Lateral Ankle Differential

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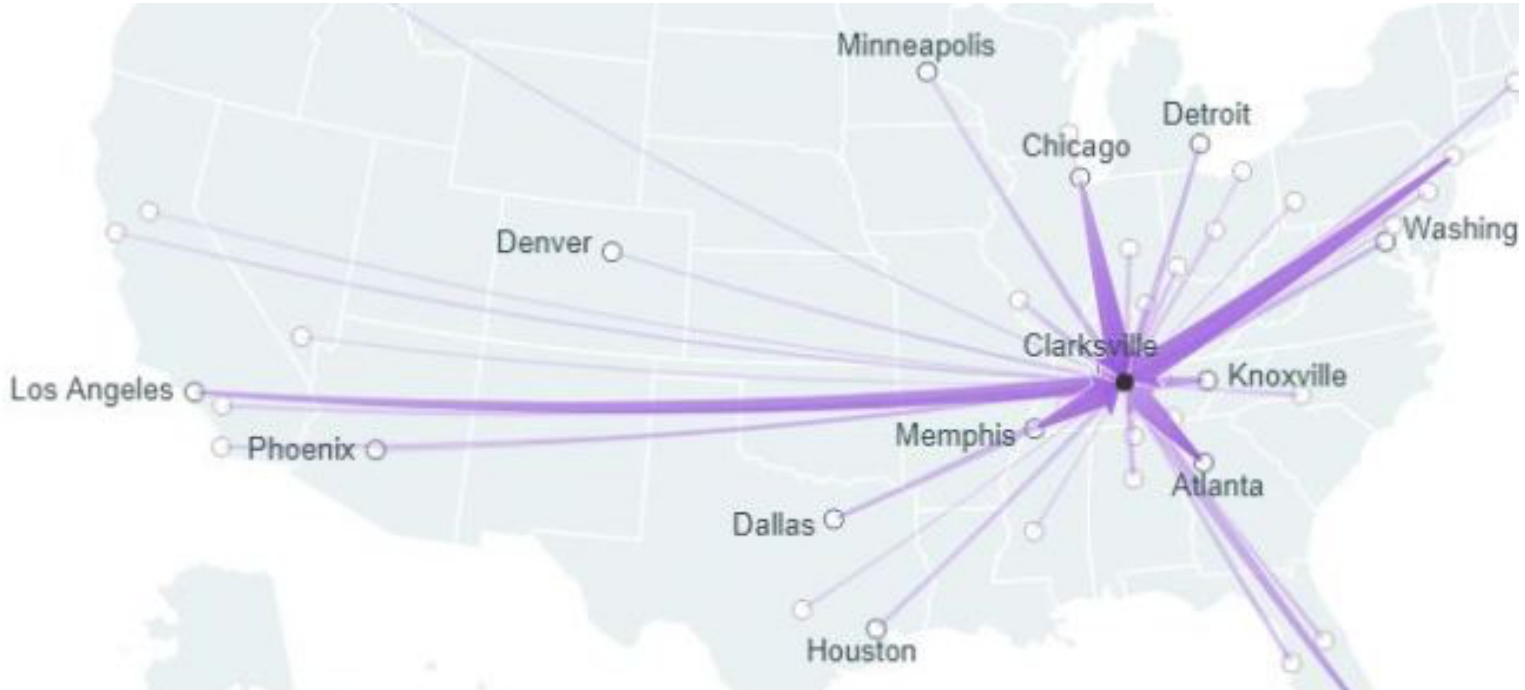
September 9, 2021 @ 8 am

PAOS in the Music City

Welcome to Nashville!

