

Which Patients are More Likely to Require Postoperative Inpatient Rehabilitation After Operative Intervention of Traumatic Hip Fractures?

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Introduction: To determine relevant demographic, injury, hospital course and surgical characteristics that make patients more likely to need postoperative inpatient rehabilitation as opposed to being discharged home after operative fixation of a traumatic hip fracture.

Methods: Patients who underwent operative management of hip fractures (n = 71,849) from 2017-2019 at institutions who submitted data to the American College of Surgeons (ACS) Trauma Quality Programs (TQP) database were analyzed retrospectively. Various demographic, injury, hospital course and surgical characteristics were compared between patients who discharged to inpatient rehab (n = 56,178) vs home (n = 15,671). All data were analyzed using SAS version 9.4 (SAS Institute Inc., Cary, NC). Descriptive variables were compared using chi-square tests for proportional variables and t-tests for continuous variables. A multivariable regression adjusted by age, race, co-morbidities, dependent health status, anticoagulation therapy and substance abuse was used to compare method of operative fixation and post-surgical complications between both groups.

Results: Patients who discharged to inpatient rehab were significantly older (76.6 +/- 9.9 vs 65.4 +/- 14.9) and more often female (67.1% vs 32.9%). They were more likely to have the following co-morbidities: diabetes (26.3% vs 17.7%), CHF (9.5% vs 4.7%), chronic renal failure (4.2% vs 1.9%), CVA (6.6% vs 4.0%), functionally dependent health status (23.6% vs 16.3%), hypertension (66.2% vs 47.8%), COPD (16.4% vs 12.1%), dementia (16.1% vs 10.3%), on anticoagulant therapy (17.5% vs 9.5%), and MI (1.6% vs 0.9%). Patients with femoral neck fractures were more likely to discharge to home (42.5% vs 24.5%) whereas patients with intertrochanteric hip fractures were more likely to discharge to rehab (63.5% vs 46.2%). Patients undergoing ORIF were more likely to discharge to rehab (90.1% vs 83.5%), whereas patients undergoing total hip arthroplasty were more likely to discharge home (15.9% vs 9.5%). Deep vein thrombosis was a post-surgical complication more often encountered in patients who discharged to rehab (0.33% vs 0.19%).

Discussion: Our study identified several co-morbidities, demographic, injury and surgical factors that were associated with a significantly higher likelihood of a patient discharged to a rehabilitation facility instead of home.

Significance/Clinical Relevance: Early identification of patients with these risk factors may provide an opportunity to optimize patients for home vs rehabilitation discharge. Present literature supports that postoperative hip fracture patients have better outcomes when discharged home as opposed to rehabilitation facilities.