A close up of MSKTC logo



# Quick Review of Model System Research

### Sensitivity of the SCI-FI/AT in Individuals with Traumatic Spinal Cord Injury1

### What is the study about?

This study has two goals: 1) to compare the ability of the SCI-FI/AT and a legacy measure to detect functional change in people with SCI at all levels over a 1-year period after hospital discharge; and 2) to calculate the minimum change in score needed on each of the SCI-FI/AT domains to show true functional change occurred.

### What did the study find?

These findings support the use of the SCI-FI/AT CAT in the SCI population and highlight the importance of multidimensional functional measures. For individuals with paraplegia, the Basic Mobility, Self-Care, and Ambulation domains of the SCI-FI/AT detected a significant, large amount of change; in contrast, the Fine Motor and Wheelchair domains detected only small amount of change. For those with tetraplegia, the Basic Mobility, Fine Motor, and Self-Care domains detected a small amount of change; while the Ambulation item domain detected a medium amount of change. The Wheelchair domain for people with tetraplegia was the only

SCI-FI/AT domain that did not detect significant change. The changes vary by domain measured and are influenced by level of SCI. The authors suggest that the SCI-FI/AT improves measurement when compared with the legacy measure.

### Who participated in the study?

This study included 220 individuals with traumatic SCI from the Spinal Cord Injury Model Systems database. To be included, participants had to be an inpatient rehabilitation admission, diagnosed with a TBI, 18 years old or older, able to speak English, and have the cognitive ability to complete the assessment. The participant descriptive included: 46% who had paraplegia, 76% male, 57% used a manual wheelchair, 38% used a power wheelchair, 30% were ambulatory.

### How was the study conducted?

Data were collected through in-person or phone interviews. Baseline assessments were collected within six days of discharge and follow-up data were collected from a 6 to 12-month window based on the date of injury. Chi-square and T-tests were used to evaluate differences in items of interest which included Basic Mobility, Self-Care, Fine Motor Function, Wheelchair Mobility, and/or Ambulation. Baseline SCI-FI/AT scores for those who completed follow-up vs. those who did not were not significantly different except for Ambulation domain scores, which were higher among persons with tetraplegia who were lost to follow up. Participants with paraplegia and tetraplegia were analyzed separately. The number of participants that achieved the minimal detectable change across each SCI-FI/AT domain were reported to identify the proportion of individuals who experienced “true” functional change during the follow-up period.

### How can people use the results?

### Clinicians can use the results of this study to become more informed on the efficcacy and use of SCI-FI/AT CAT in the SCI population.

### Reference

1 Keeney, T., Slavin, M., Kisala, P., Ni, P., Heinemann, A. W., Charlifue, S., . . . Jette, A. M. (2018). Sensitivity of the SCI-FI/AT in Individuals with Injury Traumatic Spinal Cord. Archives of Physical Medicine and Rehabilitation, 99(9), 1783-1788.

The contents of this quick review were developed under a grant from the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR grant number 90DP0082). NIDILRR is a Center within the Administration for Community Living (ACL), Department of Health and Human Services (HHS). The contents of this quick review do not necessarily represent the policy of NIDILRR, ACL, HHS, and you should not assume endorsement by the Federal Government.