Fixing the Deltoid Ligament ?

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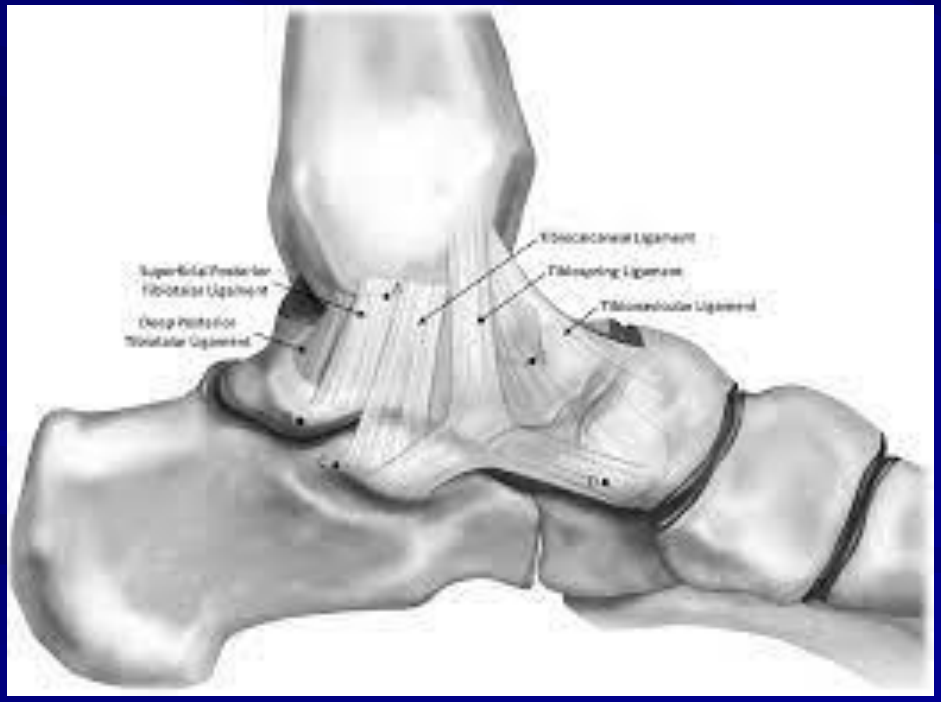
Deltoid Ligament Ankle

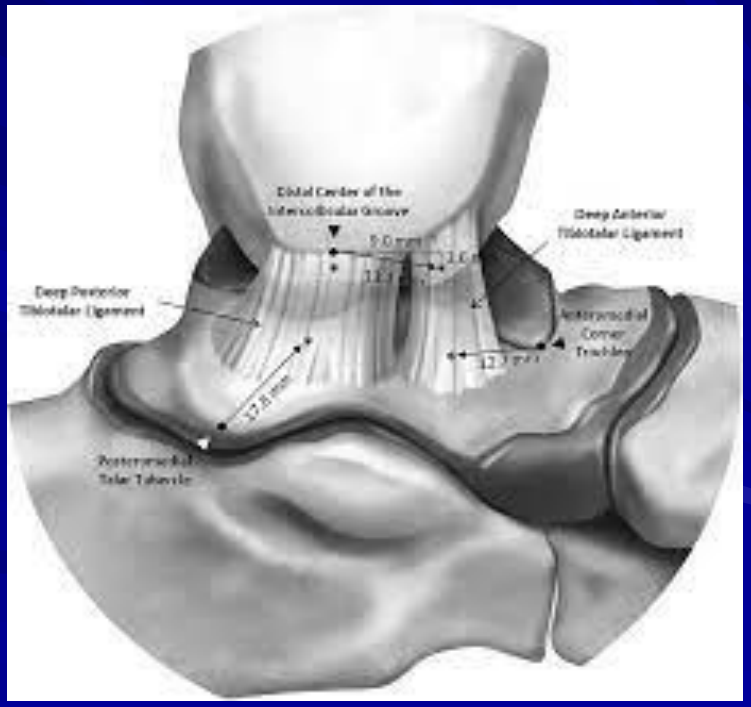
- Part of talus / mortise support structures
  - Circumferential ligaments dictate motion of talus
- 5 anatomic components medially
  - 3 superficial : med mall to calcaneus and navicular
  - 2 deep: med mall to talus
- Posterior Tibialis provides dynamic control

