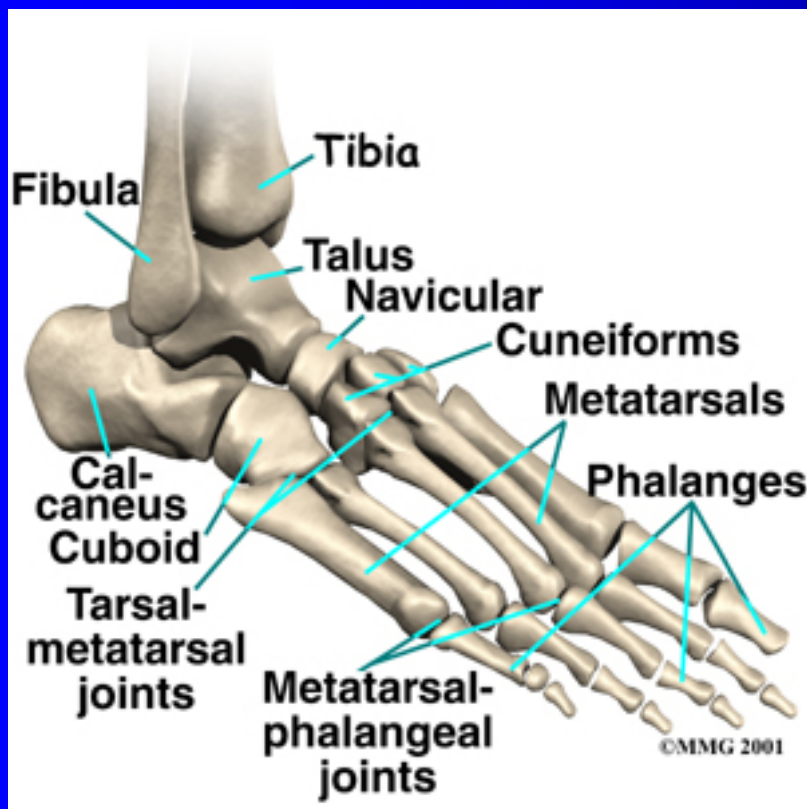


Common Foot and Ankle Problems

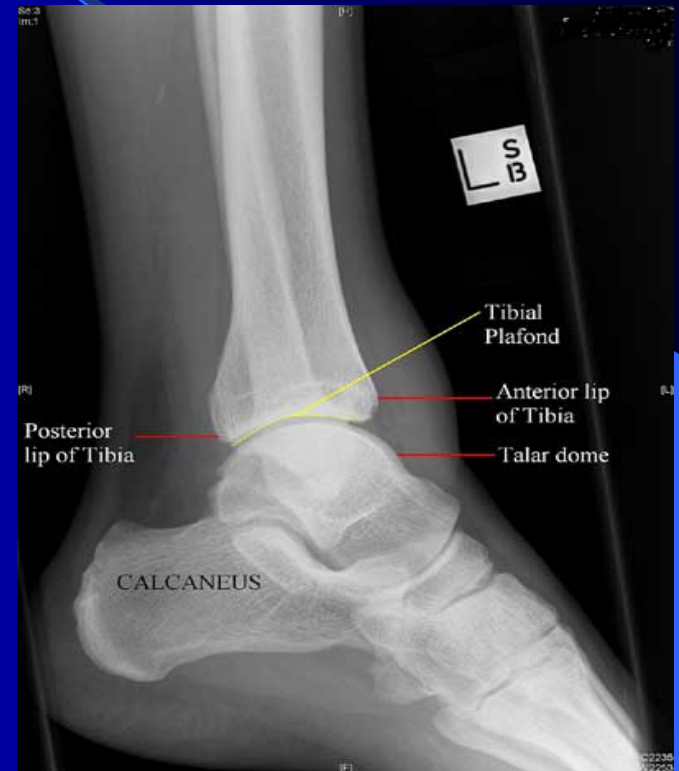
Dr. George H. Theodore
Sports Medicine Center
Massachusetts General Hospital
Harvard Medical School

Anatomy



- Bones
 - Ankle
 - Tibia
 - Fibula
 - 1/6 total body weight
 - Talus
 - 3/5 cartilage
 - No muscle insertion
 - Foot
 - 26 bones
 - Calcaneus is largest
 - 7 tarsal
 - 5 Metatarsals
 - 14 phalanges

