

Mini-BESTest

Assessment Overview

Assessment Area

ICF Domain:

Activity

Subcategory:

Mobility

You Will Need

Length:

Approximately 15 minutes

Equipment:

- Temper® foam (or T-foam™ 4 inches thick, medium density T41 firmness rating)
- Chair without arm rests or wheels
- Incline ramp
- Stopwatch
- Box (9" height)
- 3-meter distance measured out and marked on the floor with tape [from chair].

Items:

14 items:

- Anticipatory postural control (subscale I: 3 items)
- Reactive postural control (subscale II: 3 items)
- Sensory orientation (subscale III: 3 items)
- Dynamic gait (subscale IV: 5 items)

Scoring:

Each item is scored on a 3-level ordinal scale (0 = "lowest level of function" to 2 = "highest level of function").

Two items have right and left assessment in which the lower score is used within the total score (directions specify which to use).

Total Score: 28 (or 32 if both left and right data used in two items).

Summary

The Mini-BESTest is a short version of the BESTest (Balance Evaluation Systems Test) designed to comprehensively assess various components of standing balance (Roy et al. 2021). It is more clinically applicable than its longer version (15 minutes vs. 45 minutes), assesses 14 items coming from 4 of the 6 BESTest components of standing (dynamic) balance:

- 1) Anticipatory postural adjustments
- 2) Reactive postural control
- 3) Sensory orientation
- 4) Dynamic gait

The Mini-BESTest may help clinicians to identify the postural control components causing balance impairment and establish targeted interventions, especially for people with higher functional levels (Roy et al. 2021).

Availability

Worksheet: Can be found in the appendix of the following article: <https://pubmed.ncbi.nlm.nih.gov/20461334/> or download for free here: https://www.sralab.org/sites/default/files/2017-06/MiniBEST_revised_final_3_8_13.pdf

Languages: English.

Assessment Interpretability

Minimal Clinically Important Difference

Minimal Important Change adjusted: 3.7

(Morooka et al. 2025; n=50; 37 males, 13 females; mean age: 68.3 years; ASIA D; injury level: cervical; mean time since injury to assessment: 5.0 days)

Statistical Error

Standard Error of Measurement: 1.13-1.38

(Morooka et al. 2024; n=20; 14 males, 6 females; mean age: 64.3 years; ASIA D; mean time since injury: 19.6 days)

Minimal Detectable Change: 3.14-4 points

(Morooka et al. 2024; n=20; 14 males, 6 females; mean age: 64.3 years; ASIA D; mean time since injury: 19.6 days)
(Roy et al. 2021; n=23; 17 males, 6 females; mean age 55.2 years; AIS B (n = 1), AIS D (n = 22); tetraplegia (n = 13), paraplegia (n = 10); and mean time since injury 49.3 days)

Typical Values

The median sum score for the Mini-BESTest was 20 (range: 0–28).

(Jørgensen et al. 2017; n=46; 32 males, 14 females; AIS A, B, C (n = 7), AIS D (n = 39); duration of injury (range): 6.5 years (1-41))

Measurement Properties

Validity – High

High (inverse) correlation with center of pressure velocity when standing with eyes open:
 $r = 0.54-0.71$

High correlation with lower extremity strength:
 $r = 0.73$

(Chan et al. 2019; n=21; 7 males, 14 females; mean age 56.9 years; level of injury: C1-L5; incomplete and chronic SCI)

High correlation with BBS:
 $r = 0.90$

(Jørgensen et al. 2017; n=46; 32 males, 14 females; AIS A, B, C (n = 7), AIS D (n = 39); duration of injury (range): 6.5 years (1-41))

High correlation with Timed Up and Go (TUG) assessment:
 $r = -0.75$

High correlation with Spinal Cord Independence Measure version III (SCIM)-mobility items:
 $r = 0.88$

High correlation with 10-MWT:
 $r = -0.88$

Reliability – High

High Test-retest Reliability:
ICC = 0.94 - 0.98

(Chan et al. 2019; n=21; 7 males, 14 females; mean age 56.9 years; level of injury: C1-L5; incomplete and chronic SCI)

(Roy et al. 2021; n=23; 17 males, 6 females; mean age 55.2 years; AIS B (n = 1), AIS D (n = 22); tetraplegia (n = 13), paraplegia (n = 10); and mean time since injury 49.3 days)

High Inter-rater Reliability:
ICC = 0.96-0.97

(Roy et al. 2021; n=23; 17 males, 6 females; mean age 55.2 years; AIS B (n = 1), AIS D (n = 22); tetraplegia (n = 13), paraplegia (n = 10); and mean time since injury 49.3 days)

(Morooka et al. 2024; n=20; 14 males, 6 females; mean age: 64.3 years; ASIA D; mean time since injury: 19.6 days)

High Intra-rater Reliability:
ICC = 0.98

(Morooka et al. 2024; n=20; 14 males, 6 females; mean age: 64.3 years; ASIA D; mean time since injury: 19.6 days)

High Internal Consistency:
IC = 0.95

(Jørgensen et al. 2017; n=46; 32 males, 14 females; AIS A, B, C (n = 7), AIS D (n = 39); duration of injury (range): 6.5 years (1-41))

High correlation with WISCI-II:

r = 0.63

(Jørgensen et al. 2017; n=46; 32 males, 14 females; AIS A, B, C (n = 7), AIS D (n = 39); duration of injury (range): 6.5 years (1-41))

Number of studies reporting reliability data: 4

Number of studies reporting validity data: 2

Responsiveness

Floor/Ceiling Effect:

No floor or ceiling effects were observed

(Jørgensen et al. 2017; n=46; 32 males, 14 females; AIS A, B, C (n = 7), AIS D (n = 39); duration of injury (range): 6.5 years (1-41))

(Morooka et al. 2024; n=20; 14 males, 6 females; mean age: 64.3 years; ASIA D; mean time since injury: 19.6 days)

Effect Size:

Not established in SCI

Number of studies reporting

responsiveness data: 1