

Segmental Tibia Fxs

Evaluation & Treatment

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Professor

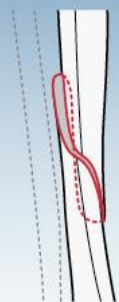
Dept of Orthopaedic Surgery
University of California, San Francisco



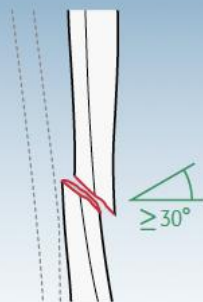
Start with a case: 21 y/o, MVC



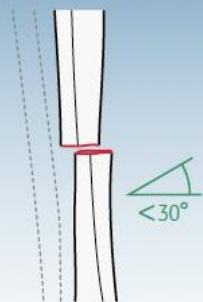
Tibia S



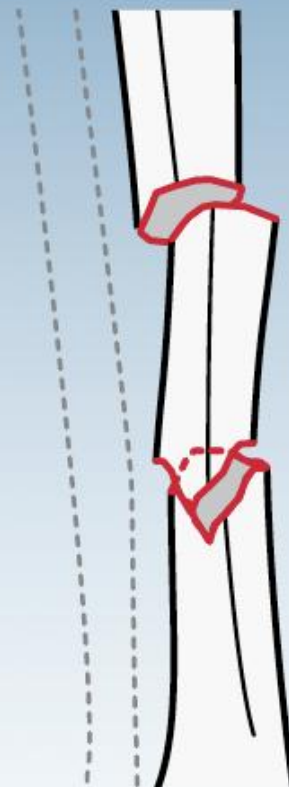
42A1



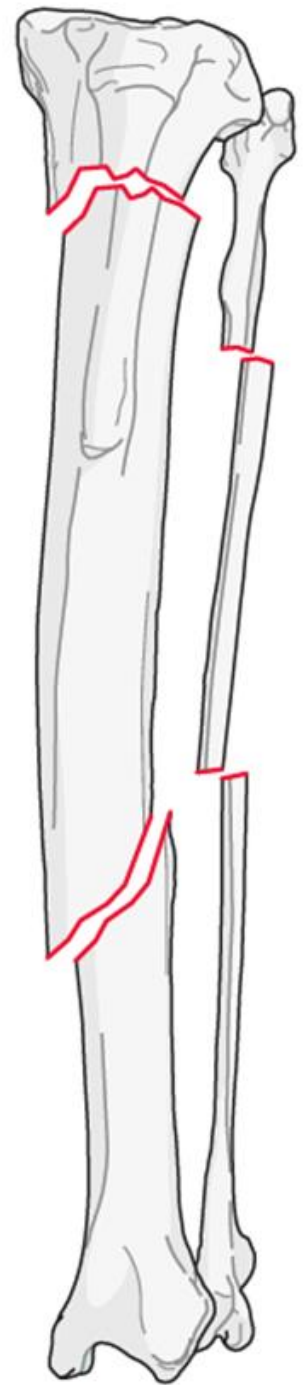
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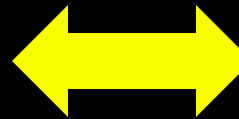
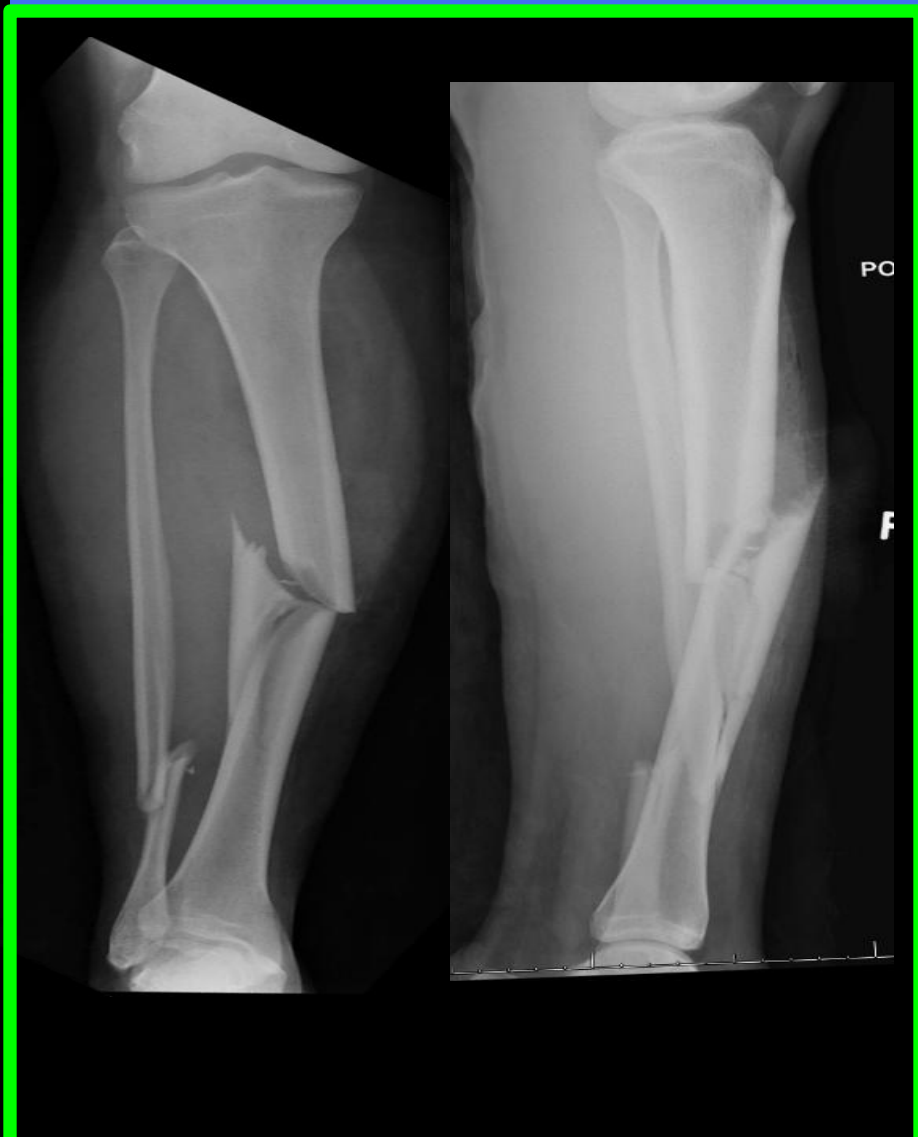
42A3



42C2



Tibia Shaft Fx

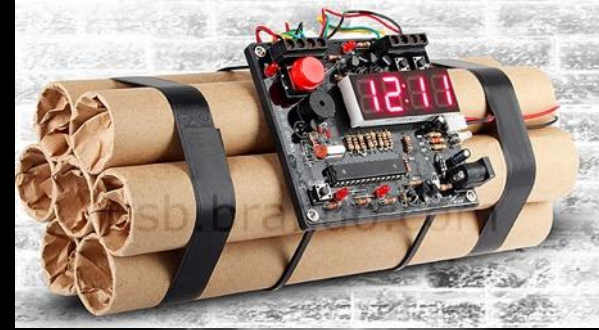


Open tibia shaft fx



Segmental Tibia Fx

- ❑ ACUTELY:
Compartment syndrome
- ❑ LONG TERM: High risk for nonunion



Treatment options



Tibia Shaft Fracture

Standard of care

=

IMN



Positioning

Flexion

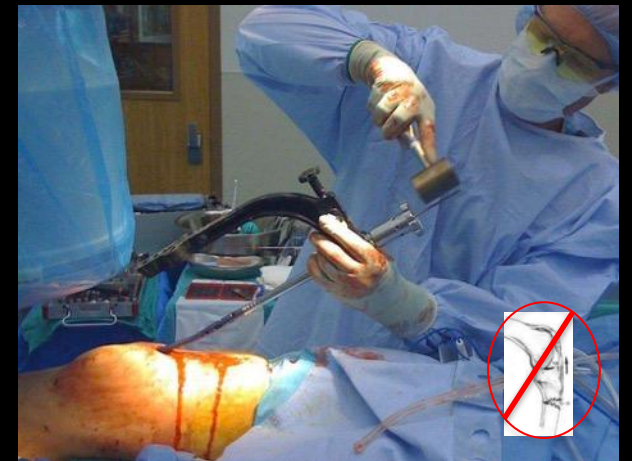


Semi Extended



Approach

- Extra-articular
 - Parapatellar (lateral, medial)
 - Infrapatellar/transpatellar tendon
- Intra-articular
 - Suprapatellar
 - Parapatellar

