

## Healthcare Utilization After Contralateral TKA Within One Year: Improved Length of Stay but Persistent Risk Patterns

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### INTRODUCTION:

Up to 40% of patients who undergo total knee arthroplasty (TKA) will proceed to contralateral TKA within 8 years, with 11% doing so within just the first year. Despite this frequency, little is known about how a recent prior TKA, particularly within one year, affects postoperative healthcare utilization after the contralateral procedure. This study aimed to (1) compare healthcare utilization following index versus contralateral TKA performed within one year and (2) evaluate whether healthcare utilization outcomes from the index procedure predict those of the contralateral TKA.

### METHODS:

We analyzed 680 patients who underwent staged bilateral primary TKA within one year between 2016–2023 at a large academic center. Outcomes included prolonged length of stay (LOS  $\geq 3$  days), discharge disposition, 90-day readmission, and 1-year reoperation. Outcomes were compared between surgeries using paired analyses. To assess whether outcomes after the index TKA predicted outcomes after the contralateral procedure, multivariable logistic regression was performed.

### RESULTS:

Patients had lower odds of prolonged LOS after contralateral TKA (6.6%) compared to the index TKA (10%,  $p < 0.001$ ). Rates of discharge to home (95% vs. 94%,  $p = 0.17$ ), 90-day readmission (4.5% vs. 3.9%,  $p = 0.60$ ), and 1-year reoperation (2.7% vs. 2.5%,  $p = 0.89$ ) were comparable between procedures. However, patients who had prolonged LOS after their first TKA were over 22 times more likely to have prolonged LOS after the second (OR 22.5, 95% CI 13.5–37.5;  $p < 0.001$ ). Non-home discharge and ED visits after the index surgery were also strong predictors of similar outcomes after contralateral TKA.

### DISCUSSION AND CONCLUSION:

Among patients undergoing contralateral TKA within one year, the second procedure is associated with shorter hospital stays and similar readmission and reoperation rates. However, poor healthcare utilization outcomes after the index TKA - particularly prolonged LOS and non-home discharge - strongly predict recurrence after the second. These findings support the importance of optimizing perioperative recovery during the index TKA to improve downstream resource use and outcomes in contralateral TKAs  $< 1$  year apart.

Table1 Summary table for Outcomes

Characteristic	Surgery Time		p-value <sup>2</sup>	N
	1, N = 1,352 <sup>1</sup>	2, N = 1,352 <sup>1</sup>		
<b>Discharge Disposition</b>			0.17	2,648
Non-home	81 (6.1%)	70 (5.3%)		
Home/home health care	1,242 (94%)	1,255 (95%)		
<b>LOS <math>\geq 3</math></b>			<b>&lt;0.001</b>	2,648
No	1,187 (90%)	1,237 (93%)		
Yes	136 (10%)	88 (6.6%)		
<b>90-day Readmission</b>			0.60	2,648
No	1,271 (96%)	1,266 (96%)		
Yes	52 (3.9%)	59 (4.5%)		
<b>1-year Reoperation</b>	34 (2.5%)	36 (2.7%)	0.89	2,704
<b>90-day ED Admission</b>	116 (8.6%)	114 (8.4%)	0.89	2,704

<sup>1</sup>n (%)

<sup>2</sup>McNemar's Chi-squared test with continuity correction; random intercept logistic regression