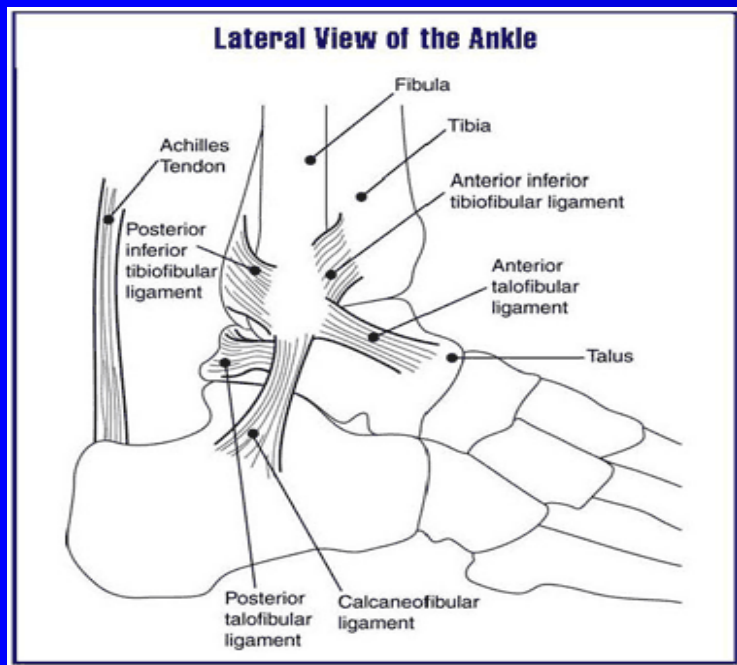
Anatomy



Anatomy



Anatomy



● Ligaments

– Lateral

- Anterior talofibular (ATFL)
- Posterior talofibular (PTFL)
- Calcaneofibular (CFL)

– Medial

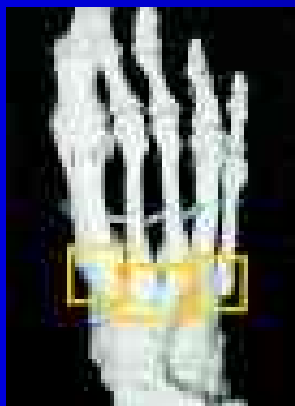
- Deltoid

– Syndesmotic

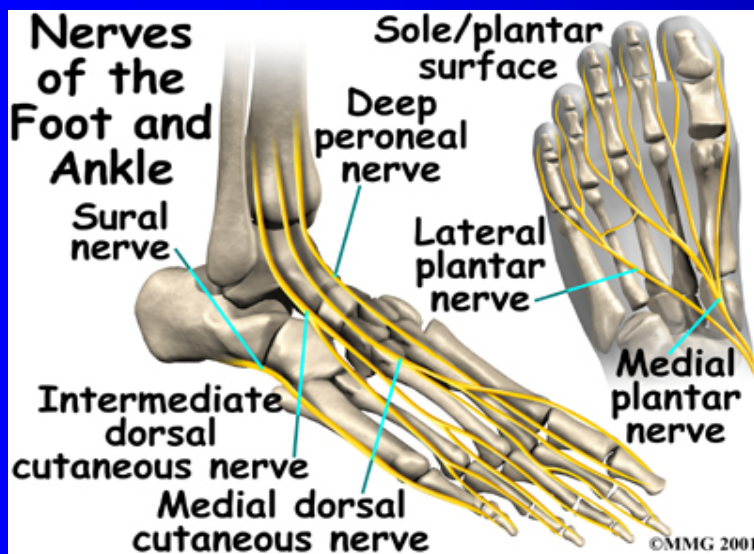
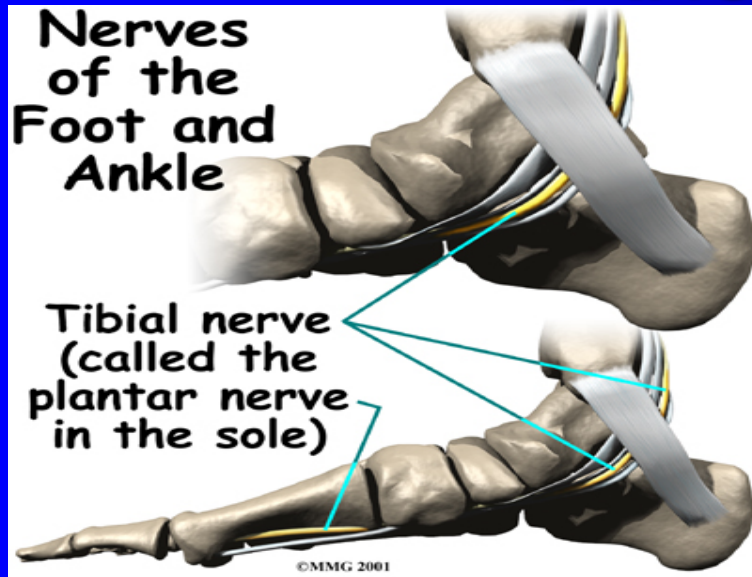
- Anterior inferior tibiofibular (AITFL)
- Posterior inferior tibiofibular (PITFL)

