

# 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. 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

Available for free here: <https://fim-scale.pdfFiller.com/>

## 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; mixed injury type; ≤1 year post-SCI)

### 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 ? **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; mixed injury type; 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, incomplete SCI, inpatient; duration of SCI  $\leq 8$  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)

**Number of studies reporting validity data: 30**

### 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)

#### **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,  $\leq 60$  days post-SCI, n=4033 at discharge; mixed injury type)

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; mixed injury type; acute rehab patients)

92% of subjects and 88% of

### 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; mixed injury type; acute SCI)

**Number of studies reporting responsiveness data: 10**

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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; mixed  
injury type; mean (SD) time since SCI at discharge  
= 24.75(8.57) weeks)