

Impact and Incidence of Unnecessary Interfacility Transfer of Patients With Pelvic Injuries

Lauren Luther, MD; Ridge Maxson, MD; Jake Fox, MD; Andres F. Moreno, MD; Cade Morris, MD; Anoop Chandrashekar, BS; Phillip M. Mitchell, MD; Robert H. Boyce, MD

Purpose: Patients presenting to lower-level hospitals with complex orthopaedic trauma commonly undergo interfacility transfer (IFT) to a regional trauma center for further evaluation and care. This study assessed the incidence, patient characteristics, and costs associated with unnecessary IFT of patients with isolated pelvic, acetabular, or sacral injuries.

Methods: A retrospective chart review was performed to identify adults (age ≥ 18 years) with isolated pelvic, acetabular, and/or sacral trauma who were transferred to a Level I trauma center between 2022 and 2023. Unnecessary IFT was defined as transfer occurring for patients who were managed nonoperatively without an examination under anesthesia or who failed a trial of nonoperative management. Bivariate and subsequent multivariate logistic regression analyses were performed to generate odds ratios (OR) and 95% confidence intervals (CI) evaluating the relationship between unnecessary IFT and certain patient and injury characteristics. Cost of care at the receiving institution (RI) was calculated using hospital financial records.

Results: Among 171 patients identified, the median age was 62 years (range, 18 to 94), and most patients were men (53%). Unnecessary IFT occurred in 91 cases (53%). The unnecessary IFT cohort was older (72 years versus 46 years, $P < 0.001$) and had a larger proportion of isolated injuries involving the pelvis (22% vs 1%, $P < 0.001$) or sacrum (12% vs 4%, $P = 0.49$). Low functional demand (OR 20.05; 95% CI, 3.28 – infinity) and hip dislocation (OR 0.01; 95% CI, 0.00–0.05) were associated with unnecessary IFT on bivariate analysis. Multivariate analysis revealed that age ≥ 72 years (OR 2.92; 95% CI, 1.26–6.77), low-energy mechanism (OR 3.52; 95% CI, 1.57–7.89), and ambulation after injury (OR 3.98; 95% CI, 1.70–9.41) were also independently associated with unnecessary IFT. The total cost of care received at the RI by patients in the unnecessary IFT cohort was \$1,199,609.37, with a median of \$9018.16 per patient (IQR, \$3916.04–\$14,483.62).

Conclusion: Most IFTs for patients with isolated pelvic, acetabular, or sacral injuries appear to be unnecessary and result in considerable direct and indirect costs to patients and regional trauma centers.