The Assessment of Function – Is it Even Possible?

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Objectives
1. Be able to discuss the current methods utilized for assessment of function
2. Be able to discuss the components of what function actually is
3. Be able to discuss the current limitations as related to the assessment of function
What is “Function”

- Disability

“any restriction or lack of ability to perform a task or an activity in the manner considered normal for a person”


Assessment of Function

- Testing for outcome or performance can take many forms:
  - Impairment based measures
  - Self report measures
  - Physical performance measures

Impairment Based Measures

- Impairments are defined as a dysfunction or a significant structural abnormality in a specific body part or system

Impairments

• Impaired:
  – Joint mobility
  – Motor function
  – Muscle performance
  – ROM
  – Sensation


Impairments

• These impairments, alone or in combination, can contribute to limited function and ultimately may have consequences for physical functioning
  – Ex. Limited hip IR – normal gait vs. golfer


Impairments

• The majority of stand-alone clinical tests do not demonstrate high levels of sensitivity and/or specificity, thus questioning the validity of use

Impairments

• Additionally, several clinical practice guidelines state that the tissue source of many forms of musculoskeletal pain cannot be specified in the majority of patients


Impairments

• An impairment does not always correspond to a functional loss

Self-Report Measures

• Nearly all body regions or conditions have dedicated self-report functional measures that have been created
Self-Report Measures

• Valuable in defining the patient’s perspective of their change


Self-Report Measures

• Dramatically influenced by changes in pain


Self-Report Measures

• An additional concern of self-report measures is that these measures do not always differentiate between whether or why a specific task is not done or cannot be done
Physical Performance Measures (PPMs)

- Increasingly popular in:
  - Fall risk (Murphy et al. 2003; Dite & Temple 2002; Tinetti JAGS 1986; Thorbahn & Newton PTJ 1996)
  - Sports injury prediction (Plisky et al JOSPT 2006; Kiesel et al NALSP 2007; Chorba et al NALSP 2010)

PPM’s

- Limited in their use to predict successful return to function and prediction of future injury
PPM’s

- Low Sensitivity and Specificity

Human Kinetics

There is a Need for Functional Performance Testing (FPT)
FPT Defined

• A set of tests to determine performance abilities or functional limitations


FPT

• Assessment at the functional level assesses function of the person rather than function of the part of the person

Simmonds MJ, Rebelo V. Self-selected speed of movement during a repeated sit-to-stand task in individuals with and without LBP. Proceedings of the 4th Congress of European Federation of the International Association for the Study of Pain Chapters; 2003 Sep 2–6; Prague, Czech Republic.

An Example

• The fact that a person has full hip, knee, and ankle ROM does not ensure successful return to basketball

  – What else needs to be assessed?

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Assessment Continuum

• Measurement of an individual’s ability to properly function should be along a continuum
Assessment Continuum

- Deficiencies exist along the entire continuum
- Multi-level continuum assessment proposed


Patient

- 26 y.o. male, medical dx: low back and R hip pain
- Injured doing plyometrics – 2 weeks ago
- 3 tx’s with ATC
- Training for Olympic Trials in javelin – R handed

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Subjective and Observation

(-) Red and Yellow flags; (-) Neurological Involvement Questionnaire's

Repeat Movement Testing

(-) Centralization/Peripheralization

LBP

History/scan exam/Observation

(-) Red and Yellow flags; (-) Neurological Involvement Questionnaire's

Biased Squat

(*) Compensation/Pain 3/10

Single Leg Squat

(*) Compensation/Pain 7/10

Impairment Testing

(*) Gluteal Weakness

(*) Hypomobility & Pain with PA of L4-S

(*) Compartment Pain

(*) Hip and SIU screen
Clinical Impression?
FPT suggestive of MSK dysfunction without neurological, bio-psycho-social, or serious pathology involvement

Therefore

Assessment of Function is...
Thank You!

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