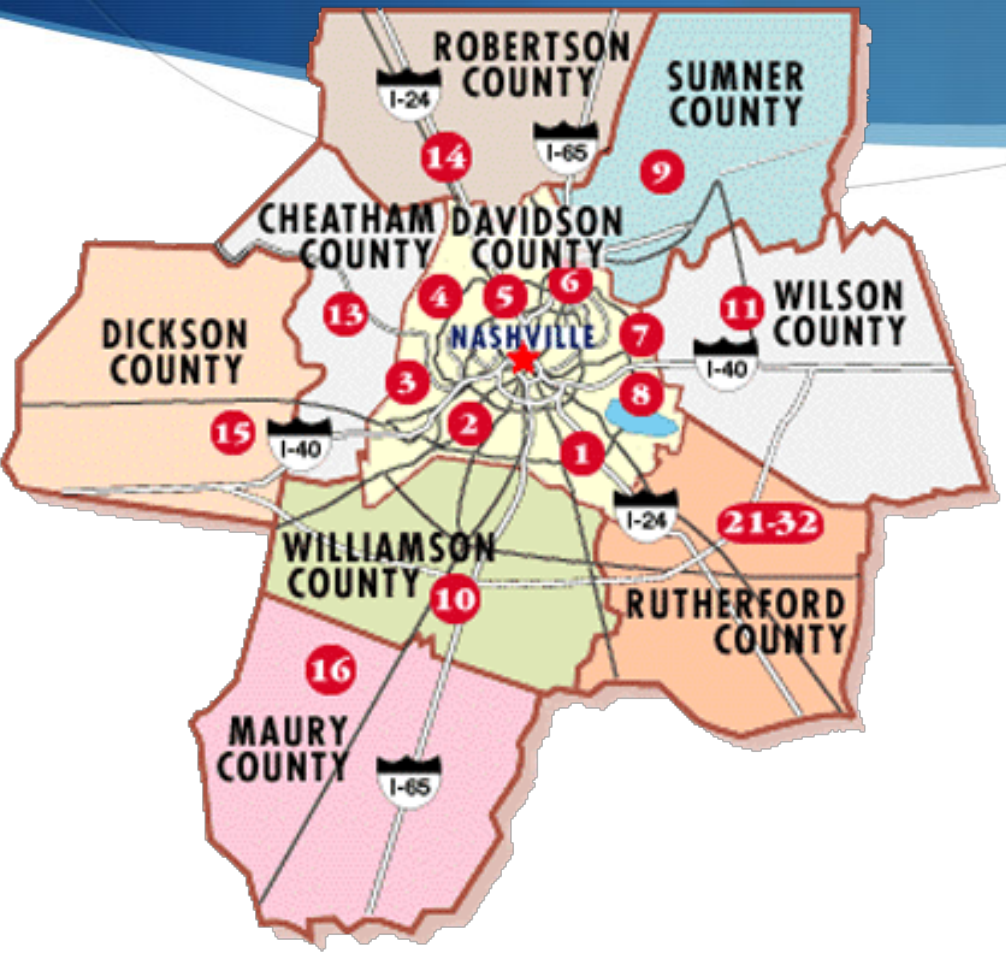
Quite a bit of influx

QUITE A BIT OF INFLUX



All Kinds of Nashvillians…

Where am I coming from?



Everybody Turns Their Ankle

- Estimates have suggested 25,000 / day

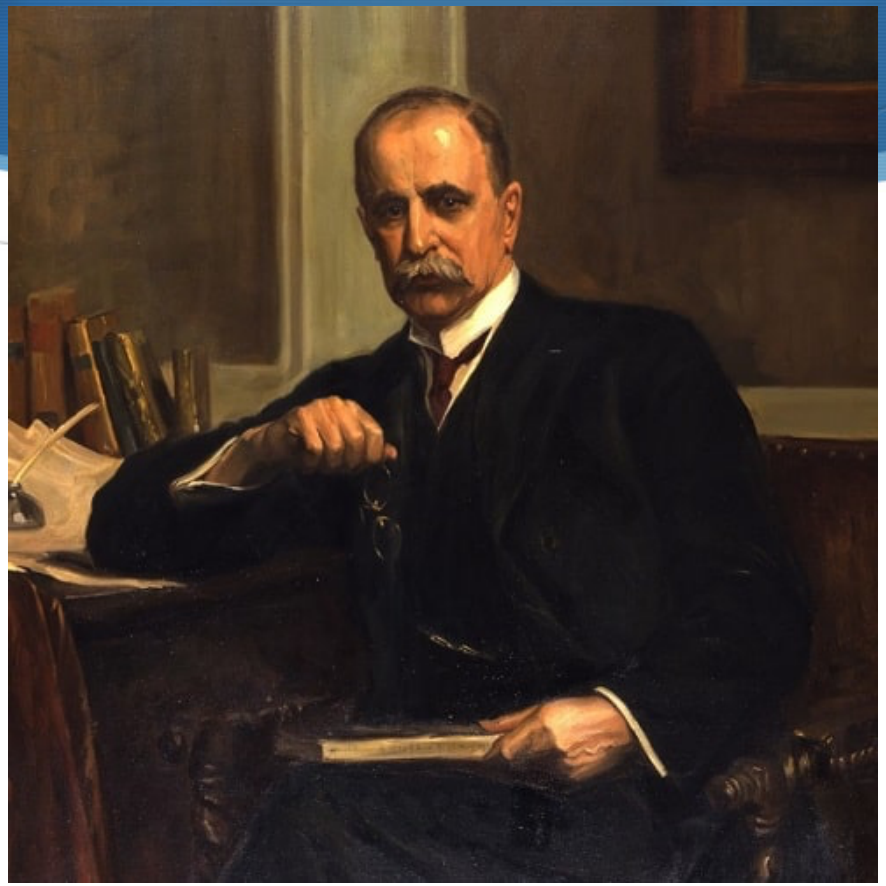
EVERYBODY…


GREEN HILLS
BELLE MEADE
FRANKLIN
EAST NASHVILLE
THE GULCH
SYLVAN PARK
ANTIOCH
GALLATIN
DONELSON

6 weeks and "No Better Doc" Now what? Differential Diagnosis

- Ligament
  - ATFL Sprain
  - CFL Sprain
  - Syndesmosis Sprain
- Tendon
  - Peroneal Tendon Tear
  - Peroneal Tendon Dislocation
- Nerve
  - Superficial Peroneal and Sural Neuritis
- Bone
  - Lateral malleolus
  - Coalition
  - 5^{th} metatarsal
  - Anterior process calcaneus
  - Talar dome
  - Lateral Process talus

Quote by Sir William Osler



"Listen to your patient;
he is telling you the diagnosis."

