

Figure 1. Patient Position

Patient is prepped, placed in supine position on a radiolucent table, and draped. Injured limb is flex over a knee bolster (20-40 degrees) to relieve tension from gastrocnemius muscle. Additional padded bump under ipsilateral hip may be necessary to neutralize external rotation. C-arm is placed contralateral to injured limb.

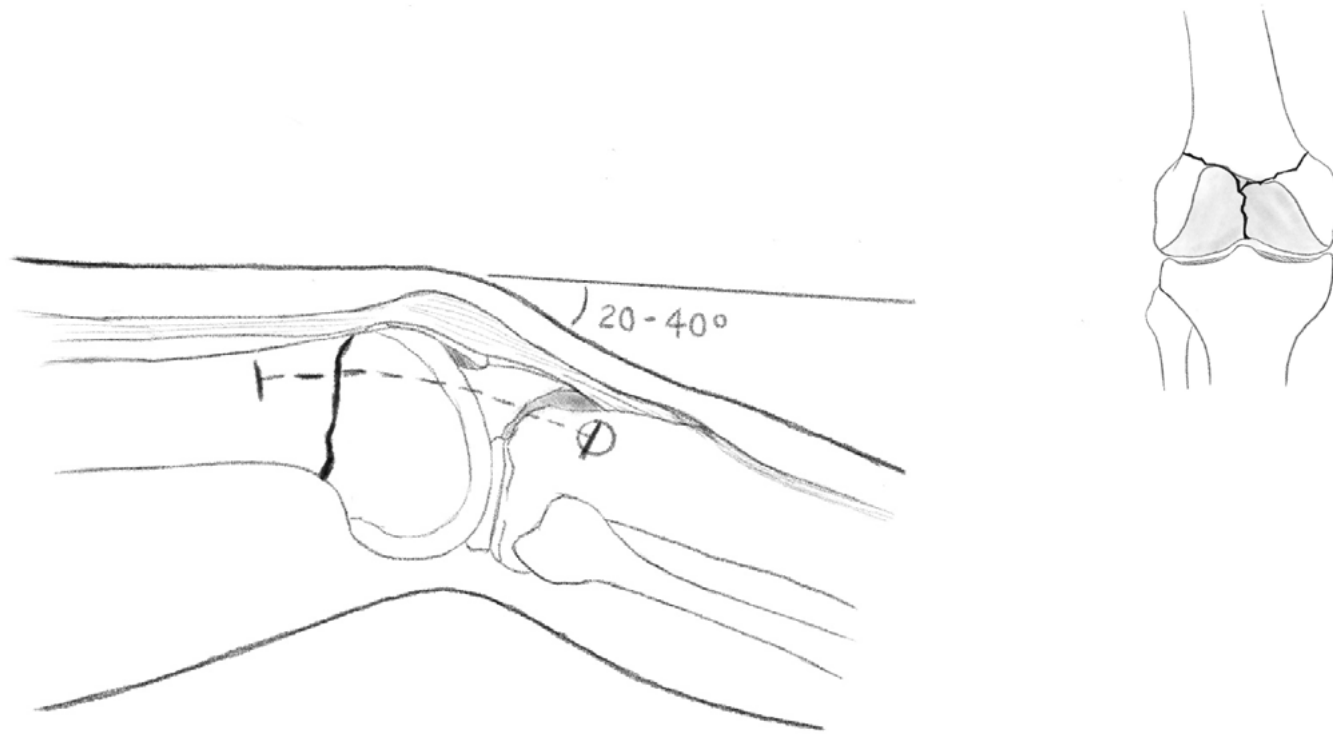


Figure 2.1 Anterolateral approach and arthrotomy

Mark fracture line under fluoroscopy. Incision is marked with starting point from metaphyseal region (4-6 cm proximal to knee joint) to ending point at Gerdy's tubercle. Approximately an 8 cm skin incision is made with #10 blade scalpel in line with mid-axis of femur shaft. Cautery is used to dissect subcutaneous tissue to reach IT band, which is subsequently divided with scissors following IT band fibre orientation.

