guidelines of the RRC for Neurology. The Institutional RRC verifies the qualifications of each resident.

2. Promotion:
The Clinical Education Committee monitors the progress of each resident and assesses their eligibility for promotion. Specifically, the incoming residents are tracked closely for the first three months or until they are progressing satisfactorily. Residents need to pass the in-service neurology department quizzes as part of the promotion process. The progress of each resident is reviewed as necessary at the monthly CEC meetings and at the final yearly meeting for promotion. Residents are given ample information of their progress.

3. Policy on Program Evaluation and Program Review:
A. Membership (minimum 2 faculty, 1 resident, includes faculty from participating affiliated sites)
B. Provided with written description of responsibilities
C. Documentation of participation in:
   - Planning
   - Development
   - Implementation
   - Evaluation educational activities
D. Review and make recommendations for revision of curriculum goals/objectives
E. Address areas of non-compliance with ACGME standards
F. Conducts formal systematic program evaluation resulting in Annual Program Evaluation(APE) including the monitoring and tracking of:
   - Resident Performance
   - Program Quality
   - Faculty Development
   - Graduate Performance
- Clinical Learning Environment focus areas

G. Generates a Report of the APE
- Written improvement action plan
- Meeting minutes
- Documentation of presentation to and approval by teaching faculty

H. Improvement plan must be specific as outlined in the “Policy on Program Evaluation and Annual Program Evaluation Review”

4. Dismissal:
The Clinical Education Committee follows ACGME guidelines for dismissing residents. Residents at risk are warned formally with a plan of remediation and timetable. Failure to comply results in a formal CEC meeting where appropriate action including dismissal is discussed. The resident is required to be present at this meeting.

4. Due Process
The Neurology Department follows the following due process:

- A resident demonstrating unsatisfactory performance is first approached informally by his or her supervising attendings, chief residents, and program director.
- Residents who do not meet the program’s expectations despite informal counseling, are discussed at a Clinical Education Committee Meeting and a letter of warning including a plan of remediation and a timetable are developed.
- The program director meets with the resident, reviews the plan, and a copy is given to the resident. A follow up meeting is scheduled.
- If the resident does not meet expectations by the follow up meeting as set up in the timetable, a Clinical Education Meeting is scheduled where the resident’s performance is discussed. The resident is present at that meeting. The resident is placed on probation and a final plan including a timetable is developed.
- If the resident still does not meet the conditions of the remediation plan, he or she is dismissed.
- These procedures were developed in accordance with the ACGME guidelines.
- The resident may appeal to the Clinical Education Committee or the Department Chair.

Supervisory Lines of Responsibility for Residents

NEUROLOGY RESIDENCY
1. University Hospital of Brooklyn Neurology Services

   a. UHB General Service
      i. This is a general neurology ward and consultation service
      ii. Team complement
         1. 1 Attending
         2. 1 Senior (N2)
         3. 1 Medicine Rotator (PGY 2)
         4. 0-2 Psychiatry Rotators (PGY 1)
         5. 2 Medical Students
      iii. Lines of Responsibility and Supervision:
         1. The UHB General Attending supervises all of the residents directly and through the Ward Senior.
         2. The UHB General Senior supervises medicine and psychiatry rotators, and medical students
         3. The rotators do not supervise other residents

   b. UHB Stroke Service
      i. This is a Stroke Service and includes both admitted stroke patients and the stroke consultation service. Stroke codes are run by the UHB Stroke Service
      ii. Team complement:
         1. 1 Attending
         2. 1 Senior (N2 / N1)
         3. 1 Medicine Rotator (PGY 2)
         4. 0-2 Psychiatry Rotators (PGY1)
         5. 2 Medical Students
      iii. Lines of Responsibility and Supervision:
         1. The UHB Stroke Attending supervises each resident directly and indirectly through the Stroke Senior.
         2. The UHB Stroke Senior supervises medicine and psychiatry rotators, and medical students
         3. The rotators do not supervise other residents

2. Kings County Hospital Neurology Services

   a. Kings County Hospital Neurology Ward Service
      i. This is a general neurology ward service and includes a stroke ward service
      ii. Team complement:
         1. 1 Attending
         2. 1 Senior (N3)
         3. 2-3 Juniors (N 1) residents
4. 0-1 Emergency Medicine/Internal Medicine Rotators (PGY 2)
5. 0-2 Psychiatry Rotators (PGY 1)
6. 1-2 Internal Medicine Rotators (PGY 2)
7. 4 Medical Students

iii. Lines of Responsibility and Supervision:
1. The KCH Ward Attending supervises all of the residents directly and through the Neuro 3.
2. The Neuro 3 resident supervises the Neuro 1 resident and the rotators from EM/IM, Medicine, or Psychiatry.
3. The Neuro 1 resident, the EM/IM residents, and the medicine residents work as junior residents together.
4. The Neuro 1 residents supervise psychiatry rotators.
5. The rotators do not supervise other residents.

b. Kings County Hospital Neurology Consult Service
   i. This is a general neurology consultation service and includes a stroke consultation service.
   ii. Team complement:
       1. 1 Attending
       2. 1 Senior (N2 or N3)
       3. 1 Junior (N1 or N2)
       4. 0-1 Emergency Medicine/Internal Medicine Rotator (PGY 2)
       5. 0-2 PGY 1 Psychiatry residents
       6. 2 Medical Students

   iii. Lines of Responsibility and Supervision:
       1. The KCH Consult Attending supervises each resident directly and through the Senior.
       2. The Senior resident supervises the Junior, EM/IM, and Psychiatry residents.
       3. The months when there are Neuro 1 and EM/IM residents they work as junior residents together. A Junior supervises the EM/IM residents when the Senior is in clinic.
       4. The months when there are Psychiatry residents, the Senior supervises the Psychiatry residents and the Junior supervises the Psychiatry residents when the Senior is in clinic.

3. Brooklyn Hospital Neurology Services
   a. BH Stroke Consultation Service
i. This is a Stroke Service and includes both admitted stroke patients and the stroke consultation service. Stroke codes are run by the BH Stroke Service

ii. Team complement
   1. 1 Attending
   2. 1 Neurology resident (PGY 2 or 3)
   3. 0-1 Internal Medicine rotator (PGY 2 or 3)
   4. 0-1 Family Medicine rotator (PGY 2 or 3)
   5. 2 Medical Students

iii. Lines of Responsibility and Supervision:
   1. The BH Stroke Attending supervises all of the residents directly and through the Neuro Resident
   2. The Neuro Resident supervises the medical rotators
   3. Residents cross cover when the other resident is in clinic
   4. The medical rotators do not supervise other residents

b. BH General Neurology Consultation Service
i. This is a general neurology ward and consultation service

ii. Team complement
   1. 1 Attending
   2. 1 Neurology resident (PGY 2 or 3)
   3. 0-1 Internal Medicine rotator (PGY 2-3)
   4. 0-1 Family Medicine rotator (PGY 2-3)
   5. 2 Medical Students

iii. Lines of Responsibility and Supervision:
   1. The BH General Neurology Attending supervises the Neuro Resident directly
   2. The Neuro Resident supervises the medical rotators
   3. Residents cross cover when the other resident is in clinic
   4. The medical rotators do not supervise other residents

4. Memorial Sloan-Kettering Neuro-oncology Consultation Service
a. This is a neurology consultation service in a cancer center

i. Team complement
   1. 1 Attending
   2. 1 Fellow (PGY 5)
   3. 1 Senior (PGY 3 or 4)
   4. 3 Juniors (PGY 2)
   5. 1-3 Rotators (PGY 1-3)
   6. 3 Medical Students
ii. Lines of Responsibility and Supervision:
1. The Attending supervises all of the residents directly and through the Neuro-oncology Fellow.
2. The Fellow supervises the Senior and the rest of the team.
3. The Senior supervises the Juniors and the rotators.
4. The Juniors and rotators do not supervise other residents.

PRELIMINARY YEAR INTERNAL MEDICINE

Teaching Services at all sites

1. Medicine Ward
   a. Team complement
      i. 1 Attending
      ii. 1 Senior Resident (PGY 2 or 3)
      iii. 1-3 Interns (PGY 1)
      iv. 0-4 Medical Students

   b. Lines of Responsibility and Supervision:
      i. The Medicine Ward Attending supervises each resident directly and indirectly through the Senior
      ii. The Senior supervises the Interns
      iii. The Attending supervises the interns when the Senior is in clinic
      iv. The Interns do not supervise other residents

2. Medical Intensive Care Units
   a. Team complement
      i. 1 Attending
      ii. 1 Senior Resident (PGY2 or 3)
      iii. 1 Intern (PGY 1)
      iv. 0-2 Medical Students

   b. Lines of Responsibility and Supervision:
      i. The Medicine Ward Attending supervises each resident directly and indirectly through the Senior
      ii. The Senior supervises the Interns
      iii. The Attending supervises the interns when the Senior is in clinic
      iv. The Interns do not supervise other residents

PEDIATRIC NEUROLOGY
SUPERVISORY LINES OF RESPONSIBILITY FOR RESIDENTS

During 1st year residents establish a basic foundation of knowledge and competency in general neurology. The ACGME now requires 6 months of in-patient adult neurology, 3 months of out-patient adult neurology and 3 months of elective to fulfill the one year adult neurology training. During the 2nd and 3rd years of training in pediatric neurology residents are given a progressively increasing level of responsibility for managing their patients and supervising rotating residents and students on the inpatient and outpatient services. The increase in responsibility is commensurate with their increase in knowledge, skills, professionalism and demonstrated competence.

During the residents’ 6 months of in-patient adult neurology in 1st year, they cover admissions and consults on the Wards and Consult Services at UHB and KCH under the supervision of the senior adult neurol. resident and attending. They also spend one month on an adult neurology clinic rotation, including general and subspecialty clinics. Throughout the first year, the resident’s clinical skills are monitored by the ward, consult, and clinic attendings and the senior residents. Progress is reviewed monthly by the program director and the Education Committee (CEC). **See the In-patient Rotations for details regarding team complement and supervision during the adult neurol. rotations. The resident also spends one month on the Pediatric Neurol. Service under the supervision of the senior Pediatric Neurology resident and attending.

During 2nd year residents have a greater exposure to pediatric neurology and the neurology subspecialties. They learn the pathophysiology and management of more complex conditions encountered in pediatric neurol. including those in the pediatric ERs, PICUs and NICUs. With advancement in knowledge and demonstrated competence 2nd year residents are given greater supervisory responsibility, particularly during the last 6 months of this year. They are required to give a major presentation to the Dept. during this year plus presentations at case conferences, epilepsy conferences and journal clubs.

During this year, the resident spends 6 months on the pediatric neurol. inpatient service (KCH, UHB). They also attend the subspecialty clinics, an additional general pediatric neurology clinic and their continuity clinic during this time. In clinics the resident initially makes an independent evaluation and presents his/her findings, conclusions and management plans to the attending; the attending sees every patient. A plan of investigation is developed by the resident and implemented if the attending concurs. Diagnosis and management are then discussed with patient and parents. During this year he/she also spends a required month on child psychiatry, a month in outpatient adult neurology clinics and several months on elective.
During 3rd year the resident spends 5 months on the pediatric neurol. inpatient service plus attending general and specialty clinics, an additional month in adult neurology clinics and 5 months on electives. In the 3rd year of training residents are expected to refine their neurol. and pediatric neurol. experience and expand on the management of more complex disorders. They are again required to give a major presentation to the Dept. at a more sophisticated and advanced level during this year plus presentations at case conferences, epilepsy conferences and journal clubs. Clinical skills and judgment become more sophisticated. They assume a greater supervisory role during inpatient rotations particularly in the PICUs, NICUs and ERs. The 3rd year resident is expected to serve as an educator of rotating residents, students and other medical personnel.

**Team Complement and Supervision:** The pediatric neurol. inpatient team consists of the attending, 2nd and/or 3rd year pediatric neurol. residents (during the last half of the year there are 2 months with only the 2nd year pediatric neurol. resident), one or two 2nd or 3rd year adult neurol. and one pediatric 2nd or 3rd year resident plus an occasional child psychiatry resident and medical student. This team is responsible for all pediatric neurol. admissions, and all consults (including the ERs, PICUs, NICUs). Rotating residents are assigned patients and consults under the supervision of the senior pediatric neurol. resident. Work rounds under the supervision of the pediatric neurol. residents are made by all the residents prior to morning report. Residents are supervised by the attending child neurologist for the month. There are two attendings on service; the primary attending makes daily rounds and directly supervises the residents. The second attending assumes these responsibilities if the primary attending is absent and also shares coverage on holidays and weekends. All admissions and consultations plus management must be presented to and reviewed with the attending and all patients are examined by the attending. Teaching rounds are made 5 times per week. On weekends and at nights a supervising attending is available to discuss and staff all cases. A schedule of the responsible attending is available at the start of each rotation. An attending is available to residents 24/7. The pediatric neurol. resident is the senior member of the team and is responsible for closely supervising rotators and along with the attending is ultimately responsible for all patient care. He/she is responsible for and is expected to be familiar with all patients on the service (admissions as well as consultations).

**Travel Payment Policy**

**New York State Paid Residents & Fellows**

- The Neurology Department provides up to $500.00 per resident per residency to attend a conference.

Process:
1. All requests must be submitted 1 month prior to travel to ensure timely processing. If you submit later, there may not be enough time.

2. The following must be submitted to department administrator, Ketty Fleurimont or program coordinator, Marjorie Maxwell
   a. A completed Travel Approval Request form with official acceptance notice or conference brochure.
   b. The department will make your airline reservation using State Travel Agency. Please submit in advance via email your roundtrip travel information (dates, destination, preferred airport, time preference, etc.)
   c. Please discuss other forms of transportation with Ketty or Marjorie, in advance.

3. The department will process your registration payment directly. Please submit the completed registration form to department administrator for payment processing.

   - The Neurology Department provides up to $1,000.00 per resident per year for a resident to present his or her research (poster or platform presentation) at a conference.

To avoid unnecessary delays please submit all necessary information on time.