– Foot

- Tarsometatarsal

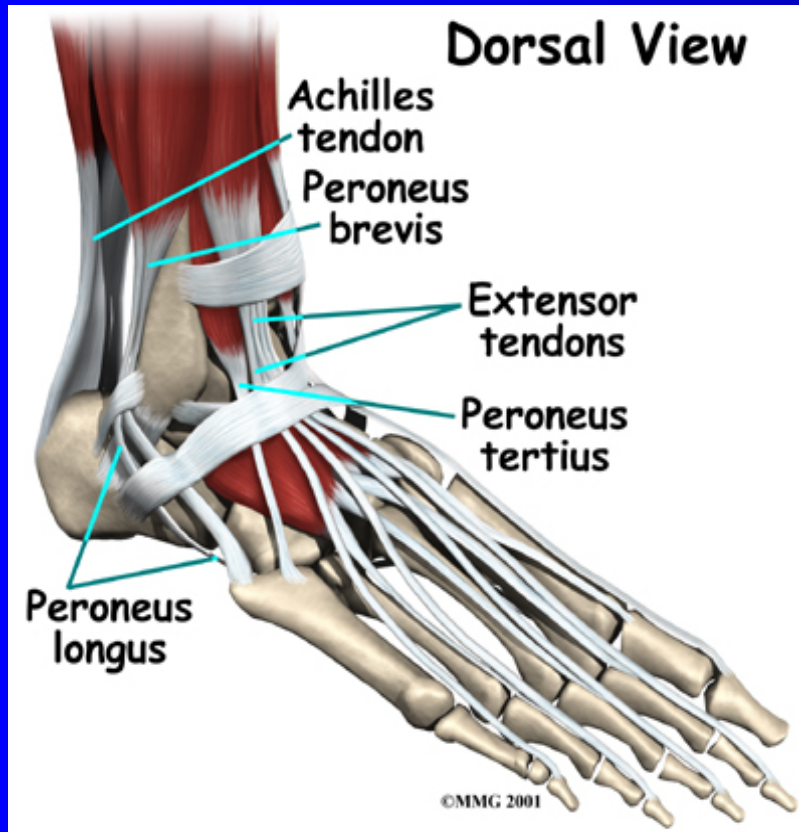


Anatomy



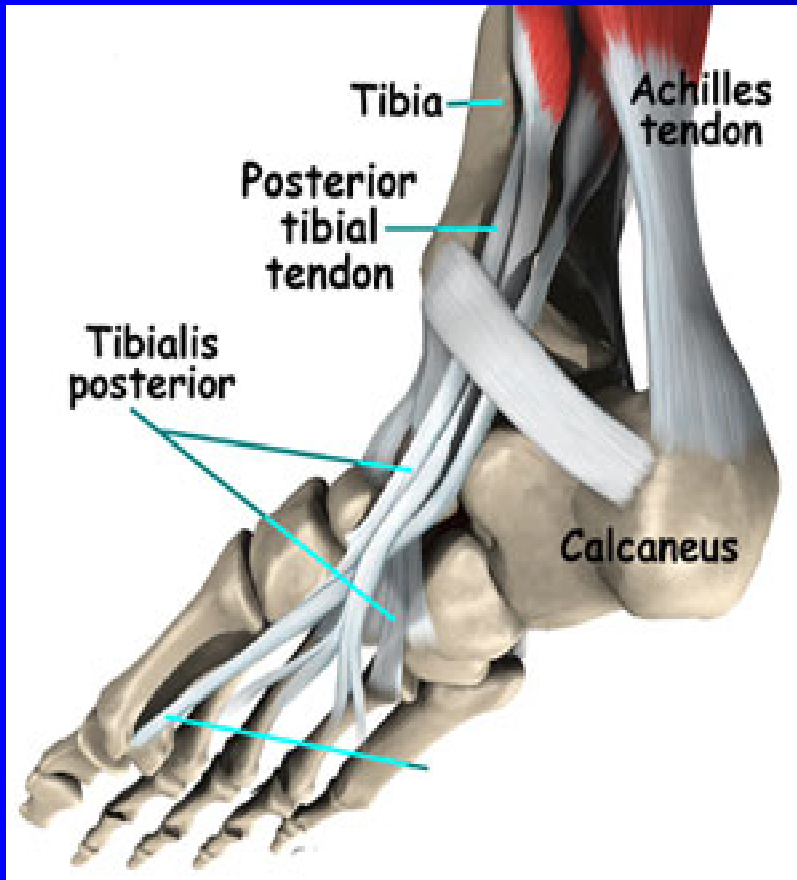
- Nerves
 - Medial
 - Tibial
 - Medial and lateral plantar nerves
 - Tarsal tunnel is created by medial malleolus, flexor retinaculum, and posterior talus-calcaneus
 - Anterior
 - Deep peroneal
 - Superficial peroneal
 - Lateral
 - sural

