Choosing Neuro Outcome Measures:
A practical approach

NCPTA Conference
October 4, 2019
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Objectives

1. List 4 ways in which the use of outcome measures improves clinical care.
2. Describe 3 factors that influence the use of outcome measures in physical therapy practice.
3. Navigate the Outcome Measures Selection Tool (provided) to choose an appropriate measure based on diagnosis, setting, and area of assessment.
4. Utilize the Selection Tool to write patient goals based on objective norm ranges and true change.

Benefits

- Observe changes in a patient's status over time and across continuum of care
- Quantifying objective observations and patient-reported function
- Improved communication between multiple providers and/or payors
- Examine effectiveness of intervention
- Compare outcomes among patients and institutions
- Assist with clinical decision making
- Standardization of care (especially at entry-level)

Barriers

- APTA forms EDGE taskforces 2006
- Potter, et al. article in JNPT provides framework for choosing OM 2011
- EDGE recommendations presented at CSM for TBI, CVA, SCI, MS 2011–2013
- EDGE recommendations presented at CSM for PD and vestibular disorders 2014
- Core Set of 6 OM for adults with neuro conditions presented 2018

Beyond Barriers

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Beyond Barriers

- Lack of knowledge of what exists
- How to properly conduct each test
- Which measure to use (population/setting)
- Time and productivity limitations
- Poor accessibility to OM in clinic
- Difficulty for patients to complete
- Facility culture

Core Set of Outcome Measures for Adults with Neurological Conditions

<table>
<thead>
<tr>
<th>Measure</th>
<th>Construct Measured</th>
<th>Level of Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berg Balance Scale</td>
<td>Sitting and standing balance</td>
<td>Strong, Level I</td>
</tr>
<tr>
<td>Functional Gait Assessment</td>
<td>Dynamic balance while walking</td>
<td>Strong to moderate</td>
</tr>
<tr>
<td>Activities-Specific Balance Confidence Scale</td>
<td>Balance confidence</td>
<td>Strong, Level I</td>
</tr>
<tr>
<td>10-meter Walk Test</td>
<td>Gait speed</td>
<td>Strong to moderate</td>
</tr>
<tr>
<td>6-minute Walk Test</td>
<td>Walking distance</td>
<td>Strong to moderate</td>
</tr>
<tr>
<td>5 Times Sit to Stand</td>
<td>Sit to stand transfers</td>
<td>Best practice (Moore, Potter et al. 2018)</td>
</tr>
</tbody>
</table>

A Comprehensive Solution

"Participants indicated that they would like to have information on outcome measures, their psychometric properties, and perhaps templates, all in one place, because several reported not knowing where to find this information." (Wedge, Braswell-Christy et al. 2012)
The Team

Rachael Henderson, PT, DPT
Yuliya Jackson, PT, DPT
Darcy Cooper, PT, DPT
Ricki Sullivan, PT, DPT
Audrey Osinski, PT, DPT

All Board-Certified Neurological Clinical Specialists

What's covered?

- Outcome measure
- Length of time to perform test
- Appropriate diagnosis
- Area of assessment (e.g., gait, balance, spasticity)
- International Classification of Functioning, Disability, and Health (ICF) domains (e.g., body functions and structures, activity, participation)
- Scoring
- Minimal Detectable Change (MDC) / Minimally Clinically Important Difference (MCID)
- EDGE recommendation and if Core Set component
- Link to test (when available)

Diagnoses

- Amyotrophic Lateral Sclerosis
- Brain Injury
- Stroke
- Spinal Cord Injury
- Multiple Sclerosis
- Parkinson's Disease
- Huntington’s Disease
- Ataxia/cerebellar disorders
- Vestibular Disorders (partial)
- Geriatrics (partial)

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Area of Assessment

- ADLs
- Aerobic capacity
- Mobility
- Gait
- Ataxia
- Balance
- Locomotion
- Cognition
- Dizziness
- Pain
- Spasticity
- Quality of Life

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ICF Domains

- Body structure and function (BSF)
- Activity
- Participation

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MDC / MCID

- MDC = Minimal detectable change
  - Smallest difference in score that indicates a true change (versus error) has occurred
- MCID = Minimally clinically important difference
  - Smallest difference in score that IS CLINICALLY MEANINGFUL to the patient

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How it works

*Interactive component using spreadsheet

Applying Filters

- Open Excel spreadsheet.
- Choose DATA tab at the top.
- Select small down arrow in bottom right corner of column titles to filter.
- Type in your search criteria in search bar.
- "*HINT: All possible options are shown in below search bar or you can use an option."
- Filter as many columns as you want. The filters will work together.
- To return to full spreadsheet, under DATA -> Sort & Filter -> Clear
Beyond Barriers

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<tr>
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<th>Addressed by OM selection tool?</th>
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Other Resources

- Shirley Ryan Ability Lab (formerly Rehab Institute of Chicago)
  - [https://www.sralab.org/rehabilitation/measures](https://www.sralab.org/rehabilitation/measures)
- PTNow
  - [www.ptnow.com](http://www.ptnow.com)
- Therapeutic Outcomes Mobile App (formerly rehabmeasures.org)
- COMBI (The Center for Outcome Measurement in Brain Injury)
  - [http://www.tbims.org/list.html](http://www.tbims.org/list.html)
- Stroke Engine
- International Parkinson and Movement Disorder Society
  - [https://www.movementdisorders.org/MDS/Rating-Scales.htm](https://www.movementdisorders.org/MDS/Rating-Scales.htm)

Case Study 1

22yo male with a traumatic brain injury in the acute care unit. Cognitive function is classified as Rancho Level V.

Functional mobility: can get in bed with visual, verbal, and BOS.

Cognitive screen: follows simple, one-step instructions

What OMs might be appropriate during your initial visit?

Which measures to use first visit?

Which measures to use second visit?

Goals?
Case Study 2

76yo female s/p L CVA with R Hemiparesis, aphasia in IP rehab

Functional mobility eval: nonambulatory, leans to R in sitting and requires trunk support. Flaccid RUE.

What OMs might be appropriate during your initial assessment? During the second session?

Which measures to use first visit?

Which measures to use second visit?

Goals?

References