

The Most Common Sports Injury

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Ankle Sprains

- Inversion ankle sprains are the most common injury in sports
- Up to 21% of all athletic injuries
- 2.06 ankle sprains per 1000 people per year



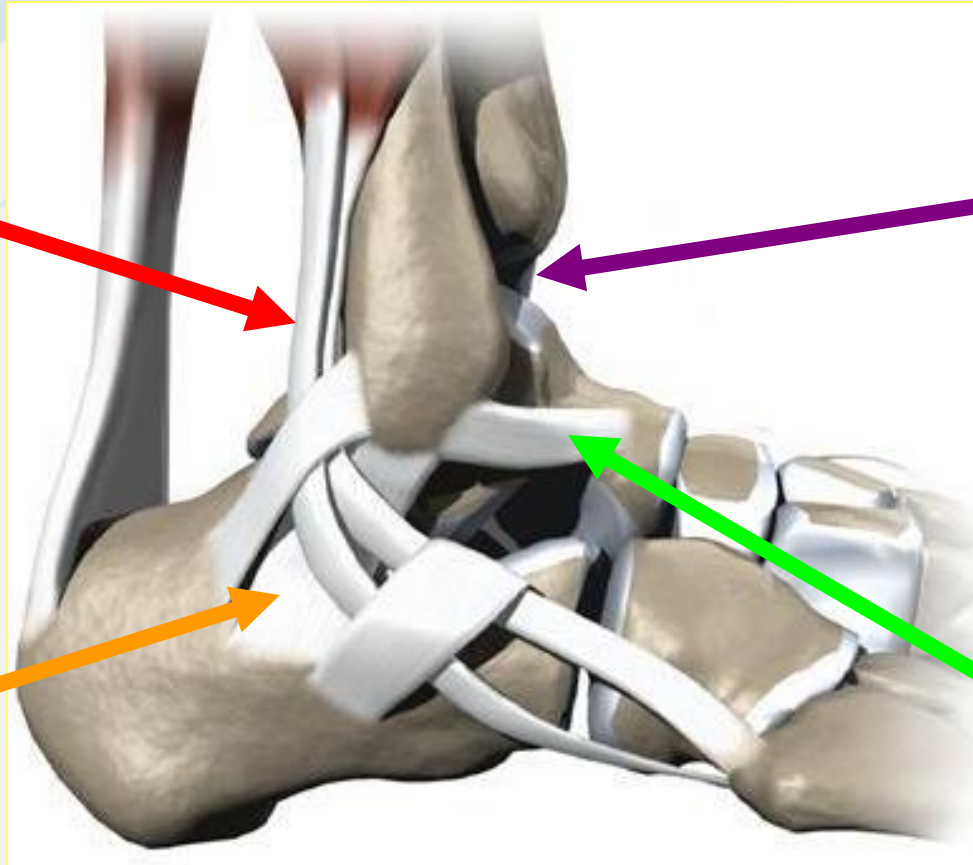
Anatomy

**Peroneal
Tendons**

**Ankle
Joint**

CFL

ATFL

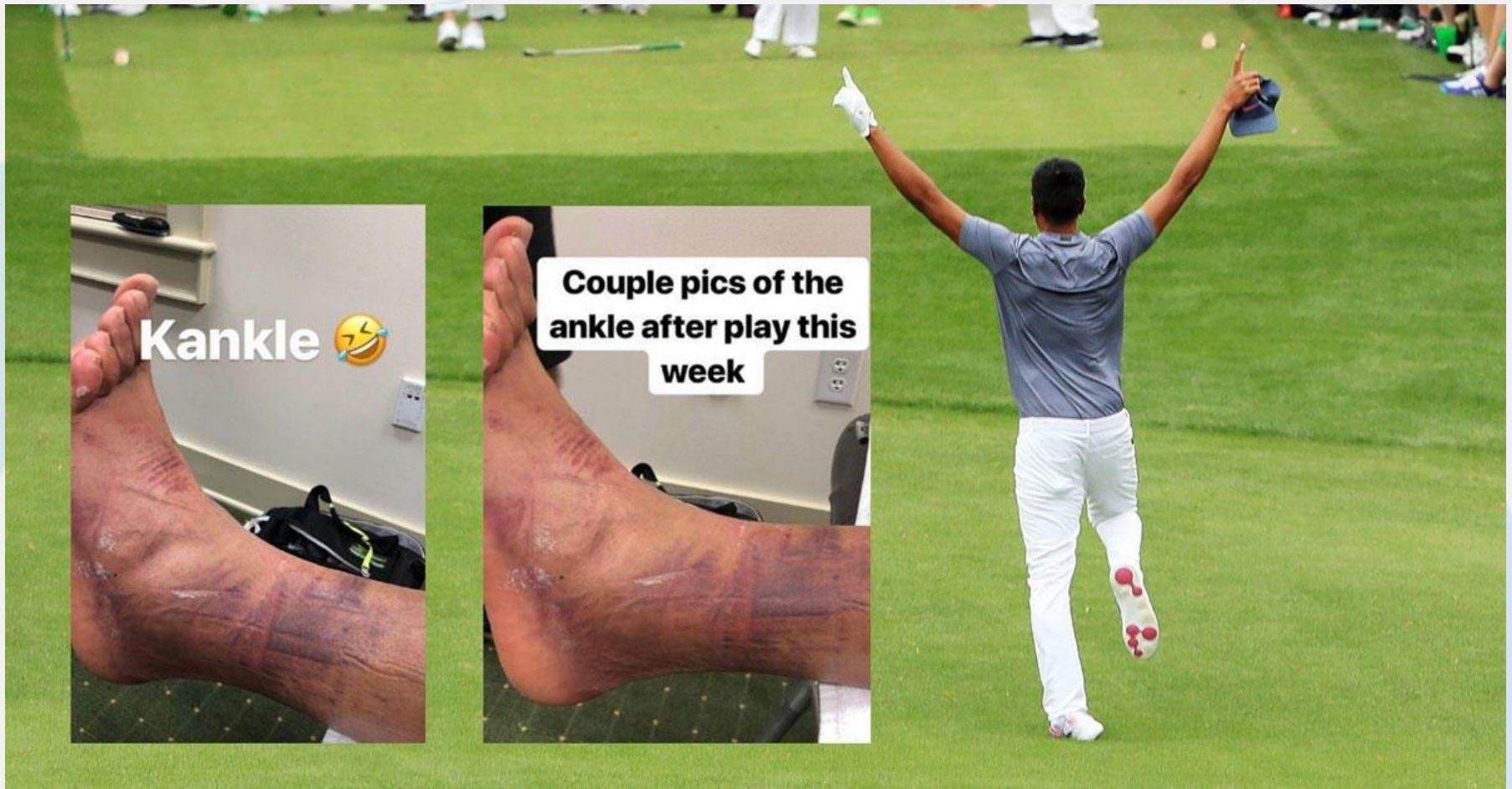


Mechanism of Injury



- Inversion of Ankle
- Tearing of lateral ligament complex

Mechanism of Injury



Diagnosis



- Classic history
- Lateral ecchymosis and tenderness over ATFL
- Medial and/or more proximal pain can indicate more severe injury

Physical Exam



Anterior Drawer Test

Diagnosis



When are x-rays required?

- Use the Ottawa Ankle Rules
 - Validated criteria for rotational ankle injuries

Diagnosis

Ottawa Ankle Rules

- Bony tenderness around the medial and/or lateral malleolus
- Inability to weight bear
- Validated for rotational ankle injuries only.
 - Does not rule out other possible associated injuries.

