



Ep 7 Notes- Distal Radius Fracture - Dr. Brooks Ficke, MD



History/Physical

- History Q's: What, When, How, Assess for pain and numbness
Medical hx - relevant comorbidities (osteoporosis)
- PE's: Inspect the skin (open fxs, bruises, swelling, deformity, etc)
Palpation - Assess for tenderness at wrist, metacarpals, forearm, elbow;
Neurovascular- Check median, ulnar, radial nerve
ROM - Check for tendon motion (pay close attention to EPL tendon (known to spontaneously rupture))



Imaging

Radiographs

- *PA* - visualize the articular surface and assess ulnar variance
- *Oblique*
- *10-degree Lateral*- helps profile the lunate facet
- *Pronated oblique view* - profiles the dorsal ulnar cortex

- Parameters

Volar Tilt: Normal: 11 degrees volar (Acceptable reduction: dorsal angulation <5 degrees)

Radial inclination: Normal 20 degrees from radial styloid to ulnar edge of lunate facet (Acceptable reduction: < 5 degrees change)

Intra-articular displacement: Normal: none (Acceptable reduction: 2mm of intra articular step or gap)

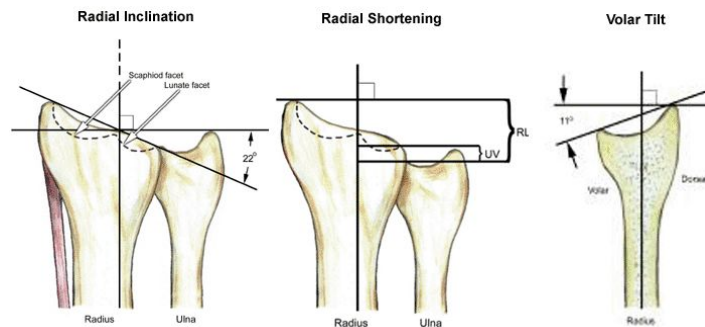


Photo taken from orthobullets.com

CT Images

Can be considered to evaluate for intra-articular involvement.



Anatomy

- Volar Approach (Workhorse Approach)
 - Approach between the brachioradialis and FCR
 - Skin incision radial to FCR tendon (Avoid damage to the Radial artery and palmar cutaneous nerve)
 - Sweep the FPL ulnarly. Elevate the pronator using an L shaped incision
 - Incise PQ on its radial border which will expose the Distal radius

Treatment

- *Closed Reduction and Immobilization*
For acceptable aligned DR fxs after reduction with low chance of displacement
Fractures often reduced under hematoma block





- After successful reduction, the patient is then placed into a sugar tongue splint which may later be switched to a cast
- Risk for Displacement:
 - a) Over 60 yo
 - b) >20 degrees dorsal angulation
 - c) 5mm radial shortening
 - d) Dorsal comminution
 - e) intra-articular involvement
 - f) ulna fracture

Acceptable Reduction

- <15° dorsal and <20° palmar tilt
- >15° radial inclination
- < 5mm radial shortening
- Ulnar variance negative or neutral
- Articular gap <2mm
- Articular step <1mm



Operative Management

- *Percutaneous Pinning*
- *Individual Fragment Fixation*

uses a series of low-profile plates and clips to give rigid fracture fixation

(Radiographic parameters more superior with volar locked plating and the complication rate is higher with frag specific fixation)

- Can be very helpful for comminuted fractures
- Also can be used for volar fragment specific fixation



- *Dorsal Plating*

Dorsal approach sometimes used for fxs w/ metaphysical comminution which often collapses in a dorsal direction. Approach allows for buttressing of these fragments

- EPL rupture is a concern

- *Volar Fixed Angle Plating*

- often preferred over dorsal plating

- May be able to better correct volar tilt

- FPL and EPL rupture are possible

Complications

1. Carpal Tunnel Syndrome
2. EPL/FPL Rupture
3. Compartment Syndrome
4. CRPS

Dr. Ficke. Fickebw@resurgens.com

Nailed It Ortho podcast episode 7

- Ig: Naileditortho -

Naileditortho@gmail.com -

www.naileditortho.com

References:

1. Orthobullets.com
2. Schnependahl J, Windolf J, Kaufmann R. Distal Radius Fractures: Current Concepts. *J Hand Surg* 2012;37A:1718-1725.

