

Spinal Cord Injury Functional Ambulation Profile (SCI-FAP)

Assessment Overview

Assessment Area

ICF Domain:

Activities

Subcategory:

Mobility

You Will Need

Length:

30 minutes, 7 items

Scoring:

Task score (max 300) is calculated from time taken, level of assistance, and normative time taken. Lower score reflects better function. Total score (max 2100) is the sum of task scores.

Summary

The Spinal Cord Injury Functional Ambulation Profile (SCI-FAP) is a clinician-administered, performance-based measure of functional walking for people with incomplete SCI. The SCI-FAP is based on the Modified Emory Functional Ambulation Profile (mEFAP).

Patients are asked to perform 7 timed walking tasks, with the tester walking behind patient for safety:

- Carpet, up & go, obstacles, stairs, carry, step, and door.

Scoring of the SCI-FAP takes into account task performance at a comfortable pace, as well as the degree of assistance received.

Availability

Worksheet: Can be found in the appendix of the following article:
<https://pubmed.ncbi.nlm.nih.gov/21357530/>.

Languages: English

Assessment Interpretability

Minimal Clinically Important Difference

Not established in SCI

Statistical Error

Minimal Detectable Change:

SCI-FAP score: 95.7

SCI-FAP time: 114.2

(Post 2-month precision training: Musselman and Yang 2013; n=20; 14 males, 6 females; incomplete SCI; and mean (SD) time since injury: 5.4 (8.8) years)

Typical Values

Not established in SCI

Measurement Properties

Validity – **Moderate** to **High**

Moderate correlation with 10 Meter Walk Test (10MWT):

$r = -0.59$

Moderate correlation with 6 Minute Walk Test (6MWT):

$r = -0.59$

Moderate correlation with Walking Index for SCI (WISCI-II):

$r = -0.68$ (Self-selected WISCI level)

$r = -0.70$ (Maximal WISCI level)

(Musselman et al. 2011; $n=32$; 24 males; mean (SD) age: 47.6 (14.2); incomplete SCI; WISCI score 8-20; and mean (SD) time since SCI: 7.0 (8.7) years)

Moderate to **High** correlation with Activities Specific Balance Confidence Scale:

$\rho = 0.67$ to -0.76 ; $p \leq 0.001$

(Shah et al. 2017; $n=26$; 20 males, 6 females; mean (SD) age: 59.7 (18.9); 5 ASIA C, 21 ASIA D; and chronic)

High correlation with Functional Gait Assessment:

$\rho = -0.83$; $p = 0.001$

(Kahn et al. 2020; $n=12$; 11 males, 1 female; mean (SD) age: 55.41 (11.65); 7 cervical, 5 thoracic; 2 ASIA C, 10 ASIA D; mean (SD) time since injury: 7.8 (7.8) years)

Number of studies reporting validity data: 4

Reliability – **High**

High Test-retest Reliability:

ICC = 0.983

(Musselman et al. 2011; $n=22$; incomplete SCI; >6 months post-SCI)

High Inter-rater Reliability:

ICC = 1.000

(Musselman et al. 2011; $n=32$; 24 males; mean (SD) age: 47.6 (14.2); incomplete SCI; WISCI score 8-20; and mean (SD) time since SCI: 7.0 (8.7) years)

Number of studies reporting reliability data: 1

Responsiveness

Floor/Ceiling Effect:

Not established in SCI

Effect Size:

Standardized Response Means:

SCI-FAP Score: 0.5

SCI-FAP Total Time: 0.5

SCI-FAP Tasks: 0.4 - 0.6

No correlation between SCI-FAP change scores and 10 Metre Walk Test or 6 Minute Walk Test changes

(Post 2-month precision training: Musselman and Yang 2013; $n=20$; 14 males, 6 females; incomplete SCI; and mean (SD) time since injury: 5.4 (8.8) years)

Number of studies reporting responsiveness data: 1