

Intra-articular Fractures of Distal Tibia

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Starting point

- Difficult
- Initial injury determines outcome
- Infection and wound healing
- Stiffness and loss of function
- Unhappy patient

Principles

- Span
- Scan
- Plan
- Anatomical reduction

Span

- External fixator
- Two pins in tibia
- 2 distal to the ankle
- Foot plantigrade
- Distract



Scan

- When in doubt : scan
- Reconstructions
- Workstation
- Review scan prior to surgery
- Have scan available in theatre

Plan

- Fracture pattern
- Approaches
- Soft tissues
- Stages-Timing
- Implants

Implants

Synthes

Medial

lateral

Pilon plate

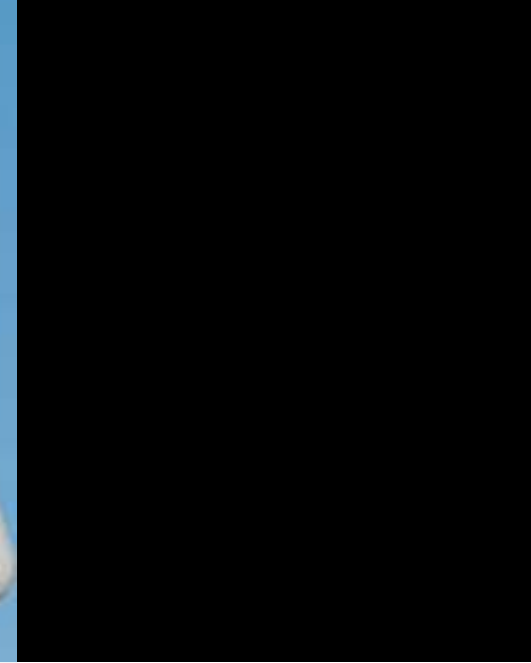
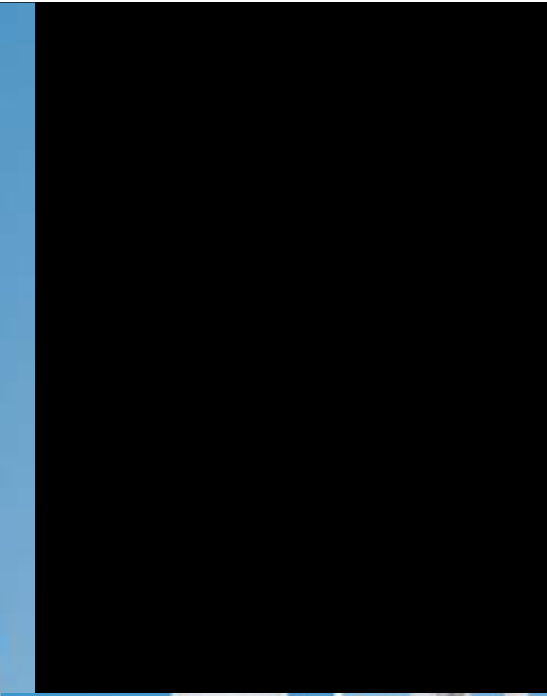
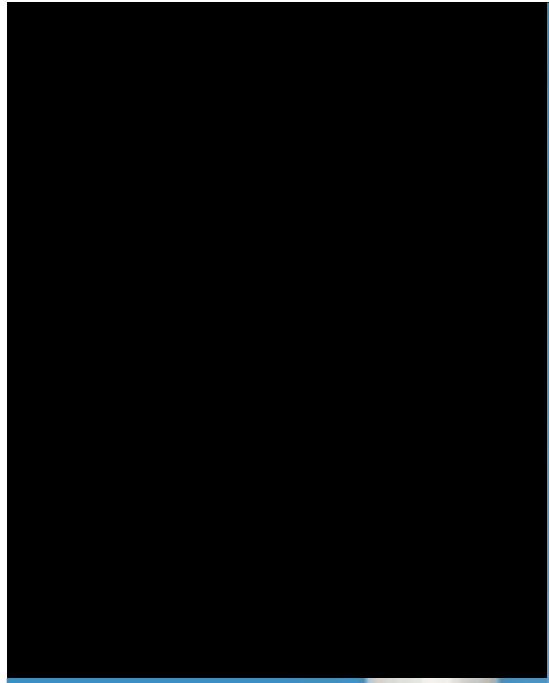
Fibula

Locking plate

Post fixation

SN VLP

Circular Frames



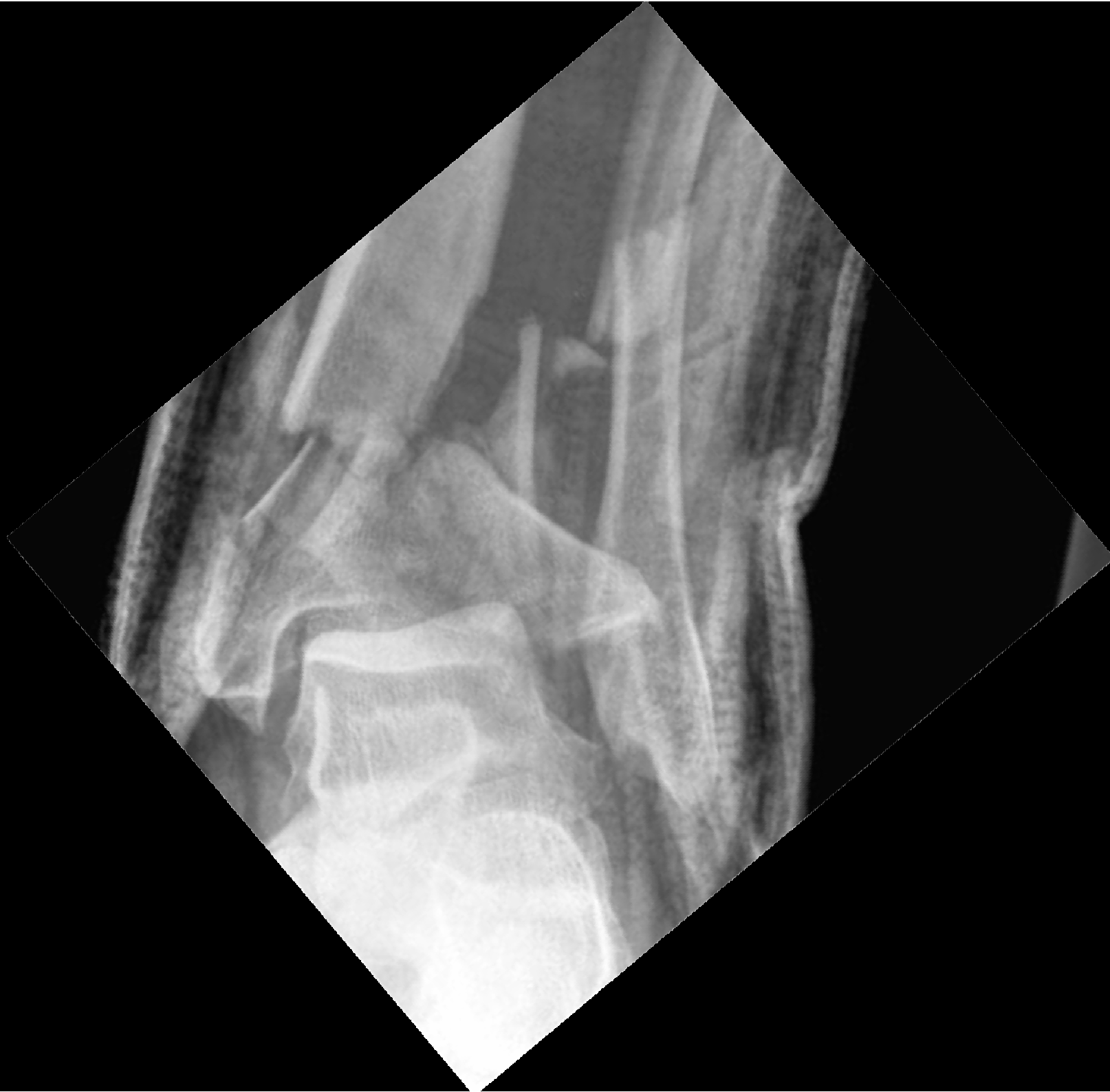
Approaches

- Fibula
- Tibia
 - Anterior through EHL
 - Med to TIB Ant
 - Medial
- Posterolateral

Fracture Pattern

- No fibular Fracture
- Fibular Fracture : Weber A
- Fibular Fracture High
- Diaphyseal extension
- F*****F





