

Direct Anterior Approach For Conversion Total Hip Arthroplasty After Previous Acetabular Fixation

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INTRODUCTION: Total Hip Arthroplasty (THA) after prior acetabular fracture surgery is known to be more demanding, often requiring more time and encountering more blood loss than primary THA. Previous studies have shown inferior survival rates and higher infection rates for these procedures. The direct anterior (DA) approach would help mitigate some of these risks by utilizing a new surgical tissue plane. However, potential criticisms of the DA approach for these surgeries includes the inability to access previous acetabular implants or heterotopic ossification (HO) if they were to inhibit implant placement. The goals of this study are to analyze the efficacy of the Direct Anterior Approach for conversion to hip arthroplasty surgery after previous acetabular fixation.

METHODS: After reviewing all records at our institution using current procedural terminology codes, we isolated patients with previous operated acetabular repair who underwent conversion to THA through the DA approach. Patients records were reviewed for complications and patients were contacted for Harris Hip Score measurements. We were able to isolate a cohort of 22 patients with minimum 1 year follow up with prior acetabular fixation who underwent a DA approach for conversion to THA.

RESULTS: 22 patients were found with a minimum of 1 year follow up. 15 males and 7 females were included. The mean age was 49.8 (range 28 - 83) and mean BMI was 28.5 (range 15.2 - 39.2). Mean clinical follow up time was 46.1 months (range 16 - 156). The average blood loss was 406.25 ml (range 200 - 900). For 7 of these procedures (31%) hardware was encountered during acetabular reaming but was either removed entirely or removed partially with a burr so that the acetabular cup could be positioned within acceptable parameters. The average Harris Hip Score at final follow-up was 91 (range 75 - 100). HO was removed in 3 of the patients. There were no deep infections and no neurovascular injuries encountered. 2 patients (9%) underwent revision surgery for aseptic femoral stem loosening. There was 1 anterior dislocation (4.5%) at 3 days post-operatively that was successfully treated with closed reduction and maintenance of hip precautions. Otherwise the remaining 19 (86%) patients went on to uncomplicated recovery.

DISCUSSION AND CONCLUSION: This study is the largest known cohort analyzing the anterior approach for conversion to hip arthroplasty after previous acetabular fixation. Previous hardware and HO was encountered infrequently and if so, were easily bypassed making this an effective and safe approach. We found the anterior approach to have a similar revision rate compared to other approaches, but with lower infection and dislocation rates than described in previous studies.