**Kings County Paid Residents & fellows:**

   - For conference attendance, you have a separate conference allowance plus the PEP allowance. For more information please visit the CIR website at [www.cirseiu.org](http://www.cirseiu.org) or contact Ms. Ann Mitchell at 917-687-2504.

   - The Neurology Department provides up to $1,000.00 per resident per year for a resident to present his or her research (poster or platform presentation) at a conference.

**Work Hours Guidelines**

Apply to ALL training programs, residents, fellows…

1. We follow the ACGME and NYS 405 work hour regulations, whichever is more stringent.

2. No more than 80 hour per week.

3. At least one 24 hour period off per week (without beeper), may be two 24 hour periods over 2 weeks if on call on a Saturday.

4. At least 10 hours between shifts.
5. PGY1s – only 16 hours in a shift.

6. PGY 1s - Maximum of 5 days per week night float.

7. There is always a bed available. Do not get into a car and drive if you are fatigued.

8. In the RARE circumstance that you stay late to care for a patient, you must record your time of leaving, and come in late enough the next day to offset your lateness and ensure 10 hours between work periods. For example, if you leave 1 hour later, then you come in 1 hour later.
Neurology Resident Ward Rotation at Kings County Hospital:  
KCH Ward Junior (PGY 2)

**Patient care**
- **Goals**
  - To perform thorough histories and examinations of neurology ward patients.
  - In conjunction with the Neurology Senior, to use information obtained from history, physical examinations, and ancillary tests to localize lesions and develop a differential diagnosis workup, evaluation and plan of care for neurology admissions.
  - To utilize EBM to guide evaluation and treatment of neurologic entities.
- **Objectives**
  - To present a thorough neurologic history on attending rounds and at morning report for neurology admissions.
  - To perform the components of the Neurologic examination
    - Mental status
    - Cranial nerves
    - Motor
    - Sensory
    - Reflexes
    - Plantar responses
    - Gait
    - Coordination
    - Special maneuvers – straight leg raises, Romberg
  - To present patient evaluations on rounds in a clear and concise manner.
  - To document appropriately in the electronic medical record
    - Admitting H&P
    - Progress notes
    - Event notes
    - Procedure notes
    - Medication reconciliation
    - Integrated plan of care

**Medical knowledge**
• Goals
  o To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities.
  o To recognize deviations from common patterns and develop a plan to evaluate rare entities.

• Objectives
  o To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities including:
    ▪ Autoimmune: multiple sclerosis
    ▪ Developmental: epilepsy, hydrocephalus
    ▪ Infectious: bacterial and viral meningitis, herpes encephalitis
    ▪ Neoplastic: primary brain tumors, metastatic brain tumors
    ▪ Vascular: ischemic stroke, primary intracerebral hemorrhage
  o To know the etiology, evaluation, and management of common neurologic emergencies including:
    ▪ Acute stroke
    ▪ Guillain-barre syndrome
    ▪ Increased intracranial pressure
    ▪ Intracerebral hemorrhage
    ▪ Myasthenic crisis.
    ▪ Status epilepticus
  o To know the indications, contraindications, risks, benefits, and alternatives to commonly performed neurodiagnostic procedures
    ▪ To obtain certification in lumbar punctures and to interpret the results.
    ▪ To interpret CT scans and MRIs of the brain.
    ▪ To begin to develop expertise in interpreting CT scans and MRIs of the spine.
    ▪ To evaluate and integrate EEG and EMG results.
  o To present patients at Directors Rounds, KCH Morning Report, Neurology Case Conference, and Neuroradiology Conference.

Practice-based learning and improvement
• Goals
  o To learn how to use EBM to obtain medical knowledge for patient care.
  o To understand the departmental and institutional performance improvement projects and patient safety goals.

• Objectives
  o To assist the KCH Ward Senior in the preparation of monthly morbidity and mortality reports.
  o To apply techniques of EBM to seek information in support of patient care.
  o To present EBM and additional medical information obtained to colleagues at junior resident teaching conferences.
• To participate in and help develop departmental and institutional performance improvement projects.
• To follow procedures designed to meet national patient safety goals.

**Interpersonal and communication skills**

- **Goals**
  - To improve skill in patient presentations to colleagues on attending rounds, sign out rounds, and at morning report.
  - To communicate effectively with team members in interdisciplinary team rounds.

- **Objectives**
  - To present patients on rounds in a clear and concise manner.
  - To give and receive sign outs in a collegial, complete, and efficient manner.
  - To effectively present medical information obtained to colleagues at teaching conferences.
  - To effectively teach medical students and rotating residents.
  - To document in the EMR in an accurate, concise, and punctual manner.
  - To work with the Stroke Coordinator to ensure that the documentation of stroke patients complies with NYS and CMS guidelines.

**Professionalism**

- **Goals**
  - To demonstrate respect for patients and staff members.
  - To put the patients’ interest ahead of any other considerations.
  - To understand the ethical principles involved in obtaining advance directives and informed consent.

- **Objectives**
  - To obtain complete and pertinent informed consent for procedures on appropriate patients.
  - To maintain the confidentiality of personally identifiable patient information.
  - To interact with colleagues in a collegial and respectful manner.

**Systems-based practice**

- **Goals**
  - To participate in interdisciplinary team rounds.
  - To practice neurology in a culture of safety and collaboration.

- **Objectives**
  - To collaboratively develop and implement appropriate discharge plans on through interaction with Rehabilitation Medicine Services, Social Work, and Nursing.
To understand and participate in root cause analysis, sentinel event review, error investigation and reporting, health care systems, and patient advocacy.

Neurology Ward Rotation at Kings County Hospital:
KCH Ward Senior (PGY 4)

**Patient care**
- **Goals**
  - To supervise junior resident in performing neurology inpatient evaluations including the history, examination, interpretation of studies, differential diagnosis, workup and treatment.
  - To independently perform thorough histories and examinations of neurology ward patients.
  - To independently synthesize information from the initial evaluation (history, physical examinations, and ancillary tests) to localize lesions and formulate a differential diagnosis.
  - To supervise resident work rounds independently.
  - To organize attending rounds in conjunction with the attending.
  - To present patients on clinical rounds in a concise and effective manner.
- **Objectives**
  - To document appropriately in the electronic medical record (senior resident admitting note, other documentation as needed).
  - To supervise the junior residents in documenting neurology inpatient evaluations (admitting H&P, progress notes, and procedure notes, medication reconciliation, and integrated plan of care).
  - To supervise the junior residents in performing the components of the Neurologic examination (mental status, cranial nerves, motor, sensory, reflexes, plantar responses, gait, coordination, and special maneuvers).

**Medical knowledge**
- **Goals**
  - To know the presentations, differential diagnoses and treatments of both commonly and rarely encountered neurologic disease entities.
  - To utilize literature searches to guide evaluation and treatment of neurologic entities.
  - To know the indications, contraindications, risks, benefits, and alternatives to commonly performed neurodiagnostic procedures and to be able to interpret the results.
  - To supervise junior residents in selection and presentation of patients for neurology case conference, directors rounds, and neuro-radiology conferences.
- **Objectives**
To know the presentations, differential diagnoses and treatments of:

- Autoimmune: multiple sclerosis, neuromyelitis optica, cerebral vasculitis, neurosarcoidosis
- Developmental: epilepsy, hydrocephalus
- Infectious: bacterial and viral meningitis, herpes encephalitis, CNS Lyme disease, CNS parasites
- Neoplastic: primary brain tumors, metastatic brain tumors, paraneoplastic syndromes, complications of chemotherapy
- Vascular: ischemic stroke, primary intracerebral hemorrhage, cerebral amyloidosis, vascular malformations, septic emboli

To know the etiology, evaluation, and management of common neurologic emergencies including:

- Acute stroke, complications of tPA administration
- Guillain-barre syndrome
- Increased intracranial pressure
- Intracerebral hemorrhage
- Myasthenic crisis
- Neurocerebral hemorrhage
- Status epilepticus, refractory status epilepticus

To be certified in performing and interpreting lumbar punctures.

To interpret the results for:

- MR spectroscopy of the brain
- EEG
- EMG
- Evoked potentials

To be able to interpret

- MRI scans of the brain and spine
- CT scans of the brain and spine

Practice-based learning and improvement

**Goals**

- To take a leadership role in departmental QI activities.
- To understand and implement departmental and institutional performance improvement projects and patient safety goals.

**Objectives**

- To prepare monthly morbidity and mortality reports.
- To present the monthly morbidity and mortality report and lead discussion on identified issues and to develop improvement plans.
- To use information technology to obtain medical knowledge for patient care.
- To present medical information obtained to colleagues at teaching conferences.
- To implement departmental and institutional procedures designed to meet national patient safety goals.
To learn PDSA methodology and to conduct a performance improvement project.

**Interpersonal and communication skills**

- **Goals**
  - To set up a climate of inquiry and open communication on the KCH Neuro Ward Team.
  - To supervise the members of the clinical team in patient care activities.

- **Objectives**
  - To co-manage morning report with the Chief of Service or Attending.
  - To present patients at morning report in a clear and concise manner.
  - To lead daily sign out rounds.
  - To effectively present medical information obtained to colleagues at teaching conferences.
  - To effectively teach medical students and rotating residents.
  - To lead and communicate effectively on interdisciplinary team rounds.

**Professionalism**

- **Goals**
  - To model professional behavior as the senior resident leading the clinical team.
  - To put the patients’ interest ahead of any other considerations

- **Objectives**
  - To demonstrate respect for patients, colleagues and staff members.
  - To understand the principles behind and to be able to perform and supervise obtaining advance directives and informed consents.
    - To follow accepted procedures to maintain the confidentiality of personally identifiable patient information.
  - To perform and supervise medical record documentation that is accurate, concise, and punctual.
  - To work with the Stroke Coordinator to ensure that the documentation of all stroke patients on the KCH Ward Service complies with NYS and CMS guidelines.

**Systems-based practice**

- **Goals**
  - To lead interdisciplinary team rounds.
  - To implement patient safety systems.

- **Objectives**
  - To lead collaborative development and implementation of discharge plans on interdisciplinary team rounds.
To participate in and understand root cause analysis, sentinel event review, error reporting, and investigation

Neurology Consultation Rotation at Kings County Hospital:
KCH Consult Junior Resident (PGY 2 or 3)

Patient care
• Goals
  o To perform competent, efficient, and compassionate neurology consultations on inpatient services and in special care areas such as the emergency department, critical care units, and labor and delivery.
  o To use information obtained from history, physical examinations, and ancillary tests to localize lesions and develop a differential diagnosis workup, evaluation and plan of care for neurology admissions.
  o To utilize EBM to guide evaluation and treatment of neurologic entities.

• Objectives
  o To present a thorough and concise neurologic initial evaluation on attending rounds and at morning report.
  o To present pertinent follow up of consultations on attending rounds.
  o To perform and become certified in specialized exams
    ▪ Brain death
    ▪ Coma
    ▪ Tensilon test or the equivalent
    ▪ NIH stroke scale, modified Rankin scale, swallowing evaluation
  o To document thorough and timely Initial consultation, follow-up, and sign off notes in the EMR.

Medical knowledge
• Goals
  o To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities.
  o To recognize deviations from common patterns and develop a plan to evaluate rare entities.
  o To run stroke codes.

• Objectives
  o To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities including:
    ▪ Autoimmune: multiple sclerosis
    ▪ Developmental: epilepsy, hydrocephalus
• Infectious: bacterial and viral meningitis, herpes encephalitis
• Neoplastic: primary brain tumors, metastatic brain tumors
• Vascular: ischemic and hemorrhagic stroke

To know the etiology, evaluation, and management of common neurologic emergencies including:
• Guillain-barre syndrome
• Increased intracranial pressure
• Myasthenic crisis.
• Status epilepticus
• Acute stroke
• Intracerebral hemorrhage
• Traumatic brain injury

To know the indications, contraindications, risks, benefits, and alternatives to commonly performed neurodiagnostic procedures
• To obtain certification in lumbar punctures and to interpret the results.
• To interpret CT scans and MRIs of the brain.
• To begin to develop expertise in interpreting CT scans and MRIs of the spine.
• To evaluate and integrate EEG and EMG results.

To present patients at Directors Rounds, Morning Report, Neuroradiology Conference, and specialty conferences.

To achieve certification in tPA administration.

**Practice-based learning and improvement**

- **Goals**
  - To learn how to use EBM to obtain medical knowledge for patient care.
  - To understand the departmental and institutional performance improvement projects and patient safety goals.

- **Objectives**
  - To apply techniques of EBM to seek information in support of patient care.
  - To present EBM and additional medical information obtained to colleagues at specialty teaching conferences.
  - To participate in and help develop departmental and institutional performance improvement projects.
  - To follow procedures designed to meet national patient safety goals.

**Interpersonal and communication skills**

- **Goals**
  - To improve skill in patient presentations to colleagues on attending rounds, sign out rounds, and at morning report.
  - To communicate effectively with team members in interdisciplinary team rounds.
• Objectives
  o To present patients on rounds in a clear and concise manner.
  o To give appropriate, clear, and concise sign outs on sign out rounds.
  o To effectively present medical information obtained to colleagues at teaching conferences.
  o To effectively teach medical students and rotating residents.
  o To document in the medical record in an accurate, concise, and punctual manner.

Professionalism
• Goals
  o To demonstrate respect for patients and staff members.
  o To put the patients’ interest ahead of any other considerations.
  o To understand the ethical principles in brain death, coma, minimal consciousness, and persistent vegetative state.
• Objectives
  o To become brain death evaluations and coma evaluations in a compassionate and professional manner.
  o To maintain the confidentiality of personally identifiable patient information.
  o To interact with colleagues in a collegial and respectful manner.