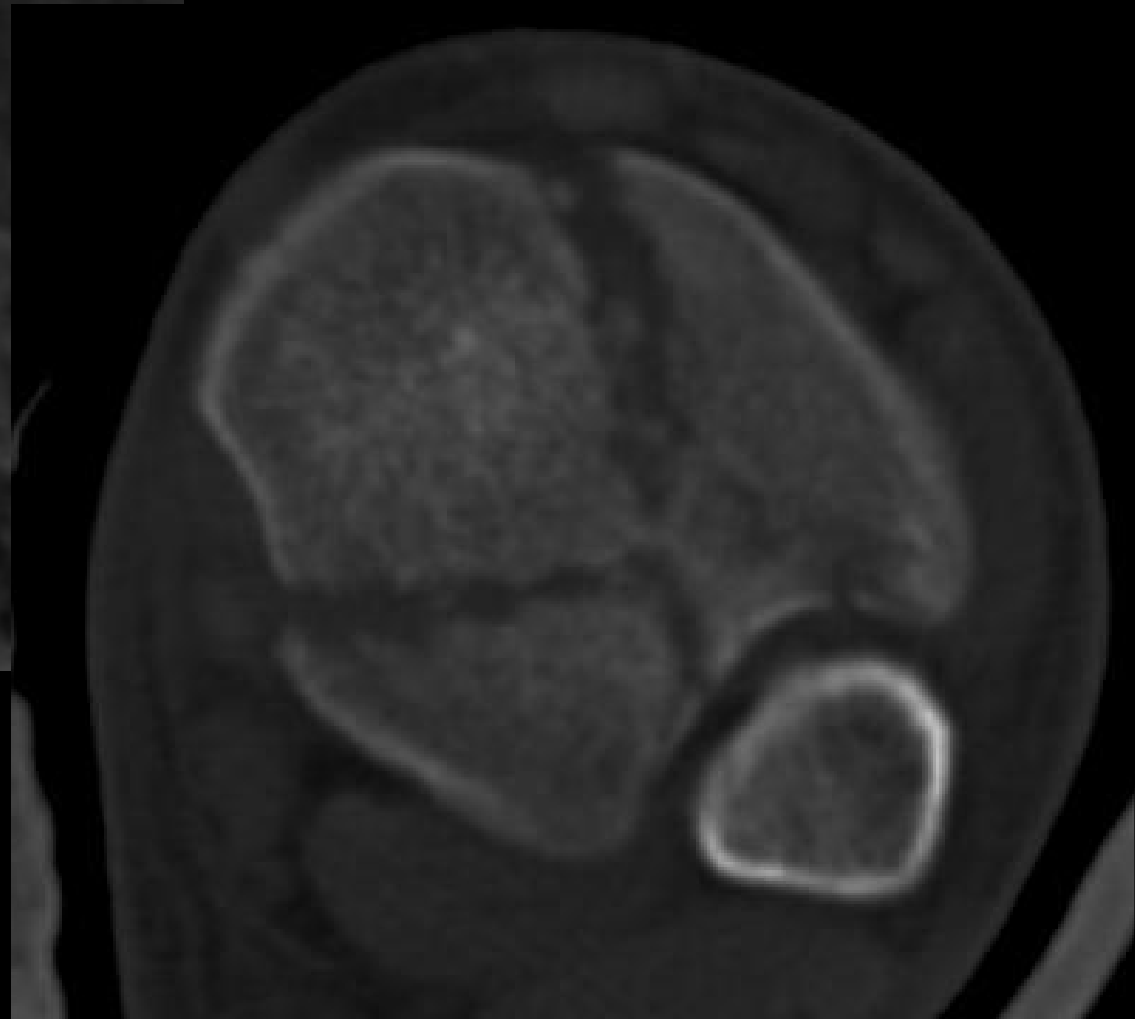
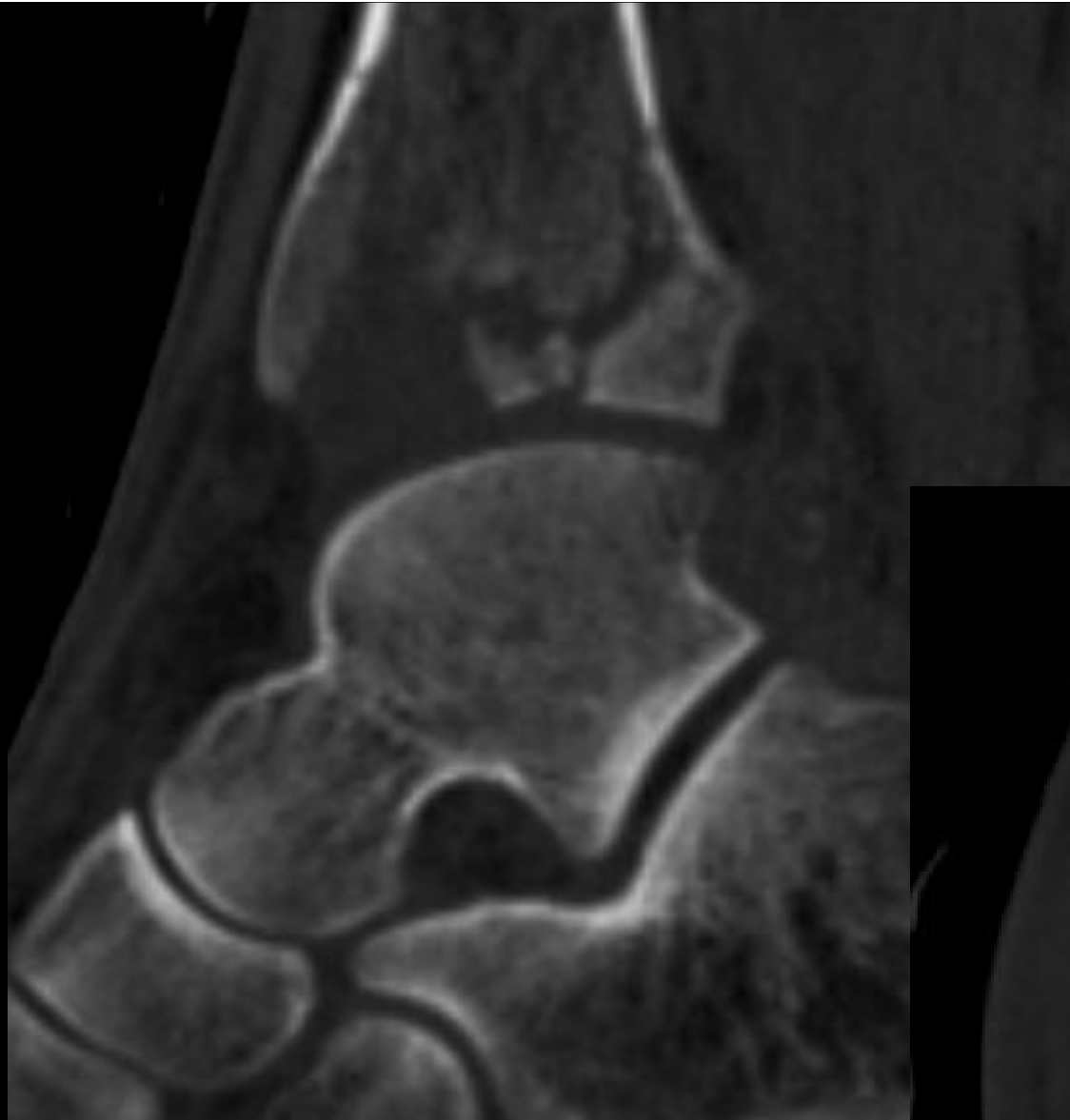
No Fibular Fracture

- Easy
- Span (Percutaneously reduction)
- Scan
- 2-3 weeks fix

contd

- Anterior approach
- EHL
- Open the book/reduce/ineterfragmentary
- Plate





Anterolateral approach

- Longitudinal incision over lateral tibia, 3rd/4th metatarsals
- Superficial peroneal n
- Incise ext retinaculum
- EHL

