



SUNY
DOWNSTATE
Medical Center

**SUNY Downstate Medical Center
Adult and Pediatric Neurology Handbook
2020**

I. Overview	1
1. <i>Mission Statement</i>	1
2. <i>Program Aims</i>	1
II. Affiliated Hospitals and Services	5
1. <i>University Hospital of Brooklyn (UHB)</i>	5
2. <i>Kings County Hospital Center (KCHC)</i>	5
3. <i>Maimonides Medical Center (MMC)</i>	5
4. <i>Memorial Sloan-Kettering Cancer Center (MSKCC)</i>	5
5. <i>Mount Sinai School of Medicine (MSSM)</i>	6
6. <i>Brooklyn Veterans Administration Hospital (BVA)</i>	6
III. Inpatient Rotations	7
1. <i>PGY-1 Inpatient Rotations (Prelim year)</i>	7
2. <i>PGY-2, 3 and 4 Inpatient Rotations (Adult Neurology Residency Year) Rotation Goals and Objectives</i>	9
3. <i>Rotators</i>	39
IV. Outpatient Rotations.....	46
1. <i>Goals and Objectives</i>	46
2. <i>Outpatient Rotation Details</i>	48
3. <i>Pediatric Neurology Clinics</i>	52
V. Electives	57
1. <i>Neurology Department Approved Subspecialty Electives</i>	57
2. <i>Research electives</i>	57
3. <i>Designer electives</i>	57
4. <i>Away electives</i>	57
5. <i>EMG Rotation</i>	57
6. <i>Neuropathology Rotation</i>	59
7. <i>Neuroradiology Rotation</i>	61
VI. Pediatric Neurology residency	64
1. <i>General Description and Requirements</i>	64
2. <i>Mission Statement</i>	66
3. <i>Goals and Objectives of the Child Neurology Residency Program</i>	66
4. <i>Resident evaluations:</i>	73
5. <i>Affiliated Hospitals and Services</i>	73
6. <i>Pediatric Neurology Inpatient and Outpatient Rotations (UHB & KCHC) Goals and Objectives...</i>	74
7. <i>Elective Rotations</i>	82
VII. Teaching and Didactics	88

<u>1. Overview</u>	<u>88</u>
<u>2. Preliminary Internal Medicine Conferences</u>	<u>88</u>
<u>3. Neurology Conferences</u>	<u>88</u>
<u>4. Teaching.....</u>	<u>89</u>
<u>VIII. Policies</u>	<u>92</u>
<u>1. Evaluation Policy.....</u>	<u>93</u>
<u>2. Duty Hours and Fatigue Management in Neurology Policy.....</u>	<u>94</u>
<u>3. Absences and Coverage Policy.....</u>	<u>95</u>
<u>4. Age Guidelines for patient care by adult and pediatric neurology services at UHB and KCH Policy.....</u>	<u>98</u>
<u>5. Charting and Documentation Policy</u>	<u>99</u>
<u>6. Credentialing Policy</u>	<u>101</u>
<u>7. End-of-the-year Guidelines for the Neurology Residency Policy.....</u>	<u>102</u>
<u>8. Transitions of Care Policy.....</u>	<u>103</u>
<u>9. Moonlighting Policy.....</u>	<u>106</u>
<u>10. Pharmaceutical Industry Interaction Policy.....</u>	<u>107</u>
<u>11. Selection, Promotion, Dismissal, and Due Process Policy.....</u>	<u>108</u>
<u>12. Supervisory Lines of Responsibility for Residents Policy</u>	<u>109</u>
<u>13. Escalation of Responsibility in Patient Care at KCHC, UHB and MMC Policy.....</u>	<u>121</u>
<u>14. Travel Payment Policy</u>	<u>122</u>
<u>15. Program Evaluation Committee / Annual Program Evaluation Policy</u>	<u>123</u>
<u>16. Clinical Competency Committee (CCC) Policy</u>	<u>126</u>
<u>IX. Supplement.....</u>	<u>128</u>

I. Overview

1. Mission Statement

Here at SUNY Downstate we continue with our decades long mission of preparing excellent neurologists and endow them with the necessary tools to meet all future challenges. We aim to train the next generation of strong clinician and clinician-scientists neurologists who combine the foundations and traditional methods of neurological inquiry (the neurological history, exam, and anatomical localization) with astute clinical acumen and evidence-based medicine to achieve the highest quality care for patients with neurological disorders. As the major academic center in Brooklyn we offer the highest quality neurology services to a very large and diverse population with many complex needs. We take pride in our strong commitment to the local community by providing compassionate care to every patient we serve.

Our vision reflects our goal to be nationally recognized for improving people's lives by providing excellent education for healthcare professionals, advancing research in biomedical science, health care and public health, while delivering the highest quality patient-centered care. Our value statement is P.R.I.D.E., which describes our satisfaction in the work we do every day and to value our collective contributions to the Downstate community (Professionalism, Respect, Innovation, Diversity, Excellence).

2. Program Aims

2-1. General Goals and Objectives

The neurology program in SUNY Downstate Medical Center is a Categorical training program, in which the first year (PGY-1) is largely under internal medicine program.

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, multiple sclerosis, 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.

**** Of note, the following goals and objectives in this handbook serve as a minimum and do not encompass all requirements.***

2-1-1. Goals

To train the next generation of clinician neurologists to meet the community needs.

To provide a rich educational program to establish foundations for our graduates to prepare them for any specialty or fellowship they may choose.

To train residents who are able to apply basic knowledge of the nervous system to the clinical practice.

To develop communication skills with patients and their families to optimize care.

To develop clinical problem-solving skills.

To train residents who are compassionate and understand the influence of family, community, and society in the care of their patients.

To develop strategies for health promotion and prevention of neurological disease.

To develop attitudes and professional behaviors appropriate for clinical practice.

To develop academic foundations for scholarly activity for the future of the graduate's medical career.

2-1-2. Objectives

Residents must meet all ACGME clinical competencies (patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice). Based on attending evaluations, end of teaching block written quizzes, peer and staff evaluations, patient surveys, passing simulations in simulation center (currently stroke) program director assessment, and clinical competency assessment.

Each trainee is closely monitored by his or her designated adviser as well as the residency director to assure they are on the right path for success using the ACGME milestone tool. The adviser provides advice and support to accomplish each objective.

By the end of pg4 the residents will have successfully rotated through a variety of top-notch clinical exposures in different health care systems in both inpatient and outpatient settings. Residents must successfully pass all rotations in community based, city safety net, academic center and private setting hospitals.

2-2. Specific Goals and Objectives

2-2-1. Adult Neurology

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.

Goals:

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

Objectives:

- To successfully complete rotations in general medical wards, intensive care, and ambulatory care at University Hospital of Brooklyn (UHB), Kings County Hospital (KCH), and Brooklyn VA (BVA).
- To successfully complete 1 month each of neurology at UHB, KCH, and Maimonides Medical Center (MMC).
- To successfully attend Neurology continuity clinic
- To successfully complete 1 month of psychiatry.

PGY-2 Goals

- To develop competency in the neurologic exam and evaluation of neurologic patients for common neurologic conditions including epilepsy, neuroimmunology, neurodegenerative, neuromuscular, neuro-oncology, and cerebrovascular 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.
- To begin development of quality improvement and scholarly activity.

PGY-2 Objectives:

- To successfully perform rotations on the ward and consultation services at KCH, the general and stroke services at UHB, EMU, the general, stroke, and neuro-intensive care services at MMC, and the neuro-oncology consultation service at MSKCC.
- To present cases and topics at junior resident conferences (Case conference and Directors Rounds) and morning report.
- To complete the first NEX exam.
- To complete 5 observed lumbar punctures

PGY 3 Goals:

- To gain exposure and develop skills in Neurocritical care setting
- 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 develop consultation skills on the KCH consultation service, and the UHB general and stroke services.
- To complete a month of Neurocritical care at Mount Sinai Neurosurgical Intensive Care Unit and Kings County Hospital Neurosurgical Intensive Care.
- To successfully lead clinical teams at UHB 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.
- To take part of a brain death exam.

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 improve outpatient clinical skills.

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 present at least one end of the month M&M
- To attend noon conference on clinical ethics (case-based)
- To have completed a total of 5 NEX exams in neuromuscular, neurobehaviour, neurocritical care, outpatient, and child neurology.

II. Affiliated Hospitals and Services

1. University Hospital of Brooklyn (UHB)

Contact person: Dr. Yaacov Anziska (Pager: 917-218-4313)

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.

1-1. UHB General

1-2. UHB Stroke

2. Kings County Hospital Center (KCHC)

Contact person: Dr. Helen Valsamis (Pager: 917-760-0888)

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.

- Inpatient general neurology ward service is comprised of a senior (PGY-4), juniors (PGY-2), Internal Medicine rotators (PGY-1), medical students (MS 3-4)
- Consultation service includes inpatient and emergency Room consultations. The team is comprised of senior (PGY-4), juniors (PGY-2,3), emergency medicine rotators (PGY-2), EM-IM rotators (PGY-2) and medical students (MS 3,4).
- Night float service comprised of PGY-2 or PGY-3, is responsible consults and inpatient service.
- Neurologic intensive care service is responsible of neurocritical care consult from inpatient or emergency department. The team is comprised of senior (PGY-3), junior (PGY-2), emergency medicine rotators (PGY-2), EM-IM rotators (PGY-2), Coney Island Hospital emergency medicine rotators (PGY-3) and medical students (MS 3,4)
- Clinic service is comprised of senior (PGY-4), juniors (PGY1,2 and 3) and psychiatry rotators (PGY-1)

3. Maimonides Medical Center (MMC)

Contact person: Dr. Nuri Jacoby (phone: 516-445-7286)

Residents rotate on the general, stroke, and neuro-intensive care unit throughout the residency training.

- General Consultation Service is comprised of PGY-2. Team is responsible for inpatient and emergency medicine consults.
- Stroke inpatient and consultation service is comprised of PGY-2, PGY-1, Internal medicine rotators (PGY-3), and medical students (MS 3-4)
- Neurologic Intensive Care Service is comprised of PGY-2.
- Night float service is comprised of PGY-2

4. Memorial Sloan-Kettering Cancer Center (MSKCC)

Contact person: Dr. Stone (Email: StoneJ3@mskcc.org)

Residents rotate on the neuro-oncology consultation service in their PGY-2 year.

5. Mount Sinai School of Medicine (MSSM)

Contact person: Dr. Neha Dangayach (Email: Neha.Dangayach@mountsinai.org)

Residents rotate in the Neurosurgical Intensive Care Unit for one block during their PGY-3 year.

6. Brooklyn Veterans Administration Hospital (BVA)

Contact person: Dr. Ramirez (miguel.ramirez@downstate.edu)

A Veterans Administration hospital that provides training in general internal medicine, intensive care, ambulatory care, and palliative care in the PGY-1 year.

III. Inpatient Rotations

1. PGY-1 Inpatient Rotations (Prelim year)

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. At least six months of the preliminary year is general internal medicine.

Residents will spend eight months in internal medicine of which one or two months may be emergency medicine. Residents may spend up to four months in neurology during this year.

1-1. Medicine Inpatient Services*:

1-1-1. Kings County Hospital Center (KCHC)

- Inpatient general medicine services (Blue and Red teams) are comprised of senior (PGY-3), juniors (PGY-1), and medical students (MS3).
- Night float team consists of PGY-1s supervised by in-house seniors (PGY-2 or 3) and an attending.
- Medical Intensive Care Unit service is comprised of fellow, senior (PGY-3) and juniors (PGY-1,2).
- Emergency Department service covers all adult areas of Emergency Room (A, B) and the team is comprised of residents (PGY-1, PGY-2,3) work directly with the attending.

1-1-2. University Hospital of Brooklyn (UHB)

- Inpatient general medicine service teams are comprised of a senior (PGY-2 or 3), juniors (PGY-1) and medical students (MS3)
- Night float team consists of PGY-1s supervised by in-house seniors (PGY-2 or 3) and an attending.

1-1-3. Brooklyn Veterans Administration Hospital (BVA)

- Inpatient general medicine service teams are comprised of a senior (PGY-2 or 3), juniors (PGY-1) and medical students (MS3)
- Night float team consists of PGY-1s supervised by in-house seniors (PGY-2 or 3).
- Medical Intensive Care Unit service is comprised of fellow, senior (PGY-3) and juniors (PGY-1,2).

** Under the responsibility of Medicine.*

1-2. Neurology Inpatient Services**

1-2-1. Kings County Hospital Center (KCHC) Ward

- PGY-1 serves as a junior in the inpatient team.

1-2-2. Maimonides Medical Center Stroke Ward

- PGY-1 serves as a junior in the stroke inpatient team.

*** Goals and Objectives for each rotation: see 2-1 and 2-8*

1-3. Psychiatry Inpatient Service Goals and Objectives

1-3-1. 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 evidence-based medicine to guide evaluation and treatment of psychiatric entities.

Objectives

- To learn how to use DSM-V criteria to develop a comprehensive diagnostic and treatment plan.
- 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, medication reconciliation, integrated plan of care and discharge summary.

1-3-2. 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:
 - Common psychotic disorders
 - Mood Disorders
 - Anxiety Disorders
 - Personality Disorders
- To know the etiology, evaluation, and management of common psychiatric emergencies including:
 - Acute psychosis
 - Neuroleptic malignant syndrome
- To know the indications, actions and side effects of psychiatric medications common antipsychotic medications and Antidepressants)
- To present patients on attending rounds.

1-3-3. Practice-based learning and improvement

Goals

- To learn how to use evidence-based medicine 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 evidence-based medicine to seek information in support of patient care.
- To follow procedures designed to meet national patient safety goals.

1-3-4. Interpersonal and communication skills

Goals

- To improve skill in patient presentations
- To communicate effectively with team members in interdisciplinary team rounds.

Objectives

- To present patients on work rounds, sign out rounds, and at morning report 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.
- To effectively teach medical students and rotating residents.
- To document in the medical record in an accurate, concise, and punctual manner.

1-3-5. 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.

1-3-6. 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 on 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.

2. PGY-2, 3 and 4 Inpatient Rotations (Adult Neurology Residency Year) Rotation Goals and Objectives

2-1. KCHC Ward Junior (PGY-2,3 and Peds Neuro PGY-3)

2-1-1. 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 electronic medical records 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 records: admitting H&P, progress notes, event notes, procedure notes, medication reconciliation, integrated plan of care and discharge summary.
- To accurately place orders in electronic medical records.

2-1-2. 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 obtain certification in lumbar punctures and to interpret the results.
 - To interpret basic central nervous system pathology in 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, KCH Morning Report, Neurology Case Conference, and Neuroradiology Conference.

2-1-3. Practice-based learning and improvement

Goals

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

Objectives

- To assist the KCHC Ward Senior in the preparation of monthly morbidity and mortality reports.
- To apply techniques of evidence-based medicine to seek information in support of patient care.
- To present evidence-based medicine and additional medical information obtained to colleagues at 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.

2-1-4. 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.

2-1-5. 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.

2-1-6. 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.

2-2. KCHC Ward Senior (PGY 4)

2-2-1. 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

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).

2-2-2. 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
 - Neuroleptic malignant syndrome
 - Status epilepticus, refractory status epilepticus
- To interpret the results for:
 - MR spectroscopy of the brain
 - EEG
 - EMG
- To be able to interpret:
 - MRI scans of the brain and spine
 - CT scans of the brain and spine

2-2-3. 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 and quality improvement project.

2-2-4. 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.

2-2-5. 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.

2-2-6. 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

2-3. KCHC Consult Junior (PGY-2 or 3 and Peds Neuro PGY-3)

2-3-1. 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, psychiatry 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 neurologic presentations.
- To utilize evidence-based medicine to guide evaluation and treatment of neurologic issues.

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 perform and become certified in specialized exams
 - Brain death
 - Coma
 - NIH stroke scale, modified Rankin scale, swallowing evaluation
- To document thorough and timely Initial consultation, follow-up, and sign off notes in the electronic medical records.

2-3-2. 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 deepen stroke therapy knowledge.

Objectives

- To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities including:
 - Autoimmune syndromes as multiple sclerosis and autoimmune encephalitis
 - Developmental pathology including hydrocephalus, Arnold-chiari
 - Infectious: bacterial and viral meningitis and encephalitis
 - Neoplastic: primary brain tumors and metastatic brain tumors
 - Vascular: ischemic and hemorrhagic stroke
 - Degenerative disorders as Alzheimer's disease and movement disorders as Parkinson's disease
- To be certified and independently run stroke codes.
- To know the presentations, differential diagnoses and treatments of neurologic emergencies including:
 - Guillain-barre syndrome
 - Increased intracranial pressure
 - Myasthenic crisis.
 - Status epilepticus
 - To be certified and independently run stroke codes (including tPA administration)
 - Intracerebral hemorrhage
 - Traumatic brain injury
- To know the indications, contraindications, risks, benefits, and alternatives to commonly performed neurodiagnostic procedures
 - To be credentialed 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.

2-3-3. Practice-based learning and improvement

Goals

- To learn how to use evidence-based medicine 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 evidence-based medicine to seek information in support of patient care.
- To present evidence-based medicine 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.

2-3-4. 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, and concise manner.

2-3-5. 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 perform 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.
- To comply with hospital rules and regulations.

2-3-6. 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.

2-4. KCHC Consult Senior (PGY-4)

2-4-1. Patient care

Goals

- To supervise Neurology juniors and rotating residents on the KCH consultation service.
- To triage the consultations based on level of training and competency of the junior residents.
- 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, psychiatry 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 neurologic presentations.
- To utilize evidence-based medicine to guide evaluation and treatment of neurologic issues.

Objectives

- To organize the clinical team for presentations on attending rounds and at morning report.
- 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 perform and become certified in specialized exams
 - Brain death
 - Coma
 - NIH stroke scale, modified Rankin scale, swallowing evaluation
- To document thorough and timely Initial consultation, follow-up, and sign off notes in the electronic medical records.

2-4-2. 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:
 - Complications of medical disease including, seizures, encephalopathy, syncope, CNS and PNS toxicity of medications
 - Autoimmune: multiple sclerosis, neuromyelitis optica, cerebral vasculitis, neuro-sarcoidosis
 - Developmental pathology including hydrocephalus, Arnold-chiari
 - 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
 - Degenerative disorders as Alzheimer's disease and movement disorders as Parkinson's disease including rare forms.
- To know the etiology, evaluation, and management of common neurologic emergencies including:
 - Acute stroke and complications of tPA administration
 - Guillain-Barre syndrome including rare presentations
 - 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 supervise lumbar punctures and result interpretation.
 - 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.

2-4-3. Practice-based learning and improvement

Goals

- To learn how to use evidence-based medicine 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 evidence-based medicine to seek information in support of patient care.
- To present evidence-based medicine 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.
- To learn PDSA methodology and to develop a QI project.

2-4-4. 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, and concise manner.

2-4-5. 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 perform 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.
- To comply with hospital rules and regulations.

2-4-6. 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 coordinate with the KCHC Ward Senior in the preparation of monthly morbidity and mortality reports.

2-5. KCHC Neuro-ICU (PGY-1,2 and 3)

2-5-1. Patient Care

Goals

- Resident is able to provide compassionate, appropriate and effective patient care for the treatment of health problems and promotion of health.
- Resident understands how to appropriately prioritize patient problems and develop an appropriate diagnostic plan, prescribes medications appropriately, and shows an appropriate balance between attention to the details of patient care and the overall context of treating the patient's illness.
- Resident obtains consultations appropriately, and is able to perform technical procedures adequately, when appropriate.

Objectives

- Perform a detailed neurological history and physical exam of critically ill patients.
- Understand the indications and basic interpretation of monitoring and diagnostic testing in the ICU
- Understand the clinical evaluation and treatment of neurological emergencies in the ICU
- Understand the pathophysiology, diagnosis and management of common neurovascular disorders including: ischemic stroke, hemorrhagic stroke, subarachnoid hemorrhage, and other cerebrovascular malformations.

2-5-2. Medical knowledge

Goals

- Resident demonstrates knowledge of established and evolving biomedical, clinical, epidemiological, and social/behavioral sciences as well as the application of this knowledge to patient care.
- Resident is able to assess diagnostic information critically and constructively, and recognizes the psychosocial aspects of illness.

- Resident is able to critically evaluate the medical literature and apply new knowledge to the delivery of safe and effective patient care.

Objectives

- Perform a detailed neurological history and physical exam of critically ill patients.
- Understand the indications and basic interpretation of monitoring and diagnostic testing in the ICU
- Understand the clinical evaluation and treatment of neurological emergencies in the ICU
- Understand the pathophysiology, diagnosis and management of common neurovascular disorders including: ischemic stroke, hemorrhagic stroke, subarachnoid hemorrhage, and other cerebrovascular malformations.

2-5-3. Practice-based learning and improvement

Goals

- Resident is able to critically evaluate the care of their patients, appraise and assimilate scientific evidence, and continuously improve patient care delivered on the basis of ongoing self-evaluation and learning.
- Resident is capable of self-identifying strengths, deficiencies, and the limits of their knowledge and expertise.
- The Resident is receptive to constructive criticism (formative evaluation feedback) regarding the care of patients and physician performance.
- Resident is able to set learning and improvement goals, and identify and perform activities appropriate to meeting those goals.

Objectives

- To apply techniques of evidence-based medicine to seek information in support of patient care.
- To present evidence-based medicine 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.
- To learn PDSA methodology and to develop a QI project.
- To meet with the mentor for evaluations and improvement plan.

2-5-4. Interpersonal and communication skills

Goals

- To improve skill in patient presentations to colleagues on attending rounds and sign out rounds.
- 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, and concise manner.

2-5-5. Professionalism

Goals

- Committed to carrying out professional responsibilities and adhering to ethical principles.
- To demonstrate respect for patients and staff members.
- To put the patients' interest ahead of any other considerations.

Objectives

- Resident demonstrates respect for patient privacy and autonomy and is accountable to patient, society and the medical profession for actions.
- Resident demonstrates compassion, integrity and respect for others as well as responsiveness to patient needs that supersede self-interest.
- The Resident demonstrates sensitivity and responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
- Resident demonstrates the ability to manage personal stress effectively.
- Resident answers pages or messages in a timely fashion.
- Resident understands how to maintain appropriate professional boundaries, and demonstrates integrity, honesty and compassion.
- Resident completes assigned tasks in a timely fashion

2-5-6. System-Based Practice

Goals

- Resident understands and is capable to interact effectively with different systems of care.
- Demonstrates the ability to provide high-quality care in a cost-effective manner.

Objectives

- Resident incorporates consideration of cost-awareness and risk-benefit analysis in patient care decisions.
- Resident advocates for high quality care for all patients.

2-6. UHB General (PGY-3,4)

2-6-1. 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 evidence-based medicine to guide evaluation and treatment of neurologic syndromes.

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 and teach 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.

2-6-2. Medical knowledge

Goals

- To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease.
- 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:
 - Complications of medical disease including, seizures, encephalopathy, syncope, CNS and PNS toxicity of medications
 - Autoimmune: multiple sclerosis, neuromyelitis optica, cerebral vasculitis, neuro-sarcoidosis
 - Developmental pathology including hydrocephalus, Arnold-Chiari
 - 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
 - Degenerative disorders as Alzheimer's disease and movement disorders as Parkinson's disease including rare forms.
- To know the etiology, evaluation, and management of common neurologic emergencies including:
 - Guillain-Barre syndrome including rare presentations
 - Increased intracranial pressure
 - 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 Directors Rounds, UHB Morning Report, Neuroradiology Conference, and specialty conferences.

2-6-3. Practice-based learning and improvement

Goals

- To learn how to use evidence-based medicine 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 evidence-based medicine to seek information in support of patient care.

- To present evidence-based medicine and additional medical information obtained to colleagues at specialty teaching conferences.
- To participate in and help develop departmental and institutional performance and quality improvement projects.
- To follow procedures designed to meet national patient safety goals.

2-6-4. 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 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.

2-6-5. 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

- Resident demonstrates respect for patient privacy and autonomy and is accountable to patient, society and the medical profession for actions.
- Resident demonstrates compassion, integrity and respect for others as well as responsiveness to patient needs that supersede self-interest.
- The Resident demonstrates sensitivity and responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
- Resident demonstrates the ability to manage personal stress effectively.
- Resident answers pages or messages in a timely fashion.
- Resident understands how to maintain appropriate professional boundaries, and demonstrates integrity, honesty and compassion.
- Resident completes assigned tasks in a timely fashion

2-6-6. Systems-based practice

Goals

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

Objectives

- To develop and implement appropriate discharge plans in collaboration with the patients and their families, rehabilitation medicine services, social work, case manager 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.

2-7. UHB Stroke (PGY-2,3)

2-7-1. Patient care

Goals

- To perform admissions, hospital care, and discharges of patients admitted to the stroke service at UHB in a competent, efficient and compassionate manner.
- To perform stroke consultations at UHB.
- To run efficient and effective stroke codes.
- To use information obtained from history, physical examinations, and ancillary tests to localize lesions and develop a differential diagnosis work-up, evaluation and plan of care for neurology admissions and consultations.
- To utilize evidence-based medicine to guide evaluation and treatment of neurologic entities.

Objectives

- To present a thorough and concise stroke evaluations on attending rounds and at morning report for neurology admissions and consultations.
- To present updates on the hospital course of admitted patients and follow up of consultations on attending rounds in a thorough and efficient manner.
- To perform the components of the Stroke evaluations.
 - NIH Stroke Scale
 - Modified Rankin Scale
 - Swallowing evaluation
- 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.

2-7-2. 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:
 - Lacunar syndromes, embolic and large vessel strokes
 - 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

2-7-3. Practice-based learning and improvement

Goals

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

Objectives

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

2-7-4. 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.

2-7-5. Professionalism

Goals

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

Objectives

- Resident demonstrates respect for patient privacy and autonomy and is accountable to patient, society and the medical profession for actions.
- Resident demonstrates compassion, integrity and respect for others as well as responsiveness to patient needs that supersede self-interest.
- The Resident demonstrates sensitivity and responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
- Resident demonstrates the ability to manage personal stress effectively.
- Resident answers pages or messages in a timely fashion.
- Resident understands how to maintain appropriate professional boundaries, and demonstrates integrity, honesty and compassion.
- Resident completes assigned tasks in a timely fashion

2-7-6. 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 time and quality standards.
- To develop and implement appropriate discharge plans in collaboration with the patients and their families, Stroke coordinator, rehabilitation medicine services, social work, case manager 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

2-8. MMC General (PGY-2,3)

2-8-1. Patient care

Goals

- To perform competent, efficient, and compassionate general neurology consultations at MMC.
- 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 consultations.
- To utilize evidence-based medicine to guide evaluation and treatment of neurologic syndromes.

