DESCRIPTION

The 4th year elective in Neurology offers students a continuation of their introduction to Clinical Neurological Sciences that they began in first and second year. It provides an opportunity for students to consolidate their knowledge by using it in clinical situations in the care of patients.

Students are assigned to a Neurology Preceptor. As part of the team, commensurate with their abilities, students will be responsible for the investigation and treatment of patients seen on the in-patient, out-patient, consultation or emergency services.

LEARNING OBJECTIVES

A. General:

Knowledge: Students should be able to define, describe and discuss the:

a) clinical presentations that may signify nervous system involvement;

b) elements of the neurologic examination (mental status, language, cranial nerves, motor, reflexes, sensory, coordination and gait);

c) components of the nervous system being evaluated by each aspect of the exam;

d) indications, contraindications and complications of lumbar puncture;

e) indications and contraindications for CT head and MRI brain;

e) indications for and usefulness of electromyography and nerve conduction studies (EMG/NCS);

f) indications for and usefulness of electroencephalography (EEG).

Skills: Students should be able to:

a) demonstrate a focused history-taking that incorporates pertinent positives and negatives for the presenting neurologic complaint;

b) perform an organized and focused neurologic examination distinguishing normal from abnormal findings;

c) synthesize the history and physical findings to accurately localize the problem within the nervous system:

- cerebral hemisphere – cortical vs subcortical
- posterior fossa – brainstem and cerebellum
- spinal cord
- anterior horn cell
- nerve root/plexus
• peripheral nerve
• neuromuscular junction
• muscle

d) formulate a differential diagnosis based on the time course, history, exam and localization;
e) accurately interpret the results of CSF analysis;
e) demonstrate an approach to the interpretation of CT head.

B: Specific:
Knowledge:
Students should be able to define, describe and discuss the following neurologic conditions:
• Acute stroke – ischemic or hemorrhagic
• Transient ischemic attack
• Epilepsy
• Migraine
• Tension-type headache
• Meningitis and encephalitis
• Parkinson disease
• Coma and brain death
• Multiple Sclerosis
• Polyneuropathy

Students should be able to identify risk factors (modifiable and non-modifiable) that predispose individuals to the above neurologic conditions.

Skills: History-taking:
Students should be able to obtain, document and present an appropriately complete medical history for the following clinical presentations:
• Weakness – focal vs diffuse
• Numbness/tingling/altered sensation
• Visual disturbance
• Headache
• Seizure
• Altered level of consciousness/coma
• Aphasia
• Ataxia
• Involuntary movements
• Transient neurologic symptoms
• Neuropathic pain

Students should be able to define, describe and discuss:
• the clinical presentation as abrupt, acute, subacute or chronic;
• a relevant differential diagnosis;
• and identify the critical features (“red flags”) that indicate an emergent or urgent presentation of:
  o headache
  o altered level of consciousness
Students should be able to demonstrate an initial approach to the investigation and management of the following:

- acute stroke in the emergency room;
- acute flaccid weakness;
- headache, fever and meningismus;
- abrupt, severe “thunderclap” headache;
- acute altered level of consciousness;
- status epilepticus.

OBJECTIVES:
1) Conduct patient-centered interviews that explore the patient's feelings, ideas, impact on function, and expectations.
2) Develop relationships with patients characterized by compassion, empathy, respect, and genuineness, demonstrating a willingness to collaborate with the patient about management.
3) Perform a physical examination without causing the patient embarrassment.
4) Adapt treatment plans to the individual with consideration for the patient's age, general health, special needs, expectations, cultural background, progress, or changes in condition.
5) Demonstrate skill in communication of information with clear, concise explanations that are understandable to patients.
6) Recognize risk factors and be able to counsel patients on risk reduction.
7) Identify the rights and legal responsibilities of physicians to patients and the community.
8) Describe the determinants of health and apply them appropriately to enhance individual and community well-being.
9) Apply the concept of cost-effectiveness to public health interventions.
10) Demonstrate skill in self-directed learning by:
   i. Ability to identify areas of deficiency in one's own knowledge and skills.
   ii. Ability to find appropriate educational resources.
   iii. Ability to evaluate personal learning progress.
   iv. Ability to use new knowledge in the care of patients.
11) Determine the validity and applicability of published data through critical appraisal.
12) Demonstrate the ability to work effectively as a member of a team, as participant or leader.
13) Collaborate effectively with patients and families without having to take charge.
14) Demonstrate skill in finding common ground when differences of opinion exist.
15) Establish effective relationships with colleagues and other member of the health care team by:
   i. Considering their suggestions and criticisms.
   ii. Tactful handling of differences of opinion.
16) Demonstrates the ability to place the needs of patients and families first.
17) Demonstrates honesty and trustworthiness in assessment, study and learning.
18) Demonstrates responsibility and respect.
19) Recognize personal biases and ensure that they do not interfere with the patient's best interests.
20) Be willing to seek help, advice or consultation when needed.
21) Respond to personal and family needs and develop effective support systems.
22) Assist patients in accessing the health care system for physical, psychological, social, and economic rehabilitation or long-term care.

23) Use the concepts of evidence-based medicine to guide patient care decisions.

24) Identify potential conflict between individual and population interests and seek advice from others.

25) Assess the effectiveness of practice and engage in continuous quality improvement.

**NIGHT AND WEEKEND CALL:**
Night and weekend call will be assigned during this rotation. The student will not have greater than 1 in 4 call.

**NON-LOTTERY:**
**Neurology rotations – note:**
Registration is NOT available through the 4th Year Electives Lottery. Requests are only processed via the Windsor Non-Lottery 4th Year Elective Request Form located on the Medicine 5401 – Year 4 Clinical Sciences Electives web page.

**REGISTRATION:**
https://www.schulich.uwo.ca/medicine/undergraduate/academic_resources/year_4/windsor_nonlottery_4th_year_elective.html