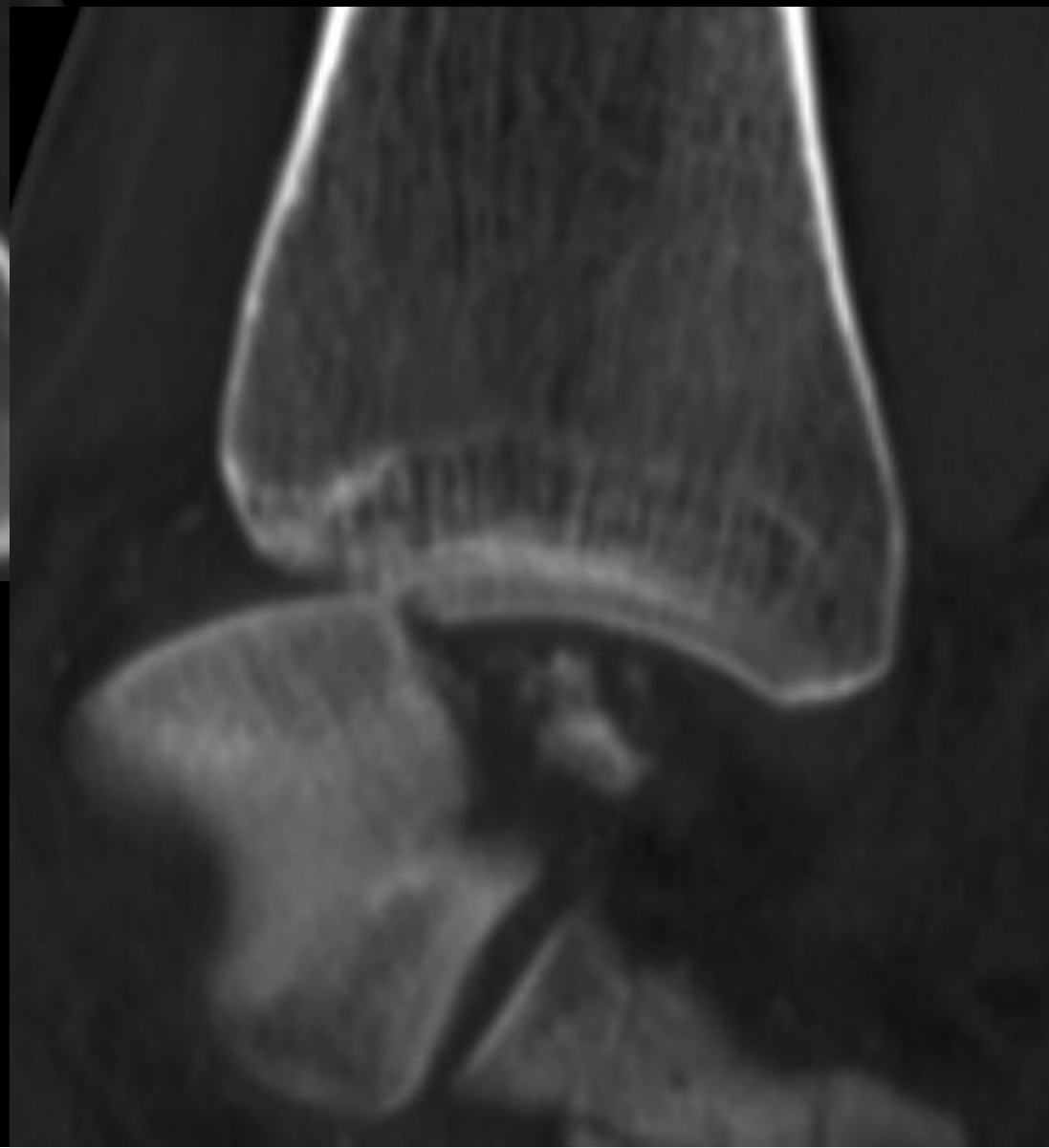
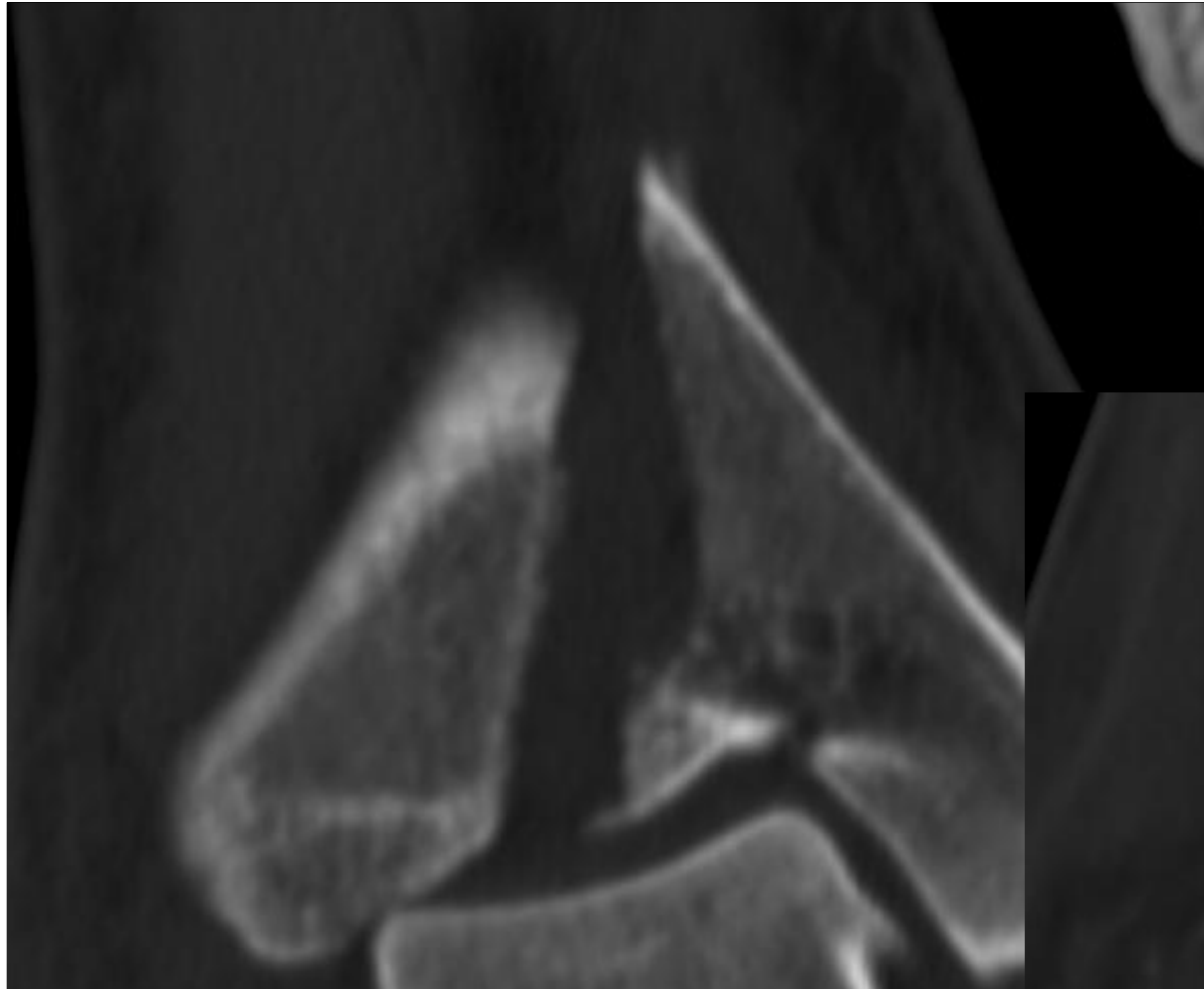


