

High Ankle Sprains/ Syndesmotic Injuries



Introduction – Ankle Sprains

- 21% of all athletic injuries are to the *ankle*
- 25% of NFL injuries are foot and ankle related



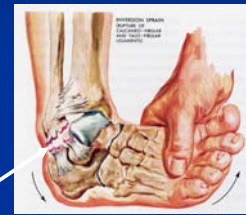
Introduction – Ankle Sprains

- Vast majority are simple “inversion” twisting types



Introduction – Ankle Sprains

- *Classic* sprains involve the lower situated ligaments on the outside of the ankle



Introduction – Ankle Sprains

- *Classic* ankle sprains can be rehabbed and then protected with a brace
- Generally well within 2-3 weeks




Introduction – Ankle Sprains

- *High* ankle sprains are much different!
 - Anatomy
 - Mechanism
 - Treatment
 - Recovery



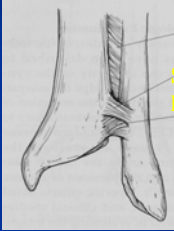
Anatomy – Ankle

- A hinged joint composed of three bones (tibia, fibula, talus) and stabilized by multiple ligaments



Anatomy – Ankle


- An important ligament connects the tibia to the fibula above the ankle joint = syndesmotic ligament



Syndesmotic ligaments

The High Ankle Sprain

- Unlike a classic ankle sprain, usually a result of direct force



Lateral force to knee

High Ankle Sprain

- Mechanism
 - Foot fixed to ground
 - Injury force
 - External rotation
 - Dorsiflexion



High Ankle Sprain

- Mechanism
 - Foot fixed to ground
 - Injury force
 - External rotation
 - Dorsiflexion



High Ankle Sprain

- Mechanism
 - Ligaments rupture



High Ankle Sprain

- Continuum of injury = minor stretch to a frank separation of the syndesmotic ligament
- Interval between the tibia and fibula widens (diastasis)



High Ankle Sprain

Main issues

- Making correct and early diagnosis
- Providing appropriate treatment
- Predicting return to play
- Avoiding late problems



High Ankle Sprain

- Frequently missed initially
- Wide spread swelling and pain – varying degrees
- Difficulty with weightbearing



Squeeze Test

High Ankle Sprain

- Xrays help to make the diagnosis
 - Look for separation between the tibia and fibula



High Ankle Sprain

- Stress xrays help to make the diagnosis
 - Look for separation between the tibia and fibula



High Ankle Sprain

Treatment

- Nonoperative vs. operative
- Based on degree of separation and instability



High Ankle Sprain

Treatment

- No separation/instability
 - Cast or boot
 - Weightbare immediately
 - Return to work 2-3x longer than classic ankle sprain
 - 6-8 weeks average



High Ankle Sprain

Treatment

- Separation/instability
 - Arthroscopic debridement
 - Screw fixation



High Ankle Sprain

Treatment

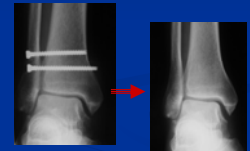
- Separation/instability
 - Open repair
 - 2 screw fixation



High Ankle Sprain

Treatment

- Separation/instability
 - Screws require removal at 10-12 weeks postoperative



High Ankle Sprain

Operative treatment

- Goal
 - Restore the normal relationship of the bones and joint
 - Provide adequate fixation and time to achieve healing



High Ankle Sprain

After surgery

- Long period of casting and crutches
- Screw removal followed by period of relative protection
- Return to sports at 6-9 months



High Ankle Sprain

Rehab

- Requires intense graduated program



Pool Therapy

High Ankle Sprain

Rehab

- Long term taping and bracing recommended



High Ankle Sprain

Rehab

- Potential for recurrent injury



High Ankle Sprain

■ NFL Data Base

- 1990-2000
 - 189 reported
 - Grass > AstroTurf
- 2000-2002
 - 163 reported
 - FieldTurf / AstroPlay > Grass

High Ankle Sprain

- Incidence appears to be increasing
- Why?



High Ankle Sprain

- Better recognized/reported
- More physical players, higher energy injuries
- Shoewear changes
- Field/turf conditions



High Ankle Sprain

- Shoewear changes
 - Lighter weight
 - More flexible
 - Seldom high-top



High Ankle Sprain

- Field/turf conditions
 - Trend towards more injuries in newer turf designs?



High Ankle Sprain

- Field/turf conditions
 - Surface slick
 - Longer cleats used
 - Cleats catch deep in turf



High Ankle Sprain

- NFL Injury Panel
 - 3 year review in progress utilizing the Data Bank
 - Looking for "trends"



High Ankle Sprain

- Summary
- Have a high index of suspicion
 - Treat aggressively
 - Appreciate lengthy recovery
 - Work towards prevention



High Ankle Sprain

- Prognosis
- Anecdotal reports – most do well
 - Take a long time to heal
 - Return to play averages 55 days



Conclusions

- Don't miss the subtle but serious injuries of the foot and ankle
- All kinds of athletes can have these injuries
- Be aware and don't be fooled

