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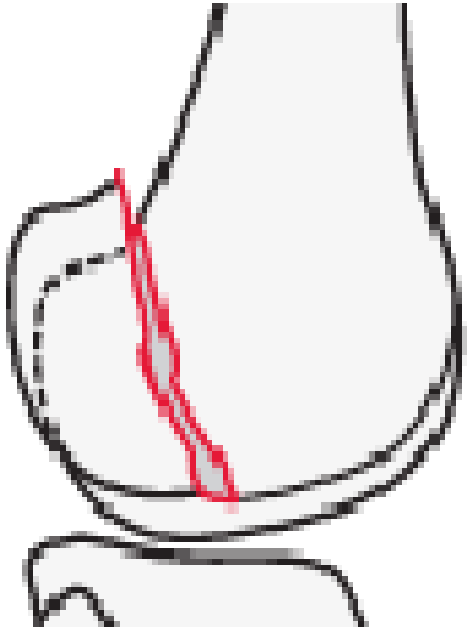
Hoffa Fractures. Tips and Tricks.

- These are essentially coronal plane fractures of medial or lateral condyle of femur and occur as either isolated or as a part of comminuted distal femoral fracture.
- These fractures are at times easily missed on standard X-rays hence CT scans are essential.
- Treatment of these fractures is invariably surgical in order to restore knee anatomy and function and to prevent future instability/ osteoarthritis. Open reduction is preferred by lateral or medial para-patellar approach except posterior marginal fractures, which need to be approached posteriorly. Fixation is by minimum 2 Lag (Cancellous) Screws of 6.5, 3.5 or 4 mm diameter supplimented often by headless screws/ small buttress plates. These are difficult fracture to expose and reduce. Ideal screw position may be difficult to attain.

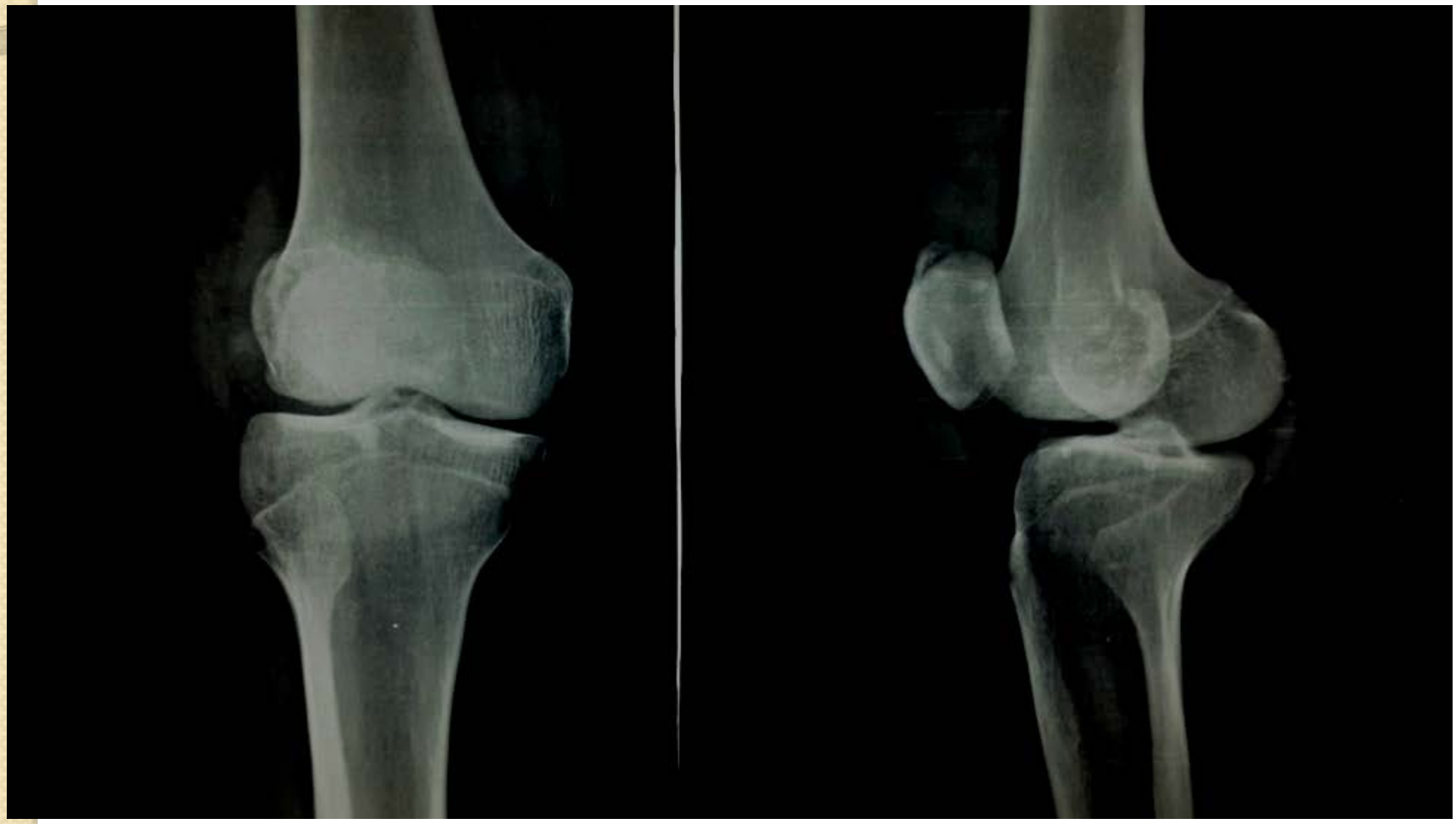
Classification

- 33-B3.1 Flake lateral/anterior
- 33-B3.2 Unicondylar posterior
- 33-B3.3 Bicondylar posterior

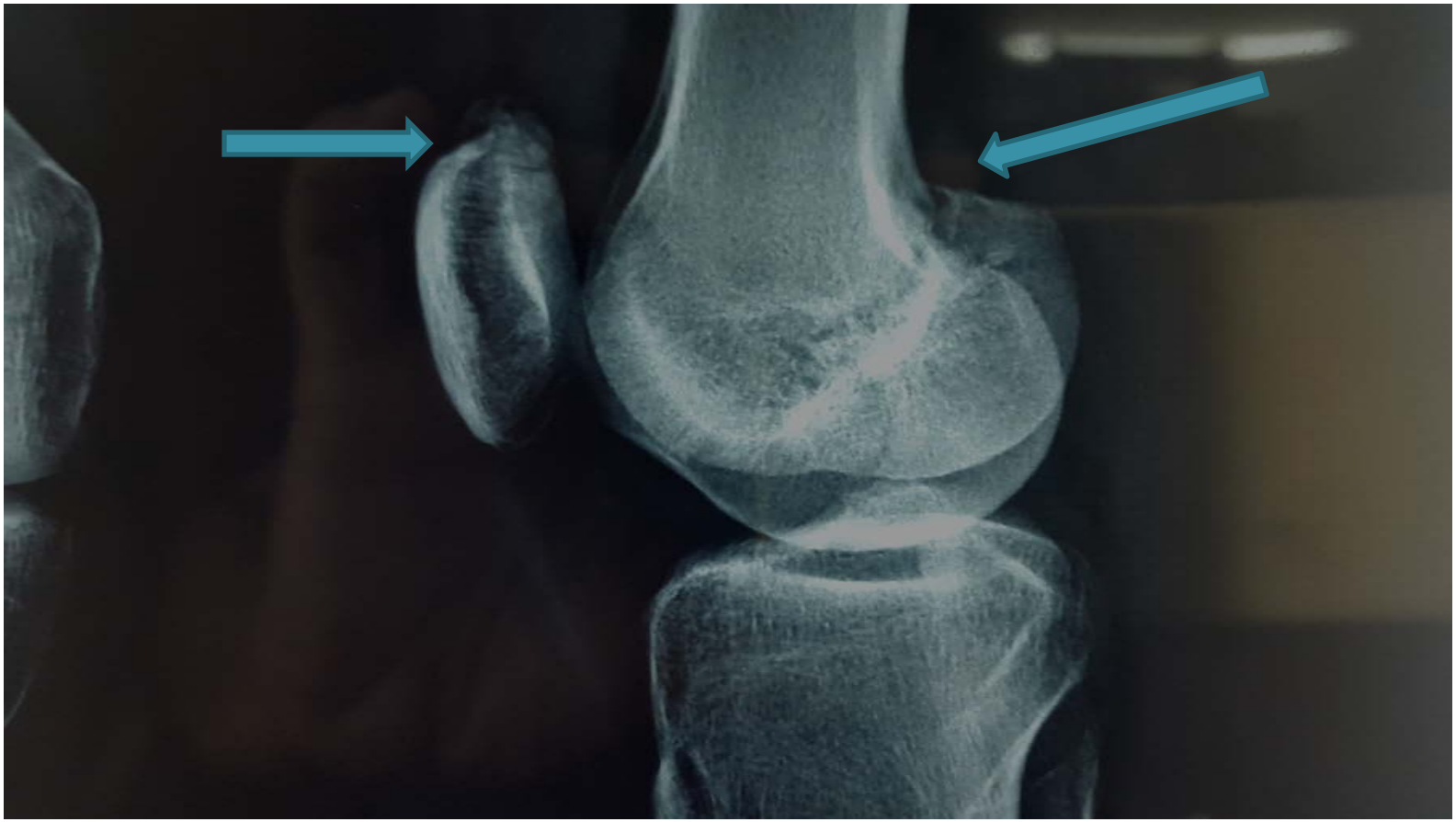


33-B3.2 Unicondylar posterior is most common

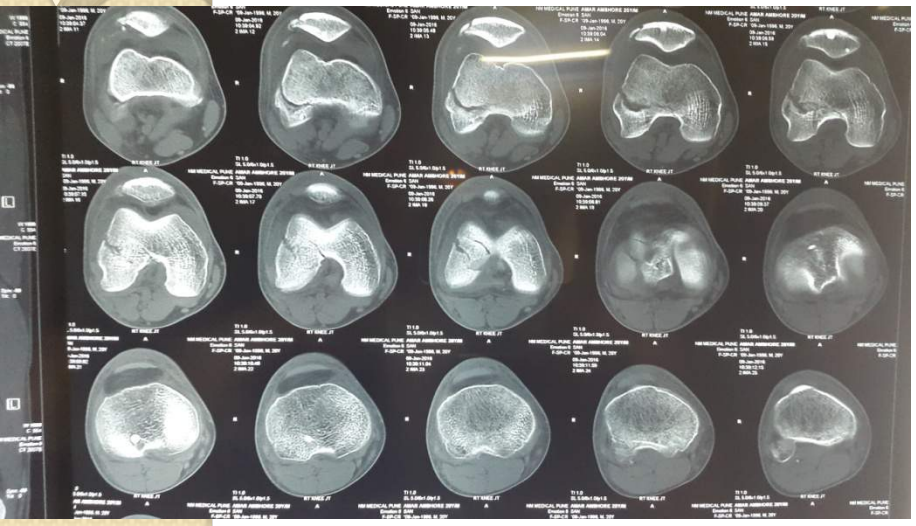
20 M RTA
Knee pain
Unable to walk

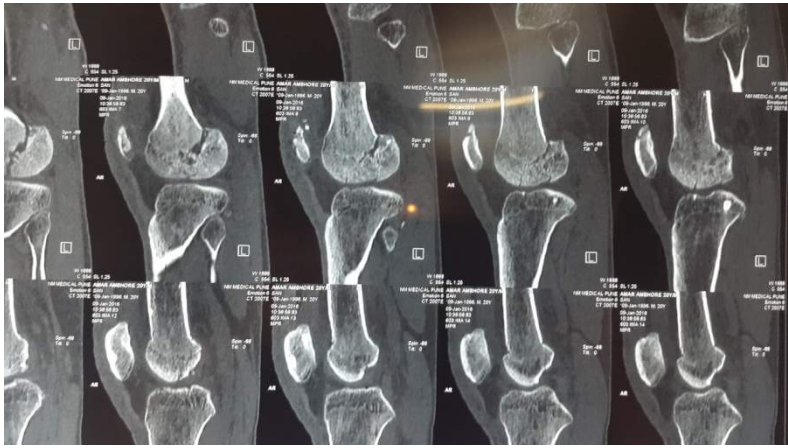


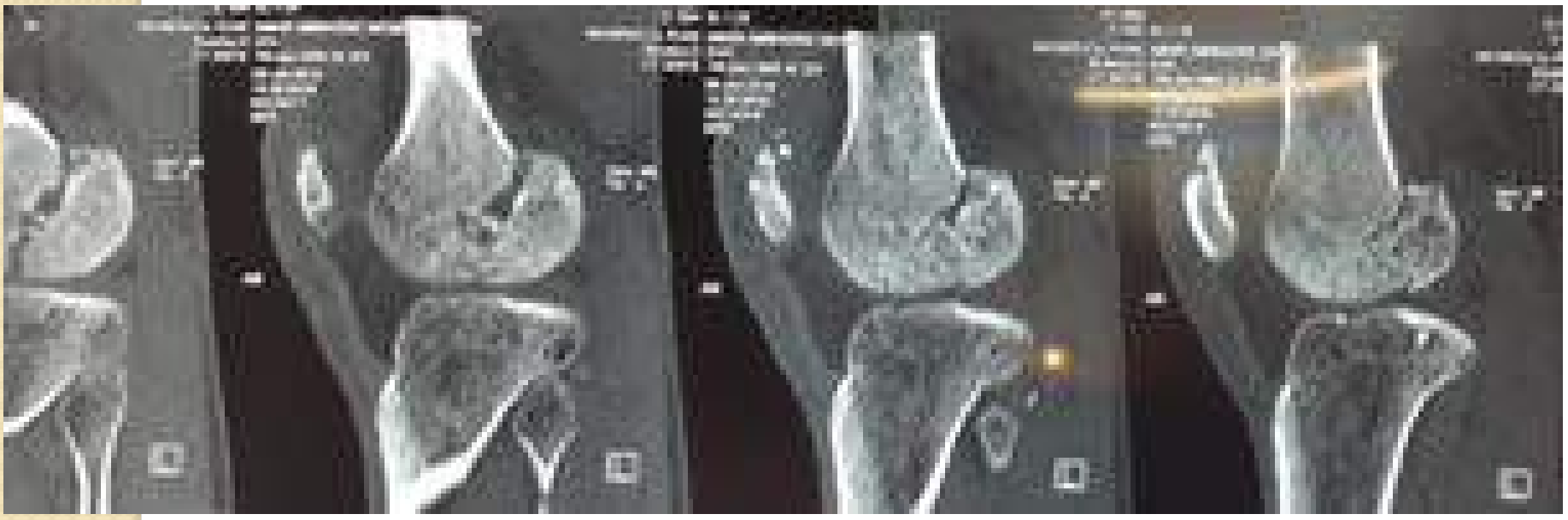
Lateral



Lateral condyle + Fracture of Patellar margin



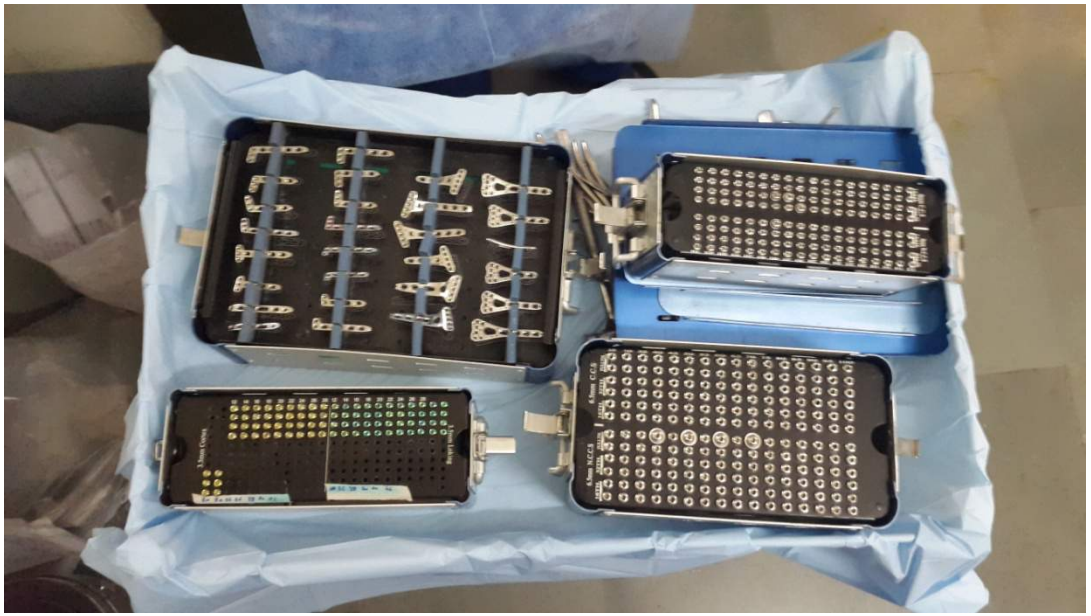




Plan of Surgery includes

- Adequate Instruments
- Proper Approach
- Accurate Reduction
- Stable Fixation
- Early Mobilization

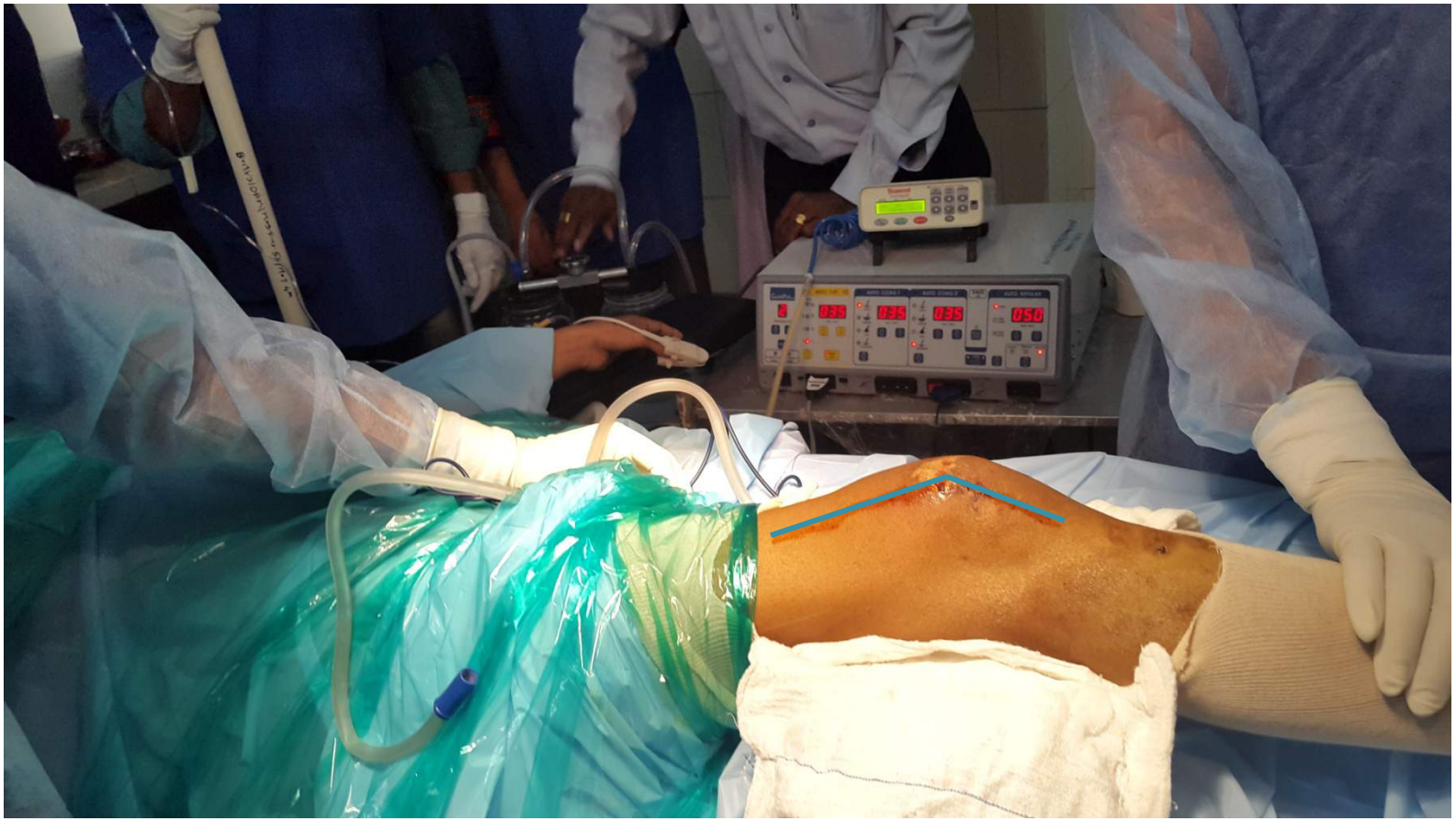
Screw set CCS 4 and 6.5 mm 16 thread and headless screws.
Reduction Clamps
Countersink
Distal radius plates

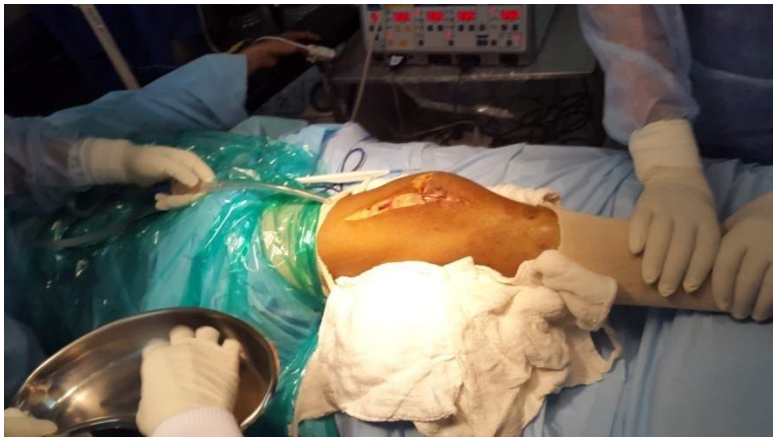


Tourniquet to be applied in flexion

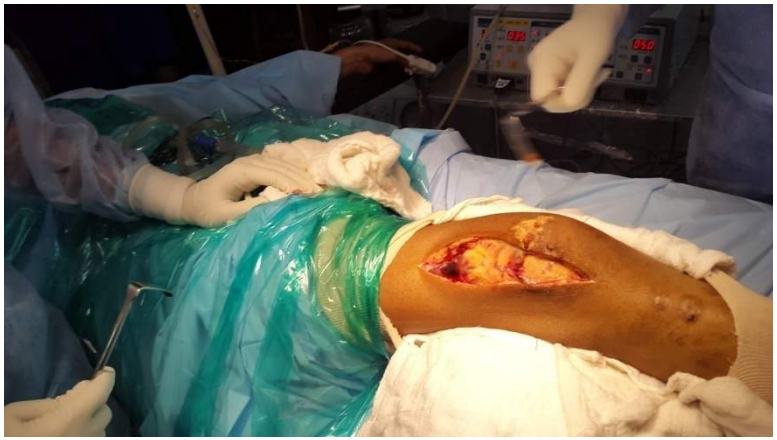
Sandbag to maintain knee flexion

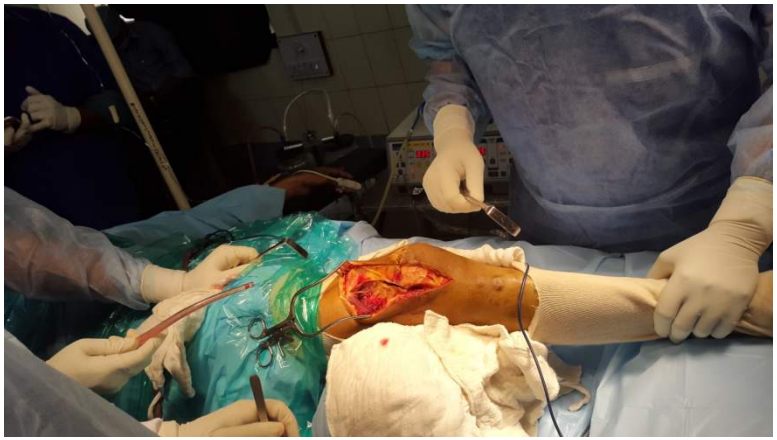
Incision and approach
Parapatellar/ Swashbuckler





Deepened

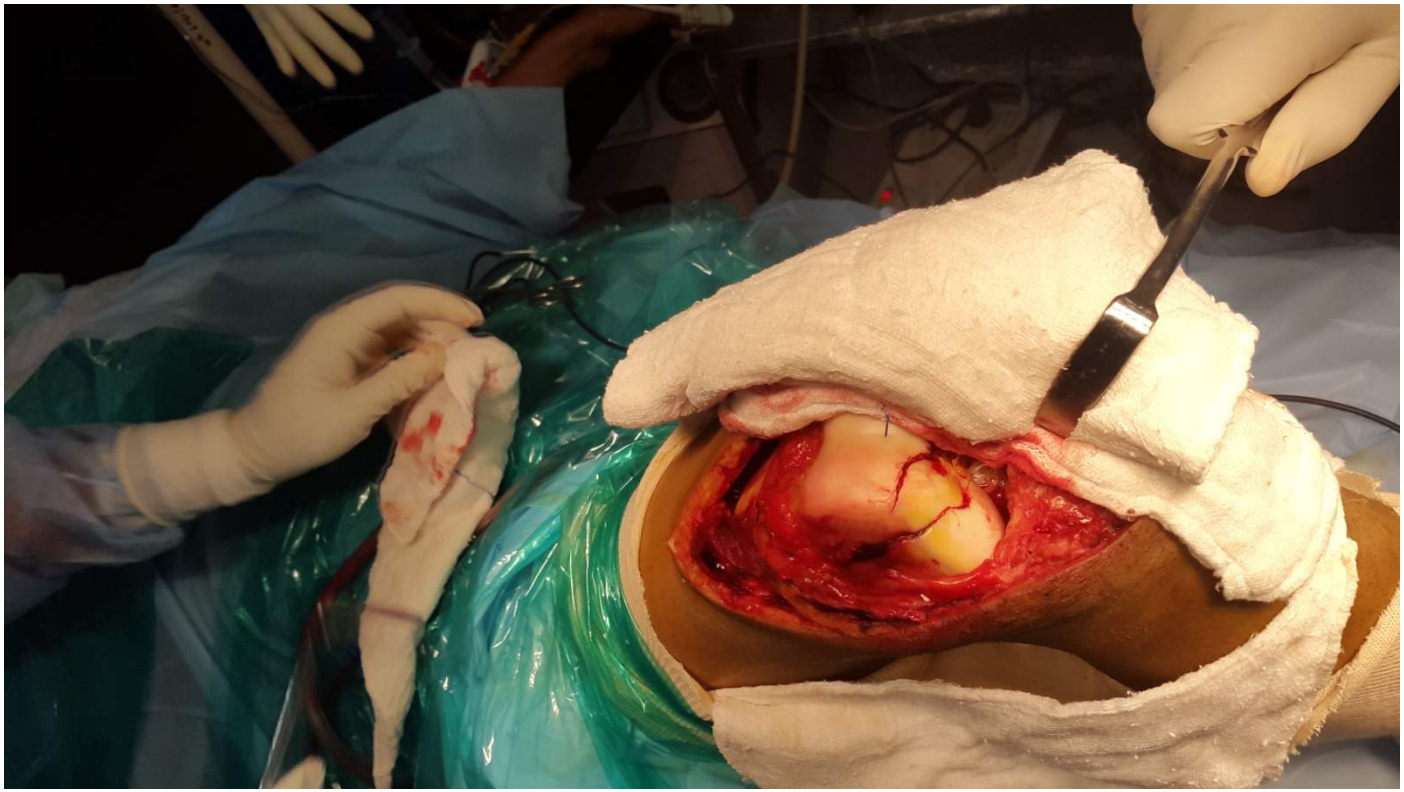




Medial patellar dislocation

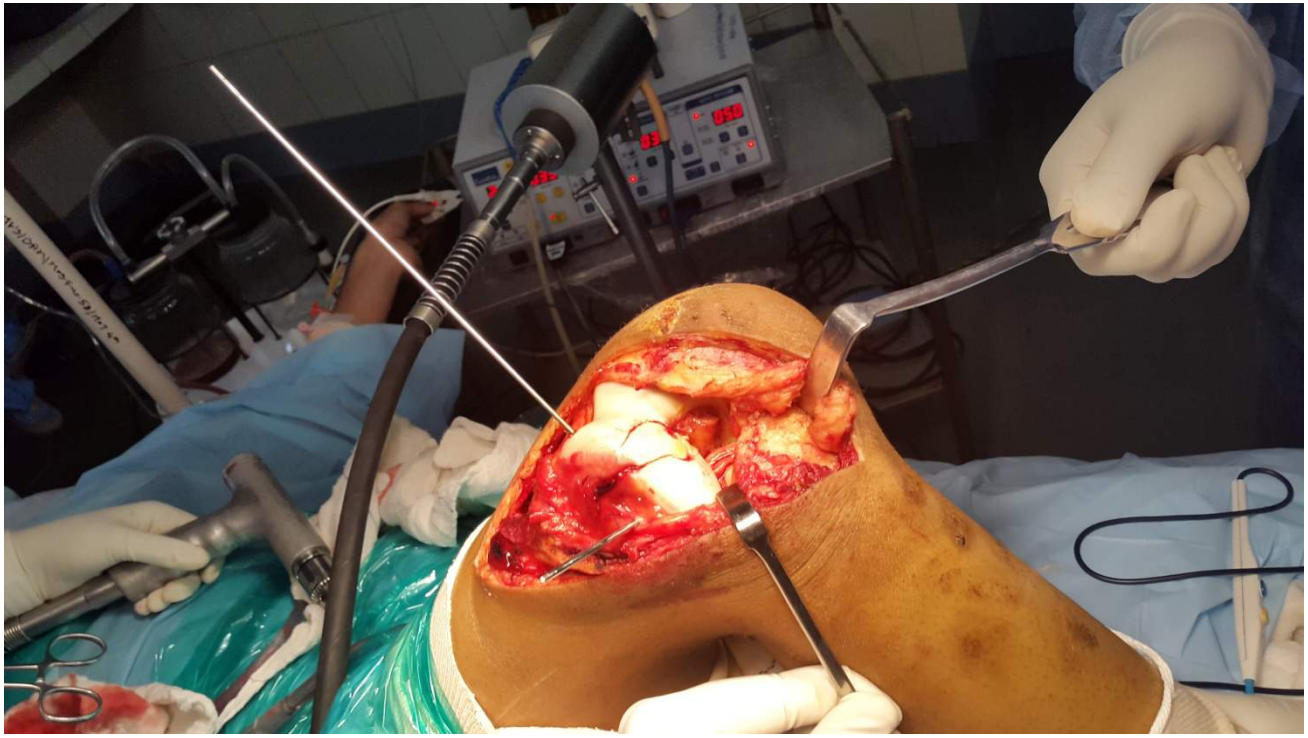
- Quadriceps release at least 4 inches proximal to proximal pole of patella to allow patellar dislocation
- Distal release upto patellar tendon insertion
- Release of fat pad, spare meniscus

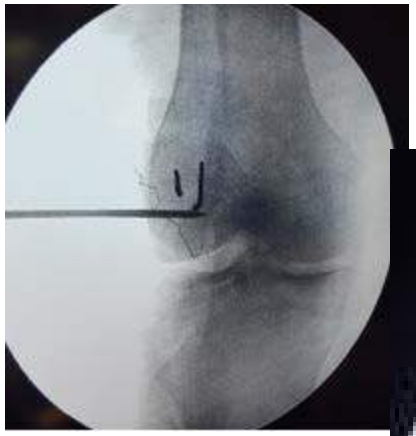
Fracture exposed well

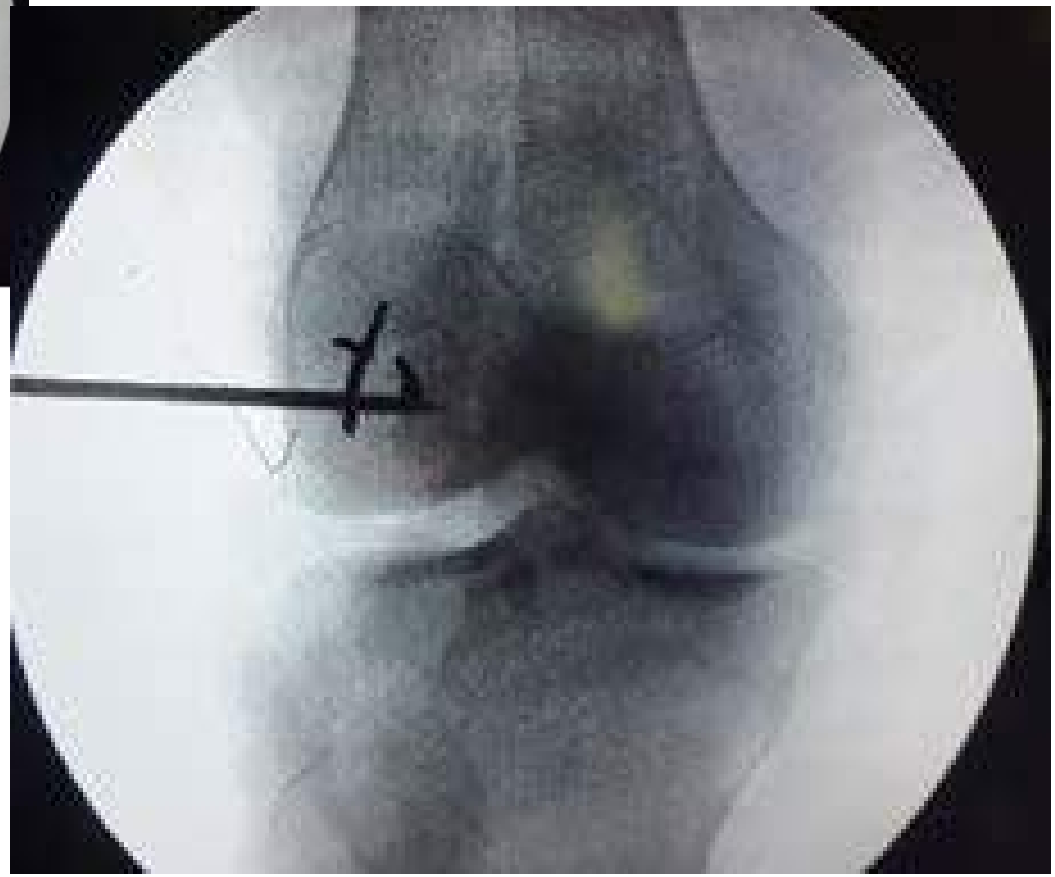


K wires used as Joystick. Maintain knee in flexion

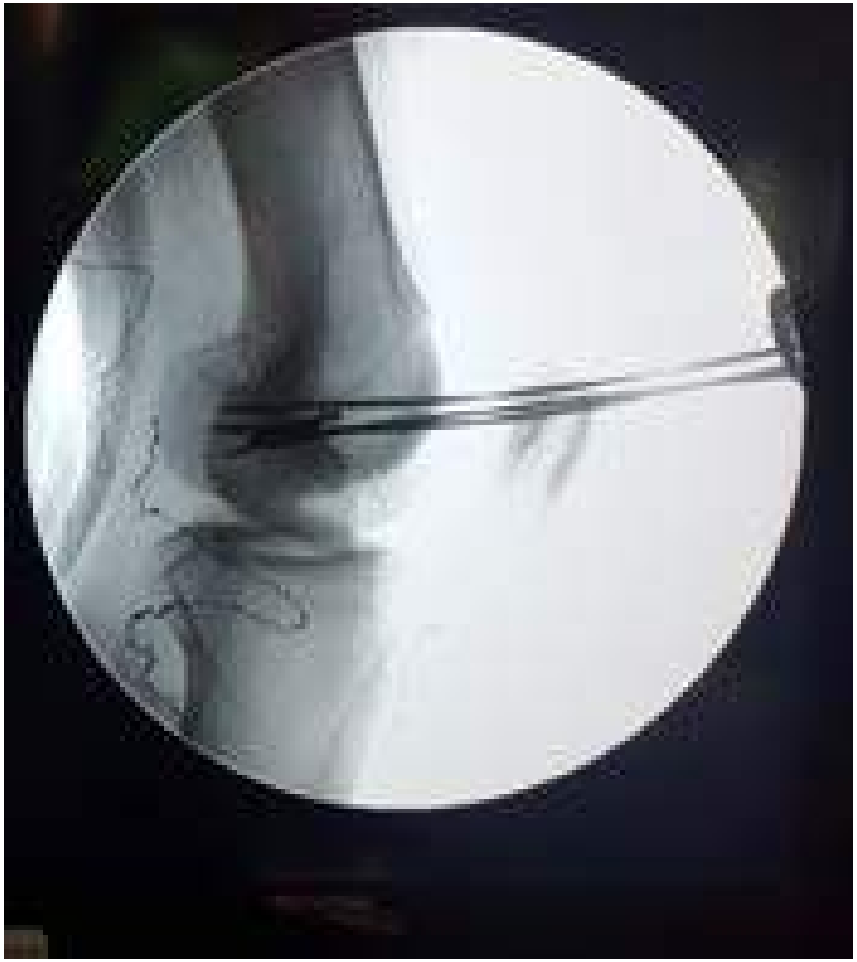
Guide wire/clamp fixation







Guide wire not to cross posterior cortex



Multiple wires

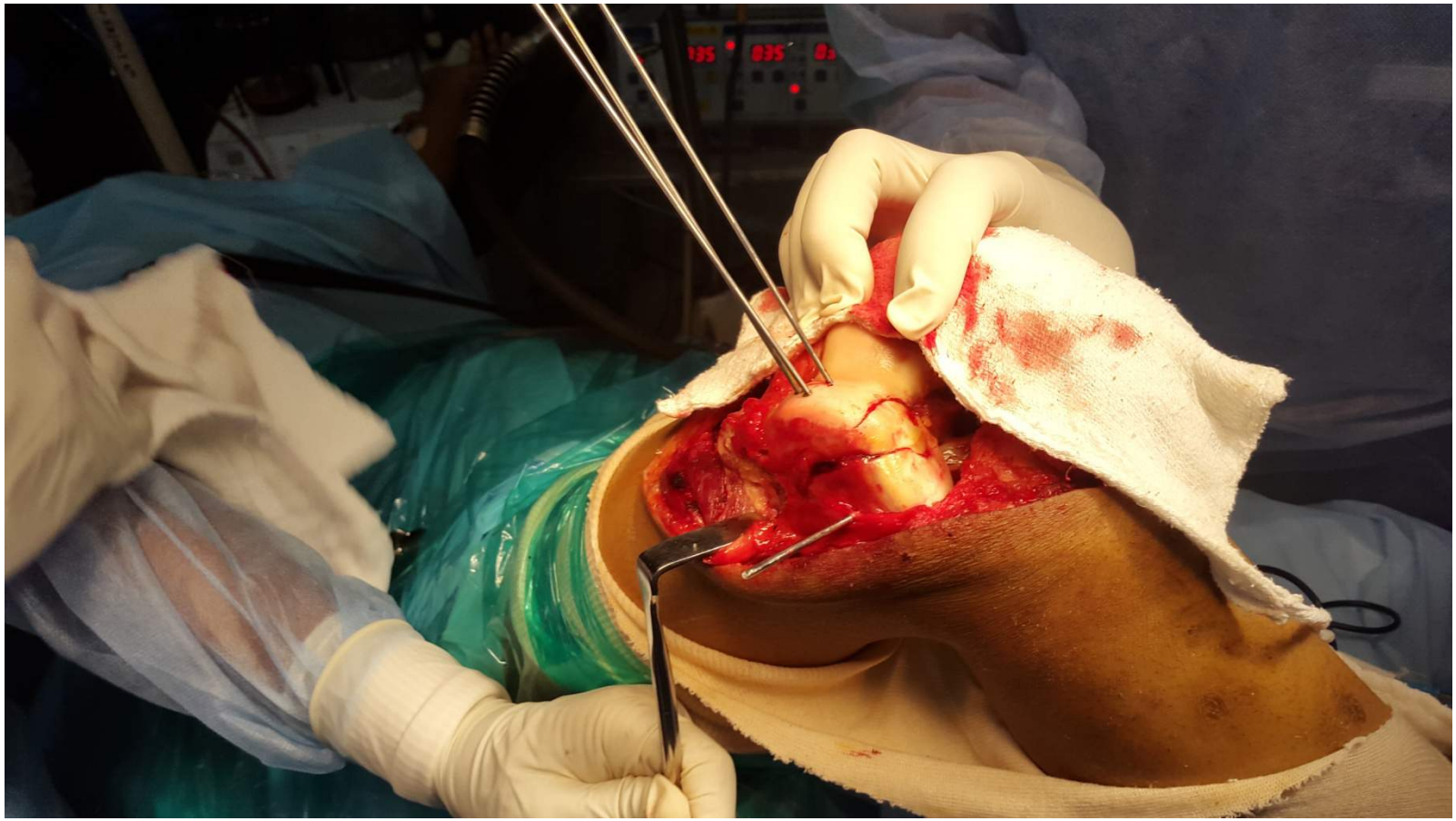
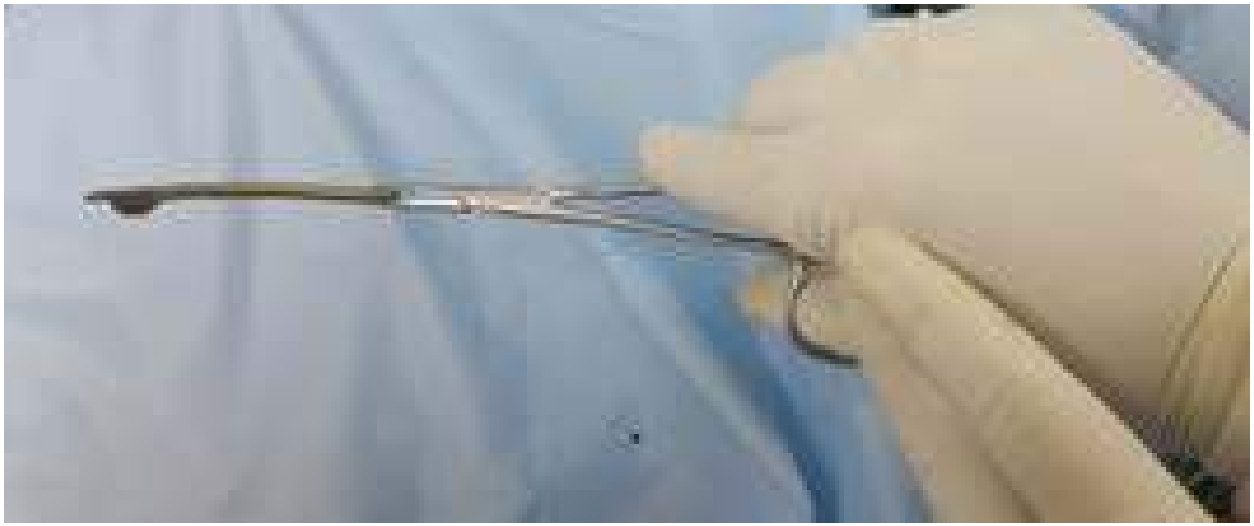
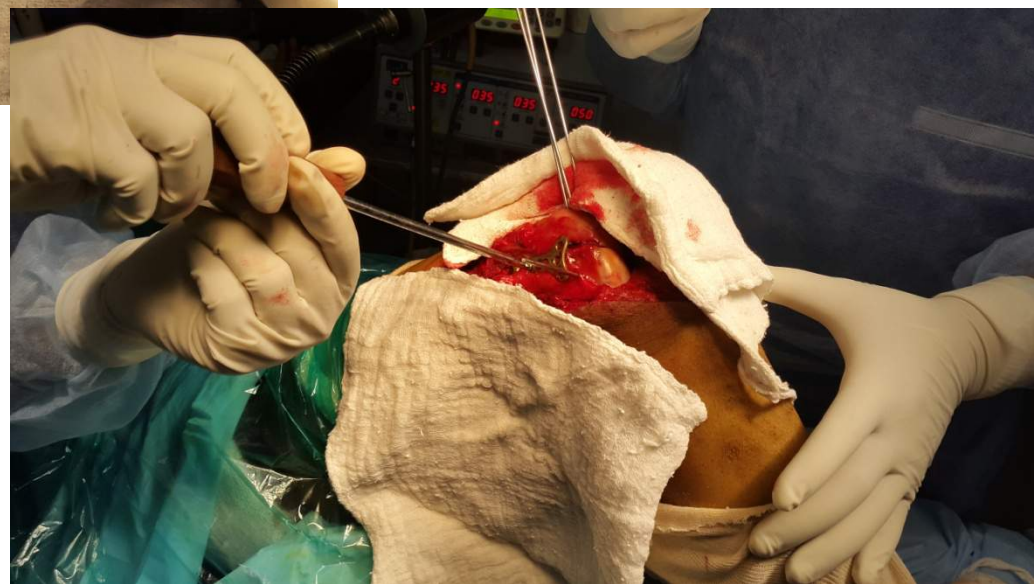


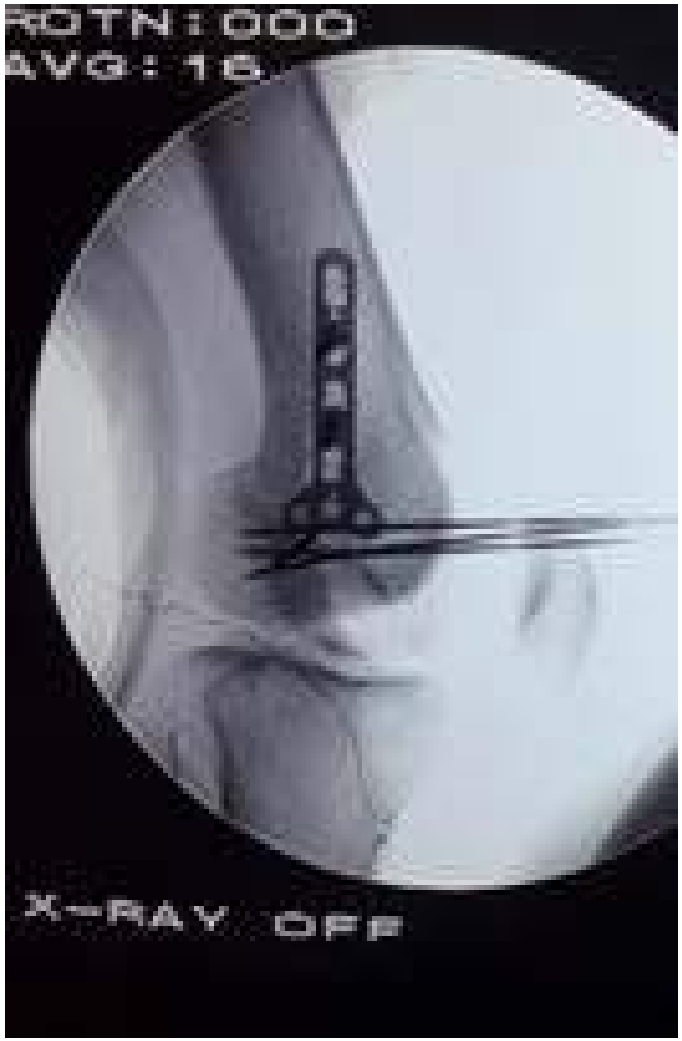
Plate to be contoured



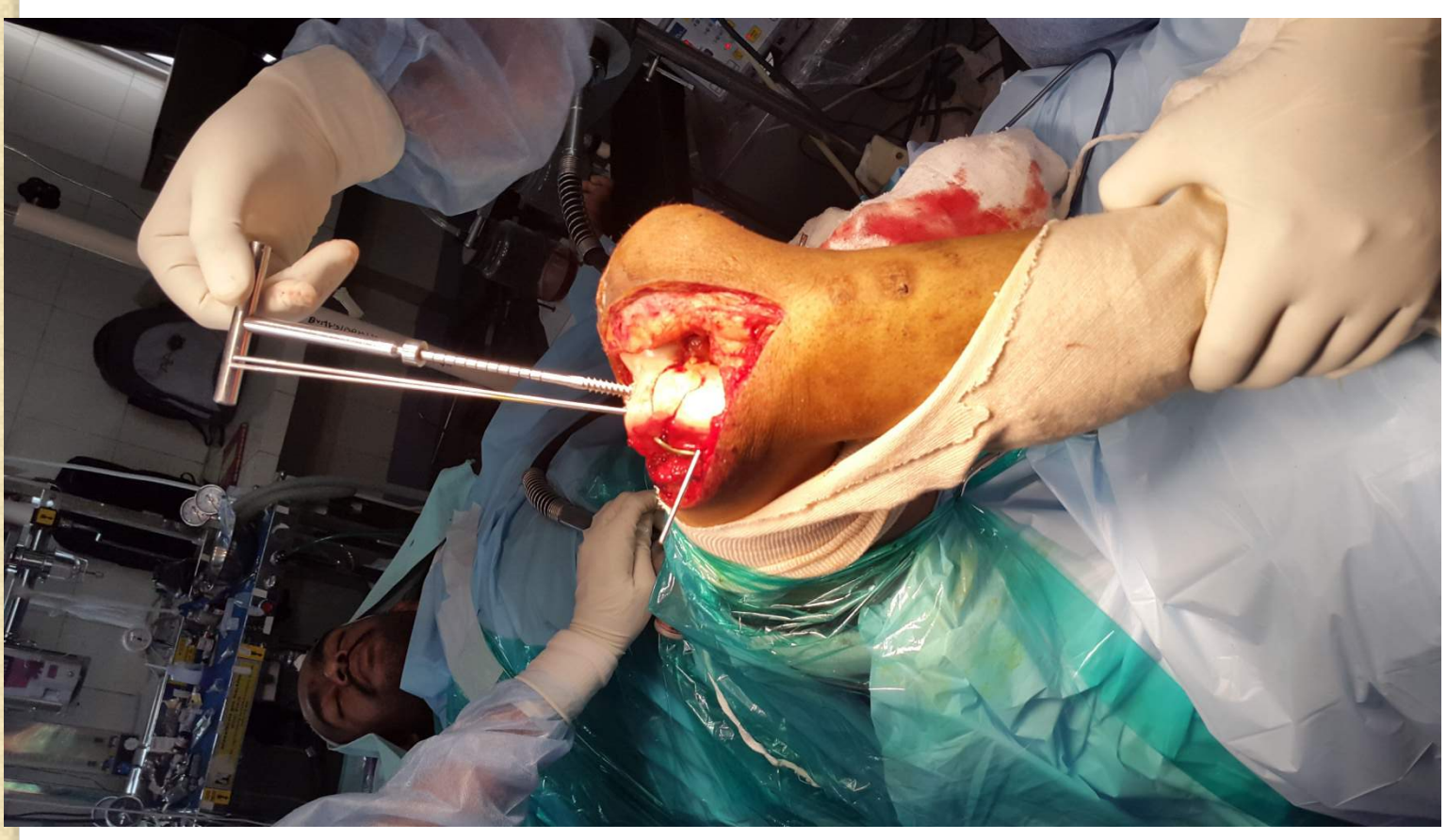
Buttress plate application



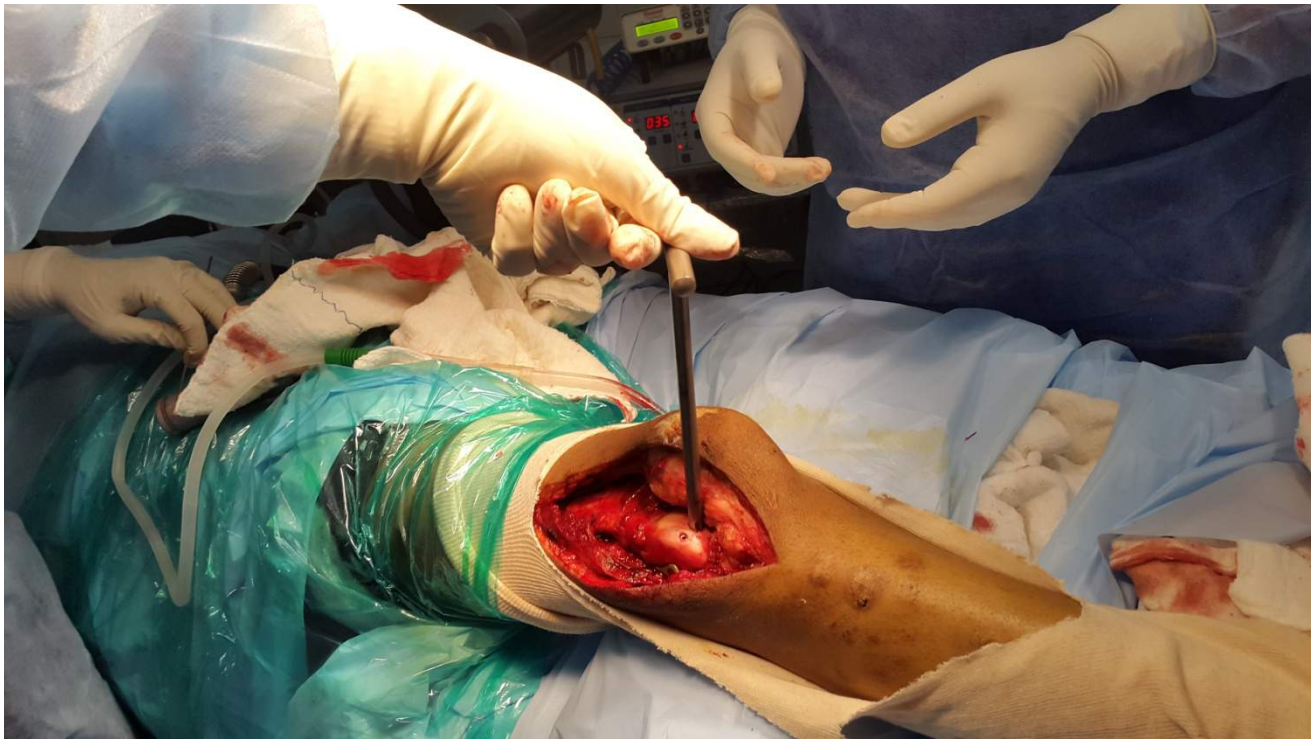
Buttress plate has to be molded well. Apply before screws

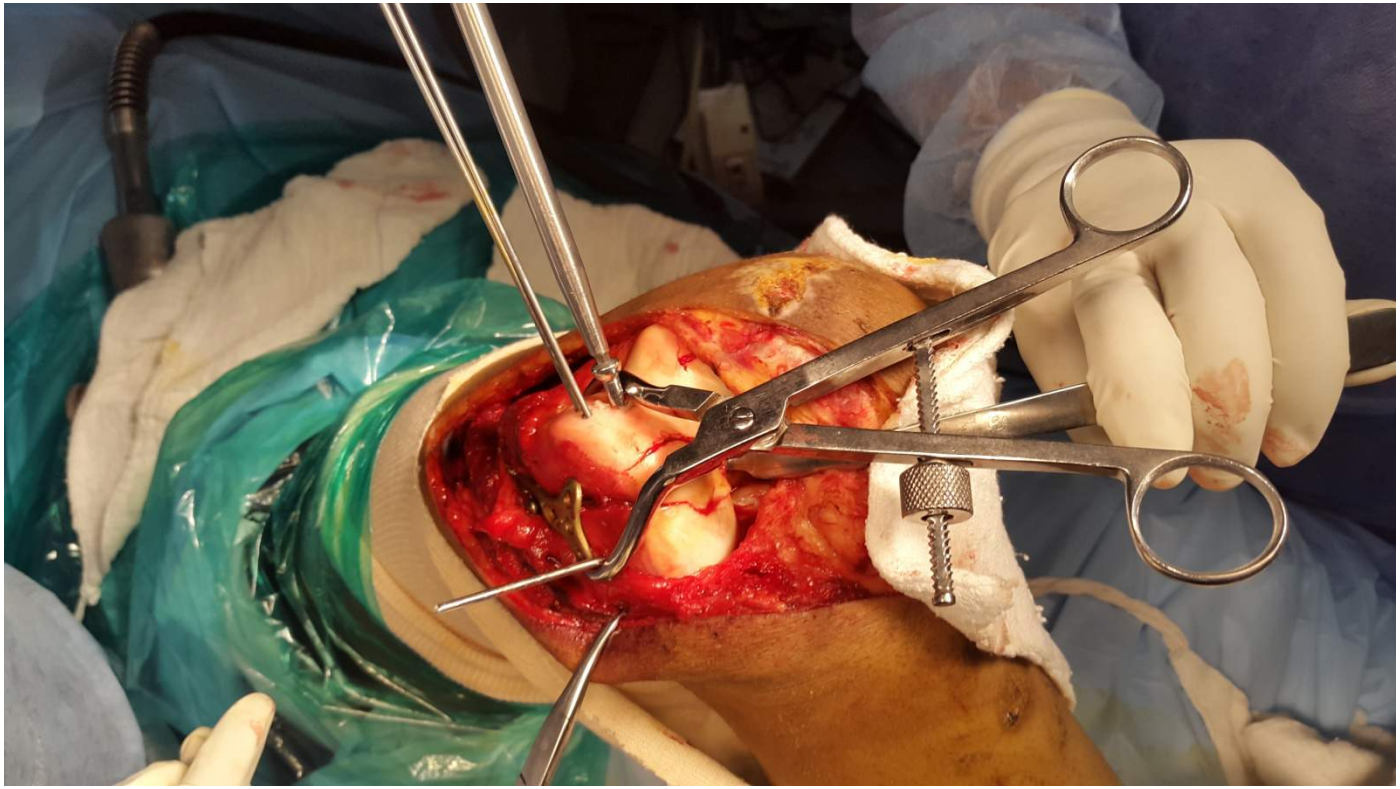


Drill and Tap



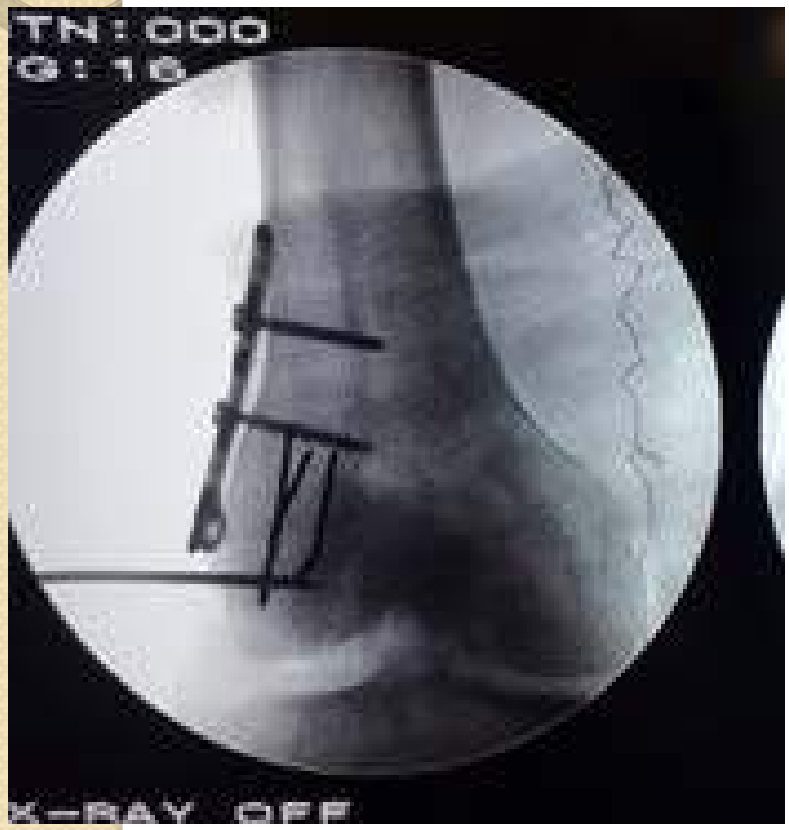
Countersink (is non cannulated)but Guide wire has to be removed

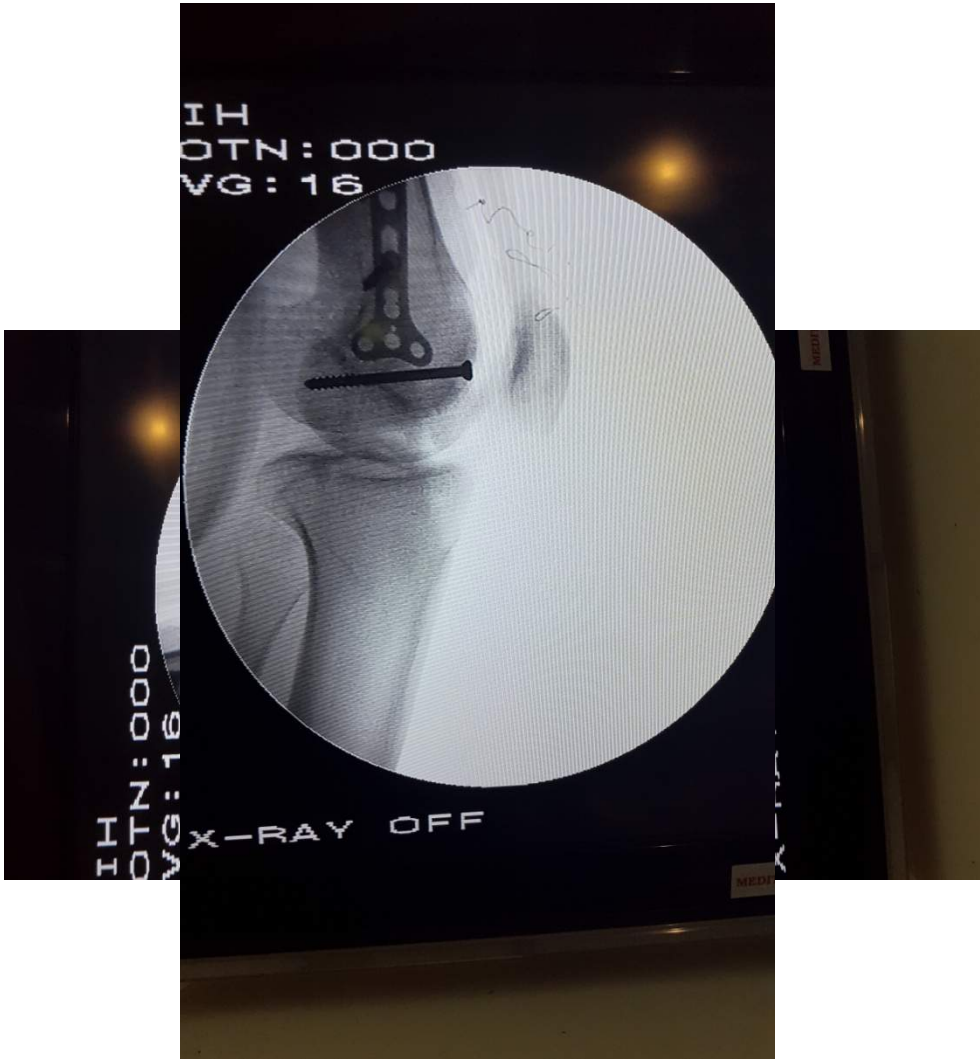




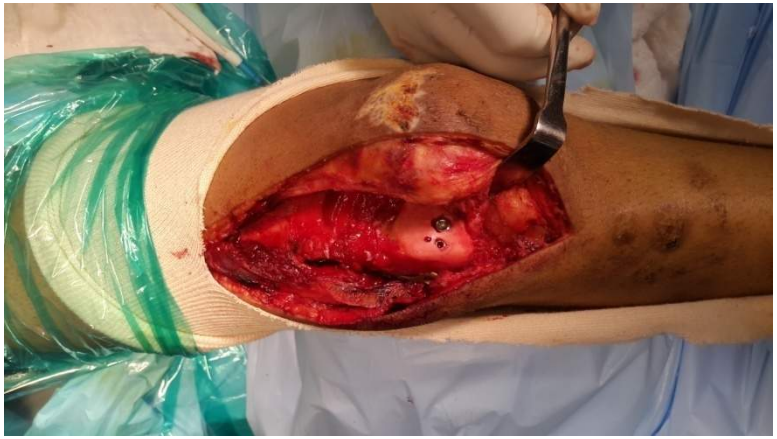
- **Reduction clamp gripping around joystick.**
- **Plate first. Then CCS.**

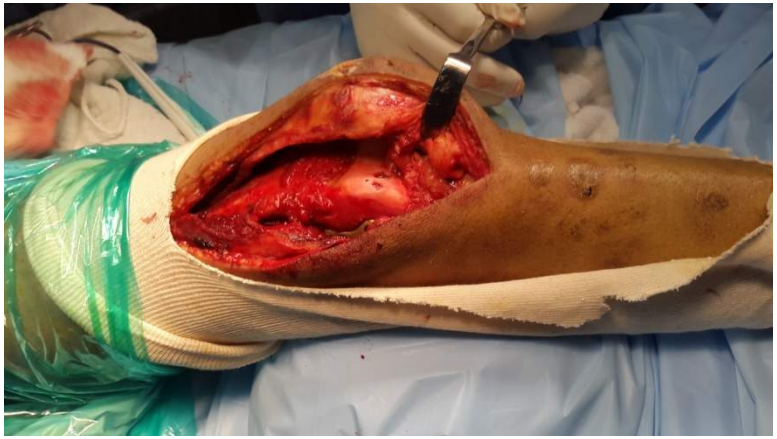
Plate and Screws

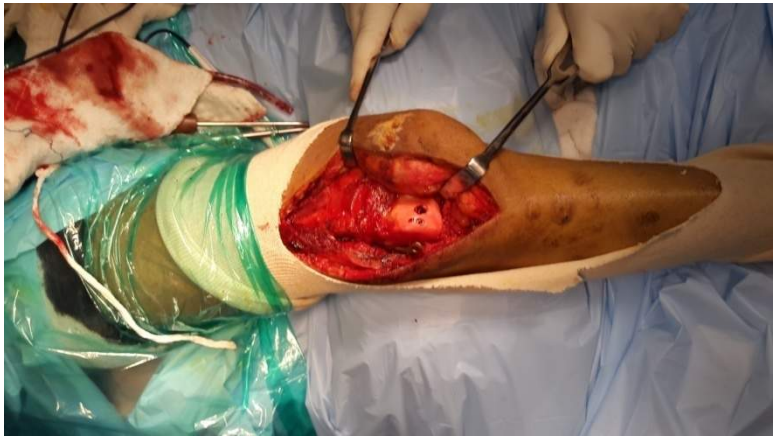


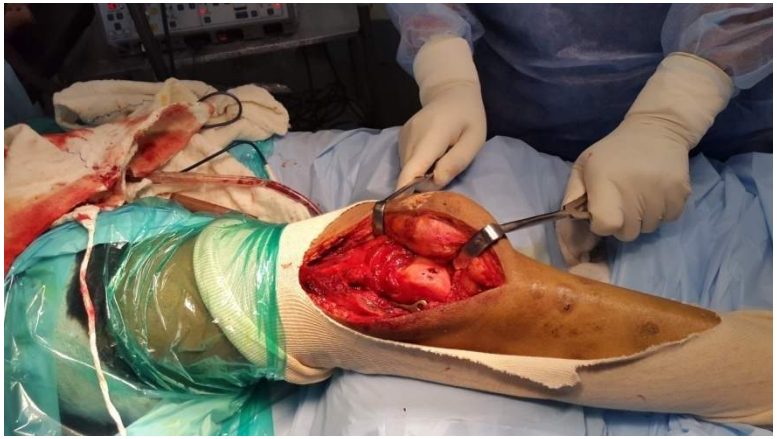


Screw head sunk below articular surface

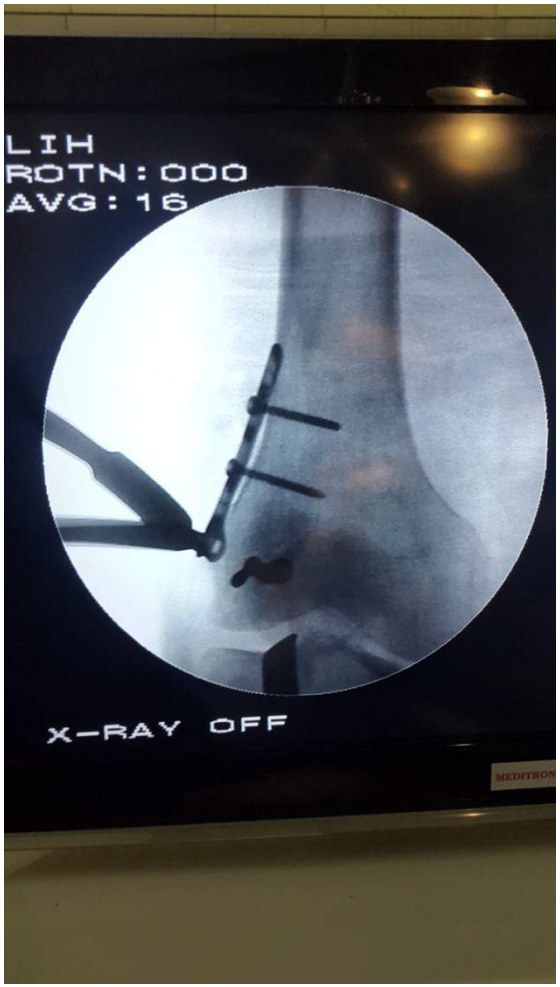


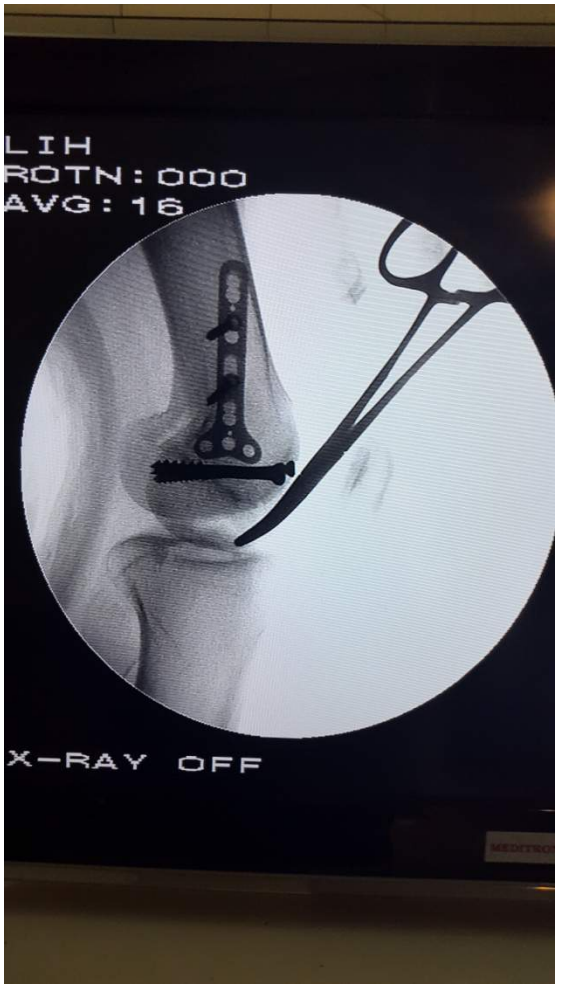




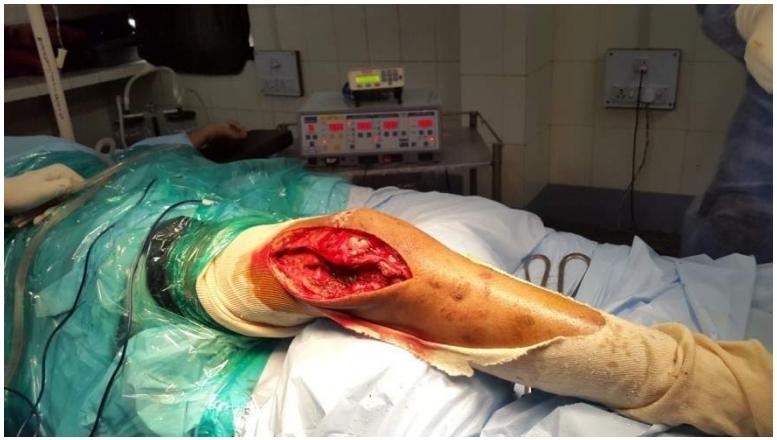


Screws not crossing posterior margin . Identify correct condyle





Closure in layers. Immediate mobilization



Summary

- **Xray are not enough. At Slightest suspicion order scans,**
- **Key Instruments. Screw set CCS 4 and 6.5 mm 16 thread. Headless. Reduction Clamps. Countersink. Distal radius plates.**
- **Tourniquet in flexion. Sandbag to maintain flexion.**
- **Adequate exposure. Quadriceps release at least 4 inches proximal to proximal pole of patella. Distal release up to patellar tendon insertion. Release of fat pad, spare meniscus.**
- **K wires used as Joystick. Maintain knee in flexion.**
- **Reduction clamp gripping around joystick is important while compressing fracture.**
- **Multiple wires. Not to cross posterior cortex.**
- **Small buttress plate has to be molded well. Apply before screws**
- **Coutersinking of screws is important.**
- **Screws not to cross posterior cortex. Identify correct condyle. SOS revise.**
- **Immediate mobilization is desirable**