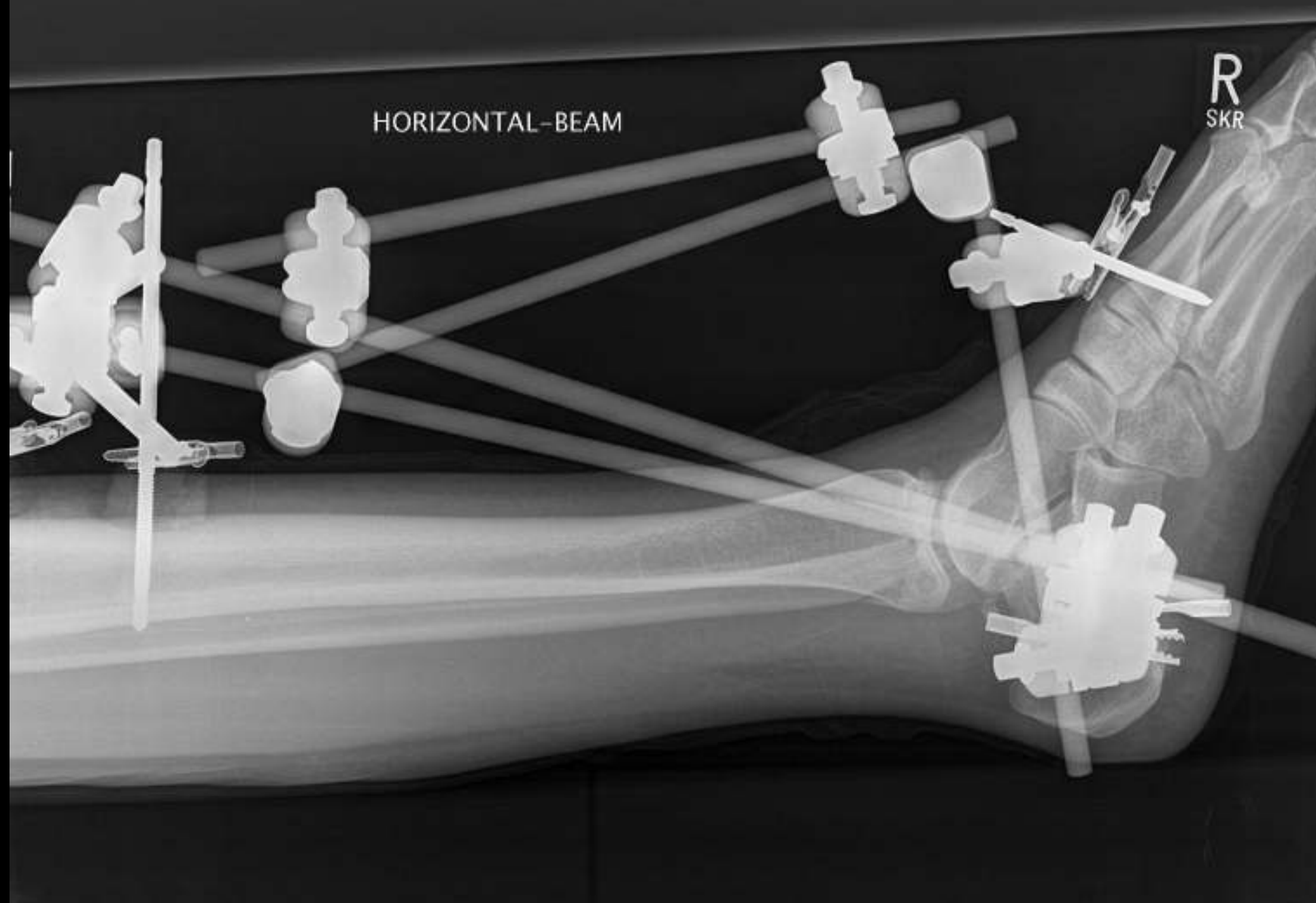


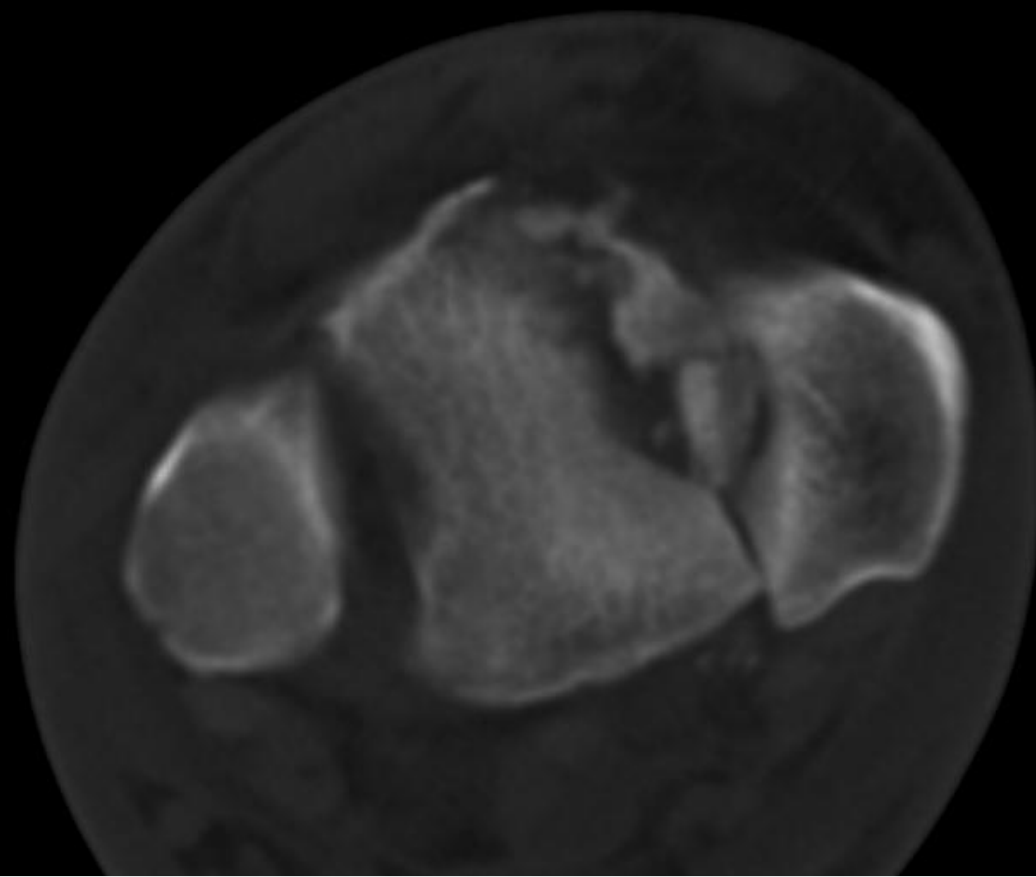
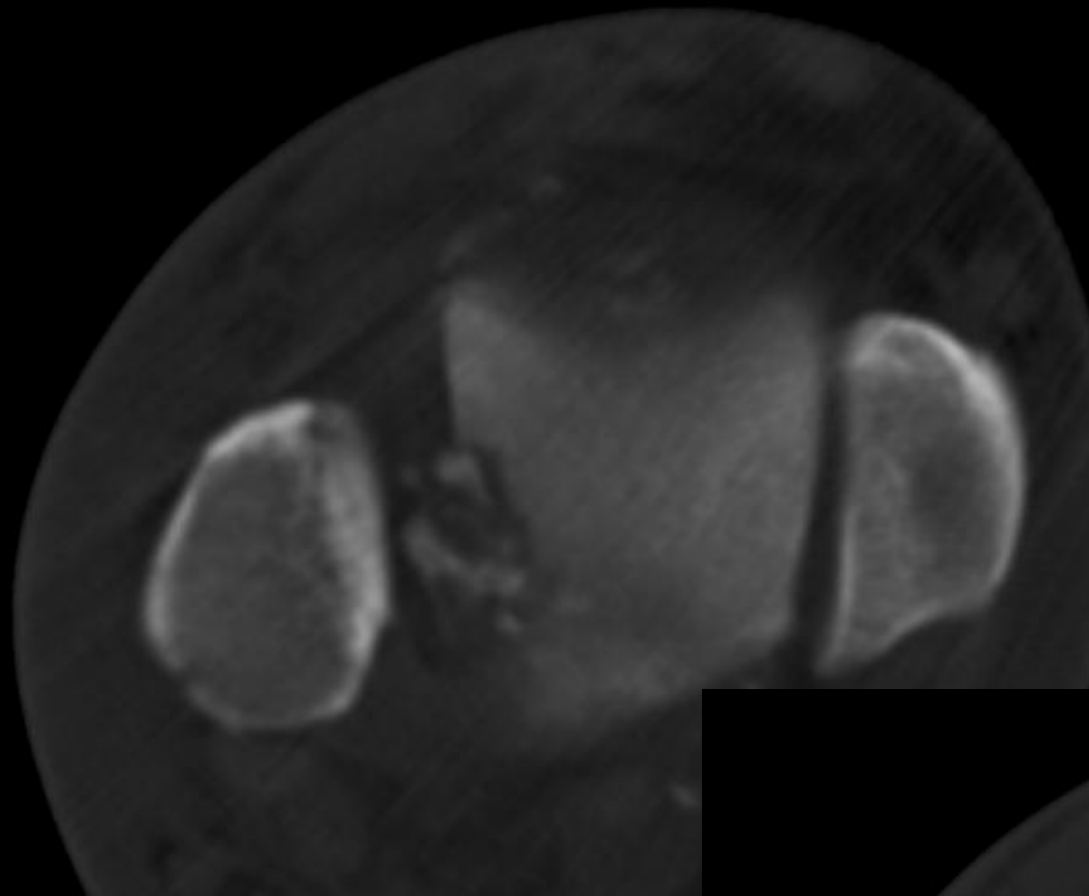
Fibular fracture -A

- Easy
- ? Spanning
- CT
- Timing ?



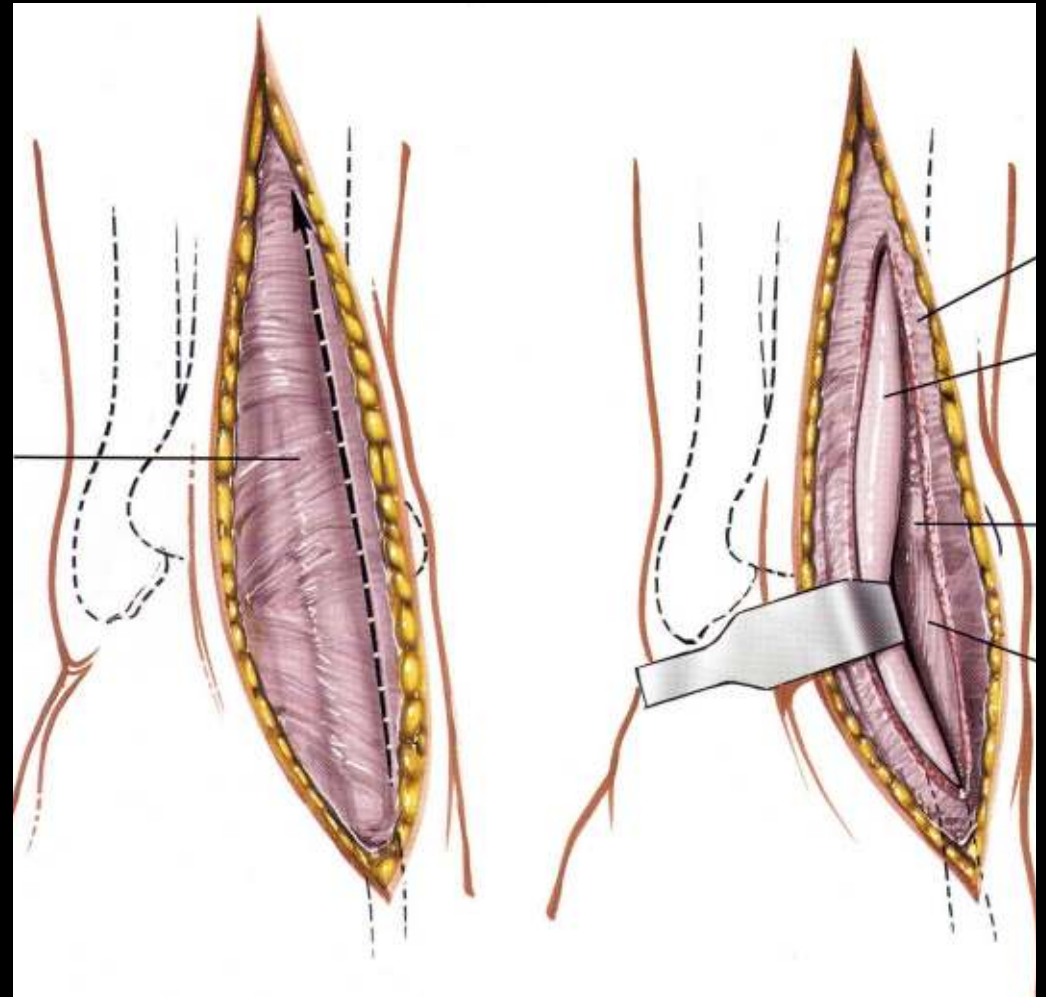






Anteromedial approach

- Incise retinaculum
- Retract tib ant laterally
- Saphenous bundle
- Deep peroneal nerve and ant tibial artery between EHL and EDL





Weber A

- Anterior approach/ Tib Ant
- Open Medial Malleolus/Reduce
- Buttress plate
- Fibula - Cancellous screw (compression)

