

# Direct Anterior Approach is Associated with Superior Early Mobilization after Total Hip Arthroplasty for Femoral Neck Fracture

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**INTRODUCTION:** Management of femoral neck fracture (FNF) with total hip arthroplasty (THA) in the United States has significantly increased since 2005. The purpose of this study is to examine the association of surgical approach with outcomes for THA performed for fracture focusing primarily on perioperative recovery and secondarily on postoperative complications.

**METHODS:** A chart review identified 248 patients from July 2017 to July 2022 who received THA for FNF. Included were 79 patients who underwent THA through the direct anterior (DA) approach and 169 through other approaches (OA) (116 posterior approach (PA) and 53 anterolateral (AL)). Primary outcomes such as time to mobilization, distance of initial mobilization, blood loss, transfusion rate, discharge disposition, and length of stay were compared using appropriate statistical analysis. Secondary outcomes were also examined.

**RESULTS:** The average follow-up time was 33 months. Baseline demographics between both groups were similar. The DA group ambulated significantly longer distances during their initial physical therapy session (74 ft vs. 34 ft,  $p < 0.01$ ) and were discharged home at higher rate (62% vs. 42%,  $p < 0.01$ ) compared to the OA group. The DA group also experienced a larger drop in hemoglobin ( $p = .03$ ) and hematocrit ( $p = 0.03$ ) postoperatively compared to the OA group. There was a trend toward increased transfusion rate in the DA group compared to the OA group (20% vs. 10%,  $p = 0.08$ ). Time to initial mobilization, estimated blood loss, and length of stay were not significantly different between the DA and OA groups. Secondary outcomes analyzed revealed no significant difference in revision, infection, postoperative fracture, dislocation, or 90-day readmission between both groups.

## DISCUSSION AND CONCLUSION:

Patients in the DA approach cohort mobilized more and were more likely to be discharged home, however they also had higher blood loss and increased likelihood of requiring a transfusion.

Variable	Direct Anterior Approach (N = 79)	Anterolateral or Posterolateral Approach (N = 169)	P value
Age (y)	75.3	76.8	0.516
Height (m)	1.6	1.7	0.42
Weight (kg)	66.6	68.2	0.9
BMI	24.5	24.6	0.5
CCI	4.1	4.6	0.02
Sex			0.56
Male	23 (29%)	57 (34%)	
Female	56 (71%)	112 (66%)	
Follow-up (months)	28.5	36.1	0.003

  

Perioperative Outcomes	Direct Anterior Approach (N = 79)	Anterolateral or Posterolateral Approach (N = 169)	P value
Distance ambulated (ft)	74.2	34.7	0.005
Time to ambulation (hr)	29.7	31.1	0.4
Estimated Blood Loss	297.1	309	0.9
Transfusion			0.08
(†)	13 (20%)	15 (10%)	
(‡)	66 (80%)	154 (90%)	
Δ Hemoglobin (g/dL)	2.2	1.9	0.03
Δ Hematocrit (g/dL)	6.6	5.6	0.03
Length of stay	28.5	36.1	0.004

  

Secondary Outcomes	Direct Anterior Approach (N = 79)	Anterolateral or Posterolateral Approach (N = 169)	P value
Revision	6 (7.5%)	9 (5.3%)	0.5
Infection	1 (1.2%)	4 (2.3%)	0.6
Postoperative Fracture	2 (2.5%)	3 (1.8%)	1
Dislocation	1 (1.3%)	3 (1.8%)	1
90-day Readmission	1 (1.2%)	6 (3.6%)	0.4