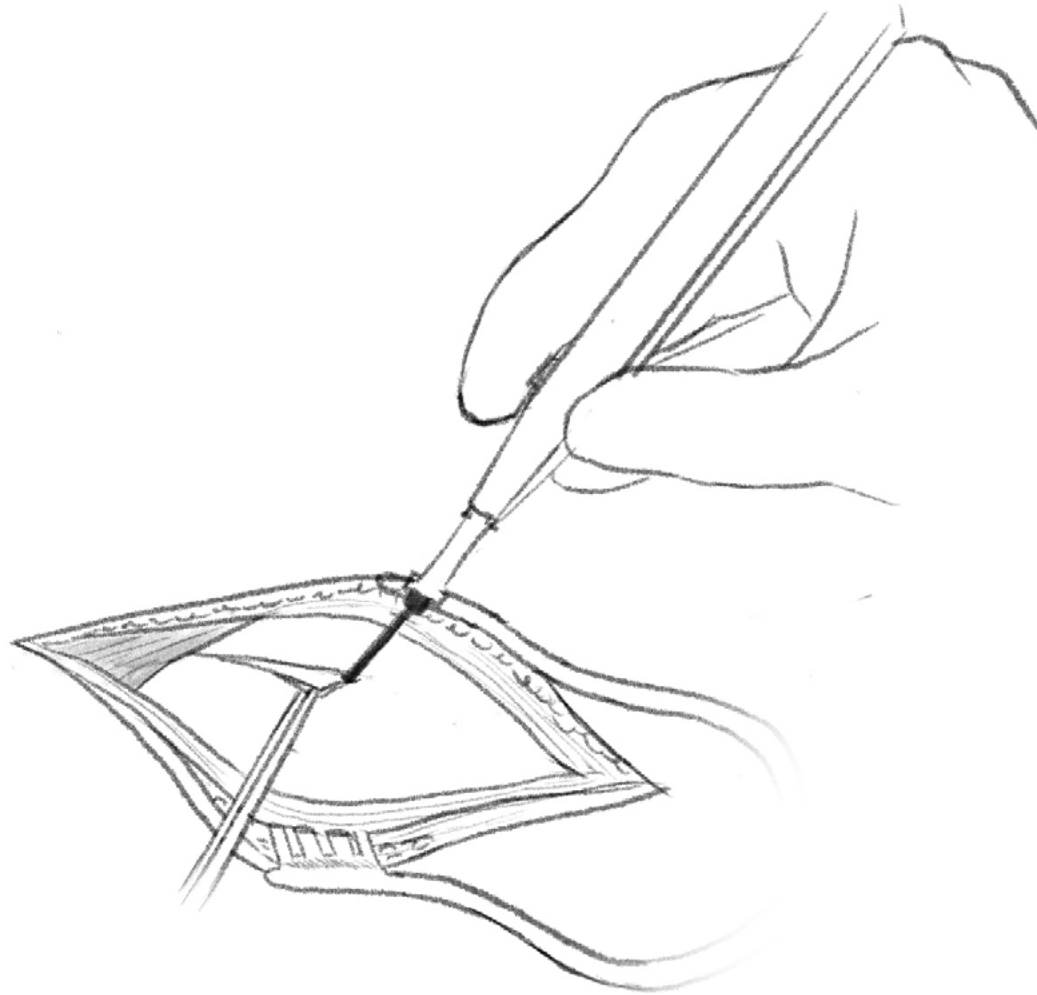


Figure 2.2

Lateral border of patella and lateral parapatellar arthrotomy incision (1cm lateral to lateral border of patella) is marked. Joint capsule is incised to expose joint for reduction. Avoid injuring meniscus and articular cartilage.

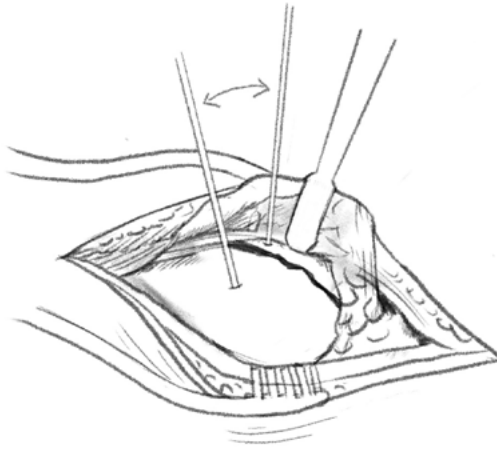


Figure 3.1 Condylar reduction & fixation

Intra-articular fracture is located, exposed, and cleaned with irrigation. Joystick technique with 2.0 or 2.4 mm k-wires may be used to achieve correct orientation.

