

## **Is Outcome of Total Hip Arthroplasty for Hip Fracture Inferior to that for Osteoarthritis in Contemporary Arthroplasty Practice?**

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### **INTRODUCTION:**

Outcome of total hip arthroplasty (THA) for the treatment of hip fractures has been associated with increased instability- and revision- risk compared to other indications. However, THAs for hip fractures are not always performed by arthroplasty surgeons. This study aims to compare THA outcome for hip fractures to that of THAs performed for hip osteoarthritis (OA). In doing so, we describe contemporary failure modes of THAs for hip fracture performed by arthroplasty surgeons.

### **METHODS:**

This is a retrospective, multi-surgeon study from an academic center. Of the 2151 hip fractures treated between 2010-2022, 170 received a THA by an arthroplasty surgeon (cases) (age: 67 years old  $\pm$ 10, sex: 64%, Charlson comorbidity index:  $1\pm 1$ ), without a dual-mobility bearing, using the approach (anterior: 44%, lateral: 19%; posterior: 35%) as per surgeon preference. These cases were matched (2:1) for age and gender with 340 THAs performed, for hip OA, by the same eight arthroplasty surgeons using our institutional database. Outcome metrics included complication, re-operation, revision rates and post-operative Oxford Hip Score (OHS).

### **RESULTS:**

At a minimum 1-year follow-up, there was no difference in orthopedic complications between the groups (Fracture: 11/170 vs. OA: 17/340;  $p=0.49$ ). The mode of complication did not differ between groups [(peri-prosthetic fracture: 4/170 vs. 3/340); (PJI: 3/170 vs. 5/340); (Instability: 3/170 vs 2/340)  $p=0.2 - 0.8$ ]. There was no difference in the re-operation (10/1700 vs 14/326) or revision risk (9/170 vs 13/340;  $p=0.44$ ). OHS was similar between groups (Fracture:  $41\pm 12$  vs OA:  $43\pm 5$ ;  $p=0.3$ ).

### **DISCUSSION AND CONCLUSION:**

Although previous publications reported THA for hip fracture was not as successful as THA for arthritis, we did not find this to be the case in contemporary arthroplasty practice. In our center, THA for fracture had similar outcomes and complication profile as compared to THA for OA, including a low dislocation rate without dual mobility bearings.