

# Pilon Fractures: Timing and Stabilization

David Shearer, MD, MPH

Associate Professor

UCSF Department of Orthopaedic Surgery

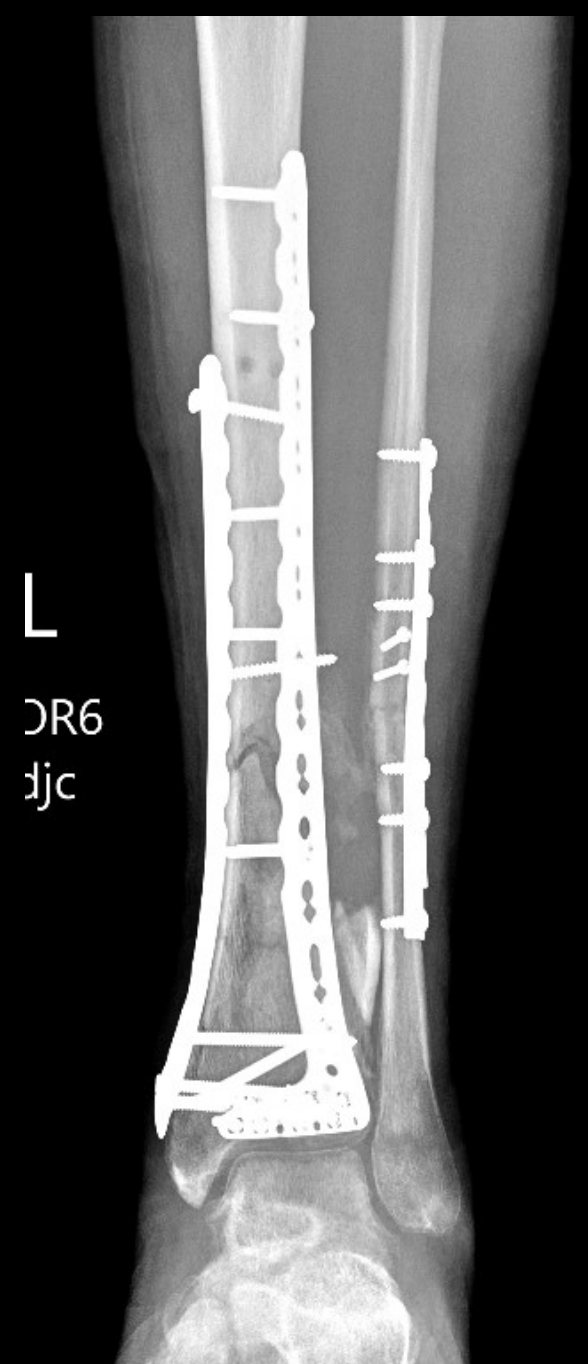
ZSFG Orthopaedic Trauma Institute

# Disclosures

- None

# Learning Objectives

- Staging + Soft-tissue handling
- Careful planning
- Reduction strategy NOT fixation strategy dictates approach
- Review each approach



# Case: 28yo M motorcycle crash



Respect the soft-tissues!

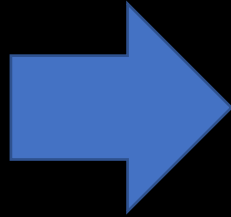


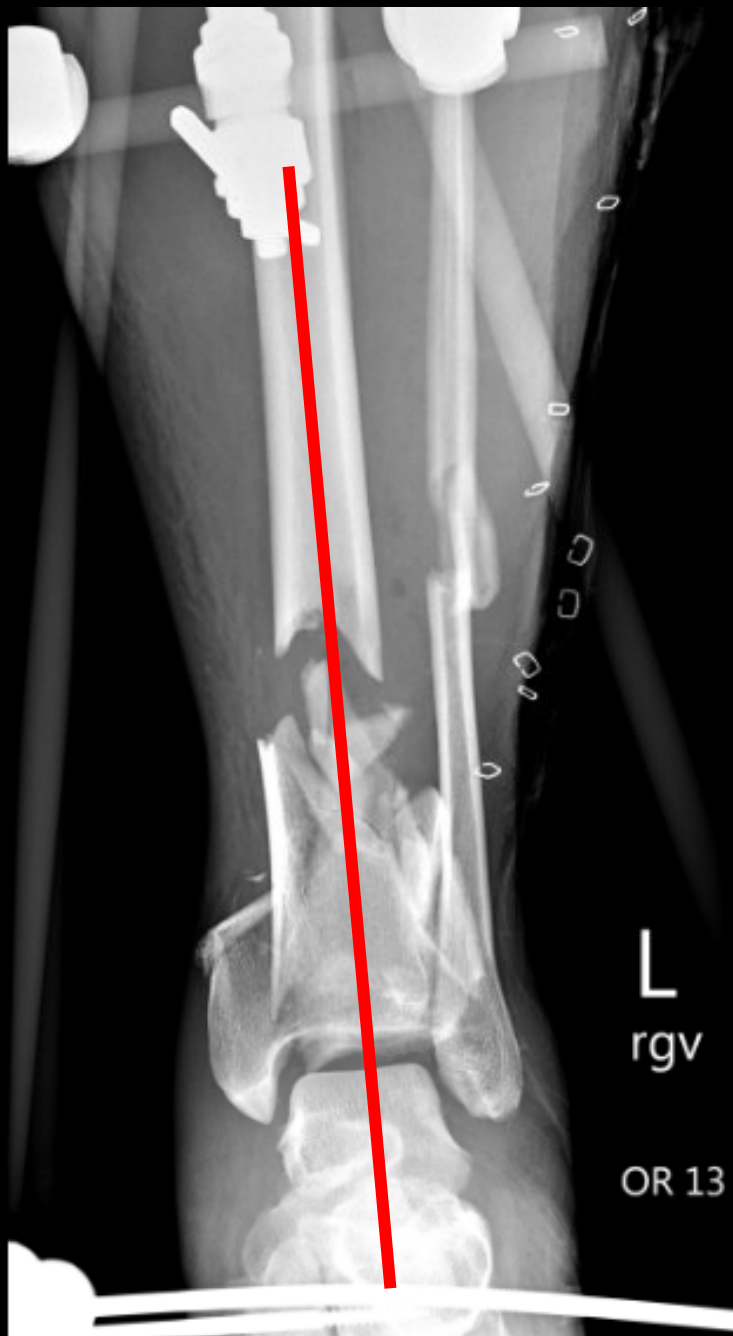
# Stage 1: External Fixation

- Functional reduction
  - Length/Rotation/Alignment
  - “Talus Under Tibia”
- Splint soft-tissues
- Wait ~2 weeks for definitive fixation







