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 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

The High Ankle Sprain

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

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)

Main issues
= Making correct and early
diagnosis
= Providing appropriate
treatment
= Predicting return to play
= Avoiding late problems

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

Squeeze Test

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

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

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

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**

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High Ankle Sprain

**Rehab**
- Long term taping and bracing recommended

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High Ankle Sprain

**Rehab**
- Potential for recurrent injury

**NFL Data Base**
- 1990-2000
  - 189 reported
  - Grass > AstroTurf
- 2000-2002
  - 163 reported
  - FieldTurf /AstroPlay> Grass

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High Ankle Sprain

**Incidence appears to be increasing**
- Why?

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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