



Discharge to Rehabilitation Reduces Readmission Rates in Elective Spinal Surgery: Predictors of Discharge to Rehabilitation or Skilled Care Facilities

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Introduction

Identification of appropriate postoperative discharge location is crucial for patient recovery and directly impacts healthcare costs. To determine independent discharge predictors to rehabilitation or skilled care (SC) facilities and how discharge location affects unplanned readmission and/or reoperation rates. The study objective is to improve postoperative discharge planning and management strategies.

Methods

All elective spinal surgery patients were analyzed from the American College of Surgeons National Surgical Quality Improvement Program databases between January 1, 2006 and December 31, 2012. Multivariable logistic regression was used to assess for discharge predictors to rehabilitation or SC versus home, and the odds of 30-day unplanned readmission and/or reoperation with respect to discharge destination.

Results

Of 34,023 elective spinal surgery patients, discharge locations were: 30,606 patients to home, 1,674 patients to rehabilitation, and 1,743 patients to SC. The patients discharged home had the lowest complication rate (4.49%) versus rehabilitation (18.22%) and SC facilities (16.41%;p<0.001). Following multivariable regression analysis, there was a significant odds increase of discharge to rehabilitation for age (OR=1.08;p<0.001), men (OR=1.74;p<0.001), current smoking (OR=1.33;p=0.040), ASA class three (OR=3.15;p=0.030) and four (OR=8.14;p<0.001), diabetics on oral (OR=1.37;p=0.020) or insulin therapy (OR=1.76;p=0.001), operation time (OR=1.005;p<0.001), having a previous operation within 30 days (OR=3.31;p=0.004), total hospital LOS (OR=1.02;p<0.001), preoperative neurologic morbidity (OR=2.13;p<0.001), and having at least one postoperative morbidity (OR=2.93;p<0.001). Independent factors associated with increased discharge odds to SC included all the above plus BMI (OR=1.02;p=0.005), preoperative renal morbidity (OR=3.26;p=0.034), and preoperative hemato-oncologic morbidity (OR=1.82;p=0.007). There were 804 (4.06%) 30-day unplanned readmissions and 822 (2.45%)

Learning Objectives

- Discharge to a rehabilitation facility was significantly associated with decreased odds of 30-day unplanned readmission, with no significant effect on reoperation
- Skilled care facility discharge did not influence 30-day unplanned readmission or reoperation odds
- Following elective spinal surgery, utilizing rehabilitation facilities might be an avenue to decrease readmissions and healthcare costs.

References