Systems-based practice
• Goals
  o To participate in family and inter-service meetings.
  o To practice neurology in a culture of safety and collaboration.
• Objectives
  o To understand and participate in root cause analysis, sentinel event review, error investigation and reporting, health care systems, and patient advocacy.
  o To contribute to the preparation of monthly morbidity and mortality reports.
Neurology Consultation Rotation at Kings County Hospital: KCH Consult Senior Resident (PGY 3 or 4)

Patient care

- Goals
  - To supervise Neurology junior and rotating residents on the KCH consultation service.
    - To triage distribute the consultations evenly and with regard to the level of training of the resident.
    - To ensure the smooth running of the service including stroke codes, routine and urgent consultations, follow up and sign off.
  - To perform competent, efficient, and compassionate neurology consultations on inpatient services and in special care areas such as the emergency department, critical care units, and labor and delivery.
  - To use information obtained from history, physical examinations, and ancillary tests to localize lesions and develop a differential diagnosis workup, evaluation and plan of care for neurology admissions.
  - To utilize EBM to guide evaluation and treatment of neurologic entities.

- Objectives
  - To organize the clinical team for presentations on attending rounds and at morning report.
  - To present consultations concisely and thoroughly on attending rounds and at morning report.
  - To become certified in specialized exams
    - Brain death
    - Coma
    - Tensilon test or the equivalent
    - NIH stroke scale, modified Rankin scale, swallowing evaluation
  - To document thorough and timely Initial consultation, follow-up, and sign off notes in the EMR.

Medical knowledge

- Goals
  - To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities.
  - To recognize deviations from common patterns and develop a plan to evaluate rare entities.
To run stroke codes.

- Objectives
  - To know the presentations, differential diagnoses and treatments of:
    - Complications of medical disease including, seizures, encephalopathy, syncope, CNS and PNS toxicity of medications
    - Autoimmune: multiple sclerosis, neuromyelitis optica, cerebral vasculitis, neurosarcoidosis
    - Developmental: epilepsy, hydrocephalus
    - Infectious: bacterial and viral meningitis, herpes encephalitis, CNS Lyme disease, CNS parasites
    - Neoplastic: primary brain tumors, metastatic brain tumors, paraneoplastic syndromes, complications of chemotherapy
    - Vascular: ischemic stroke, primary intracerebral hemorrhage, cerebral amyloidosis, vascular malformations, septic emboli
  - To know the etiology, evaluation, and management of common neurologic emergencies including:
    - Acute stroke, complications of tPA administration
    - Guillain-barre syndrome
    - Increased intracranial pressure
    - Intracerebral hemorrhage
    - Myasthenic crisis
    - Neuroleptic malignant syndrome
    - Status epilepticus, refractory status epilepticus
  - To know the indications, contraindications, risks, benefits, and alternatives to commonly performed neurodiagnostic procedures
    - To obtain certification in lumbar punctures and to interpret the results.
    - To interpret CT scans and MRIs of the brain.
    - To begin to develop expertise in interpreting CT scans and MRIs of the spine.
    - To evaluate and integrate EEG and EMG results.
  - To present patients at Morning Report, Neuroradiology Conference, and specialty conferences.
  - To complete the critical care NEX exam.

Practice-based learning and improvement
- Goals
  - To learn how to use EBM to obtain medical knowledge for patient care.
  - To understand the departmental and institutional performance improvement projects and patient safety goals.
- Objectives
o To apply techniques of EBM to seek information in support of patient care.
o To present EBM and additional medical information obtained to colleagues at specialty teaching conferences.
o To follow procedures designed to meet national patient safety goals.
o To learn PDSA methodology and to develop a PI project.

Interpersonal and communication skills
• Goals
  o To improve skill in patient presentations to colleagues on attending rounds, sign out rounds, and at morning report.
o To communicate effectively with team members in interdisciplinary team rounds.
• Objectives
  o To present patients on rounds in a clear and concise manner.
o To give appropriate, clear, and concise sign outs on sign out rounds.
o To effectively present medical information obtained to colleagues at teaching conferences.
o To effectively teach medical students and rotating residents.
o To document in the medical record in an accurate, concise, and punctual manner.

Professionalism
• Goals
  o To demonstrate respect for patients and staff members.
o To put the patients’ interest ahead of any other considerations.
o To understand the ethical principles underlying brain death, coma, minimal consciousness, and persistent vegetative states.
• Objectives
  o To perform brain death and coma evaluations in a compassionate and professional manner.
o To maintain the confidentiality of personally identifiable patient information.
o To interact with colleagues in a collegial and respectful manner.

Systems-based practice
• Goals
  o To participate in family and inter-service meetings.
o To practice neurology in a culture of safety and collaboration.
• Objectives
  o To understand and participate in root cause analysis, sentinel event review, error investigation and reporting, health care systems, and patient advocacy.
To coordinate with the KCH Ward Senior in the preparation of monthly morbidity and mortality reports.

**Neurology Resident General Rotation at University Hospital of Brooklyn:**
**UHB General (PGY 3)**

**Patient care**
- **Goals**
  - To perform competent, efficient, and compassionate admissions, hospital care, and discharges of patients admitted to the general neurology service at UHB.
  - To perform competent, efficient, and compassionate general neurology consultations at UHB.
  - To use information obtained from history, physical examinations, and ancillary tests to localize lesions and develop a differential diagnosis workup, evaluation and plan of care for neurology admissions.
  - To utilize EBM to guide evaluation and treatment of neurologic entities.
- **Objectives**
  - To present a thorough and concise neurologic initial evaluation on attending rounds and at morning report for neurology admissions and initial consultations.
  - To present hospital course of admitted patients and follow up of consultations on attending rounds.
  - To perform the components of the Neurologic examination
    - Mental status
    - Cranial nerves
    - Motor
    - Sensory
    - Reflexes
    - Plantar responses
    - Gait
    - Coordination
    - Special maneuvers – straight leg raises, Romberg
  - To document appropriately in the medical record
    - For admissions:
      - Admitting H&P, progress notes, event notes, procedure notes, medication reconciliation, integrated plans of care, discharge documentation.
    - For consultations:
      - Initial consultation, follow-up, and sign off notes.

**Medical knowledge**
- **Goals**
To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities.

To recognize deviations from common patterns and develop a plan to evaluate rare entities.

Objectives

To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities including:

- Autoimmune: multiple sclerosis
- Developmental: epilepsy, hydrocephalus
- Infectious: bacterial and viral meningitis, herpes encephalitis
- Neoplastic: primary brain tumors, metastatic brain tumors

To know the etiology, evaluation, and management of common neurologic emergencies including:

- Guillain-barre syndrome
- Increased intracranial pressure
- Myasthenic crisis.
- Status epilepticus

To know the indications, contraindications, risks, benefits, and alternatives to commonly performed neurodiagnostic procedures

- To obtain certification in lumbar punctures and to interpret the results.
- To interpret CT scans and MRIs of the brain.
- To begin to develop expertise in interpreting CT scans and MRIs of the spine.
- To evaluate and integrate EEG and EMG results.

To present patients at Directors Rounds, UHB Morning Report, Neuroradiology Conference, and specialty conferences.

Practice-based learning and improvement

Goals

To learn how to use EBM to obtain medical knowledge for patient care.

To understand the departmental and institutional performance improvement projects and patient safety goals.

Objectives

To apply techniques of EBM to seek information in support of patient care.

To present EBM and additional medical information obtained to colleagues at specialty teaching conferences.

To participate in and help develop departmental and institutional performance improvement projects.

To follow procedures designed to meet national patient safety goals.

Interpersonal and communication skills

Goals
Objectives
- To improve skill in patient presentations to colleagues on attending rounds, sign out rounds, and at morning report.
- To communicate effectively with team members in interdisciplinary team rounds.

Objectives
- To present patients on rounds in a clear and concise manner.
- To lead sign out rounds collaboratively with the UHB Stroke resident.
- To effectively present medical information obtained to colleagues at teaching conferences.
- To effectively teach medical students and rotating residents.
- To document in the medical record in an accurate, concise, and punctual manner.

Professionalism
- Goals
  - To demonstrate respect for patients and staff members.
  - To put the patients’ interest ahead of any other considerations.
  - To understand the ethical principles involved in obtaining advance directives, and informed consent.
- Objectives
  - To obtain complete and pertinent informed consent for procedures on appropriate patients.
  - To maintain the confidentiality of personally identifiable patient information.
  - To interact with colleagues in a collegial and respectful manner.

Systems-based practice
- Goals
  - To participate in interdisciplinary team rounds.
  - To practice neurology in a culture of safety and collaboration.
- Objectives
  - To collaboratively develop and implement appropriate discharge plans on through interaction with Rehabilitation Medicine Services, Social Work, and Nursing.
  - To understand and participate in root cause analysis, sentinel event review, error investigation and reporting, health care systems, and patient advocacy.
  - To coordinate with the UHB Stroke Resident in the preparation of monthly morbidity and mortality reports.
Neurology Resident Stroke Service Rotation at
University Hospital of Brooklyn:
UHB Stroke (PGY 3)

Patient care
• Goals
  o To perform competent, efficient, and compassionate admissions, hospital care, and discharges of patients admitted to the stroke service at UHB.
  o To perform competent, efficient, and compassionate stroke consultations at UHB.
  o To run efficient and effective stroke codes.
  o To use information obtained from history, physical examinations, and ancillary tests to localize lesions and develop a differential diagnosis workup, evaluation and plan of care for neurology admissions.
  o To utilize EBM to guide evaluation and treatment of neurologic entities.
• Objectives
  o To run stroke codes meeting NYS 5 Time indicators.
  o To care for stroke patients meeting NYS 12 Quality measures.
  o To present a thorough and concise stroke initial evaluations on attending rounds and at morning report for neurology admissions and initial consultations.
  o To present updates on the hospital course of admitted patients and follow up of consultations on attending rounds in a thorough and efficient manner.
  o To perform the components of the Stroke evaluations.
    ▪ NIH Stroke Scale
    ▪ Modified Rankin Scale
    ▪ Swallowing evaluation
  o To document appropriately in the medical record
    ▪ For stroke admissions:
      • Admitting H&P, progress notes, event notes, procedure notes, medication reconciliation, integrated plans of care, and discharge documentation
    ▪ For Stroke codes/consultations:
      • Stroke code consultation, stroke initial consultation, follow-up, and sign off notes.

Medical knowledge
• Goals
To know the presentations, differential diagnoses, workup, and treatments of vascular disease of the nervous system.

To recognize deviations from common stroke entities and develop a plan to evaluate rare ones.

**Objectives**

To know the presentations, differential diagnoses and treatments of commonly encountered vascular neurologic disease entities including:

- Autoimmune: CNS vasculitis,
- Developmental: AVMs, aneurysms, sickle cell disease
- Infectious: mycotic aneurysms, infectious diseases of blood vessels
- Neoplastic: direct and indirect vascular effects of malignancy
- Idiopathic: Moyamoya

To know the etiology, evaluation, and management of common vascular emergencies including:

- Acute ischemic stroke including tPA administration
- Intracerebral hemorrhage including post tPA hemorrhage
- Stroke-in-evolution

To know the indications, contraindications, risks, benefits, and alternatives to commonly performed neurodiagnostic procedures.

- To interpret CT scans and MRIs of the brain.
- To interpret cerebral angiograms
- To interpret spinal angiograms

To present patients at UHB Morning Report, Neuroradiology Conference, and vascular conferences.

**Practice-based learning and improvement**

**Goals**

- To learn how to use EBM to obtain medical knowledge for patient care.
- To understand the departmental and institutional performance improvement projects and patient safety goals.

**Objectives**

- To apply techniques of EBM to seek information in support of patient care.
- To present EBM and additional medical information obtained to colleagues at specialty teaching conferences.
- To participate in and help develop departmental and institutional performance improvement projects.
- To follow procedures designed to meet national patient safety goals.

**Interpersonal and communication skills**

**Goals**
- To improve skill in patient presentations to colleagues on attending rounds, sign out rounds, and at morning report.
- To communicate effectively with team members in interdisciplinary team rounds.

- Objectives
  - To present patients on rounds in a clear and concise manner.
  - To lead sign out rounds collaboratively with the UHB General resident.
  - To effectively present medical information obtained to colleagues at teaching conferences.
  - To effectively teach medical students and rotating residents.
  - To document in the medical record in an accurate, concise, and punctual manner.

**Professionalism**

- Goals
  - To demonstrate respect for patients and staff members.
  - To put the patients’ interest ahead of any other considerations.
  - To understand the ethical principles involved in obtaining advance directives, and informed consent.

- Objectives
  - To obtain complete and pertinent informed consent for procedures on appropriate patients.
  - To maintain the confidentiality of personally identifiable patient information.
  - To interact with colleagues in a collegial and respectful manner.

**Systems-based practice**

- Goals
  - To work with the Stroke coordinator to provide quality stroke care.
  - To participate in interdisciplinary team rounds.
  - To practice neurology in a culture of safety and collaboration.

- Objectives
  - To work collaboratively with the stroke coordinator in meeting and documenting NYS time and quality standards.
  - To collaboratively develop and implement appropriate discharge plans on through interaction with the Stroke coordinator, Rehabilitation Medicine Services, Social Work, and Nursing.
  - To understand and participate in root cause analysis, sentinel event review, error investigation and reporting, health care systems, and patient advocacy.
  - To coordinate with the UHB General Resident in the preparation of monthly morbidity and mortality reports.
Neurology Resident General Rotation at Brooklyn Hospital: 
BH General Resident (PGY 2 or 3)

Patient care

• Goals
  o To perform competent, efficient, and compassionate admissions, hospital care, and discharges of patients admitted to the general service at BH.
  o To perform competent, efficient, and compassionate consultations of patients followed by the general neurology service at BH.
  o To use information obtained from history, physical examinations, and ancillary tests to localize lesions and develop a differential diagnosis workup, evaluation and plan of care.
  o To utilize EBM to guide evaluation and treatment of neurologic entities.

• Objectives
  o To present a thorough and concise neurologic initial evaluation on attending rounds and at morning report for initial consultations.
  o To present follow up of consultations on attending rounds.
  o To perform the components of the Neurologic examination
    ▪ Mental status
    ▪ Cranial nerves
    ▪ Motor
    ▪ Sensory
    ▪ Reflexes
    ▪ Plantar responses
    ▪ Gait
    ▪ Coordination
    ▪ Special maneuvers – straight leg raises, Romberg
  o To document appropriately in the medical record
    ▪ For consultations:
      • Initial consultation, follow-up, and sign off notes.

Medical knowledge

• Goals
  o To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities.
  o To recognize deviations from common patterns and develop a plan to evaluate rare entities.