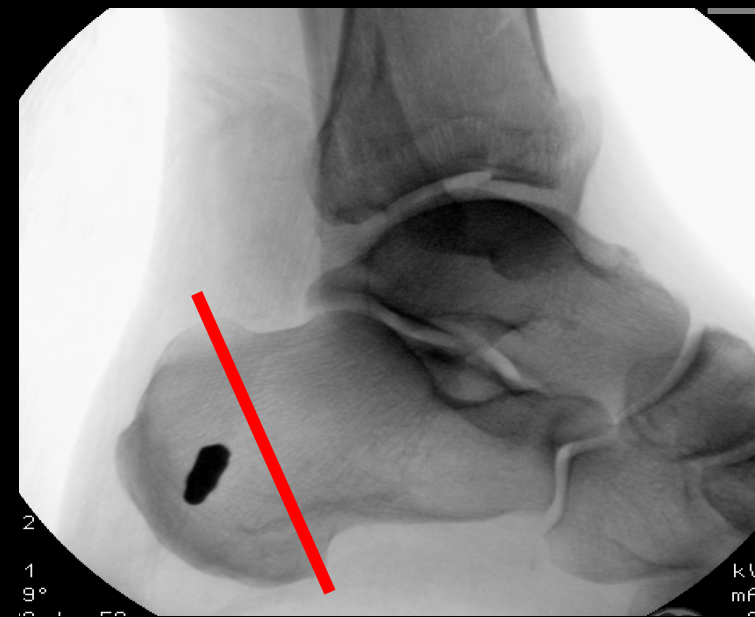
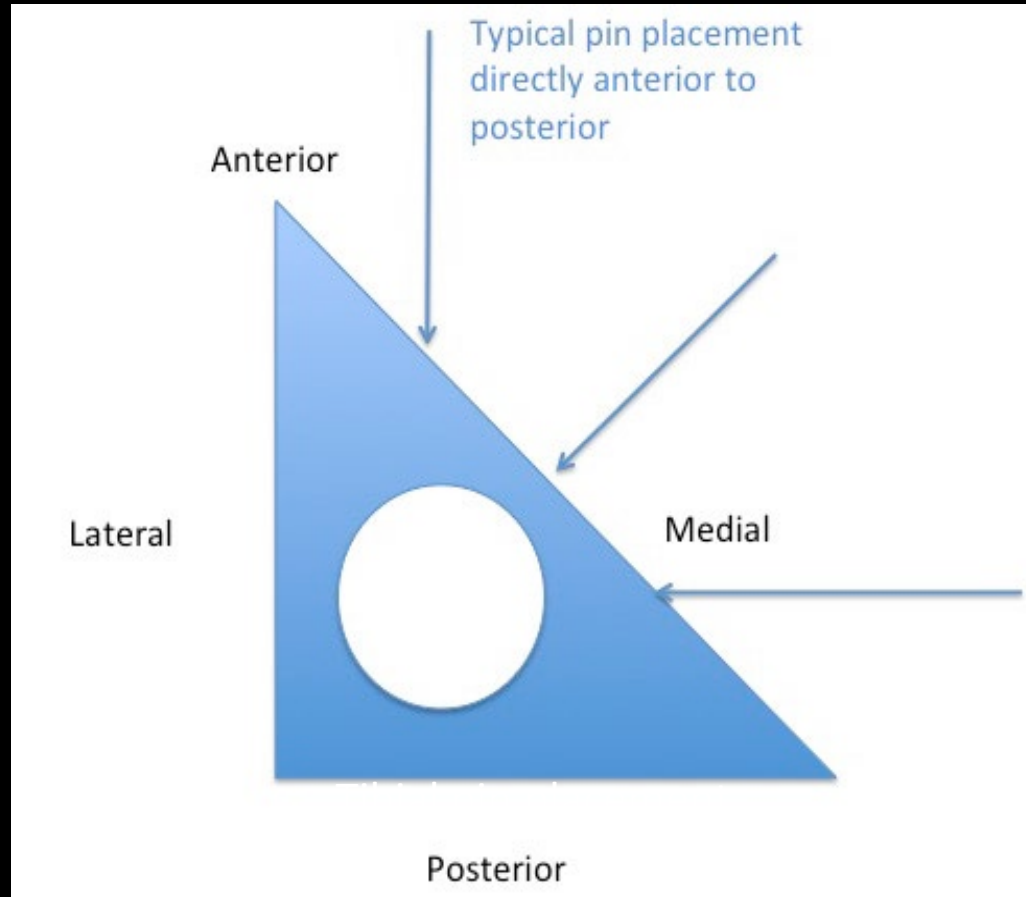




# Frame Configuration: Delta + Cuneiform Pin



# Pin placement



Calcaneal transfixion pin



Cuneiform pin

# Should I fix fibula with ex-fix?

- ONLY IF:
  1. You will do the definitive fixation
  2. You can ANATOMICALLY reduce the fibula
- Use Posterolateral Approach!

