

ORGANIZATION NEWS

Highlights From the Rehabilitation Measures Database

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Measurement Characteristics and Clinical Utility of the Mini BESTest in Individuals With Parkinson Disease

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Individuals with Parkinson disease (PD) develop impairments in balance and gait that can lead to postural instability and falls. Studies indicate that 60% of individuals with PD fall in a 12-month period.¹ These falls are associated with increased risk of hip fractures, nursing home admissions, and reduced survival rates.^{2,3} The Mini Balance Evaluation Systems Test (Mini BESTest), a shortened version of the BESTest, was developed to assess elements of postural control thought to underlie postural instability.^{4,5} 14-item Mini BESTest can be administered in 10 to 15 minutes, and addresses 4 of the 6 constructs included in the BESTest: anticipatory control, reactive postural control, sensory orientation, and dynamic gait. The Mini BESTest exhibits excellent reliability and validity across stages of PD, can discriminate between fallers and non-fallers, and is responsive to change with rehabilitation interventions.⁵


This Rehabilitation Measures Database summary provides a review of the psychometric properties of the Mini BESTest in community-dwelling older adults and individuals living with PD. A full review of the Mini BESTest as well as reviews of more than 100 other instruments can be found at www.rehabmeasures.org. Please address correspondence to rehabmeasures@ric.org.

BIBLIOGRAPHY

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This instrument summary is designed to facilitate the selection of outcome measures by trained clinicians. The information contained in this summary represents a sample of the peer-reviewed research available at the time of this summary's publication. The information contained in this summary does not constitute an endorsement of this instrument for clinical practice. The views expressed are those of the summary authors and do not represent those of authors' employers, instrument owner(s), the *Archives of Physical Medicine and Rehabilitation*, the Rehabilitation Measures Database, the United States Department of Education, or the Retirement Research Foundation. The information contained in this summary has not been reviewed externally.

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	Measure Name:		Acronym:	Summary Author:															
	Mini Balance Evaluation Systems Test		Mini BESTest	Kegelmeyer D, Ellis, T, Esposito A, Gallagher R, Harro C, Hoder J, Hussey E, O'Neal S															
Population Reviewed:	Admin Time:	Items:	Score:																
PD, others at www.rehabmeasures.org	10 to 15 minutes	14	0/28 (min/max)																
Purpose and Administration Instructions:																			
<ul style="list-style-type: none"> Shortened version of BESTest to assess balance control systems and determine balance deficits 																			
Required Equipment:																			
60cm x 60cm block of 4" medium density Tempur foam (T41), incline ramp of 10 degree slope (2x2 ft recommended), standard chair without arm rests or wheels, firm chair with arms, box that is 9in (23cm) in height (~2 stacked shoeboxes), stopwatch, masking tape marked on floor at 3m from front of chair																			
Training:		Reliability:																	
Article and instructions; Training DVD available		<ul style="list-style-type: none"> Excellent interrater and test-retest reliability⁵ 																	
Validity:																			
<u>Concurrent Validity:</u>																			
<ul style="list-style-type: none"> Excellent correlation with Berg Balance Scale³, BESTest⁵, Brief BESTest⁴, FSST⁶, FTSST⁷, TUG⁸ Adequate correlation with UPDRS Disease Severity³ and ABC⁹ Poor correlation with Falls Efficacy Scale⁸ 																			
<u>Construct Validity:</u>																			
<ul style="list-style-type: none"> Significant difference between score of fallers and non-fallers⁵ Excellent ability to detect those with balance deficits⁵ 																			
<u>Predictive Validity:</u>																			
<ul style="list-style-type: none"> Adequate at predicting fallers and non-fallers⁶ 																			
Standard Error of Measurement (SEM):		Minimal Detectable Change (MDC):																	
<ul style="list-style-type: none"> SEM calculated = 1.99 points or 6.16%⁵ 		<ul style="list-style-type: none"> MDC calculated = 5.52 points or 17.1%⁵ 																	
Scoring:																			
Each item scored 0-2, 0 for lowest, 2 for highest level of function. If assistive device used, score item one category lower. If physical assistance required, score 0 for that item.																			
Considerations:		Abbreviations:																	
<ul style="list-style-type: none"> The Mini-BESTest appears to have strong test psychometrics in PD with good clinical utility as an abridged version of BESTest. A discrepancy noted across studies includes the inconsistencies in reporting the total score (28 vs 32 points) as 2 of the 14 items contain a left and right side score. However, the original published standards and instructions state that only the lowest scoring side should be counted in the total score. Therefore, the highest total score possible is 28. 		PD: Parkinson's Disease FSST: Four Square Step Test FTSST: Five Times Sit to Stand Test TUG: Timed Up and Go UPDRS: Unified Parkinson's Disease Rating Scale ABC: Activities-Specific Balance Confidence Scale																	
		<table border="1"> <thead> <tr> <th colspan="3">Cut-off Criteria:</th> </tr> <tr> <th></th> <th><i>r</i></th> <th>ICC</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td>≥ .6</td> <td>≥ .75</td> </tr> <tr> <td>Adequate</td> <td>.31-.59</td> <td>.40 -.74</td> </tr> <tr> <td>Poor</td> <td>≤ .3</td> <td>< .4</td> </tr> </tbody> </table>			Cut-off Criteria:				<i>r</i>	ICC	Excellent	≥ .6	≥ .75	Adequate	.31-.59	.40 -.74	Poor	≤ .3	< .4
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