• Objectives
  o To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities including:
    ▪ Autoimmune: multiple sclerosis
- Developmental: epilepsy, hydrocephalus
- Infectious: bacterial and viral meningitis, herpes encephalitis
- Neoplastic: primary brain tumors, metastatic brain tumors

- To know the etiology, evaluation, and management of common neurologic emergencies including:
  - Guillain-barre syndrome
  - Increased intracranial pressure
  - Myasthenic crisis.
  - Status epilepticus

- To know the indications, contraindications, risks, benefits, and alternatives to commonly performed neurodiagnostic procedures
  - To obtain certification in lumbar punctures and to interpret the results.
  - To interpret CT scans and MRIs of the brain.
  - To begin to develop expertise in interpreting CT scans and MRIs of the spine.
  - To evaluate and integrate EEG and EMG results.

- To present patients at Directors Rounds, BH Morning Report, Neuroradiology Conference, and specialty conferences.

**Practice-based learning and improvement**

- **Goals**
  - To learn how to use EBM to obtain medical knowledge for patient care.
  - To understand the departmental and institutional performance improvement projects and patient safety goals.

- **Objectives**
  - To apply techniques of EBM to seek information in support of patient care.
  - To present EBM and additional medical information obtained to colleagues at specialty teaching conferences.
  - To participate in and help develop departmental and institutional performance improvement projects.
  - To follow procedures designed to meet national patient safety goals.

**Interpersonal and communication skills**

- **Goals**
  - To improve skill in patient presentations to colleagues on attending rounds, sign out rounds, and at morning report.
  - To communicate effectively with team members in interdisciplinary team rounds.

- **Objectives**
  - To present patients on rounds in a clear and concise manner.
  - To lead sign out rounds collaboratively with the BH Stroke resident.
o To effectively present medical information obtained to colleagues at teaching conferences.
  o To effectively teach medical students and rotating residents.
  o To document in the medical record in an accurate, concise, and punctual manner.

**Professionalism**

- **Goals**
  - To demonstrate respect for patients and staff members.
  - To put the patients’ interest ahead of any other considerations.
  - To understand the ethical principles involved in obtaining advance directives, and informed consent.

- **Objectives**
  - To obtain complete and pertinent informed consent for procedures on appropriate patients.
  - To maintain the confidentiality of personally identifiable patient information.
  - To interact with colleagues in a collegial and respectful manner.

**Systems-based practice**

- **Goals**
  - To participate in interdisciplinary team rounds.
  - To practice neurology in a culture of safety and collaboration.

- **Objectives**
  - To collaboratively develop and implement appropriate discharge plans on through interaction with Rehabilitation Medicine Services, Social Work, and Nursing.
  - To understand and participate in root cause analysis, sentinel event review, error investigation and reporting, health care systems, and patient advocacy.
  - To coordinate with the BH Stroke Resident in the preparation of monthly morbidity and mortality reports.
Neuro-oncology Rotation at Memorial Sloan-Kettering Cancer Center: Neurology Junior Resident (PGY 2)

**Patient care**

- **Goals**
  - To develop skills in neuro-oncologic consultations including history, examination, evaluation and interpretation of neuroimaging and neuropathology, and documentation
  - To develop skill in oral presentations of patients on attending rounds and at conferences

- **Objectives**
  - To develop skill in writing consultation note
  - To develop skill in the care of patients with neuro-oncologic conditions.

**Medical knowledge**

- **Goals**
  - To learn the differential diagnosis and treatment of commonly encountered manifestations of cancer and its treatment on the nervous system
  - To develop skill in the care of patients with neuro-oncologic conditions.

- **Objectives**
  - To learn the pathophysiology, diagnosis, and treatment of:
    - Primary brain tumors, secondary brain tumors, carcinomatous meningitis and seeding of the spinal cord, primary and secondary tumors of the spinal cord and its coverings, paraneoplastic syndromes.
  - To develop skill in writing consultation notes
  - Know the indications, contraindications, risks, benefits, and alternatives to commonly performed neurodiagnostic procedures, neuroradiologic tests, and electrophysiologic tests (EEG, EMG)
  - To develop appropriate pertinent differential diagnoses and plans of care

**Practice-based learning and improvement**
- **Goals**
  - To use EBM to supplement medical knowledge and support patient care.
  - To understand the departmental and institutional performance improvement projects and patient safety goals

- **Objectives**
  - To develop appropriate pertinent differential diagnoses and plans of care
  - To be able to present information obtained through the use of information technology
  - To implement the departmental and institutional performance improvement projects and patient safety goals

**Interpersonal and communication skills**

- **Goals**
  - To improve skill in oral presentations of patients on attending rounds and at conferences
  - To improve communication with other members of the health care team

- **Objectives**
  - To present patients on attending rounds and at conferences.
  - To participate in interdisciplinary team interactions

**Professionalism**

- **Goals**
  - To consistently demonstrate respect for patients, families, and staff members
  - To consistently put the patients' interests ahead of any other considerations

- **Objectives**
  - To understand the ethical principles involved in obtaining advance directives and informed consent in patients with cancer
  - To understand the ethical issues involved in end-of-life care
  - To maintain the confidentiality of personally identifiable patient information

**Systems-based practice**

- **Goals**
  - To demonstrate ability to obtain needed services for patients

- **Objectives**
  - To understand the role of each member of the patient care team
  - To participate in interdisciplinary team conferences
Curriculum

Knowledge
Residents will be exposed to patients with cancer in a specialized cancer center
Residents will be expected to know the evaluation, diagnosis, and treatment options for patients with cancer of the nervous system
Residents will be expected to know the principles behind, and applications of neurodiagnostic tests such as lumbar puncture, biopsy, EEG, and EMG, and imaging of the CNS and PNS as well as neuropathologic tests

Skill
The resident will initially evaluate, diagnose, and treat patients with neuro-oncologic conditions, including primary and secondary malignancies of the CNS and PNS and the side effects of cancer treatments on the nervous system under resident, fellow, and attending supervision

Attitude
Residents should display a professional and collegial attitude

Educational experiences
Attending Rounds
MSKCC didactic conferences
Goals and Objectives: Pediatric Neurology Rotation (UHB and KCH):
Rotating Residents

Adult neurology residents are required by the RRC to complete three months of Pediatric Neurology rotation during their training. They rotate one month second year and two months third year. Call responsibilities (from home) for adult neurol. residents are 2 nights for 2nd year and 4 nights for 3rd year for each month. Sites include the pediatric floors, PICU, NICU, ER at UHB and KCH plus Child Psychiatry floor at KCH and Epilepsy Monitoring Unit at UHB. Residents are responsible for admissions and consults and are expected to attend their weekly continuity clinic and pediatric neurology clinics. The main objective of the rotation is to gain experience in the recognition, treatment and management of neurological disorders in infants, children and adolescents.

The resident should demonstrate an appropriate level of skill in the six core competencies:

Patient care

1. To develop family-centered, compassionate, development and age-appropriate care that is effective for the treatment of health problems and the promotion of health (e.g., communicate effectively, demonstrate caring and respectful behaviors, counsel and educate patients and families).
2. To develop skills in the evaluation and management of infants and children with neurologic conditions.
3. To provide concise and relevant presentations on rounds and adequate documentation in patient records.
4. To recognize the limitations of the level of training and seek help when appropriate.

Medical knowledge

1. To acquire knowledge about established and evolving biomedical, clinical, and epidemiological and social-behavioral sciences needed by the child neurologist and the application of this knowledge to patient care (e.g., demonstrate an investigatory and analytical thinking approach to clinical situations and know and apply the basic and clinically supportive sciences which are appropriate to neurology).
2. To learn the diagnosis and treatment of neurologic diseases in infants, children and adolescents.
3. To know the indications, contraindications, risks, benefits and alternatives to commonly performed neurodiagnostic procedures in infants and children.
4. To develop appropriate and pertinent plans of care.

**Practice-based learning and improvement**

1. This should involve investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, and improvements in patient care. This should include identifying standardized guidelines for conditions common to child neurology and adapt them to individual patients.
2. To identify personal learning needs related to child neurology and plan for continuing acquisition of knowledge and skills.
3. To learn how to use and present information obtained through the use of information technology.
4. To understand and implement departmental and institutional improvement projects and patient safety goals.

**Interpersonal and communication skills**

1. To learn skills that result in effective information exchange and teaming with patients, their families, and other health professionals.
2. To provide effective patient and family education.
3. To communicate effectively (discuss findings and recommendations) with primary care and other physicians, families and other health care professionals.
4. To maintain accurate, legible and legally appropriate medical records.
5. To effectively establish rapport and communication with patients and families.

**Professionalism**

1. Develop a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population (e.g., demonstrate respect, compassion and integrity, a responsiveness to the needs of patients and society that supersedes self interest: demonstrate sensitivity and responsiveness to a patient’s culture, age, gender and disability).
2. Demonstrate personal accountability to the well-being of patients (e.g., following up on lab results, writing comprehensive notes and seeking answers to patient care questions).
3. To maintain the confidentiality of patient information.
4. To demonstrate sensitivity to patients age, gender and disabilities.
Systems-based practice

1. Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.
2. Identify key aspects of health care systems as they apply to child neurology; become familiar with special care programs, such as special school facilities, home care, early intervention programs.
3. Demonstrate sensitivity to the costs of clinical care in neurology and take steps to minimize costs without compromising quality.
4. Advocate for families who need assistance in dealing with systems complexities.
5. Recognize one’s limits and those of the system; take steps to avoid medical errors.

Evaluation:

Residents: Residents are provided with verbal feedback from attendings. Evaluation forms are also completed by attendings on a monthly basis. Observed history and exams (as per Board requirement – NEX exams) are performed during the residency. Adult neurol. residents must complete one pediatric and four adult neurol. exams during training.

Rotation: Evaluation forms are completed by residents on a monthly basis evaluating the supervising attending and the rotation.

Suggested texts:

Clinical Pediatric Neurology: A Signs and Symptoms Approach
Gerald Fenichel
Diseases of the Nervous System in Childhood
Jean Aicardi
Pediatric Neurology: Principles and Practice
Kenneth Swaiman and Stephen Ashwal
Neurology of the Newborn
Joseph Volpe
The Treatment of Epilepsy: Principles and Practice
Elaine Willey
Rotation Schedule:

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9AM Case Conf.</td>
<td></td>
<td></td>
<td>9AM Grand Rounds</td>
</tr>
<tr>
<td></td>
<td>10AM Ped. Neurol. Rounds</td>
<td></td>
<td></td>
<td>10:30AM PN Rounds</td>
</tr>
<tr>
<td>Noon Conference</td>
<td>Noon Conference</td>
<td>Noon Conference</td>
<td>Noon Conference</td>
<td></td>
</tr>
<tr>
<td>1PM KCH Ped. Neurol. Clinic</td>
<td>1PM UHB Ped. Neurol. Clinic</td>
<td>1PM UHB Specialty Clinics</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Neurology Consultation Rotation at Kings County Hospital

Emergency Medicine Resident (PGY 2)

Patient care

- **Goals**
  - To perform competent, efficient, and compassionate neurology consultations on inpatient services and in special care areas such as the emergency department, critical care units, and labor and delivery.
  - To use information obtained from history, physical examinations, and ancillary tests to localize lesions and develop a differential diagnosis workup, evaluation and plan of care for neurology admissions.
  - To utilize EBM to guide evaluation and treatment of neurologic entities.

- **Objectives**
  - To present a thorough and concise neurologic initial evaluation on attending rounds and at morning report.
  - To present pertinent follow up of consultations on attending rounds.
  - To observe and perform specialized exams including:
- Brain death
- Coma
- Tensilon test or the equivalent
- NIH stroke scale, modified Rankin scale, swallowing evaluation
  - To document thorough and timely Initial consultation, follow-up, and sign off notes in the EMR.

**Medical knowledge**

- **Goals**
  - To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities.
  - To recognize deviations from common patterns and develop a plan to evaluate rare entities.
  - To run stroke codes.

- **Objectives**
  - To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities including:
    - Autoimmune: multiple sclerosis
    - Developmental: epilepsy
    - Infectious: bacterial and viral meningitis, herpes encephalitis
    - Neoplastic: primary brain tumors, metastatic brain tumors
    - Vascular: ischemic and hemorrhagic stroke
  - To know the etiology, evaluation, and management of common neurologic emergencies including:
    - Guillain-barre syndrome
    - Increased intracranial pressure
    - Myasthenic crisis.
    - Status epilepticus
    - Acute stroke code
  - To know the indications, contraindications, risks, benefits, and alternatives to commonly performed neurodiagnostic procedures
    - To obtain certification in lumbar punctures and to interpret the results.
    - To begin to develop expertise in interpreting CT scans and MRIs of the brain and spine.
    - To evaluate and integrate EEG and EMG results.
  - To present patients at Directors Rounds and Morning Report.
  - To achieve certification in tPA administration.

**Practice-based learning and improvement**

- **Goals**
  - To learn how to use EBM to obtain medical knowledge for patient care.
  - To understand the departmental and institutional performance improvement projects and patient safety goals.
Objectives
- To apply techniques of EBM to seek information in support of patient care.
- To present EBM and additional medical information obtained to colleagues at specialty teaching conferences.
- To participate in and help develop departmental and institutional performance improvement projects.
- To follow procedures designed to meet national patient safety goals.

Interpersonal and communication skills
- Goals
  - To improve skill in patient presentations to colleagues on attending rounds, sign out rounds, and at morning report.
  - To communicate effectively with team members in interdisciplinary team rounds.
- Objectives
  - To present patients on rounds in a clear and concise manner.
  - To give appropriate, clear, and concise sign outs on sign out rounds.
  - To effectively present medical information obtained to colleagues at teaching conferences.
  - To effectively teach medical students and rotating residents.
  - To document in the medical record in an accurate, concise, and punctual manner.

Professionalism
- Goals
  - To demonstrate respect for patients and staff members.
  - To put the patients’ interest ahead of any other considerations.
  - To understand the ethical principles in brain death, coma, minimal consciousness, and persistent vegetative state.
- Objectives
  - To become brain death evaluations and coma evaluations in a compassionate and professional manner.
  - To maintain the confidentiality of personally identifiable patient information.
  - To interact with colleagues in a collegial and respectful manner.