Anatomy



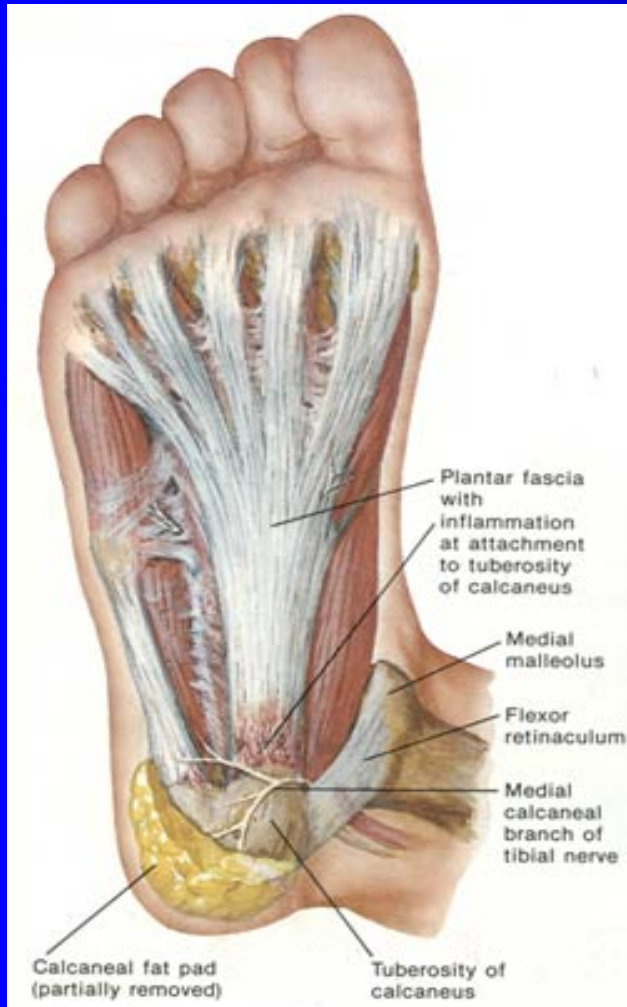
- Tendons
 - Lateral
 - Peroneal
 - Plantar flexes-everts the foot
 - Anterior
 - Tibialis anterior
 - Dorsiflexes the foot
 - Extensor tendons
 - Extends the toes

Anatomy

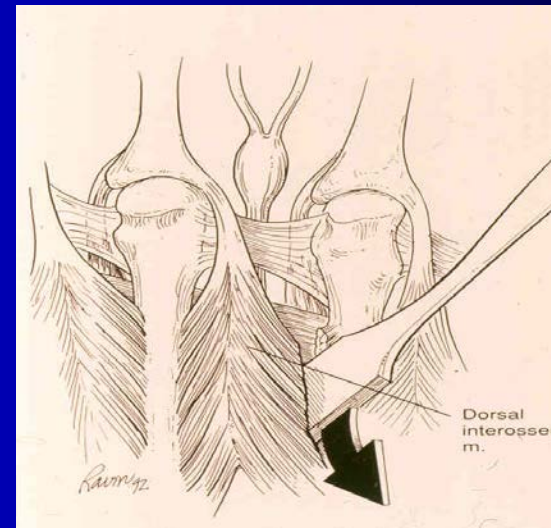


- Tendons
 - Medial
 - Posterior tibial
 - Supports the arch
 - Inverts the foot
 - Posterior
 - Achilles
 - Plantar flexes-
inverts the foot

