GOALS AND OBJECTIVES FOR NEUROLOGY ROTATION

Introduction:
This two-month rotation consists of rotations involving inpatient neurology unit, inpatient consult service, and weekly general neurology outpatient clinic. Residents are scheduled to spend equal amount of time rotating across all three services. The resident is expected to make an oral presentation on a clinical case and /or a relevant respiratory topic during weekly neurology rounds on at least one occasion during their rotation.

For neurology rotation, residents will be assigned to Mubarak Al-Kabeer Hospital, Al-Amiri Hospital, Al-Adan Hospital, Jahra Hospital, or Farwanieyha Hospital.

Rotation Structure and Schedule:
On the inpatient neurology unit, residents are expected to round on an average of 2-4 patients per day. At the discretion of the attending supervision physician, the resident is expected to admit patients presenting with neurologic disorders, including strokes, CNS diseases including meningitis and encephalitis, altered mental status, Migraines and other causes of headaches, Movement disorders, seizure disorders and status epilepticus, dementia and delirium, Multiple sclerosis and other demyelinating diseases, Myasthenia gravis, Amyotrophic lateral sclerosis (ALS) and other motor neuron diseases. The resident is expected to pre-round on their patients daily, write progress notes in the chart and discuss daily progress of their patients on rounds with the rest of the neurology team lead by the consultant neurologist. It is expected that the resident completes their progress notes prior to rounds and, in certain instances, the residents may ask to complete a discharge summary when their patients are discharged from the service.

On the consult service, it is expected that resident sees an average of 2-4 new cases per day, and follow up on average of 3-5 cases/day. The resident will initially perform all new consults. The patient is subsequently seen jointly by the rest of neurology team. Consultation note prepared by the resident will not be placed in the chart until signed by the attending. Emphasis is placed upon a pertinent history and physical with review of laboratory trends and imaging data.

In the outpatient neurology clinic, the resident is expected to work with consultant neurologist on a one to one basis evaluating and managing patients presenting with common neurological disorders.

Sample Daily Schedule on neurology Consult Service:

7:30 am to 8:00 am: Resident attends morning report. Residents must maintain 70% mandatory attendance.
8:00 am to 12:00 am: Resident follows up on old patients and work up new consults.
12:30 pm to 2:00 pm: Team gather and round on all new and old patients.

Sample Daily Schedule on Inpatient neurology service:

7:30 am to 8:00 am: Resident attends morning report. Residents must maintain 70% mandatory attendance.
8:00 am to 9:00 am: Pre-Rounds on patients

9:00 am – Noon: Teaching rounds with rest of the team and consultant neurologist.
12:30 pm -2:00 pm: Teaching/Didactics/Follow up on patients.

Sample Daily Schedule on Outpatient Neurology Clinic:
7:30 am to 8:00 am: Resident attends morning report. Residents must maintain 70% mandatory attendance.
8:00 am to 1:00 pm: See patients in ambulatory neurology clinic along with supervising attending neurologist.
1:00 pm to 2:00 pm: Didactic teaching session.

On-call Schedule:
There is no assigned call or weekend coverage on neurology rotation. Hence, the Internal Medicine resident must take general medicine call, as assigned by the internal medicine program director.

Objectives and Core Competency:
Residents are evaluated monthly based on CAN med core competency: (1) Medical expert; (2) Communicator; (3) Collaborator; (4) Leader; (5) Health advocate; (6) Scholar; and (7) Professional.

18. **Medical Expert**:

- **R1-R2 residents:**

By the end of the rotation, the resident will be able to:

36) Evaluate altered mental status
37) Residents should demonstrate ability to apply clinical skills and use the physical examination to localize neurologic lesions.
38) Residents should demonstrate understanding of neuroanatomy sufficient to localize neurologic lesions.
39) Resident must be able to complete a comprehensive history and must develop the ability to perform a competent neurological examination, including:
    a. Mental status: language, memory, attention/concentration, affect, intellect
    b. Cranial nerves
    c. Motor exam including details on bulk, strength, and tone
    d. Reflex exam including stretch and pathological reflexes
    e. Detailed sensory examination
    f. Coordination and gait and balance
40) Order appropriate diagnostic testing for neurologic disease
41) Prescribe anti-platelet therapy for vascular disease
42) Prescribe medication for seizure disorder
43) Recognize acute stroke and activate stroke team
44) Develop technical skills in performing Lumbar Puncture

- **R3-R4 residents:**

By the end of the rotation, the resident will be able to:

30) Meet competency stated for R1-R2 residents.
31) The resident will demonstrate ability to develop a rational clinical approach to solving basic clinical neurological problems including:
    a. Stupor and coma
    b. Seizures
    c. Tremor
    d. Weakness
    e. Dizziness, syncope
    f. Vertigo
    g. Sensation changes
    h. Dementia and delirium
    i. Paralysis
    j. Headaches
    k. Changes in vision or other sensory organs

32) The resident will demonstrate satisfactory skills in clinical documentation of neurologic complaints and general evaluations in the medical record.
33) The resident must reflect an understanding of the differential diagnosis and natural history of common neurological issues.
34) The residents will demonstrate understanding of the indications, basic techniques, and basic interpretation of the following tests a. lumbar puncture and CSF analysis b. Carotid Dopplers c. Neuro-imaging including CT scans MRI scans PET scans d. EMG and nerve conduction studies e. EEG and evoked potential studies f. Metabolic testing, testing for autoimmune neurological diseases
35) Develop an understanding of the indications and contraindications for the administration of thrombolysis (recombinant tissue plasminogen activator rtPA)
36) Understand the pathophysiological mechanisms of acute stroke (cardioembolic, artery-to-artery, small vessel ischemic disease)
37) Residents will reflect satisfactory knowledge of the use of specific neurological drugs.

- **R5 resident:**

By the end of the rotation, the resident will be able to develop proficiency and competency in the following areas:

13) Meet competency stated for R3-R4 residents.
14) The residents will understand the pathophysiology, clinical presentations, and achieve competence in the diagnosis and treatment of the following diseases:

a. Stroke/TIA
b. Meningitis- both acute and chronic
c. Alzheimer's disease and other causes of dementia
d. Alcohol and drug related neurological disorders
e. Seizure disorder
f. Parkinsonism and other movement disorders
g. MS and other demyelinating diseases
h. Carpal tunnel and other entrapment syndromes
i. CNS tumors and malignancy
j. Peripheral neuropathy and radiculopathies

k. Migraines and other causes of headaches
l. Guillian-Barre Syndrome
m. ALS and other motor neuron diseases
n. Peripheral neuropathy
o. Myopathy
p. Muscular dystrophy
q. Myasthenia gravis and other dystonias

2. Communicator:

By the end of this rotation, the resident at all levels will be able to perform the following:

14) Residents will demonstrate ability to communicate effectively and demonstrate caring, compassionate, and respectful behavior
15) Communicate in an effective manner, verbally and in written form, with other members of the health care team.
16) Present information concisely and clearly both verbally and in writing on patients.

19. Collaborator:

By the end of this rotation, the resident at all levels will be able to perform the following:

10) Work effectively in an interdisciplinary team, demonstrating an understanding and respecting the roles of other health disciplines, including physical therapist, occupational therapist, speech therapist, pharmacist, nutritionist, and nursing staff.
11) Appropriately utilize healthcare organizations and allied healthcare professionals to assist in patient care and returning patients safely to the community.

4. Leader:

By the end of this rotation, the resident at all levels will be able to perform the following:

35) Residents must demonstrate an awareness of the larger context and system of health care and the ability to effectively call on system resources to provide optimal care of patients
36) Residents will demonstrate timeliness in completing assignments & performing consultations (which should typically be completed and reviewed on the day received), and progress notes.
37) Residents will demonstrate self-initiative in the use of information technology to access and retrieve materials for self- education and demonstrate skills of critically appraising medical literature, and apply evidence to the care of patients.

5. Health Advocate:

By the end of this rotation, the resident at all levels will be able to perform the following:

19) Residents must demonstrate an awareness of the larger context and system of health care and the ability to effectively call on system resources to provide optimal care of patients

20) Residents will practice cost-effective health care and resource allocation while advocating for quality.

6. Scholar:

By the end of this rotation, the resident at all levels will be able to perform the following:

5) **Residents will demonstrate self-initiative in the use of information technology to access and retrieve materials for self- education and demonstrate skills of critically appraising medical literature, and apply evidence to the care of patients**
6) **Facilitate the learning of students and other health care professionals.**

7. Professional:

By the end of this rotation, the resident at all levels will be able to perform the following:

20) **Develop an awareness of the ethical issues in the management of patients with catastrophic neurological disease or chronic incurable illnesses.**
21) **Deliver exemplary patient care commensurate with level of training, demonstrating appropriate personal and interpersonal professional behaviors.**

Evaluations:

Evaluations should be done on an ongoing basis and residents should ensure they receive and provide verbal mid-rotation feedback to discuss strengths & weaknesses and ensure objectives are being met. At the end of the rotation, a written evaluation will be completed by the attending, with whom the resident spent much of their rotation. It is also expected that the residents will complete evaluations on all attendings with whom they have worked.