Systems-based practice
- Goals
  - To participate in family and inter-service meetings.
  - To practice neurology in a culture of safety and collaboration.
- Objectives
To understand and participate in root cause analysis, sentinel event review, error investigation and reporting, health care systems, and patient advocacy.

To contribute to the preparation of monthly morbidity and mortality reports.

**Neurology Consultation Rotation at Kings County Hospital: Emergency Medicine/Internal Medicine Resident (PGY 2)**

**Patient care**

- **Goals**
  - To perform competent, efficient, and compassionate neurology consultations on inpatient services and in special care areas such as the emergency department, critical care units, and labor and delivery.
  - To use information obtained from history, physical examinations, and ancillary tests to localize lesions and develop a differential diagnosis workup, evaluation and plan of care for neurology admissions.
  - To utilize EBM to guide evaluation and treatment of neurologic entities.

- **Objectives**
  - To present a thorough and concise neurologic initial evaluation on attending rounds and at morning report.
  - To present pertinent follow up of consultations on attending rounds.
  - To observe and perform specialized exams including:
    - Brain death
    - Coma
    - Tensilon test or the equivalent
    - NIH stroke scale, modified Rankin scale, swallowing evaluation
  - To document thorough and timely Initial consultation, follow-up, and sign off notes in the EMR.

**Medical knowledge**

- **Goals**
  - To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities.
  - To recognize deviations from common patterns and develop a plan to evaluate rare entities.
  - To run stroke codes.

- **Objectives**
  - To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities including:
    - Autoimmune: multiple sclerosis
- Developmental: epilepsy
- Infectious: bacterial and viral meningitis, herpes encephalitis
- Neoplastic: primary brain tumors, metastatic brain tumors
- Vascular: ischemic and hemorrhagic stroke
  - To know the etiology, evaluation, and management of common neurologic emergencies including:
    - Guillain-barre syndrome
    - Increased intracranial pressure
    - Myasthenic crisis.
    - Status epilepticus
    - Acute stroke code
  - To know the indications, contraindications, risks, benefits, and alternatives to commonly performed neurodiagnostic procedures
    - To obtain certification in lumbar punctures and to interpret the results.
    - To begin to develop expertise in interpreting CT scans and MRIs of the brain and spine.
    - To evaluate and integrate EEG and EMG results.
  - To present patients at Directors Rounds and Morning Report.
  - To achieve certification in tPA administration.

**Practice-based learning and improvement**
- **Goals**
  - To learn how to use EBM to obtain medical knowledge for patient care.
  - To understand the departmental and institutional performance improvement projects and patient safety goals.
- **Objectives**
  - To apply techniques of EBM to seek information in support of patient care.
  - To present EBM and additional medical information obtained to colleagues at specialty teaching conferences.
  - To participate in and help develop departmental and institutional performance improvement projects.
  - To follow procedures designed to meet national patient safety goals.

**Interpersonal and communication skills**
- **Goals**
  - To improve skill in patient presentations to colleagues on attending rounds, sign out rounds, and at morning report.
  - To communicate effectively with team members in interdisciplinary team rounds.
- **Objectives**
  - To present patients on rounds in a clear and concise manner.
To give appropriate, clear, and concise sign outs on sign out rounds.
To effectively present medical information obtained to colleagues at teaching conferences.
To effectively teach medical students and rotating residents.
To document in the medical record in an accurate, concise, and punctual manner.

**Professionalism**

- **Goals**
  - To demonstrate respect for patients and staff members.
  - To put the patients’ interest ahead of any other considerations.
  - To understand the ethical principles in brain death, coma, minimal consciousness, and persistent vegetative state.

- **Objectives**
  - To become brain death evaluations and coma evaluations in a compassionate and professional manner.
  - To maintain the confidentiality of personally identifiable patient information.
  - To interact with colleagues in a collegial and respectful manner.

**Systems-based practice**

- **Goals**
  - To participate in family and inter-service meetings.
  - To practice neurology in a culture of safety and collaboration.

- **Objectives**
  - To understand and participate in root cause analysis, sentinel event review, error investigation and reporting, health care systems, and patient advocacy.
  - To contribute to the preparation of monthly morbidity and mortality reports.
Neurology General Rotation at Brooklyn Hospital:  
Internal Medicine Rotating Resident (PGY 2)

**Patient care**

- **Goals**
  - To perform competent, efficient, and compassionate admissions, hospital care, and discharges of patients admitted to the general neurology service at BH.
  - To perform competent, efficient, and compassionate general neurology consultations at BH.
  - To use information obtained from history, physical examinations, and ancillary tests to localize lesions and develop a differential diagnosis workup, evaluation and plan of care for neurology admissions.
  - To utilize EBM to guide evaluation and treatment of neurologic entities.

- **Objectives**
  - To present a thorough and concise neurologic initial evaluation on attending rounds and at morning report for neurology admissions and initial consultations.
  - To present hospital course of admitted patients and follow up of consultations on attending rounds.
  - To learn and perform the components of the Neurologic examination
    - Mental status
    - Cranial nerves
    - Motor
    - Sensory
    - Reflexes
    - Plantar responses
    - Gait
    - Coordination
    - Special maneuvers – straight leg raises, Romberg
  - To document appropriately in the medical record
    - For admissions:
      - Admitting H&P, progress notes, event notes, procedure notes, medication reconciliation, integrated plans of care, discharge documentation.
    - For consultations:
      - Initial consultation, follow-up, and sign off notes.
Medical knowledge

- Goals
  - To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities.
  - To recognize deviations from common patterns and develop a plan to evaluate rare entities.

- Objectives
  - To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities including:
    - Autoimmune: multiple sclerosis
    - Developmental: epilepsy, hydrocephalus
    - Infectious: bacterial and viral meningitis, herpes encephalitis
    - Neoplastic: primary brain tumors, metastatic brain tumors
  - To know the etiology, evaluation, and management of common neurologic emergencies including:
    - Guillain-barre syndrome
    - Increased intracranial pressure
    - Myasthenic crisis.
    - Status epilepticus
  - To know the indications, contraindications, risks, benefits, and alternatives to commonly performed neurodiagnostic procedures
    - To obtain certification in lumbar punctures and to interpret the results.
    - To interpret CT scans and MRIs of the brain.
    - To begin to develop expertise in interpreting CT scans and MRIs of the spine.
    - To evaluate and integrate EEG and EMG results.
  - To present patients at Directors Rounds, Morning Report, Neuroradiology Conference, and specialty conferences.

Practice-based learning and improvement

- Goals
  - To learn how to use EBM to obtain medical knowledge for patient care.
  - To understand the departmental and institutional performance improvement projects and patient safety goals.

- Objectives
  - To apply techniques of EBM to seek information in support of patient care.
  - To present EBM and additional medical information obtained to colleagues at specialty teaching conferences.
  - To participate in and help develop departmental and institutional performance improvement projects.
  - To follow procedures designed to meet national patient safety goals.
**Interpersonal and communication skills**

- **Goals**
  - To improve skill in patient presentations to colleagues on attending rounds, sign out rounds, and at morning report.
  - To communicate effectively with team members in interdisciplinary team rounds.

- **Objectives**
  - To present patients on rounds in a clear and concise manner.
  - To lead sign out rounds collaboratively with the Stroke resident.
  - To effectively present medical information obtained to colleagues at teaching conferences.
  - To effectively teach medical students and rotating residents.
  - To document in the medical record in an accurate, concise, and punctual manner.

**Professionalism**

- **Goals**
  - To demonstrate respect for patients and staff members.
  - To put the patients' interest ahead of any other considerations.
  - To understand the ethical principles involved in obtaining advance directives, and informed consent.

- **Objectives**
  - To obtain complete and pertinent informed consent for procedures on appropriate patients.
  - To maintain the confidentiality of personally identifiable patient information.
  - To interact with colleagues in a collegial and respectful manner.

**Systems-based practice**

- **Goals**
  - To participate in interdisciplinary team rounds.
  - To practice neurology in a culture of safety and collaboration.

- **Objectives**
  - To collaboratively develop and implement appropriate discharge plans on through interaction with Rehabilitation Medicine Services, Social Work, and Nursing.
  - To understand and participate in root cause analysis, sentinel event review, error investigation and reporting, health care systems, and patient advocacy.
  - To coordinate with the BH Stroke Resident in the preparation of monthly morbidity and mortality reports.
Neurology General Rotation at University Hospital Brooklyn

**Psychiatry Resident Rotating at UHB (PGY 1)**

**Patient care**
- **Goals**
  - To perform thorough histories and examinations of neurology ward patients.
  - In conjunction with the Neurology Senior, to use information obtained from history, physical examinations, and ancillary tests to localize lesions and develop a differential diagnosis workup, evaluation and plan of care for neurology admissions.
  - To utilize EBM to guide evaluation and treatment of neurologic entities.
- **Objectives**
  - To present a thorough neurologic history on attending rounds and at morning report for neurology admissions.
  - To perform the components of the Neurologic examination
    - Mental status
    - Cranial nerves
    - Motor
    - Sensory
    - Reflexes
    - Plantar responses
    - Gait
    - Coordination
    - Special maneuvers – straight leg raises, Romberg
  - To present patient evaluations on rounds in a clear and concise manner.
  - To document appropriately in the electronic medical record
    - Admitting H&P
    - Progress notes
    - Event notes
    - Procedure notes
    - Medication reconciliation
    - Integrated plan of care

**Medical knowledge**
- **Goals**
  - To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities.
To recognize deviations from common patterns and develop a plan to evaluate rare entities.

- Objectives
  - To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities including:
    - Autoimmune: multiple sclerosis
    - Developmental: epilepsy, hydrocephalus
    - Infectious: bacterial and viral meningitis, herpes encephalitis
    - Neoplastic: primary brain tumors, metastatic brain tumors
    - Vascular: ischemic stroke, primary intracerebral hemorrhage
  - To know the etiology, evaluation, and management of common neurologic emergencies including:
    - Acute stroke
    - Guillain-barre syndrome
    - Increased intracranial pressure
    - Intracerebral hemorrhage
    - Myasthenic crisis.
    - Status epilepticus
  - To know the indications, contraindications, risks, benefits, and alternatives to commonly performed neurodiagnostic procedures
    - To understand the risks, benefits, and principles underlying lumbar punctures interpret the results.
    - To begin to develop expertise in interpreting CT scans and MRIs of the brain and spine.
    - To evaluate and integrate EEG and EMG results.
  - To present patients at Directors Rounds and Morning Report.

Practice-based learning and improvement

- Goals
  - To learn how to use EBM to obtain medical knowledge for patient care.
  - To understand the departmental and institutional performance improvement projects and patient safety goals.

- Objectives
  - To assist the UHB Senior Resident in the preparation of monthly morbidity and mortality reports.
  - To apply techniques of EBM to seek information in support of patient care.
  - To present EBM and additional medical information obtained to colleagues at junior resident teaching conferences.
  - To participate in and help develop departmental and institutional performance improvement projects.
  - To follow procedures designed to meet national patient safety goals.

Interpersonal and communication skills
• Goals
  o To improve skill in patient presentations to colleagues on attending rounds, sign out rounds, and at morning report.
  o To communicate effectively with team members in interdisciplinary team rounds.

• Objectives
  o To present patients on rounds in a clear and concise manner.
  o To give and receive sign outs in a collegial, complete, and efficient manner.
  o To effectively present medical information obtained to colleagues at teaching conferences.
  o To document in the EMR in an accurate, concise, and punctual manner.
  o To work with the Stroke Coordinator to ensure that the documentation of stroke patients complies with NYS and CMS guidelines.

Professionalism
• Goals
  o To demonstrate respect for patients and staff members.
  o To put the patients’ interest ahead of any other considerations.
  o To understand the ethical principles involved in obtaining advance directives and informed consent.

• Objectives
  o To obtain complete and pertinent informed consent for procedures on appropriate patients.
  o To maintain the confidentiality of personally identifiable patient information.
  o To interact with colleagues in a collegial and respectful manner.

Systems-based practice
• Goals
  o To participate in interdisciplinary team rounds.
  o To practice neurology in a culture of safety and collaboration.

• Objectives
  o To collaboratively develop and implement appropriate discharge plans on through interaction with Rehabilitation Medicine Services, Social Work, and Nursing.
  o To understand and participate in root cause analysis, sentinel event review, error investigation and reporting, health care systems, and patient advocacy.
Neurology Consultation Rotation at University Hospital Brooklyn: Psychiatry Rotating UHB Consult Junior Resident (PGY 1)

**Patient care**

- **Goals**
  - To perform competent, efficient, and compassionate neurology consultations on inpatient services and in special care areas such as the emergency department, critical care units, and labor and delivery.
  - To use information obtained from history, physical examinations, and ancillary tests to localize lesions and develop a differential diagnosis workup, evaluation and plan of care for neurology admissions.
  - To utilize EBM to guide evaluation and treatment of neurologic entities.

- **Objectives**
  - To present a thorough and concise neurologic initial evaluation on attending rounds and at morning report.
  - To present pertinent follow up of consultations on attending rounds.
  - To observe and perform specialized exams including:
    - Brain death
    - Coma
    - Tensilon test or the equivalent
    - NIH stroke scale, modified Rankin scale, swallowing evaluation
  - To document thorough and timely Initial consultation, follow-up, and sign off notes in the EMR.

**Medical knowledge**

- **Goals**
  - To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities.
  - To recognize deviations from common patterns and develop a plan to evaluate rare entities.
  - To run stroke codes.

- **Objectives**
• To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities including:
  ▪ Autoimmune: multiple sclerosis
  ▪ Developmental: epilepsy
  ▪ Infectious: bacterial and viral meningitis, herpes encephalitis
  ▪ Neoplastic: primary brain tumors, metastatic brain tumors
  ▪ Vascular: ischemic and hemorrhagic stroke

• To know the etiology, evaluation, and management of common neurologic emergencies including:
  ▪ Guillain-barre syndrome
  ▪ Increased intracranial pressure
  ▪ Myasthenic crisis.
  ▪ Status epilepticus
  ▪ Acute stroke code

• To know the indications, contraindications, risks, benefits, and alternatives to commonly performed neurodiagnostic procedures
  ▪ To obtain certification in lumbar punctures and to interpret the results.
  ▪ To begin to develop expertise in interpreting CT scans and MRIs of the brain and spine.
  ▪ To evaluate and integrate EEG and EMG results.