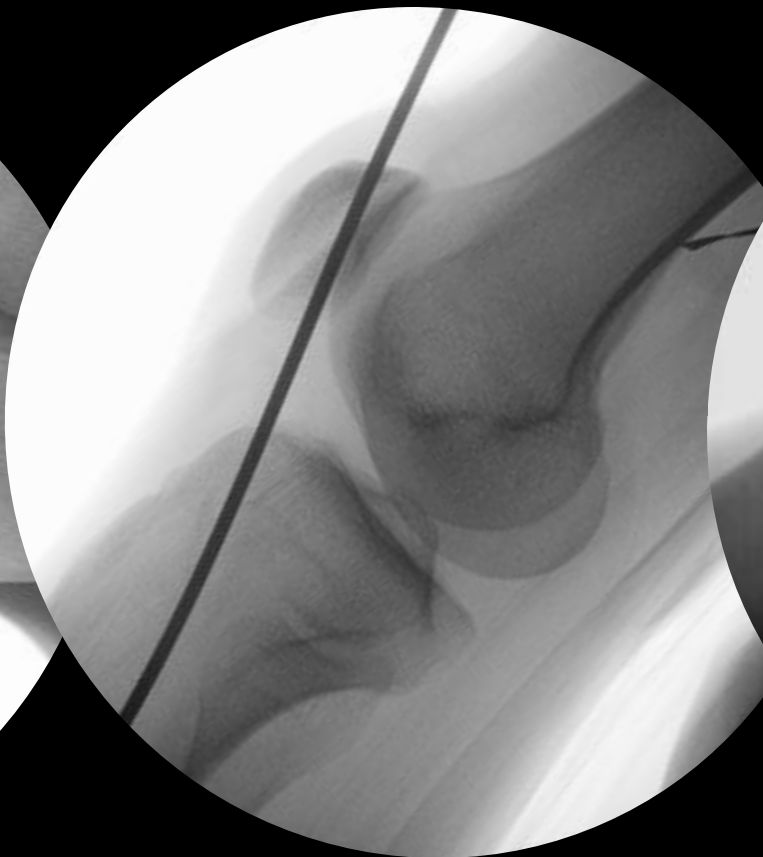


Approach

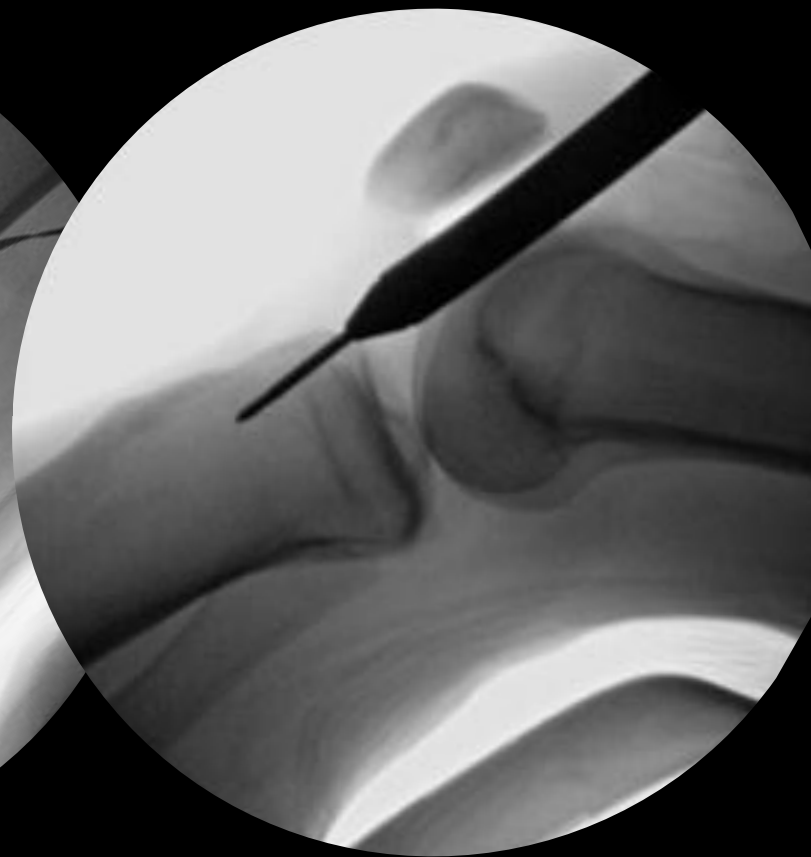
Transpatellar Tendon



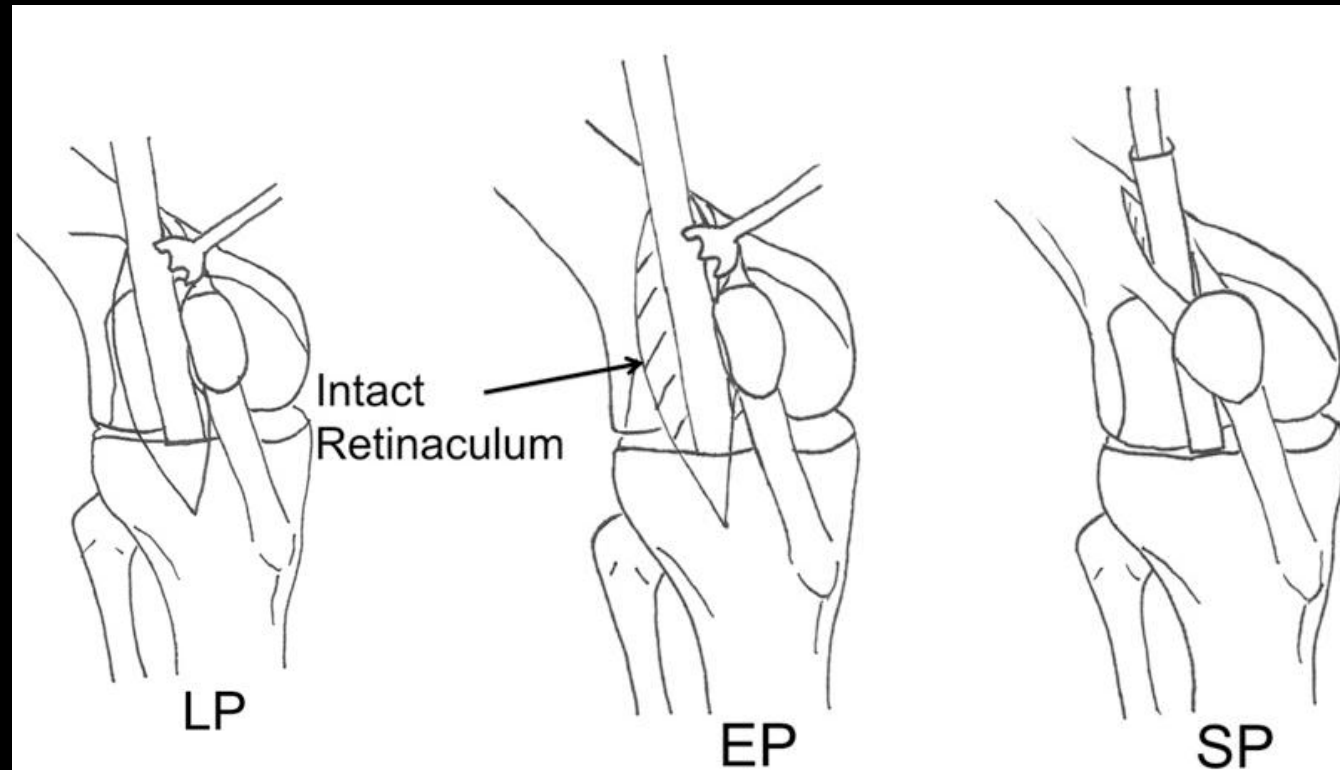
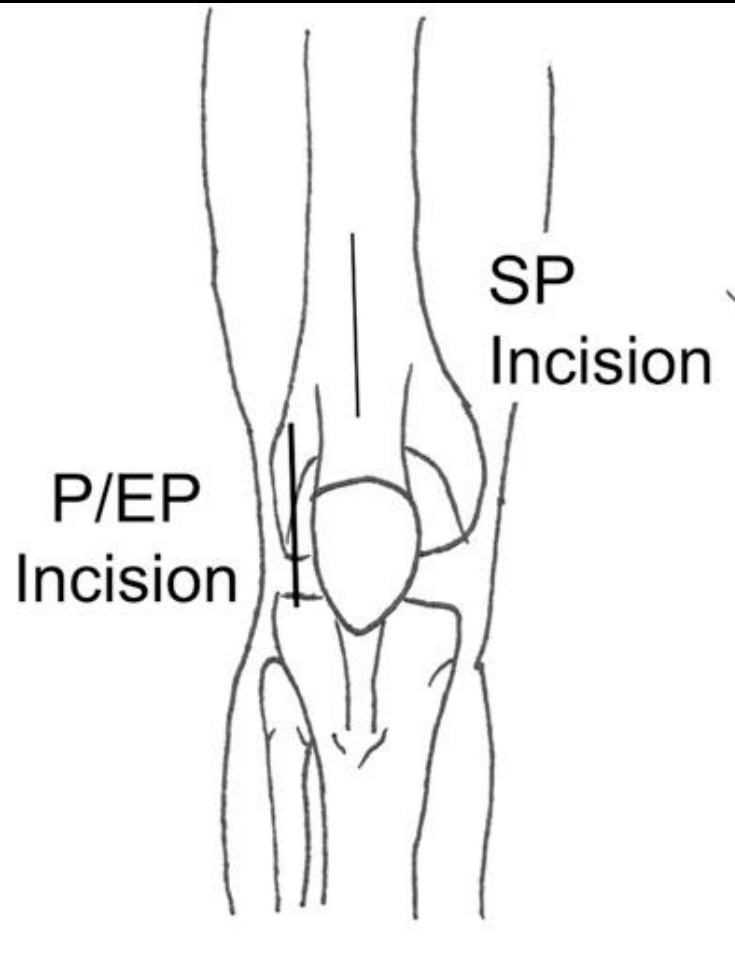
Parapatellar



