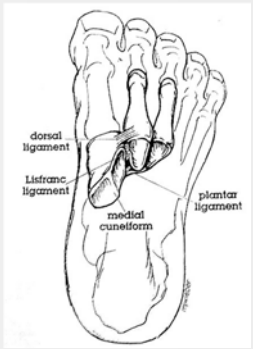
Lisfranc Injuries and Midfoot Sprains



- 1790 – 1847
- French surgeon
- Napoleonic wars
- Trained under Dupuytren



Lisfranc Injury



Lisfranc Injury



Subtle . . .



Avoid this . . .







. . and this

Mechanism of Injury

Direct Injury

Indirect Injury

- missed on up to 20% of initial radiographs

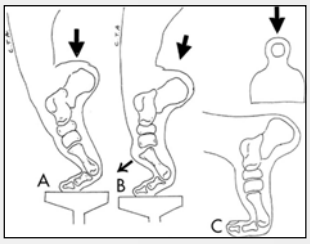
Indirect Injury

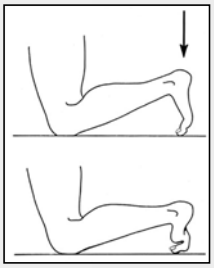
Twisting

Axial load

- More common
- Soft tissue injury less severe

Indirect Injury





If you remember one thing . . .



. . . **midfoot tenderness on physical exam**

AP Radiographs

Medial border of
2nd metatarsal
and
Medial border of
middle cuneiform



Stein RE. *Foot & Ankle*, 1983

AP Radiographs

Lateral border of
1st metatarsal
and
Lateral border of
medial cuneiform



Stein RE. *Foot & Ankle*, 1983

Internal Oblique Radiographs

Medial border of
3rd/4th metatarsals

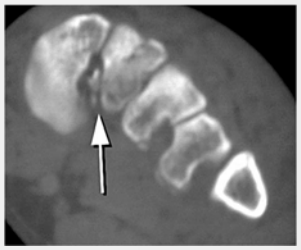


Stein RE. *Foot & Ankle*, 1983

Internal Oblique Radiographs

Lateral border of
2nd metatarsal
and
Lateral border of
middle cuneiform





. . . CT scanning



Lisfranc Injury





Slight 1st TMT
varus is normal

The Medial Column



…beware of the straight medial column



…beware of the straight medial column

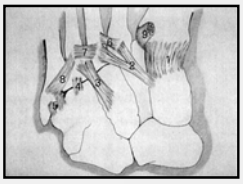


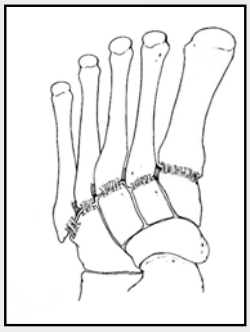




Midfoot Sprain

Midfoot Sprain







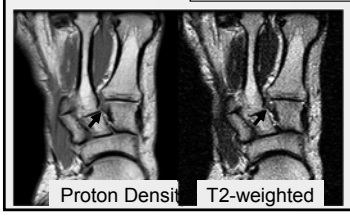
. . . midfoot tenderness on physical exam





Imaging Strategies

1. *Weight-bearing x-rays*
2. Magnetic Resonance
3. Stress views



Anterior Process of Calcaneus

Anterior Process of Calcaneus

- Inversion of plantarflexed ankle
- Bifurcate ligament







Anterior Process of Calcaneus



. . . physical exam

Anterior Process of Calcaneus



. . . CT scan



Achilles Rupture

Achilles Rupture

History
- Acute, sharp pain in back of ankle
- Immediate difficulty with walking
- Audible "pop"
- "I turned around to see if someone had kicked me…"

Achilles Rupture

Physical Exam:

- Gait can be surprisingly normal
- Palpable gap
- Diminished *but not absent* strength
- Abnormal Thompson test



Achilles Tendon

- Thompson Test:





Maisonneuve Fracture

Maisonneuve Fx



=



Maisonneuve Fracture

Clues:

- Proximal fibular tenderness
- Medial clear space widening
- Isolated posterior malleolus fracture
- Isolated medial malleolus fracture
- Shortening of talocrural angle