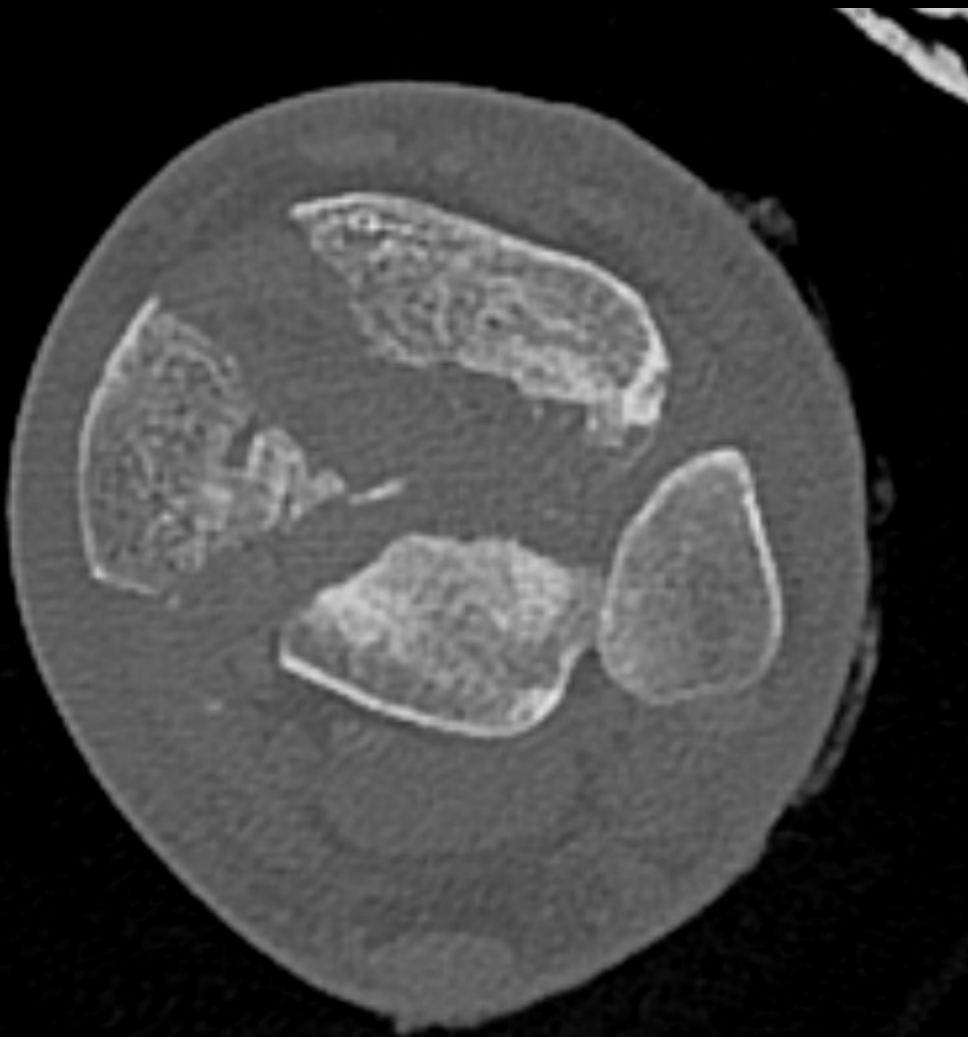


Length?

