CASES: DISTAL FEMUR & PLATEAU

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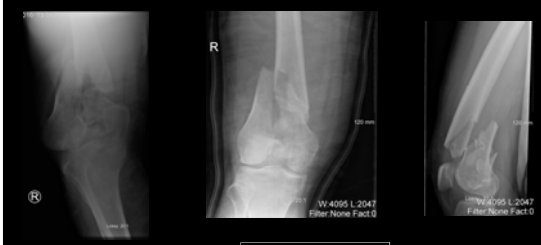
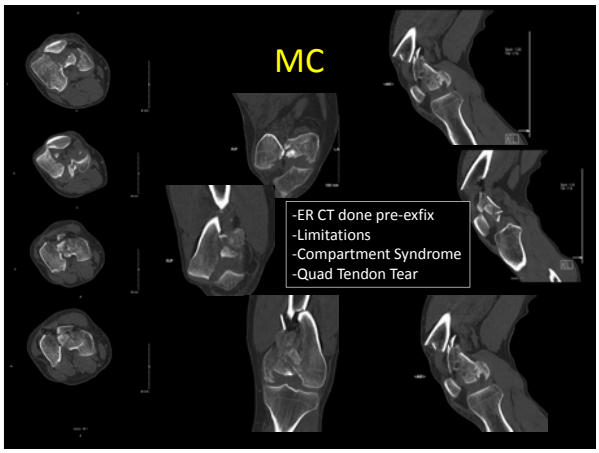
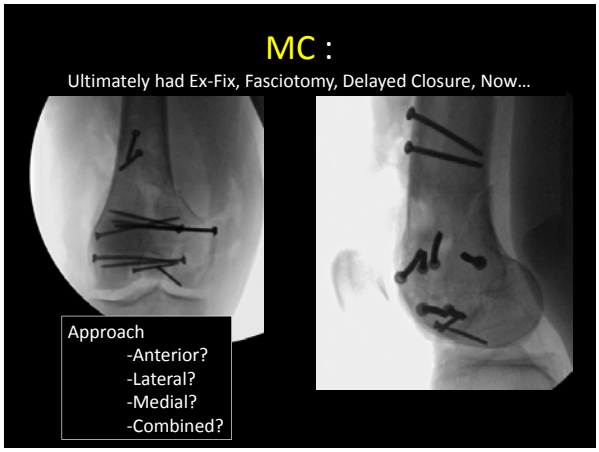
Distal Femur

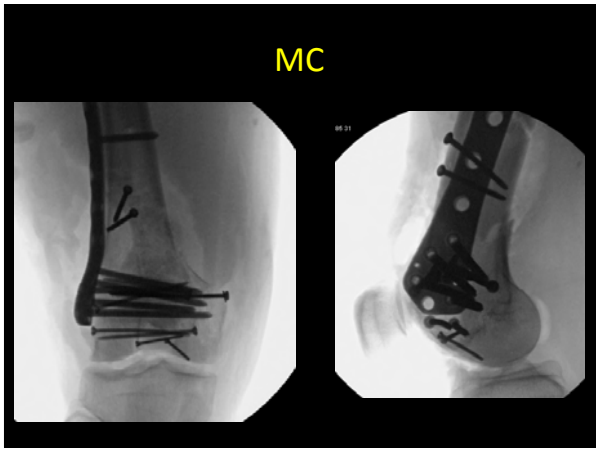
Case 1: MC – 25 foot fall



What to do first?
Ex-Fix?
CT?

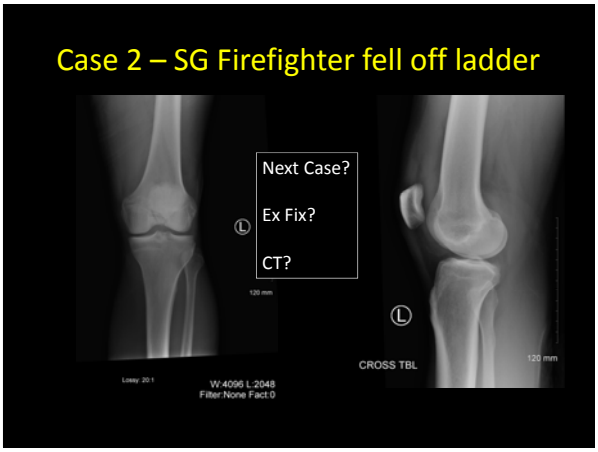

MC
-ER CT done pre-exfix
-Limitations
-Compartment Syndrome
-Quad Tendon Tear


MC :
Ultimately had Ex-Fix, Fasciotomy, Delayed Closure, Now…
Approach
-Anterior?
-Lateral?
-Medial?
-Combined?

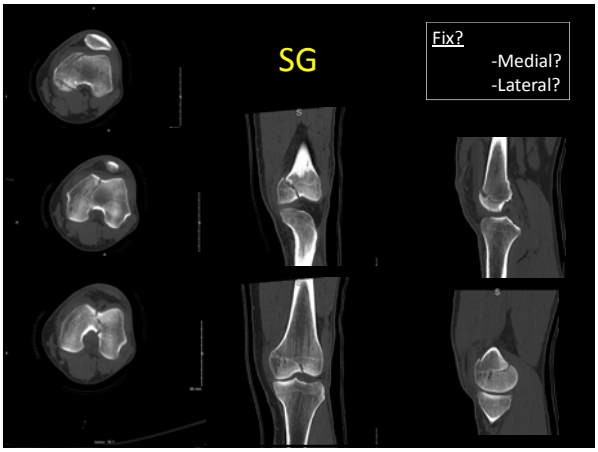

MC

MC

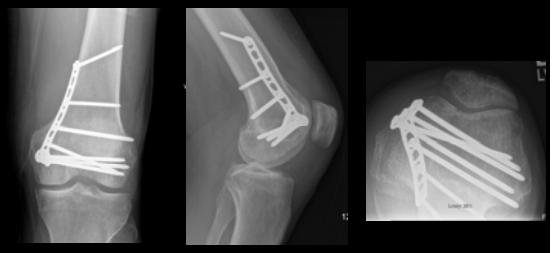
Case 2 – SG Firefighter fell off ladder



SG



SG - Subvastus



Case 3: JV – 75 yo male

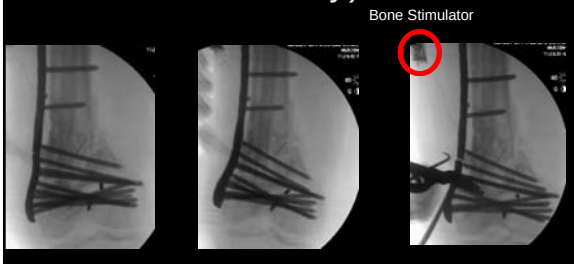
-3 time failed distal femoral nonunion

-ALL surgeries with lateral plate

-Previous Hip Fx short hip IMN above

-SOLUTION ???

STEP 1 – BIOPSY (significant history)

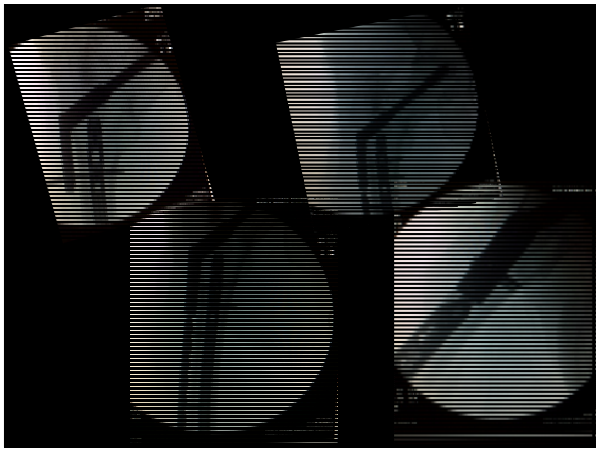


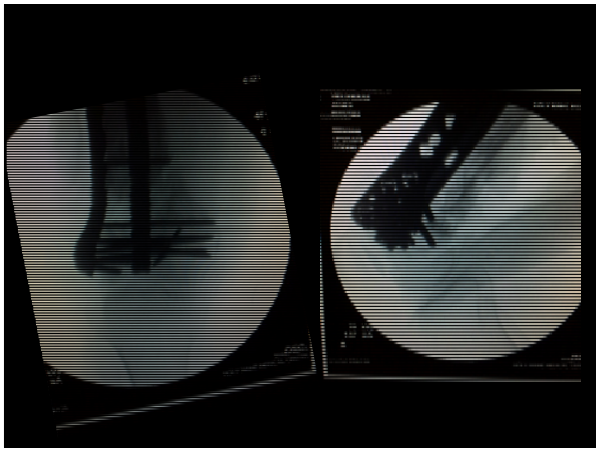
NOTE ALLOGRAFT FIBULA INTRAMEDULLARY STRUT ?!?!?!?!?