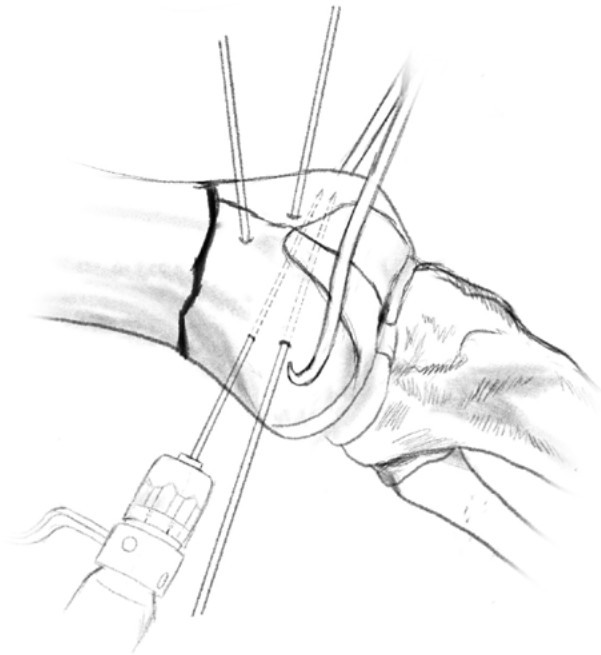


Figure 3.2

Condyles are clamped together with large webber clamp or large point reduction forceps. Take note to avoid clamping condyles too anteriorly as this may produce a posterior gap. After anatomic reduction is obtained, provisional fixation with two 2.0 mm? k-wires are driven through the cortex centrally to ensure rotational stability.