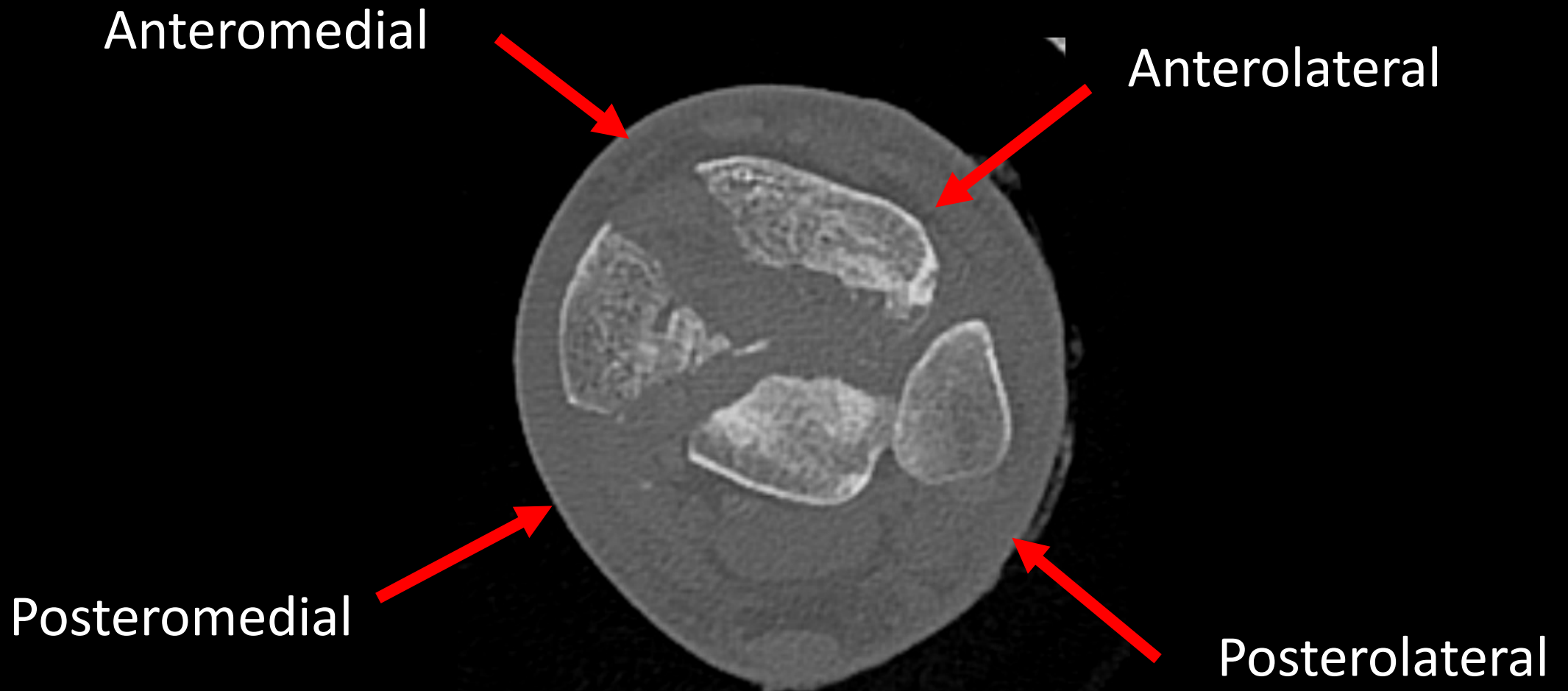




# Span, Scan, and Plan!

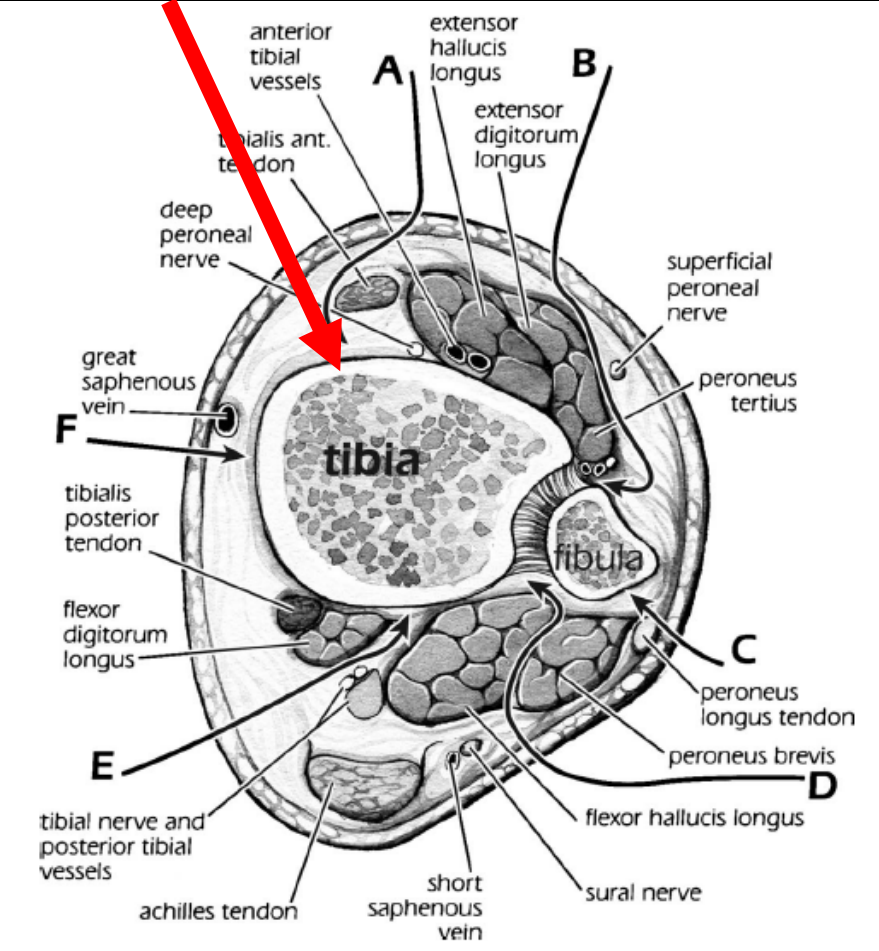


# Approach Options





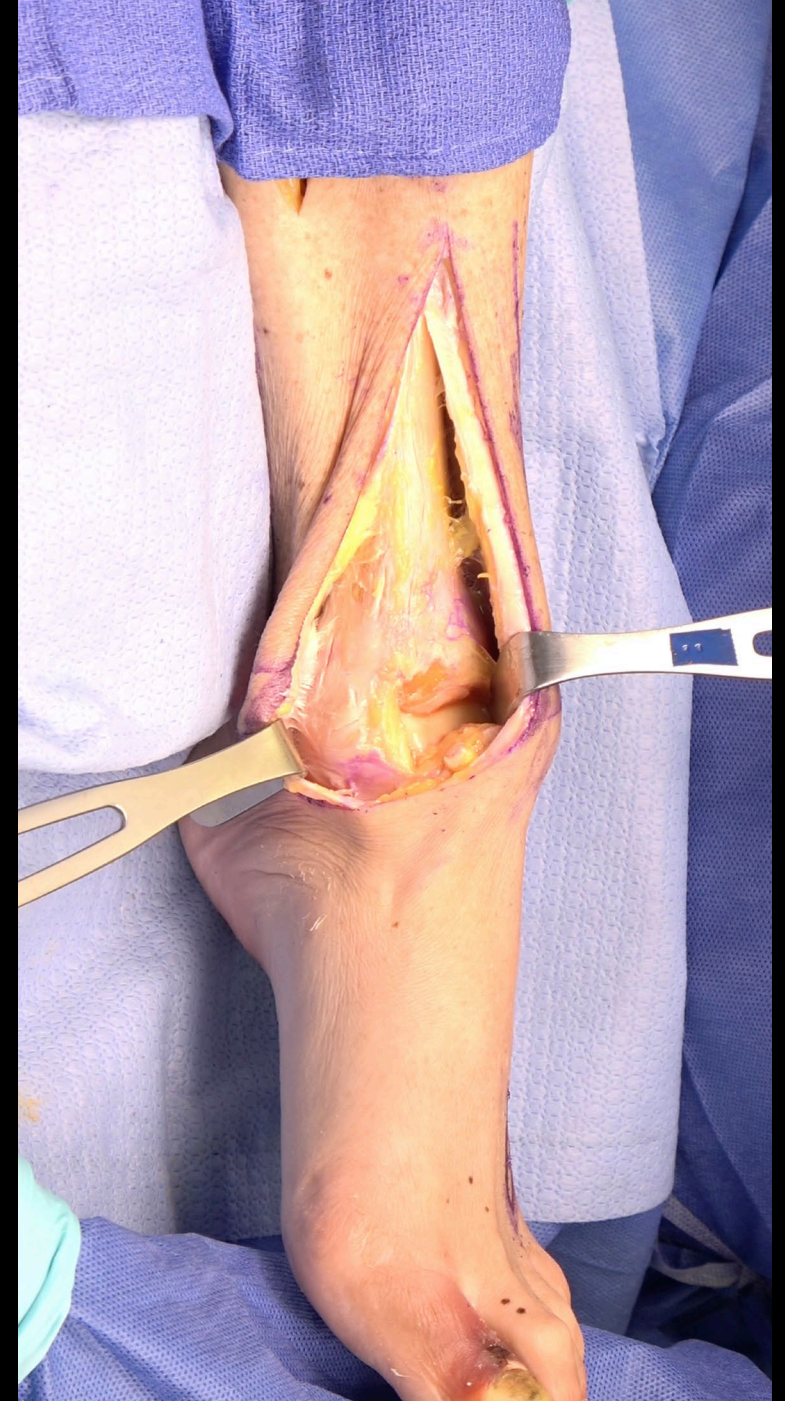
# Anteromedial approach





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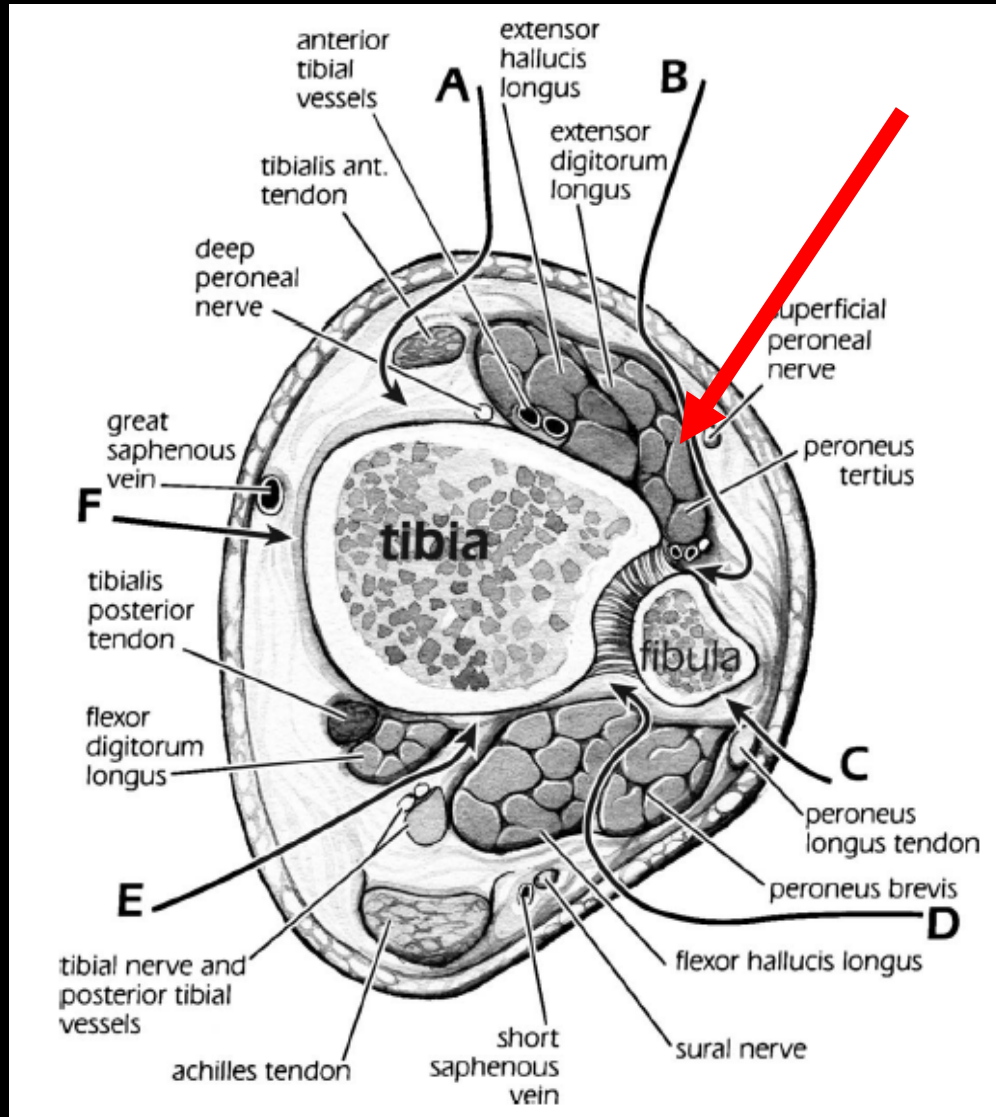
- Pros
  - Extensile exposure
  - Access to medial and anterior tibia
  - Straightforward approach
