



Fracture Management: Considerations for RTS

Orthopaedic Symposium

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Variability

- Location
 - Which Bone?
 - Articular involvement?
 - Polytrauma?
- Fracture pattern
 - Stable vs unstable
 - Displaced vs non-displaced
 - Reducible vs irreducible
 - Transverse vs Short Oblique vs Long Oblique
- Severity
 - Open vs Closed
 - Simple vs Comminuted
 - Soft tissue involvement
- Treatment
 - Non-op vs Op
 - PT/OT
 - Compliance
- Length of symptoms
 - Pain control
- Underlying bone health
- Type of sport
 - Collision vs Non-contact
 - UE WB (Gymnastics, Weightlifting)
- Position played
 - Soccer goalie vs MF
- Limb dominance
 - Hand & dexterity requirement
- Ability to protect
- Level of competition

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Type & Location

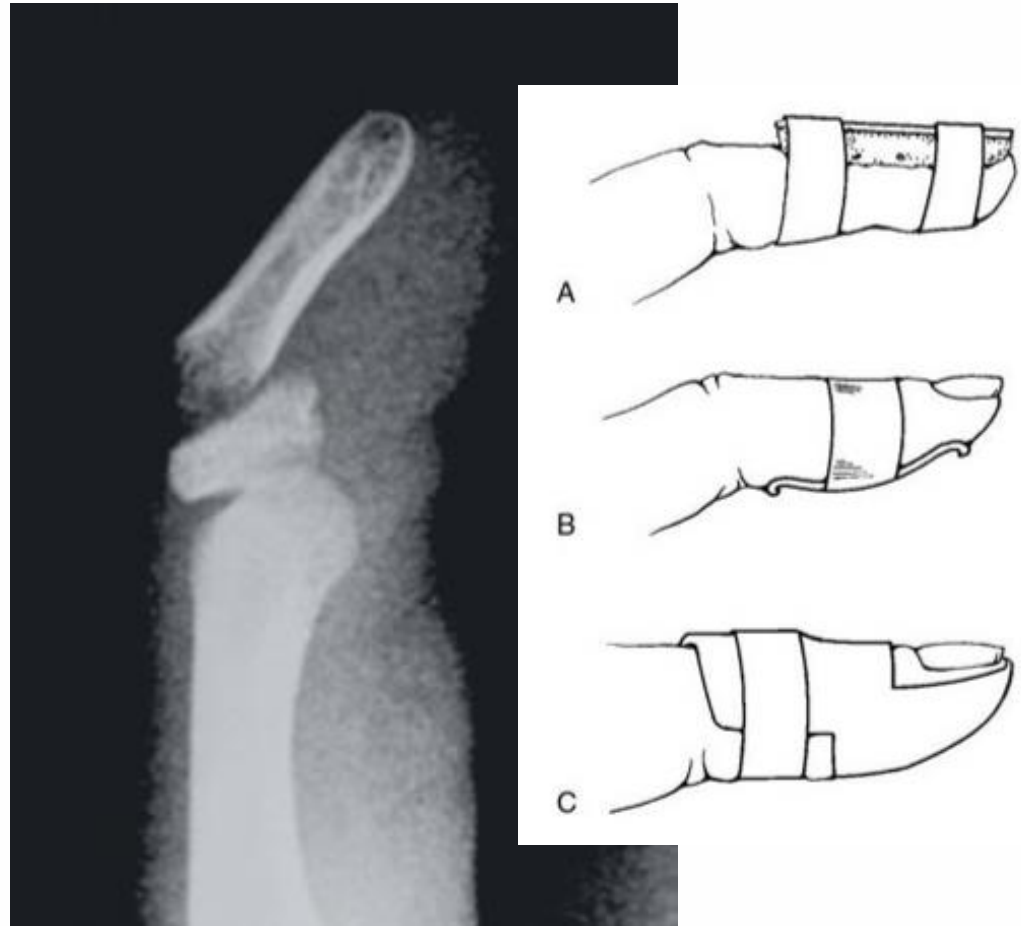
- Closed
- Stable
- Non-displaced
- Extraarticular
- Extraphyseal
- NV intact
- UE
- LE
- Pelvis
- Spine

Type & Location

- Open
- Unstable
- Displaced
 - Angulation/Malrotation/Shortening
- Intraarticular
- Physeal involvement
- NV injury
- Tendon/Ligament injury
- Skin tenting
- Dislocations
- Irreducible
- Swelling
 - Compartment Syndrome

Phalanx/Metacarpal/Carpal Fractures

- Factors
 - Nail-bed involved
 - Subungual hematoma
 - Sports where hands are used often
- Most phalanx fxs may RTS w/ adequate protection (cast, splint, buddy taping) as long as pain is tolerable
- Period of splinting: 6-12wks
- Individualized treatment