Objectives

- To present a thorough and concise neurologic evaluation on attending rounds and at morning report for neurology consultations.
- To perform and teach 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 initial consultation, follow-up, and sign off notes.

2-8-2. Medical knowledge

Goals

- To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease.
- 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:
 - Complications of medical disease including, seizures, encephalopathy, syncope, CNS and PNS toxicity of medications
 - Autoimmune: multiple sclerosis, neuromyelitis optica, cerebral vasculitis, neuro-sarcoidosis
 - Developmental pathology including hydrocephalus, Arnold-Chiari
 - 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
 - Degenerative disorders as Alzheimer's disease and movement disorders as Parkinson's disease including rare forms.
- To know the etiology, evaluation, and management of common neurologic emergencies including:
 - Guillain-Barre syndrome including rare presentations
 - Increased intracranial pressure
 - 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 Directors Rounds, Morning Report, Neuroradiology Conference, and specialty conferences.

2-8-3. Practice-based learning and improvement

Goals

- To learn how to use evidence-based medicine 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 evidence-based medicine to seek information in support of patient care.
- To present evidence-based medicine and additional medical information obtained to colleagues at specialty teaching conferences.
- To participate in and help develop departmental and institutional performance and quality improvement projects.
- To follow procedures designed to meet national patient safety goals.

2-8-4. 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 MMC Stroke resident and NPs.
- 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.

2-8-5. 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

- Resident demonstrates respect for patient privacy and autonomy and is accountable to patient, society and the medical profession for actions.
- Resident demonstrates compassion, integrity and respect for others as well as responsiveness to patient needs that supersede self-interest.
- Resident demonstrates sensitivity and responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
- Resident demonstrates the ability to manage personal stress effectively.
- Resident answers pages or messages in a timely fashion.
- Resident understands how to maintain appropriate professional boundaries, and demonstrates integrity, honesty and compassion.
- Resident completes assigned tasks in a timely fashion

2-8-6. Systems-based practice

Goals

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

Objectives

- To develop and implement appropriate discharge plans in collaboration with the patients and their families, rehabilitation medicine services, social work, case manager, NPs 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 MMC stroke resident and NPs in the preparation of monthly morbidity and mortality reports.

2-9. MMC Stroke (PGY-2, 3)

2-9-1. Patient care

Goals

- To perform admissions, hospital care, and discharges of patients admitted to the stroke service at MMC in a competent, efficient and compassionate manner.
- To perform stroke consultations at MMC.
- To run efficient and effective stroke codes.
- To use information obtained from history, physical examinations, and ancillary tests to localize

lesions and develop a differential diagnosis work-up, evaluation and plan of care for neurology admissions and consultations.

- To utilize evidence-based medicine to guide evaluation and treatment of neurologic entities.

Objectives

- To present a thorough and concise stroke evaluations on attending rounds and at morning report for neurology admissions and consultations.
- To present updates on the hospital course of admitted patients and follow up of consultations on attending rounds in a thorough and efficient manner.
- To perform the components of the Stroke evaluations.
 - NIH Stroke Scale
 - Modified Rankin Scale
 - Swallowing evaluation
- 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.

2-9-2. 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:
 - Lacunar syndromes, embolic and large vessel strokes
 - 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

2-9-3. Practice-based learning and improvement

Goals

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

Objectives

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

2-9-4. 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 MMC General resident and NPs.
- 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.

2-9-5. Professionalism

Goals

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

Objectives

- Resident demonstrates respect for patient privacy and autonomy and is accountable to patient, society and the medical profession for actions.
- Resident demonstrates compassion, integrity and respect for others as well as responsiveness to patient needs that supersede self-interest.
- Resident demonstrates sensitivity and responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
- Resident demonstrates the ability to manage personal stress effectively.
- Resident answers pages or messages in a timely fashion.
- Resident understands how to maintain appropriate professional boundaries, and demonstrates integrity, honesty and compassion.
- Resident completes assigned tasks in a timely fashion

2-9-6. Systems-based practice

Goals

- To work with the Stroke coordinator and NPs 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 and NPs in meeting and documenting time and quality standards.
- To develop and implement appropriate discharge plans in collaboration with the patients and their

families, NPs, Stroke coordinator, rehabilitation medicine services, social work, case manager 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 MMC general resident and NPs in the preparation of monthly morbidity and mortality reports

2-10. Epilepsy Monitoring Unit and EEG Rotation

2-10-1. Patient Care

Goals

- Approach a patient with new onset seizure.
- Approach a patient with established epilepsy.

Objectives

- To be able to perform a comprehensive evaluation of Epilepsy Monitoring Unit patients.
- To be able to evaluate epilepsy clinic patients.
- 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

2-10-2. 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

2-10-3. Practice-based learning and improvement

Goals

- Know how to use evidence-based medicine 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 evidence-based medicine in developing evaluation and treatment plans.
- To implement the departmental and institutional performance improvement projects and patient safety goals.

2-10-4. 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 in child bearing age with epilepsy in a sensitive, emphatic and supportive manner.
- To identify and treat psychiatric and cognitive issues in persons with epilepsy.
- To effectively teach medical students and rotating residents.

2-10-5. 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 video EEG monitoring.
- To maintain the confidentiality of personally identifiable patient information.

2-10-6. Systems-based practice

Goals

- To demonstrate ability to obtain medical information on epilepsy patients

Objectives

- To collaborate with referring services, neuroradiology, and Epilepsy Clinic.

EMU/EEG Rotation Guide

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.

A. Curriculum and required reading

- Required reading: 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), Bruce Fisch, Spehlmann's EEG Primer
- Residents should go through the EEG teaching file and slide presentations, which provide a broad overview of a variety of topics in epilepsy.
- Teaching materials available in the Epilepsy Monitoring Unit: Videotaped series of lectures, PowerPoint

slide presentations, Textbooks, Journal article references

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

B. Responsibilities

- Daily attendance at EEG reading.
- Fellows read in the morning, attendings generally in the afternoon. Check with the fellow regarding the reading time.
 - Week 1:
 - Observe EEG reading. Basic teaching by attending and fellow
 - Observe EEG technologists performing at least one EEG and each EP modality from start to finish
 - Week 2-4:
 - Review and write report of one EEG per day; discuss with attending
 - Every resident must write at least 10 EEG reports (supervised by the corresponding attending of that day) by the end of the rotation.
- Attendance at EP readings. Schedule is variable
- Attendance at clinical neurophysiology lectures: Monday 8am or 12pm.
- Attendance at Epilepsy Conference: Thursdays 12N, EMU
- Rotation in UHB Epilepsy Monitoring Unit
 - Residents will attend EMU rounds daily with the fellow from 8-9AM and with the attending/team from 9-10AM.
 - 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.
- Attendance at Epilepsy Clinic (1:00 - 5:00 pm) on the 3rd, 4th (and 5th) Thursday of each month, UHB, Suite C
 - Residents will see new and follow-up patients in Epilepsy Clinic

C. Evaluation

- Evaluation will be by written performance evaluation, which is the responsibility of the attending physician of the EMU during that month.
- Of the rotation: evaluation form filled out by residents on a monthly basis evaluating the supervising attending, the didactics, and the patient care responsibilities.

2-11. Neuro-oncology Rotation at MSKCC (PGY-2)

2-11-1. Patient care

Goals

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

Objectives

- To develop skills in writing consultation notes.
- To develop skills in the care of patients with neuro-oncologic conditions.

2-11-2. 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 skills in the care of patients with neuro-oncologic conditions.
- 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

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 skills in writing consultation notes.
- To 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.

2-11-3. Practice-based learning and improvement

Goals

- To use evidence-based medicine 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.

2-11-4. 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.

2-11-5. 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

2-11-6. 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

2-12. Neurology ICU at MSSM (PGY-3)

Rational:

The NICU is devoted for Adult neurology patients requiring critical care. Unit patients are treated for a wide variety of acute neurologic emergencies including but not limited to severe cerebrovascular pathologies (examples are Ischemic or hemorrhagic stroke and subarachnoid hemorrhage), Coma, Epilepsy, Acute autoimmune demyelinating polyneuropathy, Myasthenia Gravis, Encephalopathy, Herniation.

This level of care is fundamental to neurology resident's education.

PGY3 level Downstate Neurology residents will each rotate for a period of one month at the Mount Sinai NICU. They rotating residents will be under the supervision and guidance of the NICU attending and will assume the appropriate responsibilities. The rotating residents will participate in the call schedule as required. Rotating residents will care, round and interact with a multidisciplinary team including neurointensivists, neurosurgeons and neurointerventionalists as well as supporting services and staff. Practical bedside and didactic teaching sessions will supplement the patient care experience.

2-12-1. Patient Care

Goals

- Resident is able to provide compassionate, appropriate and effective patient care for the treatment of health problems and promotion of health.
- Resident understands how to appropriately prioritize patient problems and develop an appropriate diagnostic plan, prescribes medications appropriately, and shows an appropriate balance between attention to the details of patient care and the overall context of treating the patient's illness.
- Resident obtains consultations appropriately, and is able to perform technical procedures adequately, when appropriate.

Objectives

- Perform a detailed neurological history and physical exam of critically ill patients.
- Understand the indications and basic interpretation of monitoring and diagnostic testing in the ICU.
- Understand the clinical evaluation and treatment of neurological emergencies in the ICU.
- Understand the pathophysiology, diagnosis and management of common neurovascular disorders including: ischemic stroke, hemorrhagic stroke, subarachnoid hemorrhage, and other cerebrovascular malformations.

2-12-2. Medical knowledge

Goals

- Resident demonstrates knowledge of established and evolving biomedical, clinical, epidemiological, and social/behavioral sciences as well as the application of this knowledge to patient care.
- Resident is able to assess diagnostic information critically and constructively, and recognizes the psychosocial aspects of illness.
- Resident is able to critically evaluate the medical literature and apply new knowledge to the delivery

of safe and effective patient care.

Objectives

- Perform a detailed neurological history and physical exam of critically ill patients.
- Understand the indications and basic interpretation of monitoring and diagnostic testing in the ICU.
- Understand the clinical evaluation and treatment of neurological emergencies in the ICU.
- Understand the pathophysiology, diagnosis and management of common neurovascular disorders including: ischemic stroke, hemorrhagic stroke, subarachnoid hemorrhage, and other cerebrovascular malformations.

2-12-3. Practice-based learning and improvement

Goals

- Resident is able to critically evaluate the care of their patients, appraise and assimilate scientific evidence, and continuously improve patient care delivered on the basis of ongoing self-evaluation and learning.
- Resident is capable of self-identifying strengths, deficiencies, and the limits of their knowledge and expertise.
- Resident is receptive to constructive criticism (formative evaluation feedback) regarding the care of patients and physician performance.
- Resident is able to set learning and improvement goals, and identify and perform activities appropriate to meeting those goals.

Objectives

- To apply techniques of evidence-based medicine to seek information in support of patient care.
- To present evidence-based medicine 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.
- To learn PDSA methodology and to develop a QI project.
- To meet with the mentor for evaluations and improvement plan.

2-12-4. Interpersonal and communication skills

Goals

- To improve skill in patient presentations to colleagues on attending rounds, sign out rounds.
- 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, and concise manner.

2-12-5. Professionalism

Goals

- Committed to carrying out professional responsibilities and adhering to ethical principles.
- To demonstrate respect for patients and staff members.
- To put the patients' interest ahead of any other considerations.

Objectives

- Resident demonstrates respect for patient privacy and autonomy and is accountable to patient, society and the medical profession for actions.
- Resident demonstrates compassion, integrity and respect for others as well as responsiveness to patient needs that supersede self-interest.
- The Resident demonstrates sensitivity and responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
- Resident demonstrates the ability to manage personal stress effectively.
- Resident answers messages in a timely fashion.
- Resident understands how to maintain appropriate professional boundaries, and demonstrates integrity, honesty and compassion.
- Resident completes assigned tasks in a timely fashion

2-12-6. System-Based Practice

Goals

- Resident understands and is capable to interact effectively with different systems of care.
- Demonstrates the ability to provide high-quality care in a cost-effective manner.

Objectives

- Resident incorporates consideration of cost-awareness and risk-benefit analysis in patient care decisions.
- Resident advocates for high quality care for all patients.

2-13. Pediatric Neurology at UHB and KCH (PGY-3, 4)

Rational

Adult neurology residents are required by the ACGME to complete three months of Pediatric Neurology rotation during their training. They rotate one month during their PGY-3 and two months during PGY-4 year. Call responsibilities are from home with some patients requiring emergency in-person evaluations. Sites include the pediatric floors, PICU, NICU, ER at UHB and KCH in addition to Child Psychiatry floor/ER at KCH and Epilepsy Monitoring Unit at UHB. Residents are responsible for admissions and consults and are expected to attend general and subspecialty 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.

2-13-1. Patient care

Goals

- To develop family-centered, compassionate, development and age - appropriate care that is effective for the treatment of health problems and the promotion of health in pediatric neurology patients.
- To develop skills in the evaluation and management of infants and children with neurologic conditions.

Objectives

- To perform and document an age appropriate history and examination.
- To obtain an accurate developmental history.
- To provide concise and relevant presentations on rounds and adequate documentation in patient records.
- To provide counseling and education to patients and their families.
- To demonstrate caring and respectful behaviors towards patients and their families.
- To recognize the limitations of the level of training and seek help when appropriate.

2-13-2. Medical knowledge

Goals

- 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).
- To learn the diagnosis and treatment of neurologic diseases in infants, children and adolescents.
- To know the indications, contraindications, risks, benefits and alternatives to commonly performed neurodiagnostic procedures in infants and children.
- To develop appropriate and pertinent plans of care.

Objectives

- To participate in daily morning rounds.
- To acquire the knowledge of milestones for language, motor and social development.
- To perform an age appropriate neurologic examination.
- To attend outpatient pediatric neurology clinics.
- To become familiar with diagnosis, evaluation and management of the more common pediatric epilepsy syndromes such as rolandic epilepsy of childhood, absence seizures, juvenile myoclonic epilepsy, etc.
- To become familiar with diagnosis, evaluation and management of patients with neurobehavior problems including ADHD.
- To complete the required NEX examination of a pediatric patient.

2-13-3. Practice-based learning and improvement

Goals

- To investigate and evaluate resident's own patient management, appraisal and assimilation of scientific evidence, and improvements in patient care.
- To identify personal learning needs related to child neurology and plan for continuing acquisition of knowledge and skills.
- To learn how to use and present information obtained through the use of information technology.
- To understand and implement departmental and institutional improvement projects and patient safety goals.

Objectives

- To learn to identify standardized guidelines for conditions common to child neurology and adapt them to individual patients.
- To actively participate in daily rounds and other educational conferences.
- To use medical libraries, internet searches and literature databases to obtain and evaluate information from scientific and practice literature to help in the quality care of patients.

2-13-4. Interpersonal and communication skills

Goals

- To learn skills that result in effective information exchange and teaming with patients, their families, and other health professionals.
- To provide effective patient and family education.
- To communicate effectively (discuss findings and recommendations) with primary care and other physicians, families and other health care professionals.
- To effectively establish rapport and communication with patients and families.

Objectives

- To provide explanations of neurologic disorders and treatment using language that is jargon free and matched to the educational/intellectual levels of patients and their families. To ensure that the patient

and/or family have understood the communication.

- To maintain accurate, up-to-date, legible and legally appropriate medical records.
- To preserve patient confidentiality.
- To communicate clear and specific recommendations to other health care professionals.

2-13-5. Professionalism

Goals

- 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).
- To demonstrate personal accountability to the well-being of patients.
- To demonstrate sensitivity to patients age, gender and disabilities.

Objectives

- To seek answers to patient care questions and write comprehensive notes.
- To follow up on lab/imaging results and answer messages in a timely fashion.
- To coordinate care with other members of the medical and/or multidisciplinary team
- To maintain the confidentiality of patient information

2-13-6. Systems-based practice

Goals

- To 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.
- To identify key aspects of health care systems as they apply to child neurology
- To demonstrate sensitivity to the costs of clinical care in neurology and take steps to minimize costs without compromising quality.
- To advocate for families who need assistance in dealing with systems complexities.

Objectives

- To become familiar with special care programs, such as special school facilities, home care, early intervention programs.
- To become familiar with relevant best practice guidelines in child neurology.
- To learn to use appropriate consultation and referral mechanisms for the optimal clinical management of patients with complicated medical illnesses.
- To recognize one's limits and those of the system.
- To take steps to avoid medical errors.

2-13-7. Evaluation

Residents

Residents are provided with verbal feedback from attendings. Evaluation forms are also completed by attendings on a monthly or biweekly basis (depending on length of the rotation). As per the ABPN requirement, an observed history and exam of a pediatric patient needs to be completed as part of the total 5 required NEX examinations.

Rotation

Evaluation forms are completed by residents after the completion of each rotation evaluating the supervising attending and the rotation.

2-13-8. 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*

2-13-9. Rotation Schedule

Monday	Tuesday	Wednesday	Thursday	Friday
<u>8:30AM</u> Pediatric Neurology Rounds	<u>8:30AM</u> Pediatric Neurology Rounds	<u>8:30AM</u> Pediatric Neurology Rounds	<u>8:30AM</u> Pediatric Neurology Rounds	<u>8AM</u> Pediatric Neurology Rounds <u>9AM</u> Grand Rounds <u>10:30AM</u> Continue Ped. Neurol. Rounds
<u>Noon</u> Conference <u>1PM</u> KCH Ped. Neurol. Clinic	<u>Noon</u> Conference <u>1PM</u> UHB Ped. Neurol. Clinic	<u>Noon</u> Conference	<u>Noon</u> Conference <u>1PM</u> UHB Specialty Clinics	<u>1 pm</u> Conference

3. Rotators

3.1. Internal Medicine Rotators (Categorical and Neurology prelim PGY-1): KCH Ward

3-1-1. 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 electronic medical records 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 records: admitting H&P, progress notes, event notes, procedure notes, medication reconciliation, integrated plan of care and discharge summary.
- To accurately place orders in electronic medical records.

3-1-2. 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 interpret basic central nervous system pathology in CT scans and MRIs of the brain and spine.
- To present patients at Directors Rounds, KCH Morning Report.

3-1-3. Practice-based learning and improvement

Goals

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

Objectives

- To assist the KCHC Ward Senior in the preparation of monthly morbidity and mortality reports.
- To apply techniques of evidence-based medicine to seek information in support of patient care.
- To present evidence-based medicine and additional medical information obtained to colleagues at resident teaching conferences.
- To follow procedures designed to meet national patient safety goals.

3-1-4. 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.

3-1-5. 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.

3-1-6. 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 error investigation and reporting, health care systems, and patient advocacy.

3-2. Emergency Medicine and EM/IM Rotators: KCH consultation

3-2-1. 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, psychiatry 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 neurologic presentations.
- To utilize evidence-based medicine to guide evaluation and treatment of neurologic issues.

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 perform and become certified in specialized exams
 - Brain death
 - Coma
 - NIH stroke scale, modified Rankin scale, swallowing evaluation
- To document thorough and timely Initial consultation, follow-up, and sign off notes in the electronic medical records.

3-2-2. 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 deepen stroke therapy knowledge.

Objectives

- To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease entities including:
 - Autoimmune syndromes as multiple sclerosis and autoimmune encephalitis
 - Developmental pathology including hydrocephalus, Arnold-chiari
 - Infectious: bacterial and viral meningitis and encephalitis
 - Neoplastic: primary brain tumors and metastatic brain tumors
 - Vascular: ischemic and hemorrhagic stroke
 - Degenerative disorders as Alzheimer's disease and movement disorders as Parkinson's disease
- To be certified and independently run stroke codes.
- To know the presentations, differential diagnoses and treatments of neurologic emergencies including:
 - Guillain-barre syndrome
 - Increased intracranial pressure
 - Myasthenic crisis.
 - Status epilepticus
 - To be certified and independently run stroke codes (including tPA administration)
 - Intracerebral hemorrhage
 - Traumatic brain injury
- To know the indications, contraindications, risks, benefits, and alternatives to commonly performed neurodiagnostic procedures
 - To be credentialed 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.

3-2-3. Practice-based learning and improvement

Goals

- To learn how to use evidence-based medicine 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 evidence-based medicine to seek information in support of patient care.
- To present evidence-based medicine 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.

3-2-4. 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, and concise manner.

3-2-5. 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 perform 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.
- To comply with hospital rules and regulations.

3-2-6. 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.

3-3. Psychiatry Rotators (UHB General Inpatient Service)

3-3-1. 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 evidence-based medicine to guide evaluation and treatment of neurologic syndromes.
- To gain basic knowledge ambulatory neurology care.

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 and teach 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.
- To participate in UHB neurology screening clinic one session per week.

3-3-2. Medical knowledge

Goals

- To know the presentations, differential diagnoses and treatments of commonly encountered neurologic disease.
- 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:
 - Complications of common neurologic presentations including, seizures, encephalopathy, syncope, CNS and PNS toxicity of medications
 - Autoimmune: multiple sclerosis, neuromyelitis optica
 - Infectious: bacterial and viral meningitis, herpes encephalitis
 - Neoplastic: primary brain tumors, metastatic brain tumors
 - Degenerative disorders as Alzheimer's disease and movement disorders as Parkinson's disease.
- To know the etiology, evaluation, and management of common neurologic emergencies including:
 - Guillain-Barre syndrome
 - Increased intracranial pressure
 - Myasthenic crisis
 - Neuroleptic malignant syndrome
 - Status epilepticus
- To know the basic interpretation of the common neuroradiologic test as CT and MRI.
- To present patients at Directors Rounds, UHB Morning Report.

3-3-3. Practice-based learning and improvement

Goals

- To learn how to use evidence-based medicine 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 evidence-based medicine to seek information in support of patient care.
- To present evidence-based medicine and additional medical information obtained to colleagues at specialty teaching conferences.

3-3-4. 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 effectively present medical information obtained to colleagues at teaching conferences.
- To document in the medical record in an accurate, concise, and punctual manner.

3-3-5. 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

- Resident demonstrates respect for patient privacy and autonomy and is accountable to patient, society and the medical profession for actions.
- Resident demonstrates compassion, integrity and respect for others as well as responsiveness to patient needs that supersede self-interest.
- Resident demonstrates sensitivity and responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
- Resident demonstrates the ability to manage personal stress effectively.
- Resident answers pages or messages in a timely fashion.
- Resident understands how to maintain appropriate professional boundaries, and demonstrates integrity, honesty and compassion.
- Resident completes assigned tasks in a timely fashion

3-3-6. Systems-based practice

Goals

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

Objectives

- To develop and implement appropriate discharge plans in collaboration with the patients and their families, rehabilitation medicine services, social work, case manager and nursing.
- To attend monthly morbidity and mortality reports.

IV. Outpatient Rotations

1. Goals and Objectives

1-1. Patient Care

Goals

- The resident rotating on ambulatory neurology rotations will gain experience in the care of patients with non-acute neurological problems.

Objectives

- Acquire competence in neurological examination.
- Obtain histories from patients, their families, care takers and medical personnel.
- Become adept at diagnosing and treating the more common chronic neurological problems including: migraine and other headache disorders, epilepsy, degenerative disorders, movement disorders, ataxia, vascular disease, neuroimmunologic disorders, neuroinfectious disorders, neuromuscular disorders.
- Develop competence in long term outpatient management and communicating with patients and families.
- Become familiar with communicating with referring physicians.
- Develop strategies for organizing outpatient diagnostic evaluations and setting priorities for laboratory tests and imaging studies.
- Gain outpatient experience in the various neurology sub-specialties.

1-2. Medical knowledge

Goals

- The resident rotating on ambulatory neurology must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to care of patients with neurologic medical problems.

Objectives

- Perform a detailed neurological history and physical exam in the clinic setting.
- Understand the indications and basic interpretation of diagnostic testing relevant to neurology.
- Understand the clinical evaluation and treatment of neurological ambulatory presentations.
- Understand the pathophysiology, diagnosis and management of common neurologic disorders.

1-3. Practice-based learning and improvement

Goals

- Resident is able to evaluate the care of their patients, appraise and assimilate scientific evidence, and continuously improve patient care delivered on the basis of ongoing self-evaluation and learning.
- Resident is capable of self-identifying strengths, deficiencies, and the limits of their knowledge and expertise.
- The Resident is receptive to constructive criticism (formative evaluation feedback) regarding the care of patients and physician performance.
- Resident is able to set learning and improvement goals, and identify and perform activities appropriate to meeting those goals.

Objectives

- To apply techniques of evidence-based medicine to seek information in support of patient care.
- To present evidence-based medicine 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.
- To learn PDSA methodology and to develop a QI project.
- To meet with the mentor for evaluations and improvement plan.

1-4. Interpersonal and communication skills

Goals

- To improve skill in patient presentations to the clinic preceptor attending.
- To communicate effectively with ambulatory team including clerk and nursing staff.

Objectives

- To present patients to the preceptor attending in a clear and concise manner.
- To effectively teach medical students and rotating residents.
- To document in the medical record in an accurate, and concise manner.
- To communicate the medical information to the patients and their care givers in an understandable way.

1-5. Professionalism

Goals

- Committed to carrying out professional responsibilities and adhering to ethical principles.
- To demonstrate respect for patients and staff members.
- To put the patients' interest ahead of any other considerations.

Objectives

- Resident demonstrates respect for patient privacy and autonomy and is accountable to patient, society and the medical profession for actions.
- Resident demonstrates compassion, integrity and respect for others as well as responsiveness to patient needs that supersede self-interest.
- The Resident demonstrates sensitivity and responsiveness to a broad patient population including diversity in gender, age, culture, race, religion, disability, and sexual orientation.
- Resident demonstrates the ability to manage personal stress effectively.
- Resident answers pages or messages in a timely fashion.
- Resident understands how to maintain appropriate professional boundaries, and demonstrates integrity, honesty and compassion.
- Resident completes assigned tasks in a timely fashion

1-6. System-Based Practice

Goals

- Resident understands and is capable to interact effectively with different systems of care.
- Demonstrates the ability to provide high-quality care in a cost-effective manner.

Objectives

- Resident incorporates consideration of cost-awareness and risk-benefit analysis in patient care decisions.
- Resident advocates for high quality care for all patients.