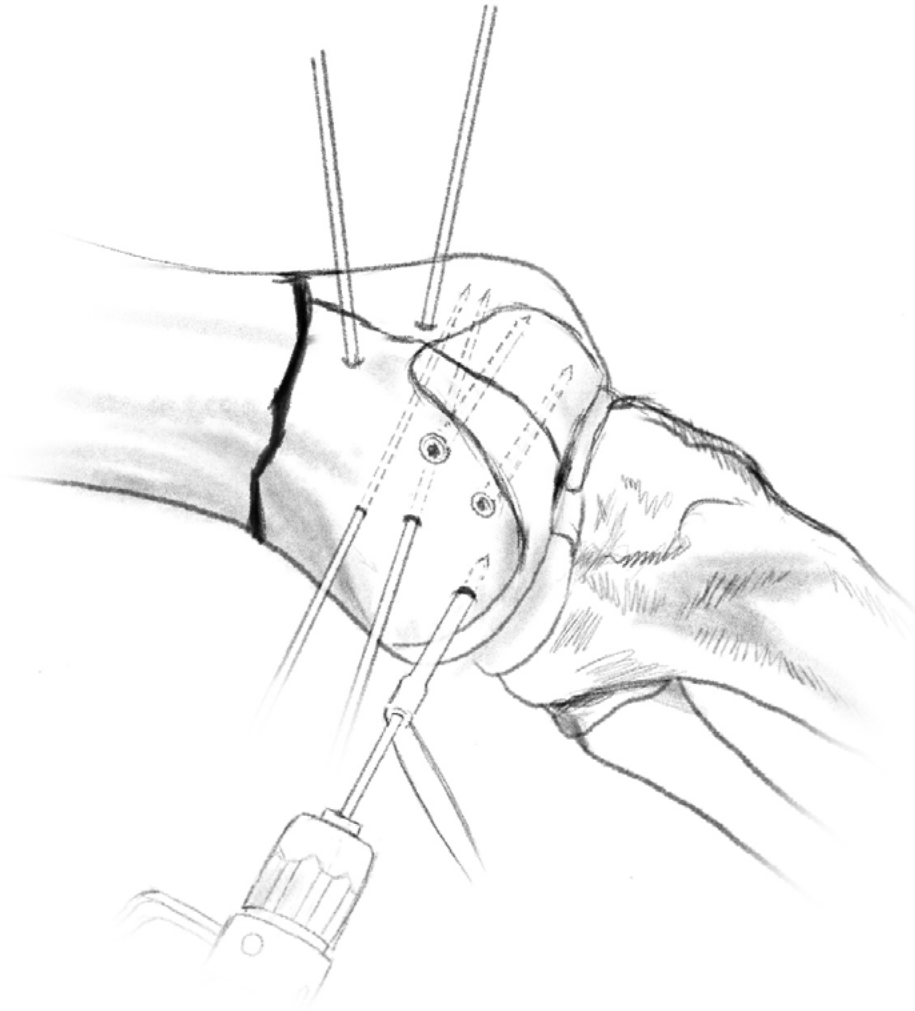


Figure 3.3

Compression of joint block is achieved using two to three 2.7 or 3.5 mm fully threaded lag screws peripherally in anticipation of plate placement. Corresponding drill bit with drill guide is used to create guide hole and then drill hole, which is then tapped prior to screw insertion. Check alignment with fluoroscopy and readjust prior to final tightening. Remove k-wires.

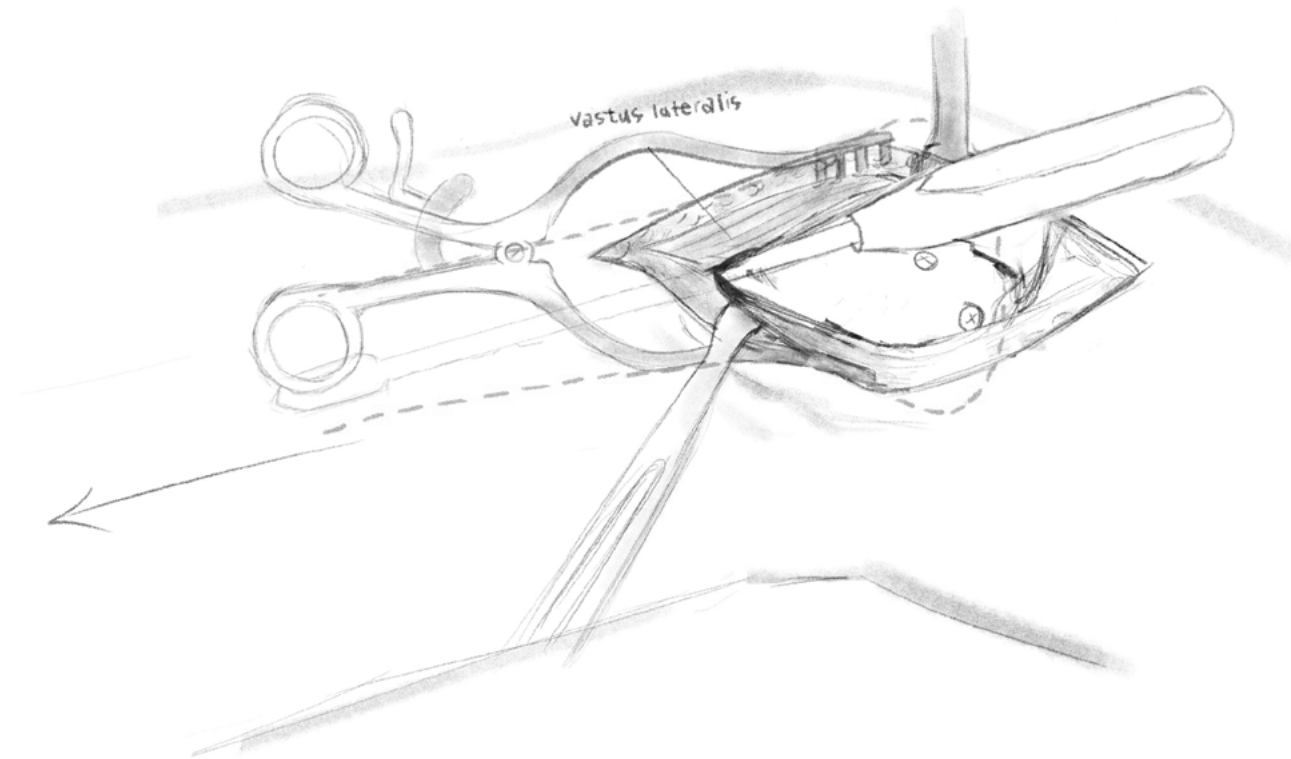


Figure 4.1 LISS Plating

Under fluorimaging determine length of plate needed. Insert periosteal elevator , between periosteum and vastus lateralis in preparation for plate insertion.

