

Ulnar Shortening Osteotomy With And Without Wrist Arthroscopy For Ulnar Impaction Syndrome: A Systematic Review

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Introduction: Ulnar impaction syndrome (UIS) is characterized by ulnocarpal overload pain. Many patients also have associated triangular fibrocartilage complex (TFCC) tears, often central and non-repairable. Some surgeons perform arthroscopic TFCC debridement at the time of ulnar shortening osteotomy (USO), but it remains unclear whether this actually improves outcomes or adds risk and complexity. Our study is the first to compare outcomes for patients undergoing USO alone versus USO with concurrent wrist arthroscopy (WA).

Methods: This review was registered on PROSPERO (CRD420251125272). MEDLINE, Embase, Cochrane, and CINAHL databases were searched. We excluded any studies with post-traumatic UIS, non-plate fixation, wafer procedures, non-English, case reports <10 patients, and biomechanic studies. Our primary outcomes included complications and revision rates. Secondary outcomes included functional outcomes, pain, and range of motion. Primary outcomes were calculated as pooled outcome proportions. Eight articles were selected and split into two subgroups: USO alone (n=5) and USO combined with WA (n=5).

Results: There was a total of 564 patients included in the study, of which 440 underwent USO alone, and 124 underwent USO with WA. For the USO only group, the rate of major complications was 2.7% (95% CI: 1.5-4.8), minor complications was 2.0% (95% CI: 0.01-44.7), and revisions was 1.4% (95% CI: 0.6-3.0). For the USO with WA group, the rate of major complications was 0%, minor complications was 11.3% (95% CI: 6.7-18.5), and revisions was 0%.

Conclusion: Current evidence does not suggest a clear increase in major complications or revisions with concurrent WA. However, the WA group had a smaller subgroup size, low event counts, inconsistent reporting, and heterogeneity across studies. On the other hand, USO with WA did have a higher pooled proportion of minor complications. The reason for this remains unclear and may reflect study-level differences rather than a true effect of arthroscopy itself.