2. Outpatient Rotation Details

Neurology schedule is based on X+Y structure in which the outpatient duties are all concentrated in a block separate from inpatient services. This block includes continuity clinic as well as various subspecialty ambulatory services.

2-1. General Neurology Clinic (including screening/new patient clinic and continuity general clinic)

- Attended by PGY-1 through 4 and psychiatry rotators.
- The general clinics are held at UHB and KCHC.
- 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.

2-2. Subspecialty Outpatient Training

- Attended by PGY-2 through 4 and psychiatry rotators.
- Subspecialty clinics are held at UHB and KCHC.
- The subspecialty clinic rotations are designed to provide exposure to state of the art treatment of selected conditions.
- Residents rotate through the following subspecialty clinics during their ambulatory block: Epilepsy (UHB/KCH), neuromuscular/MDA (UHB/KCH), movement disorders (UHB/KCH), memory disorders (UHB), and pediatrics (UHB/KCH), neuroimmunology (KCH), stroke (KCH) and lumbar puncture clinic (KCH).

2-3. Resident Expectations

- Residents are expected to arrive at each clinic on time, with computer access fully operational (including Quadramed, EPIC, PACS, healthbridge, e-prescribing, and narcotics e-prescribing).
- Residents are expected to manage: eConsult, medication refill and patient follow-up.
- Residents are expected to attend neurology conferences.
- Residents are expected to participate in a QI processes.

2-4. Outpatient clinic schedule (Morning sessions starts at 8am and afternoon at 1pm)

Monday	Tuesday	Wednesday	Thursday	Friday
Neuroimmune Clinic (KCHC E1)	Movement and Botox Clinic (KCHC E1)	Epilepsy Clinic (KCHC E1)	Screening Clinic (KCHC E8)	9AM Grand Rounds 10AM eConsult
Noon Conference	Noon Conference	Noon Conference	Noon Conference	Noon Conference
Screening Clinic (KCHC E8) Screening Clinic (UHB Suite C)	MDA clinic (UHB 4 th Floor) General Continuity Clinic (UHB Suite C)	General Continuity Clinic (KCHC E8)	General Continuity Clinic (KCHC E8) KCHC Epilepsy Clinic (1 st , 2 nd Thurs KCHC E5) UHB Epilepsy Clinic (3 rd , 4 th , 5 th Thursday UHB Suite C)	Stroke Clinic (KCHC E1)

2-5. Outpatient Supervisors

Clinic	Supervisor	Contact Information
General Continuity Clinic	KCH: Helen Valsamis, MD UHB: Satyakam Bhagavati, MD	718-245-5403
Screening Clinic	Helen Valsamis, MD	718-245-2550 718-790-0446
Movement Clinic	Daphne Robakis, MD Evelyn Ooi, MD	718-245-5403
LP Clinic	Daniel Kurz, MD	718-245-5403
Neuromuscular Clinic	Jonathan Perk, MD Paul Maccabee, MD	718-245-5403 718-270-1611
Stroke	Susan Law, DO	917-538-8511
Neuroimmunology Clinic	Daniel Kurz, MD	718-245-5403
Epilepsy Clinic	Noa Sheikin, MD Katherine Mortati, MD Arthur Grant, MD Helen Valsamis MD Bonnie Wong, MD	718-245-5403
MDA Clinic	Yaacov Anziska, MD Nuri Jacoby, MD	718-245-2502

2-6. Descriptions

2-6-1. General Continuity Clinic

- Provides care of the patients who were seen by neurology inpatient or consult service requiring follow-up, screening clinic referrals and other specialty referrals.
- Patient who are deemed to be more optimally treated by one of the subspecialty clinics, we will refer the patient accordingly by the residents.

2-6-2. Screening Clinic

- Patients seen in the clinic origin from emergency department, other department and outside hospitals.
- The encounter goals are to provide evaluation, initial treatment and triage to the appropriate clinical setting.

2-6-3. Movement Clinic

- The clinic will provide care for the patients with movement disorder referred by the inpatient neurology services (consult and inpatient), screening and general clinic as necessary.
- This clinic will allow residents to gain experience in addressing patients with the presentations of common and rare movement disorders. The clinic is precepted by a movement disorder specialist attending.

2-6-4. Neuroimmunology Clinic (LP clinic)

- The clinic will provide care for the patients with neuroimmunologic disorder including multiple sclerosis, neuromyelitis optica and other neuroimmune disorders referred by the inpatient neurology services (consult and inpatient), screening and general clinic as necessary.
- This clinic will allow residents to gain experience in addressing patients with the presentations of common and rare neuroimmunologic disorders. The clinic is precepted by a neuroimmunology specialist attending.
- Once a month, the clinic will concentrate on providing lumbar puncture service in the outpatient setting.
- Referral to the LP clinic is to the neurology administration with appropriate pre-procedure work up including brain image, CBC and coagulation panels and avoidance of anticoagulations or multiple antiplatelets as well as screening for contraindications.

2-6-5. Neuromuscular Clinic and MDA clinic

- The clinic will provide care for the patients with neuromuscular disorder referred by the inpatient neurology services (consult and inpatient), screening and general clinic as necessary.
- This clinic will allow residents to gain experience in addressing patients with the presentations of common and rare neuromuscular disorders. The clinic is precepted by a neuromuscular disorder specialist attending.

2-6-6. Stroke Clinic

- The clinic will provide care for the patients with cerebrovascular disorder referred by the inpatient neurology services (consult and inpatient), screening and general clinic as necessary.
- In this clinic, patient may complete their stroke work up if not done as inpatient.
- This clinic will allow residents to gain experience in addressing patients with the presentations of common and rare cerebrovascular disorders. The clinic is precepted by a stroke specialist attending.

2-6-7. Epilepsy Clinic

- The clinic will provide care for the patients with epilepsy referred by the inpatient neurology services (consult and inpatient), screening and general clinic as necessary.
- Generally, patients with need for 2 or more antiepileptic medications to control their seizure should be referred to this clinic.
- This clinic will allow residents to gain experience in addressing patients with the presentations of common and rare epilepsy syndromes. The clinic is precepted by a epilepsy specialist attending.

2-7. Commonly used outpatient resources

EEG

- Order through EPIC
- The clerk will give the patient an EEG information sheet including the instruction to call 718-245-4715 to schedule.
- Describe the procedure to your patient, particularly the hair requirements.

EMG/NCV

- Order through EPIC
- The clerk will give the patient the Neuro EMG information sheet including the instruction to call 718-245-5403 to schedule.
- Be sure to describe the procedure to your patient.

EMU

- Refer to Downstate, 718-270-2959
- You will need patient clinical information and insurance information.

IV Infusions

- Protocols are now set up for IVIG and others are being developed.
- Refer to the specific protocol and check with Dr. Paul Maccabee.

Lumbar puncture

- Discuss the procedure with your patient.
- Document normal coagulation studies within 1 month, negative bleeding history and lack of risk for herniation (negative head CT or MRI).
- Document the reason for the LP and what studies you would like sent in your note.
- You are responsible for following up all results.
- Email Bernadette with the patient name, MR#, phone number, reason for the LP, and desired studies.

MRIs

- KCH: Place an order in EPIC. Tell the patient that they will get contacted for the schedule after the insurance clearance. Give MRI suite number if they do not get contact (718-245-5585, 5586)
- UHB: fill out the form for the radiology request and MRI request. Place an order in quadramed. Patient will get contacted for the schedule.
- Be sure if the patient can tolerate MRI. Refer to outside radiology center for open MRI if the patient is claustrophobic.
- With contrast requires BUN/creatinine within 1 month.

Subspecialty Clinic Referral

- KCH: referral via EPIC
- UHB: referral via paper referral paper (green paper)

Social work

- Let the clerk know and they will direct the patient to social work.

Legal assistance

- There is a Legal Aid Clinic on Fridays. Clerk will direct the patient.

2-7. KCHC Outpatient eConsult Scheduling in EPIC H2O EMR

1. Open EPIC H2O
2. Go to “In Basket” in the main menu at the top
3. Choose “E-consult/Referral”
4. Click on a patient in the queue
5. You will see on your right “Notes from the Main Encounter” and “Message” from referring service stating the reason for referral.
6. Review the case and decide on the appropriate follow up. Review previous notes in the “Chart” section, review charts in the legacy EMR (Quadramed) as well.
 - Is the patient already followed in Neurology Clinic?
 - Is the patient an appropriate referral to Neurology Clinic? If so, what time-frame?
 - Should the patient be referred back to primary care?
 - Does patient require a neurology specialty clinic, e.g. Movement Disorders clinic, MS clinic, Epilepsy clinic?
7. Next click “Schedule Referral”. The triage window will appear.
 - **If a patient will be scheduled for Neurology Clinic**, choose “Accept” in the “Decision” section. Choose priority for the visit. Proceed to “Comments” section.

At this stage, it is important to provide clear instructions to the clinic manager/scheduler:

 - State what clinic to schedule for, i.e. screening clinic, new patient clinic, continuity clinic, a specialty clinic. Each of the clinics is assigned a particular day of the week, please refer to the Clinic Schedule for more details. It is subject to change, so check with your chief, admin regularly for any changes.
 - State which provider (resident) to schedule with, based on your chart review.
 - Any other comments as deemed necessary.
 - Finally, enter a diagnosis in the “Diagnosis” section and click OK. The chart will now be sent to the clinic manager who will schedule the appointment and contact the patient. If you refresh your window the referral will disappear from the queue.
 - **If a patient doesn’t need Neurology Clinic** at this point and will return to PMD, choose “Reject” in the “Decision” section, select a reason for rejection. In the comment section you must document what your recommendations are, politely****. For example, if there is a pathway, provide it here. For other referrals, explain clearly what your recommendations are.

Note: All “return to PMDs” or “referrals out” should be discussed with Dr. Helen Valsamis and her name assigned as consultant attending.

**** Specific guidelines for various clinic scenarios for ‘referrals out’ in supplements.

***** QI information is in supplements.

3. Pediatric Neurology Clinics

Residents rotate through either KCHC or UHB continuity clinic on the weekly basis throughout their three years of training. The site of the continuity clinic is assigned by the Program Director. Residents are expected to attend both continuity clinics and Thursday specialty clinic while on the pediatric neurology service. During their second and third year of training, residents are expected to attend their continuity and Thursday specialty clinic. In addition, whenever possible rotation through the MDA clinic is strongly encouraged and is required during

neuromuscular rotation. Pediatric Neurology Residents complete one month of an adult outpatient clinic rotation during their first, second and third years of training. In addition, residents attend additional clinics as part of their elective experience.

3-1. Outpatient clinic schedule

Monday	Tuesday	Wednesday	Thursday	Friday
				9AM Grand Rounds
Noon Conference	Noon Conference	Noon Conference	Noon Conference	Noon Conference
KCHC general pediatric neurology continuity clinic (E building 5 th floor)	General Pediatric Neurology Continuity Clinic (UHB Suite C) And MDA clinic (UHB 4 th Floor)		UHB Neurobehavior Clinic (1 st Thursday UHB Suite C) UHB follow up clinic (2 nd Thursday Suite C) UHB Epilepsy Clinic (3 rd , 4 th , 5 th Thursday UHB Suite C)	

3-2. Clinic Supervisors

Clinic	Supervisor	Contact Information
Kings County Continuity Clinic	Alexandra Reznikov, MD	718-245-5403
Downstate Continuity Clinic	Alexandra Reznikov, MD	718-270-2042
Neurobehavior Clinic	Yoshimi Hisamoto, MD Emily Kurlansik, PhD	718-270-2042
Follow up Clinic	Joan Cracco, MD	718-270-2042
Epilepsy Clinic (pediatric)	Geetha Chari, MD	718-270-2042
MDA Clinic	Yaacov Anziska, MD Nuri Jacoby, MD	718-270-2502

3-3. Descriptions

3-3-1. General Continuity Clinic (KCHC and UHB)

- Provides neurologic care to the new and follow up pediatric patients with a variety of the neurologic problems.
- Patients new to the clinic are referred by general pediatricians, subspecialty pediatrics, emergency room or are follow ups from inpatient service/consult.

- Patient who are deemed to be more optimally treated by one of the subspecialty clinics, are referred to the subspecialty clinic.
- Each clinic is precepted by two pediatric neurology attendings.

3-3-2. Neurobehavior Clinic (UHB)

- Provides care to children with learning and behavior problems such as learning disabilities, ADHD and autism.
- Patients are referred from the UHB pediatric neurology clinic, general pediatricians, psychologists and psychiatrists.
- Patients are managed jointly by pediatric neurology residents/attending and two pediatric neuropsychologists.
- Residents gain knowledge in neuropsychological testing modalities and their application to patient care.
- As an extension of the clinic, residents are required to observe at least two sessions with neuropsychologist.
- The clinic is precepted by two pediatric neuropsychologists and pediatric neurology attending.

3-3-3. Follow up Clinic

- The clinic provides care for some of the follow up patients from the neurobehavioral clinic as well as neonates discharged from the hospital.
- The clinic is precepted by one pediatric neurology attending.

3-3-4. Pediatric Epilepsy Clinic

- The clinic provides care for the new and follow up pediatric epilepsy patients, who are often refractory to treatment.
- This clinic will allow residents to gain experience in managing challenging patients with epilepsy, including work up for epilepsy surgery.
- The clinic is precepted by a pediatric epilepsy specialist attending.

3-3-5. MDA clinic

- The clinic will provide care for the pediatric and adult patients with neuromuscular disorders referred by the inpatient and outpatient neurology services as well as general pediatricians.
- This clinic will allow residents to gain experience in addressing patients with the presentations of common and rare neuromuscular disorders.
- The clinic is precepted by a neuromuscular disorder specialist attending.

3-4. Commonly used outpatient resources

3-4-1. Ordering Advanced Diagnostic Studies from Clinic

UHB MRI (or other imaging)

1. Order the study in Healthbridge.
2. Complete appropriate order form such as “MRI Order” and hand to the patient.
3. Complete appropriate authorization request, such as “MRI Authorization Request” form (fill out history in detail) and hand to the patient.
4. If study requires sedation, complete “Authorization for Sedation” form and hand to the patient.
5. Instruct the patient to show all forms to the clerk upon checkout for further instructions on obtaining financial clearance and scheduling the study appointment.

UHB EEG

1. Fill out "EEG Request" form and be sure to include patient contact information.
 - Indicate on form whether it is a Routine, Video, or Ambulatory request
2. Fax completed form to the UHB Comprehensive Epilepsy Center at 718-270-4711
 - Wait for fax confirmation to ensure the fax went through

KCHC MRI (or other imaging)

1. Order the study in Epic
 2. If study requires sedation, complete the "Authorization for Sedation" form and give to the patient to bring with them.
 3. Provide the patient with a "Financial Clearance Instructions" form and review the instructions verbally with them as follows:
 - They should show all forms to a Financial Counselor located on the 5th floor of the E Building next to the elevators to obtain financial clearance
 - After obtaining financial clearance, they can schedule the appointment by either bringing all forms to the 2nd Floor of the S Building and following the signs to the Radiology Department or by calling 718-245-5585 and making sure to bring all forms with them to their scheduled appointment
- Elective Anesthesia Days for inpatient MRIs that require sedation are on Thursdays for UHB and Wednesdays for KCH.

KCH EEG (for routine or prolonged EEG studies ONLY; all ambulatory or video EEG studies must be scheduled at UHB):

1. Order EEG in Epic and specify the date as 'routine'. Make sure to enter the patient's contact information into the field marked 'patient's phone'.
2. Inform the patient they can expect a call from the EEG tech within the next few days to schedule the EEG appointment.
3. Give the parents the EEG lab number (718-245-4714/4715) so they can also call to schedule if not contacted in a timely manner. In addition, attempt to contact the lab at the time of the visit to obtain the appointment.
4. Describe the procedure to your patient/parent.

Ambulatory or Video-EEG Requests (only available by arranging through the 7th floor UHB EMU)

- 1) For UHB patients, fill out the UHB EEG request form (including patient contact info) and fax to the UHB Comprehensive Epilepsy Center at 718-270-4711.
- 2) For KCH patients, drop off at the UHB Comprehensive Epilepsy Center a copy of their most recent clinic note, patient contact information, patient insurance and demographic information, and most recent routine EEG when you submit your request.

EMG/NCV

Order through EPIC for KCHC and fill out the EMG/NC form at UHB (available in clinic area).

Be sure to describe the procedure to your patient/parent.

Contact the attending who will be performing the study (Dr. Maccabee at KCHC (718-270-1611) and Dr. Anziska at UHB (718-270-2502). Some patients might require sedation for this study.

Subspecialty Clinic Referral

UHB: referral via paper referral paper (green paper)

Social work

Let the clerk know and they will direct the patient to social work.

3-4-2. KCHC Outpatient eConsult Scheduling in EPIC H2O EMR

Senior resident on pediatric neurology service will designate the resident who is responsible for eConsult scheduling on a monthly basis.

For any questions regarding eConsult Scheduling consult with Dr. Alexandra Reznikov/Dr. Yoshimi Hisamoto (718-270-2042).

V. Electives

Any electives require to inform to neurology program coordinator and be approved by program director in ahead of time.

1. Neurology Department Approved Subspecialty Electives

Epilepsy (EEG/EMU)	Dr. Grant	(718) 270-2959
EMG	Dr. Y. Anziska	(718) 270-3215
Neurodegenerative	Dr. Crystal	(718) 270-1482
Movement Disorders	Drs. Ooi and Robakis	(718) 270-1482
Neuropathology	Dr. J Libien	(718) 245-5325
Neuroimmunology	Dr. Kurz	(718) 245-5403
Neurosurgery at MMC	Dr. Jacoby	(516) 445-7286
Neuro-oncology	Dr. Stone	(212) 639-6340
Neuro-interventional at MMC	Dr. Jacoby	(516) 445-7286
Neuroradiology	Drs. Linden and Velayudhan	(718) 245-2682
Headache	Dr. Mauskop	(212) 794-3550
General Neurology Clinic	Dr. Devi	(212) 517-6881
Neuro-ophthalmology	Dr. Dinkin	(646) 962-2020
Peditric EEG/EMU	Dr. Chari	(718) 270-2042
Pediatric Research	Dr. Pavlakis	(718) 270-2042
Pediatric Neuro-oncology	Dr. Allen (NYU)	(212) 263-9907
Pediatric Neuro-oncology	Dr. Khakoo (MSK)	(212) 639-5966

2. Research electives

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

3. 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 neuro-ethics and pain.

4. Away electives

- It is required to contact 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.
- Contact the program coordinator for the complete checklist which includes visa status, insurance issues, risk management form, etc.
- Recent examples include: NICU at CPMC, Movement Disorders at Beth Israel, Multiple Sclerosis at Mount Sinai. Neuroimmunology at MGH. Stroke in South Korea.

5. EMG Rotation

5-1. Goals and Objectives

5-1-1. Patient care

Goals

- To be able to perform a comprehensive neuromuscular history and evaluation.

Objectives

- To learn how to take a detailed neuromuscular history
- To learn the parts of the neuro exam that are pertinent to neuromuscular patients
- To learn the indications for EMG/NCV testing
- To observe and perform 3 EMGs and NCVs

5-1-2. Medical Knowledge

Goals

- To know the principles of disease and treatment of patients with neuromuscular diseases (e.g. symptomatic or etiologic treatment, monitoring therapy)
- To know the principles of management of complications of neuromuscular diseases and their treatments

Objectives

- To know the indications for EMG/NCV testing
- 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
- To know the basis and utility of genetic testing
- To know the basis and utility of nerve/muscle biopsy

5-1-3. Practice-based learning and improvement

Goals

- Know how to use evidence-based medicine 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 evidence-based medicine in developing evaluation and treatment plans
- To implement the departmental and institutional performance improvement projects and patient safety goals

5-1-4. 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

5-1-5. 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

5-1-6. 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

5-2. Responsibilities

- Daily attendance at EMG laboratory
- Attendance at Clinical Neurophysiology Lectures
- Attendance at Neuromuscular Conference on second Friday 1PM.
- Attendance at MDA Clinic (1:00 - 5:00 pm) on the second and fifth Tuesdays of each month

5-3. 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/ Dr. Yaacov Anziska or their designee.

5-4. EMG Rotation Schedule

Monday	Tuesday	Wednesday	Thursday	Friday
<u>9AM</u> EMGs at UHB	<u>9AM</u> EMGs at KCH	<u>9AM</u> EMGs at KCH	<u>9AM</u> EMGs at UHB	<u>10 AM</u> EMGs at UHB or KCH
	<u>1PM</u> MDA Clinic UHB			<u>1PM</u> Neuromuscular Conference (Second Friday)

6. Neuropathology Rotation

6-1. Goals and Objectives

6-1-1. Patient Care

Goals

- To understand the indications and the utility of neuropathologic studies

Objectives

- To know the indications for and the limitations of brain biopsies, nerve biopsies and CSF histopathology
- To understand the principles of proper preparation of pathologic studies such as tissue samples, CSF

6-1-2. Medical knowledge

Goals

- To improve skill in the ordering, follow up, and integration of neuropathologic procedures
- To understand the pathophysiologic basis for neuropathologic studies

Objectives

- 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
- To review study slide sets of: Brain tumors, vascular diseases of the brain, developmental abnormalities, and autoimmune processes

6-1-3. Practice-based learning and improvement

Goals

- To use evidence-based medicine to supplement medical knowledge
- To understand pathology laboratory quality standards
- To understand departmental and institutional performance improvement projects and patient safety goals

Objectives

- To implement the departmental and institutional performance improvement projects and patient safety goals
- To use evidence-based medicine to assist in diagnosis and able to present information obtained through the use of information technology

6-1-4. Interpersonal and communication skills

Goals

- 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

6-1-5. Professionalism

Goals

- To consistently demonstrate respect for staff members

Objectives

- To maintain the confidentiality of personally identifiable patient information

6-1-6. 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

6-2. Curriculum

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

6-3. Responsibilities

- Attendance at Brain Cutting
- Daily attendance for teaching sets
- Attendance at frozen sections as they occur
- Attendance at Neuropathology Conference
- Attendance at Neuropathology Grand Rounds

6-4. Evaluation

- Evaluation of the resident will be by written performance evaluation, which is the responsibility of the Neuropathology Attending, or his designee

6-5. Neuropathology Rotation Schedule:

Monday	Tuesday	Wednesday	Thursday	Friday
<u>9AM</u> Neuro Path Teaching Sets	<u>9AM</u> Neuro Path Teaching Sets	<u>9AM</u> Neuro Path Teaching Sets	<u>8 AM</u> Neuropathology Conference	<u>8AM</u> Brain Cutting <u>9AM</u> Grand Rounds
<u>Noon</u> Neurology Conference	<u>Noon</u> Neurology Conference	<u>Noon</u> Neuropathology Grand Rounds	<u>Noon</u> Neuropathology Conference	<u>Noon</u> Neurology Conference
<u>1PM</u> Neuro Path Teaching Sets	<u>1PM</u> Neuro Path Teaching Sets	<u>1PM</u> Neuro Path Teaching Sets	<u>1PM</u> Neuro Path Teaching Sets	<u>1PM</u> Neuro Path Teaching Sets

7. Neuroradiology Rotation

7-1. Goals and Objectives

7-1-1. Patient care

Goals

- To understand the indications for and the role of the Neurologist in ordering neuroradiologic tests
- To understand the principles of informed consent

Objectives

- 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

7-1-2. Medical knowledge

Goals

- 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

- To improve skill in the ordering, follow up, and integration of neuroradiologic procedures in patient care
- 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
- To understand the basis of CT and MRI contrast interactions
- To understand the basic physics of CT and MRI

7-1-3. Practice-based learning and improvement

Goals

- To use evidence-based medicine to supplement medical knowledge
- To understand the departmental and institutional performance improvement projects and patient safety goals

Objectives

- 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

7-1-4. 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

7-1-5. 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

7-1-6. 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

7-2. Curriculum

- The required text, Osborne's Neuroradiology is available in the Neuroradiology Reading Room, selected readings will be assigned by the Neuroradiology Attending.
- Residents should go through the neuroradiology teaching files

7-3. Responsibilities

- Daily attendance at Neuroradiology Reading at KCH
- Attendance at procedures such as angiograms and myelograms as they occur
- Attendance at Neuroradiology Conference

7-4. Evaluation

- Evaluation of the resident will be by written performance evaluation, which is the responsibility of Dr. Linden/Dr. Velayndhan, or his designee

7-5. Neuroradiology Rotation Schedule:

Monday	Tuesday	Wednesday	Thursday	Friday
<u>9AM</u> Imaging review	<u>9AM</u> Imaging review	<u>9AM</u> Imaging review	<u>9AM</u> Imaging review	<u>9AM</u> Neurology Grand Rounds <u>10AM</u> Imaging review
<u>Noon</u> Neurology Conference	<u>Noon</u> Neurology Conference	<u>Noon</u> Neuroradiology Conference	<u>Noon</u> Neurology Conference	<u>Noon</u> Neurology Conference
<u>1PM</u> Neuroradiology Teaching Sets	<u>1PM</u> Neuroradiology Teaching Sets	<u>1PM</u> Neuroradiology Teaching Sets	<u>1PM</u> Neuroradiology Teaching Sets	<u>1PM</u> Neuroradiology Teaching Sets

VI. Pediatric Neurology residency

1. General Description and Requirements

During the 3-year program child neurology 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.

1-1. 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, at Kings County Hospital Center as well as Maimonides Medical Center. 12 weeks of inpatient pediatric neurology rotations allow the residents to acquire the skills needed to manage pediatric neurology patients. There are 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. Elective rotations across three years of training (maximum during 2nd and 3rd year) allow the residents to obtain additional training in subspecialties, such as neuroradiology, neuropathology, epilepsy/EEG, neuromuscular/EMG.

Two weeks before the start of the child neurology residency, there is a two-week boot camp, which includes didactic and practical teaching sessions designed to prepare incoming residents for their training.

Each resident is assigned a faculty advisor (mentor). 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 and failure to progress along the ACGME defined child neurology milestones) is presented to the Clinical Competency Committee (CCC), 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 Program Director, who meets with the resident to discuss the Committee's determination and the plan for remediation.

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 by the program director and the Clinical Competency Committee. 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.

1-2. Year 2

Pediatric neurology residents have 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.

1-3. Year 3

During their final 4 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 and clinical neurophysiology. These must be approved by the program director.

At least one month of research elective is required.

Teaching responsibilities for both 2nd and 3rd year residents involve supervision and training of residents and medical students rotating on pediatric neurology. The residents also participate in formal teaching medical students during the students' neuroscience block.