Anatomy



- Plantar aspect of the foot
 - Plantar fascia
 - Interdigital nerve

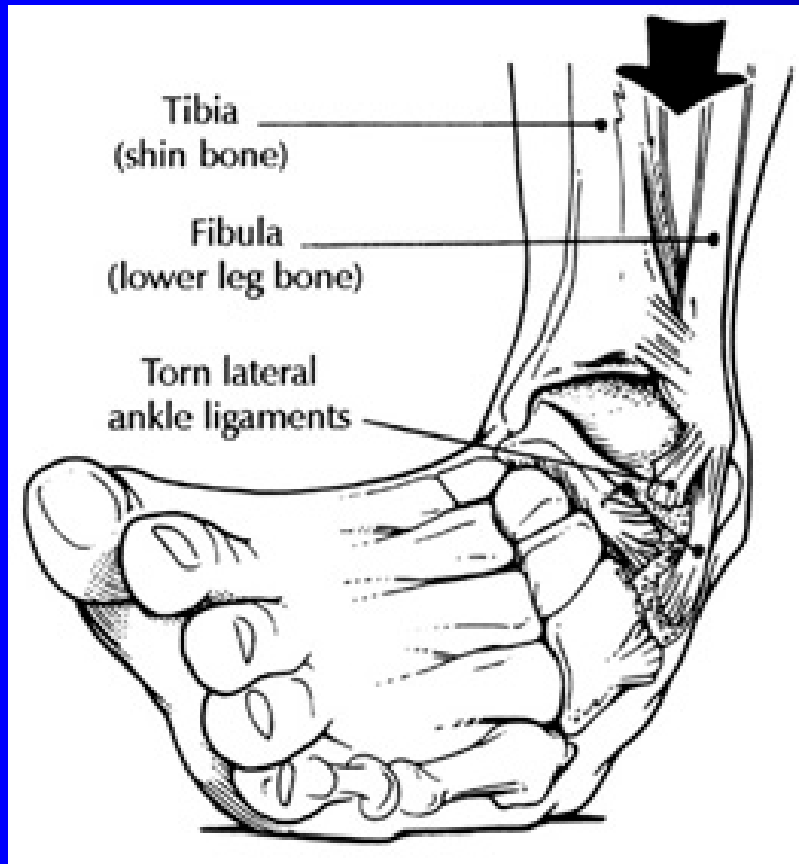


Disorders



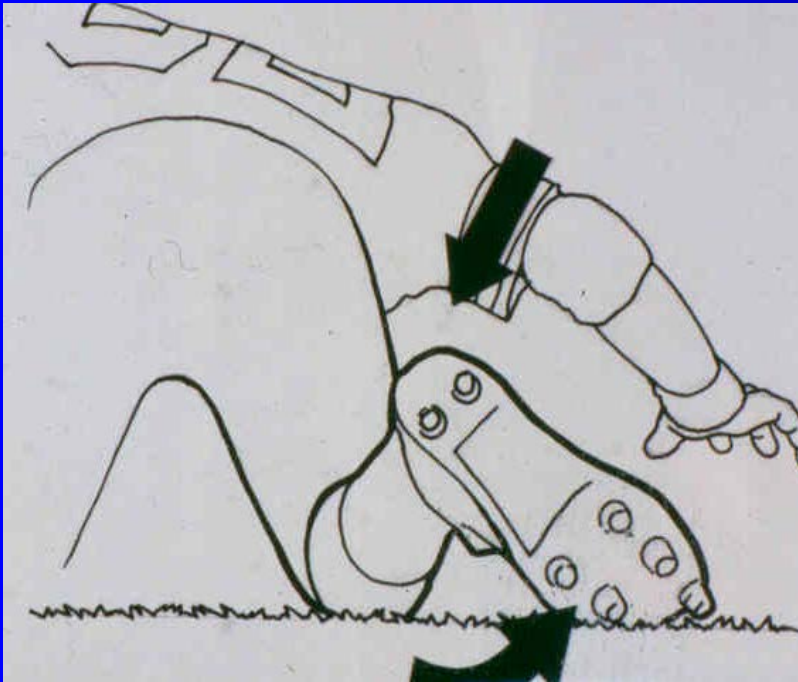
- Ankle sprains
 - Most common musculoskeletal injury seen in practice
 - 25,000 per day
 - 90% are inversion injury
 - 80% lateral ankle ligaments
 - Most heal uneventfully

Disorders



- Inversion injury
 - 90% sprains
 - lateral “low” ankle sprain
 - Injures ATFL, sometimes CFL