- Cons
  - High risk for wound healing issues
  - Limited access to lateral fracture exit







# Anterolateral approach



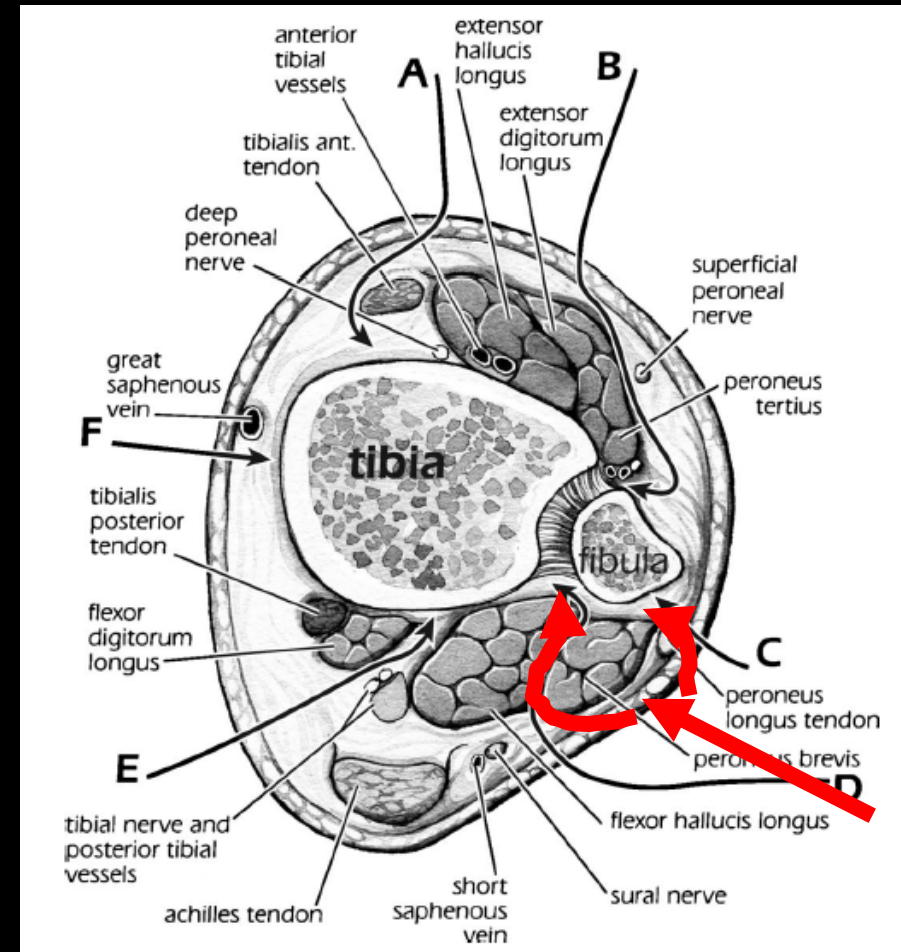


# Anterolateral approach

- Pros
  - Soft-tissue friendly (relatively)
  - Access to AL fracture exit
- Cons
  - Technically more difficult (non-extensile)
  - Risk to SPN
  - Limited access to anteromedial fracture

