**Title and Focus of Activity:** Clinical Conditions Project *Linking foundational and clinical skills*

**Contributor(s):** Lois D. Hedman, PT, DScPT l-hedman@northwestern.edu; Jennifer Kahn, PT, DPT, NCS jennifer-kahn@northwestern.edu; Kristin Krosschell, PT, DPT, MA, PCS k-krosschell@northwestern.edu; Roberto Lopez-Rosado DPT, MSPT, MA roberto.lopez-rosado@northwestern.edu; Kathy Martinez, PT, MA, NCS k-martinez@northwestern.eduJane; Sullivan, PT, DHS j-sullivan@northwestern.edu Department of Physical Therapy and Human Movement Sciences, Northwestern University Feinberg School of Medicine

**Course Information:** Clinical Management of Patients with Neurological Dysfunction I; 2.5 credits; third trimester of the first year of the curriculum – this is the first of three clinical neurologic courses that are taught in tandem with 3 Neuroscience classes

**Learning Activity Description:** Context: The nervous system is dependent on many factors to function optimally.  A variety of factors, such as injury, reduced blood flow, over or under use, infection (viral or bacterial), altered metabolism, tumors, reduced oxygen supply, degenerative diseases, genetic and autoimmune changes can affect nervous system function. There are numerous clinical conditions in which any one of these factors plays a role in impairing function of the system. Purpose: students must synthesize and disseminate knowledge about a specific clinical condition that affects the peripheral nervous system and/or spinal cord. This process prepares students for their future clinical practice where it is anticipated they will need to gather information about previously unknown diagnoses in order to provide effective care for patients. Additionally, it prepares students for future clinical practice where it is anticipated students will encounter patients with the clinical conditions studied in this project.

There are two parts to this assignment. Students will be assessed as a group for part 1, and as an individual for Part 2.

Each student is assigned to a group of 5 students. Each group is assigned to one of the following clinical conditions:

|  |
| --- |
| Amyotrophic Lateral Sclerosis |
| Giant Axonal Neuropathy |
| Guillian Barre |
| ICU Induced Weakness |
| Myasthenia Gravis |
| Post Polio Syndrome |
| Spinal Muscular Atrophy |
| Syringomyelia |
| Transverse Myelitis |
| Vitamin Deficiency |

Part 1:

Each student group is responsible for summarizing the following in writing in a Wiki format (750 maximum word count not inclusive of ICF and movement problem):

* Incidence - rate of occurrence of new cases of the condition
* Prevalence -how commonly the condition occurs in a population
* Population characteristics - which segments of the population is the condition more common and why)
* Pathophysiology -changes of normal neural functions associated with the condition
* Etiology – cause(s) of the condition
* Medical diagnostic process – how the diagnosis is arrived at (eg. lab values, diagnostic tests, and imaging). This section should also include common differential diagnoses that might be considered.
* Medical Prognosis
* Typical clinical presentation of the condition over the lifespan
* Movement Problems associated with this condition
* Effects of the condition on Body Structure function, Activity and Participation using attached ICF chart.
* Critical aspects of personal and environmental factors that affect a patient’s experience of this condition
* Surgical intervention (if applicable)
* Pharmacologic intervention:  Include medications that your patient might be using, the purpose of the medications, and the potential effect on movement and relevant side effects.
* Other interventions (additional medical, rehabilitation and/or complementary/alternative therapies
* Overview of principles guiding physical therapy care
* Evidence for Physical Therapy interventions – Synthesize and summarize body of literature; use minimum of one review paper if available. If having difficulty finding a relevant review article, contact your faculty.
* Patient resources and useful websites of interest
* Figures or photos that will illustrate important points
* Online movie showing a person moving with this disorder (as available)

Part 2:

Students participate in a discussion with a group of classmates with representatives from each clinical condition. One faculty member facilitates the discussion through questions that require students to apply knowledge about all of the clinical conditions. Students are expected to respond to questions and contribute to the discussion regarding any clinical condition, not just the one they researched. Students are assessed individually for their active participation in the discussion.

Time for student to complete the activity: 1. preparation for activity outside of/before class: students must search for sources of information to complete their Wiki, and they must review all of the group wikis to prepare for the group discussion 2. class time completion of the activity: 1 hour of discussion

Readings/other preparatory materials: Students are expected to complete a literature search online for all sources to complete Part 1.

Learning Objectives: 1. Apply skills of evidenced based practice through performing a literature search to gain knowledge about pathophysiology, and medical, surgical, pharmacological, and physical therapy management of a clinical condition that affects the peripheral nervous system and/or spinal cord. 2. Synthesize information from a variety of sources for a summary of a clinical condition that affects the peripheral nervous system and/or spinal cord. 3. Describe the medical, surgical, pharmacological and physical therapy management of clinical conditions that affect the peripheral nervous system and/or spinal cord that may be encountered in clinical practice. 4. Apply the ICF to individuals with diagnoses that affect the nervous system.

Methods of evaluation of student learning:

Part 1: Group Wiki Page

|  |  |  |  |
| --- | --- | --- | --- |
| Grading Criteria:  | 2* Main points addressed

AND* Content accurate

AND* Content clearly presented

Student must fulfill all criteria to get a 2 | 1* Main points related to topic incompletely addressed

OR* Content somewhat inaccurate

OR* Content somewhat unclear

Student will earn a 1 if at least one of the criteria is true  | 0* Insufficient presentation of main points related to topic

OR* Content mostly inaccurate

OR* Content mostly unclear

Student will earn a 0 for any one of the criteria  |
| IncidencePrevalence Population Characteristics |  |  |  |
| Pathophysiology |  |  |  |
| Etiology |  |  |  |
| Medical Diagnostic Process and differential dx |  |  |  |
| Prognosis |  |  |  |
| Typical Clinical Presentation across the lifespan |  |  |  |
| Movement Problem |  |  |  |
| ICF  |  |  |  |
| Surgical & Pharmacologic Intervention |  |  |  |
| Other Interventions |  |  |  |
| Principles of Physical Therapy Care |  |  |  |
| Physical Therapy Intervention Evidence |  |  |  |
| Patient resources and useful websites of interest |  |  |  |

Consistency and flow of content across sections: 2 points

All References provided (pdf’s or URLs): 2 points **Group Score: /30**

|  |  |  |
| --- | --- | --- |
| **No Deduction*** Content adequately referenced AND
* Appropriate references

 AND* References in AMA format AND
* Minimal typos &/or grammatical errors
 | **1.5 Point Deduction*** inconsistencies in adequacy OR appropriateness OR formatting of references

OR* Distracting amount of typos &/or grammatical errors

1.5 points will be deducted for any one of these criteria | **3 Points Deduction*** Content insufficiently referenced

OR* Inappropriate references

OR* References not in AMA format

3 points will be deducted for any one of these criteria  |

Part 2:

Clinical Conditions Discussion Student Performance Rubric:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | answer 100% inaccurate or no answer provided | answer < 50% accurate and/or complete | answer 50 – 74% accurate and/or complete | answer > 75 accurate and/or complete | answer 100% accurate but lacks sufficient detail | answer accurate and complete |
| Answers question(s) directed to them by students/faculty.  | **0** | **2.5** | **5** | **7.5** | **8.5** | **10** |

|  |  |  |  |
| --- | --- | --- | --- |
|  | Does not meet expectations | Incompletely meets expectations | Completely meets expectations |
| Volunteers a **minimum of one** meaningful comment(s) **or** question(s) during discussion. | **0** | **3.5** | **7** |
| Speaks clearly, concisely and with confidence. | **0** | **2.5** | **5** |

Total Score: /22