Ankle Sprains



- Eversion injuries
 - 10% sprains
 - Produces “high” ankle sprain
 - Injures syndesmotic ligament complex



Disorders

- Physical examination

- Tenderness
- Deformity
- Difficulty bearing weight



- Radiographs

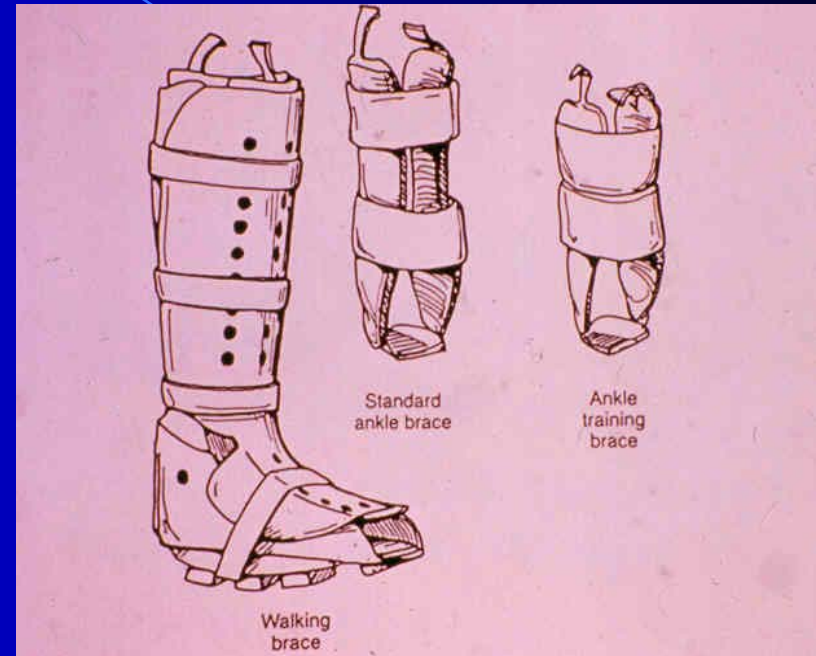
- Do not miss fracture



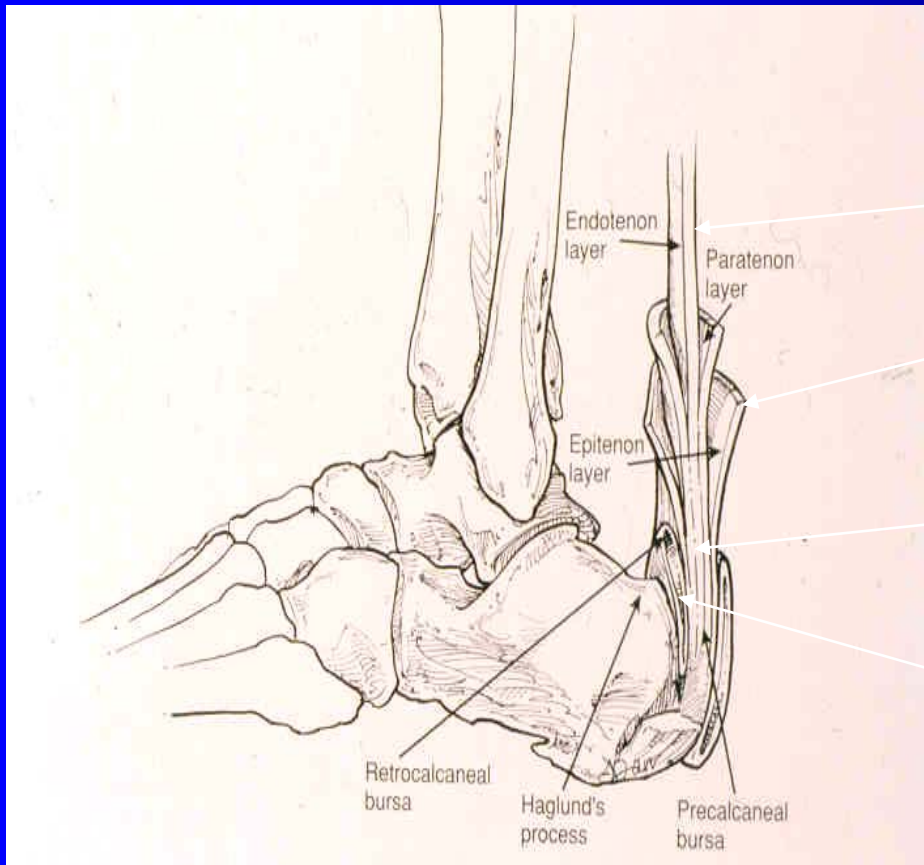
fracture

Disorders

- Treatment
 - Individualize treatment
 - RICE
 - Immobilization
 - Mild: ace wrap
 - Moderate: stirrup
 - Severe: walking boot
 - Physical therapy
 - Bracing
 - Chronic instability
 - Surgery
 - Repair ligaments



