


Clearing the Muddy Waters: Managing Injuries in the Workplace




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From Fracture to Function: Navigating Distal Radius Injuries in the Working Population

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Why Should You Care?




- Distal radius fractures = **most common** upper extremity fracture
- High frequency in:
 - Slips/falls at work
 - Construction, healthcare, warehouse jobs
- High variability in:
 - Treatment
 - Recovery time
 - Return-to-work outcomes



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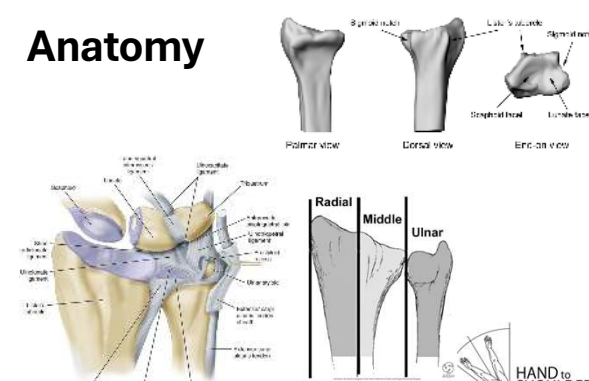
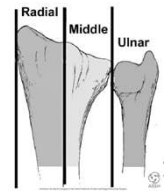
Learning Objectives

1. Identify common mechanisms and patterns of distal radius fractures
2. Understand basic fracture classifications (no residency required)
3. Compare non-operative vs operative management
4. Recognize common complications and delays in recovery
5. Anticipate realistic return-to-work timelines
6. Spot red flags early (before the claim goes sideways)




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Anatomy

© 2011, Triangular Fibrocartilage Complex Injuries



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How do these happen?

- Fall on outstretched wrist
- Ladders
- Wet floors
- Ice
- Machinery accidents




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Treatment Options: Initial Management

- ER/Urgent Care vs Walk- In Clinic
 - Open fracture?
 - Multiple extremities?
 - Neurovascular exam
- X-rays
 - Wrist
 - Hand and elbow?
- Splint
- Referral

Hand to Shoulder Injury Walk-in

APPLETON
8:00-4:30
Monday - Friday

From the fingertip to the shoulder
Cuts, Crush, Break, Sprain
We have you covered.



p. (920) 730-8833
Book ahead online



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Treatment Options???

Non-operative?
Surgery?

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Fracture Patterns



- Extra vs intra-articular
- Displaced vs nondisplaced
- Stable vs unstable
 - Lafontaine Criteria
 - AAOS guidelines
- Controversy

TABLE 1. Criteria of Lafontaine et al³

Instal dorsal angulation > 20°

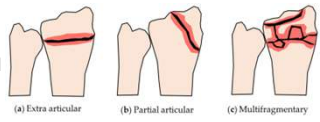
Dorsal comminution

Metacarpal intra-articular involvement

Associated ulna fracture

Age > 60 y

Fractures with 2-3 gravity factors are associated with loss of motion regardless of cast immobilization.



Pramudita et al. (2022). Variations in Strain Distribution at Distal Radius under Different Loading Conditions. Life, 12, 740. 10.3390/life12050740. Alluri, Ram Kiran et al. (2016) "Distal Radius Fractures: Approaches, Indications, and Techniques." The Journal of hand surgery 41 B: 845-54 .