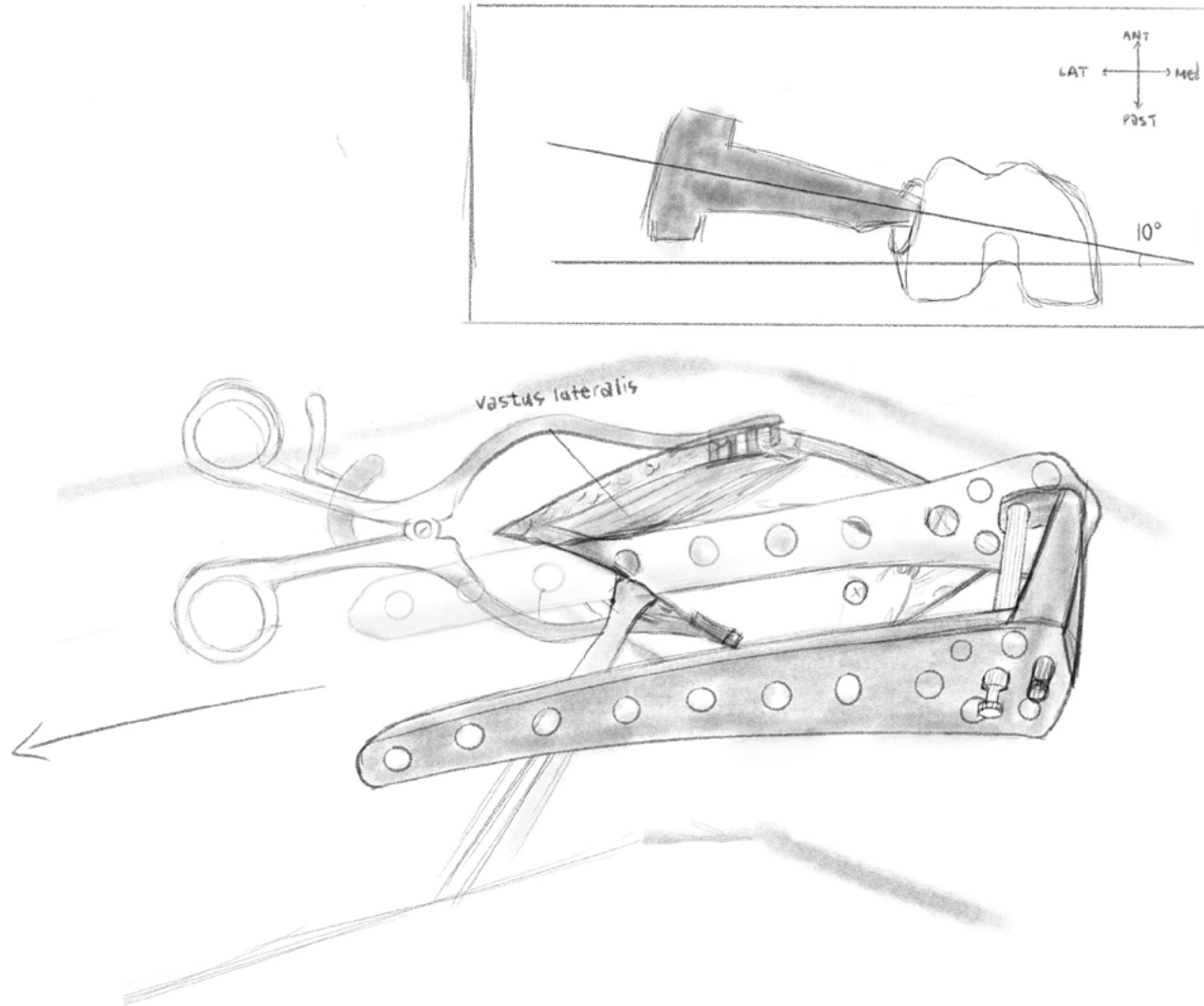


Figure 4.2

Assemble insertion guide and screw fixation bolt into LISS plate. Insert plate, sliding proximally and distally for tactile feedback, and sustain contact with bone throughout insertion. Insertion guide will rotate 10 degrees to femoral shaft when positioned properly. (LISS plate should be 10.5 cm behind lateral condyle ventral border and 1-2 cm above lateral condyle distal end).

