**Title and Focus of Activity:** Outcome Measures: Searching the Evidence and Understanding Psychometric Properties for Clinical Practice

*Outcome Measurement*

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**Course Information:** Neuromuscular I; 3 credits; Third Trimester; this course is first in a series of 3 Neuromuscular courses. This particular lab activity occurs very early in the trimester as evidence located provides common threads which are reinforced and applied throughout the remainder of the trimester.

**Learning Activity Description:**

Purpose: To understand the difference between tests and measures and outcome measures, to search the evidence that supports the use of outcome measures, and to compare and contrast the available psychometric properties across various neurologic diagnoses and practice settings.

Student Instructions:

**Definition and Application of Outcome Measures in Neuromuscular Curriculum:**

A standardized outcome measure is one type of test and measure that can be used in the patient management process. Standardized outcome measures, from this point forward will be referred to simply as **outcome measures**, are used to assist in the diagnosis and prognosis of patient care in addition to tracking changes in human performance and health status.1,2 Many **outcome measures**, unlike measurement tools such as posture and manual muscle testing, have research evidence that provides psychometric properties for specific patient populations. Understanding the psychometric properties assists in patient specific clinical-decision making and application of evidence-based practice within the International Classification of Function, Disability, and Health (ICF) framework. In both the lecture and labs sections of this course we will be exploring a variety of **outcome measures** and will be working to apply this evidence into clinical practice. To help identify **outcome measures** from other components of the examination process (i.e. tests and measures), the below formatting will be used throughout lecture and lab class materials.



**Outcome Measure**

* **Specific Outcome Measure Name Listed**

**Understanding the Psychometrics-Searching the Evidence:**

Working in small groups, answer all **eight discussion questions** below for your **assigned outcome measure. All eight answers should be formatted in a Word document to be posted at the end of the class session on a Blackboard Wiki.** In your effort to search the evidence, the resources below should be prioritized ahead of other/general search engines. Note that the outcome measures assigned are all measures that are demonstrated, practiced, and applied throughout the trimester in both mock clinical cases and on neurologic client participants.



**Assigned Outcome Measure:**

* + Modified Ashworth (MAS)
  + Tardieu
  + miniBest
* Tinetti
* Dynamic Gait Index (DGI)
* 10 meter walk
* Mini Mental State Exam (MMSE)
* Montreal Cognitive Assessment (MoCA)
* Berg
* Fugl Meyer (FM)
* Clinical Test for Sensory Interaction in Balance (CTSIB)
* Postural Assessment Scale for Stroke Patients (PASS)

**Suggested Resources for Searching the Evidence:**

* [www.rehabmeasures.org](file:///C:\Users\KJohnson\AppData\Local\Microsoft\Windows\Temporary%20Internet%20Files\Content.Outlook\IH9DPD51\www.rehabmeasures.org) Note the section on “Statistical Review” and also refer to the Complete List of Instruments.
* <http://www.neuropt.org/professional-resources/neurology-section-outcome-measures-recommendations>
* Textbook: O’Sullivan SB, Schmitz TJ, Fulk GD. ***Physical Rehabilitation, Sixth Edition****.* Philadelphia, PA: F.A. Davis Company; 2014. **Focus on Appendix 1.C on pages 26-29.**

**Discussion Questions:**

1. Which population(s) has your outcome measure been validated on?
2. Is a copy of your outcome measure readily available? Are there any copyright restrictions and/or costs associated with using the instrument?
3. Describe the term “Minimal Detectable Change” (MDC) in easy to understand language. Has the MDC of your outcome measure been established? If so, what is the specific MDC value and for which diagnoses has it been determined?
4. Describe the term “Minimal Clinically Important Difference” (MCID) in easy to understand language. How could this evidence be used to write a patient specific goal?
5. How do you think this outcome measure could be useful to a) physical therapists, b) third party payers and c) patients?
6. What do you think are the perceived barriers to using this outcome measure in the clinic and how can that be overcome?
7. When do you think this outcome measure could be applied-upon initial examination, reassessment, discharge, in a community setting, etc.?
8. In thinking about the 3 domains of the ICF framework, which domain does your outcome measure best fit into?

**Group Discussion:**

For each group a student is asked to report by stating the measure name, abbreviation, and its purpose or objective. Then each small group only reports on one of the above discussion questions to the entire class (this one question is assigned by the instructor just prior to ending the time for searching the evidence). The class discusses the response in relation to the other outcome measures and further dialogue is provided about each outcome measure and its overall purpose and position within the course. At the conclusion of the class session, students are reminded to post all eight responses for their outcome measures in the appropriately titled Blackboard Wiki.

Time for student to complete the activity:

Students are reminded ahead of class time to bring their computers for this class session

1. preparation for activity outside of/before class: 2 hours (reading of articles listed below)
2. class time completion of the activity: 1.5 hours

Readings/other preparatory materials: prior to the start of class.

1. Potter K, Fulk, GD, Salem Y, Sullivan J. Outcome measures in neurological physical therapy practice: Part I. making sound decisions. *JNPT.* 2011;35:57-64.
2. Beninato M, and Portney LG. Applying concepts of responsiveness to patient management in neurologic physical therapy. *JNPT.* 2011;35:75-81.

Learning Objectives:

1. Define the term “outcome measure” as a component of the neurologic examination process.
2. Search the evidence related to outcome measures and identify key psychometric properties which are important to translate into clinical practice.
3. Determine perceived facilitators and barriers for translation of their specific outcome measure.
4. Determine how their outcome measure aligns within the ICF framework.
5. Compare and contrast the purpose and objective of various outcome measures.

Methods of evaluation of student learning

There are no formal rubrics for this in-class activity, however there are questions related to this content on their written exams and their clinical-decision making is assessed during their oral practical exams. In addition, application of this activity is assessed when asked to select, implement, and interpret outcome measures during mock and client examinations. All evaluation methods listed above are a component of their overall grade in the course. The facilitator for this class session is then responsible to review the Blackboard Wiki for completeness and accuracy.