History

- Specific event?
- Did you hear a pop?
- Any weakness?
- Any numbness?
- How is your ankle on uneven ground ?
  - (is your ankle unstable?)

Physical Exam

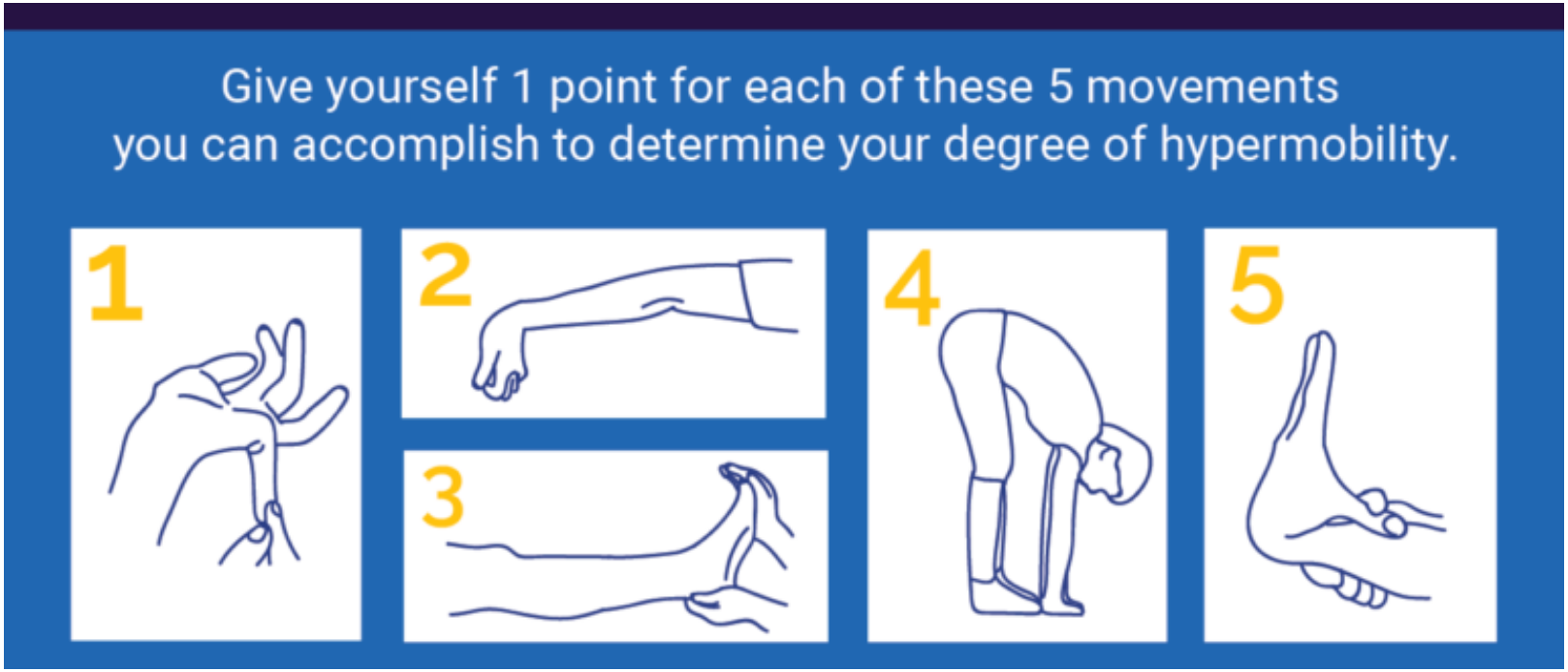
- Palpation
  - Distal fibula
  - 5th metatarsal
  - Just in front of the fibula (ATFL)
  - Anterior process calcaneus
- Stability
  - Anterior Drawer (ATFL)
  - Varus Tilt (CFL)
- Sensation
  - SPN
  - Sural
- Strength
  - Eversion
  - Inversion

Ankle Stability Exam

Anterior Drawer Test:

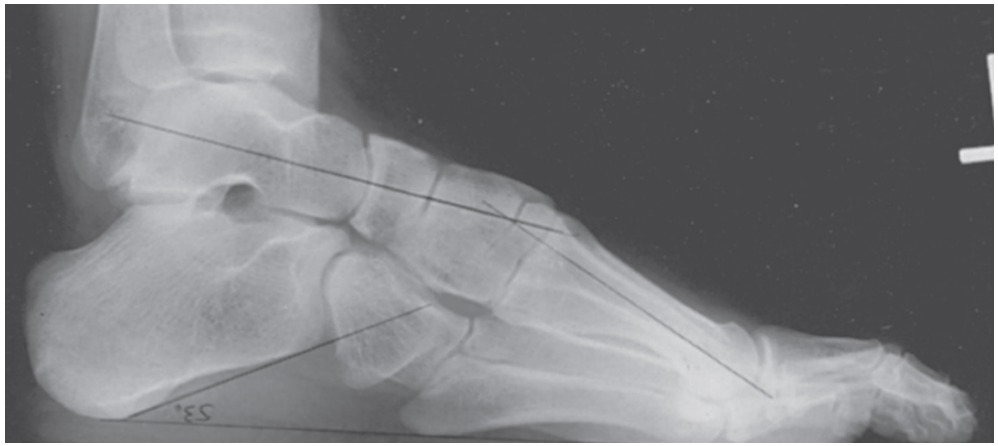
Anterior translation
with some internal rotation

Are they hypermobile?



