What to Expect after Contralateral Total Hip Arthroplasty Within One Year from Index Procedure: More Favorable Healthcare Utilization Metrics Despite a Slightly Higher Risk of Readmission

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INTRODUCTION:

Up to 30% of THA patients undergo contralateral arthroplasty within 10–15 years. Although drivers of healthcare utilization after primary THA are well characterized, the impact of a recent prior THA—particularly when performed within one year—on recovery and outcomes following contralateral THA remains poorly understood. The current investigation aimed to 1) compare healthcare utilization after index vs. contralateral THA and 2) identify associations between index and contralateral THA healthcare utilization patterns.

METHODS:

We identified 15926 patients who underwent primary elective unilateral THAs between January 1, 2016, and August 31, 2023. Of which, 1237 patients had a contralateral THA within one year of the index procedure, yielding a total of 2145 THAs with available baseline data. A total of 680 patients completed baseline characteristics and one-year follow-up data after index and contralateral procedures and were subsequently included in the analysis (Table 1). Outcomes included prolonged length of stay (LOS >=3D), discharge disposition, 90-day readmission, and 1-year reoperation. Descriptive statistics were used to compare outcomes between index and contralateral procedures. Multivariable regression models were constructed to evaluate if the incidence of the aforementioned outcomes drove their recurrence in the contralateral procedure while extensively accounting for patient determinants and comorbidities.

RESULTS:

After contralateral THA, patients were significantly more likely to be discharged to a home or home health care setting than the index procedure (94% vs. 92%; p = 0.016). The incidence of LOS ≥3 days was lower following contralateral THA (11%) than index THA (13%), though this difference approached but did not reach statistical significance (p = 0.054). In contrast, the 90-day readmission rate was significantly higher after contralateral THA compared to the index procedure (4.9% vs. 2.8%; p = 0.045). Similarly, the 1-year reoperation rate was significantly greater after contralateral THA (3.1% vs 0.6%; p = 0.001) (Table 2). Patients who experienced a prolonged length of stay (LOS ≥3 days) after their index THA were over 20 times more likely to experience a prolonged LOS after their contralateral THA (OR 20.54, 95% CI 10.08–41.86; p < 0.001), highlighting a strong association between initial postoperative recovery and subsequent inpatient resource use. Similarly, patients who were discharged home after their index procedure had dramatically lower odds of being discharged to a nonhome setting after contralateral THA (OR 0.00, 95% CI 0.00–0.01; p < 0.001), indicating that discharge disposition after the first surgery is a powerful predictor of discharge pattern after the second.

DISCUSSION AND CONCLUSION:

Although patients are more likely to be discharged home and have shorter hospital stays after their contralateral THA, they also face higher risks of readmission and reoperation following the second THA. Moreover, initial postoperative recovery strongly predicts subsequent healthcare utilization, underscoring the importance of optimizing outcomes after the index procedure.

Table2c Summary table for Outcomes

	Surgery Time			
Characteristic	**1, N = 680[1]**	**2, N = 680[1]**	**p-value[2]**	**N**
Discharge Disposition			**0.016**	1,333
Non-home	56 (8.4%)	43 (6.5%)		
Home/home health care	611 (92%)	623 (94%)		
LOS >=3			0.054	1,333
No	579 (87%)	595 (89%)		
Yes	88 (13%)	71 (11%)		
90-day Readmission			**0.045**	1,334
No	648 (97%)	634 (95%)		
Yes	19 (2.8%)	33 (4.9%)		
1-year Reoperation	4 (0.6%)	21 (3.1%)	**0.001**	1,360

[1]n (%)

[2]McNemar's Chi-squared test with continuity correction

Characteristic	1st THA (n = 680)	2nd THA (n = 680)	p-value
Age Median [IQR]	64 [57, 70]	65 [57, 70]	**<0.001**
Sex			
F	399 (59%)	399 (59%)	
M	281 (41%)	281 (41%)	
BMI Median [IQR]	29 [24, 34]	29 [24, 34]	0.15
Education Median [IQR]	14 [12, 18]	14 [12, 18]	0.070
ADI Median [IQR]	54 [23, 74]	54 [23, 74]	0.35
Race			
White	578 (87%)	578 (87%)	
Black	74 (11%)	74 (11%)	
Other	11 (1.7%)	11 (1.7%)	
Smoking			0.10
Never	332 (52%)	348 (54%)	
Qui 4m+	222 (35%)	225 (35%)	
Qui 0-4m	37 (5.8%)	39 (6.0%)	
Current	49 (10%)	48 (10%)	
Comorbid CCI			0.86
0	374 (56%)	347 (51%)	
1	126 (19%)	137 (20%)	
2	88 (13%)	94 (15%)	
3+	79 (12%)	84 (13%)	
Insurance			0.10
Medicare/Medicaid	328 (51%)	349 (54%)	
Other	345 (45%)	271 (44%)	
Surgery Day			0.22
Friday	78 (11%)	77 (11%)	
Monday	158 (24%)	150 (22%)	
Thursday	147 (22%)	153 (17%)	
Tuesday	176 (24%)	192 (28%)	
Wednesday	143 (21%)	148 (22%)	
Surgery Time			0.45
AM	555 (81%)	548 (82%)	
PM	134 (17%)	122 (18%)	
Approach			0.80
Direct Anterior	184 (28%)	194 (29%)	
Anterolateral	46 (7.1%)	41 (8.5%)	
Direct Lateral	96 (15%)	89 (14%)	
Posterolateral	318 (49%)	325 (50%)	
Femoral Component			0.92
Biomet	174 (26%)	178 (26%)	
DePuy	20 (2.9%)	21 (3.1%)	
Smith & Nephew	16 (2.4%)	15 (2.2%)	
Stanmore	0 (0%)	0 (0%)	
Stryker	418 (62%)	417 (61%)	
Zimmer	46 (6.8%)	47 (6.9%)	
Other	5 (0.7%)	2 (0.3%)	
Femoral Fixation			0.31
Cemented	28 (4.1%)	35 (4.9%)	
Uncemented	652 (96%)	647 (95%)	
Anesthesia			0.73
General	209 (30%)	196 (28%)	
Spinal	445 (67%)	453 (68%)	
Other	22 (3.3%)	26 (3.9%)	
Nurs Risk Median [IQR]	110 [0, 210]	200 [110, 310]	**<0.001**
Phenotype			**<0.001**
P-PS-MCS-	191 (28%)	188 (27%)	
P-PS+MCS+	142 (21%)	230 (37%)	
P-PS+MCS-	98 (14%)	131 (20%)	
P-PS-MCS+	24 (3.8%)	23 (3.4%)	
P-PS-MCS-	39 (5.7%)	39 (4.8%)	
P-PS-MCS+	47 (6.8%)	41 (6.0%)	
P-PS+MCS-	47 (6.9%)	41 (6.0%)	
P-PS-MCS+	89 (13%)	46 (8.4%)	