



## CORR Insights

**CORR Insights®: Total Hip Arthroplasty After Acetabular Fracture Is Associated With Lower Survivorship and More Complications**

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**Where Are We Now?**

The optimal treatment for acetabular fractures remains unclear, varying from nonoperative management for nondisplaced and minimally displaced fractures, to open reduction and internal fixation,

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with or without subsequent THA. This controversy arises from the fact that regardless of how patients are treated, many do not do well. Patients treated nonoperatively have a difficult, long, and inconsistent recovery [1, 8]. As many as 67% of patients treated with ORIF develop posttraumatic arthritis [9], while many patients treated with THA, either acutely (at the time of the acetabular fracture [5]) or even later on, develop complications related to the arthroplasty [9, 10]. For example, in patients who undergo delayed THA following ORIF, scar tissue, poor bone quality, and pelvic deformity make surgery challenging, and implant survivorship ranges from 76% to 87% at 10 years secondary to a high risk of aseptic loosening [3]. Because of this, some orthopaedists have advocated for acute or immediate THAs for fracture treatment to avoid problems associated

with revision surgery down the line [2]. Other studies showed improved survivorship with this approach (up to 95% 10-year survival), but little has been reported with this approach for the long-term [9]. Additionally, there are proponents for different implant types, such as cementless or cemented prostheses, or the use of porous metal components [11].

Most studies about postacetabular fracture THAs are retrospective with short-term followup of less than 10 years [3, 7, 11]. In addition, many of these studies fail to delineate the severity and type of acetabular fractures, which likely influence the postoperative outcomes.

**Where Do We Need To Go?**

The controversies that remain pertain to determining the best treatment option, minimizing complications associated with treatment, and improving the (often-poor) survivorship in patients treated with THA after acetabular fractures. To begin to get answers, we need to determine the role fracture severity and initial

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management have on implant survivorship, postoperative function, and incidence of complications by substratifying patients based on these parameters. Orthopaedists can then identify factors that may influence implant survivorship and target areas for improvement. We still have major questions such as: (1) How are patients who had surgery in the last 10 years doing compared to patients done in the late 1980s or early 1990s? (2) Are results better with more modern techniques, prostheses, and rehabilitative methods?

Much of the controversy surrounding this topic derives from the poor characterization of fracture patients, and the lack of high-quality, controlled studies providing surgeons with long-term outcome data. Few studies of THA after acetabular fractures have evaluated differences between nonoperative versus operative fixation [4], and none, to our knowledge, have done so with reasonable controls. Substratifying those who had previous hardware fixation is important, particularly because that appears to be a risk factor for infection. Also, few reports directly compare treatment options. Sermon and colleagues [6] performed one of the few published studies comparing acute and delayed THA ( $n = 121$ ). However, these were non-matched groups with large age differences (78 years versus 53 years);

as the current paper shows, age may influence outcomes. Also, Sermon's group [6] reported only short-term followup (mean, 30 months) and provided no data on implant survivorship. By identifying these gaps in our current literature, we can then determine areas for further study and improvement.

## How Do We Get There?

Ultimately, we need prospective, case-controlled studies with longer-term followup in patients who have undergone THA after acetabular fracture and who are substratified based on: (1) Fracture severity and pattern, (2) demographics, and (3) type of initial treatment. We also need high-quality studies that compare acute versus delayed THA, cementless versus cemented components, and use of different implants (such as porous metal cup-cage constructs [7] versus oversized cups).

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