Arch Height

- Cavus Foot (High Arch)
  - Increase risk of
    - Ankle Sprains
    - Peroneal Tendon Pathology
    - 5th metatarsal fractures



Imaging

- Radiographs
  - AP, lateral, oblique views of the ankle
  - AP, lateral, oblique views of the foot
- CT
  - Characterize known fracture
- MRI
  - Eval for unknown fracture
  - Eval bone edema/tendon/ligament/cartilage injury

Differential Diagnosis

- Ligament
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  - CFL Sprain
  - Syndesmosis Sprain
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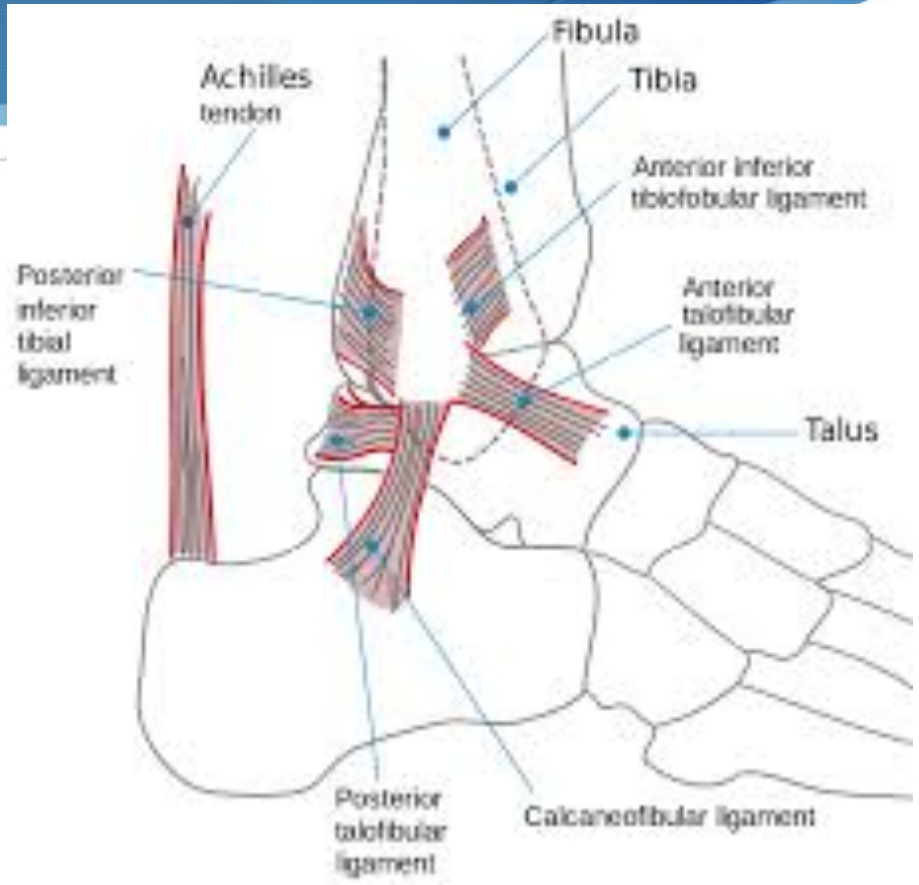
Ankle Sprains

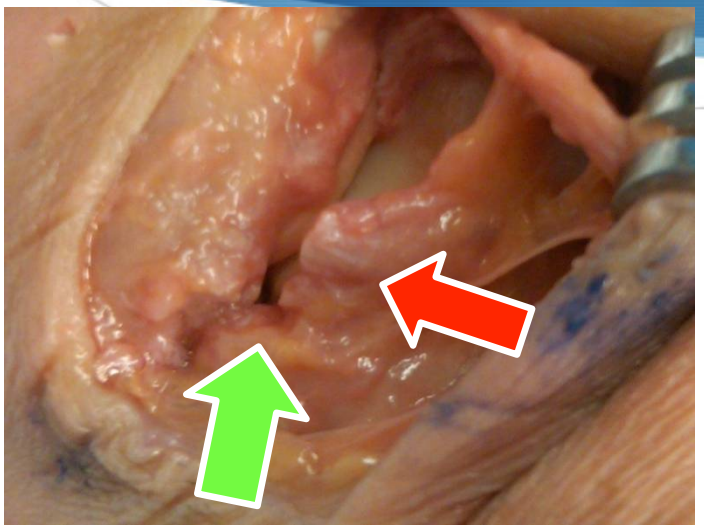
- SYNDESMOSIS (high ankle sprain)
  - Anterior Tibiofibular Ligament
  - Posterior Tibiofibular Ligament

