How to Administer the Fugl-Meyer Assessment for the Upper Extremity (FMA-UE)

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Objectives

- Explain the importance and value of the Fugl-Meyer Assessment for the Upper Extremity (FMA-UE)
- Administer the Fugl-Meyer Assessment for the Upper Extremity (FMA-UE)
- Justify the use and rationale for the FMA-UE as a reliable and valid assessment

Fugl-Meyer Literature Review


Fugl-Meyer – Upper Extremity

- Based on Brunstrom’s observations that there is a regular order of motor function recovery among stroke patients.
- Recovery of motor function takes place in stages:
  1. Reflexes re-occur.
  2. Stereotyped volitional movements can be initiated within flexor and extensor synergies.
  3. Movements can be performed with little or no synergy dependence.
  4. Reflexes are normalized.

FMA-UE Psychometrics

- Reliability
  Duncan, et al, 1983
  Sanford, et al, 1993
  Lin, et al, 2004 (poor for sensory scale)
  Michuchen, et al, 2001 (even in Brazilian Portuguese!)

- Validity
  Action Research Arm Test (ARAT)
  Weerdt & Harrison, 1985
  Motor Assessment Scale (MAS)
  Malouin, et al, 1994
FMA-UE Psychometrics

- Clinically Important Difference (CID)
  4.25 to 7.25 change in score
  Page, Fulk, & Boyne, 2012

- Responsiveness
  ARAT and FMA – sensitive to change
  Rabadi, & Rabadi, 2006
  ARAT > FMA in responsiveness to improvement
  van der Lee, et al., 2001

FMA protocols

1975:

2005:

2011:

FMA can be shortened by subsections.
Crow, J. L., & BC. (2008)

Short form of the Fugl-Meyer (S-FM)

The use of Keyform scoring form
Computerized Adaptive Testing System of the Fugl-Meyer (CAT-FM)

- Administration is more efficient and precise
- The least number of items are administered
- Instant outcome reporting
- Automatic storage of results

Fugl-Meyer – Upper Extremity

- Unilateral tasks and movements.
- Tasks ordered according to presumed stages of recovery.
- Patient performs single- or multi-joint movements and maintains position in another joint, to reach and control a starting position, to grasp objects and hold them against resistance.
- Co-ordination and speed for the upper limb measured by finger-to-nose test (dysmetria, tremor, speed)
- Each side evaluated separately.

Fugl-Meyer – Upper Extremity
Materials Needed
- Reflex hammer
- Pencil
- Index card
- Cylindrical object
- Tennis ball
- Stopwatch
- Blindfold

Fugl-Meyer Assessment
Upper Extremity

ROM Score
- Passive ROM
  - 0 = Only a few degrees of motion
  - 1 = Decreased passive range of motion
  - 2 = Normal passive range of motion
Pain Score
- “a little bit or a lot” with passive ROM
  0 = Marked pain at end of range or pain through range
  1 = Some pain
  2 = No pain

Sensation – Light Touch

Sensation – Proprioception

Reflexes
- 0 = No reflex activity can be elicited
- 2 = Reflex activity can be elicited

Fugl-Meyer UE, cont

Reflexes (alternative method)
Motor Function Score

- As compared to the unaffected side:

  0 = Cannot be performed at all

  1 = Performed partly

  2 = Performed faultlessly

Select References


Select References, cont.


Thank you!!!!!

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