

Is
The Mini-BESTest
a valid tool for assessing balance
control in ambulatory individuals
with spinal cord injury?

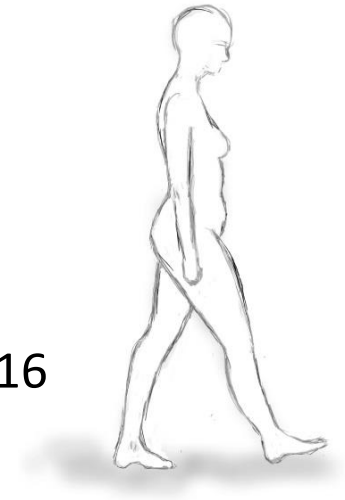
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The Mini Balance Evaluation Systems Test (Mini-BESTest)

- 14 items, ordinal scale 0–2
- Assesses dynamic balance through four subsystems:
 - ✓ anticipatory postural adjustments
 - ✓ postural responses
 - ✓ sensory orientation
 - ✓ balance during gait

<http://bestest.us/>

Horak et al. 2009, Franchignoni et al. 2010, Di Carlo et al. 2016



Aim

To validate the Mini-BESTest in individuals with spinal cord injury (SCI)

- Cross-sectional validation study

- n = 46
- Able to walk 10 m
- Mean age: 55 (SD17)
- Male: 70%
- Cervical injury: 65%
- AIS* D: 89%

- Recruited consecutively at regular follow up

*American Spinal Cord Injury Association Impairment Scale

Results

- No ceiling or floor effect
- Excellent internal consistency ($\alpha=0.95$)

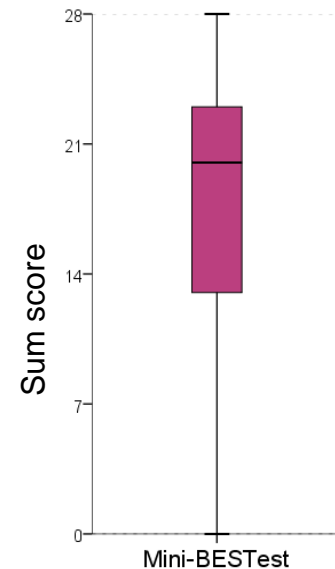
Construct validity (Mokkink et al. 2010)

Convergent validity

- Strong correlation with Berg Balance Scale ($r_s = 0.90$)
- Strong correlation with tests for walking and physical function ($r_s > 0.75$)

Divergent validity

- No correlation with quality of life ($r_s = 0.19$)



Known groups validity (ROC-curves)

Could distinguish

- community walkers without aids from participants using aids (Cut off score >19/28, AUC 0.89 95% CI 0.77-0.92)
- those not concerned about falling from those concerned about falling (FES-I) (Cut off score >19/28, AUC 0.82 95% CI 0.69-0.95)

Structural validity (Rash analysis)

- All response answers were used
- Good item spread
- Good person response validity (2% person misfit)
- 11/14 tasks showed good item goodness-of-fit
- Distinguished more than 3 balance ability groups

Conclusion

The Mini-BESTest is

- a valid tool for assessing balance control
- a preferable alternative to the Berg Balance Scale

in ambulatory individuals with chronic SCI

[Jørgensen V](#) et al: **Comparison of the Berg Balance Scale and the Mini-BESTest for Assessing Balance in Ambulatory People With Spinal Cord Injury: Validation Study.** [Phys Ther.](#) 2017 Mar 24. doi: 10.1093/ptj/pzx030. [Epub ahead of print]

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SCIP

FALLS
STUDY

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