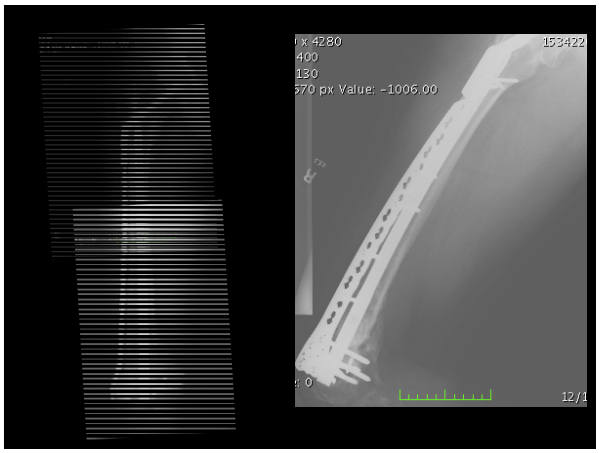
NEGATIVE FOR INFECTION

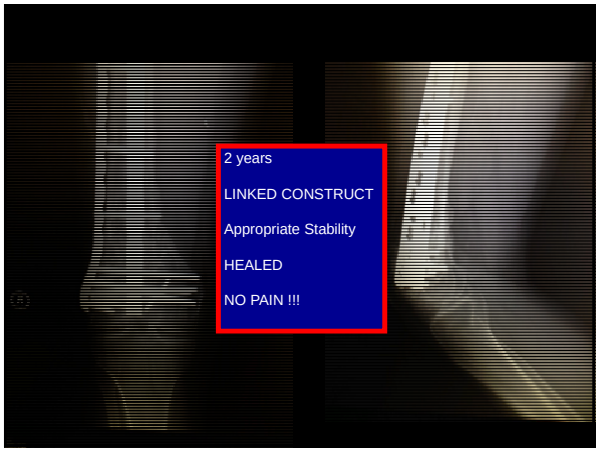
Biopsy Results – Not Infected

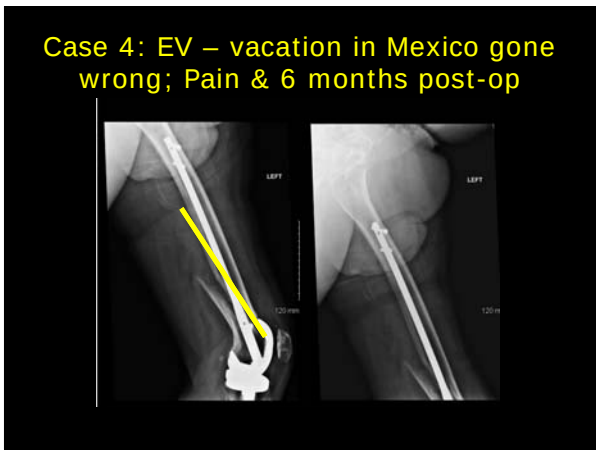
- What to do?
  - 1) Repeat Lateral Plating with Compression
    - Possible Blade
  - 2) Dual Plate
  - 3) Retrograde Nail
  - 4) Other







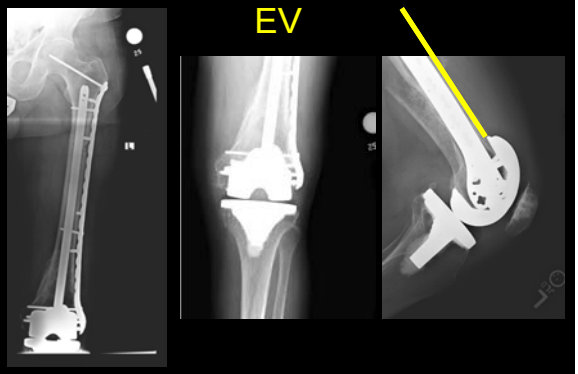

2 years
LINKED CONSTRUCT
Appropriate Stability
HEALED
NO PAIN !!!


Case 4: EV – vacation in Mexico gone wrong; Pain & 6 months post-op

EV

Now what?
-Bone Graft in situ?
-Change to Plate?
-Re-IMN?
-Revision TKR?
-Other?

EV

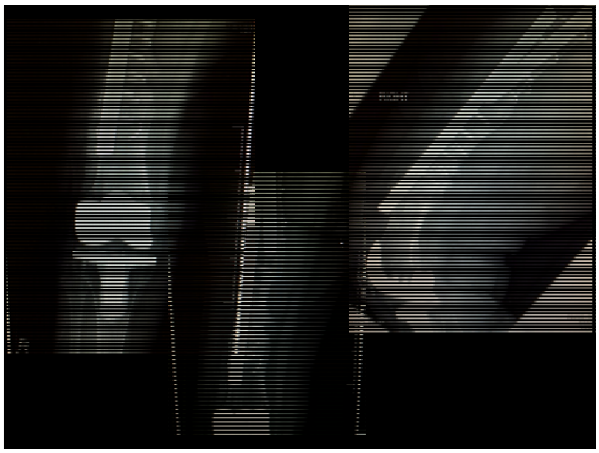


Case 5: JZ

Distal Femoral Fx 10 yrs ago w/ 4 time nonunion
s/p platings above TKR & below THR

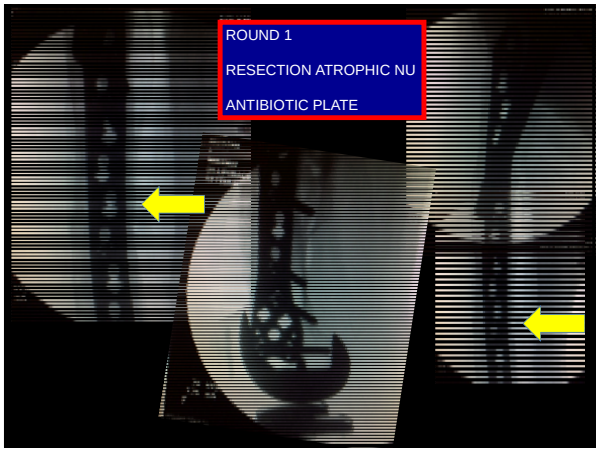
Non-ambulator x 2.5 years

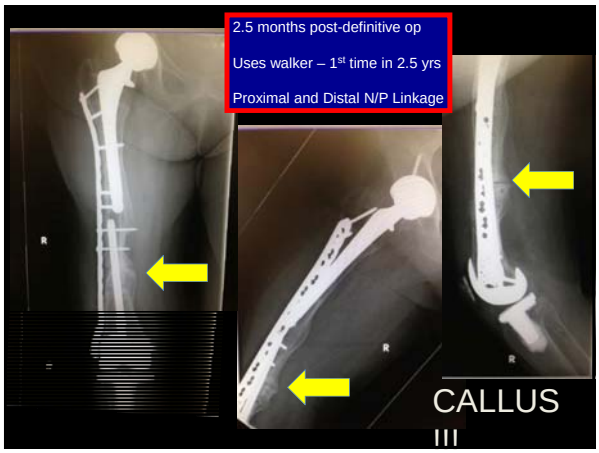
***BIOPSY → INFECTED



Biopsy Results – Infected

- What to do?
  - 1) I&D with acute fixation and post-op antibiotics
  - 2) I&D then picc / antibiotics → 6 wks re-ORIF
  - 3) Resection of both joints with #2 + arthroplasty replantation
  - 4) Other

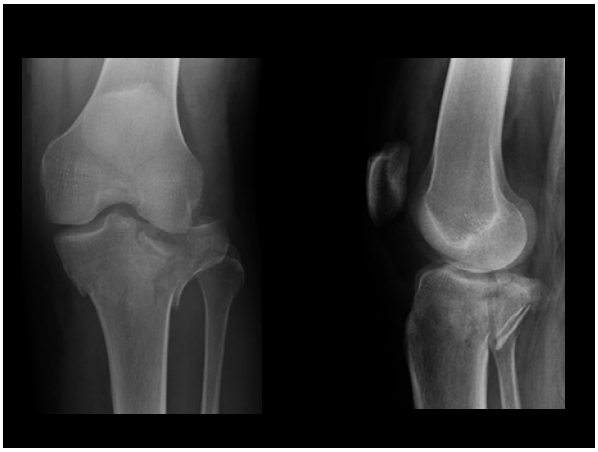




Tibia Plateau

Case 1

- 52 yo active male
- s/p Pedestrian Struck
- Isolated injury
- No NV deficits



Case 1

- What would your management be?
  - 1) ORIF within 6 hours
  - 2) CT scan, ORIF within 2 days
  - 3) External Fixation, CT scan, ORIF ~ 1 wk or more
  - 4) External Fixation, ORIF when time available
  - 5) Closed Management

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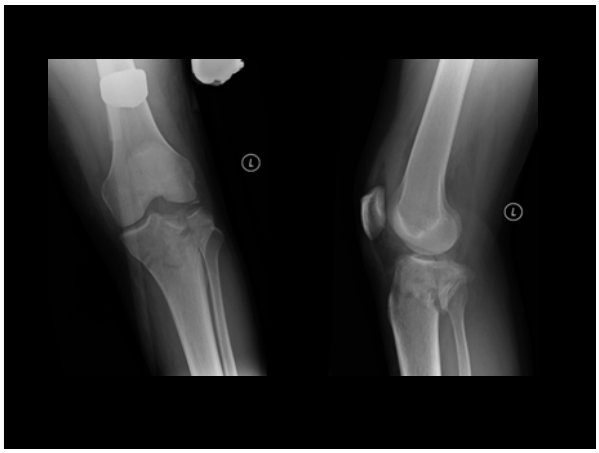
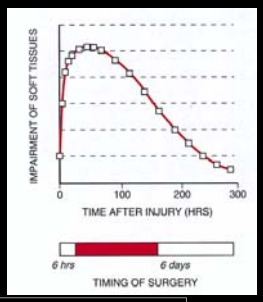
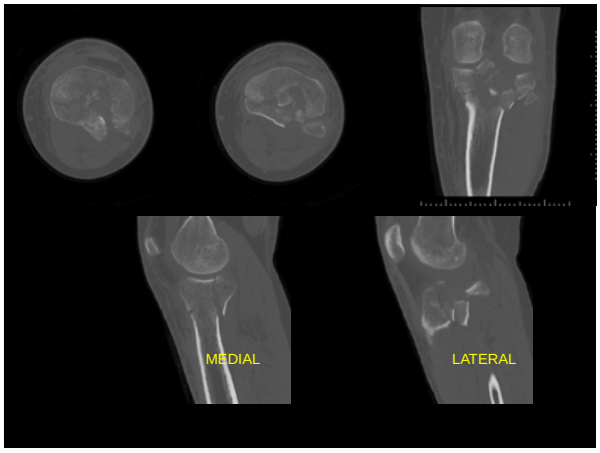


