

# Trunk Assessment Scale for SCI (TASS)

## Assessment Overview

### Assessment Area

**ICF Domain:**

Activity

**Subcategory:**

Mobility

### You Will Need

**Length:**

9 items, approximately 5-10 minutes:

1. Maintaining the sitting position
2. Ischial bone unilateral elevation
3. Trunk rotation
4. Trunk frontal flexion
5. Trunk lateral flexion
6. Trunk backward tilt
7. Front reaching (each side)
8. Right reaching (each side)
9. Left reaching (each side)

**Scoring:**

Each item is assigned a score of 0 to 2, 0 to 4, or 0 to 6, for a total score of 44, with higher scores indicating better trunk function.

### Summary

The Trunk Assessment Scale for SCI (TASS) was developed by physical therapists in Japan as a tool for assessing the sitting balance and trunk function of people with SCI.

The TASS consists of nine sitting tasks that must be completed **without upper-limb support**: one task is static, and the other eight tasks are dynamic. The scale includes tasks that can be used to measure trunk displacement regardless of upper-limb dysfunction (Sato et al. 2024). Because it limits the usage of the arms to assist in task completion, the TASS would more accurately assess trunk function in people with tetraplegia than the TCT-SCI.

### Availability

**Worksheet:** Can be found in Table 1 of the following article:

<https://pubmed.ncbi.nlm.nih.gov/35279669/>

## Assessment Interpretability

### Minimal Clinically Important Difference

Minimum Detectable Change: 3.22

A clinically meaningful change in trunk function is best interpreted as an improvement of  $\geq 4$  points on the TASS at 1 month post-admission and at discharge (for all ASIA levels).

(Sato et al. 2025; N=48 participants with SCI; Mean (SD) age: 64.1 (10.4) years; Tetraplegia (n = 28) and paraplegia (n = 20); ASIA A (n = 9), ASIA B (n = 1), ASIA C (n = 11), ASIA D (n = 27); Mean (SD) days from onset to admission: 1200.1 (1972.0))

### Statistical Error

Not established in SCI

### Typical Values

The cut-off point for identifying ambulators with SCIs was 26 of the 44 possible points (specificity: 60.0, sensitivity: 80.0), and the AUC was 0.81 (95%CI: 0.65–0.96).

(Sato et al. 2024; n=30; 5 males, 25 females; mean age 63.8 years; ASIA A-D; tetraplegia and paraplegia; mean (SD) time since injury: 1142.0 (1720.7) days)

## Measurement Properties

### Validity – **Moderate** to **High**

#### **High** correlation with the TCT-SCI:

rs=0.68

#### **High** correlation with the LEMS:

rs=0.80

#### **High** correlation with the WISCI-II:

rs=0.67

#### **High** correlation with the mFIM:

rs=0.62

#### **Moderate** correlation with the UEMS:

rs=0.46

(Sato et al. 2024; n=30; 5 males, 25 females; mean age 63.8 years; ASIA A-D; tetraplegia and paraplegia; mean (SD) time since injury: 1142.0 (1720.7) days)

**Number of studies reporting validity data: 2**

### Reliability – **High**

#### **High** Inter-rater reliability:

ICC: 0.99 (0.97-1.00)

#### **High** Intra-rater reliability:

ICC: 0.99 (0.97-1.00)

(Sato et al. 2022; n=9; 8 males, 1 female; mean age 64.0 years; ASIA A-D; mean (SD) time since injury: 3515.9 (5984.2) days)

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

## Responsiveness

### Floor/Ceiling Effect:

The TASS showed a floor effect, and most of the non-scorers were individuals with a complete SCI.

(Sato et al. 2025; n=104; 86 males, 18 females; mean age 63.5 years; ASIA A-D; median days from onset to admission and assessment: 326.0 days)

### Effect Size:

Not established in SCI

### Number of studies reporting responsiveness data: 2

Not established in SCI