

ORGANIZATION NEWS

Highlights From the Rehabilitation Measures Database

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Measurement Characteristics and Clinical Utility of the Walking Index for Spinal Cord Injury

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Patients, clinicians, and researchers all aim to maximize recovery of walking after a spinal cord injury (SCI).¹ To demonstrate improvement in walking ability, professionals need a reliable, valid, and responsive scale to measure progress. The Walking Index for Spinal Cord Injury (WISCI, revised to WISCI II²) is a scale developed by experts specifically for the SCI population to assess walking ability.³ It is an ordinal scale considering the amount of assist, assistive devices, and braces required to walk 10m, where 0 is unable to walk and 20 is able to walk 10m with no devices, braces, or assist.^{2,3} The WISCI II has excellent clinical utility and psychometrics, including data indicating a change in one level is considered a real difference.³⁻⁶ In individuals with higher walking ability, and further postinjury, the WISCI II is less sensitive to change than timed walking tests, and can potentially have a ceiling effect.^{7,8} However, the WISCI II is a valued complement to the timed tests. Collecting WISCI II scores, along with timed tests, can be helpful in identifying ways in which a person has improved walking, due to a decrease or change in assist and devices, or due to velocity changes.⁷

A full review of the WISCI II and reviews of nearly 200 other instruments can be found at www.rehabmeasures.org.

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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 Authors:	
	Walking Index for Spinal Cord Injury	WISCI/ WISCI II	Kahn, J; Tefertiller, C	
Populations Reviewed:	SCI, for a more comprehensive review, see www.rehabmeasures.org	Admin Time:	Items:	Score:
		5 minutes	21	0/20 (min / max)
Purpose and Administration Instructions:				
<ul style="list-style-type: none"> Assesses the amount of physical assistance needed, as well as devices required, for walking following paralysis that results from SCI. Designed to be a precise measure of improvement in walking ability specific to SCI Rank orders the ability of a person to walk 10 m after an SCI from most to least severe impairment 				
Validity:		Required Equipment:	Training Required:	
<p><i>Criterion Validity:</i> Excellent correlation with the FIM³</p> <p><i>Construct Validity:</i></p> <ul style="list-style-type: none"> Excellent correlation with TUG, 10MWT, and 6MWT; correlations diminish in individuals who are more impaired, have decreased walking ability, and/or require assistance⁶ Excellent correlation of self-selected and max WISCI levels with MMT and LEMS in combined sample of subjects with paraplegia and tetraplegia⁴ Adequate correlation of self-selected and max WISCI level with UEMS in sample of subjects with tetraplegia⁴ Excellent correlation with walking speed in sample of subjects with tetraplegia⁴ Adequate correlation with walking speed in sample of subjects with paraplegia⁴ 		Paper and pencil	None required	
		Reliability:		
		<p><i>Test-retest Reliability:</i> Excellent for self-selected and maximum conditions⁴</p> <p><i>Interrater/Intrarater Reliability:</i></p> <ul style="list-style-type: none"> Excellent interrater reliability^{3,5} Excellent intrarater reliability⁵ 		
		Standard Error of Measurement (SEM):		
		<p><i>WISCI:</i></p> <ul style="list-style-type: none"> SEM, self-selected conditions = 0.283⁴ SEM, max conditions = 0.215⁴ 		
		Minimal Detectable Change (MDC):		
		<p><i>WISCI:</i></p> <ul style="list-style-type: none"> MDC, self-selected conditions = 0.785⁴ MDC, max conditions = 0.597⁴ 		
Additional Information:		Abbreviations:		
<ul style="list-style-type: none"> Self-selected WISCI is defined as WISCI level that person uses to walk in the house or community; Max WISCI is the highest level a person can safely walk 10m as determined by a therapist⁷ A 2 person assist is considered a moderate to maximum assist A 1 person assist is considered a minimum assist The WISCI has been shown to have a ceiling effect,^{7,8} 24/50 subjects, for example, entered into a study with a max WISCI II score >1 years post-injury⁷ 		<p>SCI: Spinal Cord Injury FIM: Functional Independence Measure MMT: Manual Muscle Test LEMS: Lower-Extremity Motor Score UEMS: Upper-Extremity Motor Score 10MWT: 10 Meter Walk Test 6MWT: 6 Minute Walk Test TUG: Timed Up and Go</p>		
		General Cut-off Criteria:		
			<i>r</i>	ICC
		Excellent	≥ 0.6	≥ 0.75
		Adequate	0.31-0.59	0.40-0.74
		Poor	≤ 0.3	< 0.4