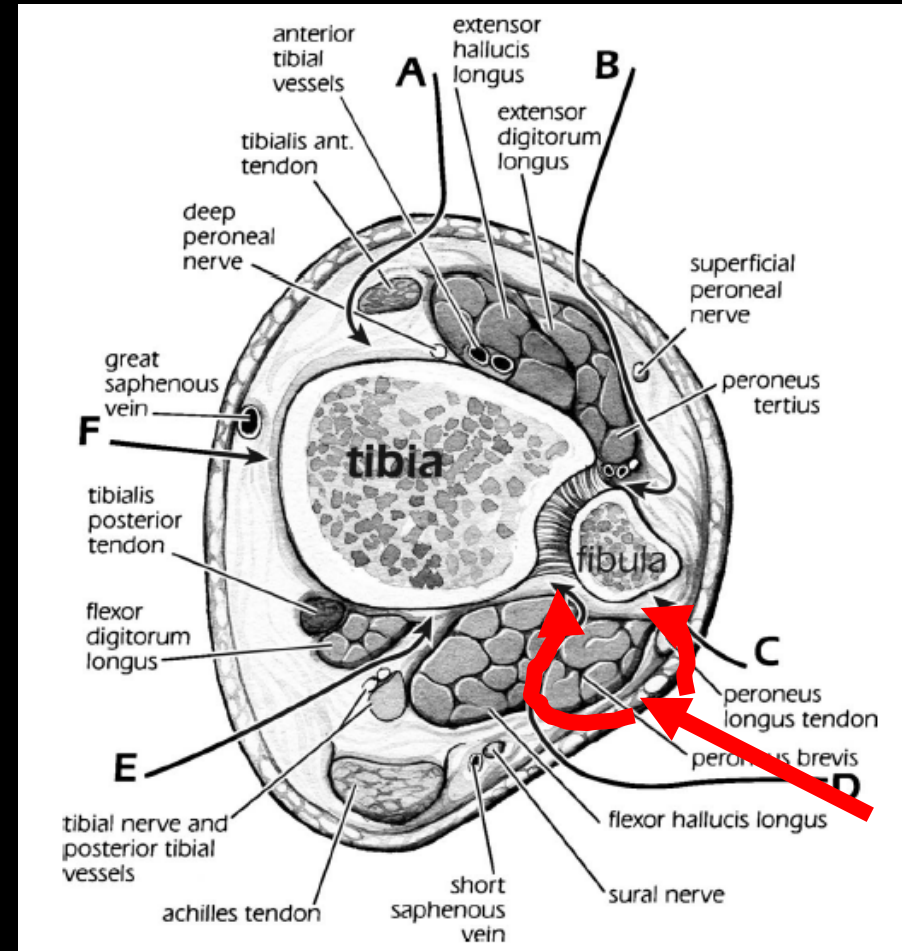


# Posterolateral approach





# Posterolateral approach

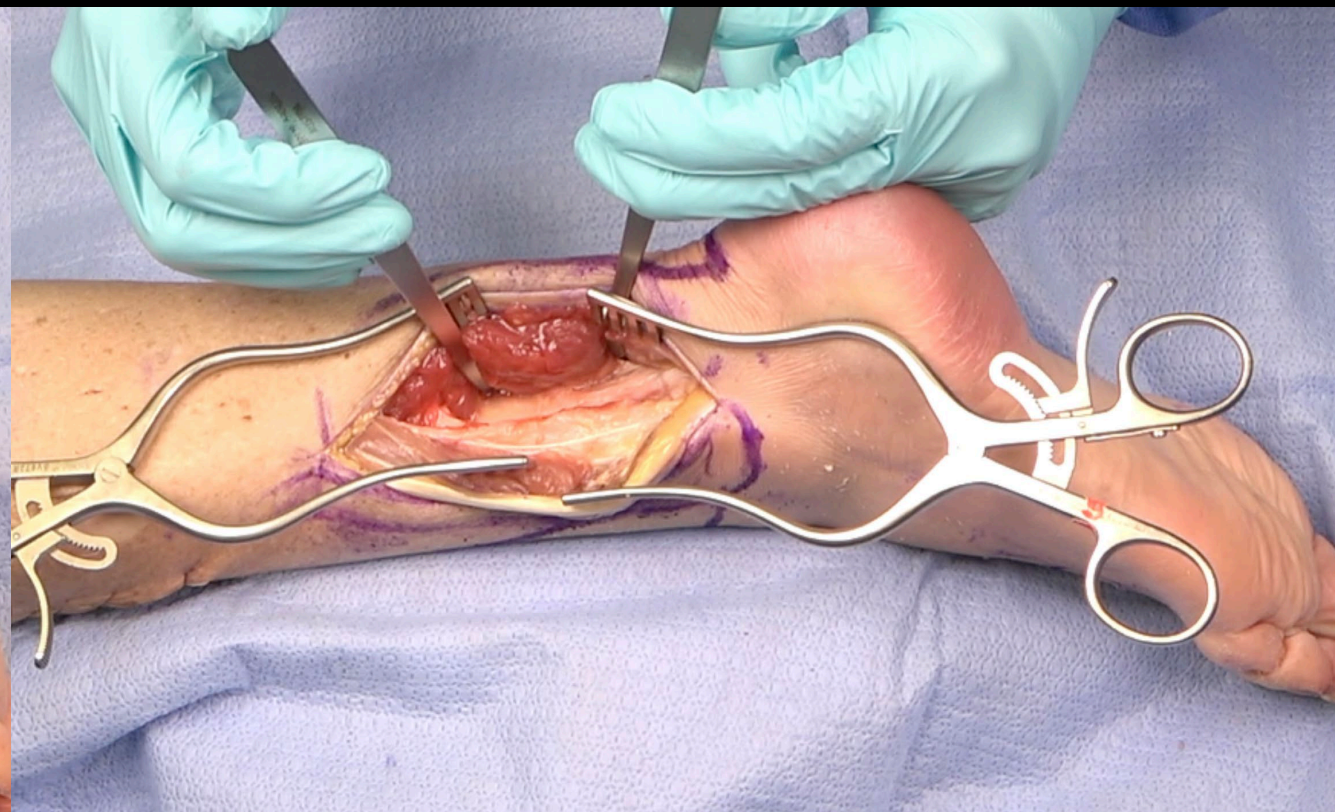




Fibula



Posterior Tibia





Fibula

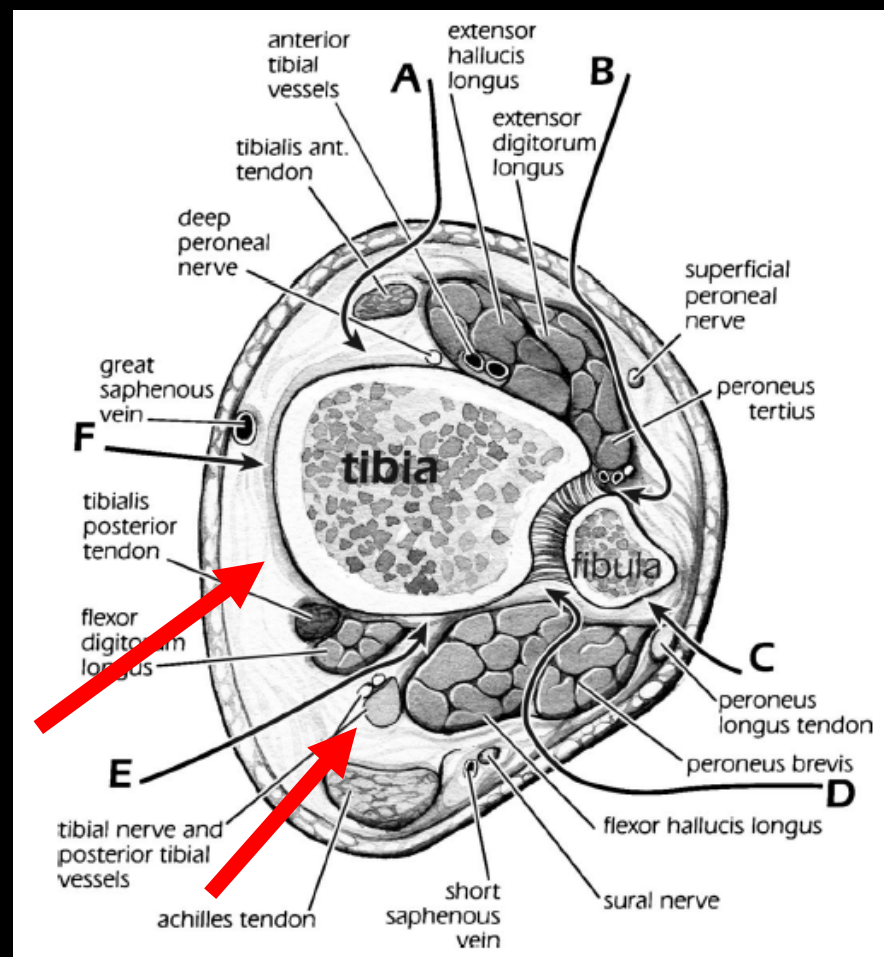
