

Interfacility Transfer Patients with Pelvic, Acetabular, and Lower-Extremity Fractures Are at Higher Risk for Major Complications and Readmissions*Christian Alexander Pean, MD; Ian Watkins, MD; Mitchel B. Harris MD;**Michael John Weaver, MD; Thuan V. Ly, MD**Harvard Orthopedic Trauma Initiative, Brigham and Women's Hospital/MGH, Boston, Massachusetts, UNITED STATES*

Purpose: Our objective was to compare the adverse event profile and patient comorbidity profile of pelvis, acetabulum, and lower-extremity orthopaedic trauma patients admitted via interfacility transfer (IT) to direct admission patients from home (DA).

Methods: A total of 39,497 patients who underwent inpatient operative fixation for lower extremity, pelvic, and acetabular fractures from 2012 to 2019 were identified in the American College of Surgeons National Surgical Quality Improvement Program database using CPT codes. DA patients were compared to IT patients for differences in preoperative comorbidities, adverse events, length of stay (LOS), and readmissions in the 30-day postoperative period. Paired Student t tests were used to assess continuous variables. Pearson's χ^2 and odds ratios (ORs) were used for categorical variables.

Results: The IT group comprised 7167 patients, and the DA group 32,330 patients. IT patients were on average older (65.5 years vs 58.8, $P < 0.01$), more likely to be American Society of Anesthesiologists status > 2 ($P < 0.01$) and had a worse comorbidity profile for numerous preoperative risk factors. IT patients had significantly higher rates of mortality (3.3% vs 1.4%, OR 2.29, 95% confidence interval [CI] 1.96-2.77), major complications (10.2% vs 6.1%, OR 1.74, 95% CI 1.60-1.91), and infectious complications (7% vs 4.7%, OR 1.54, 95% CI 1.38-1.71) than DA patients. IT patients also had a significantly higher readmission rate (5.8% vs 4.8%, $P < 0.01$, OR 1.22, 95% CI 1.09-1.36), longer LOS (5.6 days vs 4.4 days, $P < 0.01$), and were more likely to be discharged to a non-home location than DA patients (62.6% vs 37.8%, $P < 0.01$, OR 2.75, 95% CI 2.61-2.90). Transfer remained a significant factor predicting major adverse events in regression analysis controlling for patient characteristics and fracture type ($P < 0.01$, β 1.197, 95% CI 1.09-1.32).

Conclusion: IT patients undergoing operative management of pelvic, acetabular, and lower-extremity fractures are at a significantly increased risk of major complications, readmission, and have a higher morbidity burden than DA patients. As health care transitions to value-based care and bundled payments, hospitals that accept a high volume of interfacility transfers will face exposure to added risk and financial penalties without adequate policy protections.