

# FOOT AND ANKLE INJURIES

Jason E. Lake, M.D.

# 5<sup>th</sup> Metatarsal Shaft/Neck Fractures

- ▣ Usually twisting injury
- ▣ Some young, but often older population
  - Bone density workup
- ▣ Exam
  - TTP
  - Check ankle lig and TTP
- ▣ XRAY
  - Check WB lateral
    - Angulation or significant gap
  - Oblique always looks terrible



# 5<sup>th</sup> Metatarsal Shaft Fractures



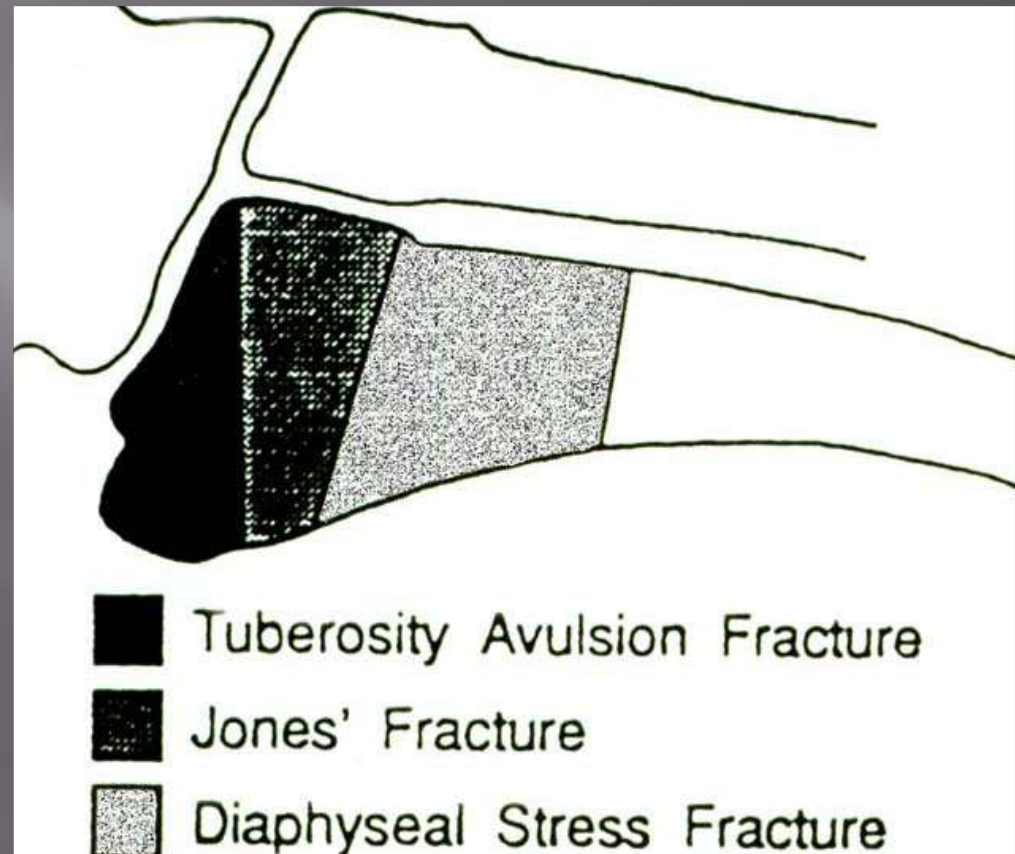
# 5<sup>th</sup> Metatarsal Shaft Fx

- ▣ Tx
  - **Most** heal without surgery
  - Patient feels better before XRAY does
  - Occasional cast for a couple weeks
  - Usually short boot 4-6 weeks
    - ▣ Wean into hard sole or postop shoe early
- ▣ When to refer
  - Displacement >1-2mm
  - Shortening >1-2mm
  - Angulation



# 5<sup>th</sup> Metatarsal Base Fractures

- ▣ MOI
  - Inversion injuries
  - Stress fracture variants
- ▣ Unique anatomy
- ▣ Tenuous blood supply



# 5<sup>th</sup> Metatarsal Base Fracture Zone 1 (PseudoJones)

- ▣ Prox to 4,5 articulation (Avulsion)
- ▣ Twisting injury
- ▣ Exam
  - Check ankle lig
  - Look for cavus foot
- ▣ Xrays
  - Usually minimally displaced
  - Watch for apophysis in youths