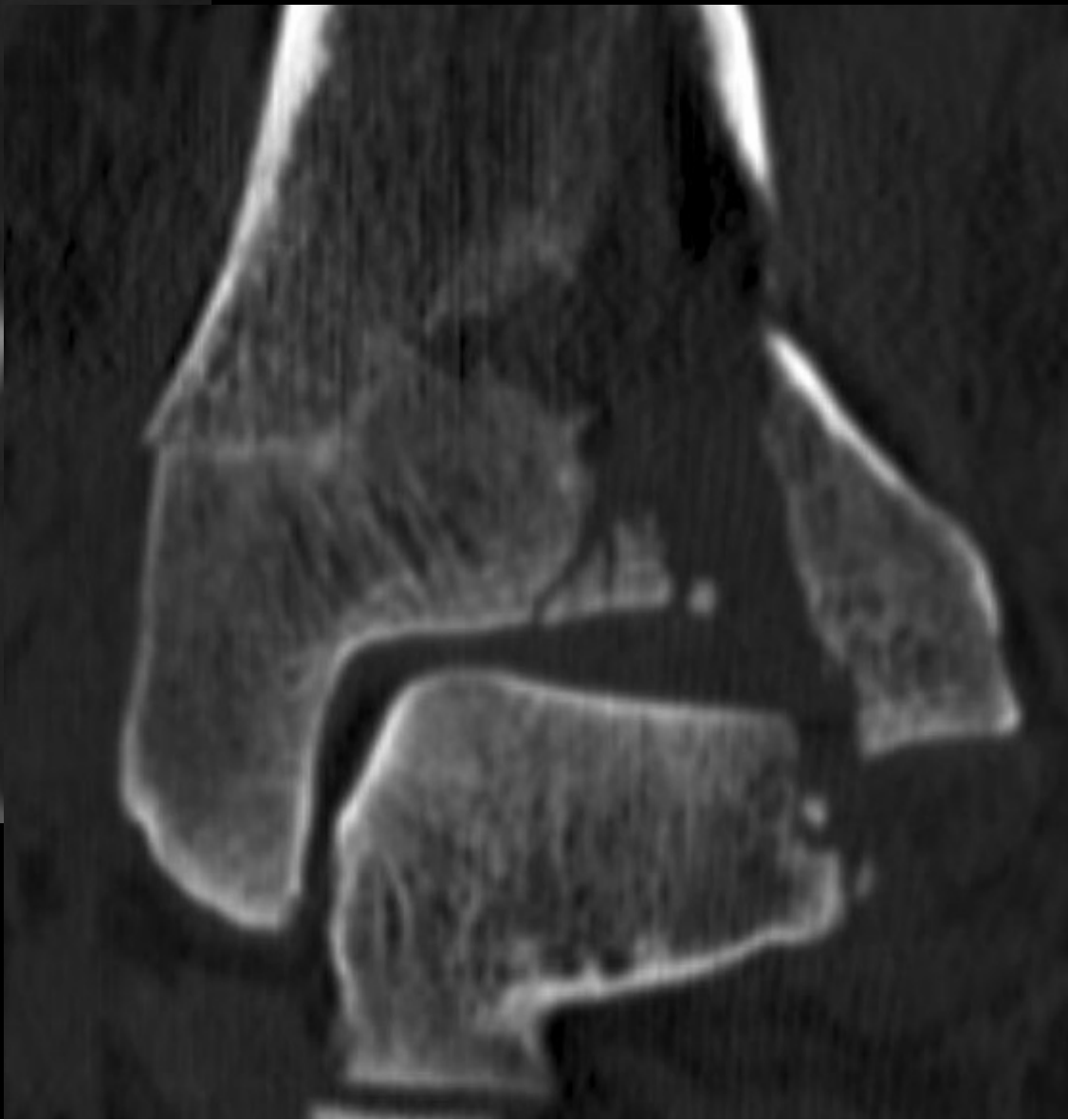
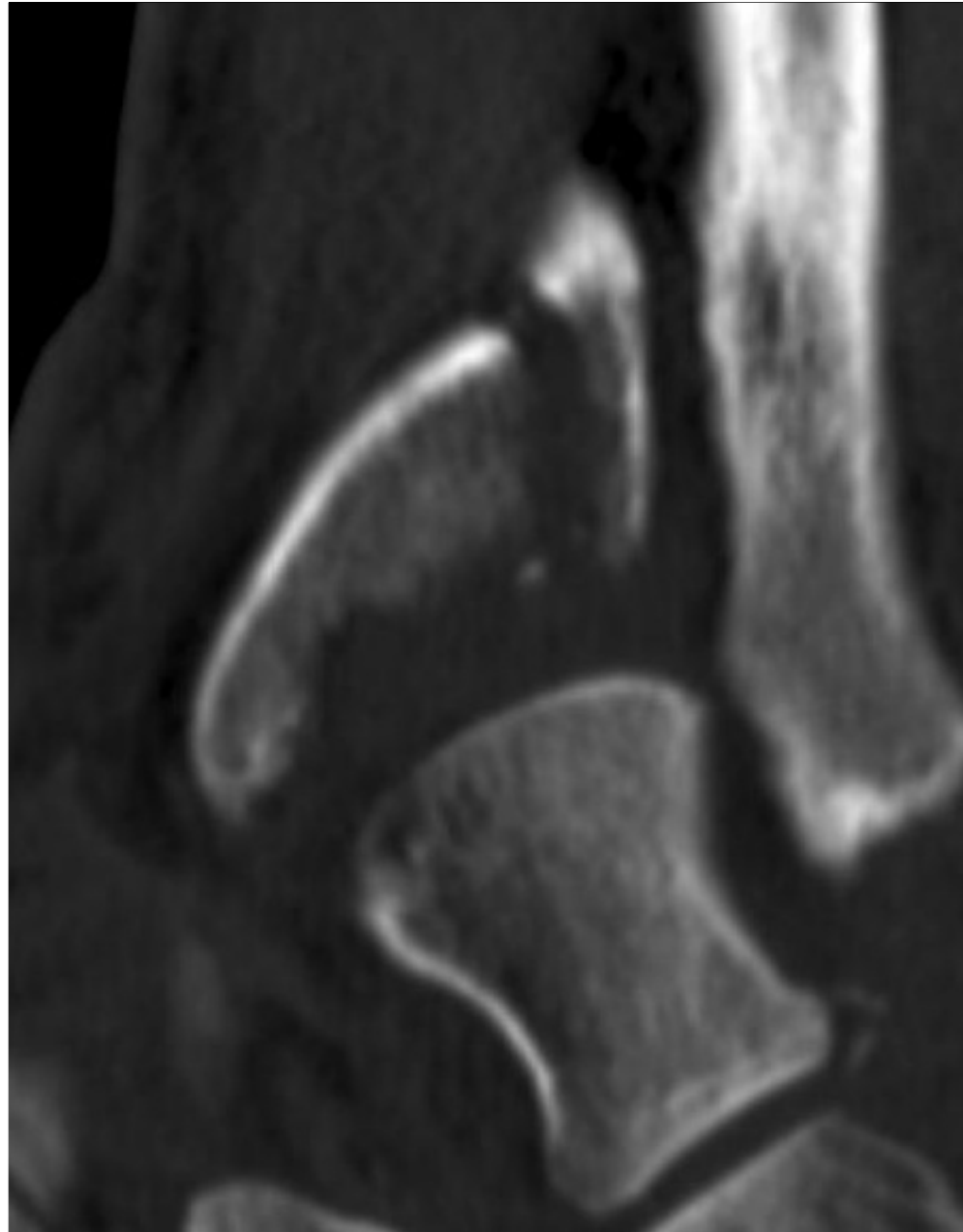


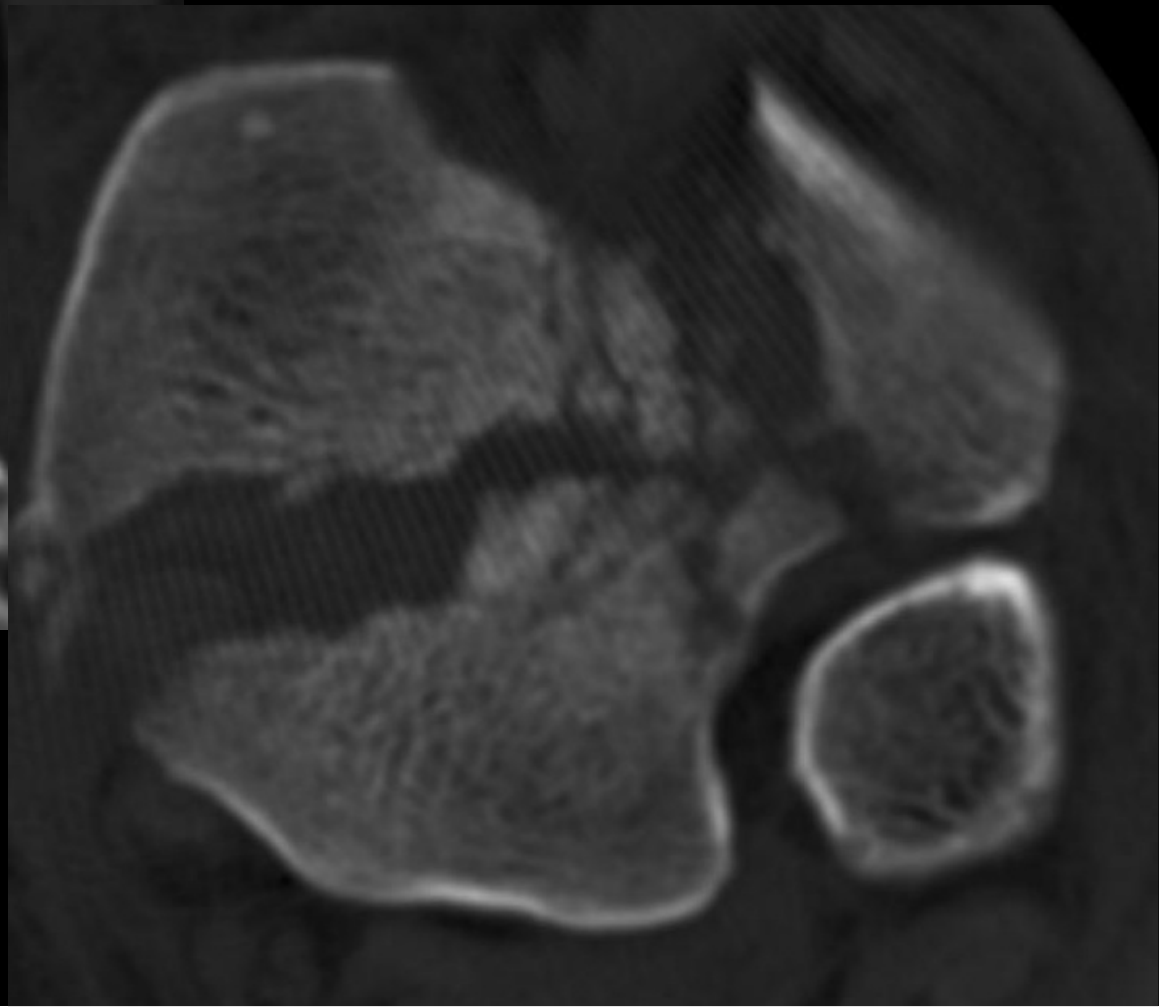
High Fibula

- SPAN
- SCAN
- PLAN



LEFT
HORIZONT,





PLAN

- Is there Diastasis
- Is there a posterior fragment
- What is the level of the fibular fracture

Keys

- Anatomic reduction of fibula- Not just length
- Reduction of posterior fragment –template
- Staged reconstruction-soft tissues

