

# Volar Plating as a Treatment for Distal Radius Fractures

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**L**ocked volar plating is the most common surgical procedure to address distal radius fractures. The extended flexor carpi radialis (FCR) approach continues to be an excellent method for visualizing distal radius fractures and applying a volar plate. (See **Video 1, Supplemental Digital Content 1**, which discusses distal radial fracture advancements and possible complications. This video is available in the “Related Videos” section of the Full-Text article on PRSGlobalOpen.com or available at <http://links.lww.com/PRSGO/A261>.) (See **Video 2, Supplemental Digital Content 2**, which displays extended FCR approach. This video is available in the “Related Videos” section of the Full-Text article on PRSGlobalOpen.com or available at <http://links.lww.com/PRSGO/A262>.)


1. An 8-cm incision is made over the FCR with a radially deviated incision at the wrist flexion crease.
2. Carry the incision down to the FCR tendon sheath protecting the superficial branch of the radial artery. Carry the incision distally to the trapezial ridge protecting the palmar cutaneous branch of the median nerve. The FCR’s anterior and posterior sheaths are incised enabling the FCR to be retracted ulnarly.
3. Continue the incision distally cutting a leaflet of the transverse carpal ligament as well as developing the space of Parona. Perforators to the flexor pollicis longus are coagulated and the flexor pollicis longus is retracted ulnarly.
4. The watershed line is identified by palpating the lunate fossa over the pronator quadratus. The pronator quadratus is then elevated in an L-shaped, ulnarly based flap. It is important not to elevate the ulnar aspect of the pronator quadratus as the distal radius blood supply comes from this area.
5. The deforming force of the radius stems from the brachioradialis. This tendinous structure must be released from its insertion on the radial styloid and extended proximally for 15 mm. It can be incised in a stair-step fashion to facilitate future tendon lengthening repair.
6. Pronate the proximal segment of the radius using a bone-holding clamp to debride callus using a freer and curette.

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*Plast Reconstr Surg Glob Open 2016;4:e1041; doi: 10.1097/GOX.0000000000001041; Published online 27 September 2016.*

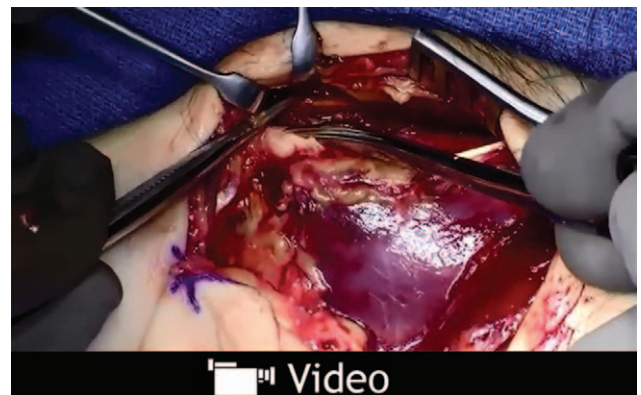
## Tendon Impingement occurs in 3-D




 Video

### Video Graphic 1.

Distal radial fracture advancements and possible complications. This video is available in the “Related Videos” section of the Full-Text article on PRSGlobalOpen.com or available at <http://links.lww.com/PRSGO/A261>.



 Video

### Video Graphic 2.

Extended FCR approach. This video is available in the “Related Videos” section of the Full-Text article on PRSGlobalOpen.com or available at <http://links.lww.com/PRSGO/A262>.

7. The fracture is reduced while supinating the proximal fragment and providing manual longitudinal traction.
8. Place the plate 2 mm proximal to the watershed line while maintaining the fracture reduction.
9. Provisional fixation is obtained with a bicortical non-locking screw into the radial shaft (usually applied in a

**Disclosure:** Jorge Orbay is the first named inventor on the patent for the Skeletal Dynamics, Geminus distal radius plating system. Neither of the other authors has any financial disclosures. The Article Processing Charge was waived at the discretion of the Editor-in-Chief.

- sliding slot, which enables the bone to be brought to the plate).
10. While maintaining the reduction, use k-wires through the proximal ulnar hole of the lunate head and proximal radial hole of the scaphoid head to secure the plate to the scaphoid and lunate fossa. Confirm the reduction fluoroscopically.
  11. With appropriate reduction and plate fixation, bend the k-wires out of the way; drill (through the dorsal cortex), and fill the distal holes, starting with the distal medial peg of the lunate head (using a 16-mm screw), followed by the distal pegs of the scaphoid head, then the remaining pegs.
  12. Drill (bicortical) and fill the remaining proximal shaft screws to complete the fixation.
  13. Confirm reduction and screw length with an AP, lateral, oblique, and 10-degree lateral view. A dorsal horizon (sunrise) view can be used if screw penetration is a concern.
  14. Repair soft tissues as you close; use a soft postoperative dressing.
  15. Begin rehab after approximately 1 week postoperative:
    - Immediate finger motion
    - Allow for light activities of daily living
    - Splint as needed up to 4 additional weeks.

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