# 5<sup>th</sup> Metatarsal Base Fracture Zone 1

- ▣ Treatment
  - Short walking boot
    - ▣ 4-6 weeks
  - Rarely ORIF for displaced fractures
    - ▣ Fibrous union possible
    - ▣ Usually asymptomatic
      - Excise remotely if needed
- ▣ When to refer
  - Greater than 1-2mm displacement at joint



# Zone I Healed





# Zone I/II borderline



# 5<sup>th</sup> Metatarsal Base Fractures

## Zone II (Jones Fx)

- ▣ At the level of 4,5 Met articulation
- ▣ Twisting injury
- ▣ Exam
  - Check ankle lig
  - Look for cavus foot
- ▣ Xrays
  - Usually minimally displaced
  - Level of 4,5 articulation
  - Look for signs of chronic stress reaction



# Zone II



# 5<sup>th</sup> Metatarsal Base Fractures Zone II

- ▣ Tx
  - Nonop vs Op
    - ▣ Age
    - ▣ Health
    - ▣ Hobbies/work
    - ▣ Right or left foot
    - ▣ Previous injury
    - ▣ Foot structure
    - ▣ Industrial?
    - ▣ Vit D/metab levels



# 5<sup>th</sup> Metatarsal Base Fractures Zone II

- ▣ Tx
  - Nonop
    - ▣ Usually let them walk in a cast or boot early unless too painful
      - Then cast for a couple of weeks
    - ▣ Small chance it doesn't heal, but could be delayed.
    - ▣ **Nothing worse than 6 weeks in a cast and then still getting a screw**
    - ▣ 6-8 weeks in boot at least
  - \*\*elderly Zone II different than young Zone II



# 5<sup>th</sup> Metatarsal Base Fractures

## Zone II

- ▣ Tx
  - Operative
    - ▣ Right foot
    - ▣ Industrial
    - ▣ Moms
    - ▣ Athletes
    - ▣ Cavus foot
  - Shared decision making
- ▣ When to refer
  - Any of above criteria
  - Anyone possibly considering screw for more predictable outcome





# 5<sup>th</sup> Metatarsal Base Fractures Zone III

- ▣ I treat these similar to Zone II
- ▣ However, these are more commonly chronic or at least sub-acute
  - ▣ May result in more patients getting a screw



# Lisfranc

- ▣ PF or DF injury/Fall
- ▣ Exam
  - Unable to bear wt
  - Plantar ecchymosis
  - TTP midfoot
  - Pain with midfoot motion



# Normal Foot vs Abnormal Xrays



# Lisfranc

- ▣ Xray
  - Any altered midfoot anatomy
  - Fleck sign
  - WB xrays very important
  - Consider MRI if not fractures only if WB XRAYs neg and suspicious or cannot bear weight after 1 week
    - ▣ MRI more for sports type injuries
  - CT if fractures present
    - ▣ **WB CT Helpful**



# Lisfranc

- ▣ Tx
  - Non-op
    - ▣ Grade I and II sprains
    - ▣ Some grade III based on risk factors
    - ▣ I, II Short Boot 4-6 weeks
    - ▣ III – cast 6 Weeks

# Lisfranc

- ▣ Tx
  - Operative
    - ▣ Any Displacement
    - ▣ ORIF vs Fusion
      - Shared decision making
- ▣ When to refer
  - Any Grade II/III for the most part
- ▣ Remember a base fracture is not necessarily unstable





# Lesser Toe Fractures

- ▣ When to refer
  - Any significant angulation or shortening
    - ▣ Especially if noted clinically
  - Buddy tape
  - Postop shoe