Associated Injuries



- Talar Dome OCD
- Syndesmosis Injury
- 5th Metatarsal Fx
- Anterior Process Calc Fx
- Lateral Talar Process Fx
- Peroneal tendon injury

Talar Dome OCD

Sprain Classification

Grade I

- Minor strain w/o tear
- No laxity

Grade II

- Partial tear
- Increased laxity

Grade III

- Complete tear



Diagnosis

Stress X-rays

- No standard technique
- Unclear what criteria define instability
- Usually diagnosis is clinical



Initial Treatment

R.I.C.E. Therapy

- Rest
- Ice
- Compression
- Elevation

NSAIDs

Bracing



Initial Treatment

Surgery for Acute Ankle Instability?



- Rarely indicated
- Multiple studies have shown equivocal long term results when compared with functional rehabilitation
- No long term difference in pain, swelling, stiffness or chronic instability

Rehabilitation



Minor sprains

- Self directed mobilization as tolerated
- Functional bracing as needed

Rehabilitation

Significant Injuries

- Immobilization
- Physical Therapy
- Emphasis on peroneal tendon strengthening
- Proprioception/balance



Rehabilitation



When static ankle stabilizers (ATFL, CFL) are torn, stability is dependent on dynamic stabilizers (Peroneals)

Rehabilitation



- Peroneal reflex arc takes 70 msec
- Muscle force development takes 80 msec
- **Approximately 150 msec for pure reflex protection.**

Rehabilitation



My son's an idiot. He sprained his ankle playing golf. He fell off the ballwasher.

— Rodney Dangerfield —

AZ QUOTES

Activities that cause rapid unexpected deformation easily outstrip the protection of the peroneals

Chronic Instability

- Up to 20% of patients with acute injuries develop chronic ankle instability
- Recurrent sprains
 - Pain and swelling
 - Difficulty negotiating uneven surfaces