• To present patients at Directors Rounds and Morning Report.
• To achieve certification in tPA administration.

**Practice-based learning and improvement**

- **Goals**
  - To learn how to use EBM to obtain medical knowledge for patient care.
  - To understand the departmental and institutional performance improvement projects and patient safety goals.

- **Objectives**
  - To apply techniques of EBM to seek information in support of patient care.
  - To present EBM and additional medical information obtained to colleagues at specialty teaching conferences.
  - To participate in and help develop departmental and institutional performance improvement projects.
  - To follow procedures designed to meet national patient safety goals.

**Interpersonal and communication skills**

- **Goals**
  - To improve skill in patient presentations to colleagues on attending rounds, sign out rounds, and at morning report.
  - To communicate effectively with team members in interdisciplinary team rounds.
• Objectives
  o To present patients on rounds in a clear and concise manner.
  o To give appropriate, clear, and concise sign outs on sign out rounds.
  o To effectively present medical information obtained to colleagues at teaching conferences.
  o To effectively teach medical students and rotating residents.
  o To document in the medical record in an accurate, concise, and punctual manner.

Professionalism
• Goals
  o To demonstrate respect for patients and staff members.
  o To put the patients’ interest ahead of any other considerations.
  o To understand the ethical principles in brain death, coma, minimal consciousness, and persistent vegetative state.
• Objectives
  o To become brain death evaluations and coma evaluations in a compassionate and professional manner.
  o To maintain the confidentiality of personally identifiable patient information.
  o To interact with colleagues in a collegial and respectful manner.

Systems-based practice
• Goals
  o To participate in family and inter-service meetings.
  o To practice neurology in a culture of safety and collaboration.
• Objectives
  o To understand and participate in root cause analysis, sentinel event review, error investigation and reporting, health care systems, and patient advocacy.
  o To contribute to the preparation of monthly morbidity and mortality reports
**Electroencephalography Rotation (EEG): Neurology Resident (PGY 3, 4, 5, 6)**

**Patient care**
- **Goals**
  - To be able to perform a comprehensive evaluation of an Epilepsy Monitoring Unit Patient.
  - To be able to evaluate an epilepsy outpatient.
  - To be able to evaluate a first seizure patient.
- **Objectives**
  - To learn how to take a detailed epilepsy history
  - To learn the parts of the neuro exam that are pertinent to epilepsy patients
    - Signs of AED toxicity
    - Signs of focality
  - To know the indications for testing
    - Epilepsy workup
    - Epilepsy monitoring

**Medical Knowledge**
- **Goals**
  - To understand and apply the basis for the management of patients with epilepsy including first seizure, epilepsy, complex or intractable epilepsy
- **Objectives**
  - To know the principles of treatment of patients with epilepsy (e.g. starting and stopping therapy, monitoring therapy, management of complications of epilepsy)
  - To understand the use of old and new antiepileptic medications, including pharmacokinetics, spectrum of efficacy, dosing, and adverse effects and to apply this knowledge
  - To understand the basis of and to learn the classification of epilepsy
  - To understand the principles behind and the steps involved in epilepsy surgery evaluation
  - To learn the indications for, and utility of
    - EEG, video EEG monitoring, WADA, neuropsychological testing, epilepsy phase 1 and 2 MRIs, ictal PET and SPECT
- To know the indications for EEGs and EPs
  - To know the technical aspects of EEGs and EPs
  - To demonstrate the recognition of normal EEG patterns of patients of various ages
  - To demonstrate the recognition of abnormal EEG patterns, including diffuse, focal, and epileptiform abnormalities
  - To demonstrate the interpretation of EEG findings in relation to the clinical question
  - To understand the basics of visual, brainstem auditory and somatosensory evoked potentials
  - To understand the basis for diagnosis of a variety of paroxysmal disorders

**Practice-based learning and improvement**
- **Goals**
  - Know how to use EBM to help guide decision making
  - Understand the departmental and institutional performance improvement projects and patient safety goals
- **Objectives**
  - To be able to use information obtained through the use of EBM in developing evaluation and treatment plans
  - To implement the departmental and institutional performance improvement projects and patient safety goals

**Interpersonal and communication skills**
- **Goals**
  - To improve skill in oral presentations of patients on attending rounds and at epilepsy conferences
  - To participate productively in interdisciplinary team interactions.
- **Objectives**
  - To identify and treat special issues in women with epilepsy.
  - To identify and treat psychiatric and cognitive issues in persons with epilepsy
  - To effectively teach medical students and rotating residents.

**Professionalism**
- **Goals**
  - To consistently demonstrate respect for patients and staff members
  - To consistently put the patients’ interests ahead of any other considerations
- **Objectives**
o To understand the ethical principles involved in obtaining consent for video EEG monitoring
o To maintain the confidentiality of personally identifiable patient information

**Systems-based practice**

- **Goals**
  - To demonstrate ability to obtain medical information on EEG patients including interacting with

- **Objectives**
  - To collaborate with referring services, neuroradiology, and Epilepsy Clinic

The initial introduction to the rotation will be done by the EMU attending of the month, who will also be responsible for the evaluation at the end of the month.

**I. Curriculum**

a. Required reading:
   i. Ebersole and Pedley, Current Practice of Clinical Electroencephalography
      - Chapters
        - Artifacts
        - Physiologic basis of EEG
        - Orderly approach to visual analysis
        - Benign EEG variants
        - Epilepsy and syncope
        - Focal brain lesions
        - Coma and brain death
   ii. Bruce Fisch, Spehlmann’s EEG Primer

b. Residents should go through the EEG teaching file and slide presentations, which provide a broad overview of a variety of topics in epilepsy.

c. Teaching materials available in the Epilepsy Monitoring Unit
   - Videotaped series of lectures
   - PowerPoint slide presentations
   - Textbooks
   - Journal article references

d. Residents should go through the videotaped lectures and slide presentations, which provide a broad overview of a variety of topics in epilepsy.

**II. Responsibilities**

a. Daily attendance at EEG reading.
   i. Fellows read in the morning, attendings generally in the afternoon. Check with the fellow regarding the reading time.
      1. Week 1:
         a. Observe EEG reading. Basic teaching by attending and fellow
b. Observe EEG technologists performing at least one EEG and each EP modality from start to finish

2. Week 2-4:
   a. Review and write report of one EEG per day; discuss with attending

3. Every resident must write at least 10 EEG reports (supervised by the corresponding attending of that day) by the end of the rotation.

b. Attendance at EP readings. Schedule is variable
c. Attendance at Clinical Neurophysiology Lectures
   i. Monday, 8AM or 12 noon as scheduled.
d. Attendance at Epilepsy Conference
   i. Thursdays 12N, EMU
e. Rotation in UHB Epilepsy Monitoring Unit
   i. Residents will attend EMU rounds daily with the fellow from 8-9AM and with the attending/team from 9-10AM.
   ii. Residents will become familiar with the Epilepsy Intake Database and will admit at least one patient to the EMU weekly. They will be responsible for the admission database and daily progress notes on this patient, under the supervision of the responsible attending physician.

f. Attendance at Epilepsy Clinic (1:00 - 5:00 pm) on the 3rd, 4th (and 5th) Thursday of each month, UHB, Suite C
   i. Residents will see new and follow-up patients in Epilepsy Clinic

III. Evaluation
   a. Evaluation will be by written performance evaluation, which is the responsibility of the attending physician of the EMU during that month.

   b. Of the rotation: evaluation form filled out by residents on a monthly basis evaluating the supervising attending, the didactics, and the patient care responsibilities
Neurology Resident EMG Rotation:
Neurology Resident PGY 3, 4

Patient care
  • Goals
    o To be able to perform a comprehensive neuromuscular history and evaluation.
  • Objectives
    o To learn how to take a detailed neuromuscular history
    o To learn the parts of the neuro exam that are pertinent to neuromuscular patients
    o To learn the indications for EMG/NCV testing
    o To observe and perform 3 EMGs and NCVs

Medical Knowledge
  • Goals
    o To know the principles of disease and treatment of patients with neuromuscular diseases (e.g. symptomatic or etiologic treatment, monitoring therapy)
    o To know the principles of management of complications of neuromuscular diseases and their treatments
  • Objectives
    o To know the indications for EMG/NCV testing
    o To know the basis of EMGs and NCVs
      ▪ To demonstrate the recognition of normal EMG and NCV patterns
      ▪ To demonstrate the interpretation of EMG and NCV findings in relation to the clinical question
      ▪ To develop appropriate pertinent differential diagnoses and plans of care in persons with neuromuscular disease
    o To know the basis and utility of genetic testing
    o To know the basis and utility of nerve/muscle biopsy

Practice-based learning and improvement
  • Goals
    o Know how to use EBM to help guide decision making
    o Understand the departmental and institutional performance improvement projects and patient safety goals
  • Objectives
o To be able to use information obtained through the use of EBM in developing evaluation and treatment plans
o To implement the departmental and institutional performance improvement projects and patient safety goals

**Interpersonal and communication skills**
- **Goals**
  - To improve skill in oral presentations of patients on attending rounds and at neuromuscular conferences
  - To participate productively in interdisciplinary team interactions.

- **Objectives**
  - To present a neuromuscular case at case conference or neuromuscular conference
  - To identify and treat special issues in children and women with neuromuscular disease

**Professionalism**
- **Goals**
  - To consistently demonstrate respect for patients and staff members
  - To consistently put the patients’ interests ahead of any other considerations

- **Objectives**
  - To understand the ethical principles involved in obtaining consent for EMG/NCV testing.
  - To maintain the confidentiality of personally identifiable patient information

**Systems-based practice**
- **Goals**
  - To demonstrate ability to obtain medical information on Neuromuscular patients.

- **Objectives**
  - To coordinate with Pediatric Neurology, Adult Neurology, Orthopedics, Neurosurgery, Rehabilitation Medicine, and Social Work services to obtain needed information for studies, diagnosis and development and implementation of treatment plans.
  - To coordinate with EMG fellow for electrophysiologic testing
  - To coordinate with Pathology for genetic testing
Curriculum
- Knowledge
- Skill
  - Residents are expected to be able to perform EMGs and NCVs with guidance
- Attitude
  - Residents should display a professional and collegial attitude
- Educational experiences
  - Residents will observe and participate in performing EMG’s and NCV’s
  - Residents will attend the biweekly MDA Clinic at UHB
  - Residents will review Neuromuscular study simulation set
  - Residents will attend Clinical Neurophysiology Conference
  - Residents will attend Neuromuscular Conference
  - Direct participation in at least 10 complete NCV and EMG studies

Responsibilities:
2. Daily attendance at EMG laboratory
3. Attendance at Clinical Neurophysiology Lectures
   a. Mondays, 8AM or 12 noon as scheduled.
4. Attendance at Neuromuscular Conference
   a. 2nd Friday 1 PM
5. Attendance at MDA Clinic (1:00 - 5:00 pm) on the 2nd and 4th Tuesdays of each month

Evaluation
Evaluation will be by written performance evaluation, which is the responsibility of the attending physician in charge of the EMG rotation, Dr. Paul Maccabee or his designee.

EMG Rotation Schedule

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>8AM Clinical Neurophysiology Lecture</td>
<td>8 AM EEG Reading</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9AM EMGs UHB</td>
<td>9AM EMGs KCH</td>
<td>9AM EMGs KCH</td>
<td>9AM EMGs UHB</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10 AM EMGs UHB or KCH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1PM MDA Clinic UHB</td>
<td></td>
<td>1 PM Neuromuscular Conference</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Neuropathology Rotation:
Neurology Resident

Patient care
• Goals
  o To understand the indications and the utility of neuropathologic studies
• Objectives
  o To know the indications for and the limitations of brain biopsies, nerve biopsies and CSF histopathology
  o To understand the principles of proper preparation of pathologic studies such as tissue samples, CSF

Medical knowledge
• Goals
  o To improve skill in the ordering, follow up, and integration of neuropathologic procedures
  o To understand the pathophysiologic basis for neuropathologic studies
• Objectives
  o To develop understand the principles of interpretation of neuropathologic studies such as
    ▪ light microscopy, electron microscopy, routine staining, antibody staining, special staining of tissue and CSF
  o To review study slide sets of
    ▪ Brain tumors, vascular diseases of the brain, developmental abnormalities, and autoimmune processes

Practice-based learning and improvement
• Goals
  o To use EBM to supplement medical knowledge
  o To understand pathology laboratory quality standards
  o To understand departmental and institutional performance improvement projects and patient safety goals
• Objectives
  o To implement the departmental and institutional performance improvement projects and patient safety goals
  o To use EBM to assist in diagnosis and prognosisbe able to present information obtained through the use of information technology

Interpersonal and communication skills
• Goals
  o To improve communication between the neuropathologist and neurologist in approaching a diagnosis
• Objectives
To understand the utility of pathologic evaluations
To understand how to maximize the yield of a pathologic evaluations

Professionalism
- **Goals**
  - To consistently demonstrate respect for patients and staff members
- **Objectives**
  - To consistently put the patients' interests ahead of any other considerations
  - To maintain the confidentiality of personally identifiable patient information

Systems-based practice
- **Goals**
  - To collaboratively obtain clinical information for pathologic evaluations
- **Objectives**
  - To obtain medical information on patients including interacting with referring services such as neurology, neuroradiology, and neurosurgery

IV. **Curriculum**
a. The required text, *Greenfield's Neuropathology* is available in the Pathology Department, selected readings will be assigned.
a. Residents should go through the neuropathology teaching files and slide presentations, which provide a broad overview of a variety of topics

V. **Responsibilities**
a. Attendance at Brain Cutting
b. Daily attendance for teaching sets
c. Attendance at frozen sections as they occur
d. Attendance at Neuropathology Conference
e. Attendance at Neuropathology Grand Rounds

