

Functional Independence Measure (FIM)

Assessment Overview

Assessment Area

ICF Domain:

Activity

Subcategory:

Self-Care

You Will Need

Length:

Approximately 30 minutes to complete 18 items

Scoring:

Items scored 1-7. Higher scores indicate greater independence. Subscale scores are the sums of their respective items; FIM total score is the sum of all scores

Training:

Certification for FIM administration is required

Summary

The Functional Independence Measure (FIM) is often considered the gold standard for assessing basic activities of daily living (ex. self-care). It is clinician-administered; completed by observation of performance.

Note: For people with SCI, the Spinal Cord Independence Measure (SCIM) is usually preferred to the FIM because of the more appropriate mobility ratings and questions.

It consists of two subscales, motor and socio-cognitive.

- The motor subscale includes 13 items: eating, grooming, bathing, dressing upper extremity, dressing lower extremity, bowel management, bladder management, transfers to bed, chair or wheelchair, transfer to tub, toilet and shower, walking or wheelchair propulsion and stair climbing.
- The socio-cognitive subscale includes 5 items: comprehension, expression, social interaction, problem solving and memory.

Availability

Can be found [here](#).

Assessment Interpretability

Minimal Clinically Important Difference

Not established for the SCI population, but for an acute stroke sample, MCID is: 22 points for FIM Total, 17 points for FIM Motor, 3 points for FIM Cognitive.

(Beninato et al. 2006; n=113; patients with stroke)

Statistical Error

Not established in SCI

Typical Values

Mean (SD) Scores:

Admission:

Motor = 30.3 (14.0)
Cognition = 29.9 (5.6)
Total = 60.2 (16.1)

Discharge:

Motor = 55.0 (20.0)
Cognition = 32.3 (4.1)
Total = 87.3 (21.4)

Follow up (80-180 days after discharge):

Motor = 66.6 (23.2)
Cognition = 33.6 (3.0)
Total = 100.2 (24.3)

(Graham et al. 2014; n=6664; 4711 males: inpatient; no data on injury type or chronicity)

Measurement Properties

Validity – **Moderate to High**

High correlation with Spinal Cord Independence Measure III (SCIM III):

$r = 0.80$

For all subscales, the SCIM III was in agreement with the FIM in responding to functional change

(Anderson et al. 2011; n=390; 294 males; inpatient; 187 tetraplegia, 203 paraplegia; ASIA A-D; no info on chronicity)

High correlation with Walking Index for SCI:

At 3 months: $r = 0.73$

At 6 months: $r = 0.77$

At 12 months: $r = 0.74$

High correlation with Berg Balance Scale:

At 3 months: $r = 0.76$

At 6 months: $r = 0.72$

At 12 months: $r = 0.77$

(Ditunno et al. 2007; n=146; 114 males, 32 females; incomplete SCI, inpatient; duration of SCI ≤ 8 weeks)

High correlation with Rivermead Mobility Index:

Correlation = 0.90

High correlation with Barthel Index:

Correlation = 0.70

(Morganti et al. 2005; n=76; WISCI 1 to 19; no info on injury type or chronicity)

High negative correlation with the Work Rehabilitation Questionnaire

$r = 0.626$

(Vasilchenko et al. 2022; n=304; 247 males, 57 females, mean age 38 years; 158 paraplegia, 146 tetraplegia; ASIA A-D)

Moderate to High correlation with the Spinal Cord Injury-Functional Index (SCI-FI):

$r = 0.44 - 0.64$

(Tyner et al. 2022; n=269; 193 males, 64 females; mean (SD) age 43.8 (15.5) years; 54 paraplegia complete, 72 paraplegia incomplete, 30 tetraplegia complete, 89 tetraplegia incomplete; mean (SD) time since injury 6.8 (8.7) years)

Rasch Analysis to investigate the psychometric properties of FIM™ and SCIM:

The findings supported the use of SCIM motor scores over FIM™ motor scores because of the larger operational range of SCIM.

(Maritz et al. 2022; n=663)

Number of studies reporting validity data: 32

Reliability – **High**

High Intra-rater reliability:

$r = 0.94$

(Correlation b/w questioning the patient and observing the patient; Karamehmetoglu et al. 1997; n=50, 38 males)

High Inter-rater Reliability:

$r = 0.90$

(Morganti et al. 2005; n=284; 184 males, 100 females; mean (SD) age 50.4 (19.3) years)

High Internal Consistency:

FIM Total: $\alpha = 0.91-0.92$

FIM Motor: $\alpha = 0.91-0.94$

FIM Cognitive: $\alpha = 0.90$

(Stineman et al. 1996; n=2609 non-traumatic SCI, n=1831 traumatic SCI, discharged from rehab)

Number of studies reporting reliability data: 14

Responsiveness

Floor/Ceiling Effect:

Ceiling effect: 80-90% of the cases average 6 or 7 (out of 7) across the 5 FIM cognition items.

(Hall et al. 1999; n=3971 at admission, ≤60 days post-SCI, n=4033 at discharge)

For bed transfer, toilet transfer and bath transfer, a ceiling effect was detected in the paraplegia group and a floor effect was detected in the tetraplegic group.

(Middleton et al. 2006; n=39; 32 males, 7 females; 28 paraplegia, 11 tetraplegia; acute rehab patients)

92% of subjects and 88% of clinicians reported a max score on communication

75% of subjects and 73% of clinicians reported a max score on social cognition

(Grey and Kennedy 1993; n=40; 34 males; 32.5% tetraplegia, 67.5% paraplegia; mean (SD) time since SCI at discharge = 24.75(8.57) weeks)

Effect Size:

2.08 (Rehab start to discharge)

1.36 (Rehab start to 3 months later)

0.42 (3 months after rehab start to discharge)

Standardized Response Mean:

1.47 (Rehab start to discharge)

1.16 (Rehab start to 3 months later)

0.85 (3 months after rehab start to discharge)

(Spooren et al. 2006; n=60; 46 males, 14 females; mean age 38.9 years; C3-T1; ASIA A-D; acute SCI)

Number of studies reporting responsiveness data: 10