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Radiographs

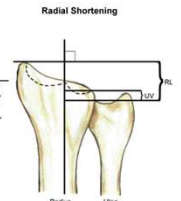
AAOS Guidelines

- >2mm of articular step-off
- >3mm of radial shortening
- >10° of dorsal angulation
- >5° of radial inclination

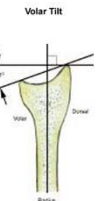
Radial Inclination




Radial Shortening



Volar Tilt



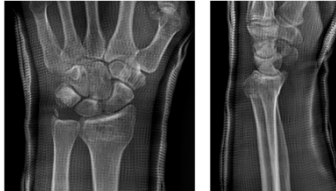



Distal Radius Fractures

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Treatment Options: Non-Operative



- Who Qualifies?
 - Stable fractures
 - Acceptable alignment
 - Low functional demands
- Treatment
 - Cast vs Plaster
 - Serial XR
- Pros/Cons
 - Cheaper up front ≠ cheaper long term

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Treatment Options: Operative

- Indications:
 - Displacement
 - Intra-articular involvement
 - Fx pattern/instability
- Surgery:
 - ORIF/Plate fixation (volar/dorsal)
 - K-wire fixation
 - External fixation/bridge plate

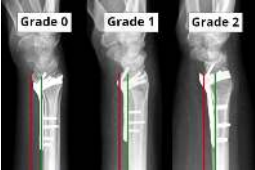




Papadimitrakis A, Ruch D. 2005. Internal distraction plating of distal radius fractures. Tech Hand Upper Extrem Surg. 9(1):2-6

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Complications

- Stiffness
- Tendon irritation (Soong Classification)
- Carpal tunnel
- Malunion/nonunion
- Infection
- Complex Regional Pain Syndrome






Vasara et al. Higher Soong grade predicts flexor tendon issues after volar plating of distal radius fractures – a retrospective cohort study. BMC Musculoskelet Disord 24, 271 (2023).

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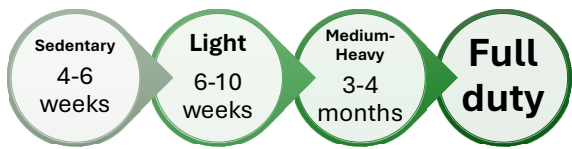

Rehab

- 7-14 days post-op:
 - Transition to removable splint
 - A/AROM to wrist, thumb, fingers, forearm, and shoulder
- 6 weeks:
 - Wear out of splint, wear during heavy activity only
 - Progress strengthening
- 3 months:
 - Full weight bearing
 - Work conditioning

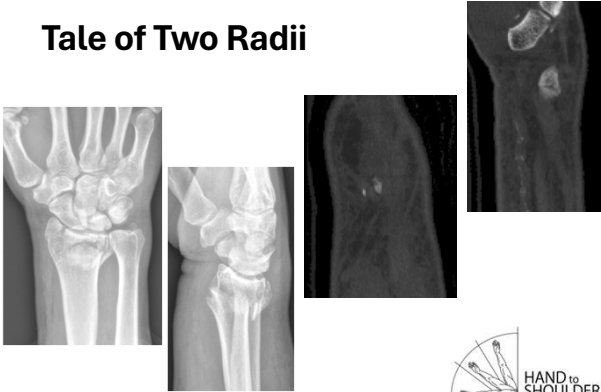

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Return to Work Timeline



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Tale of Two Radii



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Tale of Two Radii

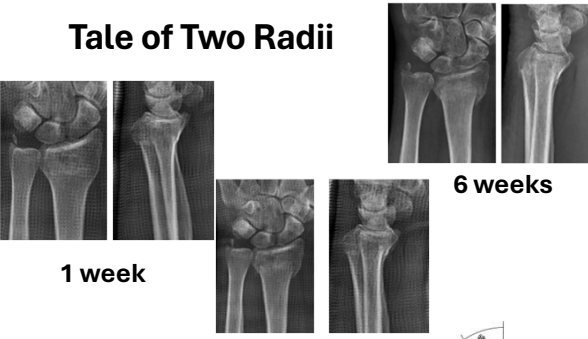
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Tale of Two Radii

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Tale of Two Radii



1 week

3 weeks

6 weeks



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Takeaways

- Distal radius fractures are common, but complex
- Early decisions matter
- Rehab is not optional
- Communication drives outcomes
- Most workers **do get back to work**



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Questions?



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