Deltoid Ligament Anatomy

Superficial

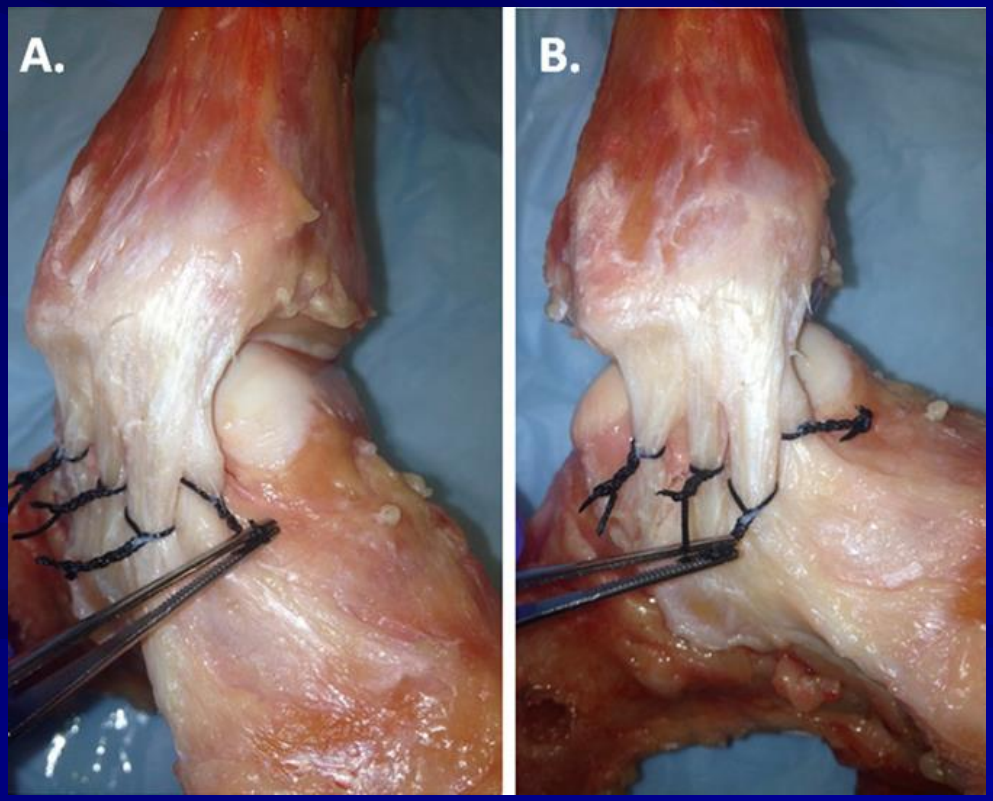


Deep

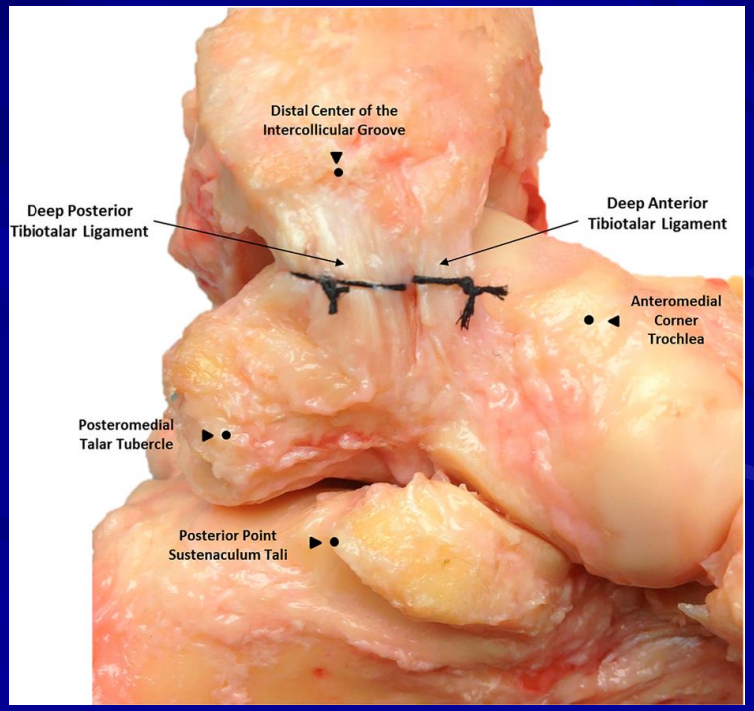


Deltoid Anatomy
(for Purists)

Superficial anatomy



Deep deltoid



Do we need to ever fix the deltoid?

- Last century thought
  - Never thought necessary during training
- With Practice found it to be an important missed source of chronic pain
  - Acute injury with ankle fractures
  - Chronic issue with ankle sprains

Ankle Fracture: Deltoid ?

- Anatomically reduce mortise
  - Align articular surface not bone surface
- Evaluate stability of syndesmosis
  - If not fully reduced bone not correct
  - If mobile: either separates or slides back:fix
- Evaluate stability of deltoid
  - Valgus force to calcaneus
  - If medial joint widens: fix

Deltoid Sprain

- Can be isolated injury or occur with lateral sprain
- Treated same as lateral ankle sprain
  - R.I.C.E
  - Therapy to restore balance and enhance motor function

Chronic Deltoid Injury

- Medial based pain after normal healing period
  - Secondarily can affect:
    - Spring Ligament
    - Posterior tibialis

Deltoid Injury Diagnosis

- Anterior Drawer test
  - Mirror image of lateral drawer
  - Anterior force applied postero medially with rotation about fibula
- Grade
  - 1: Stable with pain
  - 2: anterior asymmetric movement w endpoint
  - 3: anterior drawer w no endpoint

Deltoid Injury Repair

- Similar to lateral repair
- Restore ligamentous tension through injury
- Need to restore both superficial and deep
- Personally, not a fan of midsubstance repair
- Elevate whole medial capsule off of medial malleolus
  - Be aware of posterior tibialis position
- Create bleeding bone to reattach ligaments
- Repair as a unit with suture anchors: deep / superficial
- Tension best when talus held in full dorsiflexion

Thank You