Fractures and Dislocations of the Ankle in Athletes

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Ankle Injuries in Athletes

- Extremely common injury
- Important to expeditiously evaluate and treat the athlete
- Important to differentiate between ankle fracture, dislocation and ankle sprain
- Delay in diagnosis or treatment can adversely affect the athletes time to return to sport and outcome.

On field management-ankle sprain

- Evaluate for obvious deformity
- Leave shoe on
- Mechanism of injury
- Get patient off field
- Note time and score
- Inversion or Eversion

Inversion
- Eval ecápita
- Yes→done
- No→eval ability to cut/run

Eversion
- Pain prox fibula, squeeze, deltoid
- Yes→Suspect syndesmotic
- No→can get up on toe
- Yes→eval cut/run
- No→unlikely
Ankle Injury

- Sprain
  - Lateral
  - Eval severity
  - Ice
  - Boot/lace up brace
  - Tape
  - Meds
  - Injection?
  - Go as tolerated
- High
  - Boot
  - Oral meds
  - Injection
  - Expect longer recovery

- Fracture
  - Stable
    - Boot
    - Early ROM, therapy, avoid NSAIDS
  - Unstable
    - Surgery
  - High Stakes
    - Ankle is unforgiving
    - If in doubt, make certain anatomic and stable

Return to Sport

- Robertson et al, Foot & Ankle International, 2014
- Epidemiology, Management, and Outcome of Sport-Related Ankle Fractures in a Standard UK Population
- All fractures presenting to Lothian adult ortho service 2007-8 were prospectively evaluated and contacting in 2011
- 84/96 patients/fxs followed for mean 36 mo
- Most common sports soccer(49), rugby(15)

Return to Sport

- 52 Non op fx, 44 Operative
- Mean return to sport p<.001
  - Non op--20 weeks(4-52w)
  - Operative--35 weeks (8-104w)
- Return to sport p<.016
  - Non op 100%
  - Op 87%
- Persistent symptoms p<.001
  - Non operative-17%
    - None interfered with sport
  - Operative -71%
    - 8/27 interfered with sport
Return to Sport

- Non displaced ankle fractures can be managed nonoperatively
- Greater return to sport, quicker return times, lower persisting symptom rates, but less severe injuries

Unstable Ankle Fractures in Athletes

- Rigid anatomic ORIF and repair of indicated ligaments
- Accelerated rehab—near immediate ROM and early appropriate WB
- Return to sport
  - Early as 4 w for isolated Lat mll
  - 8-10 w after bimalle equivalent with deltoid repair
  - 4-6 mo for syndesmotic injury

Jelinek & Porter, Foot Ankle Clin N Amer, 2009

Athletes-High Energy
Deltoid Repair in NFL Players
- Hsu, Lareau, Anderson, F&AI, 2015
- Repair of Acute Superficial Deltoid Complex Avulsion During Ankle Fracture Fixation in National Football League Players
- Hypothesized high energy injury and infolded, retracted lig may cause pain, malreduction, instability and ↑medial clear space
- 14 NFL football players, 2004-14

Deltoid Repair NFL
- Sx-Scope, debridement, fibula ORIF, suture button syndesmosis fixation, open deltoid lig repair w suture anchors
- Results
  - All returned to running/cutting by 6 months
  - No sig diff in playing experience pre or post injury
  - Ave playing experience after injury was 1.6 seasons, 16 games played, 15 games started
  - 86% return to play for all players
Deltoid Repair NFL

- Conclusions-
  - Sup deltoid lig injury during high energy ankle fractures may benefit from open repair
  - Majority of NFL players treated with repair returned to play with no medial instability or pain.

Ankle Scope in Acute Ankle Injuries in Athletes

- Hepple, Guha, Foot Ankle Clin N Am, 2013
- Highlight a role for ankle scopes for acute ankle injuries
- Up to 60% of ankle fx may have a cartilage injury

Persistent Pain

August 2012
Summary

- Ankle injuries are common in athletes
- Important to expeditiously and accurately diagnose the athlete’s injury
- Sprains and non-displaced fractures can be mobilized early
- Unstable fractures require rigid anatomic reduction with early ROM and weight bearing if appropriate
- Return to play data is promising

Thank you