

**Early Operative Treatment of Acetabular Fractures Does Not Increase Blood Loss**

*Joshua A. Parry, MD; Nima Khosravani; Lee E. Weber, BS; George John Haidukewych, MD; Kenneth J. Koval, MD; Joshua Langford, MD  
Orlando Health, Orlando, FL, United States*

**Purpose:** The purpose of this study was to compare operative times, intraoperative blood loss, and intraoperative blood transfusions for acetabular fractures undergoing early treatment within 1 day of admission compared to those undergoing treatment 2 or more days after admission.

**Methods:** A retrospective review of patients who sustained an acetabular fracture treated at a Level-I academic trauma center between 2010 and 2018 initially identified 434 patients. Exclusion criteria included isolated posterior wall fractures ( $n = 37$ ), concurrent or bilateral open procedures ( $n = 224$ ), incomplete blood loss records ( $n = 17$ ), and percutaneous fixation alone ( $n = 25$ ). The electronic medical records were reviewed to determine the amount of intraoperative estimated blood loss (EBL), intravenous fluids (IVF), cell salvage (CS), and packed red blood products (PRBCs). Time from admission to the index operation in days, operation time, and hospital length of stay were collected. Average time from admission to fixation was  $2.7 \pm 3.9$  days (range, 0- 28 days). Early fixation, defined as within 1 day of admission, was performed in 59 patients (45%). The posterior (Kocher-Langenbeck) approach was utilized in 94 patients (71%) and the anterior intrapelvic approach (AIP), with or without the use of a lateral window, was utilized in 37 patients (28%). Early fixation within 1 day of admission was performed in 46 (48%) of those undergoing posterior approach and in 13 (35%) undergoing the AIP approach.

**Results:** Early versus delayed fixation through the posterior approach was associated with less intraoperative PRBCs (140 vs 301 mL, mean difference [MD] 161 mL, 95% confidence interval [CI] -25 to -296 mL), less intraoperative total blood products (322 vs 523 mL, MD -201 mL, 95% CI -21 to -380), and a shorter hospital stay (5 vs 16 days, MD 10 days, 95% CI 5 to 16 days). There were no differences in time to surgery, operative time, EBL, or CS. Early versus delayed fixation through an AIP approach did not differ in operative time, EBL, intraoperative blood products, or hospital stay. CS returned blood in 77% of patients for an average of  $267 \pm 168$  mL (range, 105-900 mL) with no difference between AIP and posterior approaches.

**Conclusion:** Fixation of acetabular fractures within 1 day of admission did not increase blood loss or intraoperative transfusion requirements. Cell salvage was successful in both AIP and posterior approaches.