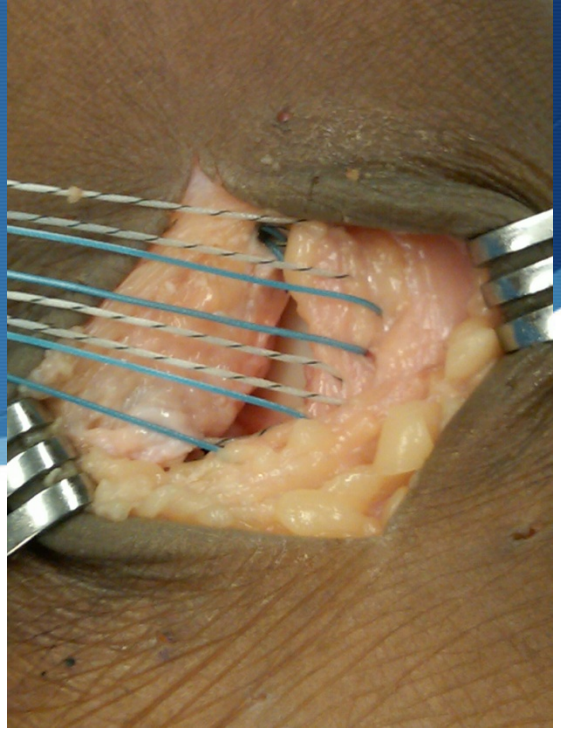
- Lateral Ankle Ligaments (regular ankle sprain)
  - Anterior talofibular ligament
  - Calcaneofibular ligament

