

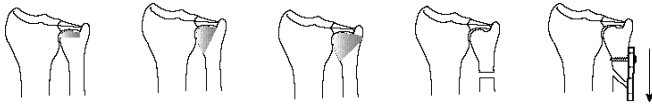


Hemiresection of the Distal Ulna With Pronator Quadratus Interposition and Volar Stabilisation

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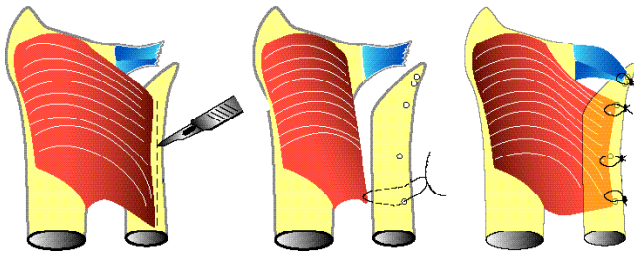
Ulnar sided wrist problems represent a major challenge to orthopaedic surgeons. A variety of bony operations which may or may not be supplemented with soft tissue interposition, tenodesis and fusion of the distal radio-ulnar joint has been designed.



Problems have been weakness, snapping and instability of the distal ulna, impaction and pain, nonunion and regrowth of bone.

The operative technique presented here addresses these problems and consists in:

- hemiresection of the distal ulna
- pronator quadratus (PQ) interposition and
- stabilisation of the distal ulna to the volar capsule



Left: Intraoperative photo of left wrist showing the resected ulna, PQ interposed between ulna and radius to the dorsal side of ulna, and sutures in the volar capsule/TFC ready to be tied.



Right: Radiograph of wrist after ulnar hemiresection, PQ interposition and radioscapholunate fusion

Indications:

Pain and loss of function due to a destroyed or degenerated distal radio-ulnar joint (DRUJ) and/or ulnocarpal impaction, e.g. due to malunion and arthritis. Attrition ruptures of the ulnar extensor tendons at the DRUJ also constitute an indication for this reconstruction.

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Demographics:

- 30 wrists (28 patients) out of 39 (37) operated on between May 95 and Dec. 99 were available for follow up
- mean age 56, range 26 - 83
- 21 females and 7 males
- 22 rheumatoid arthritis (RA), 1 psoriatic arthritis, 5 fracture sequelae, and 2 osteo-arthritis
- follow up 21 (10 - 61) months

Concurrent bony wrist operations:

- 15 wrist fusions
- 7 radio-scapho-lunate (RSL) fusions

Attrition ruptures were repaired with transfer to the adjacent extensor in 3 patients.

Results:

The majority of patients were very pleased with the result.

Asked whether satisfied or not 1 answered no, 26 yes, and 3 did not answer.

Pain relief was stated as the most important feature of the operation but function also improved massively.

Complications:

No major (long term) complications occurred.

Reoperations:

- 1 evacuation of a wound haematoma - growth in swab, settled on antibiotics
- 2 samples for culture - no growth
- 2 removal of K-wires (RSL fusion)
- 1 carpal tunnel release (10 months post-operatively)

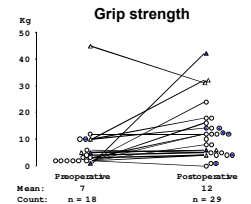
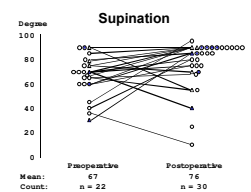
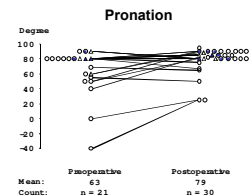
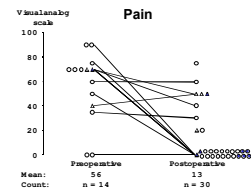
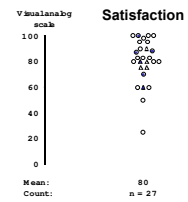
Discussion:

This technique is unique in combining 3 principles

- excision arthroplasty
- dynamic stabilisation and prevention of radio-ulnar impingement by interposition of the pronator quadratus muscle
- static stabilisation of the distal ulna to the volar capsule and remnants of the triangular fibrocartilage

Conclusion:

The operation is safe and efficient, provides good pain motion and grip strength



Legend: ○ Inflammatory arthritis △ Other pathology
● No (partial) wrist fusion