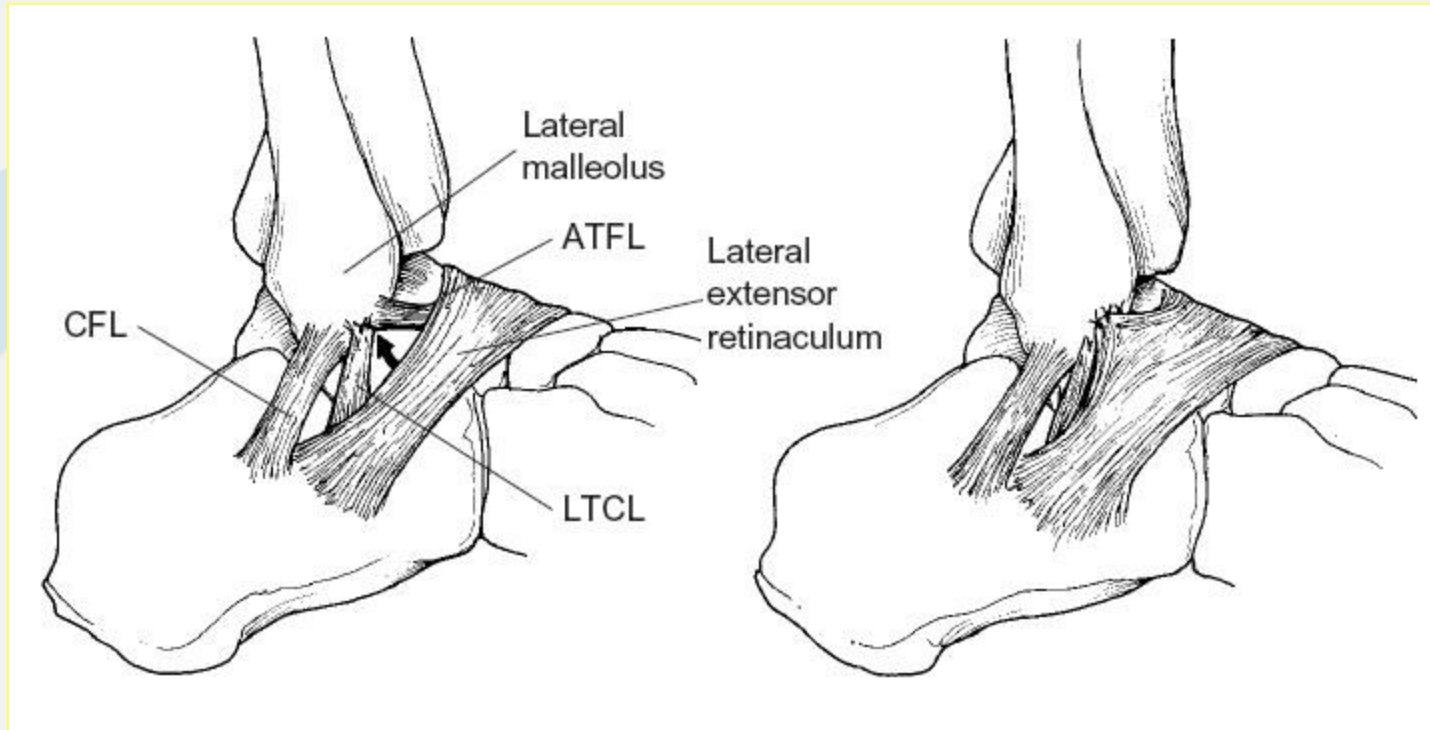
Chronic Instability



Conservative Care

- Functional rehabilitation
- Peroneal strengthening
- Proprioception
- Bracing

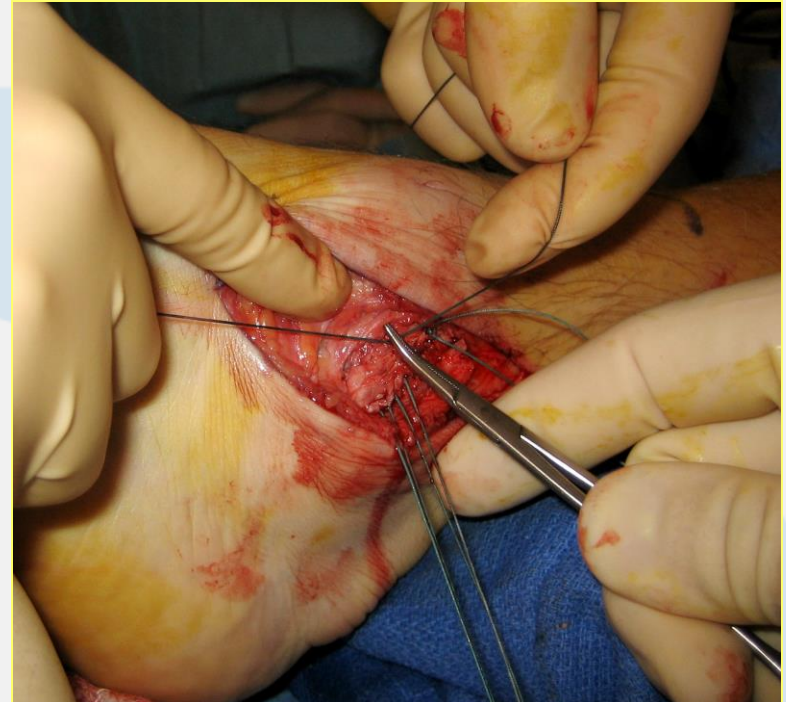
Chronic Instability



Brostrom Ligament Reconstruction

- ATFL and CFL imbricated
- Repair reinforced with Inferior Extensor Retinaculum

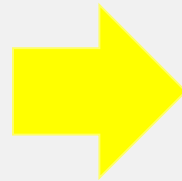
Chronic Instability



Brostrom Repair Results

- Multiple studies have shown long term success rates of over 85% with up to 30 year follow-up

Chronic Instability



“When is an Ankle Sprain Not an Ankle Sprain?”