Achilles Tendon Dysfunction



tear

tendonitis

tendinosis

Retrocalcaneal bursitis

Achilles Tendon Dysfunction

- Tendonitis

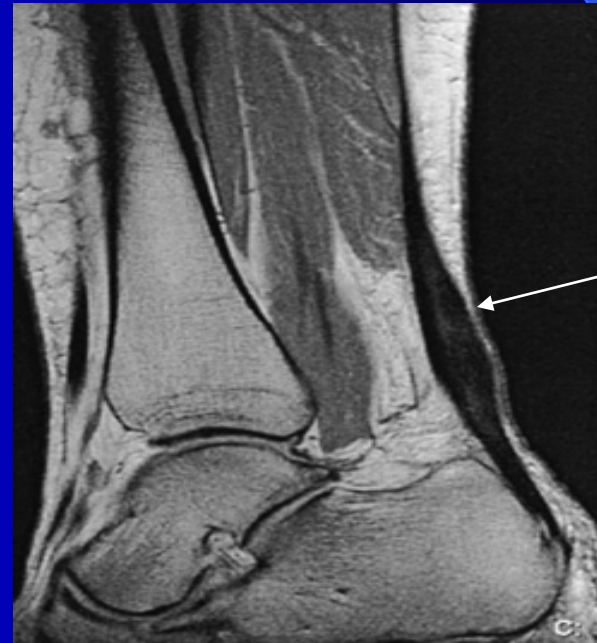
- Inflammation of tendon sheath
- Overuse injury

- Tendinosis

- Intrinsic degeneration
- Older patients with co-morbidities



Sheath swelling



tendon thickened

Achilles tendon Dysfunction



- Treatment
 - Heel lift
 - Modification of activities
 - Avoid hills
 - NSAID
 - Bracing
 - AFO
 - Surgery
 - Tendon sheath release
 - FHL transfer

Achilles tendon Dysfunction



- Acute rupture
 - Middle aged males
 - Pain in the back of calf
 - Palpable defect
 - Positive Thompson's test
 - Surgery vs. cast

tear

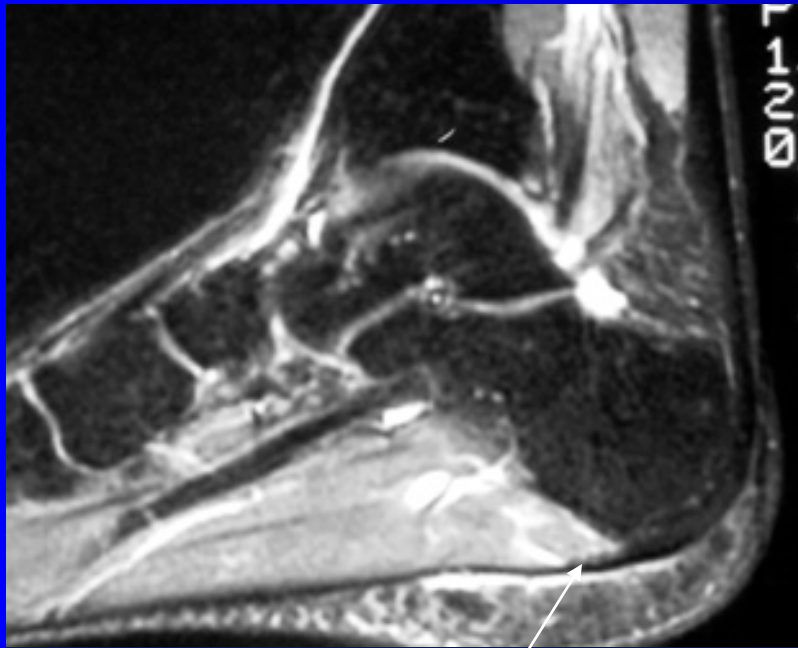


Plantar Fasciitis



- Most common cause of heel pain
- Affects 2 million Americans per year
- Females more than males
- No correlation with a heel spur
- Usually self-limited condition