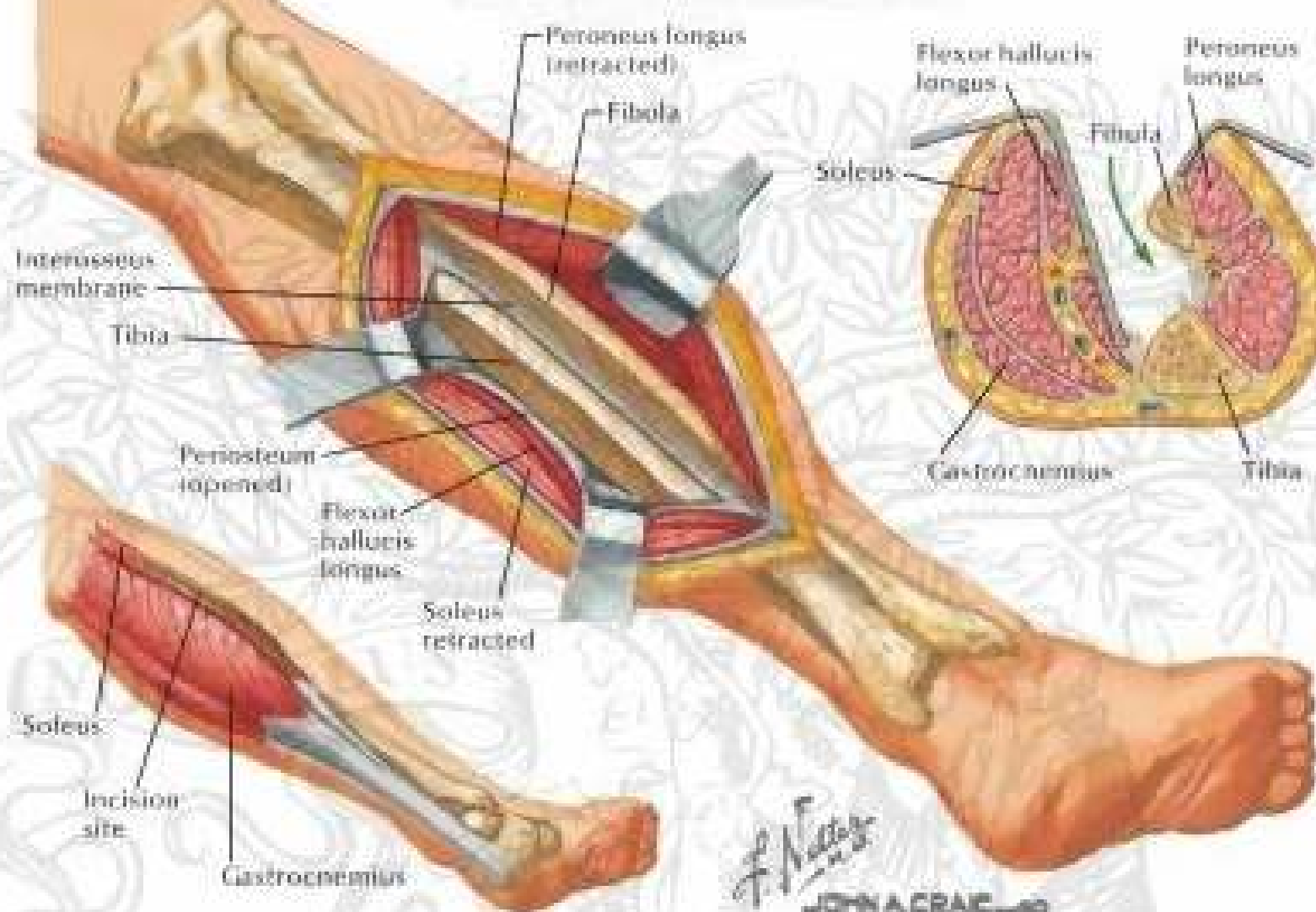
Implants

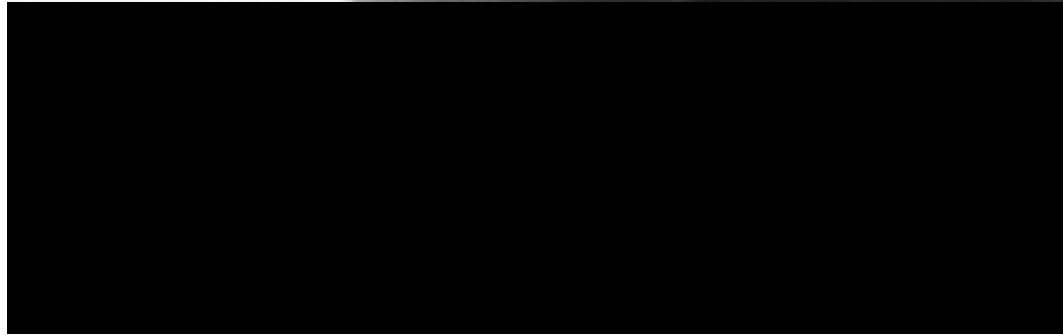
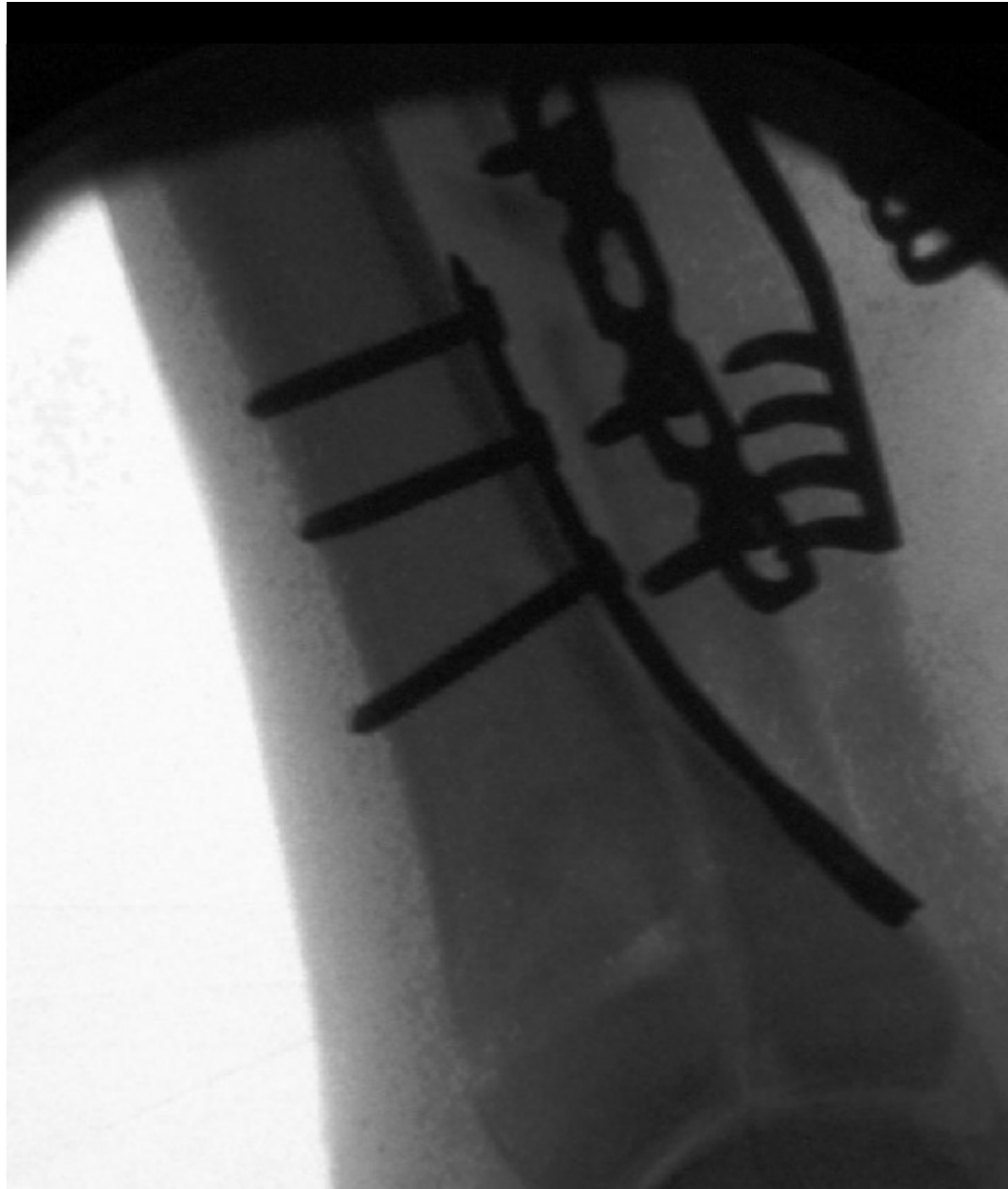
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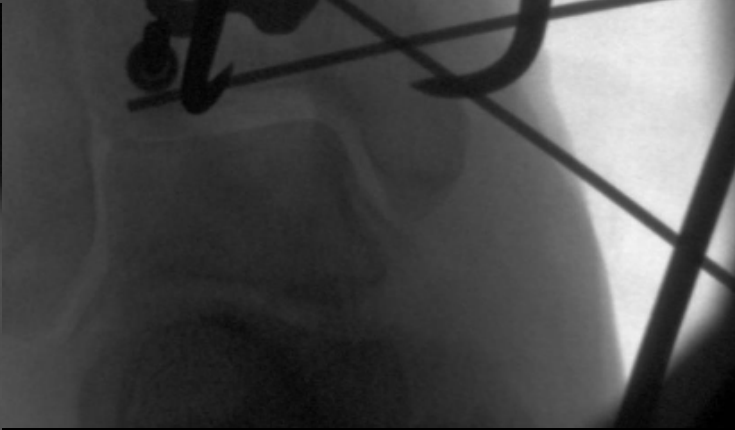
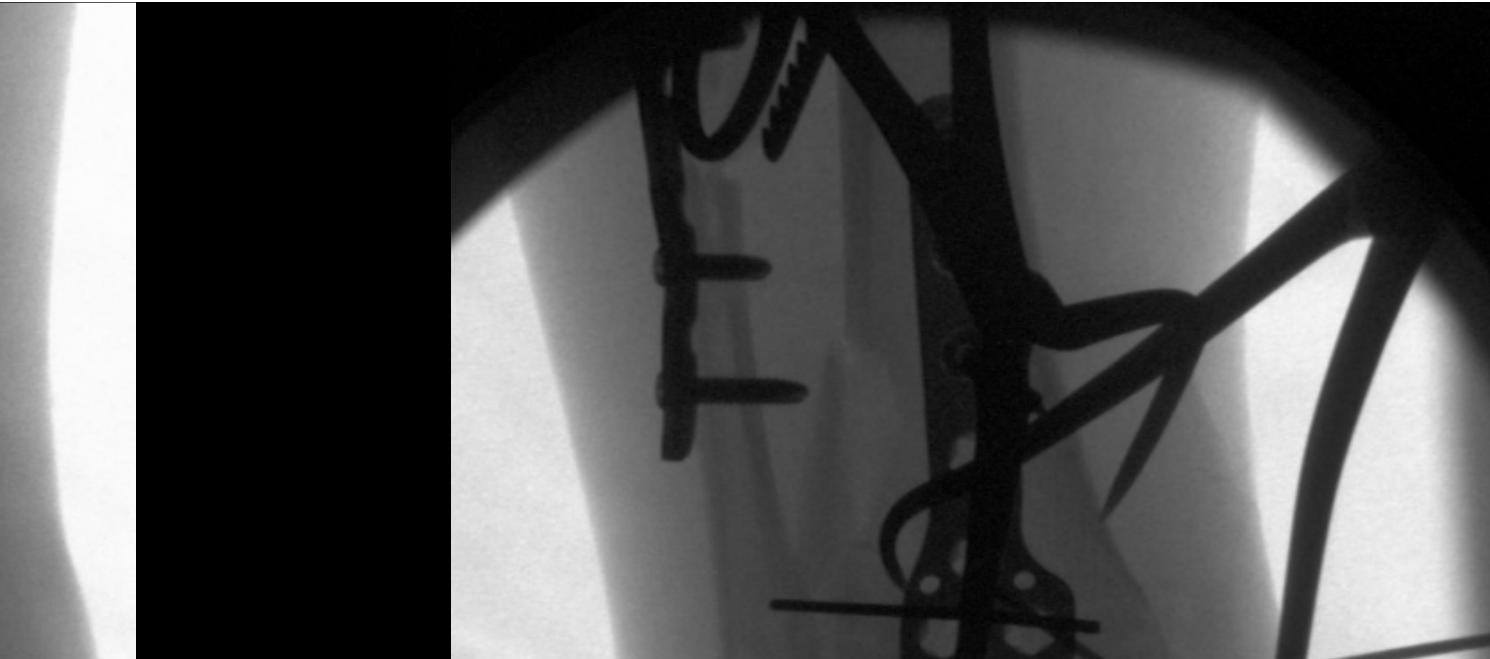
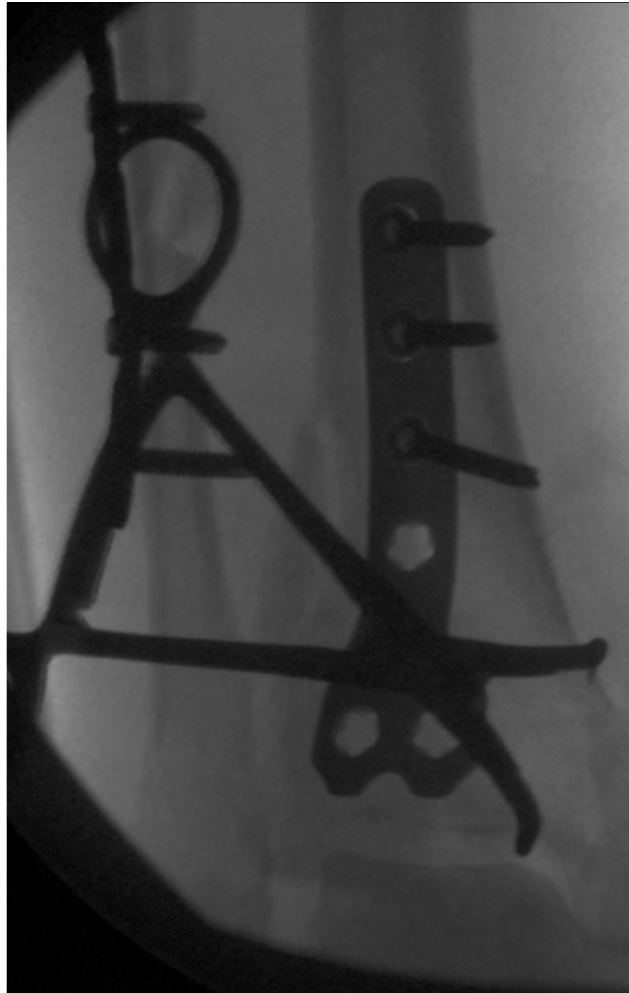
Fibula - Locking plate