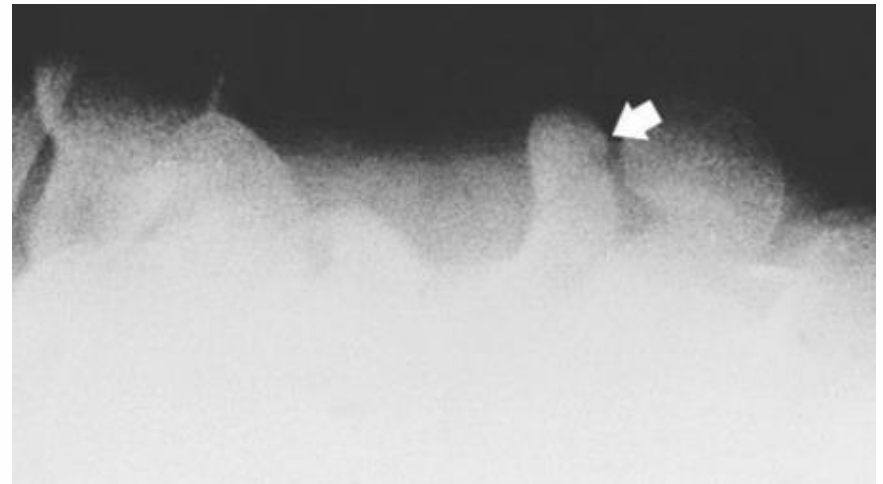


Treatment Modalities

- Surgery vs Casting/Splinting
- Protective splinting/bracing/buddy taping
- Does the hardware need to be removed?

Hook of Hamate Fxs

- Blunt trauma to the ulnar base of the wrist
- Stick Sports
 - Baseball, Golf, Tennis
- Carpal-Tunnel X-ray View
- RTS
 - Non-op 6wks in cast
 - Op w/ excision, RTS 4-6 wks
 - Protective splinting until full non-tender ROM and strength 80% that of the uninjured wrist
 - Use pain as a guide



Radius & Ulna Fractures



- Cast immobilization 6 weeks
- Return to sport is dictated
 - severity of the injury
 - extent of treatment & PT/OT needed
 - type of sport, position played
 - degree of impaired ROM & strength
- Changing positions, non-contact sport, practice only
- **Refracture common in shaft fxs**
 - Returning to contact sports too soon
 - Premature discontinuation of protection
- Delay contact & collision sports until complete bone healing on x-ray
- Wearing protective splint upon return to contact sports
 - Sports where falls are possible
 - **Cylindrical forearm splint 2-6 wks**
- Functional ROM & strength
 - strength 80% that of the uninjured forearm
- Pain free

Patella, Tib, Fib Fractures

- Factors
 - Traumatic arthrotomy
 - Tendon/Ligament injuries
 - Unable to perform straight leg raise
 - Compartment syndrome
 - Concomitant injuries
 - Atrophy, weakness
 - Running, Squatting, Jumping, Kicking, Cutting, Pivoting
- Knee immobilized
 - Locked in extension
 - Initial period of NWB, ankle ROM
 - Advance to WB, quad strengthening
- Post-immobilization
 - Gradual progression from non-contact, low energy sports (swimming, walking, biking) to jogging, cutting, and jumping sports once full knee ROM & strength, are achieved and pain has resolved
- Limit prolonged or stressful WB activities for many months until healing is nearly complete



Sport Specific Demands

- High-impact vs Low-impact
- Contact vs Non-contact
- UE weightbearing
 - Gymnastics, Weightlifting
- Long distance running

Rehabilitation & Recovery

- Time to RTS varies
- Pain controlled or pain free
- Full or Functional ROM & grip strength
 - >80% strength compared w/ non-injured side
- Dexterity requirement
- Callus formation seen on x-ray

Individual Health & Age

- Younger
- Healthier
 - Diet
 - Bone health

Risk of Re-injury

- Both Bone Forearm Fxs

Patient Compliance

- Adherence to the treatment & recovery plan is crucial

Individualized Treatment

- Cornerstone of effective healthcare
- Each person is unique
 - Different needs and goals
 - Specific conditions & circumstances
 - Distinct medical histories
- Maximize successful outcomes
- Minimizes the risk of complications
- Optimizes the recovery process

Injury Prevention

- Sustained Athletic Performance
- Longevity in Sports
- Health and Well-Being
- Team Success
- Economic Impact
- Promoting a Safety Culture
- Youth and Amateur Athletes

Questions?