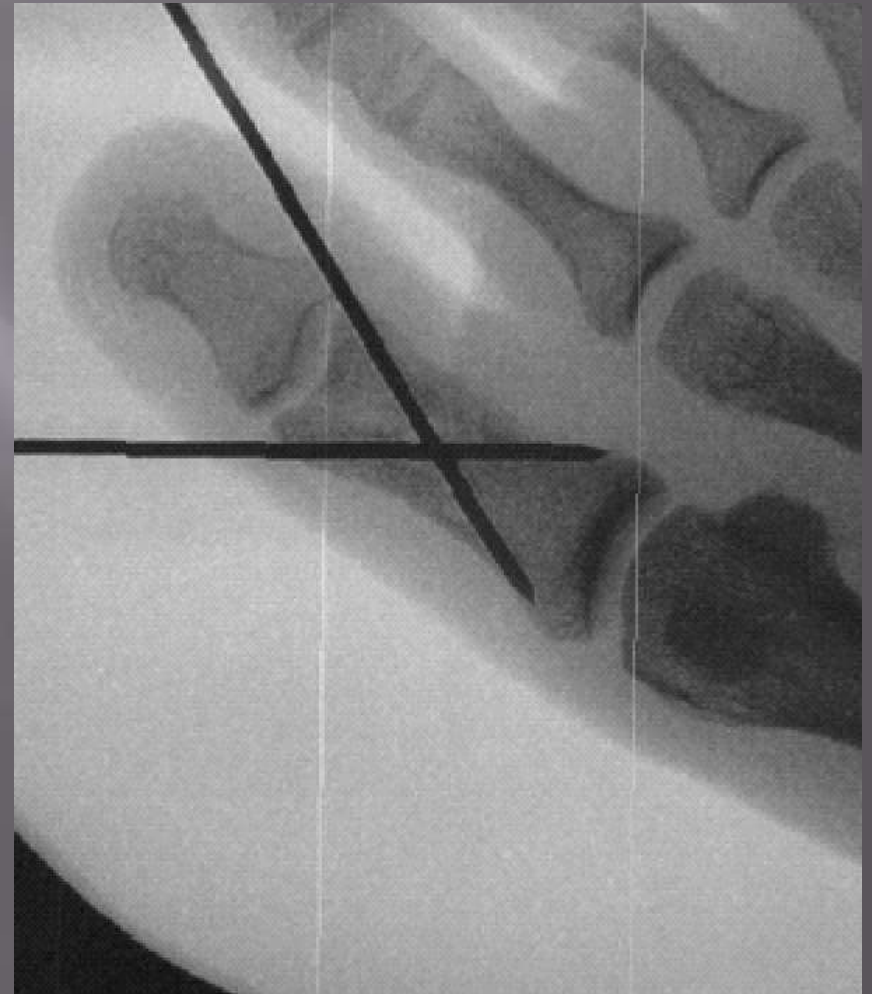


# Great Toe Fractures

- ▣ When to refer
  - Any significant displacement
  - NONOP
    - ▣ Nondisplaced
    - ▣ Short boot → Postop shoe
  - Operative
    - ▣ Any angulation or displacement of articular surface
    - ▣ Consider risk factors



# Great Toe Fx



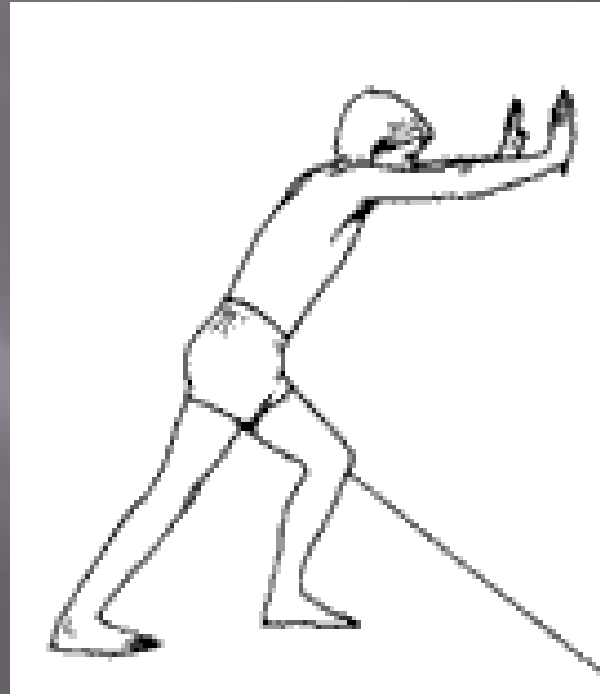
# Plantar Fasciitis

- ▣ What is it?
  - Inflammation of plantar fascia
- ▣ Who gets it?
  - Assoc with high BMI, prolonged standing, etc.
- ▣ History
  - Worse after lying down or sitting
- ▣ Exam
  - Plantar heel pain
  - Tight gastroc
  - **Rule out stress fracture**



# Plantar Fasciitis

- ▣ First line treatment
  - No barefoot
  - Ice
  - NON-CUSTOM inserts
  - STRETCHING
    - ▣ With knee straight
  - NSAIDS
- ▣ 2<sup>nd</sup> Line
  - Injection/boot/PT



May take weeks or months to get better!!!

I WANT  
EVERYTHING  
NOW



# YOU WOULD DRIVE ACROSS TOWN TO CATCH A GAME



Isn't the right specialist worth the drive as well?

THANK YOU!!!

Questions???