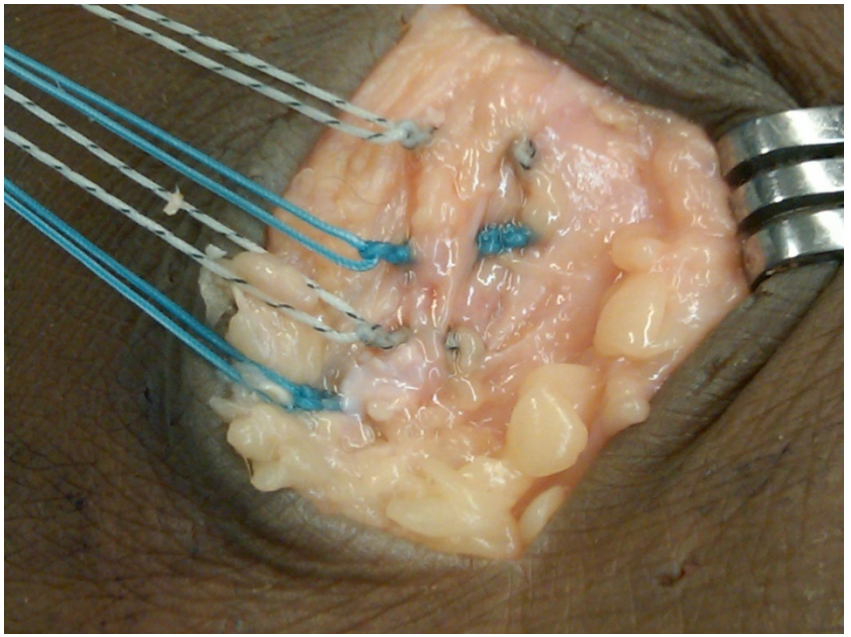


High Ankle Sprain

Brostrom

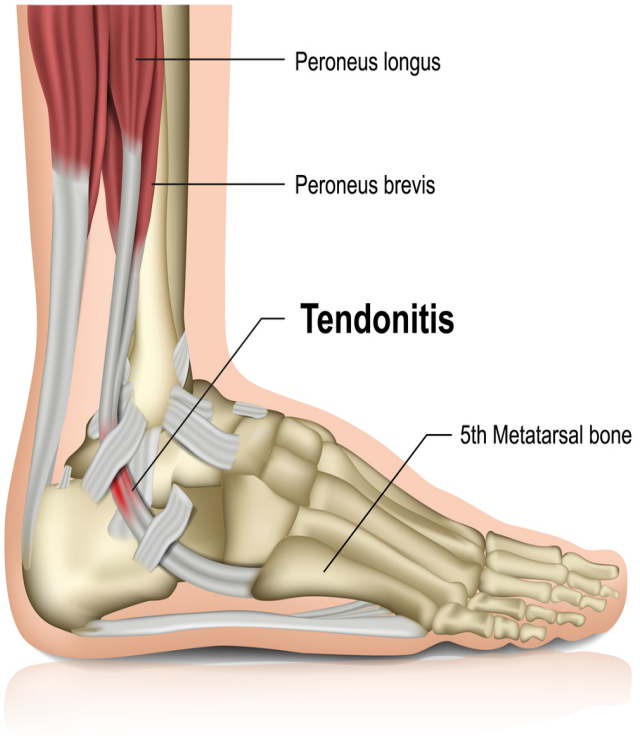






Tendons

- Peroneus Longus
- Peroneus Brevis

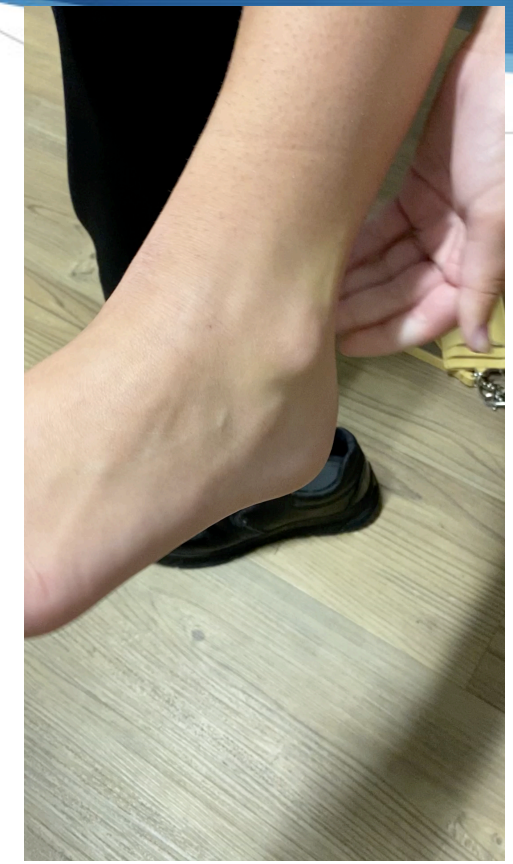


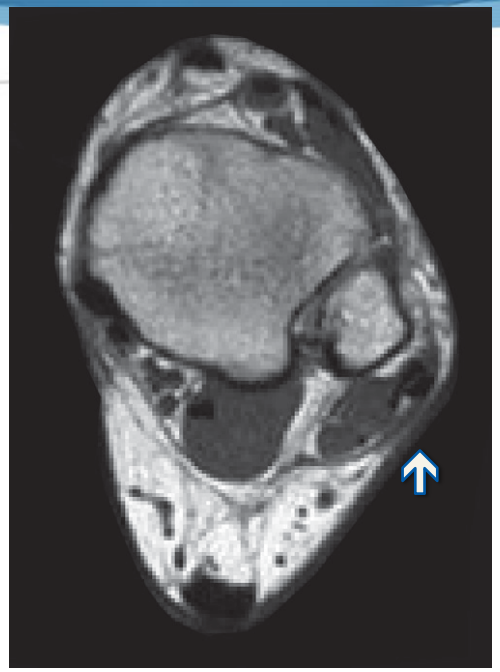
Tendon Rupture

- Usually hear a pop