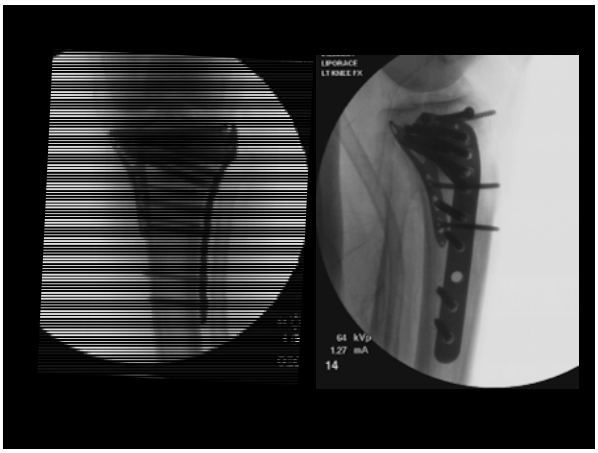
Case 1

- Patience
- Timing critical
- Avoid 1-6 days
- Await soft tissue envelope (10-21 days)



Note: Highest wound complications <7 days after injury (tibia plateau fractures) Wagner HE and Jakob RP: Unfallchirurg 1986

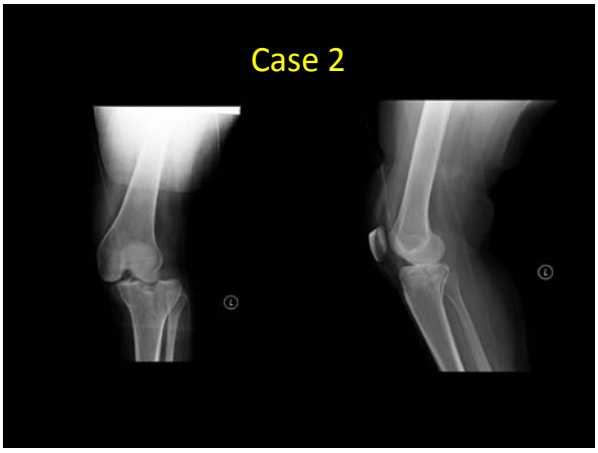




Case 2

- 38 yo female
- Ped struck
- Non-palpable but Doppler-able pulse
- ABI 0.7 in ER

Case 2



Case 2

- What is the most concerning acute aspect of this case?
  - 1) Difficulty deciding definitive surgical approach
  - 2) Concerns as in knee dislocation
  - 3) Articular depression by tibial spine
  - 4) Mechanical axis maintenance
  - 5) Risk of infection after definitive care

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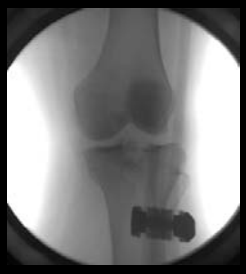
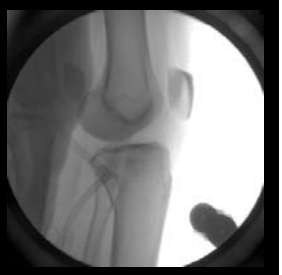
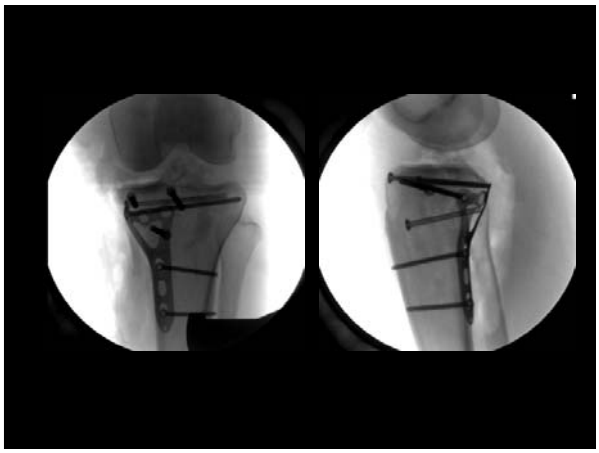
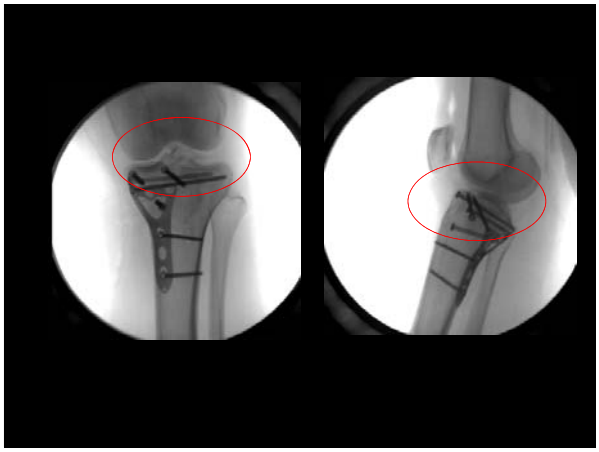
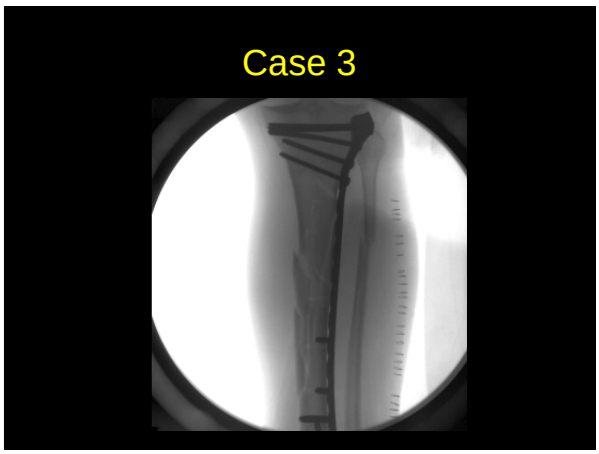




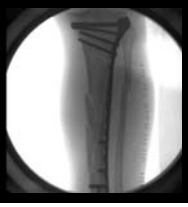





Case 3

Case 3

- What is a potential concern with this fixation?
  - 1) Inappropriate alignment
  - 2) Malreduced articular surface
  - 3) Stainless steel implant infection risk
  - 4) Potential instability
  - 5) Nothing



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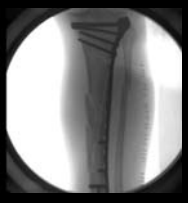
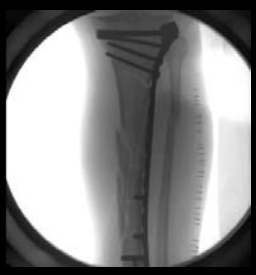
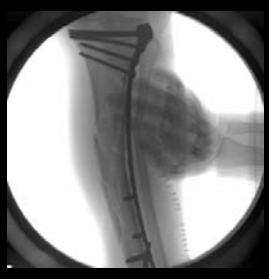


Case 3





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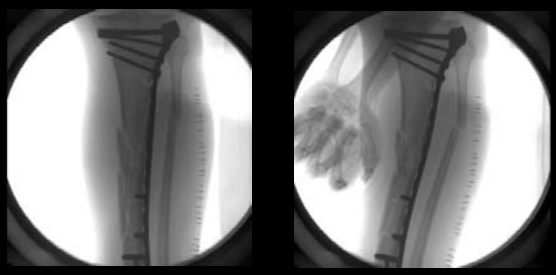
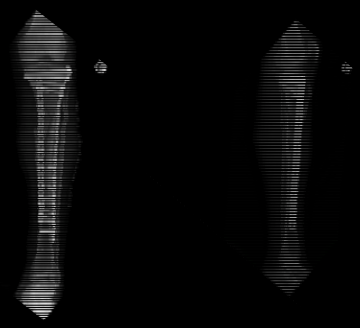
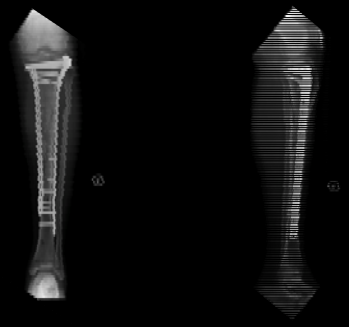


Case 3



5 months – Asymptomatic, “Softening of Fx Lines”



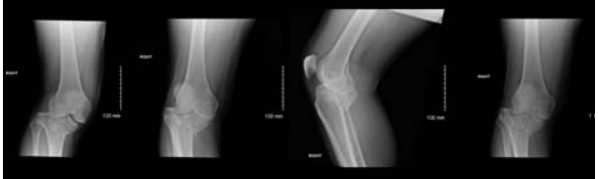
Case 4 - FQ

- 46 year old male s/p fall 20 feet on construction site
- PMH: HTN
- PSH: appendectomy
- Rx: Metoprolol
- Allergies: NKDA

