Length of Stay After Total Hip Arthroplasty is Independently Associated with Higher Postoperative Complication Rates

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INTRODUCTION: Hospital length of stay (LOS) following total hip arthroplasty (THA) continues to decrease due to enhanced recovery pathways and patient selection, but it remains unclear if postoperative complications rates and patient-reported outcomes (PROs) are directly related to LOS. The purpose of this study was to evaluate the influence of LOS on complication rates and PROs following THA.

METHODS: A retrospective analysis of patients who underwent primary THA between 2016 and 2024 was completed by stratifying them based on LOS after surgery. Cohorts included same calendar day discharge (SDD; n=2,220), discharge within 1 day (1DD; n=6.962), discharge after 2-4 days (3DD; n=8,798), and discharge after 5 or more days (5DD; n=1,002). Postoperative complications and PROs were analyzed using Chi-square test of independence, one-way ANOVA, and multiple logistic and linear regression analysis. Significance was set to $p<0.05$.

RESULTS: A total of 18,962 patients were included in the analysis. Between 2016-2024, the mean LOS decreased from 2.67 days to 1.38 days. Analysis controlled for demographic variables including Elixhauser Comorbidity Index. Compared to SDD, 3DD and 5DD patients had higher all-cause 90-day complications (OR: 1.62, $p<0.01$; OR: 4.19, $p=0.01$). The 3DD and 5DD cohorts also had higher all-cause revision rates when compared to SDD (OR: 1.90, $p=0.03$; OR: 2.69, $p=0.01$). Short-term readmission rates were also higher for 3DD and 5DD patients when compared to the SDD at both 7-day (OR: 2.26, $p=0.04$; OR: 3.07, $p=0.01$) and 30-day time points (OR: 2.80 ($p<0.01$), OR: 3.76, $p<0.01$). PROs were similar between groups ($p>0.05$).

DISCUSSION AND CONCLUSION: LOS is independently associated with greater odds of complications, revisions, and readmissions after THA. Further study is needed to elucidate reasons for these findings, but they support appropriate and timely discharge without unnecessary delay.