

Tendon Rupture After Volar Plating of Distal Radius Fractures: Recent Trends

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INTRODUCTION: Tendon rupture, though relatively uncommon, represent a clinically significant complication following volar plating of distal radius fractures (DRFs). The purpose of this study is to analyze trends in the last decade to see if advancements in surgical technique and plate design have reduced the overall incidence of tendon rupture previously reported following DRF.

METHODS: The TriNetX database was retrospectively queried on May 15th, 2025 for operatively managed DRFs using Current Procedural Terminology (CPT) system codes. A minimum of 2-year follow up was established, and outcomes assessed included rates of secondary intervention due to flexor or extensor tendon rupture in the form of tendon repair, tendon grafting, tendon transfer, or a removal of hardware (ROH).

RESULTS: Of the 51,632 patients undergoing volar plating of DRFs between January 1, 2015 and January 1, 2023, the incidence of flexor and extensor tendon rupture requiring secondary intervention was 0.17% (77 cases out of 51,632) and 0.5% (128 cases out of 51,632) respectively. A total of 6,537 cases underwent a ROH following DRF fixation, representing 12.7% of cases.

DISCUSSION AND CONCLUSION: Flexor and extensor tendon ruptures following open fixation of distal radius fractures are exceedingly rare complications, with incidences of 0.14% and 0.5%, respectively—lower than previously reported. This large retrospective study is the first to quantify these rates in a cohort of this size, enhancing understanding of surgical complications in distal radius fracture management.