All residents are required to take the RITE exam each year. The mentors, the program director and the child neurology program evaluation and clinical competency committees (CCC and PEC) review exam results and the mentors (and program director) 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.

Residents are 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. In addition, observation of at least two cases of neuropsychological testing during the second and third year of training is required. By the completion of their training, residents are required to complete a QI project, submit an abstract for a local or national meeting and a manuscript (does not need to be accepted for publication).

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

Clinics

Residents attend their weekly continuity clinic (either at Kings County or Downstate) throughout their three years of training. When they are on pediatric neurology service, they are expected to attend both continuity clinics as well as weekly Thursday specialty clinic at Downstate (i.e. neurobehavior clinic, follow up clinic, epilepsy clinic). In their second and third year of training, residents attend at least 2 clinics per week (their continuity and Thursday subspecialty clinic).

The American Board of Psychiatry and Neurology (ABPN) 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 across different age groups (i.e. newborn through adolescent). 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 1st year, three of the four pediatric exams in the 2nd year and the final pediatric exam early in the 3rd year.

2. Mission Statement

The mission of the pediatric neurology program at the SUNY Downstate Medical Center is to provide comprehensive compassionate care for children with a wide range of neurological diseases. We strive to provide education to our patients and their families as well as train outstanding pediatric neurology physicians to deliver outstanding care to the culturally diverse, often underserved population. Our mission is in complete alignment with the overall mission of the SUNY Downstate Medical Center which is dedicated to providing exceptional education of physicians, scientists, nurses, and other healthcare professionals. Its mission is to care for and improve the lives of our globally diverse communities, and to foster an environment that embraces cultural diversity. Its vision reflects the goal to be nationally recognized for improving people's lives by providing excellent education for healthcare professionals, advancing research in biomedical science, health care and public health, while delivering the highest quality patient-centered care. The value statement of the SUNY Downstate Medical Center is P.R.I.D.E., which describes our satisfaction in the work we do every day and to value our collective contributions to the Downstate community (Professionalism, Respect, Innovation, Diversity, Excellence).

3. Goals and Objectives of the Child Neurology Residency Program

3-1 General Goals and Objectives

3-1-1. Patient Care

Goals

- To perform and document a relevant history and examination on culturally diverse patients.
- To delineate appropriate differential diagnoses.
- To determine appropriate evaluations for patients' differential diagnoses.
- To recommend effective management of patients.

Objectives

- To determine
 - If a patient's symptoms are the result of a disease affecting the central and/or peripheral nervous system or are of another origin.
 - A formulation, anatomic localization, differential diagnosis, laboratory investigation, and management plan.
- To develop and maintain the technical skills to:
 - Perform a comprehensive neurologic examination.
 - Perform a screening mental status examination.
 - Perform appropriate procedures, including lumbar punctures, pharmacologic testing of neuromuscular junction, caloric testing, etc.
 - Identify and describe abnormalities seen in common childhood neurologic disorders with radiologic testing, including plain films, myelography, angiography, CT, isotope, and MRI.
 - Evaluate the indication for, application and relevance of investigative procedures and interpretation in the diagnosis of neurologic disorders, including the following:
 - Audiometry
 - Autonomic function testing
 - CSF analysis
 - Electroencephalography
 - Electromyography
 - Electronystagmography/Electroretinography
 - Evoked potentials
 - Genetic testing
 - Imaging with ultrasound (duplex, transcranial Doppler)
 - Motor and sensory nerve conduction studies
 - Neurometabolic testing
 - Perimetry
 - Polysomnography
 - Psychometrics
 - Radiographic studies as outlined above
 - Identify and describe gross and microscopic specimens of the central and peripheral nervous systems from patients with neurologic disorders.

3-1-2. Medical Knowledge

Goals

- Residents need to demonstrate:
- Knowledge of general medical conditions, including considerations relating to age, gender, race, and ethnicity, based on the literature and standards of practice. This knowledge shall include:
 - The epidemiology of the disorder
 - The etiology of the disorder, including medical, genetic, and sociocultural factors
 - The phenomenology of the disorder
 - An understanding of the impact of physical illness on the patient's functioning
 - The experience, meaning, and explanation of the illness for the patient and family, based on the influence of cultural factors
 - Effective treatment strategies
 - Course and prognosis
- Knowledge of health care delivery systems, including patient and family counseling.

- Knowledge of systems-based practice.
- Knowledge of the application of ethical principles in delivering medical care.
- Ability to reference and utilize electronic systems to access medical, scientific, and patient information.

Objectives

- Child neurology residents shall demonstrate knowledge of:
 - 1. Basic neuroscience
 - 2. Pathophysiology and treatment of major childhood neurologic disorders and familiarity with the scientific basis of neurology, including:
 - Interventional neurology (basic principles only)
 - Neuroanatomy
 - Neurochemistry
 - Neuroendocrinology
 - Neuroepidemiology
 - Neurogenetics/molecular neurology
 - Neuroimaging
 - Neuroimmunology/neurovirology
 - Neurometabolism
 - Neuropathology
 - Neuropharmacology
 - Neurophysiology
 - Neuro-ophthalmology
 - Neuro-otology
 - 3. Childhood neurologic disorders and diseases, including treatment, for the following:
 - Paroxysmal disorders/epilepsy
 - Genetics/neurodegenerative and neurometabolic disorders
 - Headache and other pain syndromes
 - Intellectual disability and cognitive disorders
 - Neurobehavioral and psychiatric disorders, including ADHD
 - Congenital disorders
 - Abnormalities of brain development
 - Static encephalopathy and cerebral palsy, including rehabilitation
 - Toxic encephalopathy
 - Infection
 - Neuromuscular disorders
 - Neurology of systemic disease
 - Movement disorders, including Tourette disorder
 - Demyelinating disorders and abnormalities of white matter
 - Neuro-oncology
 - Vascular disorders
 - Trauma, child abuse, and critical care
 - Sleep disorders
 - Spinal cord and nerve root disorders
 - 4. Patient evaluation and treatment selection, including
 - The nature of patients' histories and physical findings and the ability to correlate the findings with a probable localization for neurologic dysfunction
 - Probable diagnoses and differential diagnoses of children (newborn through adolescence).
 - Planning for evaluation and management.
 - Potential risks and benefits of potential therapies, including surgical procedures.

- 5. Psychiatry, including:
 - Psychopathology, epidemiology, diagnostic criteria, and clinical course for common psychiatric disorders, including:
 - Disorders usually first diagnosed in infancy, childhood, or adolescence
 - Schizophrenic and other psychotic disorders
 - Mood disorders
 - Anxiety disorders
 - Somatoform
 - Factitious disorders
 - Dissociative disorders
 - Sexual and gender identity disorders
 - Eating disorders
 - Adjustment disorders
 - Delirium, dementia, amnesic, and other cognitive disorders
 - Mental disorders due to general medical conditions
 - Neurologic presentations following emotional, sexual, and/or physical abuse
 - Substance-related disorders
 - Disorders of higher cortical function
 - Psychopharmacology
 - Major drugs used for treatment, e.g., antipsychotics, antidepressants, antianxiety agents, mood stabilizers
 - Side effects of drugs used for treatment, e.g., acute, motor, neuroleptic malignant syndrome
 - Iatrogenic disorders in neurology and psychiatry, changes in mental status, and movement disorders
 - Nonpharmacologic treatments and management
- 6. Employment of principles of quality improvement and patient safety in practice.

3-1-3. Interpersonal and Communication Skills

Goals

- To listen to and understand patients and their families and to attend to verbal and nonverbal communication.
- To communicate effectively with patients and their families using verbal, nonverbal, and written skills as appropriate.
- To develop and maintain a therapeutic alliance with patients and their families by instilling feelings of trust, honesty, openness, rapport, and comfort in their relationships with child neurologists.
- To partner with patients' families to develop an agreed-upon health care management plan.
- To transmit information to patients and their families and/or caregivers in a clear and meaningful fashion.
- To understand the impact of the child neurologist's own feelings and behavior so that it does not interfere with appropriate treatment.
- To communicate effectively and work collaboratively with other health care providers.
- To educate patients, families, and professionals about medical, psychosocial, and behavioral issues.
- To preserve patient confidentiality.
- To demonstrate the ability to obtain, interpret, and evaluate consultations from other medical specialties.
- To serve as effective consultants to other medical specialists, and community agencies.
- To demonstrate the ability to communicate effectively with patients and their families.
- To demonstrate the ability to work effectively within a multidisciplinary treatment team.

- To demonstrate the ability to communicate effectively with patients and their families while respecting confidentiality.

Objectives

- To maintain up-to-date medical records and assure accurate prescriptions.
- To listen effectively.
- To elicit needed information from team members.
- To integrate information from different disciplines.
- To clearly communicate an integrated treatment plan when appropriate.
- To communicate results of the assessments.
- To use informed consent for procedures.
- To learn to provide genetic counseling and approach towards palliative care, and end-of-life issues when appropriate.
- To demonstrate consideration and compassion for the patient in providing accurate medical information and prognosis.
- To discuss the risks and benefits of the proposed treatment plan, including possible side effects of medications and/or complications of non-pharmacologic treatments.
- To discuss alternatives (if any) to the proposed treatment plan.
- To provide appropriate education concerning the disorder, its prognosis, and prevention strategies.

3-1-4. Practice-Based Learning and Improvement

Goals

- To recognize imitations in their own knowledge base and clinical skills, and understand the need for lifelong learning.
- To demonstrate appropriate skills for obtaining and evaluating up-to-date information from scientific and practice literature and other sources to assist in the quality care of patients.
- To evaluate caseload and practice experience in a systematic manner.
- To demonstrate the ability to critically evaluate relevant medical literature.

Objectives

- To learn to effectively use
 - medical libraries
 - information technology, including Internet-based searches and literature databases
 - drug information databases
- To actively participate (as appropriate) in educational courses, conferences, and other organized educational activities at both local, regional and national levels
- To participate in
 - case-based learning
 - in use best practices through practice guidelines or clinical pathways
 - review of patient records
 - obtaining evaluations from patients such as patient outcomes and patient satisfaction
 - employment of principles of quality improvement and patient safety in practice
 - obtaining appropriate supervision and consultation
 - maintaining a system for examining errors in practice and initiating Child Neurology Core Competencies improvements to eliminate or reduce errors
- To use knowledge of common methodologies employed in neurologic research.
- To research and summarize particular problem that derive from their own cases.
- To review and critically assess scientific literature to determine how quality of care can be improved in relation to one's practice.

- To develop and pursue effective remediation strategies that are based on critical review of the scientific literature.

3-1-5. Professionalism

Goals

- To demonstrate responsibility for their patients' care.
- To demonstrate ethical behavior, integrity, honesty, compassion, and confidentiality in the delivery of care, including matters of informed consent/assent, professional conduct, and conflict of interest.
- To demonstrate respect for patients and their families and caregivers, and their colleagues as persons, including their ages, cultures, disabilities, ethnicities, genders, socioeconomic backgrounds, religious beliefs, political leanings, and sexual orientations.
- To demonstrate understanding of and sensitivity to end-of-life care and issues regarding provision of care and clinical competence.
- To review professional conduct and remediate when appropriate.

Objectives

- To respond to communication from patients, families, and health professionals in a timely manner.
- To establish and communicate back-up arrangements, including how to seek emergent and urgent care when necessary.
- To use medical records for appropriate documentation of the course of illness and its treatment.
- To coordinate care with other members of the medical and/or multidisciplinary team.
- To provide for continuity of care, including appropriate consultation, transfer, or referral if necessary.

3-1-6. Systems-Based Practice

Goals

- To have a working knowledge of the diverse systems involved in treating children, and understand how to use the systems as part of a comprehensive system of care in general and as part of a comprehensive, individualized treatment plan.
- To demonstrate a working knowledge of different health care systems.
- To be aware of safety issues, including acknowledging and remediating medical errors, should they occur.

Objectives

- To evaluate and implement, where indicated, of the use of practice guidelines.
- To access community, national, and allied health professional resources that may enhance the quality of life of patients with chronic neurologic and psychiatric illnesses.
- To demonstrate the ability to work within health care teams needed to provide comprehensive care for patients with neurologic and psychiatric disease and respect professional boundaries.
- To demonstrate skills for the practice of ambulatory medicine, including time management, clinical scheduling, and efficient communication with referring physicians.
- To use of appropriate consultation and referral mechanisms for the optimal clinical management of patients with complicated medical illness.
- To recognize the availability and limitation of health care resources and demonstrate the ability to act as an advocate for patients within their sociocultural and financial constraints.
- To demonstrate knowledge of the legal aspects of neurologic diseases as they impact patients and their families (e.g., relaying information to families regarding guardianship and/or power of attorney).
- To demonstrate an understanding of risk management.
- To work within the system of care to maximize cost-effective utilization of resources.
- To educate patients concerning systems of care.

3-2. Specific Goals and objectives

3-2-1. Year 1

Goals

- To achieve competence in performance of neurological evaluation in pediatric and adult patients.
- To develop patient management skills in both in and outpatient setting in pediatric and adult patients.
- To develop an understanding of the pathophysiologic basis of diseases of the nervous system.
- To develop presentation skills.
- To participate in quality improvement activities.
- To begin subspecialty elective training.
- To begin/continue developing teaching skills.
- To begin developing skills in scholarly/research activities.

Objectives

- To successfully complete six months of inpatient rotations in adult neurology at UHB on general and EMU services, at KCH on the ward, neurocritical care and consultation services, and Maimonides Medical Center general, neuro-ICU and stroke services.
- To successfully complete three months of inpatient pediatric neurology service.
- To successfully participate in the outpatient clinics (one month of adult neurology outpatient rotation and ongoing pediatric neurology continuity clinic).
- To present cases and topics at various resident conferences and morning report.
- To complete the first RITE examination.
- To complete NEX examination in adult neurology.
- To participate in departmental academic conferences.
- To teach medical students during in and outpatient service.

3-2-2. Year 2

Goals

- To develop skills required to lead a team of rotating residents and students in pediatric neurology
- To continue developing skills needed for management of patients under the supervision of the attending
- To continue developing skills in scholarly/research activities
- To continue subspecialty elective training
- To successfully complete one month of child psychiatry
- To continue developing teaching skills

Objectives

- To successfully participate in the outpatient clinics (pediatric neurology continuity and subspecialty clinics and one month of adult neurology clinics).
- To give well researched, in depth departmental presentations (2nd year presentation, journal clubs) under the guidance of an attending.
- To present at subspecialty conferences (epilepsy and neurobehavior) and morning report.
- To participate in divisional research conference and begin work on scholarly project.
- To complete the second RITE examination.
- To complete at least two NEX examinations.
- To participate in departmental academic conferences.
- To teach medical students as well as pediatric and adult neurology residents rotating on pediatric neurology.

- To participate in formal teaching curriculum during neurology clerkship.
- Towards the second half of the year to successfully lead an inpatient team of residents and students in pediatric neurology at Kings County and Downstate.

3-2-3. Year 3

Goals

- To achieve adequate ability to practice competently and independently towards the end of the training.
- To complete subspecialty elective training.
- To continue improving leadership skills on pediatric neurology inpatient/outpatient service.
- To further develop skills in scholarly/research activities.
- To continue improving teaching abilities.

Objectives

- To successfully serve as a senior resident and leader of an inpatient team of residents and students in pediatric neurology in Kings County and Downstate.
- To complete subspecialty elective training.
- To successfully participate in the outpatient clinics (pediatric neurology continuity and subspecialty clinics and one month of adult neurology clinics).
- To complete the third RITE examination.
- To complete all five NEX examinations.
- To present at departmental and subspecialty conferences (third year presentation, epilepsy presentation, neurobehavior conference, journal club and morning report).
- To continue teaching medical students as well as pediatric and adult neurology residents rotating on pediatric neurology.
- To participate in formal lectures and conferences for pediatric residents and medical students during neurology clerkship.
- To participate in the final oral examination of medical students during neurology clerkship.
- To complete scholarly/research project: an abstract and a manuscript and QI project.

4. Resident evaluations:

Residents are provided with verbal feedback from attendings. Evaluation forms are also completed by attendings on a monthly (or more frequent, depending on length of the rotation) basis following completing of each rotation. These forms address the six core competencies. Every 6 months a semiannual resident evaluation is performed by resident advisor/program director. 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 neurology residents must complete four pediatric and one adult neurol. exam during training.

5. Affiliated Hospitals and Services

5-1. University Hospital of Brooklyn (UHB)

Contact person: Dr. Alexandra Reznikov (Telephone: 1-718-270-2042; pager: 917-218-8447)

Pediatric Neurology service at UHB currently provides training in general child neurology as well as exposure to subspecialty services such as epilepsy, cognitive neurology, behavior problems and epilepsy. The consultation and ward services provides neurology training throughout three years of neurology training. Residents rotate in general and subspecialty child neurology clinics.

5-2. Kings County Hospital Center (KCHC)

Contact person: **Dr. Alexandra Reznikov** (Telephone: 1-718-270-2042; pager: 917-218-8447).

The major teaching affiliate for both inpatient and outpatient experiences. Residents rotate through KCH for all three years of their training. During their second year a child psychiatry rotation is performed at KCH.

5-3. Maimonides Medical Center (MMC)

Contact person: Dr. Nuri Jacoby (phone: 516-445-7286)

Residents rotate on the adult neurology general, stroke, and neuro-intensive care unit during their first year of pediatric neurology training.

6. Pediatric Neurology Inpatient and Outpatient Rotations (UHB & KCHC) Goals and Objectives

6-1. Second Year (Junior) Pediatric Neurology Residents

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

6-1-1. Patient care

Goals

- To develop family-centered, compassionate, development, age - appropriate and effective care for the management of pediatric neurology problems.
- To gain proficiency in the evaluation of inpatients and outpatients with a wide variety of pediatric neurological problems.
- To be able to formulate differential diagnosis, appropriate workup and prescribe appropriate treatment and follow up.
- To learn to communicate effectively with patients, families, staff and other healthcare providers.
- To gain experience in acute care and management of pediatric neurol. patients in the ERs, EMU, PICUs and NICUs and to participate in the continued management of these patients.

Objectives

- To be able to perform a proficient neurologic history and examination on infants and children.
- To develop differential diagnosis skills.
- To determine appropriate evaluations for differential diagnosis.
- To recommend effective management of patients.
- To demonstrate caring and respectful behaviors.
- To counsel and educate patients and families.
- To demonstrate improvement on presentations on rounds and documentation in patient records.

6-1-2. Medical knowledge

Goals

- 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).
- To learn the diagnosis and treatment of neurologic diseases in infants and children.
- To evaluate the indication for, application and relevance of investigative procedures and interpretation in the diagnosis of neurologic disorders in children.

- To know the indications, contraindications, risks, benefits, costs and alternatives to commonly performed neurodiagnostic procedures at various ages.
- To acquire sufficient knowledge to develop appropriate and pertinent plans of care.

Objectives

- To perform a comprehensive neurologic examination.
- To demonstrate knowledge of pathophysiology and treatment of major neurologic disorders including seizures, developmental delay and regression of development, CNS tumors, neuromuscular disorders, CNS infections, headaches, behavioral disorders, such as ADHD and autism.
- To demonstrate knowledge of complications of drug treatment and systemic disorders.
- To learn to perform appropriate procedures, including lumbar puncture.
- To become familiar with the role of following modalities (indication, interpretation and findings)
 - Audiometry
 - CSF analysis
 - Electroencephalography
 - Electromyography/Nerve conduction studies
 - Genetic testing
 - NeuroImaging
 - Polysomnography
 in evaluation of a pediatric patient with neurologic disorders.
- To identify and describe abnormalities seen in common childhood neurologic disorders with radiologic testing, including plain films, myelography, angiography, CT, and MRI.
- To recognize age related changes and normal values in neurodiagnostic tests.

6-1-3. Practice-based learning and improvement

Goals

- To investigate and evaluate their own patient care.
- To appraise and assimilate scientific evidence, and improvements in patient care.
- To learn how to use and present information obtained through the use of information technology.
- To understand and implement departmental and institutional improvement projects and patient safety goals.

Objectives

- To learn to identify standardized guidelines for conditions common to child neurology and adapt them to individual patient needs.
- To identify personal learning needs related to neurology and plan for continuing acquisition of knowledge and skills.

6-1-4. Interpersonal and communication skills

Goals

- To learn skills that result in effective information exchange and teaming with patients, their families, and other health professionals.
- To effectively teach students, other residents and other health care professionals.

Objectives

- To provide effective patient and family education.
- To communicate effectively with primary care, other physicians and other health care professionals.
- To maintain accurate, legible and legally appropriate medical records.
- To become proactive in teaching child neurology to medical students, adult and pediatric neurology residents.

6-1-5. Professionalism

Goals

- To develop commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.
- To demonstrate responsiveness to the needs of patients and society that supersedes self-interest.
- To demonstrate personal accountability to the well-being of patients.

Objectives

- To demonstrate respect, compassion and integrity.
- To demonstrate sensitivity and responsiveness to a patient's culture, age, gender and disability.
- To maintain the confidentiality of patient information and be aware of HIPPA guidelines.
- To understand ethical principals involved in informed consent and advanced directives.
- To seek answers to patient care questions.
- To follow up on lab and other investigatory results in the timely fashion.
- To write comprehensive, up-to-date and accurate notes.

6-1-6. Systems-based practice

Goals

- To 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.
- To demonstrate the ability to obtain needed services for patients and families.
- To recognize one's limits and those of the system.

Objectives

- To identify key aspects of health care systems as they apply to child neurology.
- To demonstrate sensitivity to the costs of clinical care in child neurology and take steps to minimize costs without compromising quality.
- To advocate for families who need assistance in dealing with systems complexities, such as referral processes, lack of insurance, multiple medication refills, multiple appointments, etc.
- To 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.

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. *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

Monday	Tuesday	Wednesday	Thursday	Friday
<u>8:30AM</u> Ped. Neurol. Rounds	<u>8:30AM</u> Ped. Neurol. Rounds	<u>8:30AM</u> Ped. Neurol. Rounds	<u>8:30AM</u> Ped. Neurol. Rounds	<u>8AM</u> Ped. Neurol. Rounds <u>9AM</u> Grand Rounds <u>10:30AM</u> P. N. Rounds
<u>Noon</u> Conference <u>1PM</u> KCH Ped. Neurol. Clinic	<u>Noon</u> Conference <u>1PM</u> UHB Ped. Neurol. Clinic	<u>Noon</u> Conference	<u>Noon</u> Conference <u>1PM</u> UHB Specialty Clinics	<u>2PM</u> Epilepsy Conference

6-2. Third Year (Senior) Pediatric Neurology Residents (UHB & KCHC) Goals and Objectives

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

6-2-1. Patient care

Goals

- To maintain and improve family-centered, compassionate, development, age - appropriate and effective care for the management of pediatric neurology problems.
- To gain experience and become proficient in the evaluation of inpatients and outpatients with a wide variety of pediatric neurological problems.
- To be improve skills in formulation of differential diagnosis and appropriate workup.
- To prescribe appropriate treatment and follow up.
- To improve communication skills.
- To gain more extensive experience in acute care and management of pediatric neurol. patients in the ERs, EMU, PICUs and NICUs and to participate in the continued management of these patients.

Objectives

- To be continue improving skills in performing a proficient neurologic history and examination on infants and children.
- To improve differential diagnosis skills.
- To determine appropriate evaluations for differential diagnosis.
- To recommend effective management of patients.
- To demonstrate caring and respectful behaviors.
- To counsel and educate patients and families.
- To demonstrate concise presentations on rounds and accurate. and complete documentation in patient records.
- To complete monthly patient data base.

6-2-2. Medical knowledge

Goals

- 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.
- To demonstrate an investigatory and analytical thinking approach to clinical situations and know and apply the basic and clinically supportive sciences which are appropriate to child neurology.
- To expand knowledge regarding the diagnosis and treatment of neurologic diseases in infants and children.
- To evaluate the indication for, application and relevance of investigative procedures and interpretation in the diagnosis of neurologic disorders in children.
- To learn the indications, contraindications, risks, benefits, costs and alternatives to commonly performed neurodiagnostic procedures at various ages
- To continue acquiring knowledge base to develop appropriate and pertinent plans of care.

Objectives

- To demonstrate increased knowledge of pathophysiology and treatment of major neurologic disorders including seizures, developmental delay and regression of development, CNS tumors, neuromuscular disorders, CNS infections, headaches, behavioral disorders, such as ADHD and autism.
- To demonstrate increased knowledge of complications of drug treatments and systemic disorders.
- To improve procedural skills, including LP skills.
- To become familiar with the role of following modalities (indication, interpretation and findings)
 - Audiometry
 - CSF analysis
 - Electroencephalography
 - Electromyography/Nerve conduction studies
 - Genetic testing
 - Neurolmaging
 - Polysomnography
 - Evoked potentials
 - Electronystagmography/Electroretinography
 - Neurometabolic testing
- in evaluation of a pediatric patient with neurologic disorders.
- To identify and describe abnormalities seen in childhood neurologic disorders with radiologic testing, including plain films, myelography, angiography, CT, and MRI.
- To recognize age related changes and normal values in neurodiagnostic tests.

6-2-3. Practice-based learning and improvement

Goals

- To investigate and evaluate their own patient care and to appraise and assimilate scientific evidence in order to improve patient care.
- To identify personal learning needs related to neurology and plan for continuing future acquisition of knowledge and skills.
- To implement departmental and institutional improvement projects and patient safety goals.

Objectives

- To identify standardized guidelines for conditions common to child neurology and adapt them to individual patient needs.
- To use evidence based medicine and accepted guidelines in decision making.

- To effectively acquire and present information obtained through the use of information technology.
- To actively participate, in daily rounds, educational courses, conferences, and other organized educational activities.
- To review and critically assess scientific literature to determine how quality of care can be improved in relation to one's practice.

6-2-4. Interpersonal and communication skills

Goals

- To expand interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and other health professionals.
- To provide effective patient and family education.
- To learn to effectively supervise members of the child neurology in-patient team.
- To improve teaching skills.

Objectives

- To accurately describe and explain procedures to patients and families.
- To continue developing effective communication with primary care, other physicians and other health care professionals.
- To maintain accurate, legible and legally appropriate medical records.
- To effectively teach medical students, other residents and other health care professionals.
- To provide bedside education to rotating residents and students.
- To actively participate in family meetings.