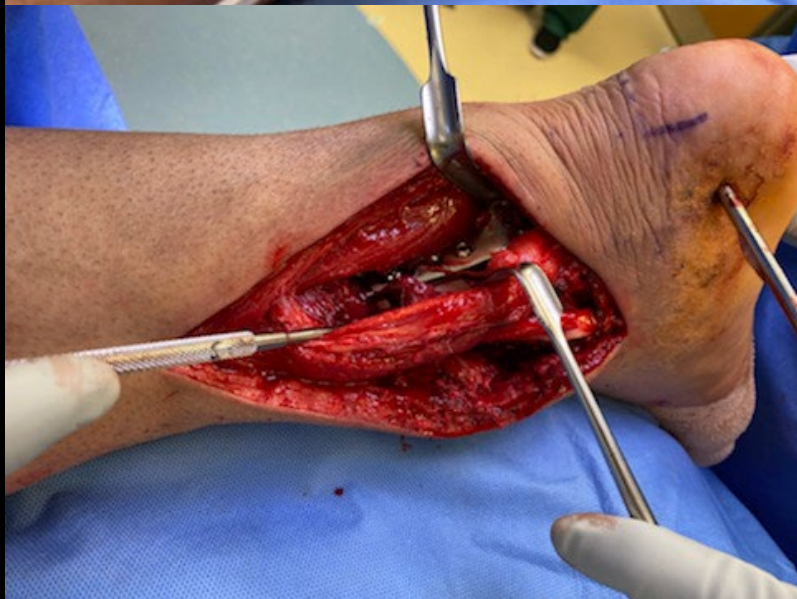


Posterior Tibia

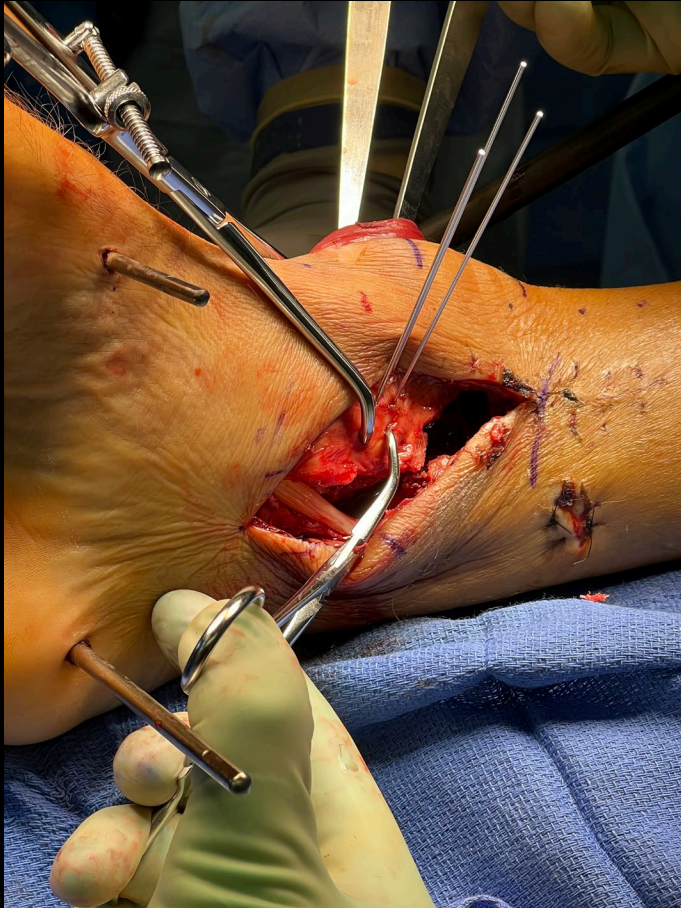




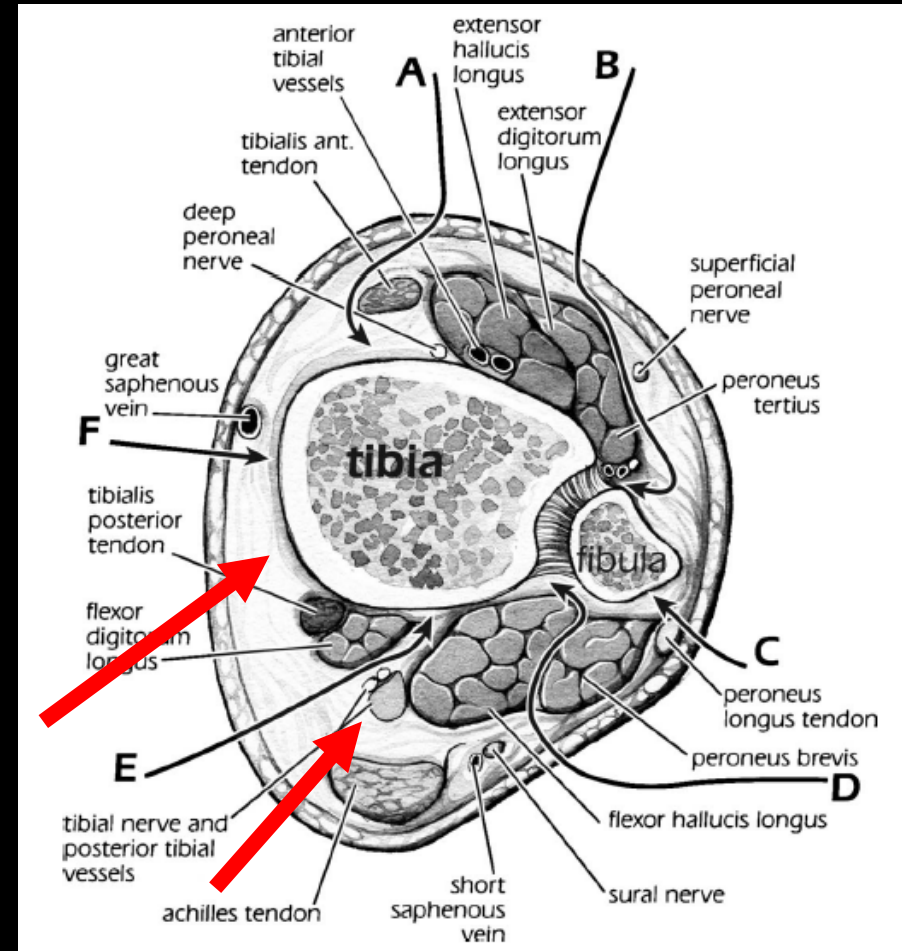
# Posteromedial Approach (Extensile)



