

UK DRAFFT: a randomised controlled trial of percutaneous fixation with Kirschner wires versus volar locking-plate fixation in the treatment of adult patients with a dorsally displaced fracture of the distal radius

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Plain English summary

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In high-income countries, 6% of all women will have sustained a fracture of the wrist (distal radius) by the age of 80 years and 9% by the age of 90 years. Advances in orthopaedic surgery have improved the outcome for patients; many such fractures can be treated in a plaster cast alone, but others require surgical fixation to hold the bone in place while they heal. The existing evidence suggests that a modern 'locking-plate' fixation provides improved wrist function but costs more than traditional 'wire' fixation.

In this study, we randomly assigned 461 adult patients having surgery for a fracture of the distal radius to either Kirschner-wire (K-wire) fixation or locking-plate fixation. The patients reported their own outcome in the 12 months after their fracture, using the Patient-Rated Wrist Evaluation. We also collected information on complications and costs.

Over 90% of the patients who took part completed the study. Both groups of patients recovered wrist function by 12 months, although their wrists were not quite back to normal. There was no difference in their wrist function at 3 months, 6 months or 12 months. Nor was there a difference in the number of complications in each group. K-wire fixation is 'cost saving', particularly in younger patients.

Contrary to the existing literature, and against the increasing use of locking-plate fixation, this study shows that there is no difference between K-wires and locking plates for patients with fractures of the distal radius. K-wire fixation is less expensive and quicker to perform.

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