VI. **Evaluation**
a. Evaluation of the resident will be by written performance evaluation, which is the responsibility of the Neuropathology Attending, or his designee
b. Of the rotation: evaluation form filled out by residents on a monthly basis evaluating the supervising attending, the didactics, and the patient care responsibilities
VII. Neuropathology Rotation Schedule:

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 AM Neuropathology Conference</td>
<td>8 AM Brain Cutting</td>
<td>9AM NPath Teaching Sets</td>
<td>9AM EMU Rounds</td>
<td>9AM NPath Teaching Sets</td>
</tr>
<tr>
<td>9AM NPath Teaching Sets</td>
<td>9AM NPath Teaching Sets</td>
<td>9AM NPath Teaching Sets</td>
<td>12PM Neuropathology Conference</td>
<td>1 PM Neurology Conference</td>
</tr>
<tr>
<td>1 PM NPath Teaching Sets</td>
<td>1 PM NPath Teaching Sets</td>
<td>1 PM NPath Teaching Sets</td>
<td>1 PM NPath Teaching Sets</td>
<td>1 PM NPath Teaching Sets</td>
</tr>
</tbody>
</table>
Neuroradiology Rotation:  
Neurology Resident (PGY 3 or 4)

**Patient care**  
- **Goals**  
  o To understand the indications for and the role of the Neurologist in ordering neuroradiologic tests  
  o To understand the principles of informed consent  
- **Objectives**  
  o To understand the utility of, indications for and contraindications to  
    ▪ Head CTs with and without contrast, CT angiograms, MRI of the brain and spinal cord with and without contrast,  
    ▪ To understand the principles of contrast reactions and their monitoring and prevention

**Medical knowledge**  
- **Goals**  
  o To understand the bases for neuroradiologic studies  
    ▪ To develop skills in evaluation of neuroradiologic procedures specifically CT and MRI imaging of the CNS and PNS  
- **Objectives**  
  o To improve skill in the ordering, follow up, and integration of neuroradiologic procedures in patient care  
  o To develop skill in evaluation of neuroradiologic procedures such as CT (head, spine, skull, CT angiography), MRI of brain and nerves, MRA of head and neck, x-rays of spine, angiograms, MRS of brain, PET and SPECT scans of brain  
  o To understand the basis of CT and MRI contrast interactions  
  o To understand the basic physics of CT and MRI

**Practice-based learning and improvement**  
- **Goals**  
  o To use EBM to supplement medical knowledge  
  o To understand the departmental and institutional performance improvement projects and patient safety goals  
- **Objectives**  
  o To be able to present information obtained through the use of information technology  
  o To implement the departmental and institutional performance improvement projects and patient safety goals
Interpersonal and communication skills

- **Goals**
  - To improve communication over performing and interpretation of neurologic studies
  - To improve skill in oral presentations of patients on attending rounds and at conferences

- **Objectives**
  - To understand the indications, risks, benefits, and contraindications for neuroradiologic studies
  - To present patients for neuroradiology conference

Professionalism

- **Goals**
  - To consistently demonstrate respect for patients and staff members

- **Objectives**
  - To consistently put the patients’ interests ahead of any other considerations
  - To maintain the confidentiality of personally identifiable patient information

Systems-based practice

- **Goals**
  - To collaboratively obtain clinical information for radiologic studies

- **Objectives**
  - To obtain medical information on patients including interacting with referring services such as neurology, neuropathology, and neurosurgery

VIII. Curriculum

a. The required text, Osborne’s Neuroradiology is available in the Neuroradiology Reading Room, selected readings will be assigned by the Neuroradiology Attending.

b. Residents should go through the neuroradiology teaching files

IX. Responsibilities

a. Daily attendance at Neuroradiology Reading at KCH
b. Attendance at procedures such as angiograms and myelograms as they occur

c. Attendance at Neuroradiology Conference

X. Evaluation

a. Evaluation of the resident will be by written performance evaluation, which is the responsibility of Dr. Steven Pulitzer, or his designee

b. Of the rotation: evaluation form filled out by residents on a monthly basis evaluating the supervising attending, the didactics, and the patient care responsibilities
XI. Neuroradiology Rotation Schedule:

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>9AM Imaging review</td>
<td>9AM Imaging review</td>
<td>9AM Imaging review</td>
<td>9AM Imaging review</td>
<td>9AM Neurology Grand Rounds 10:15 AM Imaging review</td>
</tr>
<tr>
<td>1 PM Neurology Conference</td>
<td>12 N Neurology Conference</td>
<td>12 N Neuroradiology Conference</td>
<td>12 N Neurology Conference</td>
<td>1 PM Neurology Conference</td>
</tr>
<tr>
<td>1 PM NRays Teaching Sets*</td>
<td>1 PM NRays Teaching Sets*</td>
<td>1 PM NRays Teaching Sets*</td>
<td>1 PM NRays Teaching Sets*</td>
<td>1 PM NRays Teaching Sets*</td>
</tr>
</tbody>
</table>

- *Coordinate with Drs. Steven Pulitzer and Sundeep Mangla for possible procedures such as angiograms or lumbar punctures. To collaboratively obtain clinical information for pathologic evaluations.

- **Objectives**
  - To obtain medical information on patients including interacting with referring services such as neurology, neuroradiology, and neurosurgery.
Neurosurgery Rotation:
Neurology Resident (PGY 3 or 4)

Patient care

- **Goals**
  - To understand the basic principles of evaluating a patient for a neurosurgical procedure
  - To understand the issues involved in neurosurgical consultations

- **Objectives**
  - To perform neurosurgical consultations
  - To document appropriate initial consultation, follow up, and sign off consultation notes

Medical knowledge

- **Goals**
  - To understand the basic principles of evaluating a patient for routine neurosurgical conditions
  - To understand the issues involved in emergent neurosurgical consultations

- **Objectives**
  - To develop skill in the evaluation and initial management of neurosurgical conditions
    - Developmental: hydrocephalus, Chiari malformations, scoliosis
    - Infectious: brain abscesses
    - Vascular: AVM, cerebral aneurysm
    - Neoplastic: primary and secondary tumors of the brain and spinal cord, chronic spinal cord compression
    - Other: spondylosis, indications for HNP surgery, chronic subdural hematoma
  - To develop skill in the evaluation and initial management of neurosurgical emergencies
    - Hydrocephalus, increased ICP, mass lesions, spinal cord compression, TBI, malignant strokes, intracerebral hemorrhage
  - To perform neurosurgical consultations
  - To be able to make appropriate referrals of patients to a neurosurgeon (including evaluation, indications, and the interplay between medical and surgical management)
  - To develop skills in evaluation of neuroradiologic procedures specifically CT and MRI imaging of the CNS and PNS, angiograms, and MRS
Practice-based learning and improvement

• Goals
  o To use EBM to supplement medical knowledge
  o To understand the departmental and institutional performance improvement projects and patient safety goals

• Objectives
  o To implement the departmental and institutional performance improvement projects and patient safety goals

Interpersonal and communication skills

• Goals
  o To communicate the key concepts in the management of neurosurgical conditions to the requesting service

• Objectives
  o To document appropriate initial consultation, follow up, and sign off consultation notes
  o To improve skill in oral presentations of patients on attending rounds and at conferences

Professionalism

• Goals
  o To consistently demonstrate respect for patients and staff members
  o To consistently put the patients’ interests ahead of any other considerations

• Objectives
  o To maintain the confidentiality of personally identifiable patient information

Systems-based practice

• Goals
  o To collegially and effectively interact with other services to obtain medical information on patients

• Objectives
  o To collaborate with services providing joint care such as neurology and neuroradiology
  o To carry out joint protocols for neurosurgical care
    ▪ ICH, neoplasm, TBI

XII. Curriculum
  a. The required text, Neurosurgery is available in the Neurosurgery Conference Room at UHB
  b. Selected readings may be assigned by Dr. Sadr and staff

XIII. Responsibilities
  a. Daily attendance at Neurosurgery Rounds
b. Attendance at procedures such as surgeries, angiograms, EVDs etc.
c. Attendance at Neurovascular Conference
d. Attendance at Neurosurgery Clinic and office hours for Dr. Ali Sadr

XIV. Evaluation
   a. Evaluation of the resident will be by written performance evaluation, which is the responsibility of Dr. Ali Sadr, or his designee
   b. Of the rotation: evaluation form filled out by residents on a monthly basis evaluating the supervising attending, the didactics, and the patient care responsibilities

XV. Neurosurgery Rotation Schedule:

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 AM Neurosurgery Rounds</td>
<td>7 AM Neurosurgery Rounds</td>
<td>7 AM Neurosurgery Rounds</td>
<td>7 AM Neurosurgery Rounds</td>
<td>7 AM Neurosurgery Rounds</td>
</tr>
<tr>
<td>8 AM Neurosurgery Consults/Cases</td>
<td>8 AM Neurosurgery Consults/Cases</td>
<td>8 AM Neurosurgery Consults/Cases</td>
<td>8 AM Neurosurgery Consults/Cases</td>
<td>8 AM Neurosurgery Consults/Cases</td>
</tr>
<tr>
<td>7 AM Neurosurgery Rounds</td>
<td>7 AM Neurosurgery Rounds</td>
<td>7 AM Neurosurgery Rounds</td>
<td>7 AM Neurosurgery Rounds</td>
<td>7 AM Neurosurgery Rounds</td>
</tr>
<tr>
<td>8 AM Neurosurgery Consults/Cases</td>
<td>8 AM Neurosurgery Consults/Cases</td>
<td>8 AM Neurosurgery Consults/Cases</td>
<td>8 AM Neurosurgery Consults/Cases</td>
<td>8 AM Neurosurgery Consults/Cases</td>
</tr>
<tr>
<td>12 N Neuroradiology Conference</td>
<td>11 AM Neurosurgery Grand Rounds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 PM Dr. Mangla’s Office Hours</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Neurology Outpatient Rotation:
Neurology Resident (PN 1, PGY 3 or N2, PGY 3)

Patient care
• Goals
  o To improve skills in evaluation and treatment of patients with neurologic disorders in an outpatient setting.
• Objectives
  o To provide care for patients in Adult Neurology Clinics including:
    ▪ Continuity Clinic
    ▪ Movement Disorders
    ▪ Neuromuscular Disorders
    ▪ Epilepsy
  o To observe a session of neuropsychological testing
  o To improve skill in oral presentations of patients
  o To improve skill in writing notes on outpatients with neurologic problems

Medical knowledge
• Goals
  o To improve neurologic knowledge base for outpatient neurologic conditions
• Objectives
  o To gain a basic understanding of the principles involved in evaluating patients with
    ▪ Movement Disorders: Parkinson’s Disease, spinocerebellar degeneration, dystonia, tics
    ▪ Neuromuscular Diseases: muscular dystrophy, myasthenia gravis, amyotrophic lateral sclerosis
    ▪ Epilepsy: juvenile myoclonic epilepsy, primary and secondary epilepsies, workup of a new seizure patient, initiation of workup for a epilepsy surgery
  o To know the principles, and applications of neurodiagnostic tests in outpatient conditions including: epilepsy imaging protocols, MRI of the brain and spinal cord, MRI of the spine, MRAs of head and neck, cerebral and spinal angiograms, Head CTS, EEG, EMG, NCV

Practice-based learning and improvement
• Goals
  o To use EBM to assist in guiding patient management in outpatient settings
• Objectives
  o To use clinic-specific templates and protocols to provide interdisciplinary care for patients
**Interpersonal and communication skills**

- **Goals**
  - To take histories from patients and their families for patients with outpatient neurologic conditions

- **Objectives**
  - To use clinic-specific templates to guide thorough and pertinent evaluation of patients with outpatient conditions
  - To participate in interdisciplinary team interactions in designing management plans including evaluation for epilepsy surgery
  - To observe a session of neuropsychiatric testing

**Professionalism**

- **Goals**
  - To consistently demonstrate respect for patients and staff members

- **Objectives**
  - To consistently put the patients’ interests ahead of any other considerations
  - To maintain the confidentiality of personally identifiable patient information

**Systems-based practice**

- **Goals**
  - To work collaboratively with other services to provide patient care

- **Objectives**
  - To work with outpatient interdisciplinary teams such as nursing, social work, Rehabilitation medicine, to implement treatment plans

**Didactic conferences**

Downstate didactic conferences (except when at BH for Neuromuscular and Movement Disorders Patients)
Neurology Psychiatry Rotation at University Hospital of Brooklyn: 
Neurology Resident (PGY 1)

Patient care

- **Goals**
  - To perform thorough histories and examinations of psychiatry ward patients.
  - In conjunction with the Psychiatry Attending, to use information obtained from history, psychiatric examinations, and ancillary tests to develop a differential diagnosis and treatment plan.
  - To utilize EBM to guide evaluation and treatment of psychiatric entities.

- **Objectives**
  - To learn how to use DSM IV criteria to develop a comprehensive diagnostic and treatment plan for the 5 axes.
  - To perform the components of the Psychiatric examination
    - Alertness, orientation, mood, affect, clarity of thinking, calculations
  - To learn the biopsychosocial approach to the psychiatric patient.
  - To document appropriately in the electronic medical record
    - Admitting H&P
    - Progress notes
    - Event notes
    - Procedure notes
    - Medication reconciliation
    - Integrated plan of care

Medical knowledge

- **Goals**
  - To know the presentations, differential diagnoses and treatments of commonly encountered psychiatric disease entities.
  - To recognize deviations from common patterns and develop a plan to evaluate rare entities.

- **Objectives**
  - To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities including:
    - Psychotic disorders: schizophrenia, psychotic features of dementia and depression, schizoaffective
    - Mood Disorders: depression, bipolar
    - Anxiety Disorders: anxiety, panic attacks, obsessive compulsive disorder
    - Personality Disorders: histrionic, narcissistic,
  - To know the etiology, evaluation, and management of common psychiatric emergencies including:
    - Acute psychosis
- Suicidality
- Violence, homicidal thoughts
- Neuroleptic malignant syndrome
- Acute dystonic reactions
  - To know the indications, actions and side effects of psychiatric medications.
    - Antipsychotic medications: typical, atypical
    - Antidepressants: MAOIs, SSRIs, atypical
  - To present patients on Attending Rounds.