6-2-5. Professionalism

Goals

- To demonstrate continued commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.
- To demonstrate sensitivity and responsiveness to a patient's culture, age, gender and disability.
- To demonstrate integrity and personal accountability to the well-being of patients.
- To demonstrate respect, compassion and integrity.
- To demonstrate responsiveness to the needs of patients and society that supersedes self-interest.

Objectives

- To maintain the confidentiality of patient information and be aware of
 - HIPPA guidelines.
- To understand ethical principals involved in informed consent, advanced directives and clinical research.
- To timely follow up on lab and other investigatory results.
- To write comprehensive, thoughtful, up-to-date and accurate notes
- To proactively seek answers to patient care question.
- To coordinate care with other members of the medical and/or multidisciplinary team.
- To respond to communication from patients, families, and health professionals in a timely manner.

6-2-6. Systems-based practice

Goals

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

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

Objectives

- To learn to access community, national, and allied health professional resources to help with care of pediatric neurology patients.
- To accurately use medical data in the communication with and effective management of patients.
- To act as an advocate for patients within their sociocultural and financial constraints.
- To demonstrate sensitivity to the costs of clinical care in child neurology and take steps to minimize costs without compromising quality.
- To 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.

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.

ROTATION SCHEDULE

Monday	Tuesday	Wednesday	Thursday	Friday
<u>8:30AM</u> Ped. Neurol. Rounds	<u>8:30AM</u> Ped. Neurol. Rounds	<u>8:30AM</u> Ped. Neurol. Rounds	<u>8:30AM</u> Ped. Neurol. Rounds	<u>8AM</u> Ped. Neurol. Rounds <u>9AM</u> Grand Rounds <u>10:30AM</u> P. N. Rounds
<u>Noon</u> Conference <u>1PM</u> KCH Ped. Neurol. Clinic	<u>Noon</u> Conference <u>1PM</u> UHB Ped. Neurol. Clinic	<u>Noon</u> Conference	<u>Noon</u> Conference <u>1PM</u> UHB Specialty Clinics	<u>2PM</u> Epilepsy Conference

6-3. Child Psychiatry Rotation (KCHC, Second Year) Goals and Objectives

Rational

Pediatric neurology residents are required by the ACGME 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 Hospital. 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.

6-3-1. Patient Care

Goals

- To learn to obtain an adequate in-take history from child psychiatry patients and their parents.
- To 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
- To learn about the psychological aspects patient-physician relationship and the importance of personal, social and cultural factors in disease processes and their expression.

Objectives

- To conduct developmentally appropriate interviews with children and adolescents and their families.
- To continuously monitor progress of the patient and integrate new information and changes in clinical presentation into an updated differential diagnosis and revised treatment plan.
- To learn to develop an appropriate DSM-V multiaxial differential diagnosis.
- To learn to develop comprehensive evaluation and treatment plans.

6-3-2. Medical Knowledge

Goals

- To become familiar with the principles of psychopathology, psychiatric diagnosis and therapy.
- To learn the indications for, mechanism of action and complications of drugs used in psychiatry.
- To improve knowledge base for child psychiatry conditions.
- To learn indications for other psychiatric interventions.

Objectives

- To learn about diagnosis and treatment of psychiatric disorders such as schizophrenia, mood disorders, anxiety disorders and adjustment disorders.
- To become familiar with antipsychotics, antidepressants, antianxiety agents and mood stabilizers.
- To learn about side effects of medications (i.e. acute, motor and neuroleptic malignant syndrome).
- To learn about iatrogenic disorders in neurology and psychiatry.
- To learn about nonpharmacologic treatments and management

6-3-3. Practice based learning and improvement

Goals

- To appreciate the interplay between psychogenic and neurologic clinical manifestations including somatization and conversion.
- To be able to implement institutional performance improvement projects related to patient safety.

Objectives

- To be able to use and present information obtained through use of information technology.
- To recognize limitations in their own knowledge base and clinical skills.

6-3-4. Interpersonal and communication skills

Goals

- To improve communication skills with child psychiatry patients and their families.
- To improve communication with other members of the health care team.

Objectives

- To demonstrate sociocultural sensitivity to patients and their families
- To provide explanations of psychiatric disorders and treatment that are jargon-free and matched to the educational/intellectual levels of patients and their families
- To provide preventive education that is understandable and practical

- To respect patients' cultural, ethnic, religious, and economic backgrounds
- To participate in interdisciplinary team meetings.

6-3-5. Professionalism

Goals

- To demonstrate respect for patients, families and staff.
- To put patients' interests ahead of other considerations.

Objectives

- To maintain confidentiality of personal patient information.
- To coordinate care with other members of the team.
- To respond to communication from patients and health professionals in a timely manner.

6-3-6. System Based Practice

Goals

- To demonstrate working knowledge of the diverse systems involved in treating patients and families of all ages.
- To understand how to use these systems as part of a comprehensive system of care in general and as part of a comprehensive, individualized treatment plan.

Objectives

- To demonstrate the ability to obtain needed services for patients.
- To communicate effectively with various schools and other support services.
- To use practice guidelines if appropriate.
- To demonstrate an understanding of risk management.

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

7. Elective Rotations

Please see section V of the book for further details on elective policy and availability. For pediatric neurology residents one month of research elective is a requirement in either second or third year of residency training.

7-1. Research Rotation

Rational

Pediatric Neurology residents are required to complete at least one month of research rotation either during their second or third year of training. This elective is designed to assist with the graduation requirement of participating in scholarly activity and in learning about conducting research.

7-1-1. Patient Care

Goals

- To learn to develop and implement research questions based on patient care experiences.

Objectives

- To consider specific aspects of patient care such as management of specific diseases or their screening in conjunction with personal health care experiences to formulate questions to study.

7-1-2. Medical Knowledge

Goals

- To generate patient-centered clinical questions.
- To identify the information sources to develop a research project.

Objectives

- To select the appropriate study design to answer your question.
- To learn about the process and indications for IRB approval.
- To understand function of IRB.
- To conduct literature searches using Pubmed, Medline and other databases.
- To become familiar with specific practice guidelines.
- To participate in the yearly departmental lectures on research.
- To participate in monthly pediatric neurology division research meetings.

7-1-3. Interpersonal and communication skills

Goals

- To demonstrate interpersonal and communication skills in information exchange and partnering with patients, family and colleagues.

Objectives

- To discuss the project with your advisor and appropriate consultants (if applicable).
- To update your research advisor and other residents on your progress during the monthly research meetings.
- To present the research findings at the departmental monthly research meeting.
- To write a scientific abstract for potential submission to a local, regional or national research meeting
- To write a manuscript for submission for the scientific journal (if relevant).
- To complete final IRB reporting (if relevant).

7-1-4. Practice based learning and Improvement

Goals

- To demonstrate the ability to critically evaluate relevant medical literature.
- To determine the application of the project to patient care.

Objectives

- To use knowledge of common methodologies employed in neurologic research.
- To compare your data to previously available information to determine similarities and differences.
- To determine if and how patient care can be changed with application of your data.

7-1-5. Professionalism

Goals

- To demonstrate a commitment to carry out professional responsibilities, adherence to ethical principles and sensitivity to diversity.

Objectives

- To be honest in reporting of data.
- To respect patients and families privacy in obtaining information.
- To understand subject recruitment, informed consent, patient privacy and role of IRB.

7-1-6. Systems-Based Practice

Goals

- To advocate for research to promote understanding of disease processes and ways to deliver care.

Objectives

- To learn to understand cost of research.
- To learn about methods of performing research while in residency and in the setting of the medical care system.

7-2. Headache Rotation

Rational

The goal of the headache elective is to provide child neurology residents with additional experience in diagnosis and treatment of headache disorders and to further their knowledge in pharmacological and nonpharmacological headache treatment modalities.

7-2-1. Patient care

Goals

- To further skills in management of patients with headaches.

Objectives

- To take a detailed and relevant headache history and perform examination on patients with headaches.
- To evaluate new and follow up patients in an outpatient headache center.

7-2-2. Medical Knowledge

Goals

- To develop increasing knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences as they pertain to the management of patients with headache.

Objectives

- To differentiate between primary and secondary headaches.
- To recognize the most common primary headache types.
- To learn the principles of management of patients with common headache types.
- To understand the pathophysiology of the most common headaches.
- To understand the indications, mechanisms of action and side effects of medications used to treat headaches.
- To become familiar with monoclonal antibodies, botox administration and use of nerve blocks to treat headaches.

7-2-3. Interpersonal and communication skills

Goals

- To demonstrate communication skills that result in the effective exchange of information with patients, their families and other health care professionals.

Objectives

- To communicate effectively with patients and other health care professionals.
- To present your patient evaluations in a clear and concise manner.

7-2-4. Practice Based Learning and Improvement

Goals

- To demonstrate appropriate skills for obtaining and evaluating up-to-date information from scientific

and practice literature to assist in the quality care of patients.

- To recognize limitations in personal knowledge base and clinical skills.

Objectives

- To use information technology, including Internet-based searches and literature databases to research relevant information.
- To use practice guidelines in developing individualized evaluation and treatment plans.
- To learn the appropriate use of specialty procedures such as MRI, CT, CSF evaluation in the management of patients with headaches.

7-2-5. Professionalism

Goals

- To demonstrate ethical behavior, integrity, honesty, compassion, and confidentiality in the delivery of care.
- To function as a team member.

Objectives

- To maintain the confidentiality of patient information.
- To coordinate care with other members of the treatment team.
- To consistently demonstrate respect for patients and staff members.

7-2-6. Systems-Based Practice

Goals

- To demonstrate working knowledge of the diverse systems involved in treating patients with neurologic problems, and understand how to use the systems as part of a comprehensive system of care in general and as part of a comprehensive, individualized treatment plan.

Objectives

- To evaluate and implement, where indicated, the use of practice guidelines.
- To access community, national, and allied health professional resources that may enhance the quality of life of patients with neurologic problems.
- To demonstrate an understanding of risk management.

7-3. Neuro-oncology Rotation

Rational

The overall goal of the pediatric neuro-oncology elective is to provide residents with an experience in evaluation, diagnosis and ongoing care of children with neurologic tumors in the setting of multidisciplinary approach to patient management.

7-3-1. Patient care

Goals

- To be able to perform a comprehensive evaluation of a pediatric patient with a neurologic tumor.
- To learn to coordinate patient management in coordination with other disciplines.

Objectives

- To learn to take a detailed history and perform a comprehensive neurological examination in a pediatric patient with a neurologic tumor.
- To identify and describe abnormalities seen in common pediatric neurologic tumors with radiologic and other investigative procedures.
- To identify and describe gross and microscopic specimens of the central and peripheral nervous systems from patients with neurologic tumors.

- Participate in multidisciplinary conferences.

7-3-2. Medical Knowledge

Goals

- To demonstrate knowledge of basic neuroscience concepts relevant to management of patients with pediatric brain and spinal tumors.
- To demonstrate familiarity with major treatment modalities used in neuro-oncology.
- To increase knowledge base in pediatric neuro-oncology.

Objectives

- To demonstrate knowledge of presentation, evaluation and management of the more common pediatric brain and spine tumors.
- To understand the role, indications and adverse effects of radiation therapy in the treatment of neurologic tumors.
- To learn the role, indications and adverse effects of more common chemotherapeutic agents used in neuro-oncology.
- To understand the influence of genetics on the choice of treatment strategies.

7-3-3. Interpersonal and Communications Skills

Goals

- To demonstrate communication skills that result in the effective exchange of information with patients, their families and other health care professionals.

Objectives

- To provide counseling to patients and their families, including grief counseling.
- To demonstrate sociocultural sensitivity to patients and their families.
- To respect patients' cultural, ethnic, religious, and economic backgrounds.
- To provide explanations of neuro-oncologic disorders and treatment plans that are jargon-free and matched to the educational/intellectual levels of patients and their families.
- To participate in daily patient conferences.
- To participate in interdisciplinary neuroradiology/neuropathology/neuro-oncology conferences.

7-3-4. Practice Based Learning and Improvement

Goals

- To recognize limitations in their own knowledge base and clinical skills, and understand and address the need for lifelong learning.
- To demonstrate the ability to critically evaluate relevant medical literature.

Objectives

- To be able to use and present information obtained through use of information technology.
- To review and critically assess scientific literature to determine how quality of care can be improved.

7-3-5. Professionalism

Goals

- To demonstrate responsibility for their patients' care.
- To demonstrate respect for patients, families and staff.
- To put patients' interests ahead of other considerations.

Objectives

- To maintain confidentiality of personal patient information.
- To coordinate care with other members of the team.

- To respond to communication from patients and health professionals in a timely manner.

7-3-6. Systems-Based Practice

Goals

- To demonstrate working knowledge of the diverse systems involved in treating patients and families of all ages, and understand how to use the systems as part of a comprehensive system of care in general and as part of a comprehensive, individualized treatment plan.

Objectives

- To be able to access community, national, and allied health professional resources that may enhance the quality of life of patients with neurologic tumors.
- To evaluation and implementation, where indicated, the use of practice guidelines.
- To demonstrate an understanding of risk management.
- To work within the system of care to maximize cost-effective utilization of resources.

VII. Teaching and Didactics

1. Overview

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.

2. Preliminary Internal Medicine Conferences

1. Downstate Campus

- a. Introductory Lecture Series
- 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. Evidence-Based Medicine / Journal Club
- e. Professor Rounds

3. Neurology Conferences

3-1. Introductory Conferences (Boot Camp Lectures): 2 weeks

- The preliminary neurology residents will receive training that enable them to smoothly transition to the upcoming residency years. This transition will occur over 2 weeks in the end of the first academic year.
- These 2 weeks of training includes lectures on essential topics enable upcoming residents to function as a neurology resident. Topic includes for example stroke code management, status epilepticus management and other neurologic emergencies.
- During this block, residents are expected to complete ENLS (these modules provided by neurocritical care society covering basic topics in neurological emergencies) and NIHSS certification. Residents are expected to submit certification of course completion to neurology coordinator NIHSS by the end of boot camp and ENLS by the end of August.
- Residents are expected to present a prepared topic provided by chief resident. The topics are based on important continuum chapters and the residents will be provided with power point slides which is suggested that they use in their presentations.
- Residents are expected to shadow senior residents to become familiar with neurology consultation and work flow. Shadowing will occur during short calls and weekend calls.
- Training resources will be provided as online and hard copy.
- During those 2 weeks, noon breaks will be dedicated to lunch with senior residents on practical aspect of training. The name of this conference is 'What I wish I knew when I was PGY-2'.

3-2. Lecture Blocks

- The academic year is divided into subspecialty teaching blocks. Teaching block may cycle more than annual basis.
- At the end of the block, the residents are required to sit for a quiz.
 - Stroke 6 weeks
 - Neuromuscular 6 weeks
 - Neuroimmunology and Headache 3 weeks
 - Research 5 weeks
 - Epilepsy 7 weeks
 - Movement Disorder and Behavior Neurology 4 weeks
 - Pediatric Neurology 5 weeks
 - Neurocritical Care, Neurosurgery 5 weeks

3-3. Year-Round Presentations and Learning Experiences

- Neuroradiology
- Transfer conference (Discussion of patients transferred to other hospital with the accepting team)
- Morning Report (UHB, KCH, MMC and Peds Neuro at UHB)
- Epilepsy Conference
- Morbidity and Mortality Report (UHB, KCH and MMC)
- Grand Rounds
- Case conference (adult and pediatric)
- Journal Club (adult and pediatric)
- Basic Science Conference
- Neuropathology
- Neurobehavior Conference (adult and pediatric)
- Neurovascular Conference
- Neuromuscular Conference
- Ethics
- Root-cause analysis conference
- Participation in the simulation modules

3-4. Memorial Sloan Kettering Cancer Center

- Grand Rounds
- Professor Rounds
- Brain Tumor Conference
- Pediatric Brain Tumor Conference
- Neuropathology Conference
- Clinical Research Meeting

3-5. Mount Sinai Medical Center

- Residents while on the Mt. Sinai rotation will join local teaching activities of the residency and fellowship program at Mt. Sinai.

4. Teaching

4-1. Overview

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.

4-2. Expectations

- Residents on the clinical services are expected to do presentations to their colleagues.
- Teaching medical students on the clinical services.
- Teaching in the medical school (examples are physical exam POPS (Patient-Oriented Problem Solving))
- Participating simulation center. Senior residents take part in running simulation modules. (For example, stroke simulation module in KCHC)
- Residents are expected to perform bedside teaching. Juniors to medical students, senior to Juniors and medical students.
- Residents are expected to present a topic under mentor guidance in PGY-4 year.
- Pediatric neurology residents are required to give a mentor-guided presentation on epilepsy and on a topic of their choice during their last year of training.

4-3. Residents as a teacher

- Lecture on residents as a teacher (RAT) will be provided to the residents throughout the residency by SUNY Downstate Neurology Clerkship director.
- Online module is provided by SUNY Downstate Medical School

4-2. Medical Student Teaching:

4-1-1. Medical Student Neuroscience Curriculum

First Year

- Anatomy Labs and Neuroscience Course (anatomy dissection demonstrations)

Second Year

- Neurology Behavior System Block: small group instruction on neuro exam
- Review of neurology prior to clinical years

Third/Fourth Year

- Neurology Clerkship
 - All residents teach students on the wards/consult service. Practical management is taught on work rounds
 - Students present patients to the junior or consult resident on call and to the team on work rounds
 - Junior and senior residents review student notes
 - Senior residents examine for medical student oral exams
- Neurology Sub-Internship
 - Senior resident supervises the sub-intern and provides appropriate guidance in conjunction with the attending (the student functions as an intern whenever possible)

4-1-2. 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, and back pain

- **Pediatric Neurology Topics:** Hypotonia (and pediatric neuromuscular) disorders, pediatric epilepsy syndromes, neurocutaneous syndromes, congenital malformations, micro, and macrocephaly, genetic disorders, developmental delay and learning disabilities.
- 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.
- During last year of their training pediatric neurology residents participate in formal didactic teaching sessions in conjunction with pediatric neurology attendings.
- At all of our institutions the residents are the most important source of bedside teaching. Probably the most important skill that residents teach students is their approach to the patient. Residents' bedside manner and their 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 the resident to review many aspects of neurology. Students often ask unexpected questions and test the thoroughness of residents' understanding. In addition, communicating knowledge is an important part of being a physician. We hope residents find this aspect of their residency training rewarding and fun.

VIII. Policies

- 1. Evaluation policy**
- 2. Duty Hours and Fatigue Management in Neurology Policy**
- 3. Absences and Coverage Policy**
- 4. Age Guidelines for patient care by adult and pediatric neurology services at UHB and KCH Policy**
- 5. Charting and Documentation Policy**
- 6. Credentialing Policy**
- 7. End-of-the-year Guidelines for the Neurology Residency Policy**
- 8. Transitions of Care Policy**
- 9. Moonlighting Policy**
- 10. Pharmaceutical Industry Interaction Policy**
- 11. Selection, Promotion, Dismissal, and Due Process Policy**
- 12. Supervisory Lines of Responsibility for Residents Policy**
- 13. Escalation of Responsibility in Patient Care at KCHC, UHB and MMC Policy**
- 14. Travel Payment Policy**
- 15. Program Evaluation Committee / Annual Program Evaluation Policy**
- 16. Clinical Competency Committee (CCC) Policy**

1. Evaluation Policy

Neurology Residents are evaluated in several ways. Evaluations are kept in the portfolio for each resident.

1-1. Evaluation of performance on a rotation

Evaluation will be done by monthly by service attendings

1-2. Evaluation of performance in outpatient clinics

Evaluation is done bi-annually (December and June) by clinic attendings.

1-3. Inservice performance

AAN-RITE and quizzes are reviewed with program director.

1-4. 360 Evaluation

Evaluation is annually based on the rotation of UHB, KCH, and MMC.
Sources are residents, nurses and patients.

1-5. Milestones

Semi-annually, from multiple sources.

1-6. Evaluation of performance by medical students

Surveyed by medical school and the information is provided by clerkship director.

1-7. Residents are expected to complete evaluations for following:

- Attendings for each rotation (monthly)
- Residents (annually)
- Students (monthly)
- The program (annually)

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

2. Duty Hours and Fatigue Management in Neurology Policy

2-1. Work Hours Guidelines

Apply to ALL training programs, residents, fellows

- We follow the ACGME and NYS 405 work hour regulations, whichever is more stringent.
- No more than 80 hour per week, averaged over a four-week period. (activities to count toward to this limit includes all clinical assignment including inpatient, outpatient, conferences and educational activities.)
- Residents work hours should not exceed 24 hours of continuous work. 3 additional hours may be used for transfer of patient care, rounds or grand rounds.
- Residents should have 8 hours off between scheduled clinical work and education periods.
- Residents must also have at least 14 hours free of clinical work and education after 24 hours of in-house call.
- At least one 24-hour period off per week (without beeper)
- At-home call hours should count toward the 80-hour maximum weekly limit. The frequency of at-home call is not subject to every third night limitation on calls, but it must satisfy the requirement for one day off in seven.
- Always a bed available. Do not get into a car and drive if you are fatigued.
- 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 8 hours between work periods. For example, if you leave 1 hour later, then you come in 1 hour later
- Always a bed available. Do not get into a car and drive if you are fatigued.
- Residents are required to log-in their work hours for monitoring.

2-2. Fatigue Management

- Residents are educated to recognize the signs of fatigue and sleep deprivation and strategies for alertness management and fatigue mitigation.
- Residents who are unable to engage in patient care due to fatigue or impairment must transition responsibility for their patients to other health care providers and to be encouraged to use fatigue mitigation processes to manage the potential negative effects of fatigue on patient care and learning.
- It is the responsibility of peers, supervising residents, chief residents, attending physicians and faculty to monitor for resident fatigue or impairment and ensure that necessary relief or mitigation actions are taken when necessary.
- Appropriate techniques for mitigation of fatigue should be employed as part of fatigue management strategy including strategic napping, judicious use of caffeine, time management to maximize sleep off-duty, self-monitoring performance and asking others to monitor performance, maintaining a healthy diet, and availability of relief by back up call systems with transition of care to other providers.
- There will be no negative consequences or stigma for the use of fatigue mitigation strategies.

3. Absences and Coverage Policy

3-1. Adult Neurology Absences and Coverage Policy

3-1-1. Emergent Absences

- Coverage is provided by the residents on back up pool in the first instance or secondarily on elective and is set up by the coverage chief resident.
- You must contact your coverage chief resident and service senior resident by 7am on the day of service.
- More than one day in a row or frequent absences require a doctor's note.
- Verbal discussion with chief resident before shift begins (7am latest)
- Email to the coordinator
- Email Downstate neurology (chief resident email)

3-1-2. Planned Absences

- Coverage must be arranged by resident IN ADVANCE with residents on NON-CLINICAL rotations.
- Permission is granted ONLY for interviews, conferences and urgent issues on an individual basis at the discretion of the program director.
- You must arrange for coverage yourself and confer with the Chief Resident to be sure no work hour violations occur.

3-1-3. Back-up Pool

The Department of Neurology has a back-up pool of residents available for provision of coverage. Those residents are on the clinic/research/back-up rotation.

Coverage

- All residents on back-up pool will be expected to be in-house (at KCH or Downstate) on weekdays from the hours of 9AM-5PM.
- All residents will be expected to carry their pagers at all times.
- If another resident is unable to perform his/ her duties, the back-up resident may be called on *at any time* as backup. Services that may need to be covered include Weekday Ward/ Consult services, Short Call, Weekend Call, Night Float, Clinics.
- Back-up resident is to be used for **illness/ emergencies**. If any resident is unable to come to work due to illness/ emergency, the back-up resident will be expected to provide coverage with no expectation of "payback." If any resident has scheduled interviews/ appointments, he/ she may use the resident on back-up pool to cover service, but ***WILL*** be expected to pay back coverage at a future date.

Activating Back-up

Activation of back-up particularly in emergent situations must undergo the formal process outlined below to facilitate a safe and efficient coverage system expeditiously whilst also accurately recording absences which is mandatory information for all departments to obtain and report to ACGME.

If any resident needs to call out urgently you must complete **ALL** of the following steps:

- Call/Page the coverage chief as soon as possible but no later than 7am to discuss the situation.
- E-mail the coverage chief(downstate.neurology@gmail.com) as soon as possible- ideally more than 12 hours when possible before the shift begins but no later than 7am on the morning of the shift.
- E mail the senior resident on service as soon as possible but no later on 7 am on the day

- E mail the attending on service
- E mail Coordinator Marjorie Maxwell
- Absences for more than 1 day in a row will ultimately require a Doctor's note
- Residents calling out/notifying team later than 7am on consecutive occasions will incur added calls

Clinic Coverage

Back-up resident will cover Wednesday KCHC Continuity Clinic

Educational Activities

Residents on Back-up rotation will be expected to attend all scheduled lectures/ activities.

Research Activity

This includes quality improvement and scholarly activities as below.

QUALITY IMPROVEMENT

- Residents on Jeopardy will be expected to engage in Quality Improvement activities.
- This includes attending any scheduled RCA meetings/ Committee meetings.
- Residents may also pursue their own Quality Improvement Projects during this time as part of their scholarly activity.

SCHOLARLY ACTIVITIES

- Residents on Jeopardy will be expected to take advantage of the time to pursue scholarly activities. This may include research projects, writing up case reports, book chapters, etc. Residents may contact the Chiefs/ Faculty regarding available projects.

3-2. Pediatric Neurology Absences and Coverage Policy

3-2-1. Emergent Absences

- Coverage is provided by the inpatient team or the residents on the elective.
- Residents must contact scheduling chief resident and service senior resident (if they are rotating on inpatient service) by 7am on the day of service.
- Residents on the elective must contact supervising attending and pediatric neurology chief resident.
- More than one day in a row or frequent absences require a doctor's note.
- For all absences, program director needs to be contacted by email or telephone.
- All residents will be expected to carry their pagers at all times.

3-2-2. Planned Absences

- All leave must be approved in writing by the affected clinic or rotation attending and the program director. Excused absence request forms must be completed and signed by all involved parties.
- Permission is granted ONLY for interviews, conferences and urgent problems on an individual basis at the discretion of the program director.
- All duties (including clinics) must be fully covered. You must arrange for coverage yourself and confer with the Chief Resident/Program director to be sure no work hour violations occur.
- No conference leaves will be granted while you are on inpatient service.
- Whenever possible, interviews should be scheduled during electives. Interview leave, if taken during inpatient rotations, will be limited to a total of 3 days per month.