- Weakness with eversion

- Brevis muscle lies lower
- Longus tendon is posterior

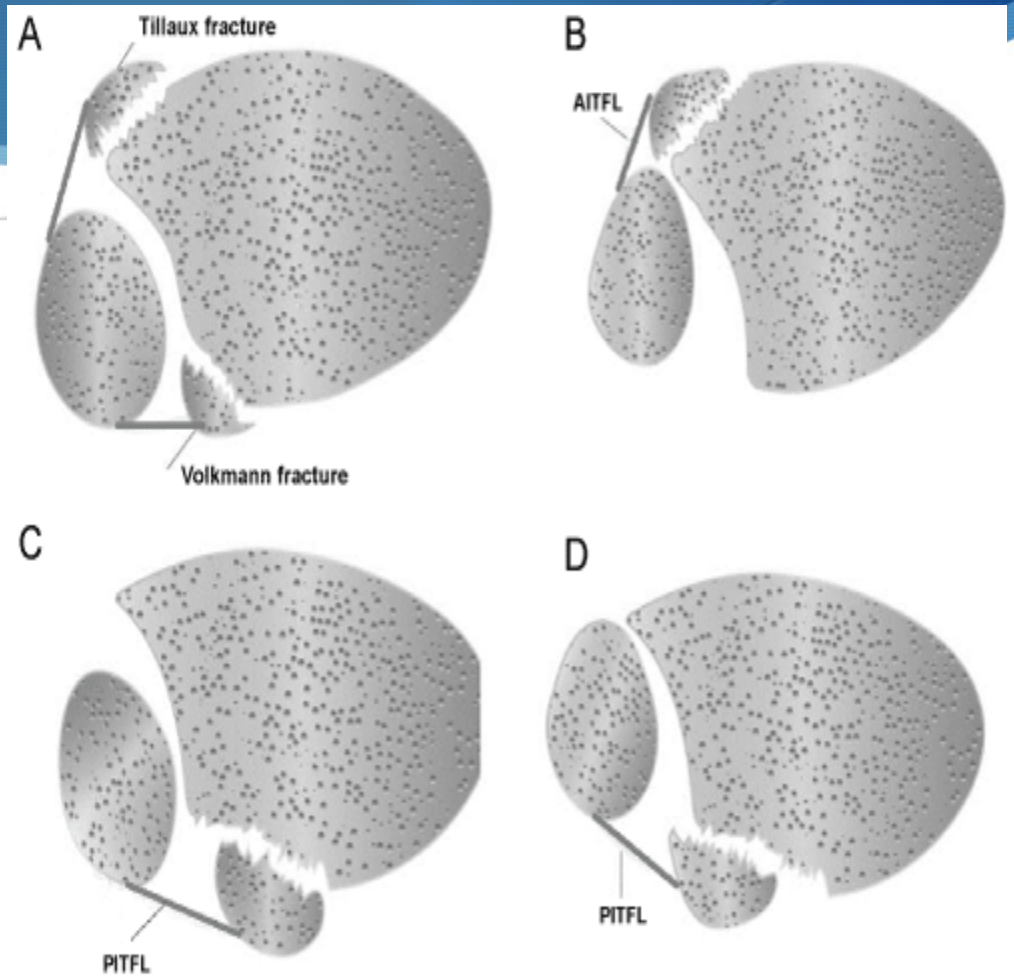
Peroneal Tendon Dislocation



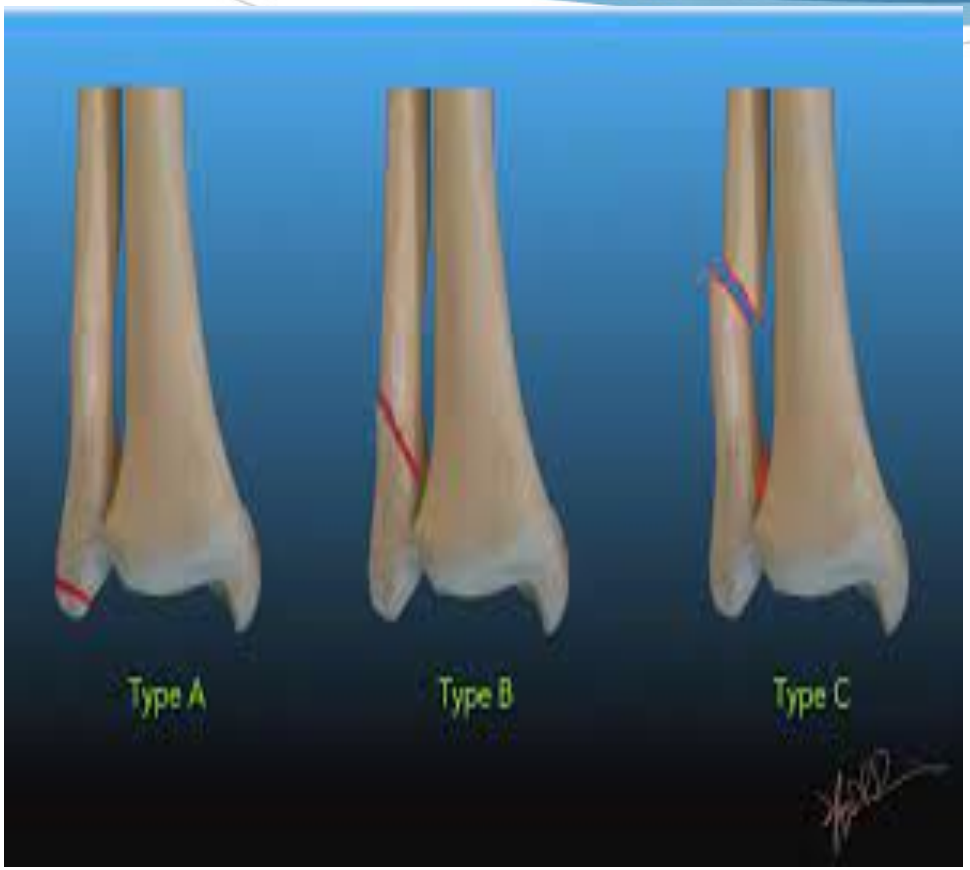


1) Video of dislocation
2) Tendons LATERAL to fibula
3) Fleck sign showing likely SPR dysruption

