Reviewer ID: Carlos L. Cano Herrera, Matthew Querée, Janice Eng

Last updated: December 31, 2024

Research Summary – 2-Minute Walk Test (2MWT) – Lower Limb and Walking

<table>
<tr><th>Author Year
Country
Research Design
Setting</th><th>Demographics and Injury Characteristics of Sample</th><th>Validity</th><th>Reliability</th><th>Responsiveness
Interpretability</th></tr>
<tr><td>Willi et al. 2023

Multicentre-observational study to assess construct validity, test-rest reliability, and influence of walking performance on sensitivity to change of the 2mWT in individuals with SCI.

Swiss Paraplegic Center Nottwil, Switzerland; Balgrist University Hospital, Zürich, Switzerland</td><td>N = 50 participants with SCI
33M, 17F
Mean (SD) age 52.6 (16.3) years
Neurological level of injury: Tetraplegic (n = 24), Paraplegic (n = 26)
AIS Grade: AIS A (n = 2), AIS B (n = 0), AIS C (n = 7), and AIS D (n = 41)
Type of injury: Traumatic (n = 28), non-traumatic (n = 22)
Mean (SD) time since injury 6.11 (9.8) years</td><td>Construct validity:
The 2mWT showed very strong correlations with the 6mWT (r = 0.992) and the 10MWT (r = 0.964) and a moderate relationship with the ordinal score of the WISCI II (r = 0.571) (Table 1). The dimension of the correlations for the 2mWT and the 6mWT with the other assessments were comparable.</td><td>Test-retest reliability:
The walking distance of the 2mWT on the first and second test day showed a very high ICC (ICC = 0.980, p < 0.001).</td><td>SEM:
• Overall = 7.5 m
• Slow walkers = 8.5 m
• Fast walkers = 7.3 m

MDC:
• Overall = 20.9 m
• Slow walkers = 23.6 m
• Fast walkers = 20.3 m</td></tr>
<tr><td colspan="5">Table 1. Walk test correlations with other functional measures:
<table>
<tr><th></th><th></th><th>6mWt</th><th>Self 10MWT</th><th>Max 10MWT</th><th>WISCI II</th></tr>
<tr><td>Overall</td><td>2mWT</td><td>0.992 (0.986–0.995)</td><td>0.964 (0.941–0.986)</td><td>0.974 (0.956–0.988)</td><td>0.571 (0.356–0.784)</td></tr>
<tr><td></td><td>6mWT</td><td>-</td><td>0.959 (0.928–0.989)</td><td>0.985 (0.975–0.993)</td><td>0.580 (0.368–0.792)</td></tr>
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<table>
<tr><td></td><td>Self 10MWT</td><td></td><td>-</td><td>0.958 (0.925–0.989)</td><td>0.587 (0.372–0.799)</td></tr>
<tr><td></td><td>Max 10MWT</td><td></td><td></td><td>-</td><td>0.538 (0.301–0.764)</td></tr>
<tr><td>Slow</td><td>2mWT</td><td>0.973 (0.938–0.988)</td><td>0.932 (0.884–0.973)</td><td>0.925 (0.856–0.9881)</td><td>0.093 (−0.415–0.600)</td></tr>
<tr><td>Fast</td><td>2mWT</td><td>0.974 (0.941–0.987)</td><td>0.845 (0.702–0.981)</td><td>0.893 (0.7815–0.996)</td><td>0.427 (0.0623–0.787)</td></tr>
</table>
Values in parentheses are 95% CIs.
</td><td></td><td></td><td></td></tr>
<tr><td>Lemay & Nadeau 2010

Longitudinal study

An intensive rehabilitation center in Montreal, Canada (Institut de readaptation</td><td>N = 32 participants with SCI
25M, 7F
Mean age: 47.9± 12.8 yrs
Neurological level: 15 paraplegic, 17 tetraplegic
Level of injury: 17 cervical, 10 thoracic, 5 lumbar
Type of injury: 21</td><td>Spearman’s correlations between 2-MWT and (all P<.01):
BBS: 0.781
SCI-FAI parameter: 0.805
SCI-FAI assistive devices: 0.740
SCI-FAI mobility: 0.688
WISCI II: 0.749
10MWT: 0.932</td><td></td><td></td></tr>
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Gingras-Lindsay de Montreal)	traumatic, 11 non-traumatic Inclusion criteria: (1) Adults with SCI AIS D either of traumatic or nontraumatic etiology and (2) the ability to walk 10m independentlywith or without upper-extremity assistive devices	• TUG: -0.623		