# Posteromedial Approach (Limited)



Limited Posteromedial



# Algorithm for Approach

- **Fibula** → Always posterolateral
  - Access to fibula AND posterior tibia
  - Anterolateral to tibia remains safe
- **B-Type Pilon (Partial Articular)**
  - “B = Buttress” → Approach directed toward the apex
- **C-Type Pilon (Complete Articular)**
  - Anteromedial vs. anterolateral
  - Posterior approach IF NEEDED for PL fragment

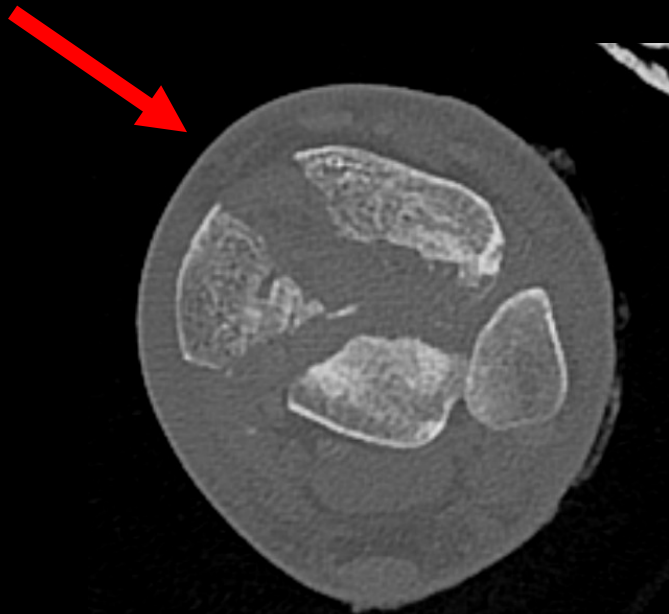


# B-Type vs C-type



# C-type: Anteromedial or Anterolateral?

- **Anterior fracture line exit**
- Posteromedial approach needed
- Soft-tissue considerations



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- Posteromedial approach needed
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# Definitive Fixation

- Secure articular fragments (Create block)
- Secure articular block to shaft
- Medial buttress





# Definitive Fixation

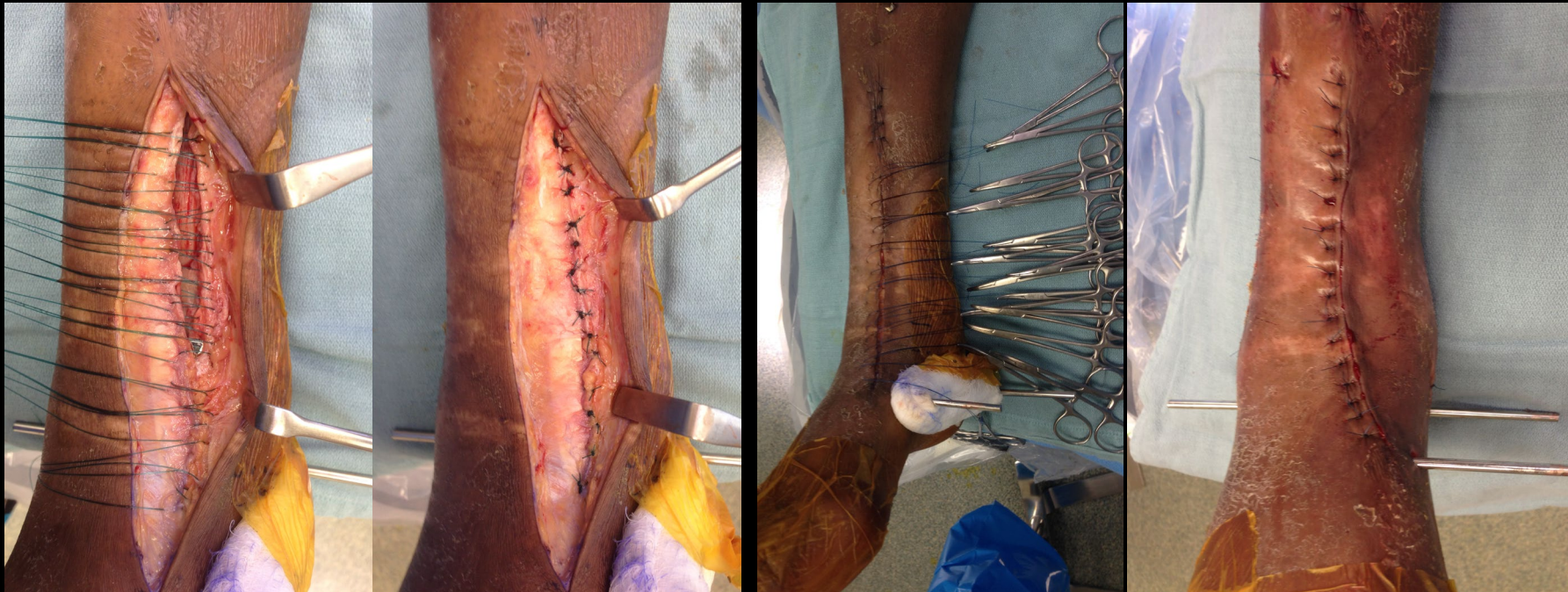
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\*Not based on approach!



# Soft-tissue management

- Full thickness flaps
- Minimize self-retainers
- Meticulous layered closure



# Take Home Messages

- **Staged treatment and soft-tissue handling** to prevent infection
- **Posterolateral for fibula**
- **B-type: Buttress the apex**
- **C-type: AM or AL based +/- posterior for PL fragment**



**Thank you!**

**David.Shearer@ucsf.edu**