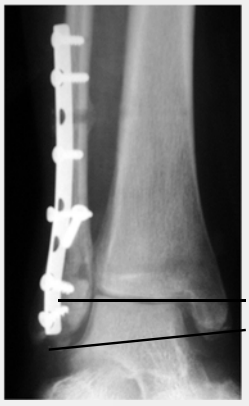


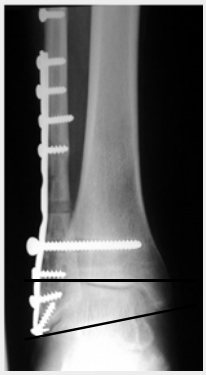


. . . posterior malleolus



. . . talocrural angle





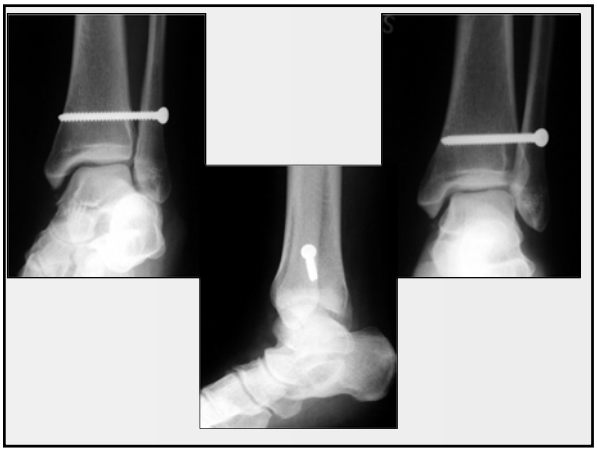
Maisonneuve

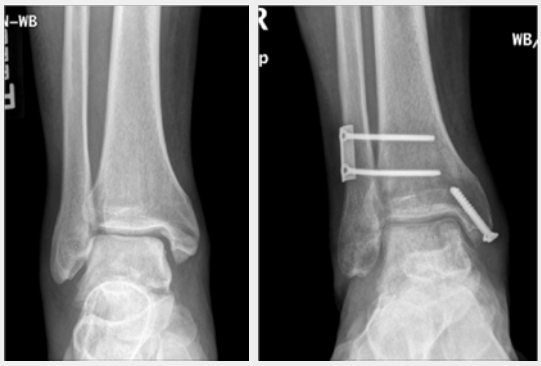
- Open vs percutaneous treatment?
- Percutaneous surgery associated with higher mal-union rate





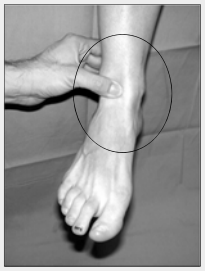






Osteochondral Injuries



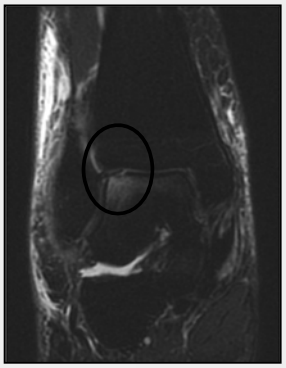


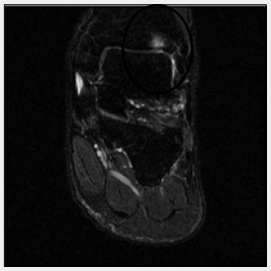
. . . physical examination

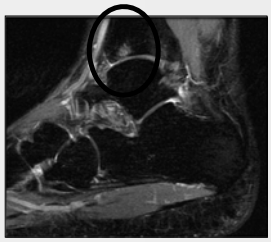
Talar dome osteochondral lesion



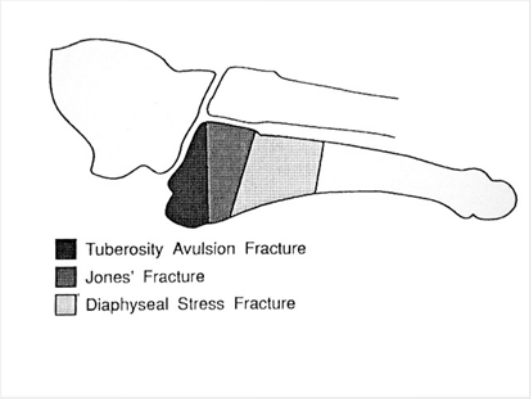








Fifth Metatarsal



5th Metatarsal

-Zones I – III

-Jones:

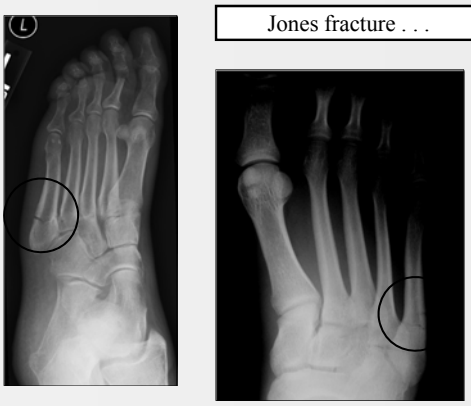
Zone II

or

Zone II/III



Jones fracture . . .



5th Metatarsal

Treatment

- Zones I: WBAT in shoe / boot

- Zone II / Jones:
  NWB vs ORIF

- Zone III: NWB cast/boot



Conclusion . . .

- Lisfranc injury
- Midfoot sprain
- Achilles rupture
- Anterior process of calcaneus fracture
- Maisonneuve
- Osteochondral injury