

## **Age-Stratified Comparison of Surgical and Patient-Reported Outcomes Following Transforaminal Lumbar Interbody Fusion**

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**INTRODUCTION:** Previous literature has shown increased age as associated with adverse outcomes after lumbar fusion. However, no study has specifically investigated transforaminal lumbar interbody fusion (TLIF). The goal of this study was to compare surgical characteristics, complications, and patient-reported outcomes stratified by decade of life in TLIF patients.

**METHODS:** Adult patients who underwent elective TLIF at a tertiary center were retrospectively identified (2017-2021) and stratified into decade groups ranging from 40 to 80+ years old. Surgeries indicated for trauma, tumor, or infection were excluded. Demographics, surgical variables, and PROMs were collected and compared between groups (alpha 0.05).

**RESULTS:** 636 patients were included (age 40-49: 61, 50-59: 156, 60-69: 240, 70-79: 150, 80+: 29). BMI and proportion of current smokers were lowest while CCI was highest in the 80+ cohort. Cut to close time and number of levels decompressed/fused increased with age until the 70-79 cohort and subsequently decreased. Length of stay and rates of non-home discharge and postoperative blood transfusion were highest in the 80+ cohort. There were no differences in 90-day readmission or ED visit and 1-year reoperation. 12-month VAS Back and 6-, 12-, and 24-month MCS-12 were best in the 80+ cohort, with no other differences in PROMs between groups.

**DISCUSSION AND CONCLUSION:** This study identified differences in some demographic and surgical characteristics based on decade of life. The prolonged length of stay and increased non-home discharge and transfusion utilization in the 80+ cohort may be attributable to higher comorbidity burden and decline in functional status. Concomitant improvements in the VAS Back and MCS-12 domains suggest potential differences in pain perception, catastrophizing, and coping strategies that may improve with age. The otherwise comparable complication and PROM profile indicate that older adults can experience similar safety and benefits from TLIF.