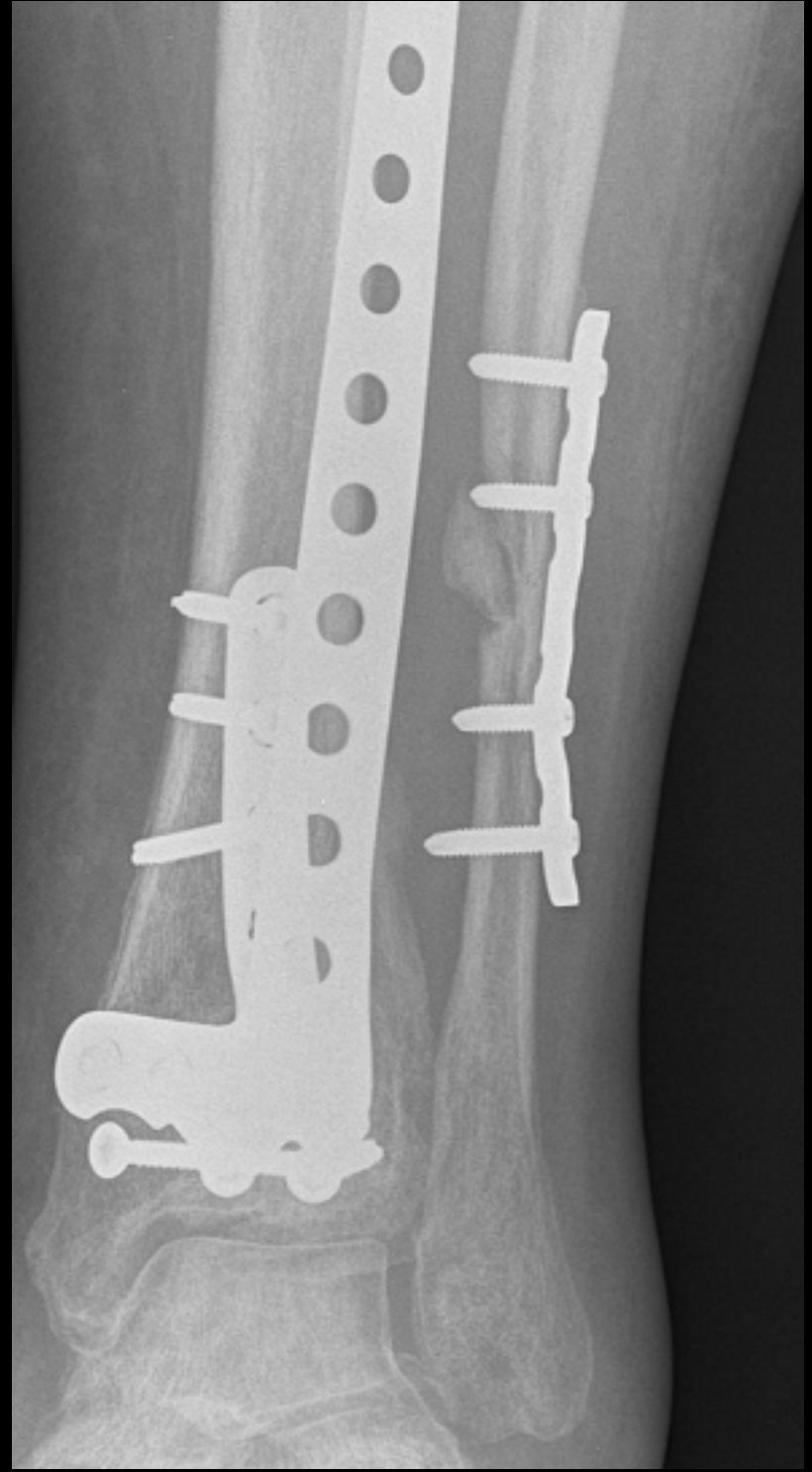
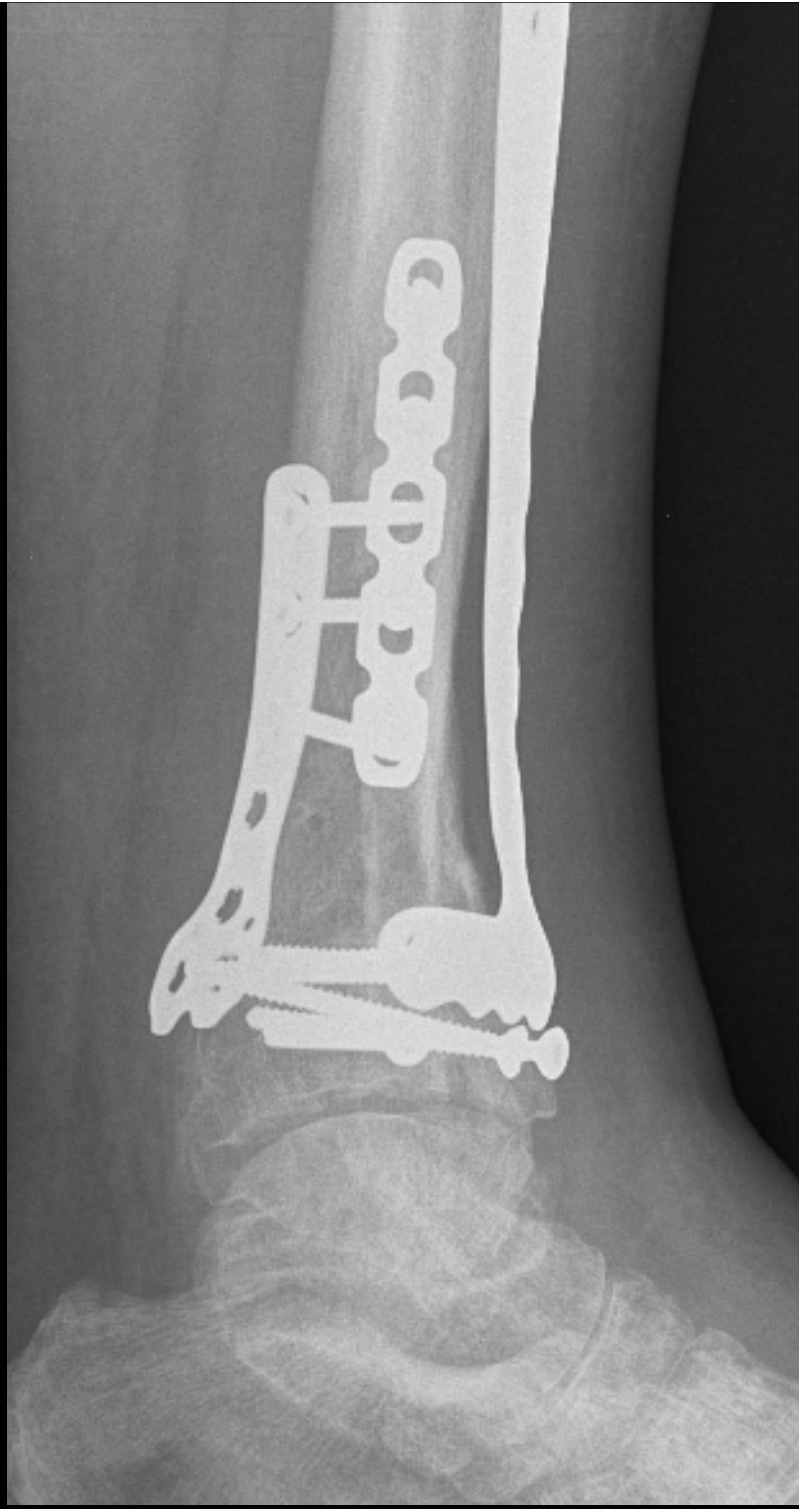
Posterior Tibia – VLP