When is an Ankle Sprain Not an Ankle Sprain?

- There are several common injury patterns that can mimic or coincide with ankle sprains



Q: When is ankle sprain not an ankle sprain?

A: In kids



Growth Plate Fractures

- Weakest part of joint is the physeal plate not ligaments
- Usually treated conservatively
- Rare growth arrest



Q: When is ankle sprain not an ankle sprain?

A: In kids



Tarsal Coalition

- Recurrent "sprains" in adolescents
- Failure of growing hindfoot bones to separate
- Unilateral fixed flatfoot



Q: When is ankle sprain not an ankle sprain?

A: When pain fails to improve as expected AND there is mechanical joint line pain



Osteochondral Lesion

- Involve talar dome
- Traumatic/idiopathic
- Can cause catching or locking of joint and persistent aching or joint line pain

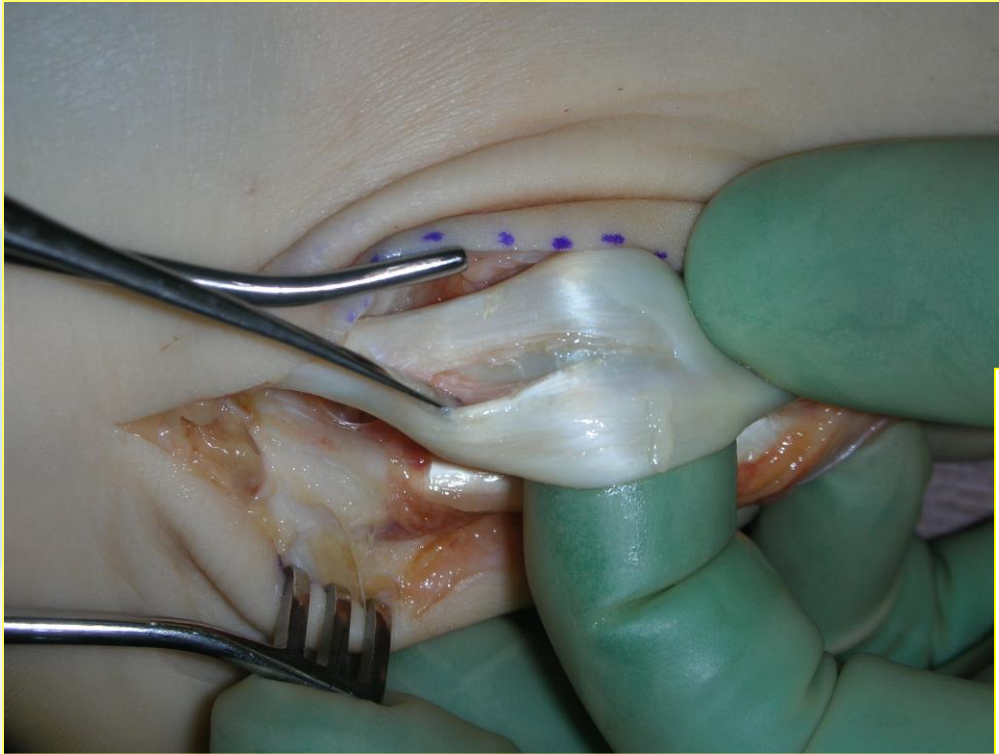


Q: When is ankle sprain not an ankle sprain?

A: *When pain fails to improve as expected AND there is lateral ankle and hindfoot pain*



Peroneal Tendon Tear



Q: When is ankle sprain not an ankle sprain?

A: *When pain fails to improve as expected AND/OR there is lateral foot pain*



5th Metatarsal Base Fracture



Q: When Is Heel Pain Not Plantar
Fasciitis?

A: In kids



Sever's Disease

- Children get calcaneal apophysitis
- Grow plate irritation
- Always self limited
- Stretching, ice, NSAIDs, heel cups



Thank You!



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