3-2-3. Conference Attendance Policy

- No conference leaves will be granted while you are on inpatient service.
- Whenever possible, interviews should be scheduled during electives. Interview leave, if taken during

inpatient rotations, will be limited to a total of 3 days per month.

- Preference for conference leave will be given to residents presenting papers or posters, followed by the next most senior resident.
- All leave must be approved by the Program Director at least one month in advance. All duties (including clinics) must be fully covered.

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

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

5. Charting and Documentation Policy

5-1. Inpatient Notes – Ward Services

- All notes document date, time, type of note, and attending input. All resident notes are evaluated and cosigned by the attending.
- Admission
 - The body of the note: in depth history, exam, DDx, assessment, and plan of care
 - Junior Resident – Database
 - Senior Resident – Resident Admission Note
 - These are ON ADMISSION.
- Follow up
 - Date, time, type of note, and attending input and signature as above.
 - These are DAILY for active patients and when the patient's condition dictates.
 - For ALOC patients, resident notes are written 3 x week and if the patient condition dictates
 - Routine follow up
 - Daily Progress Note
 - Summary of condition, recent events, exam, pertinent lab /test values, assessment, and plan.
 - Addenda
- Changes in condition
 - As needed
 - IMMEDIATELY after an adverse event
- Procedures
 - LP etc.
 - Procedure notes must document supervision by credentialed supervisor until you are credentialed.

5-2. Inpatient – Consultation Services

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

5-3. Outpatient – Clinic Notes

- **All notes** document date, time, type of note, and attending input.
 - All resident notes are evaluated and cosigned by the attending.
- **Initial evaluation**
 - In depth history, exam, DDx, Assess/Plan
- **Follow up**
 - Summary of present condition and recent events
 - Pertinent exam
 - Pertinent workup

- Assess/Plan

5-4. General Rules for Documentation

- All notes document date, time, type of note, and attending or senior resident input. All resident notes are evaluated and cosigned by the attending.
- “If it’s not in your note, then it didn’t happen”
- Be thorough and concise
- Procedure notes must document supervision by credentialed supervisor until you are credentialed.

6. Credentialing Policy

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

PGY2

- tPA administration
- Lumbar puncture

PGY3

- Brain Death Evaluation

PEDIATRIC NEUROLOGY RESIDENTS

First Year of Training

- tPA administration
- Lumbar puncture

Third Year of Training

- Brain Death Evaluation

7. End-of-the-year Guidelines for the Neurology Residency Policy

- 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.
- 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.
- 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.
- Emergency coverage will be provided by 3rd year residents through the last day, if needed.
- The last 2 weekends of the year will be covered by second years (PGY-3).
- You are excused from your LAST clinic day of the academic year.
- There will be consequences for residents who do not meet their obligations in their final days.

8. Transitions of Care Policy

8-1. Overview

- 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 Maimonides Medical Center residents will use the I-PASS system at all times when a transition of care needs to happen, as outlined below:

I	Illness Severity	Is the patient 'stable', a 'watcher', or 'unstable'?
P	Patient Summary	<ul style="list-style-type: none">* Summary statement* Events leading up to admission* Hospital Course* Ongoing Assessment* Plan
A	Action List	<ul style="list-style-type: none">* To do list* Time line and ownership
S	Situation, Awareness, Contingency Planning	<ul style="list-style-type: none">* Know what's going on* Plan for what might happen
S	Synthesis by Receiver	<ul style="list-style-type: none">* Receiver summarizes what was heard* Asks questions* Restates key action/to do items

Here's a sample handoff:

I	Illness Severity	"Ok, this is our sickest patient and he's full code"
P	Patient Summary	Resident presents main points of HPI
A	Action List	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
S	Situation Awareness	For example: If this patient develops shortness of breath, please obtain a CXR as he/she may be developing an effusion
S	Synthesis by Receiver	Receiver summarizes the key points of the HPI as well as when/if to check vitals, labs, and imaging results

8-2. 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 at 4pm. Both 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 7pm 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.

8-3. 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, consult team and neurocritical care team will sign out to both the neurology resident on short call and the ward resident on short call, which will occur at 4:30pm. 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 9pm 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, consult neurology and neurocritical care 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.

8-4. Maimonides Medical Center

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

- Stroke and General team will both come in at 7:30AM for signout, and will alternate leaving at 5PM for signout to the late residents and signing out to the NF resident at 7PM Monday-Thursday.
- Night float will come in at 7PM and will leave at 9AM after morning report, which is from 8:15AM to 9AM. They will be covering stroke and general consults only, not stroke inpatients and not NICU patients

and there are no general neurology inpatients at this point.

- Sign outs in the morning are at 7:30AM and in the evening at 7PM every day including weekends.
- The night floater will sign out to the stroke neurology and general consult neurology teams at 7:30 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 will be handed off to the appropriate residents.
- Consulted stroke patients to be admitted to the ward team must be personally presented by the resident who saw the patient to the stroke inpatient team.
- 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.

8-5. Pediatric Neurology

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

- The senior resident on the pediatric neurology service will sign out to the resident on call between 4 and 5 pm either at the pediatric neurology office or at Kings County or Downstate Clinic Areas. Both call residents **must** be present to receive sign outs simultaneously to give ample opportunity for questions/discussions regarding the patients with the exception of a third year senior resident at an away-elective.
- The morning sign out will occur at 8 am at the pediatric neurology office between the overnight on call resident and senior resident on the pediatric neurology service. The sign out **must** be in person with the exception of a third year senior resident at an away-elective who did not receive any overnight consults and did not have to attend to any emergent problems overnight.
- Overnight new admissions or consults **must** be personally presented by the resident who saw the patient.
- Once transition of care is properly established, the pagers will 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.

9. 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 (ie, 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 75 percentile or more of your annual peers 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.

10. Pharmaceutical Industry Interaction Policy

- **Recognize the inherent conflict** between drug company sales motive and department's professionalism ethic
- **Pharmaceutical Gifts to the Department**
 - Pharmaceutical gifts to the department of Neurology shall consist solely of the sponsorship of educational activities. No other donations are authorized.
 - "Drug lunches": Drug companies may sponsor lunches only for educational activities such as a residency conference or Grand Rounds.
 - All drug lunches shall be approved by the conference supervisor.
 - There will be NO unsupervised contact between trainees (residents, fellows, medical students) and drug reps.
 - Drug reps may provide written promotional material.
 - Drug reps MAY NOT SPEAK or make any other presentations
 - No gifts without educational value
 - Unrestricted educational grants are encouraged.
 - 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.
 - 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.
 - Book program: Drug companies may make book donations to the residents/fellows. This is to be supervised by the program director.
- **Faculty ties to industry.** These shall be disclosed to the departmental chair and decided on an individual basis.

11. Selection, Promotion, Dismissal, and Due Process Policy

11-1. Selection

The Neurology Department participates in the Neurology Match with NRMP.

Prior to starting Neurology Residency applicants must satisfy the one year of training in Internal Medicine (either as a prelim in the categorical program or ACGME accredited internal medicine elsewhere) or an acceptable equivalent as required by the guidelines of the RRC for Neurology. The Institutional RRC verifies the qualifications of each resident.

11-2. Promotion

The Clinical Competency Committee (CCC) monitors the progress of each resident and assesses his or her eligibility for promotion. Resident's performance is closely tracked throughout residency to assure meeting appropriate milestones as defined by the ACGME. Residents have a file in which information regarding their performance is gathered. The files include faculty evaluations, in-service neurology department quizzes scores, research and scholarly activity documentation, as well as other pertinent documentation. Resident's performance and progress is monitored by an assigned mentor who meets with the resident twice yearly. The mentor and residents go over the over the resident's file. The mentor documents electronically in new innovations the residents progress. The CCC meets at least twice per year to review each resident's files and during the spring session decides on promotion.

11-3. Due Process

The Neurology Department follows the institutional 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 Competency Committee (CCC) 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 CCC 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 institutional GME.

11-4. Dismissal

The CCC 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 CCC meeting where appropriate action including dismissal is discussed. The resident is required to be present at this meeting.

12. Supervisory Lines of Responsibility for Residents Policy

12-1. Overview

Residents develop and learn the skills necessary to becoming independent neurologists through didactic sessions, reading and providing direct patient care under the supervision of qualified attending neurologists and more senior trainees. Residents are given progressively greater responsibility according to their level of education, ability and experience.

12-2. Levels of Supervision as Defined by the AGCME

- **Direct Supervision** - the supervising physician is physically present with the resident and patient
- **Indirect Supervision with direct supervision immediately available** – the supervising physician is physically within the hospital or other site of patient care, and is immediately available to provide Direct Supervision.
- **Indirect Supervision with direct supervision available** – the supervising physician is not physically present within the hospital or other site of patient care, but is immediately available by means of telephonic and/or electronic modalities, and is available to provide Direct Supervision
- **Oversight** - the supervising physician is available to provide review of procedures and clinical encounters with feedback provided after care is delivered.

12-3. Responsibilities and Patient Care Activities

- Residents are part of a team of providers caring for patients. The team includes an attending physician and may include other licensed independent practitioners, other trainees and medical students.
- Residents evaluate patients, obtain the medical history and perform physical examinations. They develop a differential diagnosis and problem list. Using this information, they develop a plan of care in conjunction with other trainees and the attending. They document the provision of patient care as required by hospital/clinic policy. Residents write orders for diagnostic studies and therapeutic interventions as specified in the medical center bylaws and rules/regulations. They interpret the results of laboratory and other diagnostic testing. They may request consultation for diagnostic studies, the evaluation by other physicians, physical/rehabilitation therapy, specialized nursing care, and social services. They participate in procedures performed at the bedside under appropriate supervision. Residents coordinate hospital admission and discharge planning.
- Residents should discuss the patient's status and plan of care with the attending and the team regularly. All residents help provide for the educational needs and supervision of any junior residents and medical students. The specific role of each resident varies with their clinical rotation, experience, years of clinical training, the patient's illness, and the clinical demands placed on the team.
- Residents and attendings should inform patients of their respective roles in patient's care encounters.

12-4. The following is a guide to the specific patient care responsibilities by year of clinical training

12-4-1. PGY 1 (Prelim year, medicine)

Trainees are primarily responsible for the care of patients under the guidance and supervision of the attending physicians and senior residents. They should be the point of first contact when questions or concerns arise about the care of their patients. However, when questions or concerns persist, supervising trainees and/or the attending physician should be contacted.

PGY1 trainees provide care for inpatients, outpatients, or patients in the emergency department. They are initially directly supervised and when merited will progress to being indirectly supervised with direct supervision immediately available by an attending or senior resident when appropriate.

12-4-2. PGY 2 and 3 (Junior Residents)

Residents are progressively responsible for the day-to-day management of the patient care team under the attending physician's supervision. On some services that do not have interns, the resident may be primarily responsible for the care of patients under the guidance and supervision of the attending physician and more senior trainees. They may serve as part of a team providing consultative services, or care for patients in the inpatient or outpatient setting or emergency department under the supervision of senior trainees and Medical Staff. These residents may coordinate the actions of the team, as well as interact with nursing and other administrative staff. Along with the attending physician they provide for the educational needs of any interns and students.

12-4-3. PGY 4 (Senior Residents)

Senior residents should serve in a supervisory role of junior residents in recognition of their progress toward independence, based on the needs of each patient and the skills of the individual resident.

Senior residents participate in the care of patients as appropriate. Over time, the senior resident is expected to assume an increasingly larger role in patient care decision making.

Senior residents participate in administrative committees as required by the Department, coordinate admissions and or transfers from other centers or services, and are responsible for overseeing the education of junior residents and students.

12-5. Attending of Record

In the clinical learning environment, each patient must have an identifiable, appropriately credentialed and privileged attending physician of record who is ultimately responsible for that patient's care. The attending physician is responsible for assuring the quality of care provided and for addressing any problems that occur in the care of patients and thus must be available to provide direct supervision when appropriate for optimal care of the patient and/or as indicated by individual program policy. The availability of the attending to the resident is expected to be greater with less experienced residents and with increased acuity of the patient's illness. The attending must notify all residents on his or her team of when he or she should be called regarding a patient's status.

12-6. There are specific circumstances and events in which residents must communicate with appropriate supervising faculty members

- An unexpected patient death
- Brain Death Determination or Organ donation
- Cardiac arrest (code)
- Patient going to OR for emergent surgery or transfer to another service
- An unplanned, emergent invasive procedure such as surgery, IR procedure, cardiac catheterization, or

other high-risk invasive procedure.

- Complication of procedure
- An unexpected transfer to a higher level of care (e.g., transfer to the MICU)
- Unexpected, significant deterioration in clinical status; for example, new end-organ failure (e.g. unexpected intubation, oliguria, unexpected pressor requirement or increase in dose, substantial increase in FiO₂)
- A high-risk medical error with or without harm to the patient
- When the number or acuity of patients or admissions makes it difficult for you to provide safe care.
- Change in code status
- Unexpected blood transfusion
- Missing patient/discharge AMA

In addition to the above situations the individual attending should notify the residents of additional situations that he or she would like to be notified.

The attending and supervisory resident are expected to monitor competence of more junior residents through direct observation, formal ward rounds and review of the medical records of patients under their care.

Faculty supervision assignments should be of sufficient duration to assess the knowledge and skills of each resident and delegate to him/her the appropriate level of patient care authority and responsibility.

12-7. Supervision of Invasive Procedures- Lumbar puncture

When a resident requires supervision, this may be provided by a qualified member of the medical staff or by a trainee who is authorized to perform the procedure independently. In all cases, the attending physician is ultimately responsible for the provision of care by trainees. When there is any doubt about the need for supervision, contact the attending physician.

12-8. SITE SPECIFIC LINE OF RESPONSIBILITY AND SUPERVISION

12-8-1. University Hospital of Brooklyn Neurology Services

UHB General Service

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

UHB Stroke Service

- 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

- Team complement:
 - 1 Attending
 - 1 PGY-3
 - 0-1 PGY-2
 - 1-2 Medicine Rotator (PGY-2)
 - 2 Medical Students
- Lines of Responsibility and Supervision:
 - The UHB Stroke Attending supervises each resident directly and indirectly through the Stroke Senior.
 - The UHB Stroke Senior supervises medicine and psychiatry rotators, and medical students
 - The rotators do not supervise other residents

UHB Night Float Service

- Team complement:
 - 1 PGY-2 or PGY-3 (PGY-2 required to have completed 1 month of inpatient neurology prior to starting night float)
- Lines of Responsibility and Supervision:
 - The stroke or general attending must be called to discuss patients seen by the night float resident.

12-8-2. Kings County Hospital Neurology Services

KCHC Ward Service

- This is a general neurology ward service and includes a stroke ward service
- Team complement:
 - 1 Attending
 - 1 Senior (PGY-4)
 - 1 Juniors (PGY-2 or PGY-3) residents
 - Emergency Medicine/Internal Medicine Rotators (PGY 2)
 - 1-2 Internal Medicine Rotators (PGY-1)
 - 2-4 Medical Students
- Lines of Responsibility and Supervision:
 - The KCH Ward Attending supervises all of the residents directly and through the PGY-4.
 - The PGY-4 resident supervises the PGY-2 resident and the rotators from EM/IM and Medicine.
 - The PGY-2 resident, the EM/IM residents, and the medicine residents work as junior residents together.
 - The PGY-2 residents supervise psychiatry rotators.
 - The rotators do not supervise other residents.

KCHC Neurology Consult Service

- This is a general neurology consultation service and includes a stroke consultation service
- Team complement:
 - 1 Attending
 - 1 Senior (PGY-4)

- 2-3 Junior (PGY-2, 3)
- 0-2 Emergency Medicine or Emergency/Internal Medicine Rotator (PGY 1-2)
- 2 Medical Students
- Lines of Responsibility and Supervision:
 - The KCH Consult Attending supervises each resident directly and through the Senior
 - The Senior resident supervises the Junior, EM/IM, and Psychiatry residents.
 - 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.
 - 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.

KCHC Neurology Night Float Service

- Team complement:
 - 1 PGY-2 or PGY-3 (PGY-2 required to have completed 1 month of inpatient neurology prior to starting night float)
- Lines of Responsibility and Supervision:
 - Patients seen by the night float resident must be discussed with the senior resident on call.
 - Medical emergencies such as stroke code and status epilepticus should be discussed with the attending.
 - Neurocritical care cases should be discussed with Neurocritical Care attending on-call or overnight attending.

12-8-3. Maimonides Medical Center Neurology Services

MMC General Supervision Policy

- It is the policy of Maimonides Medical Center to ensure close supervision of the residents and fellows by the attending staff.
- Supervision is required 24 hours per day, seven days per week.
- For clinical departments where attending physicians are immediately available by phone, and readily available when needed, on site supervision for routine hospital care and procedures may be performed by postgraduate trainees who are either in their final year of training, or who have completed at least three years of postgraduate training.
- Direct personal supervision is required for all surgical procedures requiring general anesthesia or an operating room procedure.

The levels of resident supervision

- Direct Supervision
 - the supervising physician is physically present with the resident and patient.
- Indirect Supervision
 - With direct supervision immediately available – the supervising physician is physically within the hospital or other site of patient care, and is immediately available to provide Direct Supervision.
 - With direct supervision available – the supervising physician is not physically present within the hospital or other site of patient care, but is immediately available by means of telephonic and/or electronic modalities, and is available to provide Direct Supervision.
- Oversight: the supervising physician is available to provide review of procedures/encounters with

feedback provided after care is delivered

- The sponsoring institution and participating sites must provide the resources to ensure that residents from other specialties do not supervise neurology residents on any neurology inpatient rotation. (Detail)
- The sponsoring institution and participating sites must ensure that second- or third-year neurology residents or other appropriate supervisory physicians (e.g., subspecialty residents or attendings) with documented experience appropriate to the acuity, complexity, and severity of patient illness be available at all times on-site to supervise first-year residents on inpatient rotations. (Detail)

MMC General Consult Service

- This is a general neurology consultation service
- Team complement
 - 1 Attending
 - One PGY-2
 - 1 Medicine Rotator (PGY 1)
 - 0-2 Psychiatry Rotators (PGY 1)
 - 2 Medical Students
- Lines of Responsibility and Supervision:
 - The MMC general consult Attending supervises all of the residents directly.

MMC Stroke Service

- This is a Stroke Service and includes both admitted stroke patients and the stroke consultation service.
- Team complement:
 - 1 Attending
 - 1 PGY-2
 - 1 PGY-1
 - 1 Medicine Rotator (PGY 3)
 - 2 Nurse Practitioners
 - 2 Medical Students
- Lines of Responsibility and Supervision:
 - The MMC Stroke Attending supervises each resident and nurse practitioner directly.

MMC Neurocritical Care Service

- This is a neurologic ICU Service and includes neurology patients admitted patients requiring ICU care.
- Team complement:
 - 1 Attending
 - 1 PGY-2
 - 2 Medical Students
- Lines of Responsibility and Supervision:
 - The MMC Neurointensive care Attending supervises each resident directly.

MMC Night Float Service

- Team complement:
 - 1 PGY-2 (PGY-2 required to have completed 1 month of inpatient neurology prior to starting

- night float)
 - 1 NP or PA
- Lines of Responsibility and Supervision:
 - The MMC Neurointensive care Attending, MMC general consult attending, or MMC stroke attending is available to discuss patients seen by the night float team, with the night float team triaging the patient to the appropriate supervising attending.

Procedure

- Each resident must know the limits of his/her scope of authority, and the circumstances under which he/she is permitted to act with conditional independence. PGY 1 residents will be supervised directly on the Neurology service.
- Progression of Supervision: The Department has a protocol regarding determination of when a PGY-2 is prepared to advance from requiring direct supervision to indirect with direct available. During the PGY-2 year, after each block on the consultation or neurologic ICU service, the attending who supervised the resident will evaluate the resident regarding a number of skills in each of the major core competencies. The attending will determine for each skill whether the PGY-2 has satisfactorily achieved the Milestone. The Site Director will then review the evaluation with the PGY-2 and suggestions will be made for improvement as warranted. This process will be completed after each block rotation until such time as all the Milestone skills have been achieved. This achievement will be no earlier than after the PGY-2 has completed one three-week block at Maimonides Medical Center and 2 months overall at Maimonides Medical Center, SUNY Downstate, or Kings County Hospital. Once the PGY-2 has attained this milestone, it will be reviewed by the department site director. Only then will the PGY-2 be deemed ready to advance to indirect supervision with direct supervision available.
- The program/site director must set guidelines for circumstances and events in which residents/fellows must communicate with appropriate supervising faculty members (escalation of care policy). These circumstances include, but are not limited to, the following:
 - Significant changes in vital signs
 - Change in mental status
 - Development of:
 - meningeal irritation
 - hemoptysis
 - hematemesis or melena
 - abdominal pain with peritoneal signs
 - decreased urinary output
 - new chest pain
 - congestive heart failure
 - loss of, or change in peripheral pulses
 - phlebitis
 - Adverse reactions to therapy
 - Significant changes in laboratory values
- Residents and fellows must be credentialed in or supervised by a resident or attending physician credentialed in the procedure before performing an invasive procedure except under immediately life-threatening circumstances. These procedures include, but are not limited to, the following:
 - Central vein catheterization
 - Swan-Ganz catheter placement

- Arterial line placement
 - Temporary pacemaker insertion
 - Lumbar puncture
 - Thoracentesis
 - Thoracostomy / Chest tube placement
 - Paracentesis
 - Pericardiocentesis
 - Blood and blood product transfusion
 - Bone marrow aspiration
- Residents must consult daily or more frequently as needed with the attending of record. If he or she cannot contact the neurological attending of record within 30 minutes, the senior supervisory neurological attending on duty (Dr. Qingliang Wang for stroke service, Dr. Nuri Jacoby for general service, Dr. Richard Savel for neuro ICU service) will advise the resident how to proceed. Individual departmental policies should be consulted when disagreements involving patient care arise. Evidence of supervision shall be documented by the attending physician's acknowledgement of the house staff history and physical examination in his/her notes.
 - House staff progress notes, whether inpatient or ambulatory, shall be entered as often as necessary to reflect the changing condition of patients, or as often as required by departmental policy. Evidence of supervision shall be included in the departmental policy, at a minimum requiring periodic attending physician notes acknowledging house staff progress notes.
 - All continuity clinic patient care activities are supervised by on-site attendings. Faculty members are continuously present and actively involved. All patient telephone contact by a resident on clinic call must be communicated to and supervised telephonically by an on-call faculty attending. The timing of this communication is dependent on the acuity of the patient and the critical nature of the incident.

12-8-4. Pediatric Neurology Service at UHB and KCHC

This is a pediatric neurology service which includes both consultation service as well as inpatient admission service. This service works very closely with the Pediatric Neurology EMU service, since overnight coverage of EMU patients is provided by Pediatric Neurology Service. This team is responsible for all pediatric neurology 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 neurology residents are made by all the residents prior to morning report. Residents are supervised by the attending child neurologist for the month. 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).

Team complement

- 1 Attending
- 1 Senior (PGY-5 or PGY4) resident

- 1 or 2 Juniors (PGY-4/PGY-3) residents
- 0-2 Adult neurology rotators (PGY 3 or PGY 4)
- 0-2 General Pediatric Rotators (PGY-1, PGY2, PGY3)
- 0-2 Medical Students

Lines of Responsibility and Supervision:

- The Attending of Service supervises all of the residents directly and through the senior resident.
- The senior resident supervises junior child neurology residents and rotators from adult neurology and general pediatrics.
- The PGY-4 child neurology resident supervises PGY 3 child neurology resident, and rotators from adult neurology and general pediatrics.
- The rotators do not supervise other residents.

12-8-5. Pediatric Neurology EMU Service at UHB

This is a pediatric neurology service which manages pediatric patients electively admitted to the epilepsy monitoring unit.

Team complement:

- 1 pediatric epilepsy attending
- 0-1 clinical neurophysiology fellow
- 1 pediatric neurology resident (PGY5 or PGY4)
- 0-1 Medical Students

Lines of Responsibility and Supervision:

- The Attending of Service supervises the clinical neurophysiology fellow, pediatric neurology resident and medical student.
- The clinical neurophysiology fellow supervises pediatric neurology resident and medical student.
- Pediatric neurology resident supervises medical student.

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. 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 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. 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.

In the 3rd year of training residents are expected to refine their neurology and pediatric neurology 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.

12-8-6. Memorial Sloan-Kettering Neuro-oncology Consultation Service

Lines of responsibility and supervision for residents and faculty at affiliate.

Residents/fellows shall seek and be provided with supervision in accordance with their demonstrated competency levels and program policies.

The Affiliate Faculty shall provide appropriate supervision of the residents/fellows in patient care activities and maintain a learning environment conducive to educating the residents/fellows in the ACGME competency areas.

Participating institution's responsibilities for teaching and formal evaluation of the residents' performance.

The Affiliate Faculty shall make every effort to ensure that the residents/fellows are able to attain the goals and objectives of each of the competencies described above.

The Affiliate Faculty shall be responsible for (i) the timely written evaluation of each resident/fellow's performance during each such resident/fellow's rotation at the Affiliate and for (ii) providing each resident/fellow engaged in rotations at the Affiliate with the opportunity to review and discuss such evaluation with the Program Director at SUNY-HSCB.

Policies and procedures that govern the residents' education while rotating to the participating institution.

The residents/fellows will be under the general direction of the Policies and Procedures of the SUNY HSCB GME Committee, the Policies and Procedures of their SUNY HSCB Program, as well as the Policies and Procedures of the Affiliate Program.

Both SUNY HSCB and the Affiliate share responsibility for ensuring that all residents/fellows receive the appropriate clinical and professional training. Each entity is mutually obligated to create and encourage an appropriate learning environment that includes positive attitudes and values associated with professionalism, including, but not limited to, respect, standards of excellence, honor and integrity, accountability, compassion, altruism and duty. The Affiliate represents that it has suitable mechanisms to identify and promptly correct violations of professional standards. SUNY HSCB represents that it maintains such standards, and copies of its policies on professionalism and the learning environment are available upon request.

***** 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. *****

RESPONSIBILITY:

Chairpersons are responsible for insuring that these policies are adhered to.

The attending physicians, in compliance with the Medical Staff Bylaws, must assure timely, adequate,

professional care for their patients by being available, or designating an eligible alternate practitioner with whom prior arrangements have been made and who has at least comparable clinical privileges at the hospital. Residents and fellows must be aware of their limitations and not attempt to provide clinical services or do procedures that are outside the scope of their training. In addition, residents and fellows are responsible for communicating to the attending physician any significant issues as they relate to patient care.

