

# Posttraumatic Arthritis After Combined Plating of Distal Radius Fractures AO Type C A 7-Year Follow-up of 97 Cases

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## Background

Volar locking plate fixation is the most common method of operative fixation of distal radius fractures (DRFs). For more complex cases, combined plating is an option for stabilizing intra-articular fragments. The prevalence of posttraumatic arthritis (PA) after an intra-articular DRF, and its relation to patient-reported outcome measures (PROMs), remains unclear.

## Aim

The purpose of this study was to study the prevalence of PA and its correlation to clinical outcome measures.

## Material and method

We evaluated 97 consecutive patients with intra-articular DRF, operated with combined plating, 7 years postoperatively. The primary outcome measure was the prevalence of radiographic PA. Secondary outcome measures included visual analog scale (VAS) pain score, hand grip strength, wrist range of motion (ROM), Patient-Rated Wrist Evaluation (PRWE) score, and Quick Disabilities of the Arm, Shoulder, and Hand (QuickDASH) score. Radiographic examination was performed between 1 and 7 years postoperatively.



## Results

The prevalence of PA was 29% at the 7-year follow-up. No correlation was found between PA and ROM, hand grip strength, PRWE, QuickDASH, VAS pain scores, or radiographic reduction. Median wrist ROM and grip strength were significantly inferior compared with the uninjured side. Hardware removal was performed in 51.5% of cases. There were 2 cases of tendon ruptures.

### Figure 1.

Radiographs of a 56-year-old female with an intra-articular DRF AO type C after fall on outstretched hand. Preoperative radiographs (a, b). The fracture was fixed using combined plating (c, d). At the 7-year follow-up, the patient had not undergone hardware removal, and radiographs show no signs of posttraumatic arthritis (e, f).

## Conclusion

Combined plating can yield a good clinical outcome 7 years postoperatively and a low prevalence of PA. The presence of PA did not correlate to clinical outcome measures or to the accuracy of anatomical reduction 1 year postoperatively. The frequency of tendon ruptures was acceptable, but the high frequency of hardware removal is a concern.

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