

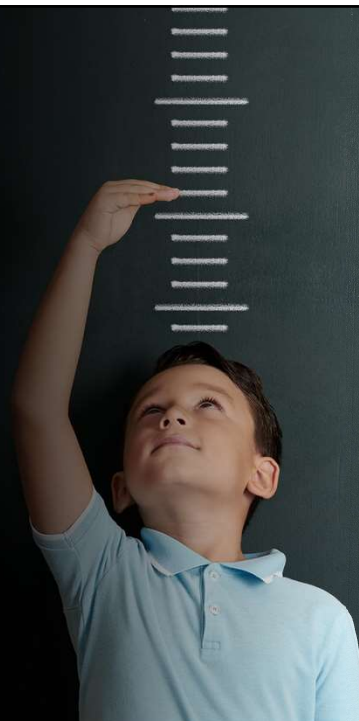
Methods for Identifying and Assessing Clinical Tools

Dr. Elizabeth Moulton, RN

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Why do we measure?


- Establish pt baselines
- Track improvements or decline
- Test new treatments
- Monitor quality
- Engage in quality improvement



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What do we measure?

- The easy stuff
 - Height, weight, BMI
 - BP, HR, Respirations, and O₂ Sats
- The less easy stuff
 - Pain, SOB
- The harder stuff
 - Attachment
 - Anxiety
 - Mobility



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Getting it right isn't always easy ...

Introducing my rabbit hole

- How do we choose the best way to measure a variable?
 - Most popular?
 - Historical preference?
 - Validity?
 - Reliability?
 - Coolness of the name?

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Reliability & Validity

- Reliability
 - Is the measure consistent?
 - Consistency over time
 - Consistency across items
 - Consistency across researchers

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Reliability & Validity

- Validity
 - Does the measure represent the variable that you are interested in?
 - Face validity – Does it ‘appear’ to measure what you want it to measure
 - Content validity – Covers the construct of interest
 - Criterion validity – Does it correlate with other expected variables
 - Discriminant validity – Does it not correlate with variables that it shouldn’t correlate with

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Movement and Mobility

A Concept Analysis

Elizabeth Moulton, MSc; Rosemary Wilson, PhD; Kevin Deluzio, PhD

Before you can
assess validity ...
You need to know
your concept

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The International Classification of Functioning, Disability, and Health

A framework for describing
and organising information
on functioning and
disability

Includes
approximately 1,400
codes for:

- Body functions
- Body structures
- Impairments
- Activity
- Activity limitations
- Participation restrictions
- Environmental factors

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Table 1. ICF Codes for Movement

B750 Motor reflex functions	A motor reflex is an involuntary movement induced by a specific stimulus.
B755 Involuntary movement reaction functions	A movement can occur when there is an involuntary contraction of large muscles as a reaction to body position, balance, or threatening stimuli.
B760 Control of voluntary movement functions	This covers both simple and complex voluntary movements.
B765 Involuntary movement functions	This covers unintentional or involuntary muscle contractions that can be grouped into impairments such as tremors, tics, mannerisms, stereotypes, motor perseveration, chorea, athetosis, vocal tics, dystonic movements, and dyskinesia.
B770 Gait pattern functions	Walking and the pattern of gait are complex movements that cause the individual to move his or her whole body in the upright position.
B789 Movement functions, other specified and unspecified	This covers movement functions not previously mentioned.
B798 Neuromusculoskeletal and movement-related functions, other specified	This covers neuromusculoskeletal and movement-related functions not previously mentioned.
B799 Neuromusculoskeletal and movement-related functions, unspecified	This covers neuromusculoskeletal and movement-related functions not previously mentioned.
D410 Changing basic body position	This includes a variety of complex movements, including moving to or from lying down, squatting, kneeling, sitting, standing, bending, or shifting the center of gravity.

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Table 2. ICF Codes for Mobility

D430 Lifting and carrying objects	Interacting with the environment, including lifting and carrying objects, is part of mobility.
D435 Moving objects with lower extremities	Interacting with the environment, including moving objects with the lower extremities, is part of mobility.
D440 Fine hand use	Interacting with the environment, including manipulating objects with fine hand movements, is part of mobility.
D445 Hand and arm use	Interacting with the environment, including moving objects with the hands and arms, is part of mobility.
D449 Carrying, moving, and handling objects, other specified and unspecified	Interacting with the environment, including carrying, moving, and handling objects, is part of mobility.
D460 Moving around in different locations	Moving around within a given environment is the hallmark of mobility.
D465 Moving around using equipment	Moving around with the use of equipment is a type of mobility.
D470 Using transportation	Using transportation allows an individual to be mobile.
D475 Driving	Driving allows an individual to be mobile.
D480 Riding animals for transportation	Using animals for transportation allows an individual to be mobile.
D489 Moving around using transportation, other specified and unspecified	Using any type of transportation allows an individual to be mobile.
D498 Mobility, other specified	This deals with other types of mobility.
D499 Mobility, unspecified	This deals with other types of mobility.

