

Readmission After Spinal Cord Injury: Does the Weekend Effect Exist?

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Introduction

Recent studies in other fields have suggested that healthcare on the weekend may have worse outcomes. In particular, patients with stroke and acute cardiovascular events have shown worse outcomes with weekend treatment. It is unclear whether this extends to patients with spinal cord injury.

Methods

This study was designed to evaluate factors for readmission after index hospitalization for spinal cord injury. 795 consecutive patients at a single institution over an 11 year period were analyzed. After excluding patients with chronic spinal cord injury and surgical care at an outside hospital, 745 patients remained. The primary outcome measure evaluated was 30-day readmission. Univariate and multivariate analysis were utilized to evaluate the covariates collected. Chi-square, Fisher's exact, and linear and logistic regression methods were utilized for statistical analysis.

Conclusions

Weekend admission did not increase perioperative complications or hospital length of stay. After discharge, patients with Medicaid and Medicare show higher rates of 30 day readmission, as do African-American patients. The effect of race on readmission is multifactorial, and may partially explained by the increased rate of Medicaid coverage in African-Americans in our institutions catchment area.

Results

745 patients were analyzed after exclusions. Payer status did not affect length of stay, ICU length of stay, or perioperative complications. Neither weekend admission nor weekend operation affected length of stay, ICU length of stay, or readmission by 30 days.

Patients undergoing weekend surgical treatment had lower perioperative complication rates (2.2% vs. 6.5% on weekday, $p < 0.01$). Discharge on the weekend was associated with a significantly lower rate of readmission by 30 days (OR: 0.07, 95% confidence interval 0.009-0.525, $p < 0.005$).

Payer status was associated with 30-day readmission ($p < 0.005$). Patients with Medicare (20.8%) and Medicaid (20.1%) showed higher rates of readmission than patients with other payers.

21.1% of African-American patients were readmitted, versus 10.2% of other patients (Odds ratio: 2.2, 95% confidence interval 1.36-3.27, $p < 0.001$). Correcting for payer status lessened but did not eliminate the effect of race on readmission.

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Learning Objectives

Weekend admission, surgery, and discharge for spinal cord injury do not negatively affect 30-day readmission rate. Patients with governmental payers have higher rates of 30-day readmission after spinal cord injury. After controlling for demographic and payer factors, race continued to significantly influence 30-day readmission rates.