Plantar Fasciitis



Thickened fascia

- Etiology
 - Microtear in fascia
- Presentation
 - Pain with first steps in the morning and after rising from the seated position
- Evaluation
 - Foot pronation
 - Tight achilles
 - Exclude rheumatologic and neuropathic conditions

Plantar Fasciitis



- Treatment
 - Heel inserts
 - Stretching exercises
 - Cortisone
 - Cast
 - Splints/braces
 - Physical therapy
 - Surgery
 - ESWT

Hallux Valgus



- Abnormal prominence at the medial great toe
 - Etiology
 - Shoe wear
 - Genetic
 - Traumatic
 - rheumatologic
- May be associated with hammertoe deformities
 - Flexion contracture of the PIP joint
 - May have painful callous development

Hallux Valgus



- Treatment
- Nonsurgical
 - Shoe modification
 - Spacers
 - Orthotics
 - acceptance
- Surgical
 - Simple excision
 - Osteotomy
 - Prolonged recovery



Hallux Valgus



Proximal
osteotomy

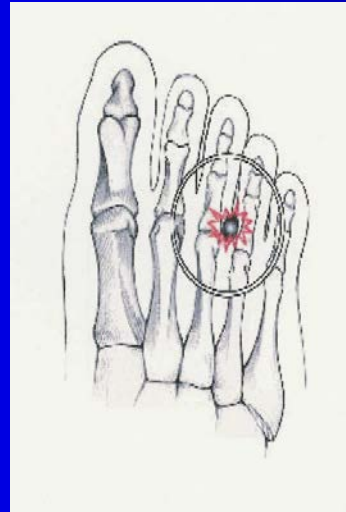


Distal
osteotomy



Fusion
Of the joint

Metatarsalgia

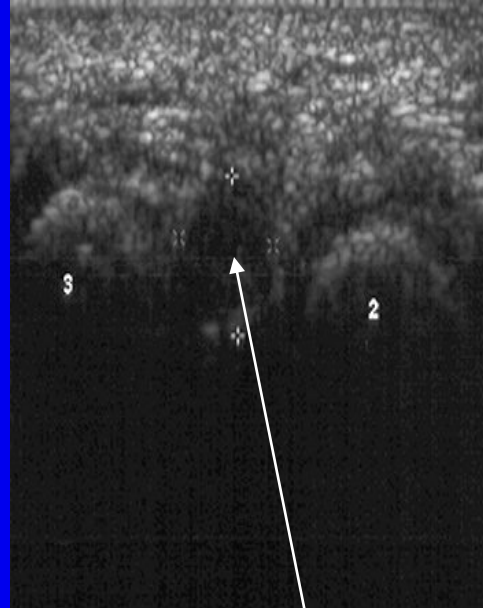
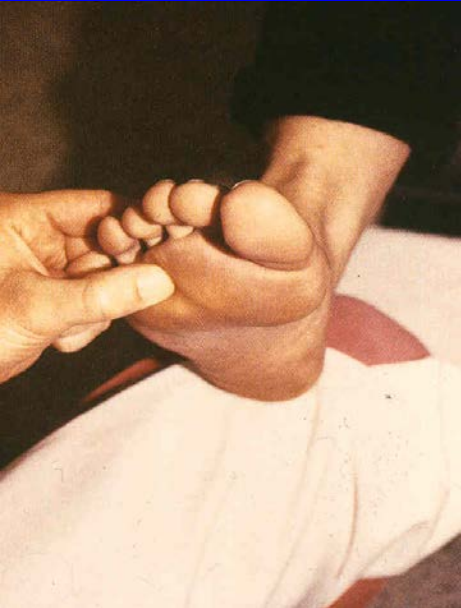


- Discomfort in the region of the metatarsal heads and metatarsophalangeal joints

- Hallux rigidus
- Stress fracture
- Joint synovitis
- neuroma



Neuroma



- Most common nerve entrapment syndrome

- Perineural fibrosis
- 2nd-3rd or 3rd-4th space

- Presentation

- Burning plantar pain
- improved by shoe removal
- Positive Mulder's click
- Positive ultrasound

- Treatment

- Metatarsal pad
- Cortisone injection
- Shoe with wide toe box
- surgery



neuroma

Fractures



- Ankle

- Most need referral
- Surgical fixation
 - Unstable injuries
 - Loss of reduction of ankle joint mortise



- Foot

- Phalanges-buddy tape
 - Refer for intra-articular
- Metatarsal
 - Refer for Jones fracture
- Treatment
 - Rigid soled shoe
 - Cast walker

Thank you

