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Quick Review of Model System Research

The Walking Index for Spinal Cord Injury (WISCI/WISCI II): Nature, Metric Properties, Use and Misuse[1]

What is the study about?

This review evaluated the Walking Index for Spinal Cord Injury (WISCI), which is a scale with 21 levels that measures the capacity of a spinal cord injury (SCI) survivor to walk 10 meters with or without personal assistance and the use of equipment such as braces and bars. The WISCI has become popular for use in clinical trials. The purpose of this review was to evaluate the different properties of the scale and to indicate any misuses of the scale.

How was the study conducted?

For this systematic literature search, the authors examined major electronic databases such as Ovid MEDLINE for studies on the WISCI or WISCI II and/or on measurements assessing walking capacity in patients with SCI. The review included 154 relevant studies published in English and evaluated the properties of the WISCI.

What did the study find?

The study found that the WISCI II scale reflects the underlying impairment. The strength of leg muscles as indicated by lower extremity motor scores (LEMS) was the best predictor of the WISCI II score. Because the scale is meant to measure impairment, outcomes on the WISCI II may be different from other scales such as the Functional Independence Measure that address whether SCI survivors are independent in different environments. Hence, the researchers recommend that the WISCI II should not be used as a measure of disability but rather as a capacity measure. In addition, the review indicates that to find the maximum WISCI score for chronic SCI survivors the measurement may need to be taken by a trained assessor.

The studies reviewed suggest that the WISCI II has high validity (*i.e., it properly measures what it seeks to measure*) and reliability (*i.e., it consistently results in the same scores when measurements are taken by different raters or at different times*). This review offers recommendations such as clarifying what is meant by "physical assistance" and how much time it may take to score the scale. The researchers also suggest that it may be beneficial to couple the WISCI measure with a simultaneous walking speed measure.

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[1] Ditunno, J. F., Ditunno, P. L., Scivoletto, G., Patrick, M., Dijkers, M., Barbeau, H., … Schmidt-Read, M. (2013). The Walking Index for Spinal Cord Injury (WISCI/WISCI II): Nature, metric properties, use and misuse. *Spinal Cord*, *51*, 346–355.