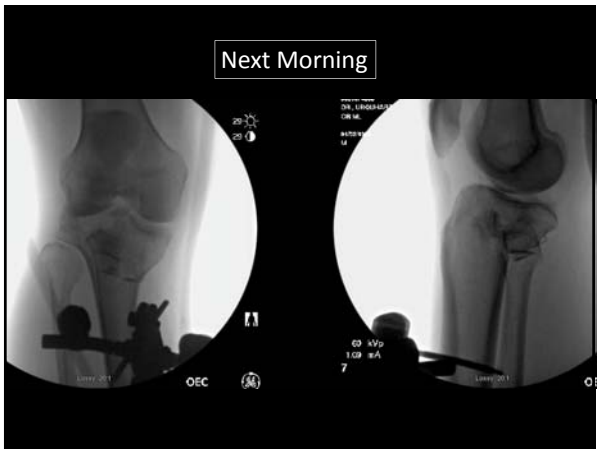
FQ

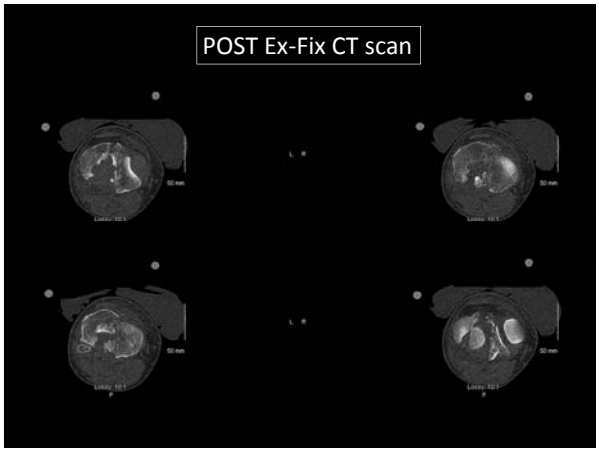
- Exam:
- DP/PT +
- Sensation intact to light touch all dermatomes
- Swollen, painful knee
- No reported hip or ankle pain
- ABI 0.9

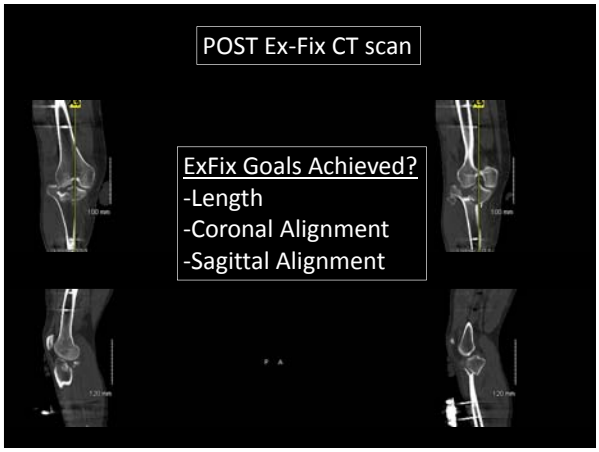
NIGHT 1



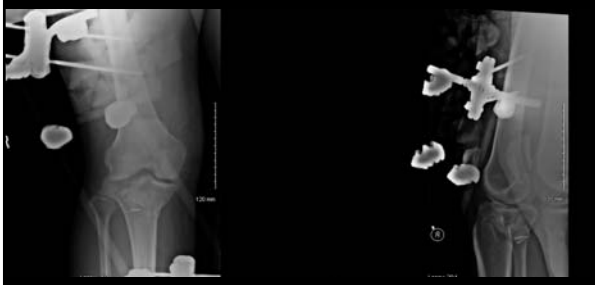
Concerns?
-Compartment Syndrome
-Vascular Injury


Next Morning
OEC

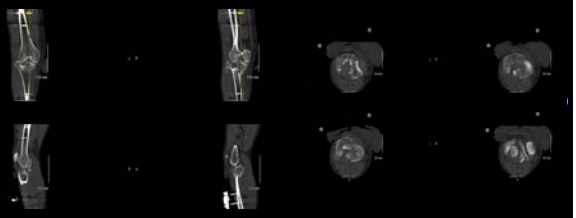

POST Ex-Fix CT scan


POST Ex-Fix CT scan
ExFix Goals Achieved?
-Length
-Coronal Alignment
-Sagittal Alignment

Revision Exfix

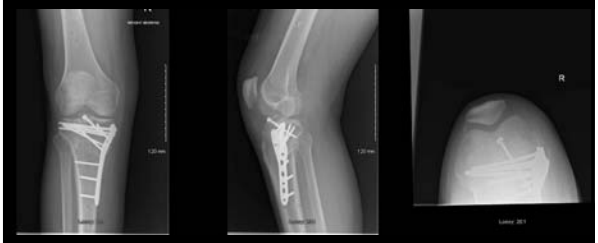


Remember CT scan?



Definitive Fixation?
-Lateral
-Medial
-Both

3 months

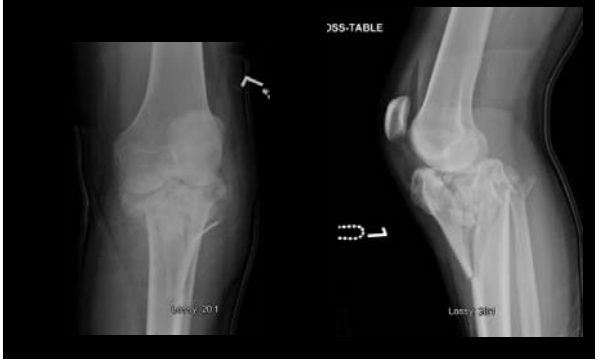


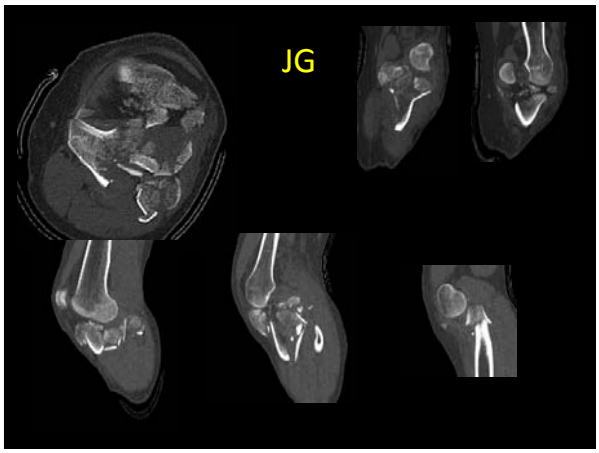
12 months – returned to construction
ROM 0-120
slight distal tip plate pain – doesn't want ROH

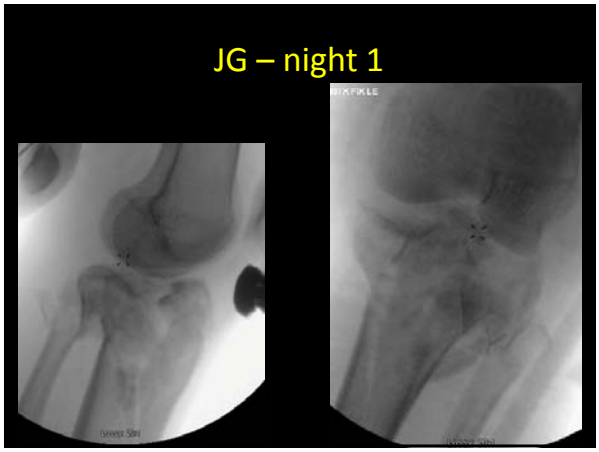
Case 5 - JG

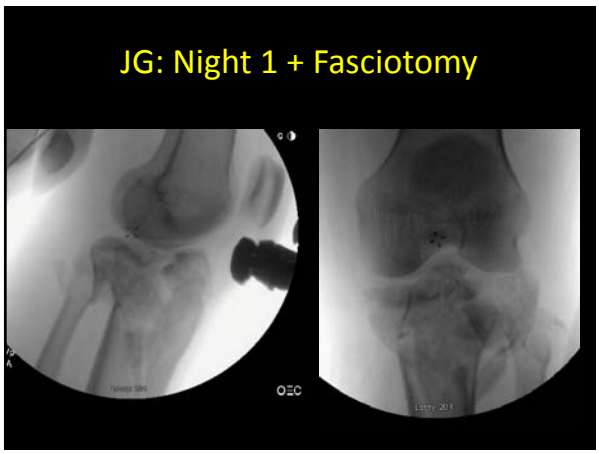
- 22 yo female
- MVA – ejected
- + LOC
- B/L open talus and right calcaneus
- Swollen and tense L calf with PAIN!

