

# ` Quick Review of Model System Research

## A Comparison of Diagnostic Stability of the ASIA Impairment Scale Versus Frankel Classification Systems for Traumatic Spinal Cord Injury

### What is the study about?

### In 1992 the American Spinal Injury Association (ASIA) Impairment Scale replaced the previously utilized Frankel Classification to describe the severity of spinal cord injury. The key feature of this change was utilizing ‘sacral sparing’ as the key determination between a neurologically complete vs incomplete injury. Some have questioned whether this change led to a more stable definition of completeness of injury. This study aimed to determine if the AIS is a more stable than Frankel Classification in properly predicting the severity of the spinal cord injury by looking at the proportion of cases where regression (conversion to a more severe impairment level) was observed, especially for persons who improved over the course of tehir first year after injury.

### What did the study find?

This study found that the AIS ‘sacral sparing’ is a more stable definition for the neurological classification of SCI. Its classification of complete or incomplete injury does not regress over time, most importantly while the patient shows neurological recovery over the first year. The Frankel Classification is more likely to change from incomplete to complete over the assessment period of the study.

### Who participated in the study?

Individuals (n=804) with traumatic SCI, age 16 years old or older at time of injury with admission to rehabilitation within 30 days of injury, and AIS grades A to D at admission.

### How was the study conducted?

This study performed a retrospective chart review of persons enrolled in the Spinal Cord Injury Model Systems (SCIMS) database from 2011-2018. Stability was compared between the two classification systems by calculating the rate of cases where participants changed to a more severe grade of impairment.

### How can people use the results?

### Practitioners can use the results of this study to better understand why the AIS is more stable than the Frankel Classification for classifying traumatic SCI severity.

### Reference

Kirshblum, S., Botticello, A., Benedetto, J., Donovon, J., Marino, R., Hsieh, S., & Wagaman, N. (2020). A comparison of diagnostic stability of the ASIA Impairment Scale versus Frankel Classification Systems for traumatic spinal cord injury. *Archives of Physical Medicine and Rehabilitation,* *100,* doi:10.1016/j.apmr.2020.05.016

**Disclaimer**

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