

Long-term outcome for patients with distal radius fractures treated with volar locking plate vs percutaneous wires

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Background: Most patients treated surgically for a distal radius fracture receive a locking-plate, despite the lack of evidence for its superiority compared to surgery with less invasive techniques. There are studies describing superior short-term results for surgery with locking plate, but after one year the difference is indistinguishable. Yet, few studies have investigated long-term outcomes beyond one year.

Aim: The aim of this study was to investigate long-term (6-10 years) patient reported outcomes after surgery of distal radius fractures, and to determine how fracture pattern/complexity (Buttazzoni type of fracture) affects the results.

Method: 303 patients surgically treated for a distal radius fracture at Vrinnevisjukhuset, Norrköping, Sweden 2012-2016 were included. The questionnaires used were PRWE, Quick-DASH and EQ-5D. The response rate was 67,1%, 63,5% for the K-wire group (n=54) and 68,5% for the locking-plate group (n=152).

Results: Patients treated with K-wires had significantly better Quick-DASH scores ($p < 0,05$) and a lower degree of pain (PRWE pain scale) ($p < 0,05$) than patients treated with volar locking plate. There was no difference between the two groups regarding the remaining outcome measures, for any Buttazzoni type of fracture.

Conclusion: Small, although significant, differences were found in the long-term outcomes in favour of K-wires compared to locking-plate, however the clinical relevance of these findings may be disputable. K-wires can be considered a preferable option to locking-plate because of equal or better outcome, lower cost, and shorter operation time.