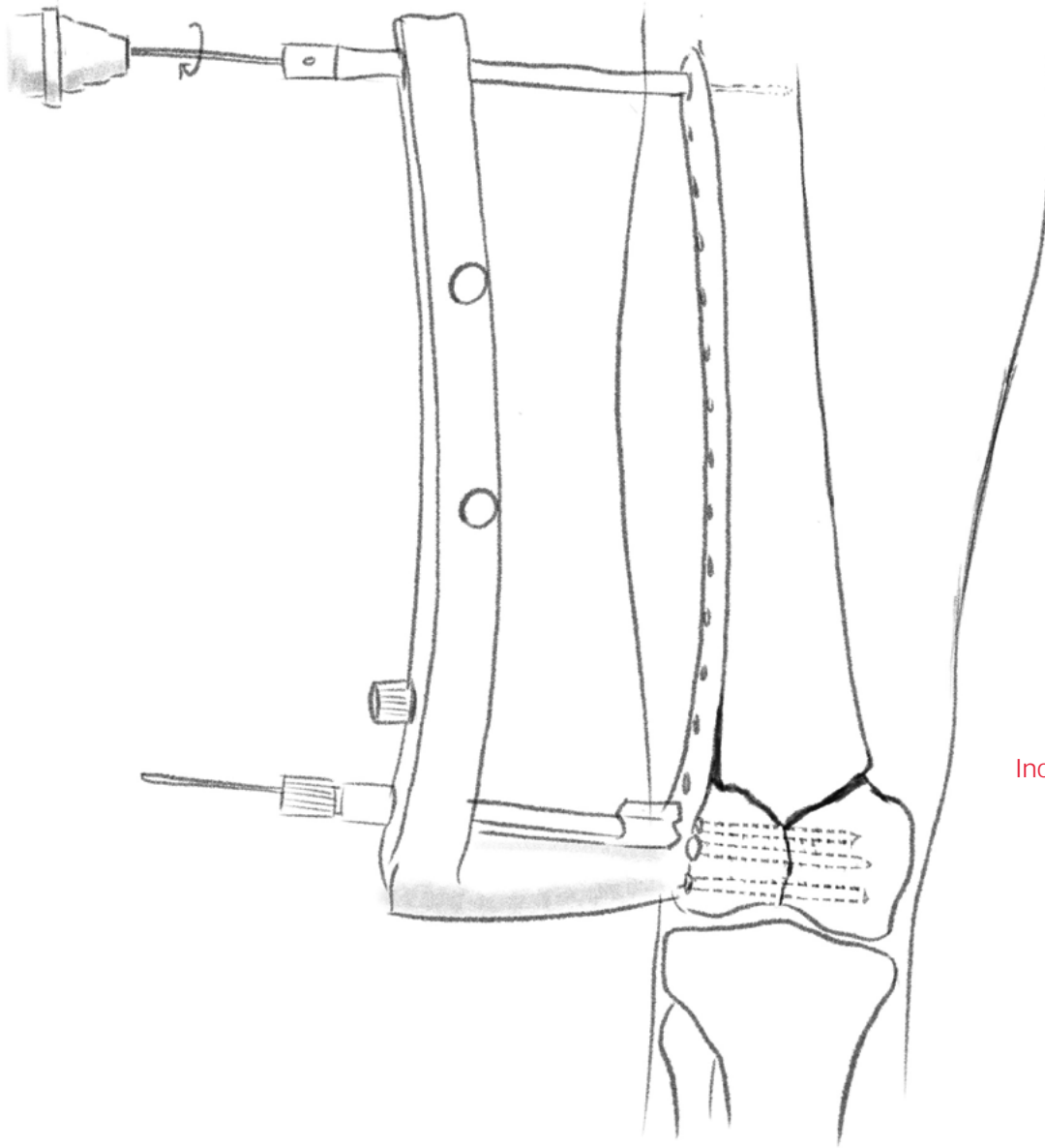


Figure 4.3

Provisional fixation with 2.0 mm k-wire is placed through fixation bolt. Confirm plate positioning with fluoroscopy. Mark proximal hole incision with skin impression using a 5.0 mm trocar. Remove trocar and make a stab incision 2-3 cm long. Reinsert insertion sleeve and trocar, remove trocar and insert a 2.0 mm K-wire through stabilization bolt. Confirm positioning.

