

**Patient Outcomes Following Conversion Total Hip Arthroplasty:
A Propensity Matched Analysis**

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Purpose: Conversion total hip arthroplasty (cTHA) is increasingly utilized following failed hip or acetabular fracture fixation and other hip preservation procedures. While primary THA (pTHA) has a high success rate, little is known about outcomes following cTHA. The purpose of this study is to evaluate patient-reported outcomes (PROs) and complication rates following cTHA compared to pTHA.

Methods: Patients who underwent a cTHA or pTHA from 2015-2020 were retrospectively identified. THA patients were propensity matched in a 1:1 fashion by age, body mass index (BMI), and sex. Pain scores and Patient-Reported Outcomes Measurement Information System (PROMIS) physical function (PF), pain interference (PI), and depression (DA) scores, were compared at preoperative and final postoperative follow-up time points using independent t tests. Differences in complication and reoperation rates between cohorts was assessed using χ^2 analysis.

Results: A total of 118 THAs were included in this analysis with an average follow-up of 21.2 months (range, 6-63 months). cTHAs were most commonly performed following hip fracture fixation (50.5%). The conversion cohort had significantly longer length of stay (3.6 days vs 1.9 days, $P < 0.01$) compared to pTHA. There was no significant difference in complication rates (conversion: 15.3%, primary: 8.5%, $P = 0.26$), with intraoperative fracture being the most common for both. cTHA and pTHA groups also experienced similar reoperation rates. No significant differences in PF, PI, or DA at final follow-up were identified between groups (Table 1).

Conclusion: In a cohort propensity matched by age, BMI, and sex, conversion and primary THA led to similar complication rates, reoperation rates, and PROs. These results suggest patients undergoing cTHA can expect similar outcomes to pTHA.

Table 1. Outcomes*

	Primary (N=59)	Conversion (N=59)	†p-value
Final Follow Up (Mean ± SD, months)	22.3 ± 14.4	20.1 ± 14.0	0.397
Length of Hospital Stay (Mean ± SD, days)	1.9 ± 1.2	3.6 ± 3.0	<0.001
Discharge Destination (n)			0.066
Home	91.4% (53)	79.3% (46)	
Skilled Nursing Facility	8.6% (5)	20.7% (12)	
Surgical Complications (n)	8.5% (5)	15.3% (9)	0.255
Reoperations (n)	6.8% (4)	5.1% (3)	0.697
PROMIS Physical Function (Mean ± SD)			
Preoperative	36.5 ± 5.5	34.6 ± 6.3	0.087
Final Δ	6.2 ± 9.0	6.6 ± 8.6	0.788
Final follow up	42.7 ± 9.3	41.3 ± 9.8	0.417
PROMIS Pain Interference (Mean ± SD)			
Preoperative	64.0 ± 6.0	64.6 ± 6.5	0.590
Final Δ	-8.2 ± 10.8	-7.6 ± 10.4	0.784
Final follow up	55.7 ± 9.6	57.3 ± 10.6	0.388
PROMIS Depression (Mean ± SD)			
Preoperative	51.3 ± 10.8	53.8 ± 10.0	0.194
Final Δ	-4.3 ± 9.0	-3.2 ± 8.4	0.505
Final follow up	46.9 ± 9.0	50.7 ± 11.4	0.052
VAS Pain Score (Mean ± SD)			
Preoperative	5.8 ± 3.1	5.6 ± 3.0	0.756
Final Δ	-3.0 ± 3.7	-3.0 ± 3.6	1.000
Final follow up	2.8 ± 3.1	2.6 ± 3.1	0.760

SD = Standard deviation; PROMIS = Patient reported outcomes measurement information system; VAS = Visual analog scale
 Δ = Postoperative score – preoperative score
 †p-values calculated using independent t-tests and chi square analysis for continuous and categorical variables, respectively
 ***Boldface** indicates statistical significance