Suprapatellar



Semi-Extended

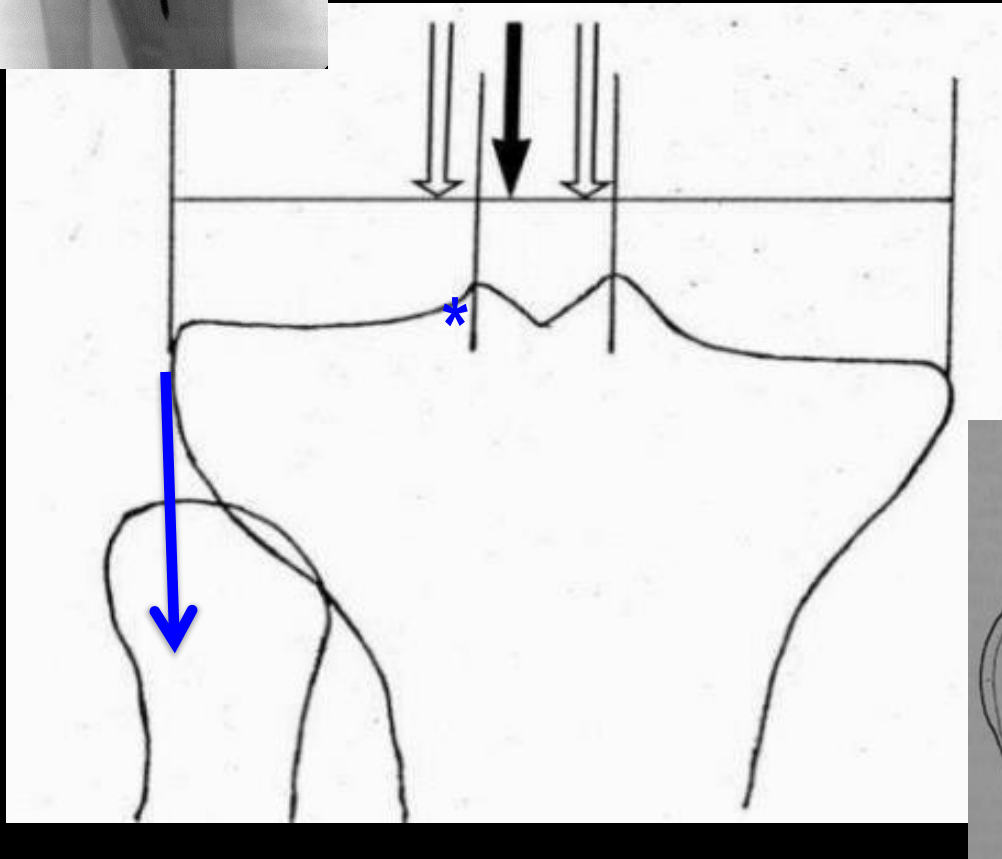


Reduction Tools

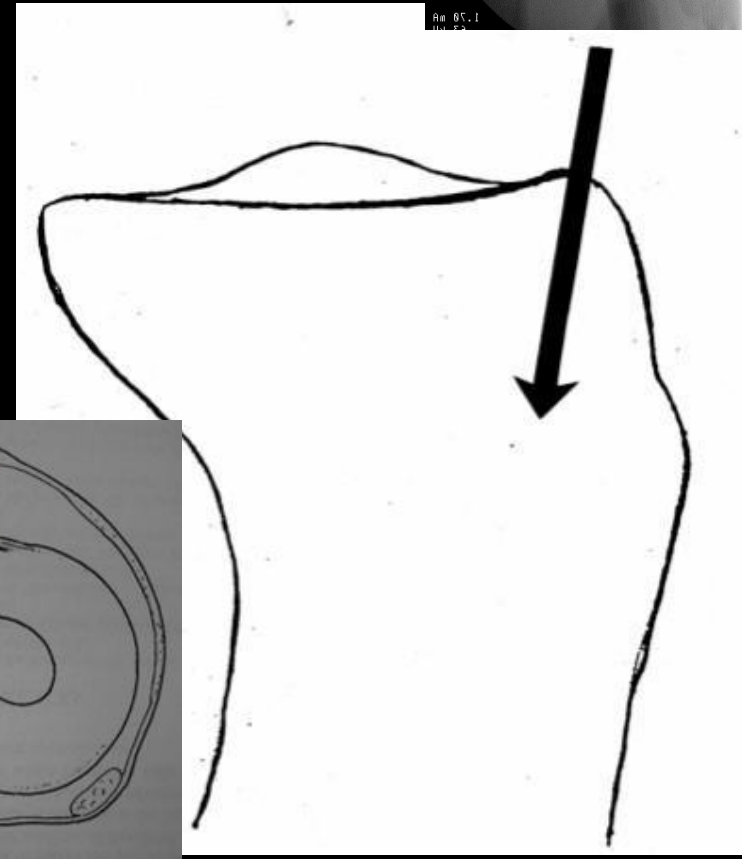
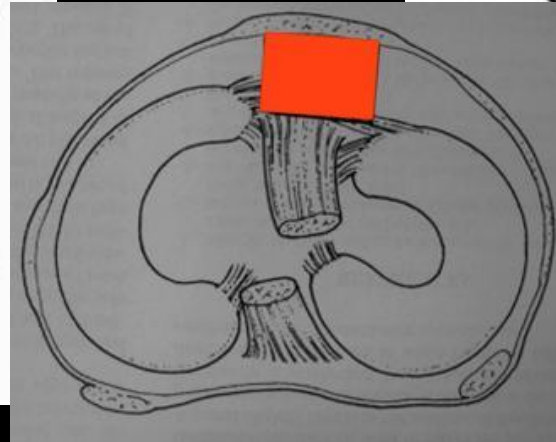


- Positioning
- Blocking Screws
- Percutaneous Clamps
- Ball spike pusher/Schanz pins
- Travelling traction/Distractor
- Fibular Stabilization
- Temporary Plates (open fx)

Start Site

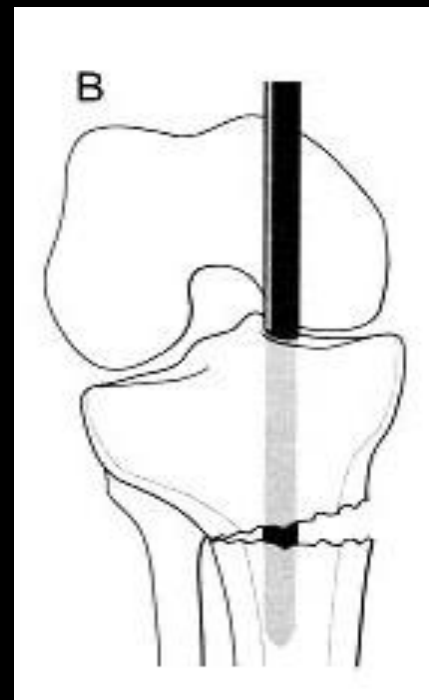
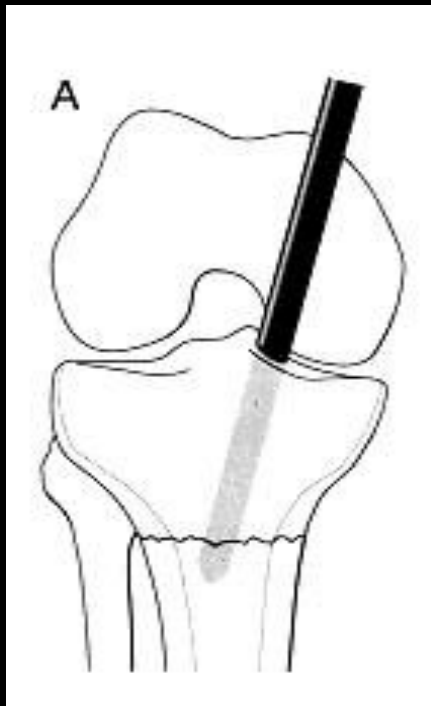


**Medial aspect of the
lateral tibial spine**



**Anterior, adjacent
to the joint**

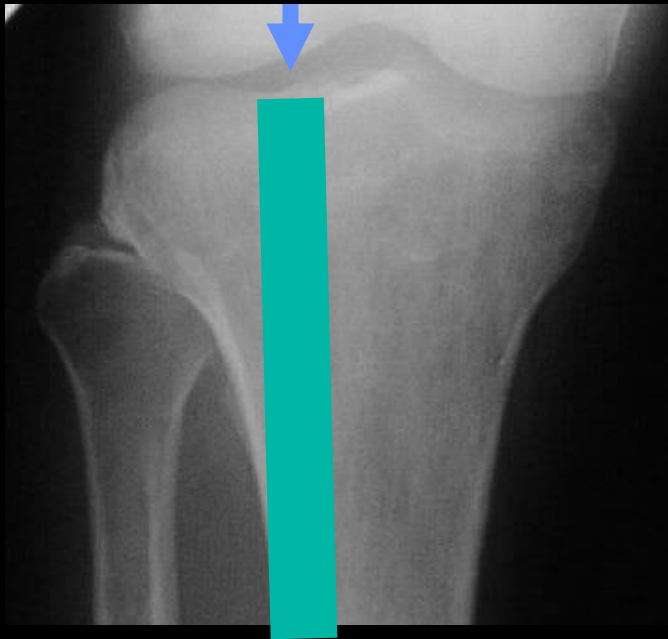
Starting point too medial



Valgus



Starting point too lateral

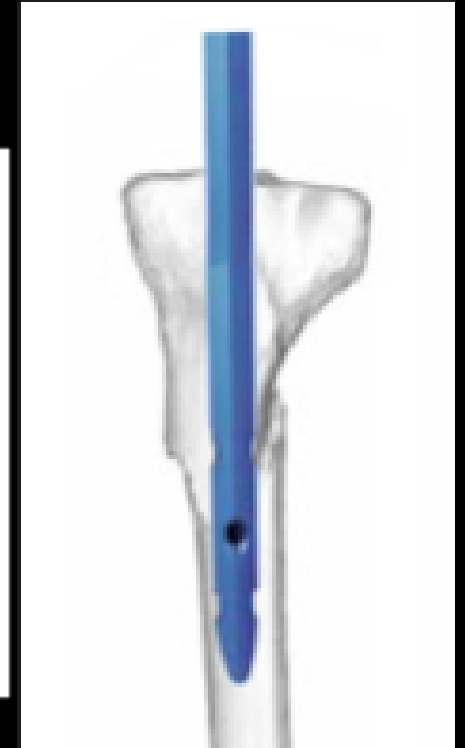
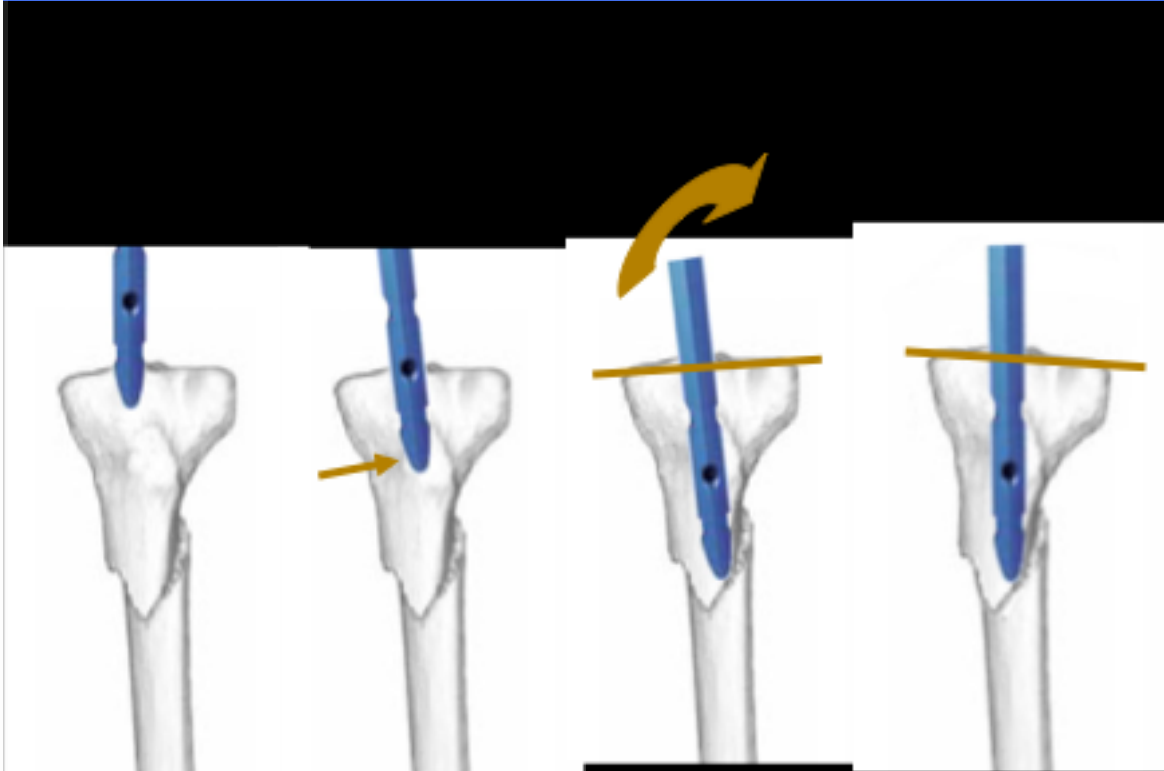
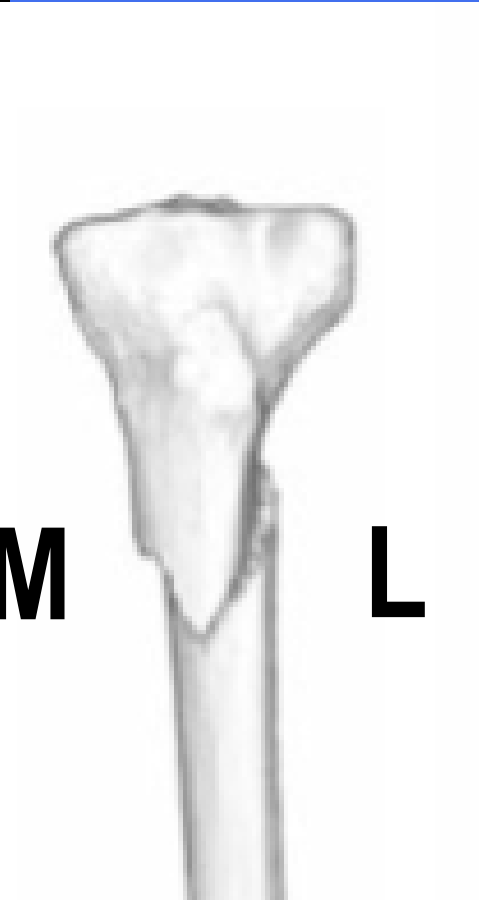


Proximal tibia

- Valgus
- Procurvatum



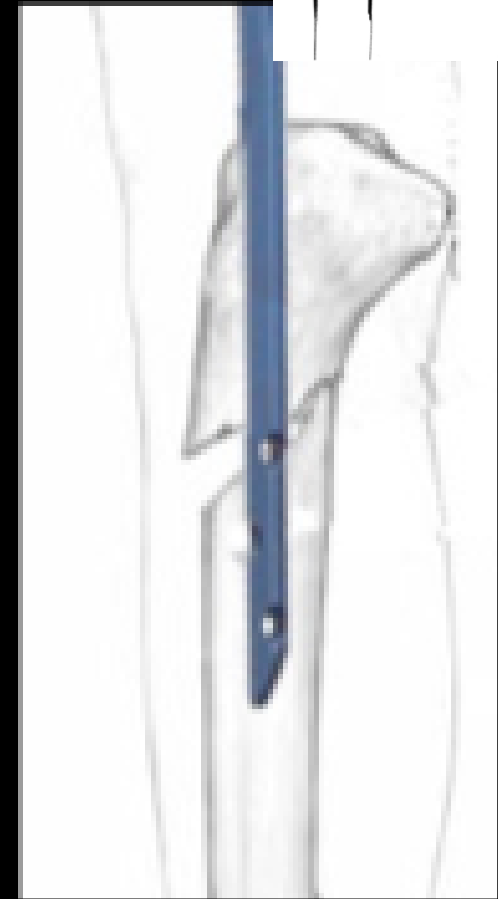
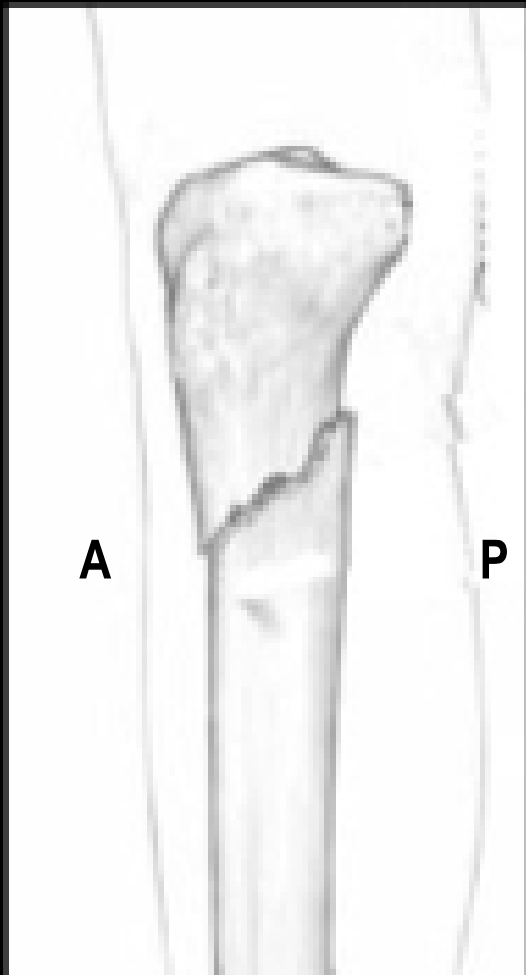
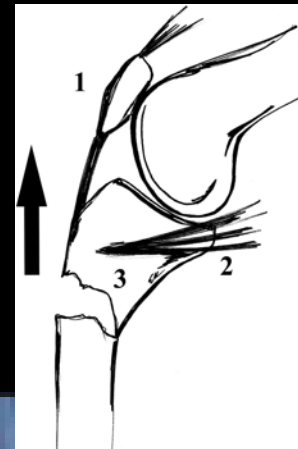
Iatrogenic Deformity: Medial Start Site



Valgus

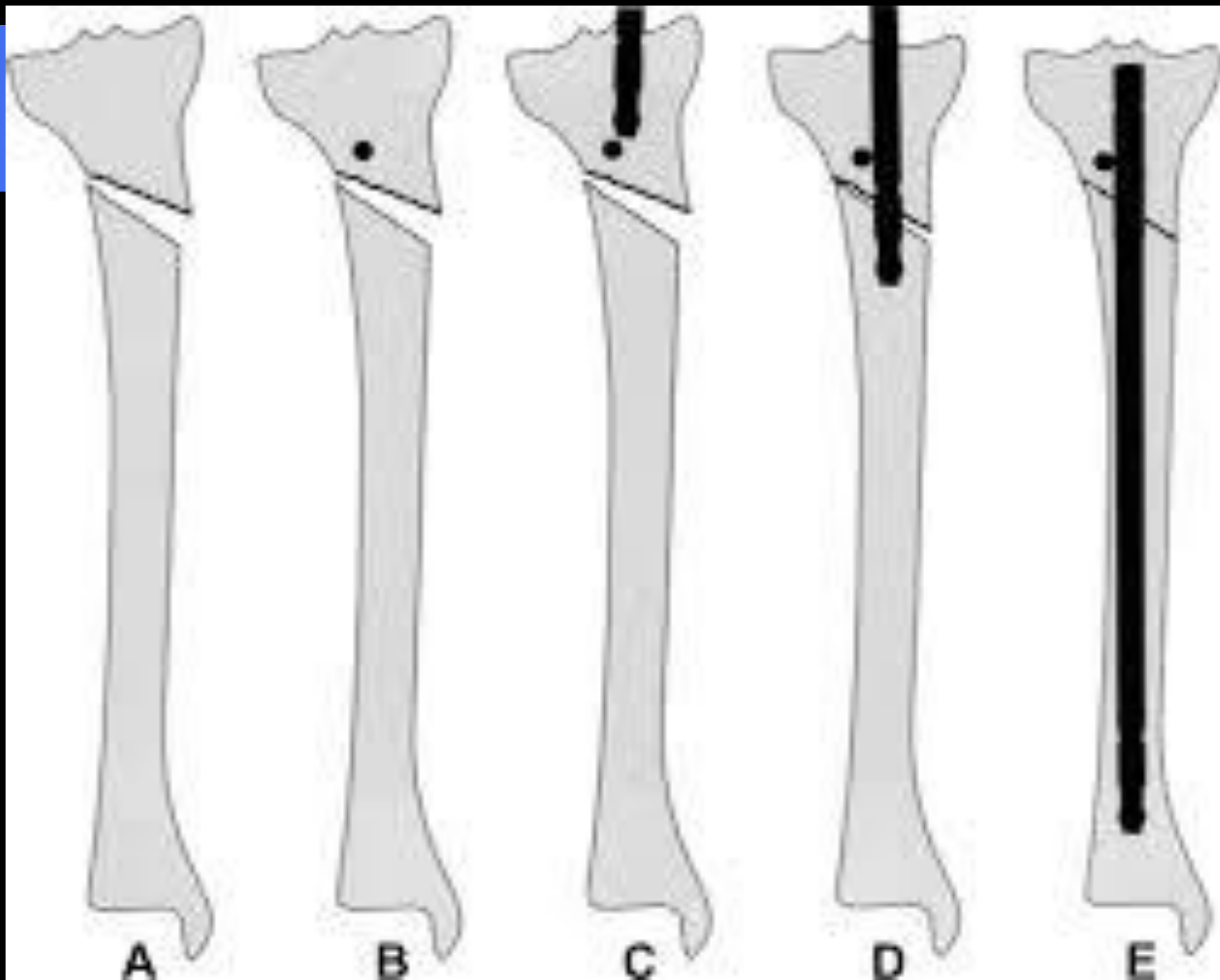
Iatrogenic Deformity.

Anteroinf. start site/Knee flexion

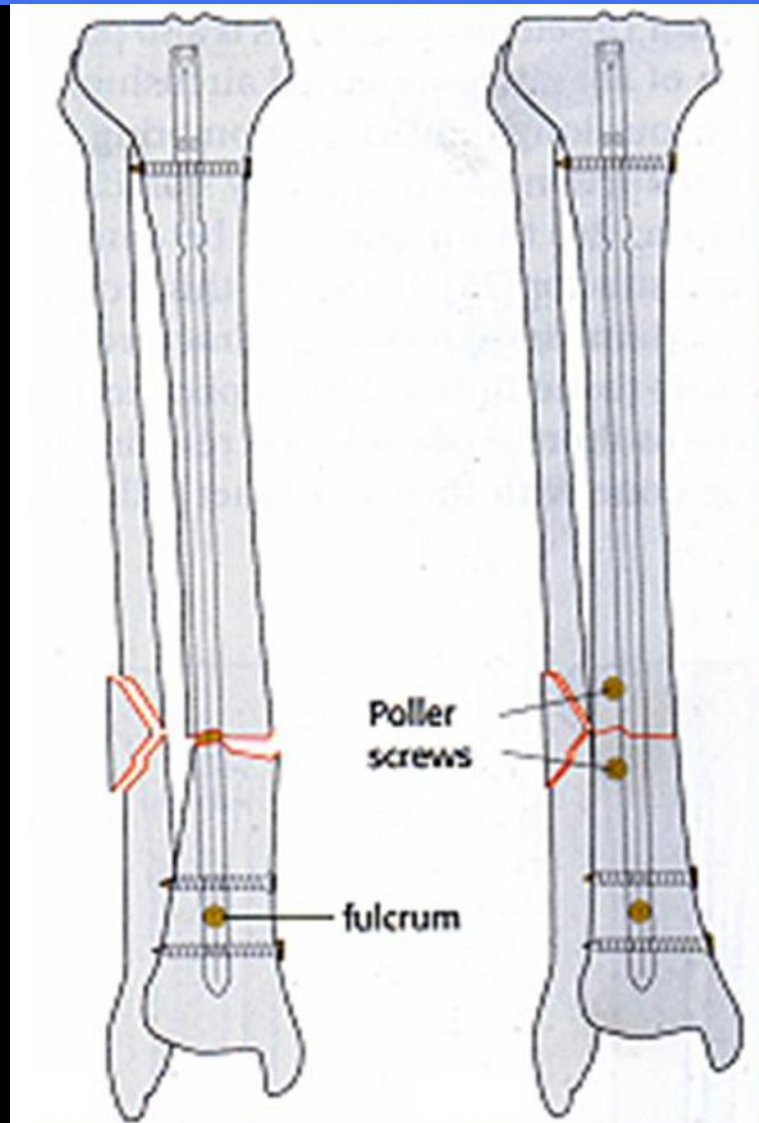


Procurvatum

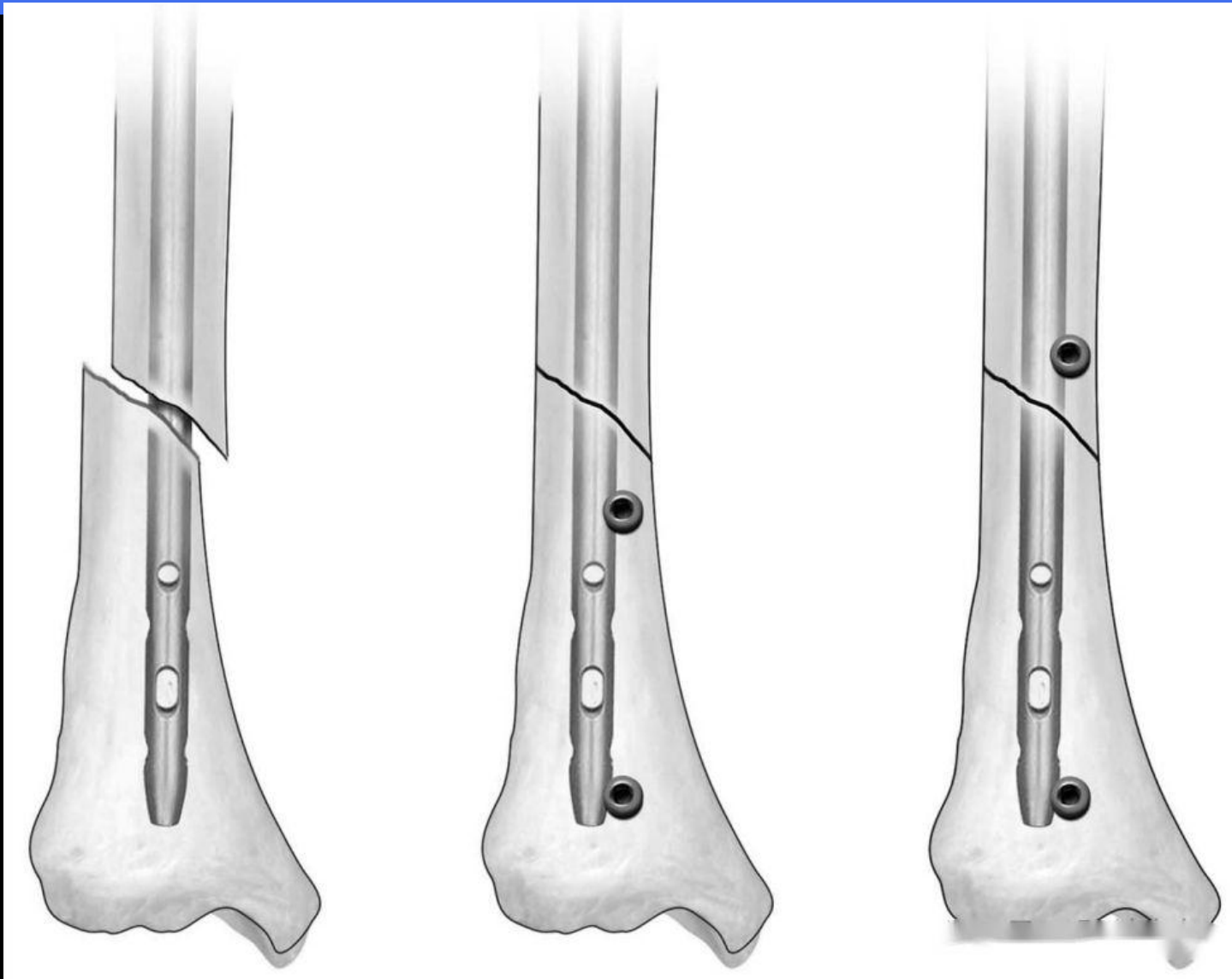
Blocking Screws



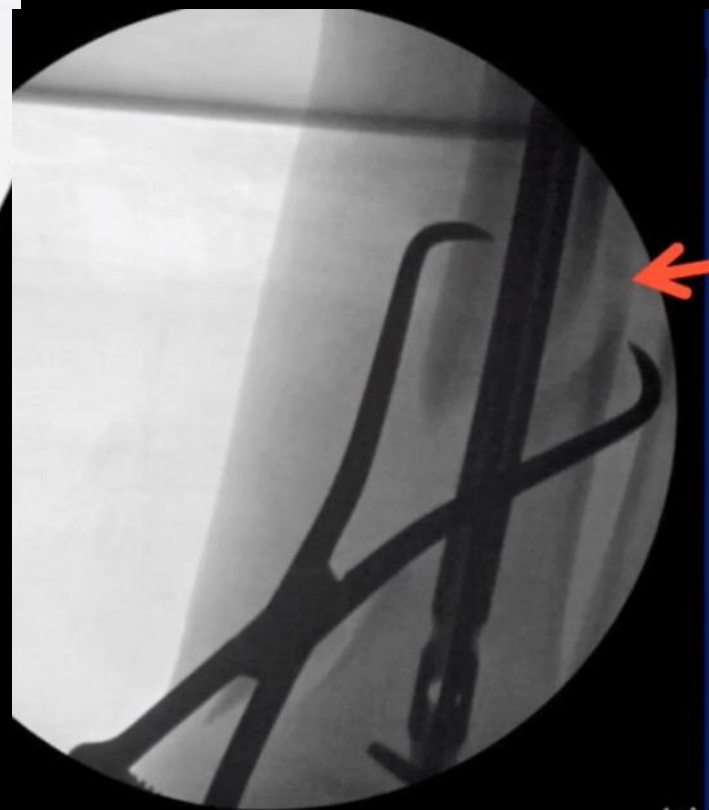
Distal Fx: Angulation



Distal Fx: Translation

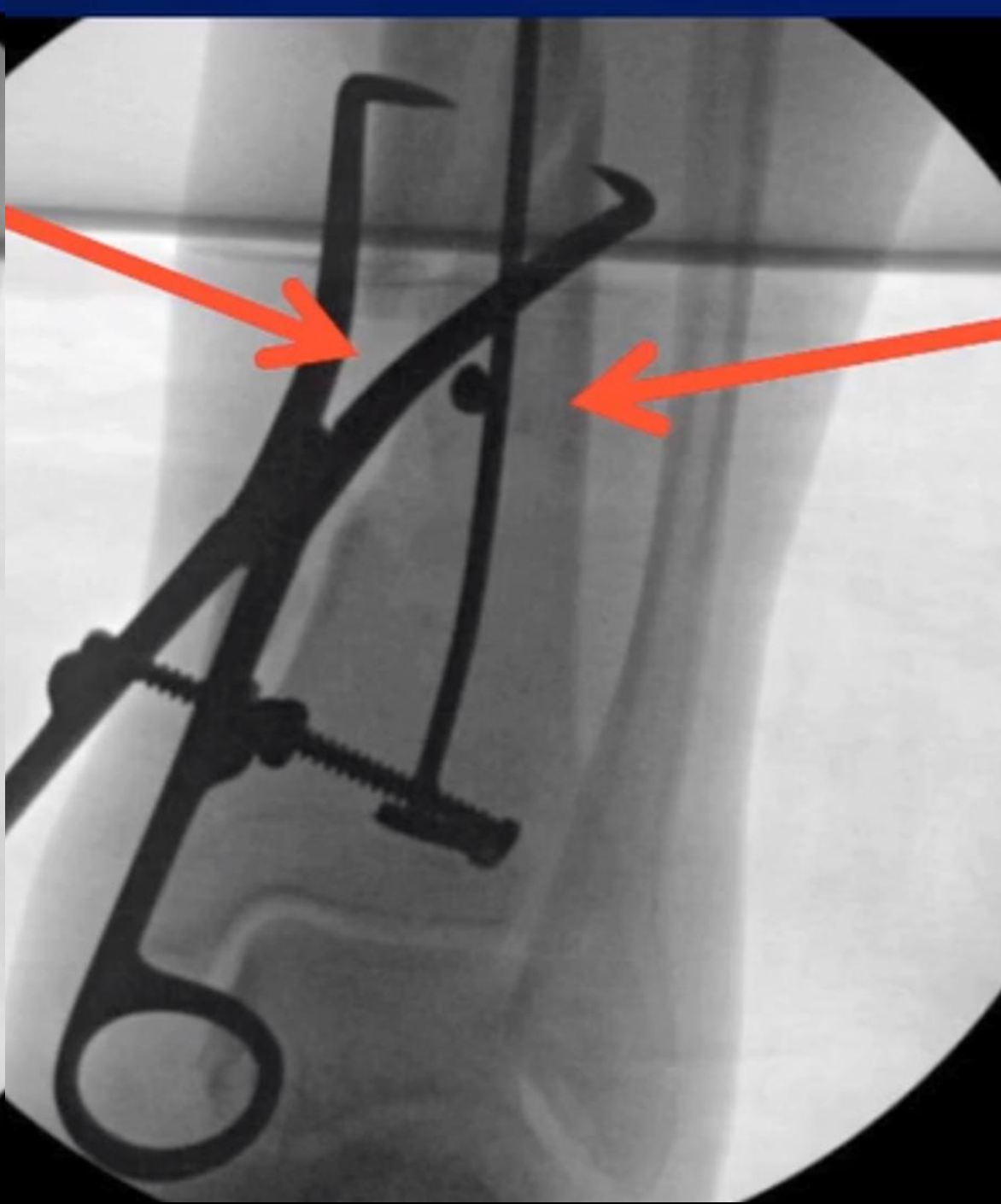


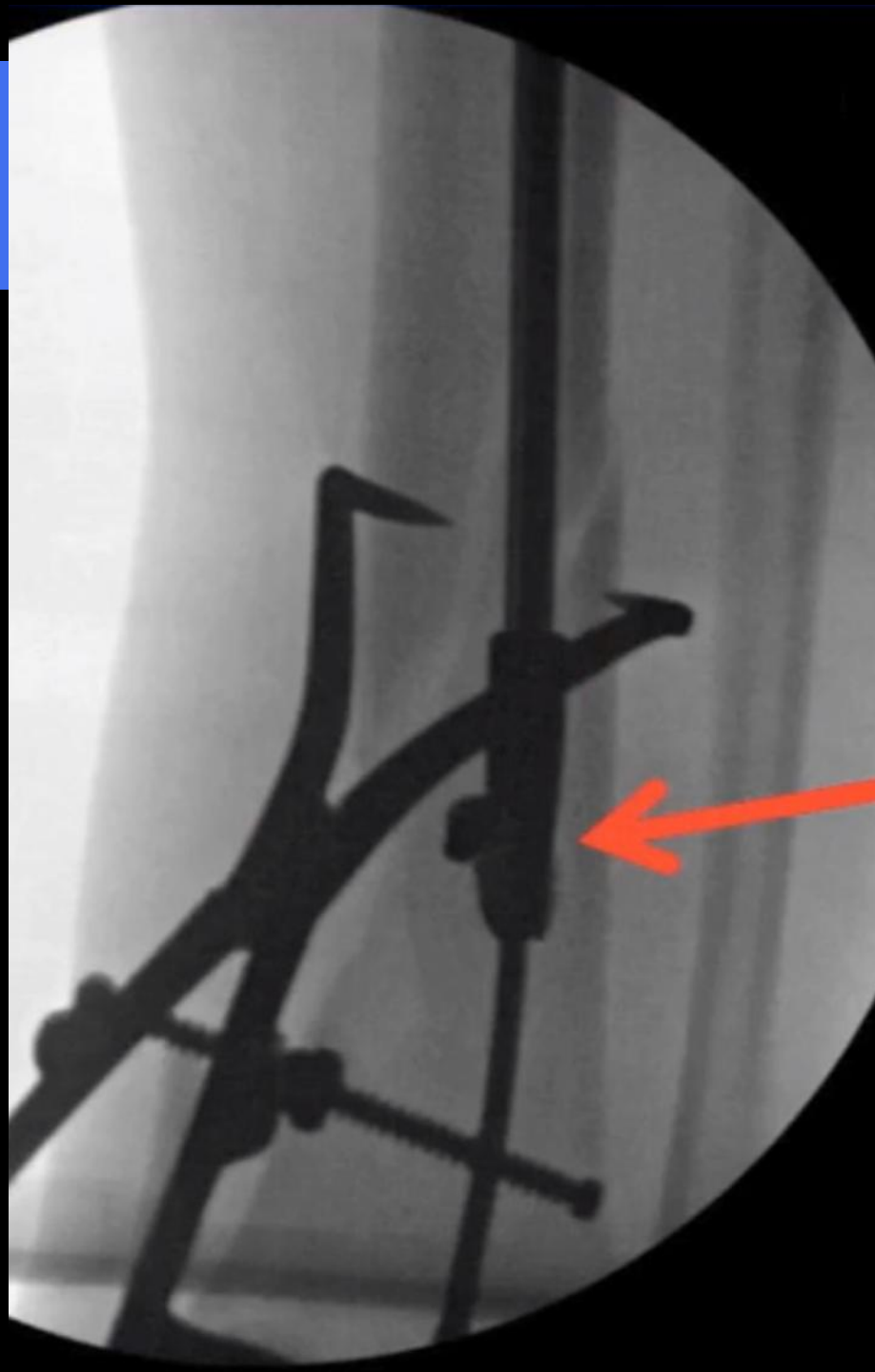
DEFAULT



1mA





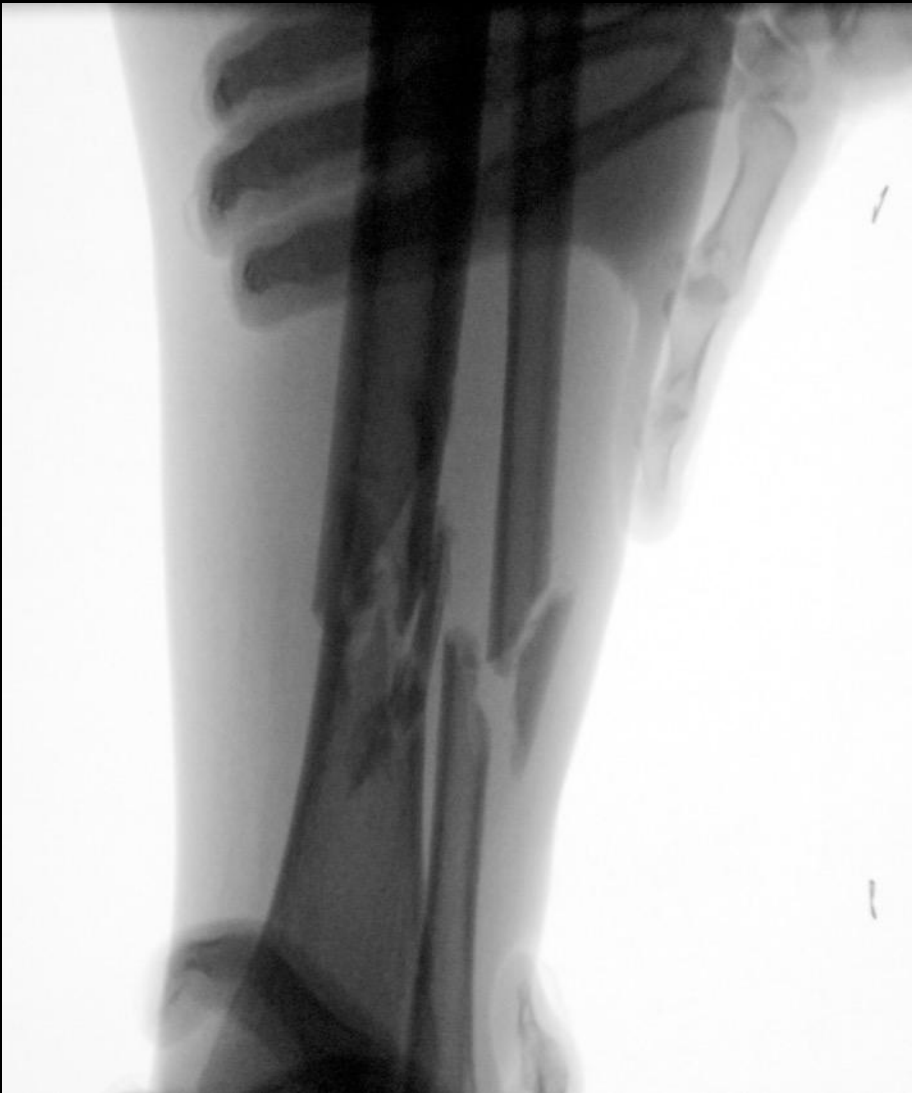


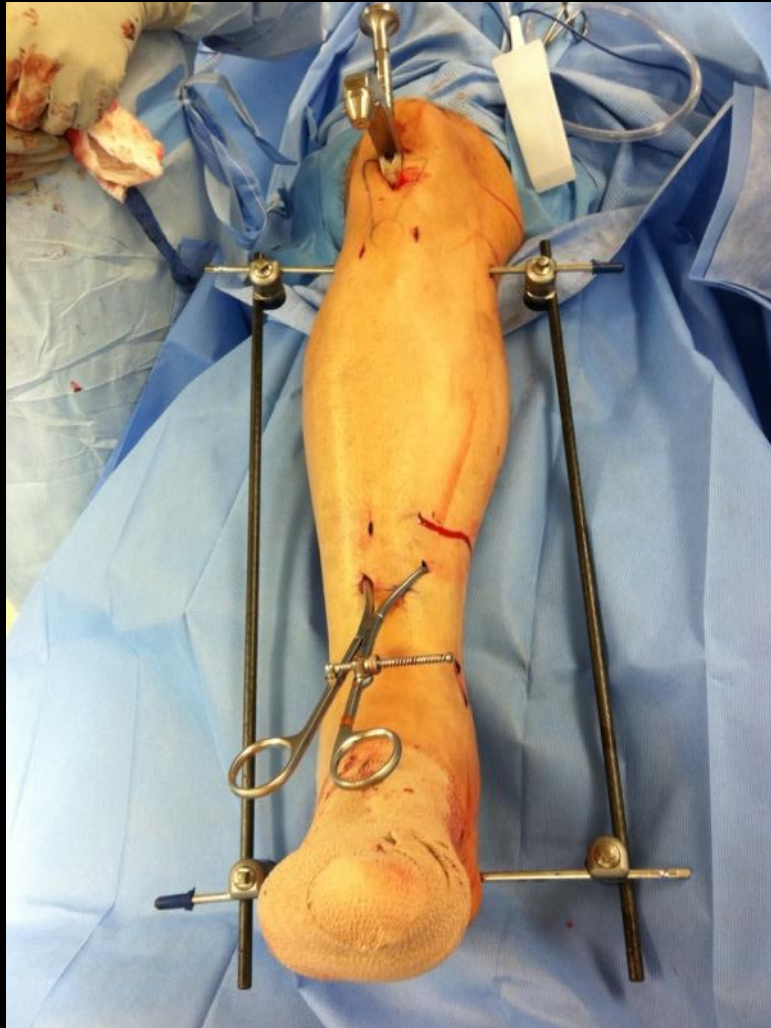


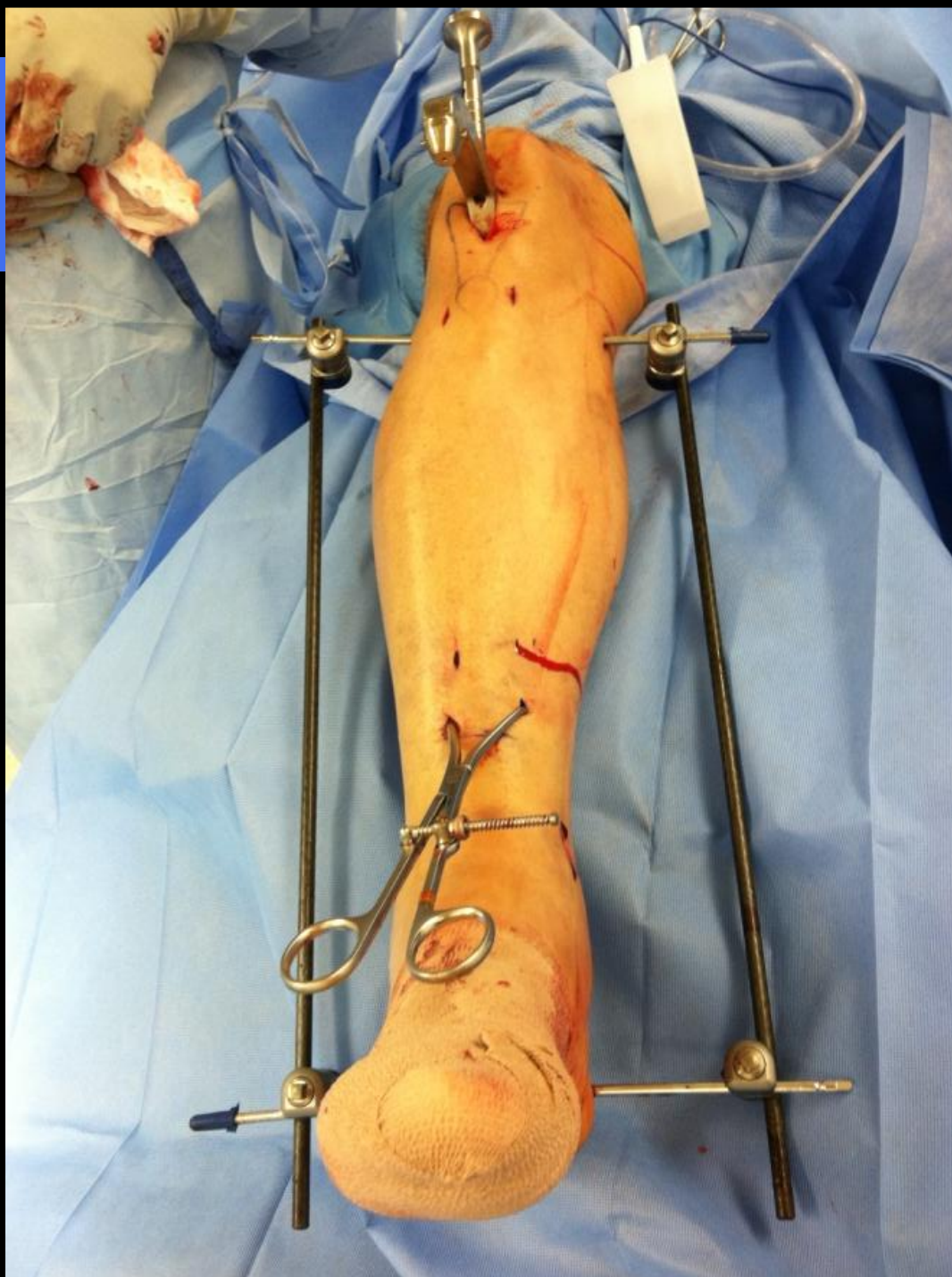
Maintaining the Reduction



Maintaining the Reduction

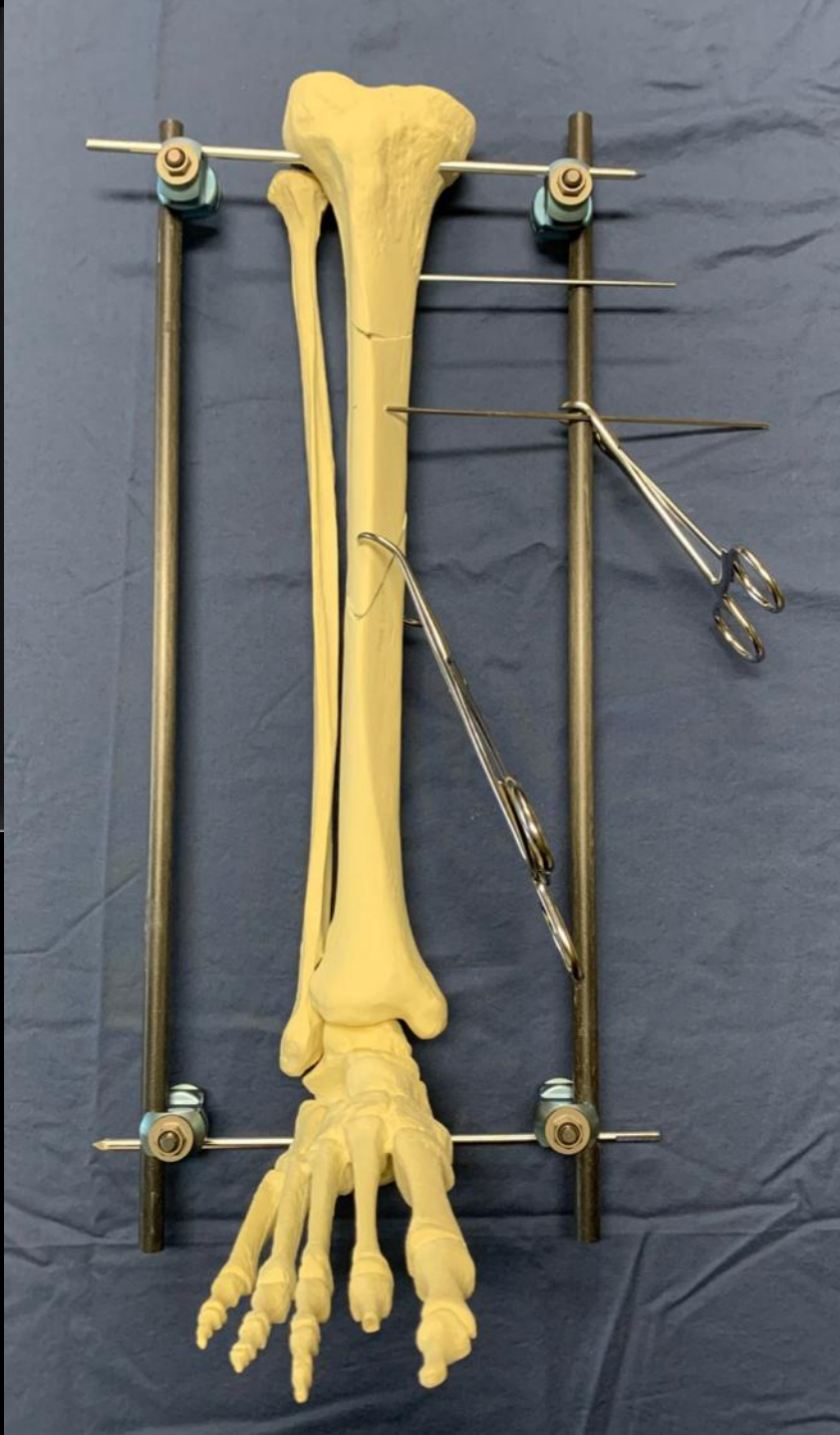


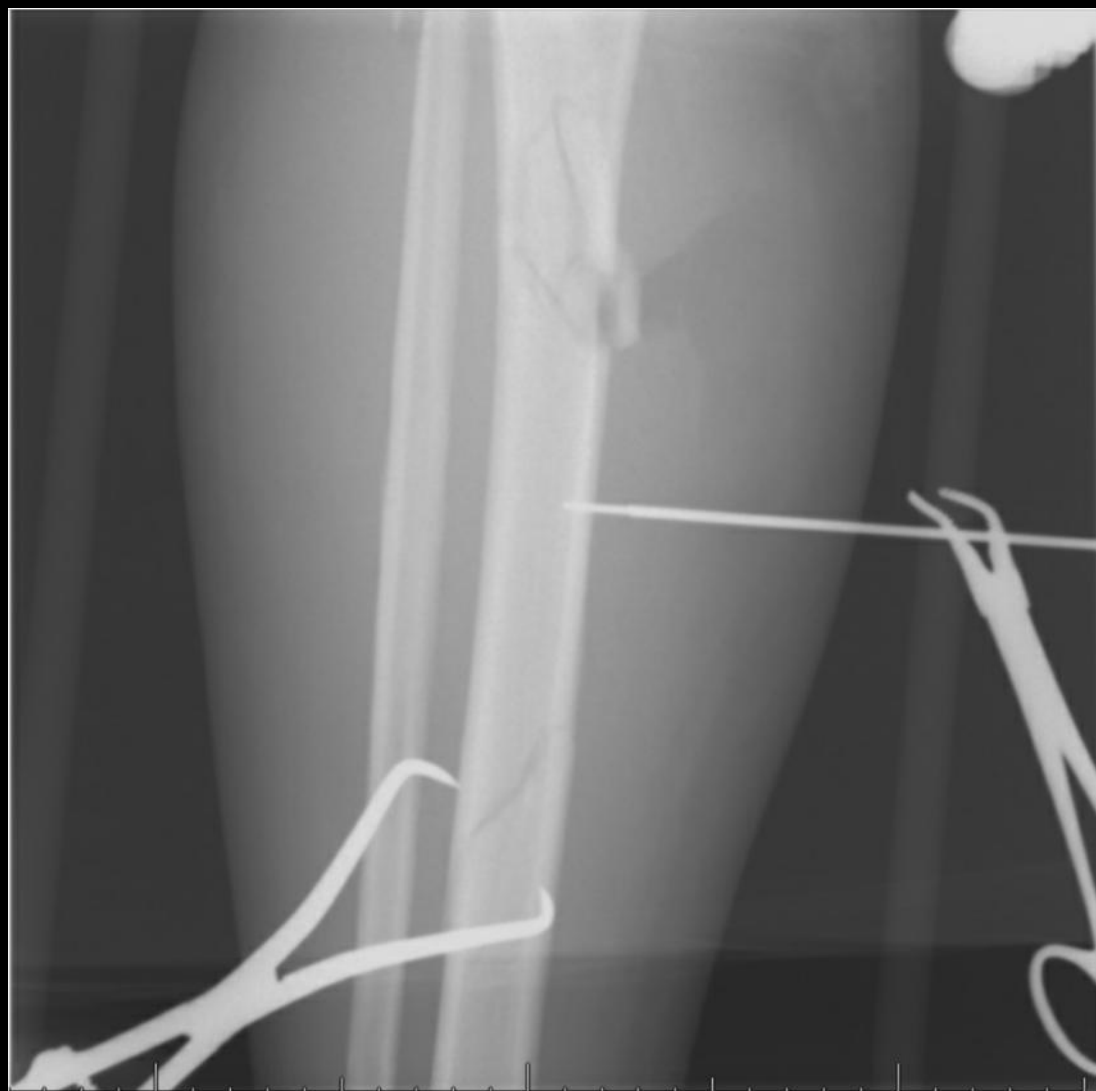




Case example



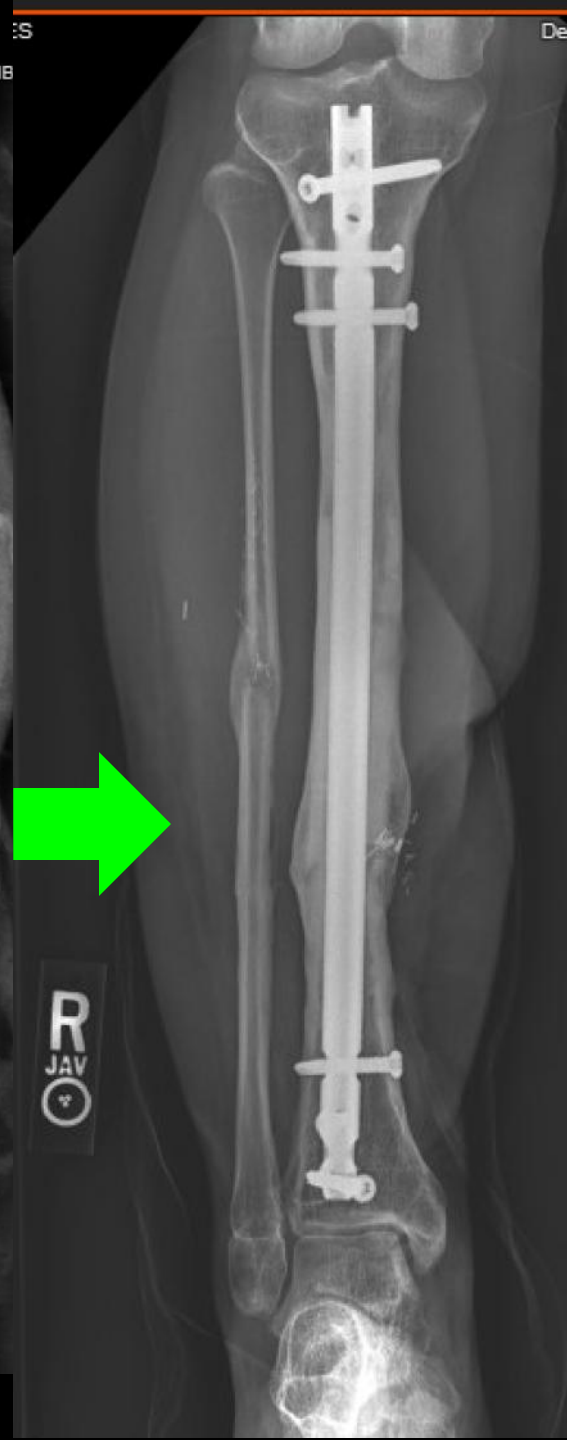






Case





Take Home Messages

- ❑ Associated w *severe soft tissue injury*
- ❑ High risk for *Compartment Syndrome*
- ❑ Functional Reduction: **LAR**
- ❑ Fixation: *IMN*



THANK YOU



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