CONTROLS:

The Chairpersons of service will review the care rendered by residents and fellows to ensure appropriate communication with attending physicians as outlined, and that the attending physicians are providing adequate supervision.

The Site Director is charged with confirming that all residents in the Neurology Program are familiar with and are adherent to this supervision policy. The Site Director will also bring to the attention of the Chairman any inadequate supervision being provided by specific attending faculty. The Site Director must ensure that appropriate corrective action is undertaken.

Team complement

- 1 Attending
- 1 Fellow (PGY 5)
- 1 Senior (PGY 3 or 4)
- 3 Juniors (PGY 2)
- 1-3 Rotators (PGY 1-3)
- 3 Medical Students

Lines of Responsibility and Supervision:

- The Attending supervises all of the residents directly and through the Neuro-oncology Fellow.
- The Fellow supervises the Senior and the rest of the team
- The Senior supervises the Juniors and the rotators.
- The Juniors and rotators do not supervise other residents.

12-8-7. Mount Sinai Neurocritical Care Service

Team Complement

- 1 Attending
- 1 Neurocritical Care Fellow (PGY-5 or PGY-6)
- 2 Intensive care fellows (Medical or Surgical, PGY-5 or PGY-6)
- 1-2 NICU nurse practitioners (NP)
- 1 Neurology resident (PGY-3)
- 1-2 rotators (Mount Sinai resident/Nurse practitioners)

Lines of responsibility and supervision

- The Attending supervises all fellows, NPs and residents
- The NICU fellows supervise the MICU/SICU fellows, and resident(s)
- The MICU/SICU fellows supervise the residents
- Residents do not supervise each other

12-8-8. Preliminary Year Internal Medicine at All Site (UHB, KCHC and BVA)

Medicine Ward

- Team complement
 - 1 Attending
 - 1 Senior Resident (PGY 2 or 3)
 - 1-3 Interns (PGY 1)
 - 0-4 Medical Students
- Lines of Responsibility and Supervision:
 - The Medicine Ward Attending supervises each resident directly and indirectly through the Senior
 - The Senior supervises the Interns
 - The Attending supervises the interns when the Senior is in clinic
 - The Interns do not supervise other residents

Medical Intensive Care Units

- Team complement
 - 1 Attending
 - 1 Senior Resident (PGY2 or 3)
 - 1 Intern (PGY 1)
 - 0-2 Medical Students
- Lines of Responsibility and Supervision:
 - The Medicine Ward Attending supervises each resident directly and indirectly through the Senior
 - The Senior supervises the Interns
 - The Attending supervises the interns when the Senior is in clinic
 - The Interns do not supervise other residents

13. Escalation of Responsibility in Patient Care at KCHC, UHB and MMC Policy

13-1. Lines of Responsibility

- See Supervision Policy

13-2. Moving up the chain of command and mechanisms for doing so

- All residents and attendings must be available either in person or by beeper while on service
- The junior resident contacts the senior resident or the attending directly
- In the event that the attending cannot be reached, the Chief of Service or site director at each hospital is to be contacted.
- In the event that the Chief of Service cannot be reached, the Department Chair is to be contacted.

13-3. Events that must be escalated:

- Patient decompensation – ie. ICU transfer, CCU transfer, stroke code, DNR, herniation, respiratory or cardiac failure, death
- Disputes over patient disposition ie the ED plans to admit a medically unstable patient to the inpatient neurology service.
- Any situation where the resident feels patient care is compromised.
- Any situation where there is concern for housestaff safety.

13-4. Monitoring and Compliance

- This is monitored informally at Morning Report on a daily basis
- This is monitored at the monthly Residents' Meeting
- The Neurology Department expects 100% compliance with these policies. Non-compliance may be grounds for dismissal

13-5. Documentation of Attending Input in Decision-Making

- See Chart Documentation Policy

14. Travel Payment Policy

New York State Paid Residents & Fellows

- The Neurology Department reimburses up to \$750.00 per resident for the duration of your residency to attend a conference. This applies to State paid residents only.
- The Neurology Department also provides up to \$1,250.00 per resident per year for any resident to present his/her research (poster or platform presentation) at a conference. This is available to all Residents regardless of pay source.

AAN Scholarship: If you are the recipient of an AAN Scholarship, the same rules apply except for the part about the Citibank Travel Card. You must submit proof of attendance and receipts.

Process for Travel Reimbursement

1. The attached Travel Approval Request Form must be submitted at least one (1) month prior to travel to ensure timely processing and to allow sufficient time for collecting all appropriate signatures. If you submit later, there may not be enough time. Please obtain your program director's signature/approval prior to submitting form.
2. We will provide you with a Citibank Travel Card that you could use toward your travel expenses (transportation, hotel, meeting registration, etc.). However, if you decide to use your own money, we will reimburse you. Please note that the state reimbursement process is lengthy and the department has no control over it.
3. All receipts must be submitted promptly upon return regardless of the level of your participation, whether you are an attendee or a presenter.
4. Please submit your travel request packet to Ms. Laverne Davis as soon as possible. Your packet will consist of the following document:
 - a. A completed Travel Approval Request form with official acceptance notice or conference brochure.
 - b. A copy of your topic of presentation and/or poster presentation if available
 - c. Please handle your meeting registration, transportation, hotel reservation in a timely fashion to avoid any late or additional fees.
5. Upon your return from meeting/conference please submit Travel Voucher Form (see attached) with any receipts, proof of attendance, etc.

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 or contact Ms. Ann Mitchell at 917-687-2504.
- The Neurology Department also 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.

15. Program Evaluation Committee / Annual Program Evaluation Policy

15-1. PURPOSE

To establish a formal, systematic process to annually evaluate the educational effectiveness of the Neurology Residency Program and its curriculum, in accordance with the program evaluation and improvement requirements of the ACGME and the SUNY Downstate Graduate Medical Education Committee.

15-2. POLICY

The Program Director will appoint a Program Evaluation Committee (PEC) known in the past as Clinical education committee (CEC). The PEC will consist of key faculty members representing all program sites and subspecialties.

Namely- Chief of service at Kings County, Chief of service at University hospital, Fellowship directors (stroke , neurophysiology), Pediatric neurology program Director, clerkship director, chief residents (pediatric and adult programs). Research and QI leaders.

The PEC will

Review and make recommendations for revision of competency-based curriculum goals and objectives

Address areas of non-compliance with ACGME standards

Review the program annually using evaluations of faculty, residents and others in addition to additional measures as specified below. A meeting of the PEC will be convened to review the program's goals and objectives, the effectiveness with which the curriculum has achieved those objectives during the academic year, program quality, resident performance, and graduate performance. In addition, accomplishments and additional needs for faculty development will be assessed. The meeting will be documented in the form of written minutes. The PEC will produce a written Annual Program Evaluation (A.P.E.).

The PEC will monitor and track each of the following areas

- Resident performance
- Faculty development
- Graduate performance, including performance of program graduates on the certification examination
- Program quality
 - Residents and faculty must have the opportunity to evaluate the program confidentially and in writing at least annually
 - Program must use results of residents' and faculty members' assessments of the program together with other program evaluation results to improve the program.
- Progress on the previous year's action plan(s)

The PEC will prepare an explicit plan of action, to specify initiatives to improve program performance identified as a result of the review process. The action plan will be presented to and approved by the program teaching faculty. The minutes of the Annual Program Review and the resulting action plan will be submitted to the GMEC as part of an Annual Program Report.

15-3. PROCEDURE

- The PEC will meet on a monthly basis.
- The annual review will be conducted during the autumn of each year, unless rescheduled for other programmatic reasons.

- The Program Director will:
 - Establish and announce the meeting dates
 - Assemble the PEC
 - Solicit and collate written confidential evaluations from the faculty and written confidential evaluations from the resident body for consideration in the review. These evaluations may be obtained through the institution's annual program evaluation surveys.
 - Compile the materials and data, listed below, to be used in the review
 - Prior annual programs evaluations and resulting action plans and improvement outcomes
 - Prior ACGME citations, program responses and correction outcomes
 - Prior institutional program review recommendations, program action plan responses and improvement outcomes
 - Measures of resident performance
 - Aggregate data from resident competency and milestone assessment
 - Resident in-training examination performance
 - Resident case and procedure logs
 - Resident progress and advancement data
 - Resident participation in scholarly activities
 - Measures of graduate performance
 - Graduate performance on certification examination(s)
 - Graduate placement
 - Other graduate outcome information
 - Measures of program quality
 - Residency program goals and objectives
 - Aggregate residents' annual confidential written evaluations of the program and of the faculty
 - ACGME annual resident survey
 - Aggregate faculty confidential written evaluations of the program
 - ACGME annual faculty survey
 - Other survey or evaluation instrument results
 - Resident attrition
 - Data on resident recruitment and retention (i.e. NRMP outcomes)
 - Measures of faculty development
 - Faculty participation and attendance in development activities
 - Faculty attendance at organized didactics and conferences
 - Faculty participation in department meetings related to education or teaching
 - Faculty academic and scholarly activities
 - Clinical learning environment focus areas
 - Professionalism, personal responsibility, patient safety
 - Quality improvement
 - Transitions of Care
 - Alertness management and fatigue mitigation
 - Supervision
 - Appropriate assignment of progressive clinical responsibilities
 - Teamwork
 - Duty hours

- Any other issues or concerns that may be raised
- At the time of the meeting, the PEC will review its charges and responsibilities, the program history including past citations and previous year's action plans, responses to prior action plans, and current performance, quality and outcome data such as that described above.
- Additional meetings may be scheduled, as needed, to continue to review data, discuss concerns and potential improvement opportunities, and to make recommendations. Written minutes will be taken of all meetings.
- As a result of the information considered and subsequent discussion, the Committee will:
 - Identify any deficiencies in the program or areas for improvement and prepare an explicit written plan of action to address them as well as delineate how improvements in performance will be measured and monitored
 - Develop recommendations for improving the residency program, through enhancement of identified strengths
- The final report and action plan will be reviewed and approved by the program's teaching faculty, and documented in meeting minutes.
- A report of the PEC A.P.E. accompanied by an action plan and meeting minutes will be provided to the GMEC.

16. Clinical Competency Committee (CCC) Policy

16-1. Membership

- Members include the Program Director, Associate Program Directors, and additional faculty as appointed by the Program Director. The membership includes representatives from both major clinical sites (University Hospital of Brooklyn, Kings County Hospital).

16-2. Semi-annual Resident Evaluations

- The CCC will conduct a series of meetings toward the end of each half-year (i.e. November/December and May/June) at which all active residents will be reviewed. The Committee will assign a rating for each resident for each of the ACGME reporting sub-competencies (The Milestones). These semi-annual ratings will be reported to the ACMGE through WebADS by the Program Director and/or his staff. A minimum of three faculty members of the Committee will constitute a quorum for these meetings.

16-3. Methods

- The Committee will review all available information acquired on the resident including data entered into New Innovations for example faculty evaluations for the reporting period.
- The Committee will review these evaluations and assign the appropriate ACGME Milestone ratings.
- In determining the final semi-annual ratings for each resident, the Committee may adjust the calculated ratings in either direction based on the following sources of information:
 - Anonymous peer evaluations
 - Anonymous evaluations by nurses and other health professionals
 - Anonymous patient/family evaluations
 - Specific patient/family compliments and/or complaints
 - Resident performance on In-Training Examination
 - Resident performance on internal examinations
 - Observed trends in clinical performance during the reporting period
 - Observations of resident performance and behavior by the Chief Residents, Committee members, and the faculty at-large
 - Resident procedure logs, for example a resident must have demonstrated proficiency in performing lumbar puncture.

16-4. Promotion, Remediation, and Dismissal

The Committee's semi-annual review of each resident serves as a determination as to whether the resident's performance is improving in a trajectory consistent with his/her achieving the ability to practice Internal Medicine safely and independently by the end of his/her training period. Residents whose performance is on this trajectory are recommended for promotion or graduation, as applicable. With the goal being achieving a level of independent practice in each domain.

When the Committee determines that a resident's performance is not meeting the required trajectory, a recommendation will be made to the Program Director regarding remediation or dismissal.

When the Program Director feels that a resident's performance is not meeting the required trajectory, he may request that the Committee issue a recommendation regarding remediation or dismissal. The Committee's

consideration of such a request may occur at a regularly scheduled meeting or at a special meeting convened for that purpose.

IX. Supplement

#1. Clinic Note Template

#2. LP Clinic Referral

#3. Specific guidelines for various clinic scenarios for 'referrals out' ****

#4. PDSA Worksheet for Testing Change

#5. Guidelines for Pediatric Neurology Fellows and Rotators

#6. Pediatric Neurology Patient Evaluation Template

Epilepsy Initial Visit Note

Epilepsy History:

Description of typical events: Description of worst event:

Has patient ever had status epilepticus? Initial seizure onset:

Date of most recent seizure:

Seizure frequency:

sz in past month:

sz in past 3 months:

sz in past year: Current AEDs: Current side effects: Other Meds: Previous AEDs: Were they effective? Past side effects?

Adherence Estimate: ___Excellent ___Good ___Fair ___Poor

PMH:

Risk factors for epilepsy:

EEG:

Video-EEG:

Neuro-Imaging:

Other Evaluations (Neuropsych testing, WADA etc.):

Vital Signs:

Neuro Exam:

IMPRESSION:

Epilepsy Dx / Differential Dx:

Epilepsy syndrome: Etiology:

Seizure control:

PLAN:

AEDs prescribed today:

Reasons for AED changes: Studies ordered today:

Labs ordered today: F/u: ___ month(s)

Counseling/Education:

___AED adverse effects ___bone health ___contraception ___driving ___epilepsy surgery
___psychological comorbidity ___pregnancy ___seizure calendar safety ___VNS ___seizure

Epilepsy Follow up Note

Interval History:

Date of most recent seizure:

sz in past month:

sz in past 3 months:

sz in past year:

Current Side Effects:

Adherence Estimate: __Excellent __Good __Fair __Poor

PMH:

Risk factors for epilepsy:

Current AEDs: Other meds: Prior AEDs:

EEG:

Video-EEG:

Imaging:

Exam:

IMPRESSION:

Epilepsy Dx / Differential Dx: Epilepsy syndrome:

Etiology: Seizure control:

PLAN:

AEDs prescribed today:

Reasons for AED changes: Studies ordered today: Labs ordered today:

F/u: __ month(s)

Counseling/Education:

__AED adverse effects __bone health __contraception __driving __epilepsy surgery
__psychological comorbidity __pregnancy __sz calendar __VNS __sz safety

Movement Clinic Initial Visit Note

HPI (include previous workup and treatments):

PMH:

Family History (include movement, neurologic, psychiatric, or developmental disorders):

General Examination: Vital Signs:

Neuro Exam:

- **Mental Status Exam:**
 - **MMSE Score (see below):**
- **Cranial Nerves:**
- **Motor:**
 - **UPDRS Score (see below)**
- **Sensory:**
- **DTRs:**
- **Plantars:**
- **Coordination:**
- **Gait:**

Impression:

Plan:

Return Visit:

UPDRS		SIDE EFFECTS (Grade each item 0-4)		REMARKS
RATED NEUROLOGICAL EXAM (Grade each item 0-4)				
FACIAL EXPRESSWION		ANOREXIA/N/N		
SEBORRHEA		CARDIAC		
SALIVATION		VIVID DREAMING		
SPEECH		INSOMNIA		
SUB-TOTAL		SOMNOLENCE		
TREMO		CONFUSION		
RUE		HALLUCINATION		
LUE		AGITATION		
FACE (LIPS, TONGUE)		ANXIETY/DEPRES		
RLE				
LLE				
SUB-TOTAL		DYSKINESIS (Grade each item 0-4)		
RIGIDIT		RUE		
RUE		LUE		
LUE		RLE		
NECK		LLE		
RLE				
LLE		GRIMACING		
SUB-TOTAL		MOUTH		
COORDINATION		TONGUE		
FINGER TAPPING (R)		HEAD BOBBING		
FINGER TAPPING (L)				
SUCCESSION MVMNTS, RUE		SHOULDER		
SUCCESSION MVMNTS, LUE		RESPIRATORY		
FOOT TAPPING, R		ABDOMEN		
FOOT TAPPING, L		PELVIS		
SUB-TOTAL		ON/OFF		
ARISING FROM CHAIR		Random _____X/Day		
STANDING POSTURE		End-Dose _		
STABILITY		_____X/Dos		
GAIT		e Total hours off daily ____		
BRADYKINESIA				
SUB-TOTAL		Mental Status (Overall Assessment)	Sitting	BP
		0 Normal	2 Moderate Dementia	Standing BP
		1 Mild Dementia	3 Severe Dementia	Lying HR
TOTAL		QP since last visit _____/_____/_____	Sitting	HR


Mini-Mental State Examination (MMSE)

Patient's Name: _____

Date: _____

Instructions: Ask the questions in the order listed.

Score one point for each correct response within each question or activity.

Maximum Score	Patient's Score	Questions
5		"What is the year? Season? Date? Day of the week? Month?"
5		"Where are we now: State? County? Town/city? Hospital? Floor?"
3		The examiner names three unrelated objects clearly and slowly, then asks the patient to name all three of them. The patient's response is used for scoring. The examiner repeats them until patient learns all of them, if possible. Number of trials: _____
5		"I would like you to count backward from 100 by sevens." (93, 86, 79, 72, 65, ...) Stop after five answers. Alternative: "Spell WORLD backwards." (D-L-R-O-W)
3		"Earlier I told you the names of three things. Can you tell me what those were?"
2		Show the patient two simple objects, such as a wristwatch and a pencil, and ask the patient to name them.
1		"Repeat the phrase: 'No ifs, ands, or buts.'"
3		"Take the paper in your right hand, fold it in half, and put it on the floor." (The examiner gives the patient a piece of blank paper.)
1		"Please read this and do what it says." (Written instruction is "Close your eyes.")
1		"Make up and write a sentence about anything." (This sentence must contain a noun and a verb.)
1		"Please copy this picture." (The examiner gives the patient a blank piece of paper and asks him/her to draw the symbol below. All 10 angles must be present and two must intersect.) 
30		TOTAL

Movement Clinic Follow Up Visit Note

Summary: Interim History:

Interval PMH:

General Examination: Vital Signs:

Neuro Exam:

- **Mental Status Exam:**
 - **MMSE Score (see below):**
- **Cranial Nerves:**
- **Motor:**
 - **UPDRS Score (see below)**
- **Sensory:**
- **DTRs:**
- **Plantars:**
- **Coordination:**
- **Gait:**

Neuropsychiatry Clinic Initial Visit Note

Reason for referral (chief complaint):

History of present illness:

PMH:

Medications:

Habits:

Social History: Family History: Vital Signs:

General Physical Exam:

Neuro Exam:

Mental Status

- Level of arousal –
- Orientation-
- Attention-
- Handedness: L/R
- Memory: Immediate, 3 words short term, long term
- Language:
 - Fluency-
 - Naming-
 - Repetition-
 - Frontal: Luria-
 - Short story
 - Name and address
 - Praxis (imitation)
 - Visuospatial (figure drawing)

Findings on rest of Neuro Exam

Cranial Nerves:

Motor:

Sensory:

Reflexes:

Plantar Responses:

Coordination:

Gait:

Pertinent Labs:

Neuro-Imaging:

Other Evaluations (EEG, Neuropsych testing, etc.):

IMPRESSION:

PLAN:

Studies ordered today: Labs ordered today:

F/u: ____ month(s)

Counseling/Education (time and subject):

Neuropsychiatry Follow Up Visit Note

Summary:

Interim History:

Medications:

Note any change in Medical History, Habits, Social History, or Family History:

Vital Signs:

General Physical Exam:

Neuro Exam:

Mental Status

- Level of arousal –
- Orientation-
- Attention-
- Handedness: L/R
- Memory: Immediate, 3 words short term, long term
- Language:
 - Fluency-
 - Naming-
 - Repetition-
 - Frontal: Luria-
 - Short story
 - Name and address
 - Praxis (imitation)
 - Visuospatial (figure drawing)

Findings on rest of Neuro Exam

Cranial Nerves:

Motor:

Sensory:

Reflexes:

Plantar Responses:

Coordination:

Gait:

Pertinent Labs:

Neuro-Imaging:

Other Evaluations (EEG, Neuropsych testing, etc.):

IMPRESSION:

PLAN:

Studies ordered today: Labs ordered today:

F/u: ___ month(s)

Counseling/Education (time and subject):

PROCEDURE FOR LUMBAR PUNCTURES IN NEUROLOGY CLINIC

Lumbar punctures are scheduled from Neurology Clinic ONLY.

They are done on the second Monday of the month and there is a limit of two (2) patients per session.

Only certified PGY 4 residents will be doing LPs in LP clinic. More junior residents may do LPs ONLY under the supervision of the senior certified resident and/or the attending.

IN NEUROLOGY CLINIC – how to refer a patient

- 1. Write a referral note before scheduling a lumbar puncture including:**
 - The indication for the lumbar puncture
 - That you have checked and contraindications are not present
 - bleeding diathesis, ventriculoperitoneal shunt, mass lesion, significant scoliosis etc.
 - PT/PTT within last 4 weeks is normal.
 - Platelet Count within last 4 weeks is normal.
 - The results and date of most recent head/spine CT or MRI.
- 2. Place an order in Epic for ‘Ambulatory Referral to Neurology / Lumbar Puncture’**
 - Type in the indication in the referral
- 3. You must then contact Bernadette Lyons to set up an appointment.**
 - She will give you the date and time and will contact your patient.
 - The Subspecialty Clinic resident will perform the LP and will contact you
- 4. The referring resident must follow up the results of the lumbar puncture and document your actions.**

IN LP CLINIC

- 1. Prior to performing the lumbar puncture**
 - a) Check the indications, contraindications, coagulation history and studies.
 - b) Discuss the purpose of the procedure with the patient, explain the potential risks and benefits and answer any questions.
 - c) Obtain signed informed consent with nursing present.
 - d) Complete time out with nursing present.
- 2. Perform the lumbar puncture**
 - 1) Use the procedure you were trained in including a time out.
 - 2) The patient should lie supine on a stretcher for 2 hours after the procedure. The nurse will obtain vital signs and monitor the patient.
 - 3) If there are any significant complications, send the patient to the ED.
 - 4) Be sure to document appropriately.
- 3. Document the lumbar puncture with a procedure note**
 - 1) The **indication** for the lumbar puncture.
 - 2) That you have checked and **contraindications** are not present (see above).
 - 3) The results and date of the most recent head CT or MRI.
 - 4) PT/PTT and platelet count from within 4 weeks.
 - 5) **Consent** for the lumbar puncture was obtained from the patient.
 - 6) The **time out** was performed with the nurse (do not forget to sign the time out sheet).
 - 7) The site was prepped and draped in sterile fashion.
 - 8) Lidocaine was used for local anesthesia.

- 9) The level where the spinal needle was inserted and the gauge of the spinal needle.
- 10) Opening and closing pressures.
- 11) Approximately how much CSF was obtained (cc, ml). A description of the CSF (clear, cloudy, yellow, red, etc.).
- 12) Whether there were any complications.
- 13) **You must then email AND speak with the referring resident and cc the attending that the lumbar puncture was performed and that the referring resident has been informed and has indicated he/she will follow up on the results. The resident and attending contacted should be documented in the procedure note.**

Supplement #3.

**** Specific guidelines for various clinic scenarios for 'referrals out' in supplements.

Dear Colleague,

The Neurology Clinic is oversubscribed and we have developed clinical pathways for selected conditions in conjunction with Ambulatory Care and at this point, the patient falls within the primary care portion. The clinical pathway contains indications for referral to Neurology and other subspecialty clinics. Please follow the pathway and refer to a specialist if the patient meets the criteria. If you have any questions, concerns, or feedback please contact us by email at neurology.service@nychhc.org or by telephone (718-245-5403).

Thank you.

Kings County Hospital - Neurology Clinical Pathway

ACUTE LOWER BACK PAIN

1. Diagnosis

Pain in the lower back (lumbar-sacral) region, with or without radiation, lasting < 6 weeks in a non- pregnant patient

2. Initial Evaluation by Primary Care Team

- History and physical examination
- Red Flags requiring diagnostic workup
 - Age <18 or > 55 years
 - History of malignancy
 - Immunosuppression: HIV, Steroid use etc.
 - Constitutional symptoms (fever, chills, unintended weight loss)
 - Structural abnormality of the spine
 - Motor deficit (not due to antalgia)
 - Anal or urinary sphincter disturbance
 - Saddle anesthesia
 - Gait disturbance (other than antalgia)
- Diagnostic workup if red flags are present
 - Spine x-rays, MRI or CT as indicated, with contrast if tumor or infection suspected
 - CBC and diff, ESR, C-reactive protein
 - EMG/NCV if indicated
 - Bone scan if indicated
- If red flags are absent, a diagnostic workup is generally not necessary

3. Initial Management

- Initial treatment for 8 weeks
 - Reassurance that most episodes resolve within 6 weeks
 - Bed rest x 3 days MAXIMUM
 - Back exercises and stretches
 - Encourage gradual resumption of activity
 - Pain relievers: NSAIDs and gabapentin/pregabalin
 - Consider steroid taper
 - Muscle relaxants for up to 1 week

- Passive modalities (ice, heat) for symptomatic relief

4. Ongoing Management

- If pain has not improved in 8 weeks: reevaluate for red flags, change NSAID
- Consider referral to Physical Therapy for evaluation and treatment
- Consider referral to Pain Management for evaluation and treatment

5. Indications for Specialty Care Referral for Low Back Pain

- **Without radiculopathy or red flags**, refer to Physical Therapy
- **With focal neurologic signs**, refer to Spine Clinic
- **With loss of sphincter control or saddle anesthesia:**
 - If acute - send patient to ED
 - If subacute to chronic - obtain MRI imaging. If imaging abnormal, refer to Spine or Neurosurgery Clinic. If supporting MRI findings are not present, refer to urology or GI as appropriate.

6. Criteria for Return to Primary Care

When cause is neurologically stable and plan of care is established

Dear Colleague,

The Neurology Clinic is oversubscribed and we have developed clinical pathways for selected conditions in conjunction with Ambulatory Care and at this point, the patient falls within the primary care portion. The clinical pathway contains indications for referral to Neurology and other subspecialty clinics. Please follow the pathway and refer to a specialist if the patient meets the criteria. If you have any questions, concerns, or feedback please contact us by email at neurology.service@nychhc.org or by telephone (718-245-5403).

Thank you.

