

Readmissions Are Not What They Seem: Incidence and Classification of 30-Day Readmissions Following Orthopaedic Trauma Surgery

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Purpose: A common measure of quality of care in the health-care setting is the 30-day readmission rate. Readmission within 30 days of discharge is often associated with increased hospital spending, reduced revenue, and decreased patient satisfaction. This quality measure fails to consider if a readmission is truly related to the initial admission. The purpose of this study was to evaluate the causes of 30-day readmissions following orthopaedic trauma surgery and to categorize them accordingly.

Methods: A retrospective chart review of all patients, aged 18 to 100 years, who were admitted to a large, academic medical center between January 1, 2011 and October 1, 2018 for operative treatment of a traumatic fracture injury was performed. Patient records were reviewed for readmissions within 30 days of discharge. Readmissions were categorized into 1 of 3 major categories: orthopaedic treatment complications, unrelated medical conditions, and non-complications. Orthopaedic treatment complications included infection or pain and swelling at the surgical or graft site, tendon rupture, DVT (deep venous thrombosis), and implant dislocation.

Unrelated medical conditions included exacerbation of preexisting medical conditions and unrelated new onset medical conditions that developed following discharge. Non-complications included planned readmissions, interfacility transfers, and falls resulting in new fracture. A χ^2 test of homogeneity was performed to assess any difference in the proportion of readmissions between the hospital-reported readmission rate and the orthopaedic treatment complication readmission rate.

Results: A total of 1955 patients who were initially admitted to the orthopaedic trauma service for a fracture or injury and underwent operative treatment were included in this analysis. 89 patients were readmitted within 30 days of discharge with an overall readmission rate of 4.55%. Within the cohort of 89 patients with 30-day readmissions, 30 (33.7%) were orthopaedic treatment complications, 36 (40.4%) were unrelated medical conditions, and 23 (25.8%) were non-complications. The readmission rate due to orthopaedic treatment complications was 1.53%. A χ^2 test of homogeneity revealed a statistically significant difference in proportions between the hospital-reported readmission rate and the orthopaedic treatment complication readmission rate, $P < 0.0005$.

Conclusion: The blanket use of 30-day readmissions as a measure of hospital quality of care overestimates the number of preventable readmissions and penalizes surgeons and hospitals for caring for patients with less than optimal health. The orthopaedic surgical community should work with payers to better understand the best measures to quantify quality of care for the orthopaedic trauma patient.