

Differences in Length of Stay after Spinal Surgery at TCH vs. ASC

Introduction: The emergence of surgical centers and specialty hospitals offering same-day discharges for eligible patients represents a cost-mitigating strategy without compromising patient care. However, in spine surgery, there is limited information regarding patient outcomes between ambulatory surgery centers and tertiary-care hospitals. The objective of this study is to compare outcomes and complication rates based on the surgical setting in patients following elective lumbar spine surgery.

Material and Methods: Patients who underwent elective lumbar fusion surgery at a single tertiary care hospital (TCH) and a single ambulatory surgery center (ASC) from 2017 to 2022 were identified retrospectively. Patient demographics, surgical characteristics, and outcomes were collected from an electronic medical record. Propensity score matching was performed in a matched 1:1 comparison based on (Age, CCI, Procedure type, and Total levels fused).

Results: Patients treated at the TCH had a significantly longer length of stay compared to their counterparts at the ASC (3.03 vs. 1.65 days, $p < 0.001$). Both hospitals exhibited no significant difference regarding operating time, procedure type, or the total number of levels fused; however, a notable divergence emerged in the extent of decompression, with the TCH cohort having significantly more levels decompressed than the ASC cohort (1.70 vs. 1.51, $p = 0.021$).

Conclusion: Our study revealed that patients treated at the ambulatory surgery center experienced a shorter hospital length of stay, zero 90-day readmissions, and a 100% home discharge rate following lumbar spine surgery compared to those at the tertiary care hospital. No differences were noted in revisions and complication rates between the two hospitals. These findings suggest that for certain populations, ambulatory surgery centers may offer a more efficient, cost-effective model for lumbar spine surgery without sacrificing the quality of patient care compared to tertiary-care hospitals.