

# Rehabilitation Transforming Healthcare

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**Abstract Title:** Minimizing the potential age-related differences in the functional recovery following traumatic spinal cord injury (SCI): the importance of best practices in the acute care and rehabilitation centres

**Primary Presenter:** Julio C. Furlan

**List of Authors:** Julio C. Furlan, Michael B. Bracken, Michael G. Fehlings

**Affiliation:** Toronto Western Research Institute

**Abstract:**

**PURPOSE:** Given the increasing incidence of SCI in the elderly ( $\Rightarrow$ 65 years), we sought to examine whether age is a key determinant of functional recovery after acute traumatic SCI. **RELEVANCE:** This study emphasizes the role of the best practices in the acute care and rehabilitation of this complex disease regardless of patient's age. **SUBJECTS:** All patients who were enrolled in the Third National Acute SCI Study (NASCIS-3) trial were included. **METHODS:** Functional Independence Measure (FIM) scores were obtained at 6 weeks, 6 months and 1 year following SCI. **ANALYSIS:** Data analysis was performed using Fisher's exact test, Mann Whitney U test and multiple linear regression. **RESULTS/FINDINGS:** There were 499 patients (423M, 76F; ages 14-92 years, mean of 35.7) who were received 24-hour methylprednisolone, 48-hour methylprednisolone or 48-hour tirilazad mesylate. Both younger ( $n=455$ ) and elderly groups ( $n=44$ ) were comparable regarding ethnicity, weight, Glasgow coma score (GCS) and drug protocol, but significantly different regarding sex, cause, severity and level of SCI. While increase in age was significantly correlated with lower FIM scores at 6 weeks after SCI ( $p=0.025$ ), there were no significant correlations between age and FIM scores at 6 months ( $p=0.289$ ) and at 1 year ( $p=0.61$ ) in the unadjusted models and after controlling for major potential confounders (gender, ethnic group, GCS, alcohol level, drug protocol, cause of SCI, level and severity of SCI). **DISCUSSION/OBSERVATIONS:** These results are consistent with our previous study that showed no age-related differences regarding motor/sensory recovery and axonal survival within the spinal cord white matter. However, our results challenge ageist attitudes in the access and practice of some acute care and rehabilitation centers. **CONCLUSIONS:** Age at time of injury was not significantly correlated with functional recovery in the chronic stage following SCI. Our results, therefore, reinforce the need for individualizing treatment protocols for elderly patients with SCI who have the potential to functionally recovery.