

# Quadriplegia Index of Function (QIF)

## Assessment Overview

### Assessment Area

**ICF Domain:**

Activity

**Subcategory:**

Self-Care

### You Will Need

**Length:**

37 items – less than 30 minutes

**Scoring:**

The functional performance categories are scored on a 5 point scale from 0 (dependent) to 4 (independent).

### Summary

The Quadriplegia Index of Function (QIF) is a functional assessment that can document small but clinically significant gains made by quadriplegics throughout in-patient rehabilitation.

The QIF assesses 10 activities of daily living such as: transfers, grooming, bathing, feeding, dressing, wheelchair mobility, bed activities, bowel program, bladder program, and understanding of personal care.

### Availability

**Worksheet:** Can be found [here](#).

## Assessment Interpretability

### Minimal Clinically Important Difference

Not established in SCI

### Statistical Error

Not established in SCI

### Typical Values

For people with complete tetraplegia:

Mean (SD) at Admission to Rehab Center	Mean (SD) at Discharge from Rehab Center
25.7 (28.7)	39.0 (31.2)

For people with incomplete tetraplegia:

Mean (SD) at Admission to Rehab Center	Mean (SD) at Discharge
111.3 (68.5)	151.4 (67.7)

(Yavuz et al. 1998; n=29; 20 males; mean age: 37 years; C3-T1 (18 ASIA complete, 11 ASIA incomplete), mean time since injury to admission 20wks)

## Validity – High

### High Correlation with the FIM:

$r = 0.97$  ( $p < 0.001$ )

(Yavuz et al. 1998;  $n=29$ ; 20 males; mean age: 37 years; C3-T1 (18 ASIA complete, 11 ASIA incomplete), mean time since injury to admission 20wks; average (SD) length of stay in rehab centre: 18 (10.29) weeks)

### High Correlation with the FIM- Self-Care Items – Bathing, Grooming, and Feeding:

$r = 0.91-0.96$  ( $p < 0.001$ ) (Yavuz et al. 1998;  $n=29$ ; 20 males; mean age: 37 years; C3-T1 (18 ASIA complete, 11 ASIA incomplete), mean time since injury to admission 20wks; average (SD) length of stay in rehab centre: 18 (10.29) weeks)

$r = 0.75-0.94$  (Marino et al. 1993;  $n=22$ ; C4-C7, Frankel A-D patients with SCI between 3 and 12 months post-injury)

### High Correlation with the FIM- Dressing, Transfers, Mobility, and Bowel/Bladder items:

$r = 0.87-0.99$  ( $p < 0.001$ ) (Yavuz et al. 1998;  $n=29$ ; 20 males; mean age: 37 years; C3-T1 (18 ASIA complete, 11 ASIA incomplete), mean time since injury to admission 20wks; average (SD) length of stay in rehab centre: 18 (10.29) weeks)

### High Correlation with the ASIA-Motor subscale

$r = 0.91$  ( $p < 0.001$ )

### High Correlation with the ASIA-light touch

$r = 0.64$  ( $p < 0.001$ )

### High Correlation with the ASIA-pinprick

$r = 0.65$  ( $p < 0.01$ )

(Yavuz et al. 1998;  $n=29$ ; 20 males; mean age: 37 years; C3-T1 (18 ASIA complete, 11 ASIA incomplete), mean time since injury to admission 20wks; average (SD) length of stay in rehab centre: 18 (10.29) weeks)

### High Correlation with the ASIA- Upper Extremity Motor subscale (UEMS)

$r = 0.75-0.85$  ( $p < 0.001$ ) (Yavuz et al. 1998;  $n=29$ ; 20 males; mean age: 37 years; C3-T1 (18 ASIA complete, 11 ASIA incomplete), mean time since injury to admission 20wks; average (SD) length of stay in rehab centre: 18 (10.29) weeks)

$r = 0.84-0.90$  (Marino et al. 1993;  $n=22$ ; C4-C7, Frankel A-D patients with SCI between 3 and 12 months post-injury)

**Number of studies reporting validity data: 3**

## Reliability – Moderate to High

### Moderate to High inter-rater reliability:

$r = 0.55-0.95$

(Gresham et al. 1986;  $n=30$ ; injury details not reported)

**Number of studies reporting reliability data: 1**

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## Responsiveness

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**Floor/Ceiling Effect:**

Not established in SCI

**Effect Size:**

Not established in SCI

**Number of studies reporting  
responsiveness data:**

QIF is sensitive in documenting functional improvements in quadriplegics, average improvements detected by QIF was 46%, while Barthel Index detected 20%.

(Gresham et al. 1986; n=30, injury details not reported)