Bone: Tibia - Chaput/Tilleaux or Volkmann



Bone – Fibula – Acute vs Stress Fracture



Bone: Talus – OCL Lateral Dome vs Lateral Process

https://radiopaedia.org/cases/osteochondral-fracture-of-the-talar-dome

https://radiopaedia.org/articles/lateral-talar-pr

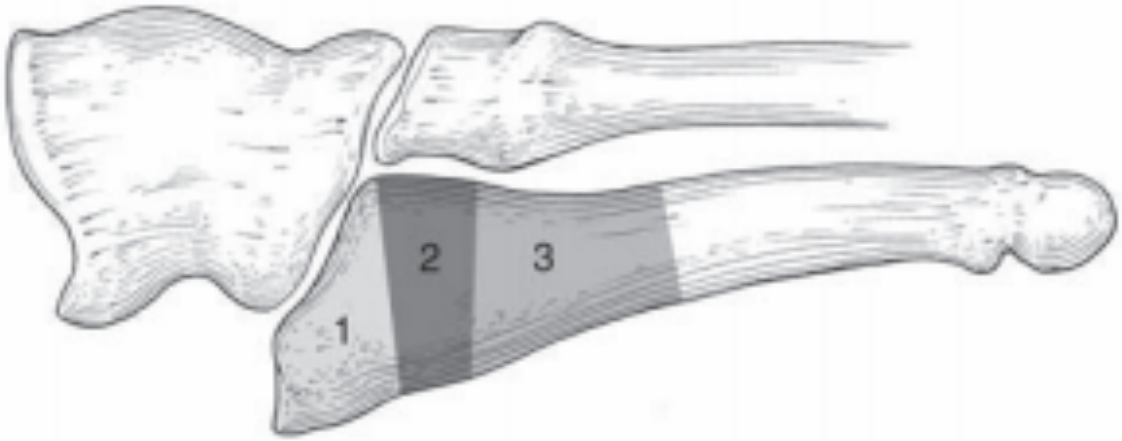
Bone: Calcaneus – Anterior Process

https://footeducation.com/anterior-process-fracture-of-the-calcaneus/

https://eorif.com/calcaneous-fracture-anterior-proces
https://link.springer.com/article/10.1007/s10140-

5th Metatarsal Fracture

1. **Tuberosity avulsion fractures**
2. **Jones fractures**
3. **Diaphyseal stress fractures**



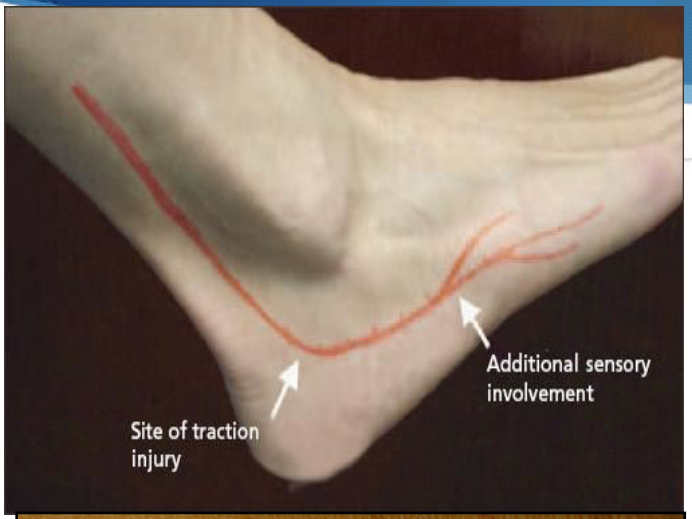
Coalition

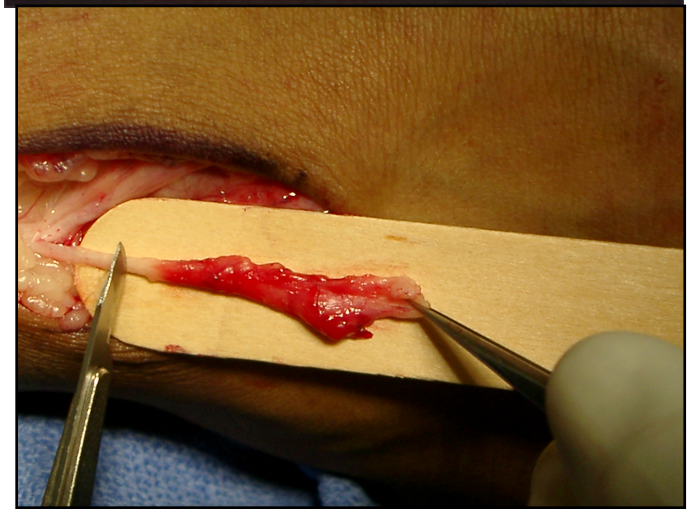
- Lateral ankle coalition likely
  - Calcaneonavicular

- Continuation of the calcaneus
  - Anteater sign
  - Edema indicates pain generator

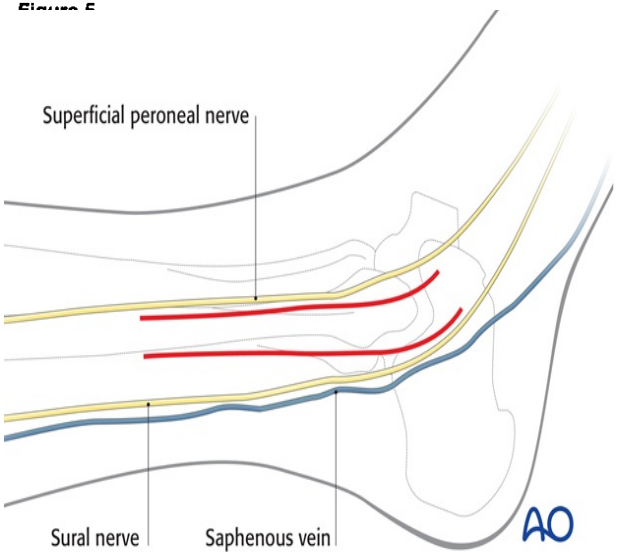
Nerves

- Sural





- Superficial Peroneal



Conclusions

- Listen to the patient and let them show you where they hurt
- Knowing where structures are positioned will guide your diagnosis

Thank you