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Scoping Review

SYSTEMATIC REVIEW

Measures of movement and mobility used in clinical practice and research: a scoping review

Elizabeth Moulton^{1,2} • Rosemary Wilson^{1,2} • Amina Regina Silva¹ • Colleen Kircher¹ • Stéfany Petry³ • Catherine Goldie^{1,2} • Jennifer Medves^{1,2} • Kevin Deluzio⁴ • Amanda Ross-White^{2,5}

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ICF Most Frequent Codes

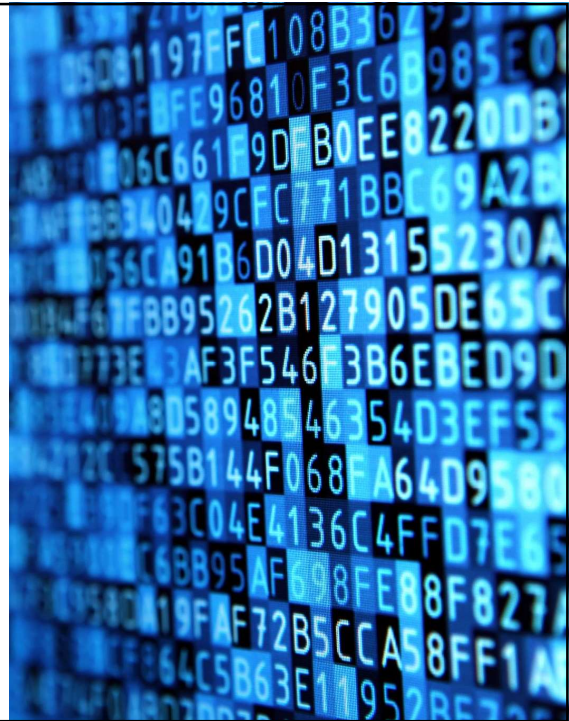
Table 3: Frequency of International Classification of Functioning, Disability and Health (ICF) codes mapped to movement and mobility measures (>100 instances)

ICF code	Description	Number of instances
D4508	Walking, other specified	438
B770	Gait pattern functions	409
D4500	Walking short distances	317
D4458	Hand and arm use, other specified	293
D4551	Climbing	293
D9201	Sports	251
D4104	Standing	232
D4558	Moving around, other specified	203
D465	Moving around using equipment	202
D4402	Manipulating	190

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A tale of caution ...

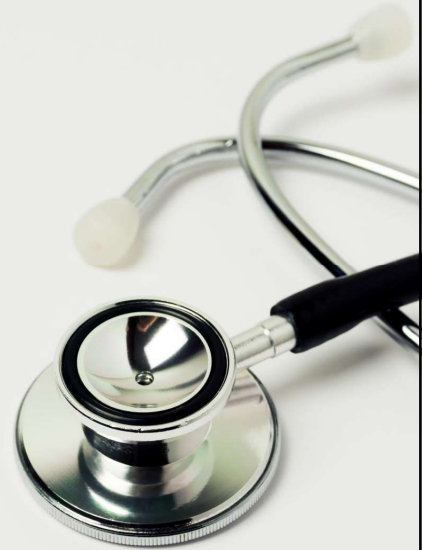
- There were 9 movement codes that were not used
- There were 9 mobility codes that were not used
- There were 26 measures that included the word “movement”
 - Nine (35%) of the measures have a movement code assigned to each of the items.
 - Six (23%) of the measures have no movement codes assigned to the items.
- There were 64 measures that included the work “mobility”
 - Five (8%) of the measures had a mobility code assigned to each of its items.
 - Twenty-five (39%) of the measures had no mobility codes assigned.
- Only 9 measures had more then 20% coverage of the ICF codes.
 - The highest was 33%




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If you were to use the findings ...

- 1) You would look at the ICF codes for movement and/or mobility
- 2) You would decide which of the codes you are interested in measuring for your clinical work
- 3) You would use the published tables to identify measures that target the aspects of movement and/or mobility that you are interested in
- 4) Once you had identified one or more tools that cover the codes, you would look at published articles that discuss validity and reliability.



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Beyond Movement and Mobility

- You could follow a similar process to clarify and select measures for other concepts
- Want help?
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Questions?

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[Evaluation
https://kingstonhsc.ca1.qualtrics.com/jfe/form/SV_9AAuvsh9xqiHThk](https://kingstonhsc.ca1.qualtrics.com/jfe/form/SV_9AAuvsh9xqiHThk)