Posterolateral Approach to Tibia









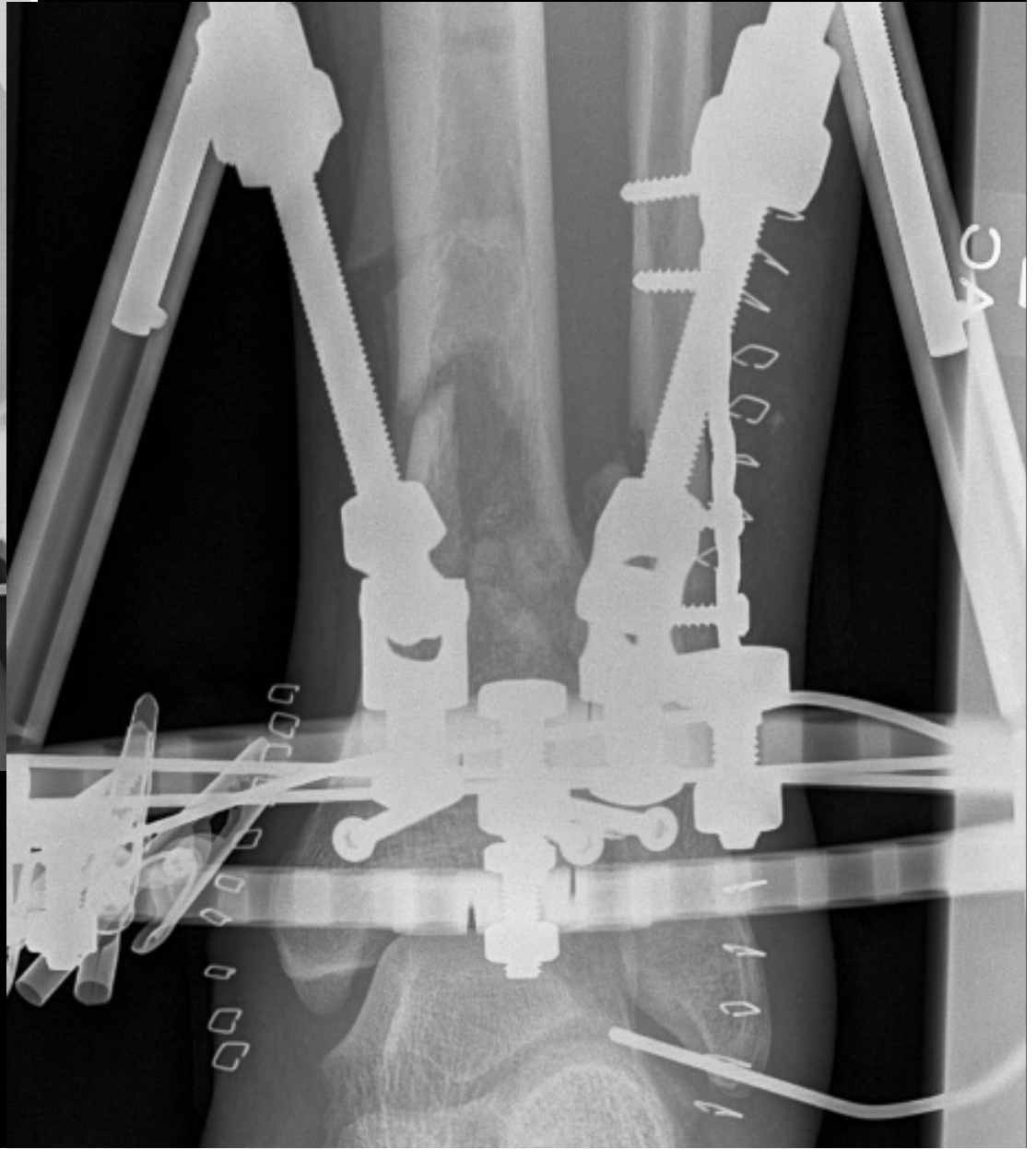
2nd stage

- 2-3 weeks
- Anterior approach
- Bone graft

Post op

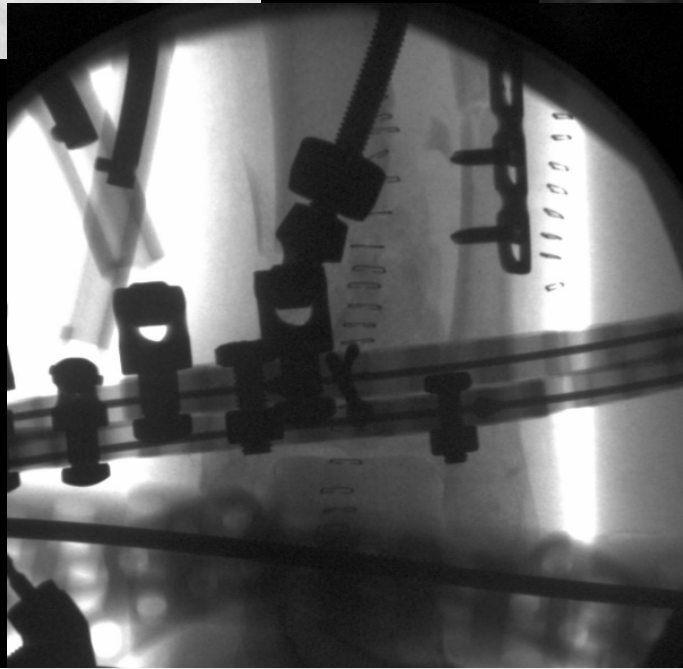
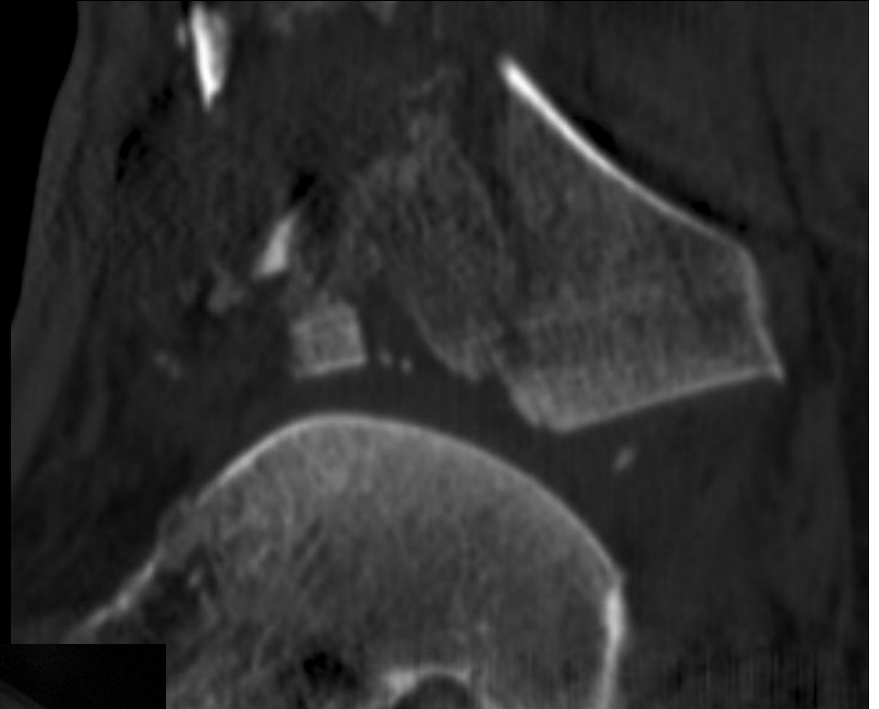
- POP for 2 weeks
- ROM exercises - at 2weeks
- ROS 2-3/4 weeks
- Wt bearing delayed to 10-12 weeks







Not all go well





What i have learnt

- Some are more difficult
- Most do well in the short/medium term
- Infection and soft tissues problems are no more common than most surgeries
- Functional outcome satisfactory
- Pts are as unhappy as any other patient.