



The Impact of Hospital Transfer, Time to Surgical Treatment, and Acute Rehabilitation on Spinal Cord Injury Recovery: A Retrospective Cohort Analysis

Austin Gamblin BS; Herschel Wilde BS; Jared C Reese; Jason Garry BS; Michael Karsy MD, PhD, MSc; Jian Guan MD; Janel Mortenson RN; Alexandra Flis MD; Jeffrey P Rosenbluth M.D.; Erica Fay Bisson MD MPH FAANS; Andrew T. Dailey MD

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<div><div>Introduction</div><div>Spinal cord injury (SCI) has an incidence of 54:1,000,000 people annually with 17,500 cases in the U.S. Our previous work utilizing the National Inpatient Sample (NIS) demonstrated that patients transferred to a tertiary referral center showed greater likelihood for non-routine disposition, increased length of stay and increased cost compared to directly admitted patients. However, these findings were limited by the NIS database. Subsequently, we evaluated patient outcomes during referral to an inpatient rehabilitation unit.</div><div>Methods</div><div>A single-center, retrospective cohort analysis of patients directly admitted within a tertiary SCI designated facility or external transferred from community hospitals during 2011-2017 was performed.</div></div>	<div><div>Results</div><div>A total of 188 patients (mean age 46.1±18.6 years, 77.1% males) were identified with 80 directly admitted and 105 transferred from outside facilities. Admission American Spinal Injury Association (ASIA) impairment scores were: A (32.4%), B (14.9%), C (14.9%), D (33.5%), and E (1.1%). Surgical treatment was performed in 80 (97.6%) of directly admitted patients while surgery for transferred patients was performed at the referring facility in 47 (44.8%) cases. No difference in time to surgical treatment (1.7±4.3 vs. 1.9±3.8 days, p=0.7), rehab length of stay (32±24 vs. 34±22 days, p=0.5), surgical treatment (p=0.5), followup (27.8±28.0 vs. 21.5±23.3 days, p=0.1), or improvement in Functional Independence Measure (31.1±16.3 vs. 30.3±16.1, p=0.7) was seen between directly admitted and transferred patients, respectively.</div><div>Conclusions</div><div>Patient outcomes after transfer were similar treatment outcomes at directly referred hospitals for patients undergoing SCI rehab. Both groups of patient showed substantial improvement in functional outcomes after acute rehabilitation, suggesting early, coordinated referral to such facilities is clinically impactful.</div></div>	<div><div>Learning Objectives</div><div>By the conclusion of this session, participants should be able to: 1) Discuss the impact of patient transfer on recovery from spinal cord injury, 2) Discuss measurement of outcome using the Functional Independence Measure, 3) Discuss best practices for the post-operative management of the acute spinal cord injured patient.</div><div>References</div></div>	
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