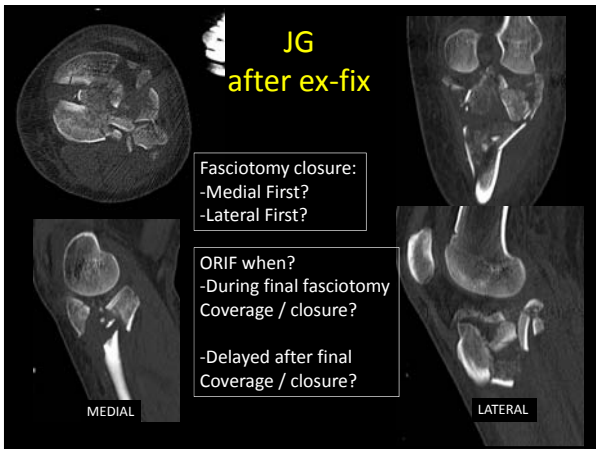
JG

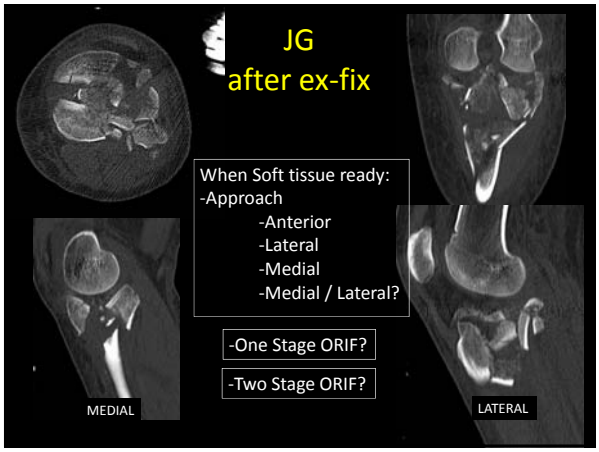


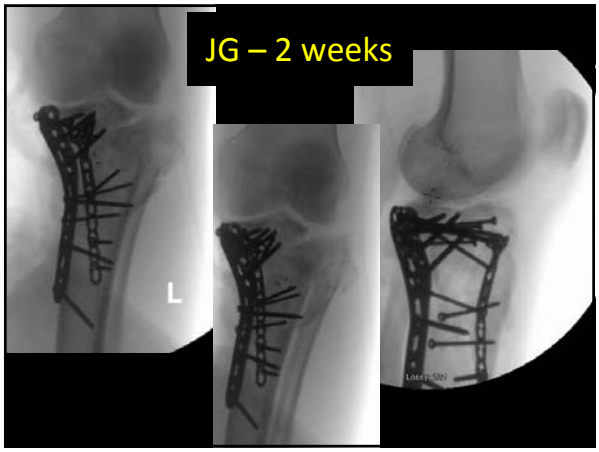

JG


JG – night 1

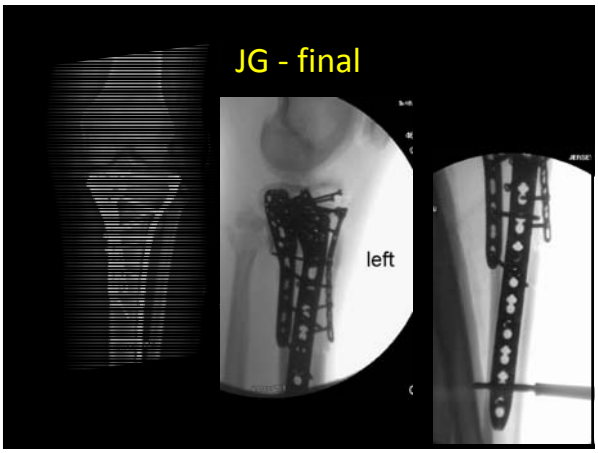

JG: Night 1 + Fasciotomy


JG
after ex-fix
Fasciotomy closure:
-Medial First?
-Lateral First?
ORIF when?
-During final fasciotomy Coverage / closure?
-Delayed after final Coverage / closure?
MEDIAL
LATERAL

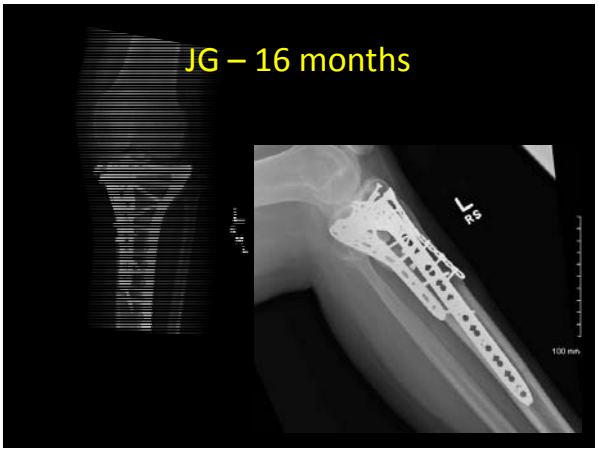

JG
after ex-fix
When Soft tissue ready:
-Approach
-Anterior
-Lateral
-Medial
-Medial / Lateral?
-One Stage ORIF?
-Two Stage ORIF?
MEDIAL
LATERAL


JG – 2 weeks
L

JG - final



JG – 16 months



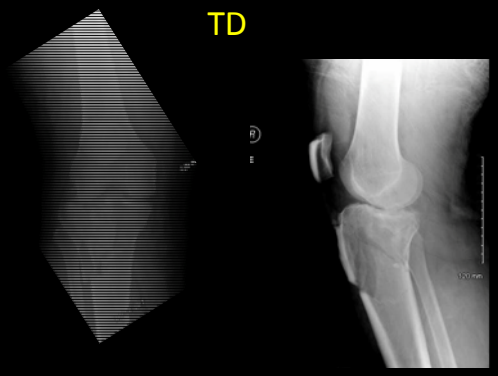
JG – 16 mo

- Needs R TTC fusion
- L ankle with some evidence AVN talus but minimal symptoms other than stiffness
- L knee:
  - No instability
  - 2-105
  - Intermittent pain at times at lateral joint line but satisfied currently

Case 6 - TD

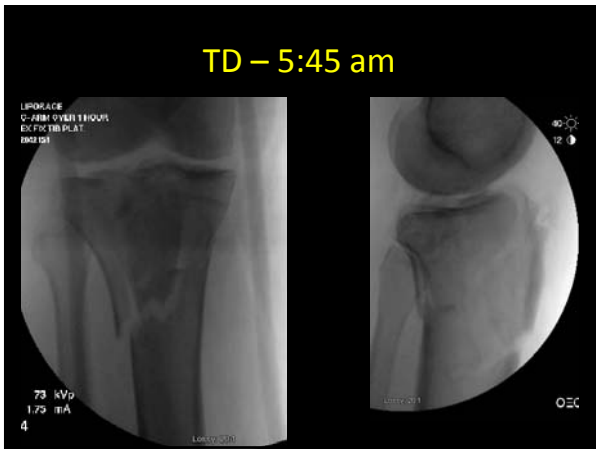
- 25 yo 350 lb male who fell after “lay-up” at 8pm
- CC: Right knee pain

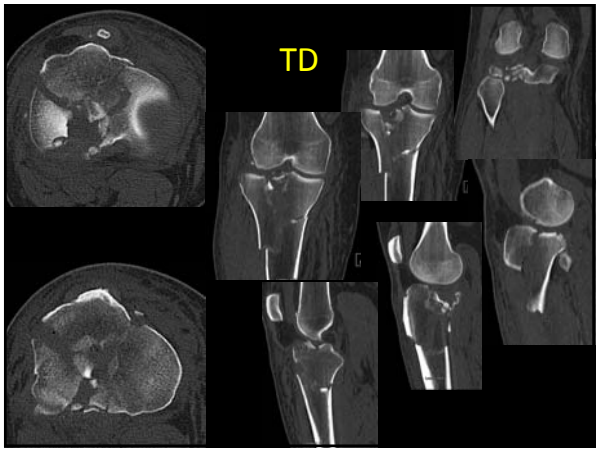
TD

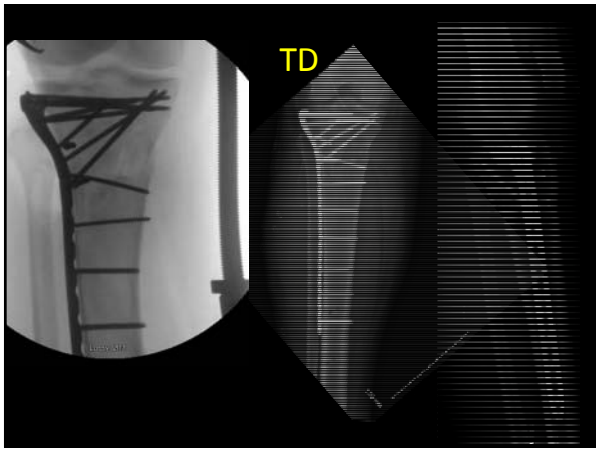


TD

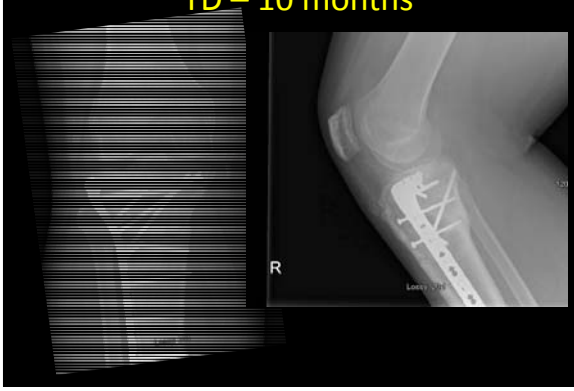
- Admitted overnight
- 3 am → “bothering staff” that he needs more pain meds
- 5am → “I can’t feel all of my toes”


TD – 5:45 am


TD


TD

TD – 10 months



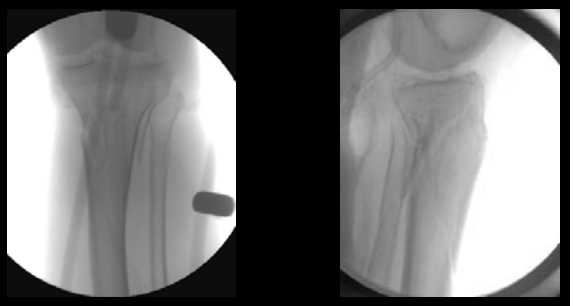
TD

- 0-120
- Mild pain over MCL
- No instability
- Back to basketball but prefers jump shot to lay-ups now

Case 7 – PR: June 30, 2007

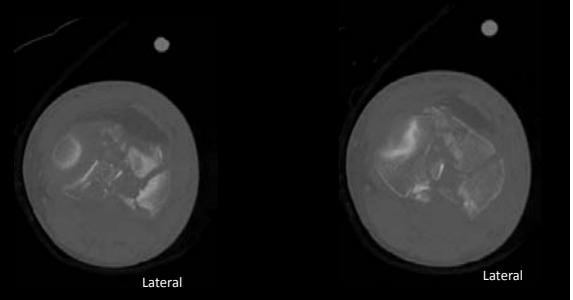
- 57 y.o. Motorcycle accident
- IDDM x 10 years
- 1ppd smoker
- Very swollen, no compartment syndrome

PR – July 1, 2007



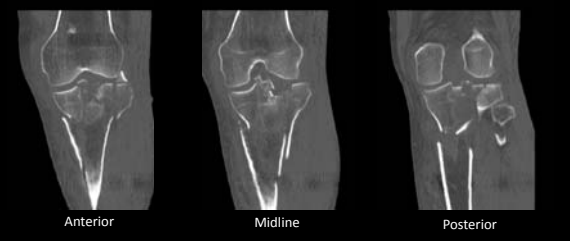
Radiographs from FAL personal unidentified patient file

PR – July 1, 2007



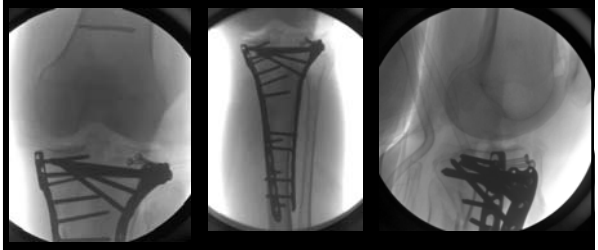
Radiographs from FAL personal unidentified patient file

PR – July 1, 2007



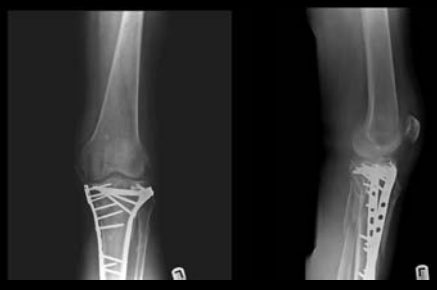
Radiographs from FAL personal unidentified patient file

PR – July 24, 2007



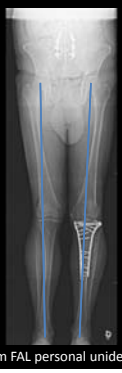
Radiographs from FAL personal unidentified patient file

PR – September 26, 2007



Radiographs from FAL personal unidentified patient file

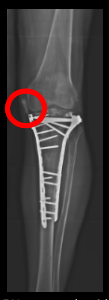
PR – August 27, 2008



Radiographs from FAL personal unidentified patient file

PR – August 27, 2008

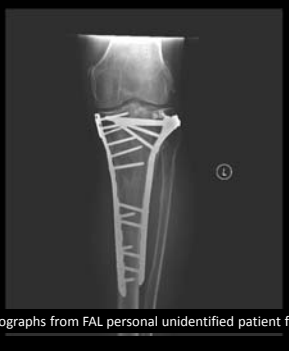
OUCH!!!



Radiographs from FAL personal unidentified patient file

PR – September 23, 2008

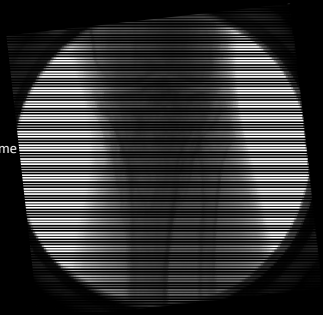
H.O. resection
Knee stable intra-op



Radiographs from FAL personal unidentified patient file

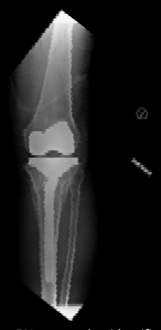
PR – March 15, 2010

- ROH: ? Painful
- Also Bx at that time
- Bx NEGATIVE



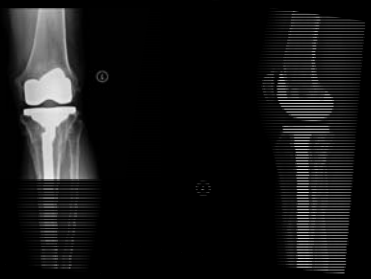
Radiographs from FAL personal unidentified patient file

PR- June 15, 2010



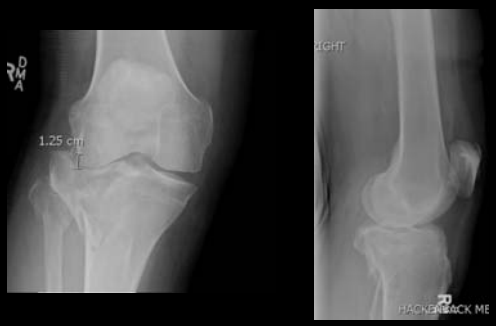
Radiographs from FAL personal unidentified patient file

PR- July 2013



Radiographs from FAL personal unidentified patient file

Case8: WT – December 2010

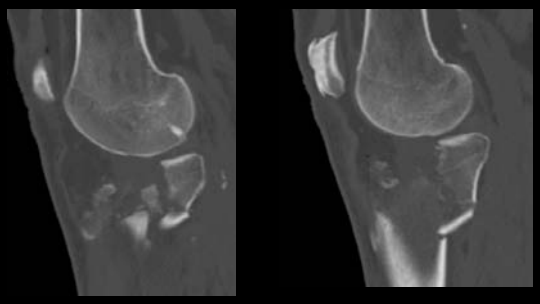


Radiographs from FAL personal unidentified patient file

WT – December 2010

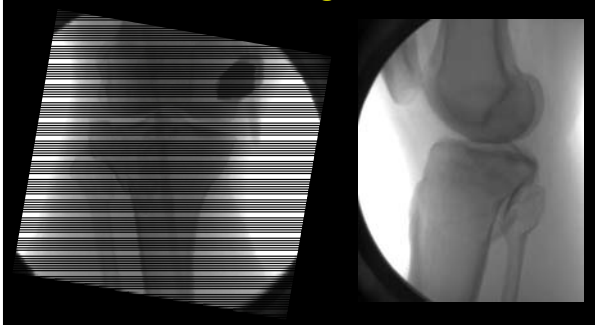
Radiographs from FAL personal unidentified patient file

WT – December 2010



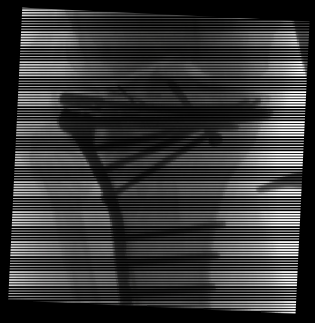
Radiographs from FAL personal unidentified patient file

WT – Night 1



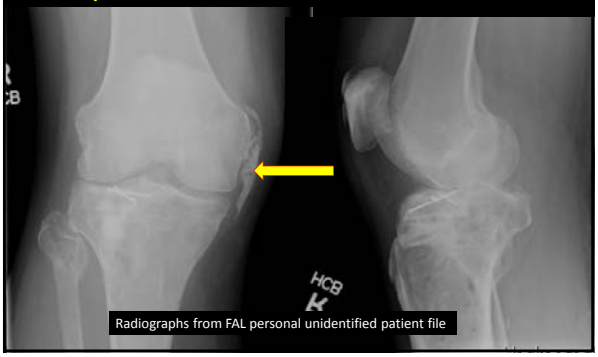
Radiographs from FAL personal unidentified patient file

WT – 2.5 weeks s/p injury



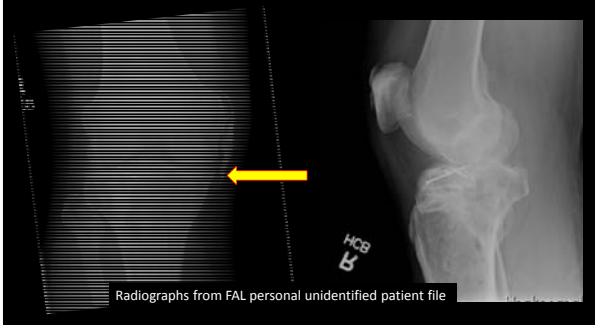
Radiographs from FAL personal unidentified patient file

WT – 11 months s/p injury, pain over plate → ROH and NEGATIVE BX



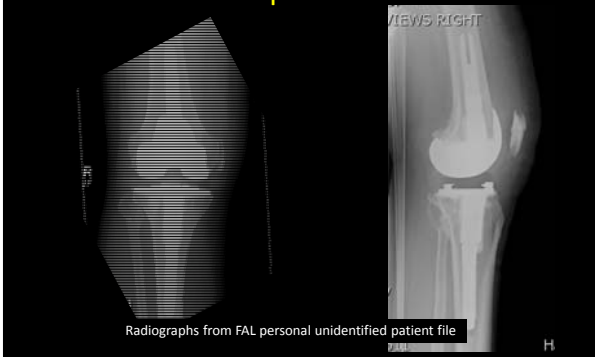
Radiographs from FAL personal unidentified patient file

WT – No change in Xrays 6 more months non-op Tx, "Too much Pain", ROM 30-85



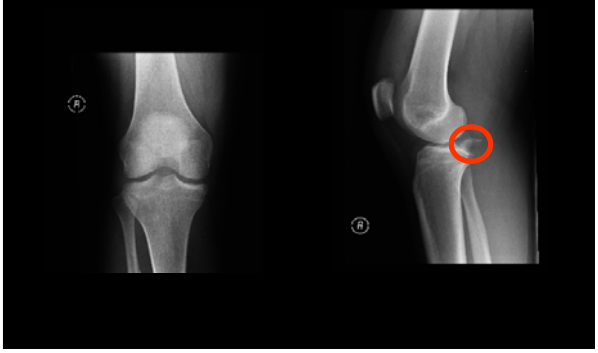
Radiographs from FAL personal unidentified patient file

WT – 1 yr s/p TKR: ROM 5-110, No pain

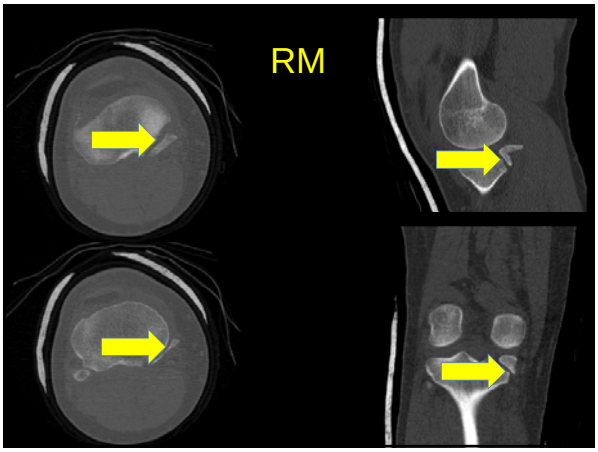


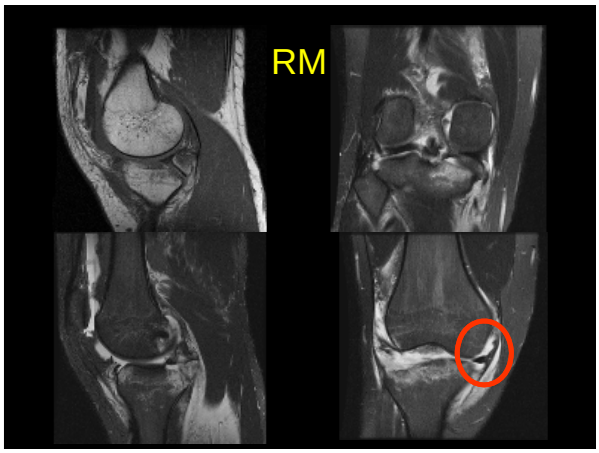
Radiographs from FAL personal unidentified patient file

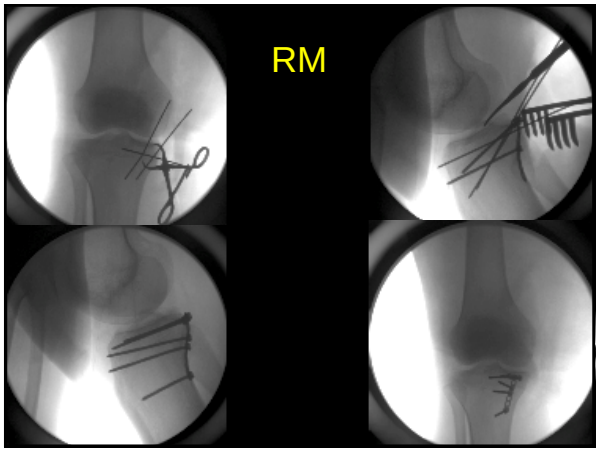
Case 9: RM



RM

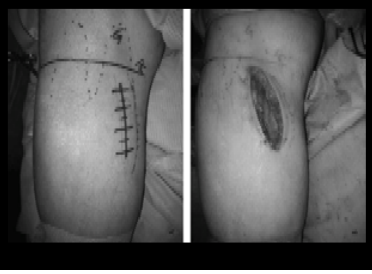






Optimizing the Management of Moore Type I Postero-Medial Split Fracture Dislocations of the Tibial Head: Description of the Lobenhoffer Approach.
Fakler, Johannes; Ryzewicz, Mark; Hartshorn, Cody; Morgan, Steven; Stahel, Philip; Smith, Wade

Journal of Orthopaedic Trauma. 21(5):330-336, May 2007.



A, Skin incision along the medial head of the gastrocnemius, not crossing the popliteal fossa. B, Incision down to the fascia.

Optimizing the Management of Moore Type I Postero-Medial Split Fracture Dislocations of the Tibial Head: Description of the Lobenhoffer Approach.
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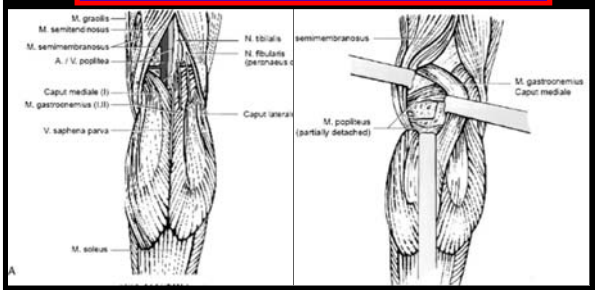

Optimizing the Management of Moore Type I Postero-Medial Split Fracture Dislocations of the Tibial Head: Description of the Lobenhoffer Approach.
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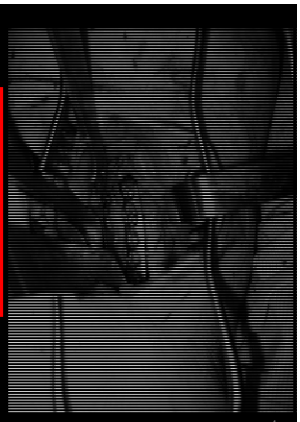
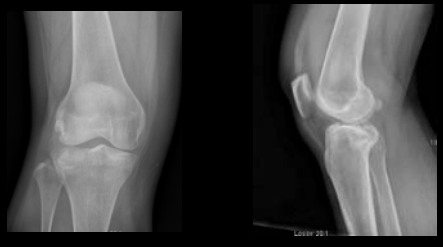
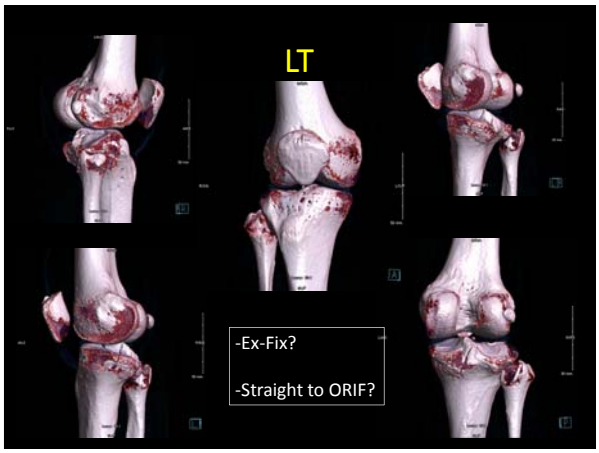
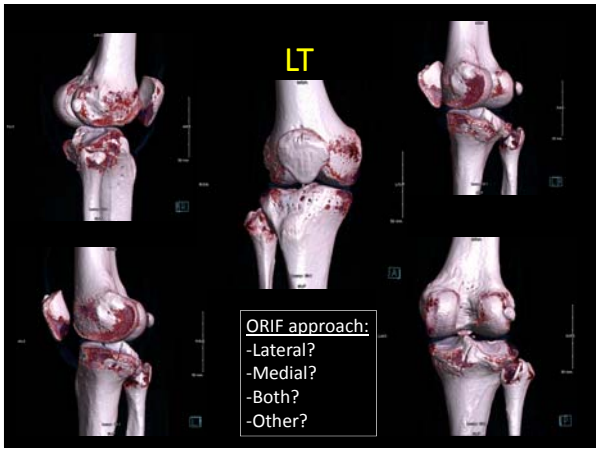


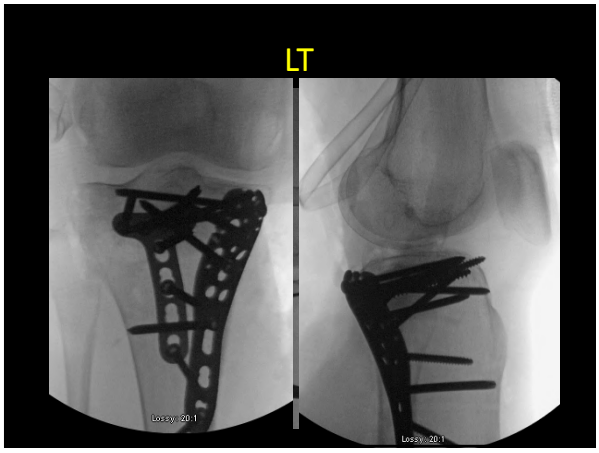
Case 10: LT

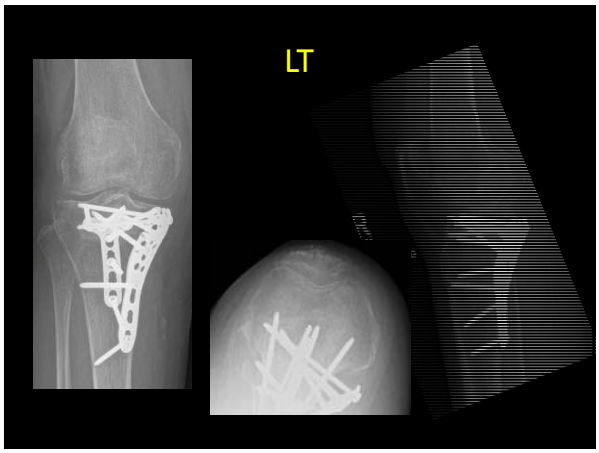
- 62 year old Healthy Female
- Fall down stairs, no prior knee pain

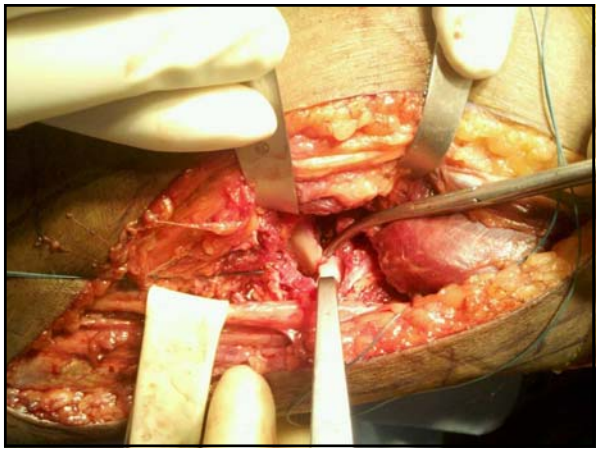


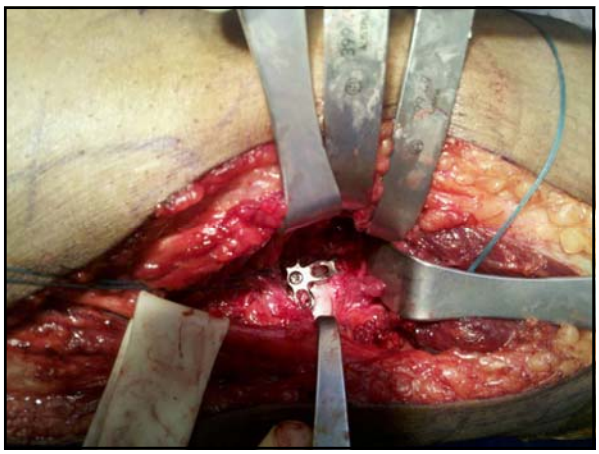

LT
-Ex-Fix?
-Straight to ORIF?


LT
ORIF approach:
-Lateral?
-Medial?
-Both?
-Other?


LT


LT





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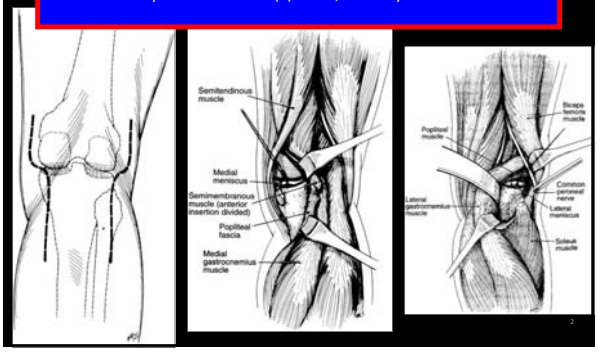
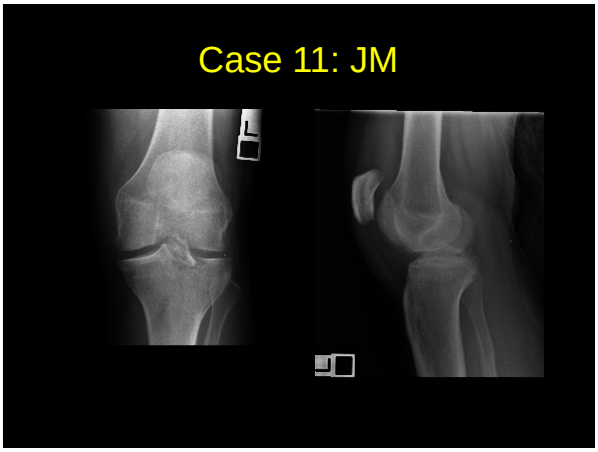


Case 11: JM



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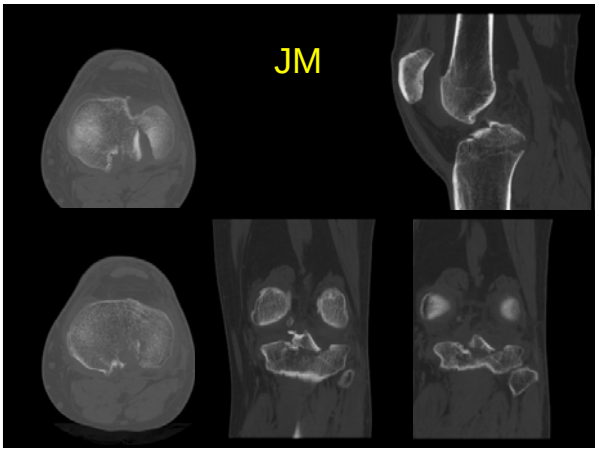

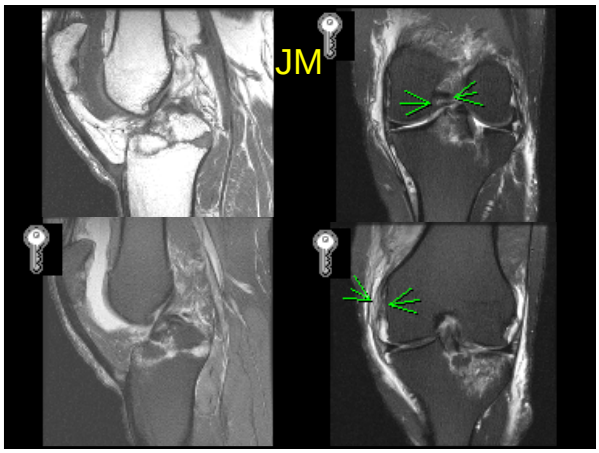
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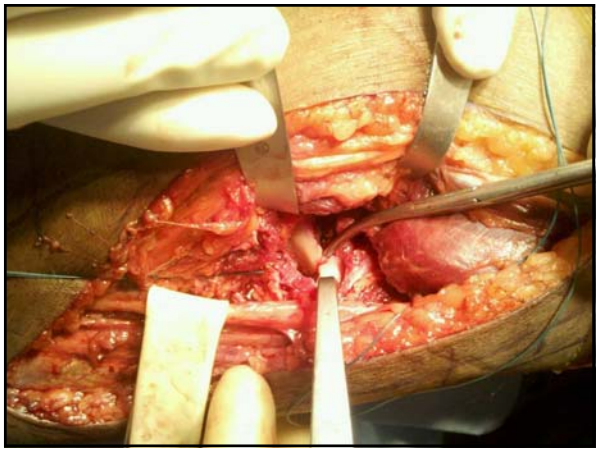

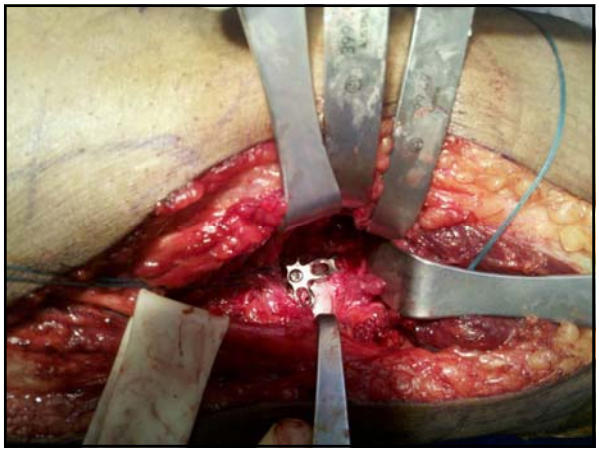

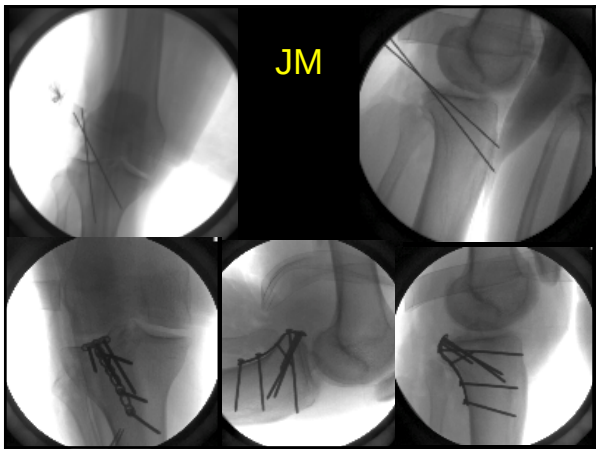
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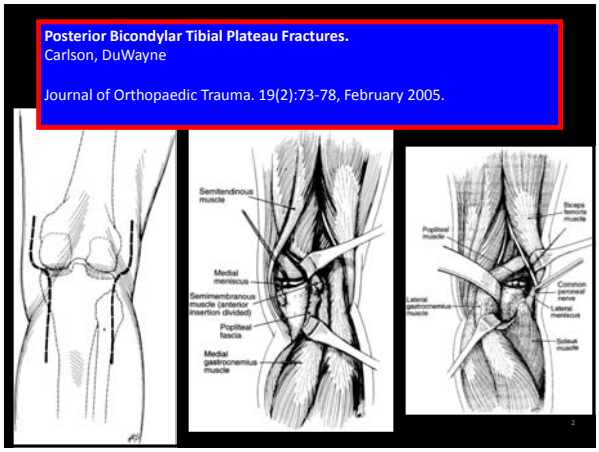
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Semitendinous muscle
Medial meniscus
Semimembranous muscle (anterior insertion divided)
Popliteal fascia
Medial gastrocnemius muscle
Popliteal muscle
Biceps femoris muscle
Common peroneal nerve
Lateral meniscus
Lateral gastrocnemius muscle
Soleus muscle