



Reoperation Risk Between Plated and Stand-Alone Anterior Cervical Discectomy and Fusion: A National Spine Registry-Based Cohort Study

Anterior cervical discectomy and fusion (ACDF) is a well-established procedure used to relieve nerve compression and stabilize the cervical spine. While plating with screws has traditionally been used to promote fusion, stand-alone constructs have emerged as an alternative to reduce potential plate-related complications. Ongoing debate remains regarding the relative risks and benefits of each approach. Kaiser Permanente spine surgeons, in collaboration with the MDSA team, evaluated whether reoperation rates differ between these two techniques.

"Despite anecdotal concerns, our large population study demonstrates that both surgical approaches to anterior cervical fusions lead to similar outcomes with midterm follow up, giving patients and their surgeons flexibility to choose the option that best fits their needs with confidence." -Ehsan Tabaraee, MD, Orthopedic Spine, Oakland Medical Center, TPMG

Study Details

The study included 3,958 adult patients undergoing one- or two-level ACDF (C3–C7) across 16 hospitals and 59 surgeons. Of these, 7% received stand-alone constructs. Adjusted analyses showed no significant differences in overall reoperation risk between stand-alone and plated ACDF. Similarly, no differences were observed for reoperations related to adjacent segment disease or when limited to single-level procedures.

Practice Considerations

In this large, registry-based cohort, stand-alone and plated ACDF demonstrated comparable reoperation rates. These findings support the use of either approach based on patient-specific factors and surgical judgment, and they provide meaningful data to inform clinical and operational decision-making.

[Link to Published Manuscript](#)

Tabaraee E, Prentice HA, Harris JE, Mahajan V, Bains R, Yacob A, Kuo CC, Ho AL, Norheim EP, Hariri OR, Guppy KH (2026). **Reoperation Risk Between Plated and Stand-Alone Anterior Cervical Discectomy and Fusion: A National Spine Registry-Based Cohort Study.** The Spine Journal, 51 (3): 170-179.

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