Assessment Overview

Assessment Area

ICF Domain: Activity Subcategory: Mobility

You Will Need

Length:

5 minutes Scoring: Scored by counting the number of blocks carried over by the individual from one compartment

to the other. Equipment:

- Stopwatch
- Wooden box with partition (box: 53.7 x 25.4 x 8.5 cm, partition: 25.4 cm x 15.2 cm x 1 cm)
- 150 wooden blocks (2.5 cm cubed)

Assessment Interpretability

Minimal Clinically Important Statistical Error Typical Values Difference Not established in SCI. Normative Mean (SD) Values: Not established in SCI For stroke patients: RH dom Male: 76.9 (11.6) LH dom Male: 75.4 (11.4) Standard Error of **Measurement:** More affected hand = 1.99 (Mathiowetz et al 1985; N=628 healthy Less affected hand = 2.84 participants, 310 male; age 20-75+) Minimal Detectable Change: 5.5 blocks per minute Percentage change = 18% (Chen et al. 2009, N=62 (45 males), Mean age (SD): 61.0 (9.9), 98% RH dominant, 50% right side hemiplegia, median months since stroke (range): 8 (3.0-21.8))

Summary

The Box and Block Test (BBT) is a measure of manual dexterity that requires repeatedly moving 1-inch blocks from one side of a box to another in 60 seconds. It is commonly used in the stroke population to determine manual dexterity. It measures unilateral function, not bilateral function. There are no studies reporting psychometric properties for the BBT in the SCI population at this time.

Availability

Available for free here:

http://www.scireproject.com/sites/default/files/worksheet box and bl ock_test.docx

Video: https://www.scireproject.com/outcome-measures/video

RH dominant Female: 78.4 (10.4) LH dominant Female: 75.8 (9.5)

Measurement Properties

Validity – Low to High		Reliability – High
Not established in SCI.		Not established in SCI.
For stroke patients:		For stroke patients:
<u>Low</u> to <u>High</u> correlation with: Fugl-Meyer motor – r = 0.921 Fugl-Meyer sensation – r = 0.285 Fugl-Meyer joint motion/pain – r = 0.433 Action Research Arm Test – r = 0.951 Motricity Index – r = 0.798	133	<u>High</u> Test-retest Reliability: ICC = 0.93-0.98 <u>High</u> Inter-rater Reliability: ICC = 0.993-1.000
Ashworth Scale – r = -0.383		(Platz et al. 2005; n = 56, 37 stroke, 14 MS, 5 TBI; 31 male)
Hemispheric Stroke Scale – r = -0.676 Modified Barthel Index – r = 0.044		(Chen et al. 2009, N=62 (45 males), Mean age (SD): 61.0 (9.9), 98% RH dominant, 50% right side hemiplegia, median months since stroke (range): 8 (3.0-21.8))
(Platz et al. 2005; n = 56, 37 stroke, 14 MS, 5 TBI; 31	L male)	(Mathiowetz et al 1985; N=628 healthy participants, 310 male; age 20-75+)
Number of studies reporting validity o	lata: 1	Number of studies reporting reliability data: 3
	Respons	siveness
Floor/Ceiling Effect: Not established in SCI	Effect Size: Not established in	Number of studies reportingSCIresponsiveness data: 0