Kings County Hospital - Neurology Clinical Pathway

CHRONIC LOWER BACK PAIN

1. Diagnosis

Pain in the lower back (lumbar-sacral) region, with or without radiation, lasting > 6 weeks in a non-pregnant patient

2. Initial Evaluation by Primary Care Team

- History and physical examination
- Red Flags requiring diagnostic workup
 - Worsening of low back pain and/or development of neurologic symptoms
 - Age <18 or > 55 years
 - History of malignancy
 - Immunosuppression: HIV, Steroid use etc.
 - Constitutional symptoms (fever, chills, unintended weight loss)
 - Structural abnormality of the spine
 - Motor deficit (not due to antalgia)
 - Anal or urinary sphincter disturbance
 - Saddle anesthesia
 - Gait disturbance (not due to antalgia)
- Diagnostic workup if red flags are present
 - Spine x-rays, MRI or CT as indicated, with contrast if tumor or infection suspected
 - CBC and diff, ESR, C-reactive protein
 - EMG/NCV if indicated
 - Bone scan if indicated
- If red flags are absent, a diagnostic workup is generally not necessary

3. Initial Management

- An appropriate trial of adequate medical therapy for 4-6 weeks
 - Bed rest x 3 days MAXIMUM
 - Back exercises and stretches
 - Encourage gradual resumption of activity
 - Pain relievers: NSAIDs and gabapentin/pregabalin
 - Consider steroid taper
 - Muscle relaxants for up to 1 week
 - Passive modalities (ice, heat) for symptomatic relief
 - Physical Therapy referral for evaluation and treatment

4. Ongoing Management

- If pain has not improved in 8 weeks
 - Reevaluate for red flags
 - Referral to Pain Management for evaluation and treatment

5. Indications for Specialty Care Referral for Chronic Low Back Pain – after step 3

- **Without radiculopathy or red flags**, refer to Physical Therapy and Pain Management
- **With focal neurologic signs** refer to Spine Clinic
- **With loss of sphincter control or saddle anesthesia**
 - If acute - send patient to ED
 - If subacute to chronic - obtain MRI imaging. If imaging abnormal, refer to Spine or Neurosurgery Clinic. If supporting MRI findings are not present, refer to urology or GI as appropriate.

7. Return to Primary Care

- When neurologic conditions are stable and a plan of care is established.

Dear Colleague,

The Neurology Clinic is oversubscribed and we have developed clinical pathways for selected conditions in conjunction with Ambulatory Care and at this point, the patient falls within the primary care portion. The clinical pathway contains indications for referral to Neurology and other subspecialty clinics. Please follow the pathway and refer to a specialist if the patient meets the criteria. If you have any questions, concerns, or feedback please contact us by email at neurology.service@nychhc.org or by telephone (718-245-5403).

Thank you.

Kings County Hospital - Neurology Clinical Pathway

NEUROPATHY IN A DIABETIC PATIENT

1. Diagnosis

- Most commonly: distal sensory polyneuropathy (DSPN)
- Pain and/or progressive loss of sensation in a symmetric ascending pattern
- Risk of neuropathy correlates with duration of diabetes, glycemic control, and the presence of retinopathy and nephropathy

2. Initial Evaluation by Primary Care Team

- History and physical examination including neurologic examination
 - Sensory loss in a stocking-glove distribution (feet first, hands later)
 - Depressed or absent reflexes
 - Mild atrophy and minimal weakness
 - Possibly autonomic features: orthostatic hypotension, gastroparesis, diarrhea, impotence
- Red flags requiring diagnostic workup
 - Significant weakness
 - Rapid progression over weeks or days
 - if over days, refer to ED
 - if over weeks, refer to Neurology Clinic
 - Focal neurologic deficits
 - Autonomic symptoms – workup as appropriate to the symptom
- Initial Diagnostic workup
 - Hgb C, TFTs, folate, B-12, RPR, SPEP, UPEP
 - EMG/NCV if indicated
 - If red flags are absent, further workup is generally not necessary

3. Initial Management by Primary Care Team

- Tight glucose control
- Symptomatic treatment (Pain)
 - Gabapentin or pregabalin for pain
 - Tricyclic antidepressants
 - Capsaicin cream
 - NSAIDs
- Autonomic dysfunction
 - Orthostatic hypotension: fludrocortisone
 - Gastroparesis: metoclopramide

- Diarrhea: clonidine
- Impotence: sildenafil

4. Ongoing Management by Primary Care Team

- If pain is controlled, continue symptomatic treatment and tight glucose control
- If pain is not improved in 8 weeks despite adequate therapy, refer to Pain Clinic for evaluation and treatment
- If other symptoms have not improved, refer to appropriate specialty

5. Indications for Neurology Clinic Referral

- Rapid progression of weakness
- Prominent autonomic features: consider referral to Cardiology Clinic as well

6. Criteria for Return to Primary Care

- Neuropathy diagnosis clarified and neurologic issues are stable

Dear Colleague,

The Neurology Clinic is oversubscribed and we have developed clinical pathways for selected conditions in conjunction with Ambulatory Care and at this point, the patient falls within the primary care portion. The clinical pathway contains indications for referral to Neurology and other subspecialty clinics. Please follow the pathway and refer to a specialist if the patient meets the criteria. If you have any questions, concerns, or feedback please contact us by email at neurology.service@nychhc.org or by telephone (718-245-5403).

Thank you.

Kings County Hospital - Neurology Clinical Pathway

MIGRAINE HEADACHE

1. Diagnosis

- Headache present for at least 2 months
- Stereotypical pattern of unilateral throbbing pain which may radiate, lasting hours to days
- Associated symptoms of: photophobia, phonophobia, nausea, or vomiting

2. Initial Evaluation by Primary Care Team

- History consistent with migraine headache (No history suggestive of malignant, infectious, or other causes)
- Physical exam, including neurologic exam, by primary physician
- CT or MRI of brain indicated if:
 - Focal neurologic signs or symptoms are present
 - Headache pattern is changing (ie new headaches in the elderly)
 - History suggests a seizure disorder
 - Patient is not in usual age range for migraines

3. Initial Management by Primary Care Team

- Identify and reduce triggers with lifestyle modification
 - Sleep deprivation
 - Changes in caffeine consumption (in all its forms)
 - Irregular meals
- Headache diary (date, grade headache 1-10, note provoking or ameliorating factors)
- Abortive therapy if frequency is 1 per week or less and ADLs not affected (NSAIDS | Triptans)
- Prophylactic therapy if more than 1x week or interferes with ADLs
 - Neuromodulators: Topiramate, valproate
 - Calcium channel blockers, beta blockers, tricyclic antidepressants

4. Ongoing Management by Primary Care Team

- Assess treatment effectiveness with headache diary, look for patterns
- Abortive therapy: reduces severity of attacks
- Prophylactic therapy: reduces frequency and severity of attacks until ADLs minimally impacted

5. Indications for Neurology Clinic Referral

- Focal neurologic signs or symptoms are present

- Diagnosis is in doubt
- Patient has failed at least 2 trials of appropriate therapies

6. Criteria for Return to Primary Care

- Headache diagnosis clarified and neurologic issues stable
- Headache pattern stable off medication or on chronic medication

Dear Colleague,

The Neurology Clinic is oversubscribed and we have developed clinical pathways for selected conditions in conjunction with Ambulatory Care and at this point, the patient falls within the primary care portion. The clinical pathway contains indications for referral to Neurology and other subspecialty clinics. Please follow the pathway and refer to a specialist if the patient meets the criteria. If you have any questions, concerns, or feedback please contact us by email at neurology.service@nychhc.org or by telephone (718-245-5403).

Thank you.

Kings County Hospital - Neurology Clinical Pathway

SYNCOPE

1. Diagnosis

- History of impairment or loss of consciousness, lasting < 2 minutes

2. Initial Evaluation by Primary Care Team

- History of transient impairment of consciousness
 - No history suggestive of seizure: clonic movements, several minutes of confusion afterwards
 - History of cardiovascular risk factors (MI, CAD, HTN, palpitations, SOB, exercise intolerance etc.)
 - History of seizure risk factors (epilepsy, febrile seizures, severe TBI, meningitis, encephalitis, developmental delay or other neurologic condition predisposing to seizures, family history of hereditary seizures)
 - Physical exam by primary physician (Orthostatic testing / Neurologic exam)
- EKG
- Serum glucose, thyroid screen
- MRI of brain and EEG indicated if:
 - Focal neurologic signs or symptoms are present.
 - History suggests a seizure

3. Initial Management

- Cardiac evaluation, if indicated (Holter monitor, tilt table test)
- Treatment of underlying causes

4. Ongoing Management

- Depends on underlying cause (metabolic, cardiac, neurologic, psychogenic)

5. Indications for Neurology Referral

- Focal neurologic signs or symptoms are present
- MRI or EEG are abnormal
- History is suspicious for seizures or other neurologic condition

6. Criteria for Return to Primary Care

- Neurology opinion that the cause is not within the nervous system
- Underlying cause is treated and stabilized, manageable by Primary Care with occasional or PRN Neurology input

PDSA Worksheet for Testing Change

Aim: (overall goal you wish to achieve)

Every goal will require multiple smaller tests of change

Describe your first (or next) test of change:	Person responsible	When to be done	Where to be done

Plan

<u>List the tasks needed to set up this test of change</u>	Person responsible	When to be done	Where to be done

Predict what will happen when the test is carried out	Measures to determine if prediction succeeds

Do Describe what actually happened when you ran the test

Study Describe the measured results and how they compared to the predictions

Act Describe what modifications to the plan will be made for the next cycle from what you learned

GUIDELINES FOR PEDIATRIC NEUROLOGY FELLOWS AND ROTATORS

Last Updated 2/21/2020

Note: Please ask the On-Service Attending or Senior Fellow if you have any questions or concerns at all regarding these guidelines. All questions are welcomed and encouraged!

MORNING ROUNDS

- Morning Rounds always take place in the Pediatric Neurology Office on the 4th Floor of UHB
 - Rounds begin either at 8:30 AM or 9:00 AM, which is at the discretion of the on-service Attending. The Senior Fellow will notify you via email well in advance regarding which start time will apply for each 2-week rotation block on which you are on service. Please be ON TIME.
 - The only exception to this is Fridays due to weekly Grand Rounds from 9:00 AM until 10:15 AM. Rounds will then start at 10:30 AM.
 - Please see all of your assigned patients and conduct a complete chart review BEFORE rounds start.
- All consults and admission documentation MUST include the patient's full name, medical record number, date of birth, date seen, location, reason for consult, and any pertinent details.
- Patient lists must be updated throughout the day in a timely fashion and include all active consults and admissions.
 - All active patients are to be presented to the Attending on Morning Rounds.
- The Senior Fellow should ALWAYS be aware of the status of ALL patients BEFORE morning rounds, even if he/she has not personally seen the patient.

CONSULTATIONS

- The Senior Fellow should assign new patients to the Adult Neurology and Pediatric Rotators BEFORE rounds, to be presented and followed up on daily.
 - Complex and/or ICU level cases must be DIRECTLY supervised by the Senior Fellow.
- Students may participate in obtaining the history and performing certain parts of the physical examination ONLY under supervision. However, official consultation reports must be written and entered into the chart ONLY by a Resident or Fellow.
- If new consults come in during clinic hours, residents should NOT miss clinic to see them.
 - In the RARE instance of an emergency consult, the Senior Fellow must notify the Clinic Attendings and either the Fellow or a delegated Resident will then be permitted to temporarily leave his/her clinic duties to attend to the emergency. He/she will be expected to return to the clinic IMMEDIATELY after tending to the emergency and to promptly inform the Senior Resident of the outcome, who will then decide whether the on-service Attending should be notified.
- Consults requested before 4:00 PM are to be staffed by the Daytime In-Service Team. Any consults requested from 4:00 PM the day of until 8:00 AM the following morning will be the responsibility of the assigned On-Call Nighttime Resident or Fellow.
- Non-urgent consults requested during clinic hours will be attended to AFTER the completion of all clinic duties.
- Please try and avoid assigning new consults to Rotators who are planned on not being present for Morning Rounds the following day due to other obligations (e.g. post-night float, continuity clinic, etc.).
 - In the rare circumstance when this cannot be avoided, the new consult must be FULLY signed out and discussed with the Senior Fellow before leaving for the day.

- Not every consult must be discussed with the Attending at the exact time the patient is evaluated.
- However, all routine and non-urgent cases **MUST** be discussed with the Senior Fellow immediately after seeing the consult. He/she will then determine whether the On-Service Attending should be notified or if it can wait until Morning Rounds.
- Hospital policy states that an Attending **MUST** be notified if a patient seen by a Resident or Fellow in the ER is planned to be discharged, so that the Attending may evaluate the patient prior to discharge if deemed necessary.
- Emergent consults (e.g. coma, altered mental status, deteriorating patient, uncontrolled status epilepticus, suspected herniation, spinal cord compression, etc.) **MUST BE SEEN WITHIN 3 HOURS** and the Attending must be notified immediately.
- Routine consults (e.g. Erb's palsy, breakthrough seizures, etc.) must be seen within 24 hours.
- If an outside physician calls requesting that a patient be seen urgently, the outside physician should direct the patient to the ER. If the ER then decides the case warrants a Pediatric Neurology evaluation, they are expected to page the on-call pager. Otherwise, the patient can be added on to the next available clinic slot in the Department Planner.
- Any non-emergent patient seen in the ICU should have a Consultation Note entered into the chart on the **SAME** day the consult was placed, even if the Attending has not yet seen the patient. Your preliminary recommendations should be based on a verbal discussion with the Attending. The note should state that you saw and evaluated the patient, discussed it with the Attending, and that a full consultation report will follow after the Attending has seen the patient.
- If a patient under 21 years of age happens to come through the Adult ER or is admitted to an Adult Inpatient Service (e.g. MICU, Internal Medicine, Surgery, OB/GYN, Trauma, etc.) and a neurology consult is requested, it should be staffed by the **ADULT** neurology team.
- If a patient over 21 years of age happens to come through the Pediatric ER or is admitted to a Pediatric Inpatient Service (e.g. PICU, Pediatrics, etc.) and a neurology consult is requested, it should be staffed by the **PEDIATRIC** neurology team.
- ALL stroke codes are to be initially evaluated by the Adult Neurology Service **REGARDLESS** of patient age, since they offer 24-hour in-hospital coverage. For any Pediatric Stroke Codes, the Pediatric Neurology team **MUST** be notified as soon as possible regardless of the outcome, so the patient can be followed closely.
- Please make sure that patient care is **NEVER** compromised due to conflicts between different departments or divisions. If there is any concern in this regard, please notify the appropriate on-call Neurology Attending.
- All UHB consults and admissions are to be entered into Healthbridge. All KCH consults and admissions are to be entered into Epic. Handwritten consults should be avoided unless absolutely necessary (e.g. failure of the computer or EMR system).

ADMISSIONS

- For elective direct admissions to KCH, please call the Pediatric Floor Team (phone 718-245-7033 or 718-245-7034) and the Pediatric Chief Residents (phone 718-270-1480, pager 917-260-0089) for notification and approval. If approved, the patient and/or family should then be directed to register in the Admitting Office (NOT through the ER).
- For elective direct admissions to UHB, please call the Pediatric Chief Residents (phone 718-270-1480; pager 917- 260-0089) for notification and approval. If approved, please call the Admitting Office (phone 718-270-2863 or 718-270-2064) and provide them with all of the patient's information to register them and arrange for a bed.
- If a patient is being directly admitted from UHB clinic, they may have to wait for a bed. If a bed is not available, please direct the patient to the NS-42 waiting area and notify the NS-42 Senior Resident (917-

761-1025) or Pediatric Chief Residents (phone 718-270-1480, pager 917-260-0089) that the patient will be arriving there shortly.

- ALL ICU patients are under the service of the ICU Attending. Only once relegated to floor or step-down status are they candidates for potential admission under the Pediatric Neurology
- Pediatric Neurology Admissions require daily notes, including weekends. Please include your full name, date, time, pager number, and Attending's name in all notes.
- All Pediatric Epilepsy Monitoring Unit (EMU) admissions are under the service of the Pediatric Neurology Team. As such, they require an Admission H&P and Discharge Summary. Those who remain for more than 1 overnight monitoring session also require a daily Progress Note.
- Pediatric EMU patients can be assigned by the Senior Fellow to Adult Neurology or Pediatric Rotators. However, all Discharge Summaries must be reviewed by the Senior Fellow to ensure all imaging, labs, prescriptions and follow up information is complete and correct prior to discharging the patient.
- In addition to the regular service sign-out, all Pediatric EMU patients must also be signed out in full to the Adult Neurology Resident who is scheduled to be on in-hospital call overnight, so that they are aware of all patients in case of emergency.

DATA

- The 2nd-year Pediatric Neurology Fellow is responsible for entering all consult data into the database on a daily basis. If the patient is initially seen as a consult but subsequently transferred to the Pediatric Neurology Service, they should be counted as both a Consult AND Admission and thus should be entered into the database twice.
- If a Rotator performs the consult, please enter the Senior Fellow who supervised the encounter into the database.
- ICD codes can be searched within the database record for easy reference.
- At the end of each month, the summary sheets of all Admissions and Consults at both hospitals should be provided to the corresponding on-service Attending.

CLINIC

- Try and schedule clinic follow ups on dates when both you and the attending who saw the patient will be present, to facilitate continuity of care.
- Enter into the Department Planner all clinic add-ons, making sure to include each patient's name, MRN, and any pertinent information. This will help us keep track of how many patients are being referred to clinic and what percentage of them present for follow up.
- **Add-ons may not exceed a total of 4 patients** for each clinic day (Monday for KCH and Tuesday for UHB). The Department Planner should be reviewed weekly by the Senior Fellow to prevent overbooking clinic patients.

ORDERING ADVANCED DIAGNOSTIC STUDIES FROM CLINIC

- **UHB MRI Brain**
 1. Order MRI Brain in Healthbridge
 2. Complete "MRI Order" form and hand to the patient
 3. Complete "MRI Authorization Request" form (fill out history in detail) and hand to the patient
 4. If requires sedation, complete "Authorization for Sedation" form and hand to the patient
 5. Instruct the patient to show all forms to the clerk upon checkout for further instructions on obtaining financial clearance and scheduling the MRI appointment

- **UHB EEG**

1. Fill out “EEG Request” form and be sure to include patient contact information.
 - Indicate on form whether it is a Routine, Video, or Ambulatory request
2. Fax completed form to the UHB Comprehensive Epilepsy Center at 718-270-4711
 - Wait for fax confirmation to ensure the fax went through

- **KCH MRI Brain**

1. Order MRI Brain in Epic
2. If requires sedation, complete the “Authorization for Sedation” form and give to the patient to bring with them
3. Provide the patient with a “Financial Clearance Instructions” form and review the instructions verbally with them as follows:
 - They should show all forms to a Financial Counselor located on the 5th floor of the E Building next to the elevators to obtain financial clearance
 - After obtaining financial clearance, they can schedule the MRI appointment by either bringing all forms to the 2nd Floor of the S Building and following the signs to the Radiology Department or by calling 718-245-5585 and making sure to bring all forms with them to their scheduled appointment

- **KCH EEG** (for routine or prolonged studies ONLY; all ambulatory or video EEG studies must be scheduled for the EMU at UHB across the street):

1. Order EEG in Epic and specify the date as 'routine'. Make sure to enter the patient's contact information into the field marked 'patient's phone'.
2. Inform the patient they can expect a call from the EEG tech within the next few days to schedule the EEG appointment.
3. Give the parents the EEG lab number (718-245-4714/4715) so they can also call to schedule if not contacted in a timely manner.

Elective Anesthesia Days for inpatient MRIs that require sedation are on Thursdays for UHB and Wednesdays for KCH.

- **Ambulatory or Video-EEG Requests** (only available by arranging through the 7th floor UHB EMU)

1. For UHB patients, fill out the UHB EEG request form (including patient contact info) and fax to the UHB Comprehensive Epilepsy Center at 718-270-4711.
2. For KCH patients, drop off at the UHB Comprehensive Epilepsy Center a copy of their most recent clinic note, patient contact information, patient insurance and demographic information, and most recent routine EEG when you submit your request.

CALL ISSUES

- If the ER would like to send a patient non-urgently to clinic, they must call 245-3328/3325 at KCH, or 270-1491/7207 at UHB. If clinic is overbooked, the patient MUST come as a walk-in on a date determined by the On-Service Attending.

PATIENT FOLLOW-UPS

- Results for CT, MRI, genetic and other tests are often faxed to the office. Our coordinator, Kim Kearns, will put them in the proper mailboxes.
- If tests are abnormal, please discuss them with the Attending who saw the patient and call the patient to

schedule an earlier appointment, if deemed necessary.

IDENTIFICATION

- For KCH you will need a 'Child Care Provider' ID for swipe access into the Pediatric Wards.
- The cards are issued by the GME and security offices, located in the T Building.

CONTROLLED PRECRIPTIONS (KCHC and UHB)

- All prescriptions are now submitted electronically.

SIGN-OUT

- Sign-out must be done in person, with the exception of Senior Fellows at an away-elective. **Sign-out must be careful and detailed**, so that the on-call person is prepared to manage challenging cases. Daily census (sign-in/sign-out sheets) should be utilized for sign-outs.

OUTSIDE ROTATIONS

- While attending outside rotations, senior fellows are expected to come for their continuity clinic but are excused from Thursday clinics (up to 2 months). A spare beeper is carried by the senior resident while on an outside rotation.

Weekends/Holidays

On holidays, speak with the attending on call THE PREVIOUS DAY to find out the start time for rounds. On weekends, call the attending on Saturday and Sunday after you finish your rounds and before you go home, even if you did not have new admissions or consultations.

CONFERENCES ATTENDANCE POLICY

- No conference leaves will be granted while you are on inpatient service.
- Whenever possible, interviews should be scheduled during electives. Interview leave, if taken during inpatient rotations, will be limited to a total of 3 days per month.
- Preference for conference leave will be given to residents presenting papers or posters, followed by the next most senior resident.
- All leave must be approved by the Program Director at least one month in advance. All duties (including clinics) must be fully covered.

All leave must be approved in writing by the affected clinic or rotation attending and the program director. Excused absence request forms must be completed and signed by all involved parties.

End of the year guidelines for graduating residents:

Emergency coverage will be provided by the 3rd year Senior Fellows through June 23. The graduating Fellows should not be scheduled for inpatient service in June.

There should not be any 3rd year Adult Neurology or Pediatric Rotators leaving early during the month of June.

PEDIATRIC NEUROLOGY OUTPATIENT EVALUATION TEMPLATE

Date of Consult:

Name:

MR#:

DOB:

Thank you for referring this patient for a pediatric neurology consultation.

Reason for consultation:

Referring MD / Service:

History: History was obtained from chart and parents.

Past Medical and Surgical History:

Allergies: There are no known drug allergies.

Current Medications:

Birth History: was born full-term, at . Birth weight was . Delivery was . was discharged home

Antenatal History and Neonatal Course:

Growth and Development: achieved milestones at . sat at the age of 6 months, crawled at 8-9 months, stood up with support at age 10-11 months, and walked at the age of 12 months. started to speak monosyllables at the age of 7-8 months, spoke single words at 18 months and short (two-to-three word) sentences at 2 years. He was toilet trained by age 2½ years.

Schooling: attends regular school. He is in grade, and does well according to the parents. He has never repeated any grades. There are no apparent school problems with peers

Social and family history: lives with mother and father. He has brothers and sisters. Both parents are in apparent good health. Siblings are also healthy. There is no family history of speech delay, learning difficulties in school, mental retardation, epilepsy or neuromuscular disorders

Adolescent history: achieved menarche at the age of years. Last menstrual period was . She is sexually active and uses contraception (). He denies use of alcohol, cigarette smoking or street drugs.

Review of Systems: There is no history of fevers, chills, malaise, loss of appetite, weight loss, or difficulty sleeping. Ophthalmologic, otolaryngologic, dermatologic, respiratory, cardiovascular, gastrointestinal, genitourinary, musculoskeletal, endocrine, psychiatric, and hematologic review of systems were negative.

Physical examination:

Vital signs: Temp - Pulse - Respiration - BP -

Head circumference is ____ cm (percentile). Weight is ____ kg (percentile). Height is ____ cm (percentile).

General examination: is alert and active in no apparent distress. There are no dysmorphic features. Chest examination reveals normal breath sounds, and normal heart sounds with no cardiac murmur. Abdominal examination does not show any evidence of hepatic or splenic enlargement, or any abdominal masses or bruits, with normal genitalia. Skin evaluation does not reveal any café-au-lait spots, hypo or hyperpigmented lesions, hemangiomas or pigmented nevi.

Neurologic examination:

is awake, alert, cooperative and responsive to all questions. He follows all commands readily. Speech is fluent, with no echolalia. He is able to name and repeat. He is able to perform simple math (add, subtract) and can recall the memorized three objects after an interval of time.

Cranial nerves: Pupils are mm, symmetric, circular and reactive to light. Fundoscopy reveals sharp discs with no retinal abnormalities. There are no visual field cuts. Extraocular movements are full in range, with no strabismus. There is no ptosis or nystagmus. Facial sensations are intact. There is no facial asymmetry, with normal facial movements bilaterally. Hearing is normal to finger-rub testing. Gag reflex is present. Palatal movements are symmetric. The tongue is midline.

Motor assessment: The tone is normal. Movements are symmetric in all four extremities, with no evidence of any focal weakness. Power is more than III / V in all groups of muscles across all major joints. There is no evidence of atrophy or hypertrophy of muscles. Deep tendon reflexes are 2+ and symmetric at the biceps, triceps, brachioradialis, knees and ankles. Plantar response is flexor bilaterally.

Sensory examination: Fine touch and pinprick testing does not reveal any sensory deficits.

Co-ordination and gait: Finger-to-nose testing is normal bilaterally. Fine finger movements and rapid alternating movements are within normal range. Mirror movements are not present. There is no evidence of tremor, dystonic posturing or any abnormal movements. Romberg's sign is absent. Gait is normal with equal arm swing bilaterally and symmetric leg movements. Heel, toe and tandem walking are within normal range. He can easily hop on either foot.

Developmental assessment:

Laboratory tests:

WBC		Hgb		Hct		Plt	
N		L		M			
Na		Cl		BUN		Ca	
K		HCO3		Cr		Glu	
AST		ALT		AP		TB	
TP		Alb					

Neuroimaging:

E.E.G.:

Assessment:

Recommendations:

Case Discussed with Attending Dr

Name of Resident/Fellow: MD

Date: