

Traumaplasty Proximal Tibia Plateau Plating versus Acute TKR

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Disclosure

I, Ross Leighton declare that in the past 3 years:

I have received support from the following companies:

- Biocomposite
- Smith and Nephew
- Synthes
- Depuy
- Stryker
- Medtronic

I have/ done consulting work for the following companies:

- Biocomposites
- Smith and Nephew
- Synthes
- Depuy
- Stryker
- Medtronic

I have done speaking engagements for the following companies:

- Biocomposites
- Smith and Nephew
- Synthes
- Depuy

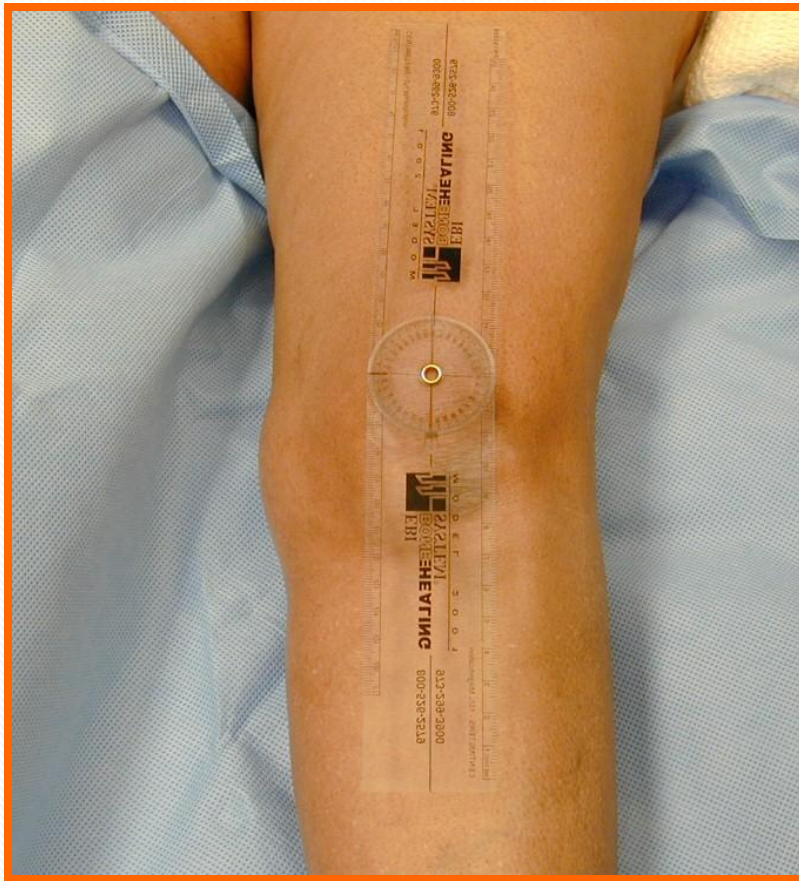
I or my family do not hold individual shares in the following:

Clinical Example

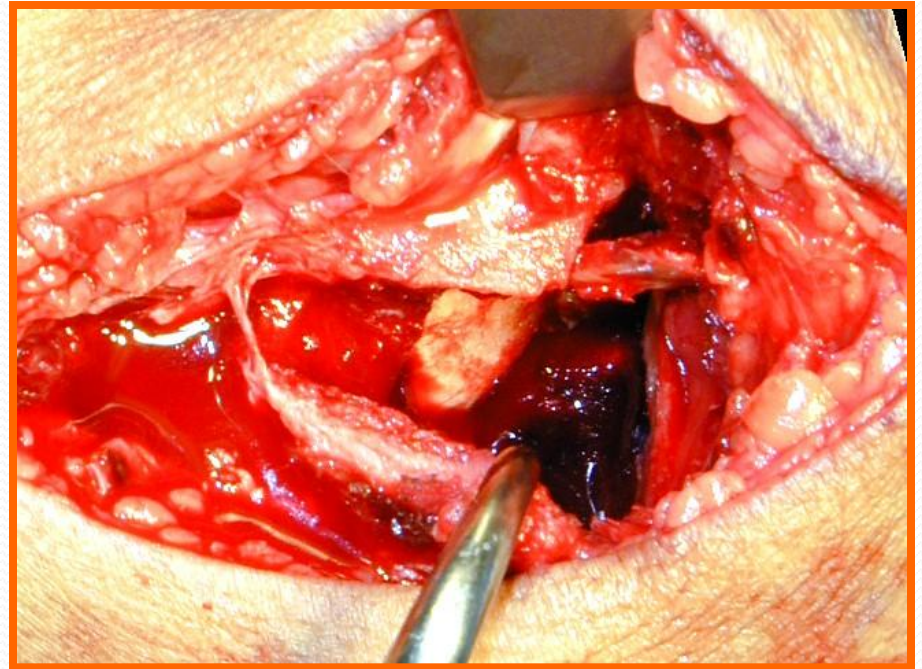
- 57 female
- ped struck by car
- Anyone for a TKR?



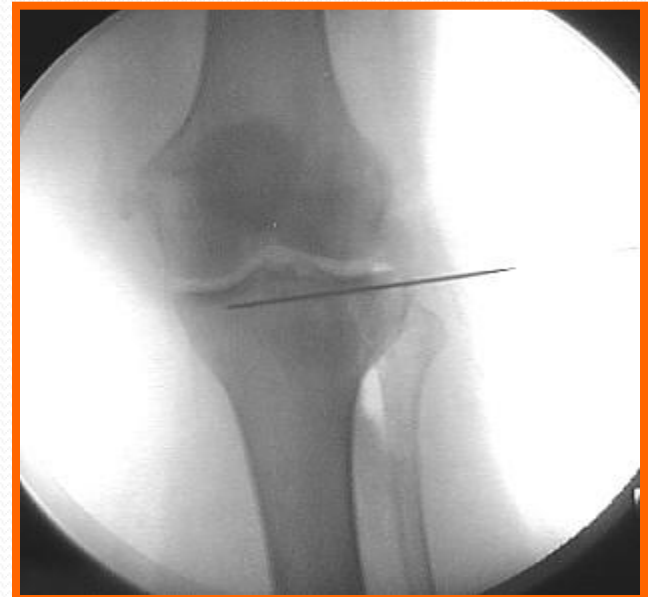
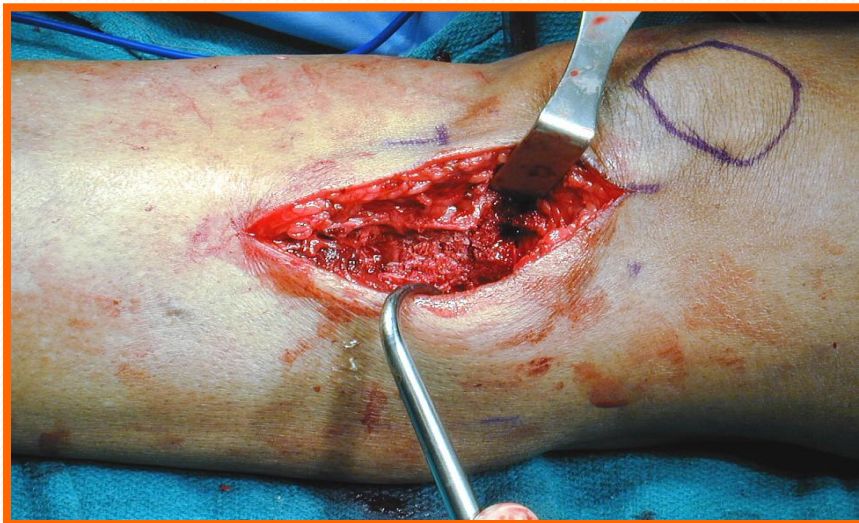
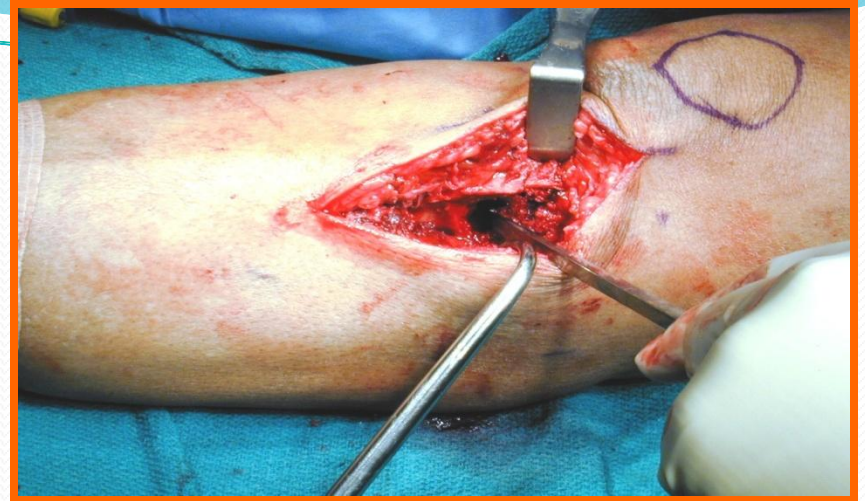
Instability



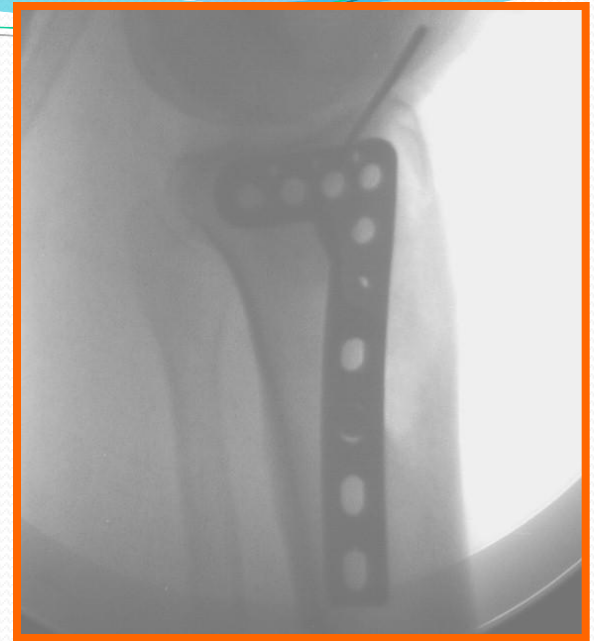
- Arrows (left \square right)
 - depressed joint
 - lateral wall
 - meniscus



- Elevation of joint
- temporary fixation
- bone graft or calcium phosphate into the defect



Fixation



Early versus late fixation

- Seattle Data
- Support ext fix and later repairs- based on soft tissue wrinkling
- This is well done in mixed groups where trauma surgeons then swoop in and fix these during the day once the soft tissue has settled

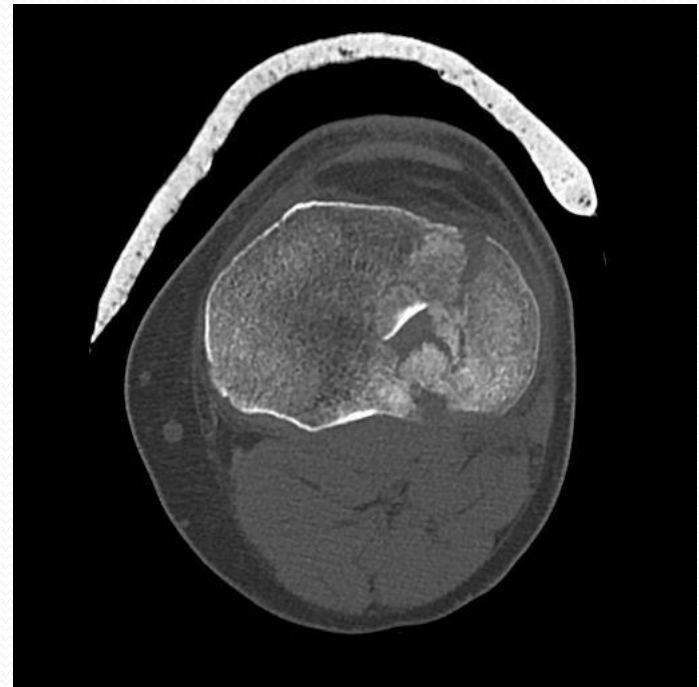
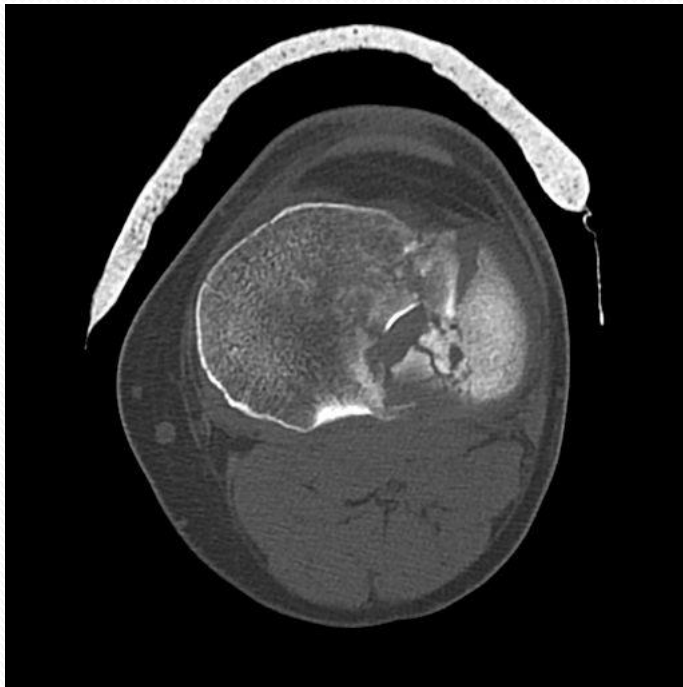
Early versus late fixation

- Vancouver data
- Their study supports early fixation in a very controlled environment with all trauma surgeons and early repair prior to 24 hours

65 y o male-- would anyone do a total knee ?



CT scan indicates solid medial column



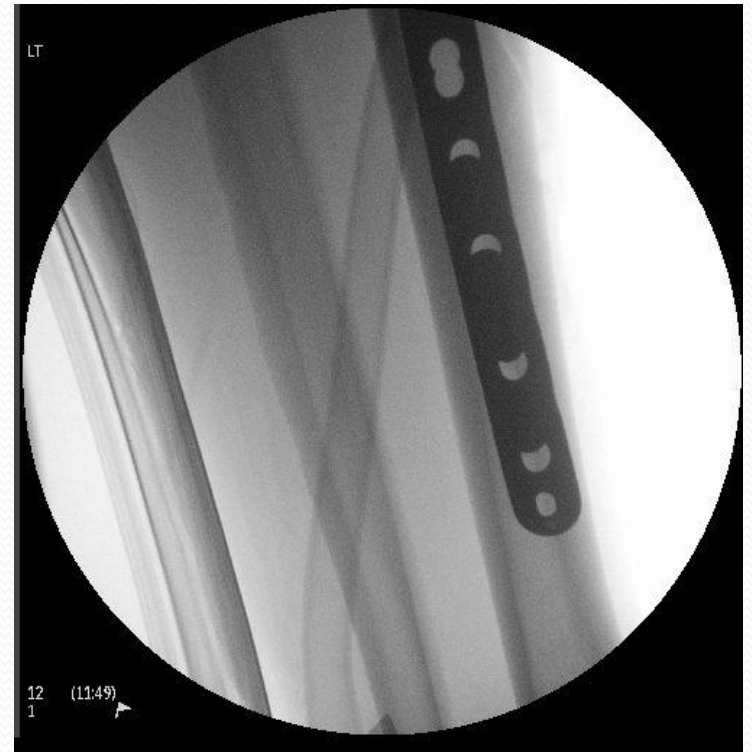
Posterior lateral comminution with long metaphyseal extension



Intraoperative views

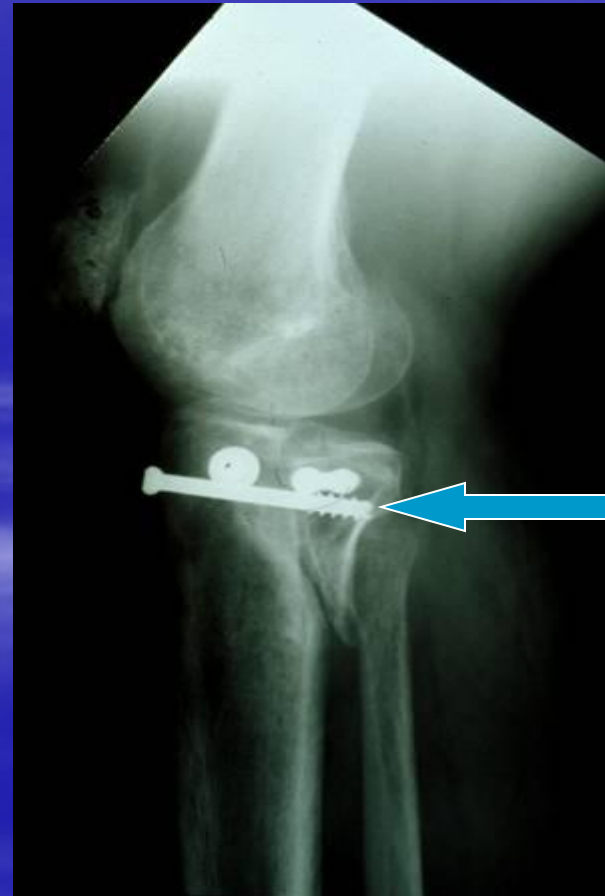


Distal fixation with long molded plate



Postero-Medial Fragment

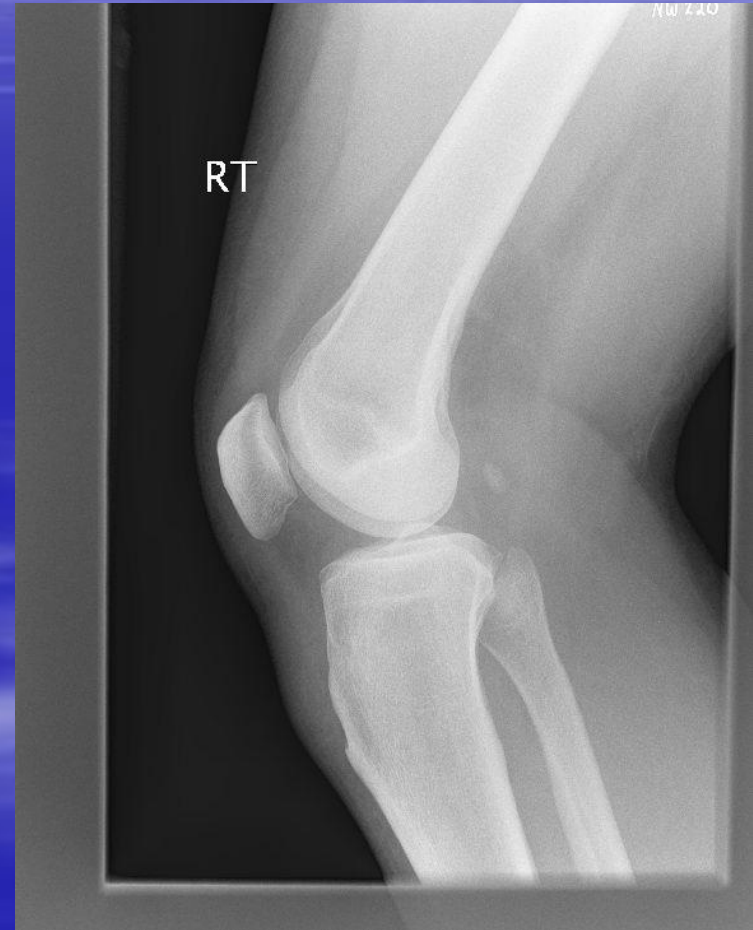
Is this bad luck or poor choice of fixation???



69y o male with significant injury
of right proximal tibia
Would anyone do a TKR?



One year pre injury



Injury day 7 months ago



Immediately post op



5 months later

---now healed and 7 months out
at 69 years of age- TKR Now?



Sequence

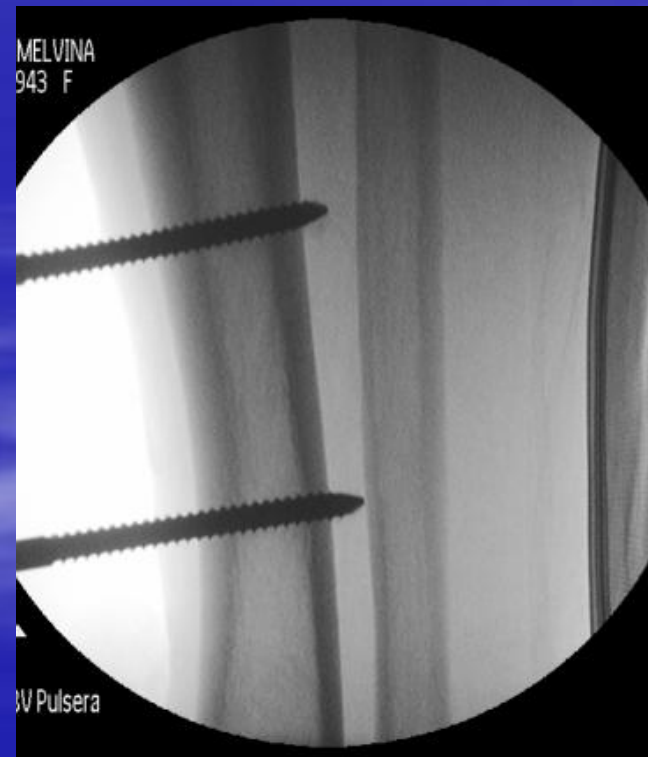
■ Step One

- Removal of fixation with cultures
- If all clear progress to stage 2

■ Step two

- TKR with a stem to go below the injury of the tibia and usual femoral support if collateral ligaments are OK
- If collateral ligaments questionable use a stemmed femur to a V-V stabilized knee if necessary

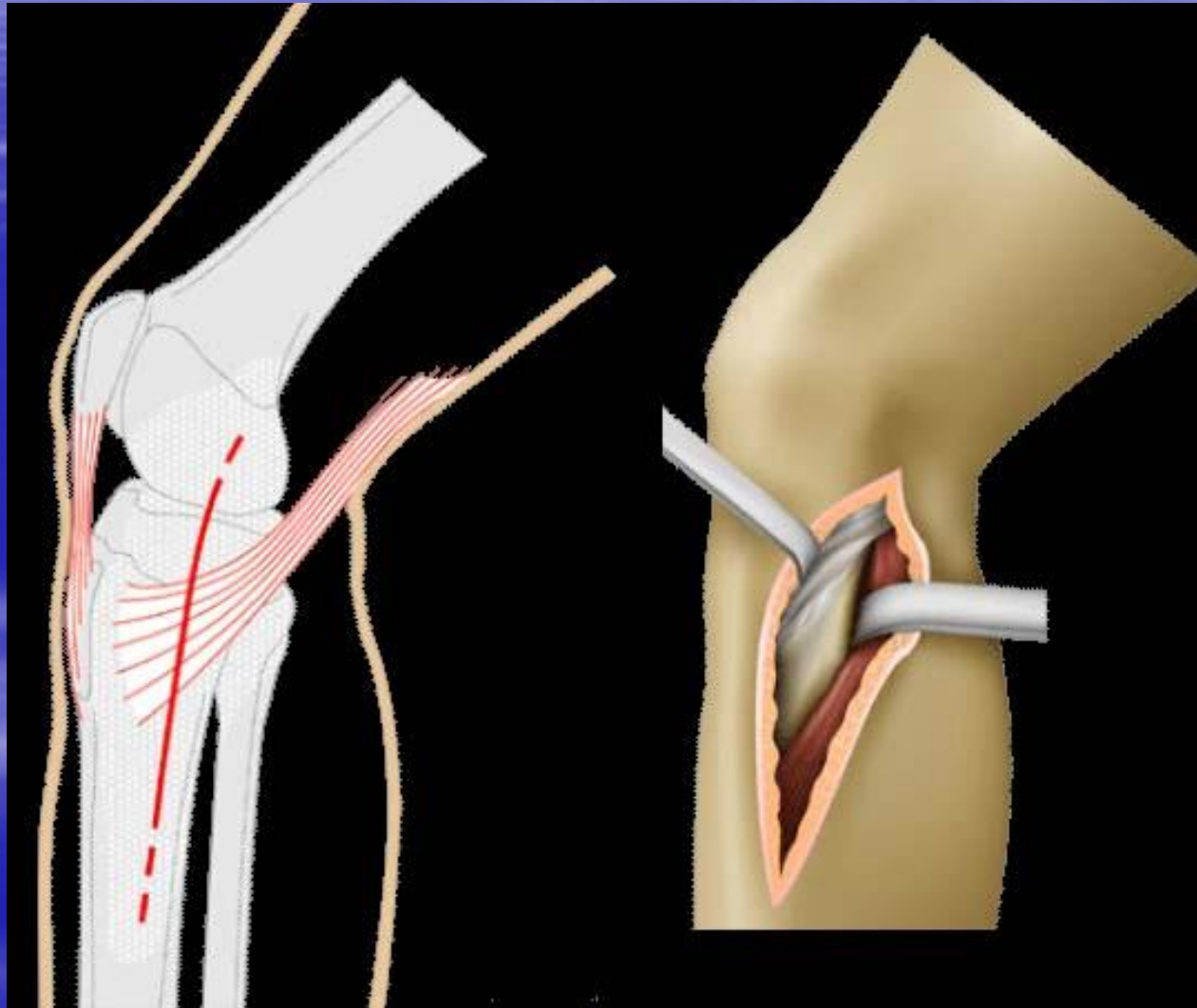
This is what should have happened----- Emergency Management



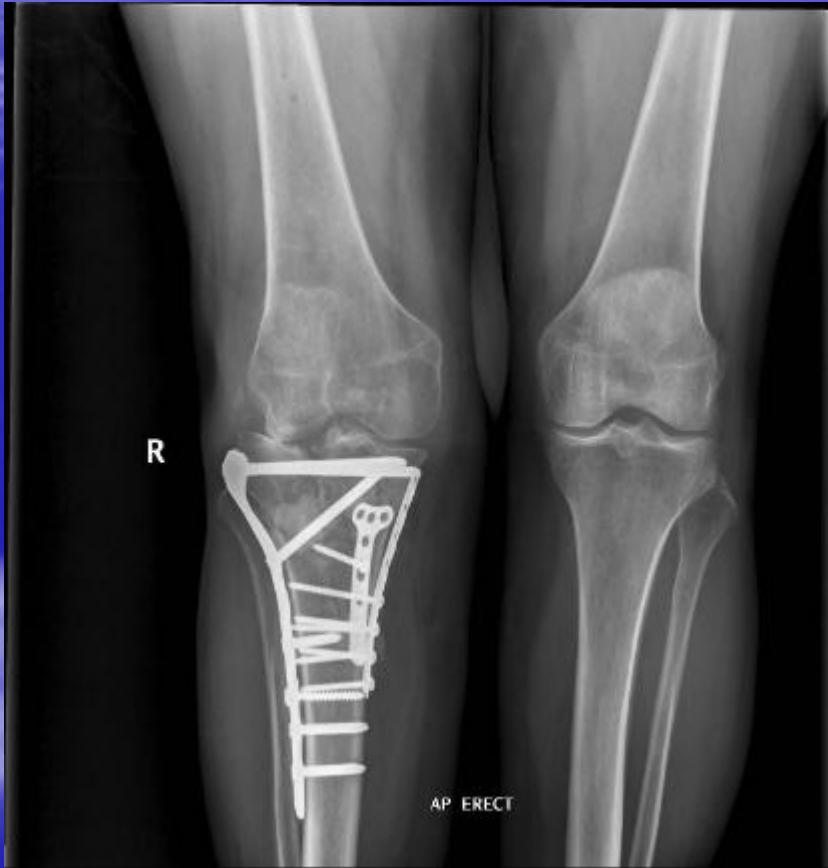
Emergency Management



Posteromedial Approach



4 weeks with early ROM and limited or no weight bearing



5 year with Rom 0-125-
some valgus drift—

Pain

now worse in left knee---
medial joint line pain

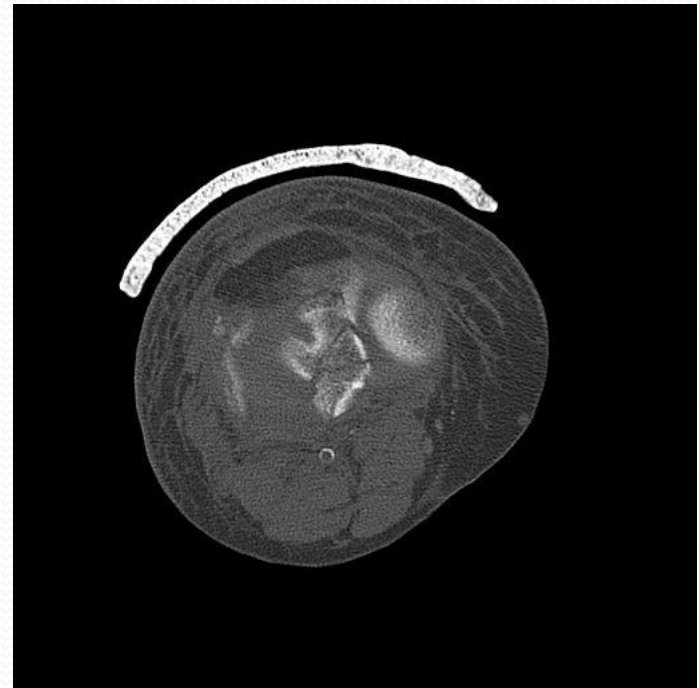
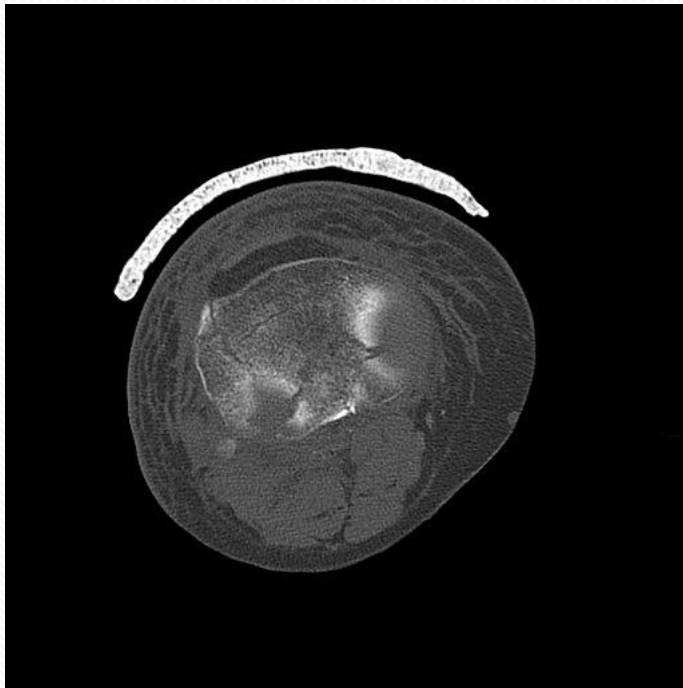




55 y o female--A posterior medial plate does not guarantee an excellent outcome



CT scan of the proximal tibia indicating medial and lateral injury



Coronal cuts of the proximal tibia



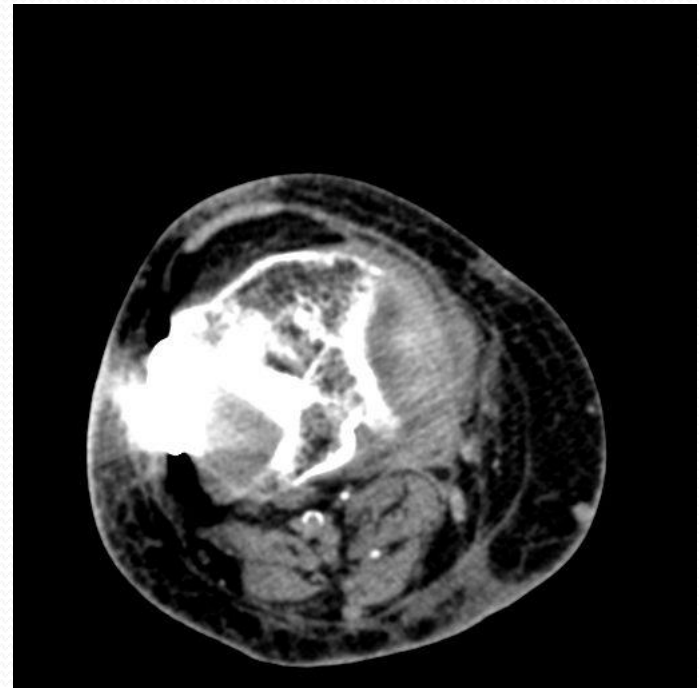
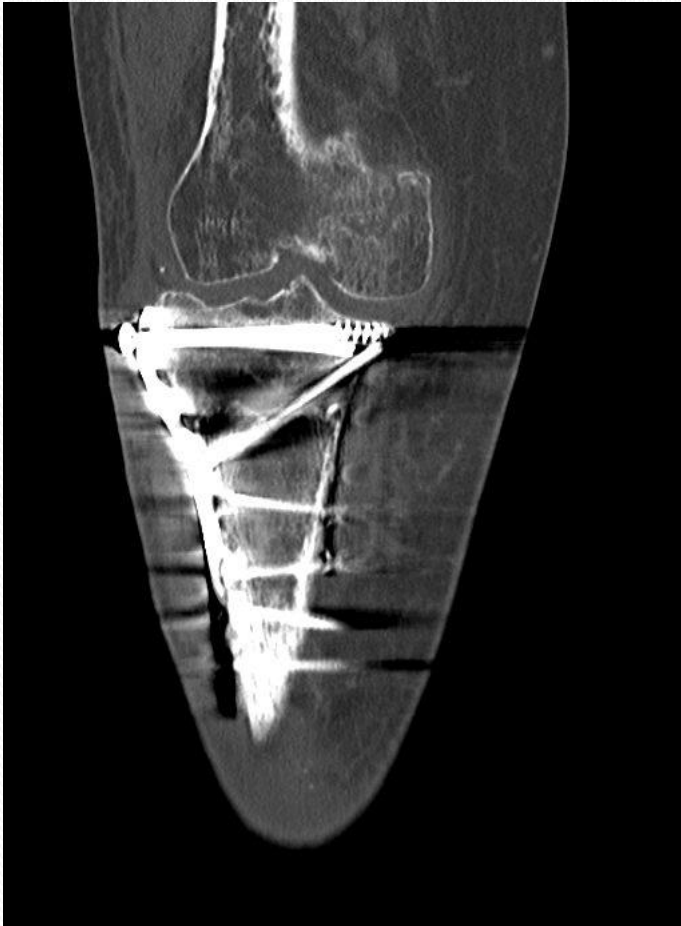
OIF- nice AP but no reduction in the lateral despite a posterior medial plate



Mal-union / Non-union at 8 months—now what?
TKR? Would the tubercle injury affect your
decision?



CT confirms non-union



Osteotomy and bone graft with good (not excellent) correction

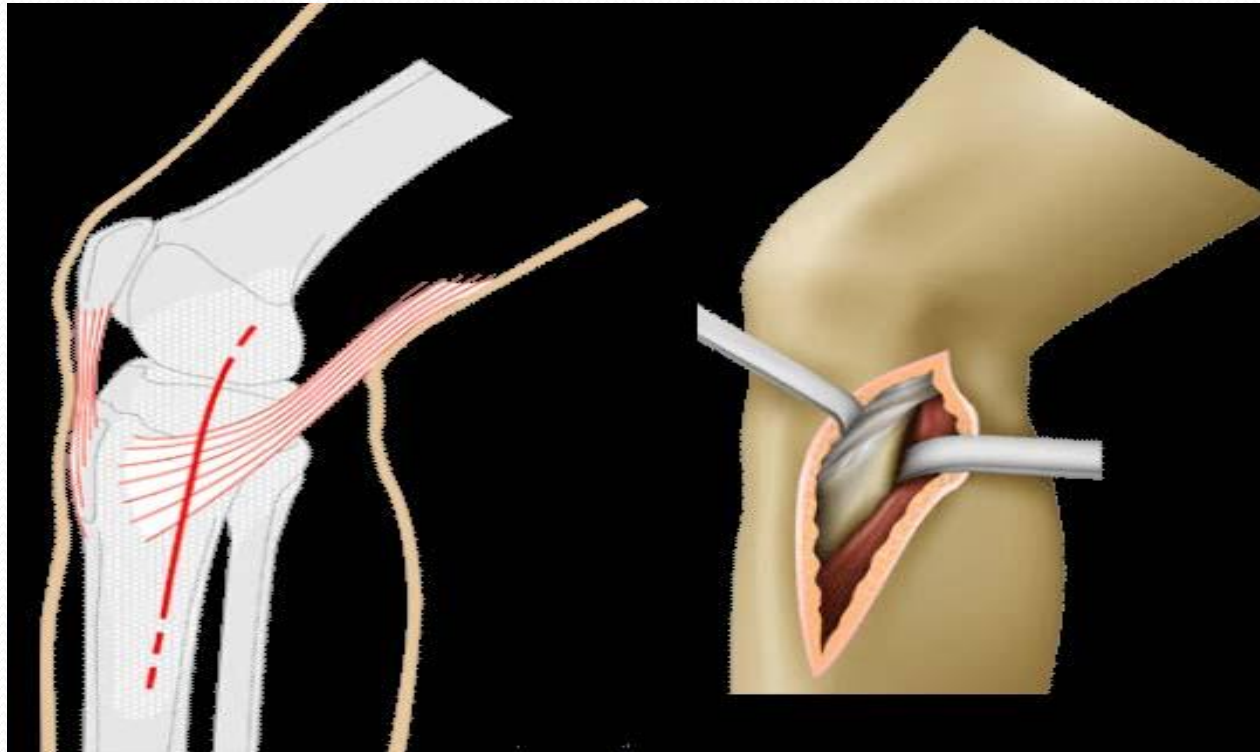


Healed at 4 months and full weight bearing with 3 to 120 degrees of motion- if needed set up for a TKR



Posterior Medial Approach

--excellent for posterior medial vertical shear injury



82 yo female with Schatzker six injury-- who would do a TKR?



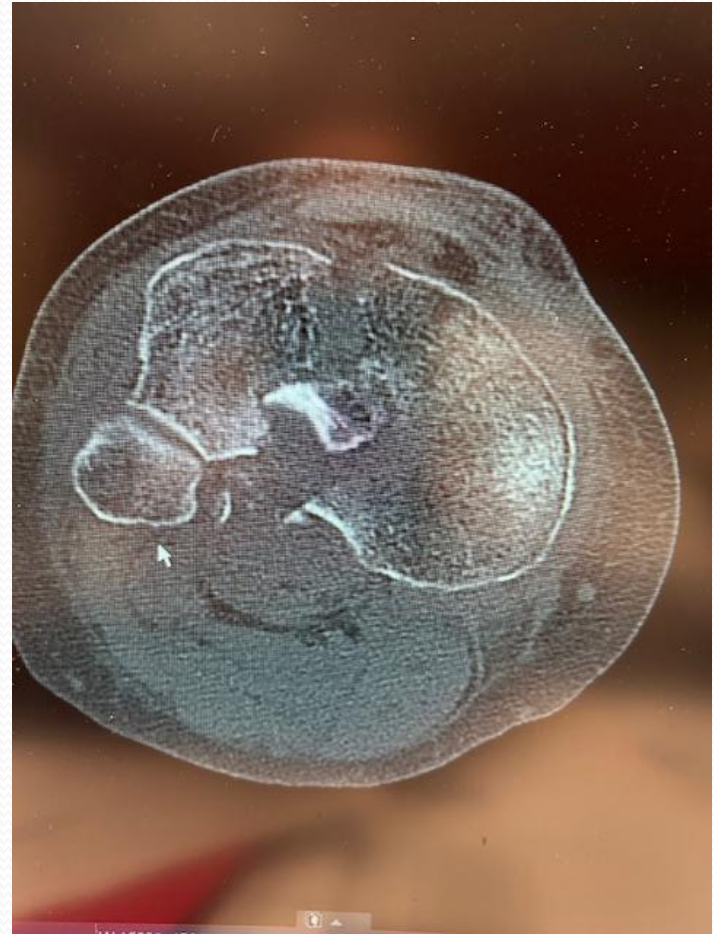
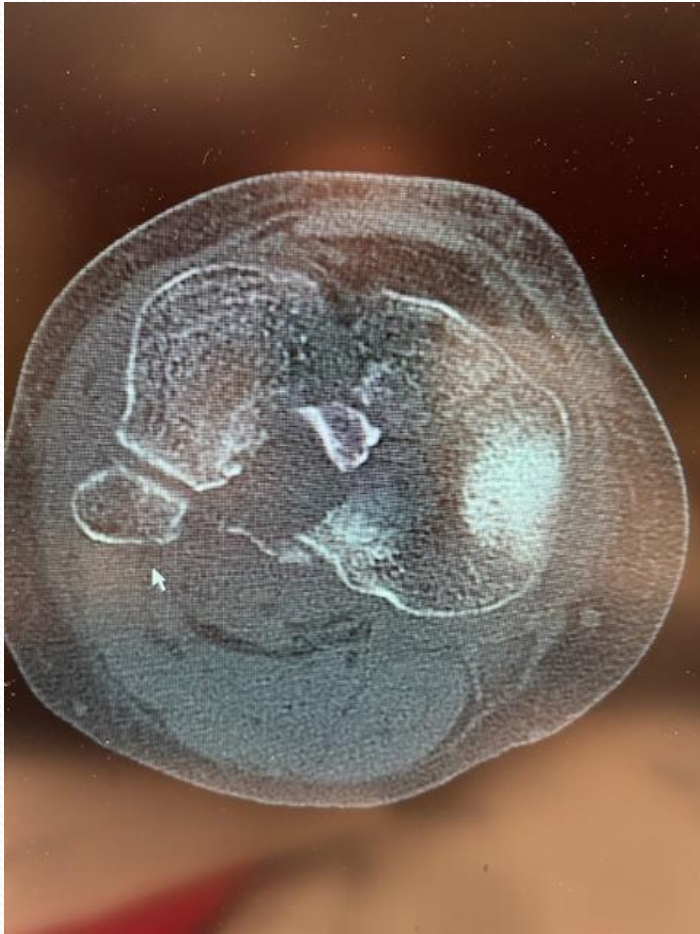
Drummer in a band !! And wants to get back to the group



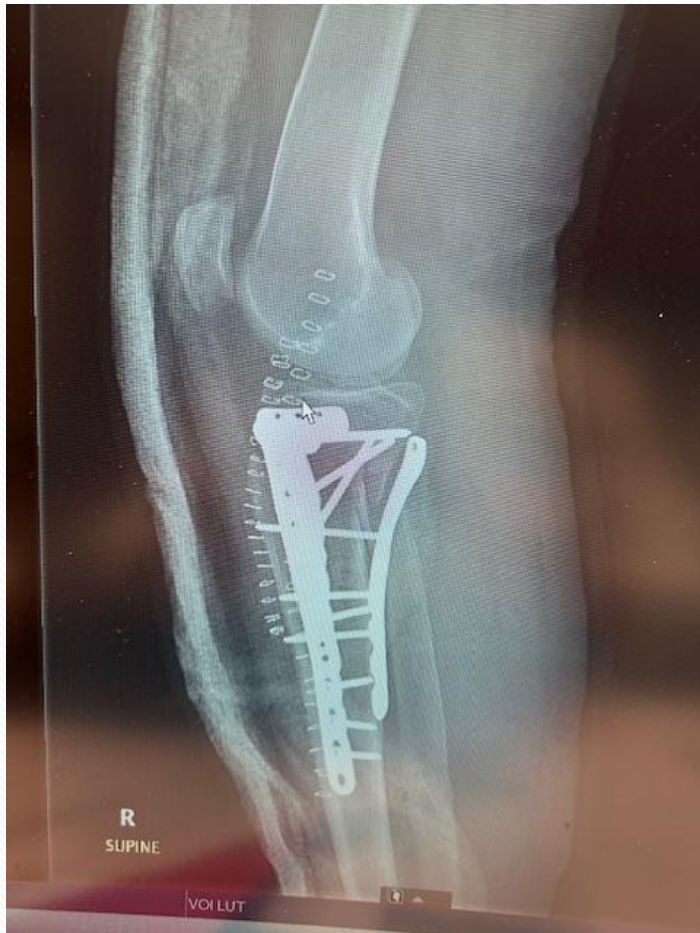




This section shows you where plates have to be placed to provide the antiglide effect and compression



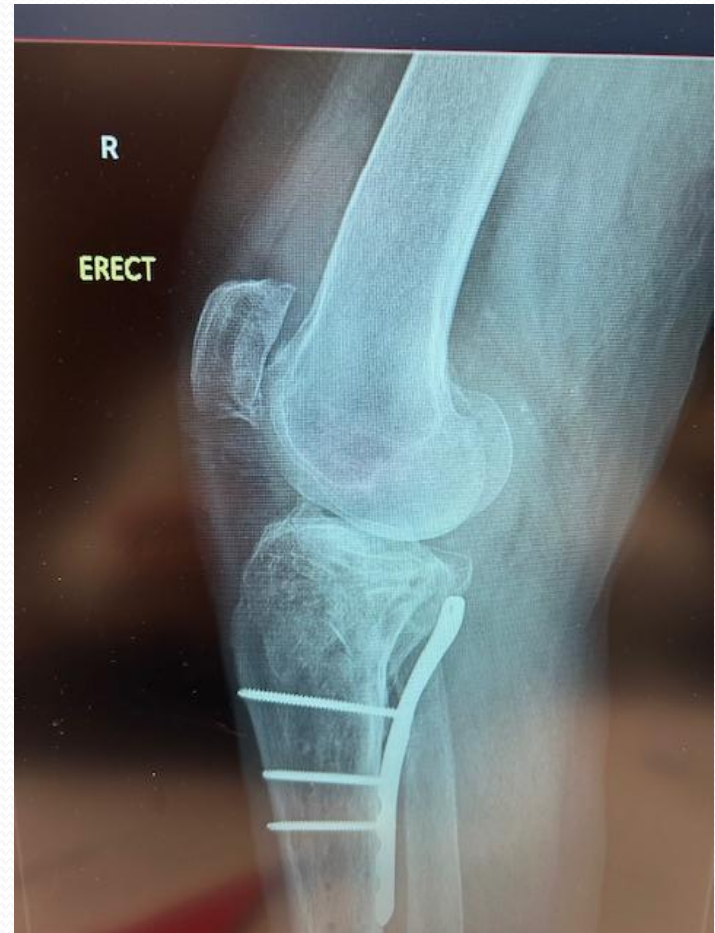
Plates selected and places on each fragment and with a hinge brace she was allowed weight bearing as tolerated



Drifted into valgus over the first year – pain 5/10 at worst



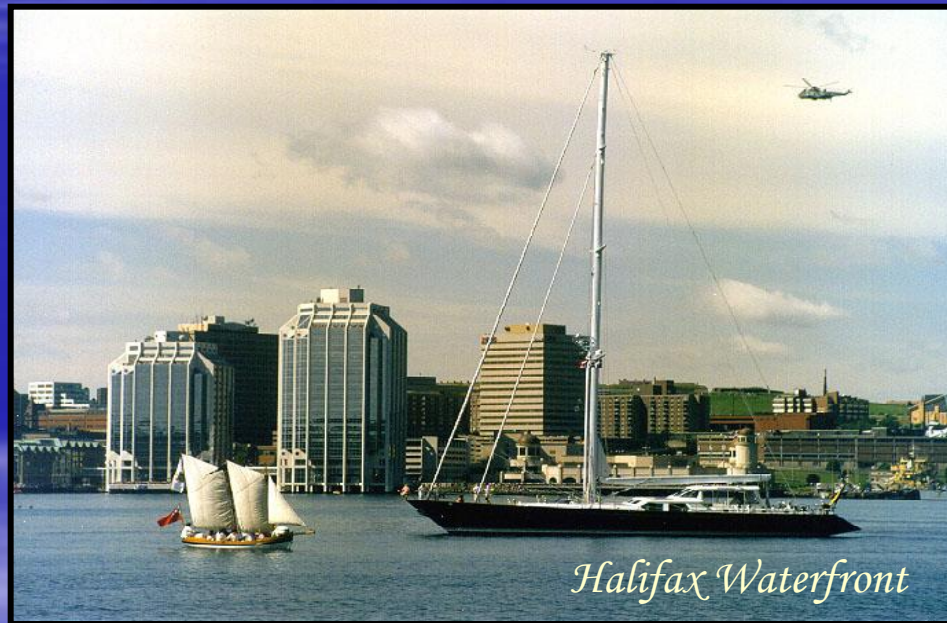
Plates were removed as a staging for a total knee replacement as she drifted into valgus over the first year with increasing pain 5/10



New Total knee with WBAT and she has achieved 0 to 130 ROM and no cane needed at 4 months post op



THANK YOU



*Thanks to San Francisco Orthopedics for this Great Format and
Wonderful Venue*

Capital Health District
Orthopaedic Department

