

Fixation Within 48 Hours in Geriatric Acetabular Fractures Decreases Transfusion Requirements

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Purpose: Early fixation of acetabular fractures in geriatric patients has been noted to reduce postoperative complications. However, the possible benefits of early fixation on transfusion rates in geriatric patients with acetabular fractures has not been well studied. The objective of this study is to determine if fixation within 48 hours of injury reduces risk for transfusion in geriatric patients with acetabular fractures.

Methods: This is a retrospective study at a single Level I trauma center from 2010 to 2023 looking at patients with open reduction and internal fixation (ORIF) for acetabular fractures. Patients who were younger than 65 years and those managed nonoperatively or with closed reduction percutaneous fixation were excluded. The primary outcome was differences in transfusion requirements between patients who had early fixation (within 48 hours) and those who had delayed fixation (after 48 hours). Secondary outcomes included differences in length of stay (LOS), estimated blood loss (EBL), surgical site infection (SSI), and mortality. Patient demographics, comorbidities, fracture characteristics, and perioperative, intraoperative, and postoperative data were collected.

Results: Of 159 patients included in the study, 98 (61.9%) underwent early fixation. Patients with early fixation had lower preoperative (13.3% vs 31.1%; $p = 0.006$) and intraoperative (33.7% vs 59.0%; $p = 0.002$) rates of transfusion. Patients in the early fixation group also had lower rates of overall transfusion during their hospital stay (59.2% vs 77.0%, $p = 0.021$). Early fixation was associated with a lower number of units transfused preoperatively (1.5 vs 4.6; $p = 0.041$) and during their overall hospital stay (2.2 vs 3.6; $p = 0.019$). Early fixation was also associated with shorter LOS (8.3 days vs 16.3 days; $p < 0.001$) and lower risk for SSI (1% vs 9.8%, $p < 0.001$). There was no significant difference in the number of units received intraoperatively or postoperatively, EBL, or mortality.

Conclusion: Geriatric patients with acetabular fractures who undergo early ORIF had lower intraoperative transfusion rates and required fewer transfusions overall. The higher rate of transfusion and of complications associated with delayed fixation should prompt surgeons to consider fixation within 48 hours in geriatric patients with acetabular fractures.