**Practice-based learning and improvement**

- **Goals**
  - To learn how to use EBM to obtain medical knowledge for patient care.
  - To understand the departmental and institutional performance improvement projects and patient safety goals.

- **Objectives**
  - To assist the Psychiatry Attending in the preparation of monthly morbidity and mortality reports.
  - To apply techniques of EBM to seek information in support of patient care.
  - To follow procedures designed to meet national patient safety goals.

**Interpersonal and communication skills**

- **Goals**
  - To improve skill in patient presentations to colleagues on attending rounds, sign out rounds, and at morning report.
  - To communicate effectively with team members in interdisciplinary team rounds.

- **Objectives**
  - To present patients on rounds in a clear and concise manner.
  - To give and receive sign outs in a collegial, complete, and efficient manner.
  - To effectively present medical information obtained to colleagues at teaching conferences.
  - To effectively teach medical students and rotating residents.
  - To document in the medical record in an accurate, concise, and punctual manner.

**Professionalism**

- **Goals**
  - To demonstrate respect for patients and staff members.
  - To put the patients’ interest ahead of any other considerations.
To understand the ethical principles involved in competency.

**Objectives**
- To obtain complete and participate in competency evaluations.
- To maintain the confidentiality of personally identifiable patient information.
- To interact with colleagues in a collegial and respectful manner.

**Systems-based practice**

**Goals**
- To participate in interdisciplinary team rounds.
- To practice psychiatry in a culture of safety and collaboration.

**Objectives**
- To collaboratively develop and implement appropriate discharge plans through interaction with psychiatric social workers, therapists, and nursing.
- To understand and participate in root cause analysis, sentinel event review, error investigation and reporting, health care systems, and patient advocacy.
Rotation Goals and Objectives

Second Year (Junior) Pediatric Neurology Residents:

The resident should demonstrate an appropriate level of skill in the **six core competencies**: 

**Patient care**

1. To develop family-centered, compassionate, development, age-appropriate and effective care for the management of pediatric neurologic problems (e.g., communicate effectively, demonstrate caring and respectful behaviors, counsel and educate patients and families).
2. To improve skills in the evaluation and management of infants and children with neurologic conditions.
3. To gain proficiency in the evaluation of inpatients and outpatients with a wide variety of pediatric neurological problems.
4. To be able to perform a proficient neurologic history and examination on infants and children.
5. To be able to formulate differential diagnosis, appropriate workup and prescribe appropriate treatment and follow up and to counsel, patients, parents and families.
6. To gain experience in acute care and management of pediatric neurologic patients in the ERs, PICUs and NICUs and to participate in the continued management of these patients.
7. To demonstrate improvement on presentations on rounds and documentation in patient records.

**Medical knowledge**

1. To acquire knowledge about established and evolving biomedical, clinical, and epidemiological and social-behavioral sciences needed by the child neurologist and the application of this knowledge to patient care (e.g., demonstrate an investigatory and analytical thinking approach to clinical situations and know and apply the basic and clinically supportive sciences which are appropriate to neurology).
2. To learn the diagnosis and treatment of neurologic diseases in infants and children, including seizures, developmental delay and regression of development, CNS tumors, neuromuscular disorders, CNS infections, headaches, behavioral disorders, such as ADHD, autism, complications of drugs and systemic disorders.
3. To know the indications, contraindications, risks, benefits, costs and alternatives to commonly performed neurodiagnostic procedures at various ages (radiologic, LP, electrophysiologic tests).
4. To recognize age related changes and normal values in neurodiagnostic tests.
5. To acquire sufficient knowledge to develop appropriate and pertinent plans of care.

Practice-based learning and improvement

1. This should involve investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, and improvements in patient care. This should include identifying standardized guidelines for conditions common to child neurology and adapt them to individual patient needs and identifying personal learning needs related to neurology and plan for continuing acquisition of knowledge and skills.
2. To learn how to use and present information obtained through the use of information technology.
3. To understand and implement departmental and institutional improvement projects and patient safety goals.

Interpersonal and communication skills

1. To learn skills that result in effective information exchange and teaming with patients, their families, and other health professionals.
2. To provide effective patient and family education.
3. To communicate effectively with primary care, other physicians and other health care professionals.
4. To maintain accurate, legible and legally appropriate medical records.
5. To effectively teach students, other residents and other health care professionals.

Professionalism

1. To develop a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population (e.g., demonstrate respect, compassion and integrity, a responsiveness to the needs of patients and society that supersedes self interest: demonstrate sensitivity and responsiveness to a patient’s culture, age, gender and disability).
2. To demonstrate personal accountability to the well-being of patients (e.g., following up on lab results, writing comprehensive notes and seeking answers to patient care questions).
3. To maintain the confidentiality of patient information and be aware of HIPPA guidelines.
4. To understand ethical principals involved in informed consent and advanced directives.

**Systems-based practice**

1. Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.
2. Identify key aspects of health care systems as they apply to child neurology.
3. Demonstrate sensitivity to the costs of clinical care in child neurology and take steps to minimize costs without compromising quality.
4. Demonstrate the ability to obtain needed services for patients and families. Advocate for families who need assistance in dealing with systems complexities, such as referral processes, lack of insurance, multiple medication refills, multiple appointments, etc.
5. Recognize one’s limits and those of the system; take steps to avoid medical errors.

**EVALUATION:**

Residents: Residents are provided with verbal feedback from attendings. Evaluation forms are also completed by attendings on a monthly basis. These forms address the six core competencies. Additionally, “360 degree” evaluations by support staff, other residents and patients and attending clinic evaluations are completed once a year. Additionally residents’ inpatient and outpatient notes and records are reviewed and evaluated on a regular basis by attendings. Observed history and exams (as per Board requirement – NEX exams) are performed during the residency. Child neurol. residents must complete four pediatric and one adult neurol. exam during training.

Rotation: Evaluation forms are completed by residents on a monthly basis evaluating the supervising attending and the rotation.

Orientation: occurs on day 1 of the rotation. Duties, goals and objectives of the rotation are discussed.

**SUGGESTED TEXTS:**

Clinical Pediatric Neurology: A Signs and Symptoms Approach
Gerald Fenichel
Diseases of the Nervous System in Childhood
**ROTATION SCHEDULE:**

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noon Conference</td>
<td>Noon Conference</td>
<td>Noon Conference</td>
<td>Noon Conference</td>
<td></td>
</tr>
<tr>
<td>1PM KCH Ped. Neurol. Clinic</td>
<td>1PM UHB Ped. Neurol. Clinic</td>
<td>1PM UHB Specialty Clinics</td>
<td></td>
<td>2PM Conference</td>
</tr>
</tbody>
</table>
Third Year (Senior) Pediatric Neurology Residents:

The resident should demonstrate an appropriate level of skill in the six core competencies:

**Patient care**

5. To maintain family-centered, compassionate, development, age-appropriate and effective care for the management of pediatric neurologic problems (e.g., communicate effectively, demonstrate caring and respectful behaviors, counsel and educate patients and families).

6. To continue to improve skills in the evaluation and management of infants and children with neurologic conditions.

7. To gain experience and become proficient in the evaluation of inpatients and outpatients with a wide variety of pediatric neurological problems.

8. To be able to perform an efficient and focused neurologic history and examination on infants and children.

9. To improve the formulation of neurologic differential diagnosis, appropriate workup and prescribe appropriate treatment and follow up and to counsel patients, parents and families.

10. To continue to improve and become proficient in the acute care and management of pediatric neurologic patients in the ERs, PICUs and NICUs and to participate in the continued management of these patients.

11. To demonstrate concise presentations on rounds and accurate and complete documentation in patient records.

**Medical knowledge**

5. To expand and improve knowledge about established and evolving biomedical, clinical, and epidemiological and social-behavioral sciences needed by the child neurologist and the application of this knowledge to patient care (e.g., demonstrate an investigatory and analytical thinking
approach to clinical situations and know and apply the basic and clinically supportive sciences which are appropriate to neurology).

6. To expand knowledge regarding the diagnosis and treatment of neurologic diseases in infants and children, including seizures, developmental delay and regression of development, CNS tumors, neuromuscular disorders, neurodegenerative disorders, CNS infections, headaches, behavioral disorders, such as ADHD, autism, complications of drugs and systemic disorders.

7. To know the indications, contraindications, risks, benefits, costs and alternatives to commonly performed neurodiagnostic procedures at various ages (radiologic, LP, electrophysiologic tests).

8. To appreciate and utilize age related changes and normal values in diagnostic and neurodiagnostic tests.

9. To expand the knowledge base to develop and utilize appropriate and pertinent plans of care.

**Practice-based learning and improvement**

5. To continue to investigate and evaluate their own patient care and to appraise and assimilate scientific evidence in order to improve patient care. This should include identifying standardized guidelines for conditions common to child neurology and adapt them to individual patient needs and identifying personal learning needs related to neurology and plan for continuing future acquisition of knowledge and skills.

6. To continue to acquire and effectively present information obtained through the use of information technology.

7. To continue to implement departmental and institutional improvement projects and patient safety goals.

8. Use evidence based medicine and accepted guidelines in decision making.

**Interpersonal and communication skills**

6. To continue to acquire skills that result in effective information exchange and teaming with patients, their families, and other health professionals.

7. To provide effective patient and family education; accurately describe and explain procedures to patients and families.

8. To continue to improve effective communication with primary care, other physicians and other health care professionals.

9. To maintain accurate, legible and legally appropriate medical records.

10. To effectively teach students, other residents and other health care professionals.

11. To learn to effectively supervise members of the child neurology in-patient team and to provide bedside education to rotating residents and students.
**Professionalism**

5. To continue a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population (e.g., demonstrate respect, compassion and integrity, a responsiveness to the needs of patients and society that supersedes self interest; demonstrate sensitivity and responsiveness to a patient’s culture, age, gender and disability).

6. To demonstrate integrity and personal accountability to the well-being of patients (e.g., following up on lab results, writing comprehensive notes and seeking answers to patient care questions).

7. To maintain the confidentiality of patient information and be aware of HIPPA guidelines.

8. To understand ethical principals involved in informed consent, advanced directives and clinical research.

**Systems-based practice**

7. Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.

8. To continue to identify key aspects of health care systems as they apply to child neurology.

9. Demonstrate sensitivity to the costs of clinical care in child neurology and take steps to minimize costs without compromising quality.

10. To work with other health care professionals to obtain needed high quality services for patients and families and to advocate for families who need assistance in dealing with systems complexities.

11. To recognize one’s limits and those of the system and take steps to avoid medical errors.

**EVALUATION:**

Residents: Residents are provided with verbal feedback from attendings. Evaluation forms are also completed by attendings on a monthly basis. These forms address the six core competencies. Additionally, “360 degree” evaluations by support staff, other residents and patients and attending clinic evaluations are completed once a year. Additionally residents’ inpatient and outpatient notes and records are reviewed and evaluated on a regular basis by attendings. Observed history and exams (as per Board requirement –
NEX exams) are performed during the residency. Child neurol. residents must complete four pediatric and one adult neurol. exam during training.

Rotation: Evaluation forms are completed by residents on a monthly basis evaluating the supervising attending and the rotation.

Orientation: occurs on day 1 of the rotation. Duties, goals and objectives of the rotation are discussed.

GOALS AND OBJECTIVES - CHILD PSYCHIATRY ROTATION
Kings County Hospital

Pediatric neurology residents are required by the RRC to complete a month rotation in child psychiatry. Second year pediatric neurology residents spend a full month rotation in Child Psychiatry under the supervision of the Child Psychiatry Director and faculty. The residents attend rounds on the inpatient child and adolescent psychiatry service at Kings County Hosp. They also attend selected outpatient clinics with Child Psychiatry faculty and fellows. They also participate in the Child Psychiatry clinics at the KCH Developmental Evaluation Center.

Goals: To improve his/her skills in the evaluation and management of children and adolescents with psychiatric disorders in both in-patient and outpatient settings and to improve skills in the six core competencies: patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice.

Specific goals and objectives:

The resident should:

1. Patient Care

   Learn to obtain an adequate in-take history from child psychiatry patients and their parents.

   Improve skills in the diagnosis and management of children and adolescents with psychiatric disorders, such as, conduct disorder, schizophrenia, depression/bipolar disorder, anxiety and obsessive-compulsive disorders

   Learn about the psychological aspects patient-physician relationship and the importance of personal, social and cultural factors in disease processes and
their expression.

2. **Medical Knowledge**

   Become familiar with the principles of psychopathology, psychiatric diagnosis and therapy.

   Learn the indications for, mechanism of action and complications of drugs used in psychiatry.

   Improve knowledge base for child psychiatry conditions

   Learn indications for other psychiatric interventions

3. **Practice based learning and improvement**

   Appreciate the interplay between psychogenic and neurologic clinical manifestations including somatization and conversion.

   Be able to use and present information obtained through use of information technology.

   Be able to implement institutional performance improvement projects related to patient safety.

4. **Interpersonal and communication skills**

   Improve communication skills with child psychiatry patients and their families

   Improve communication with other members of the health care team.

   Participate in interdisciplinary team meetings.

5. **Professionalism**

   Demonstrate respect for patients, families and staff.

   Put patients’ interests ahead of other considerations.

   Maintain confidentiality of personal patient information.

6. **System Based Practice**

   Demonstrate the ability to obtain needed services for patients
Communicate effectively with various schools and other support services.

**Suggested texts:**

**Child and Adolescent Psychiatry; A Comprehensive Textbook**  
Edited by Melvin Lewis

**Diagnostic and Statistical Manual of Mental Disorders (DSM-V-TR)**

**Evaluation:**

Residents: An evaluation form is filled out by the child psychiatry attending at the end of the month rotation; these forms address the 6 core competencies.

Rotation: An evaluation form is filled out by the resident at the end of the month rotation evaluating the supervising attending, the didactics and the patient care responsibilities.

The pediatric neurology program director and child psychiatry program director maintain open lines of communication and there is frequent informal feedback about the interactions between the programs.