Increase the distance of the bone from the plate



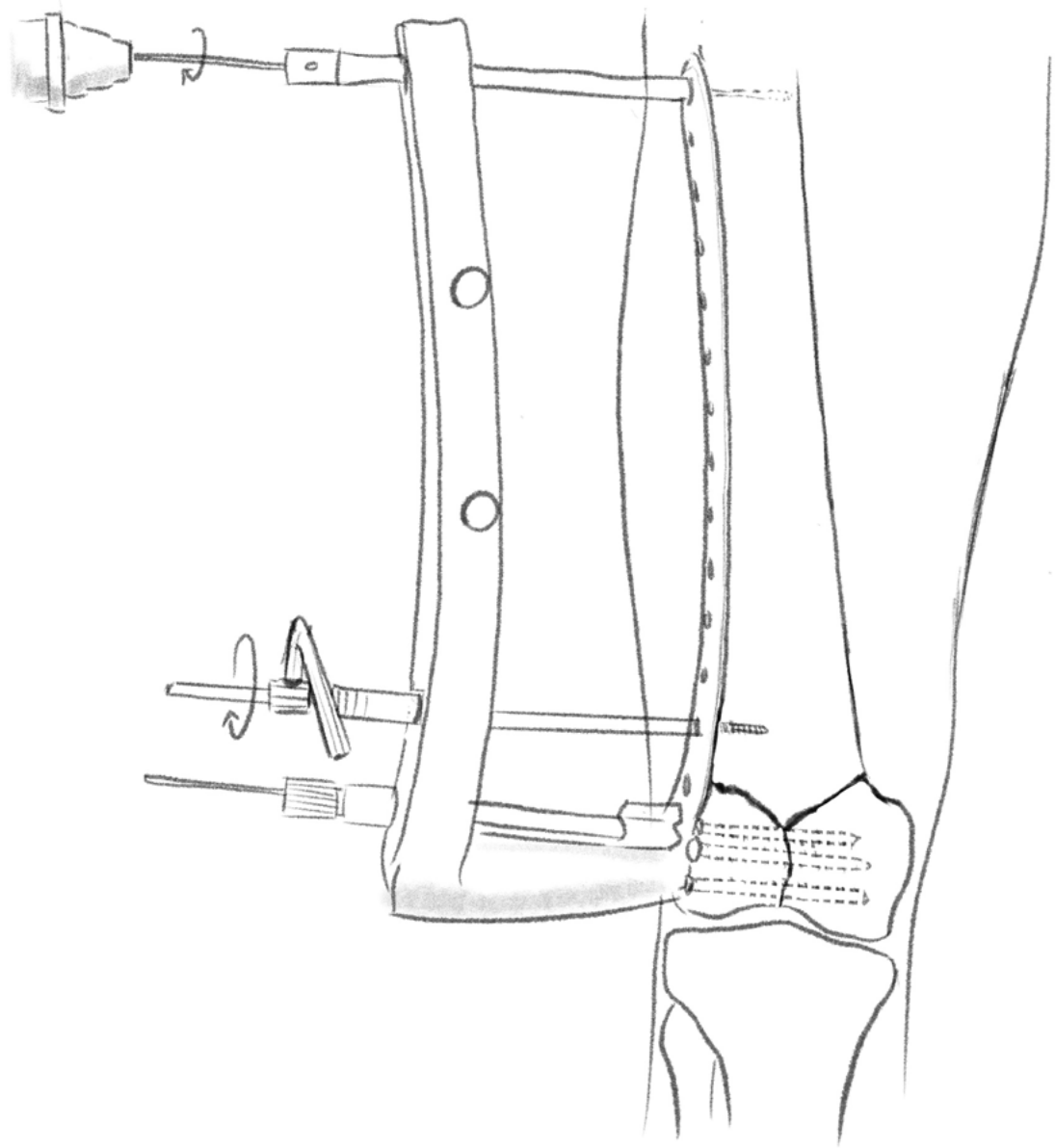


Figure 4.4  
Using the usual manner, insert a pull reduction instrument in hole 5 monocortically (osteoporotic bone should be bicortical) and tighten nut while monitoring position under C-arm to achieve optimal plate-bone distance.

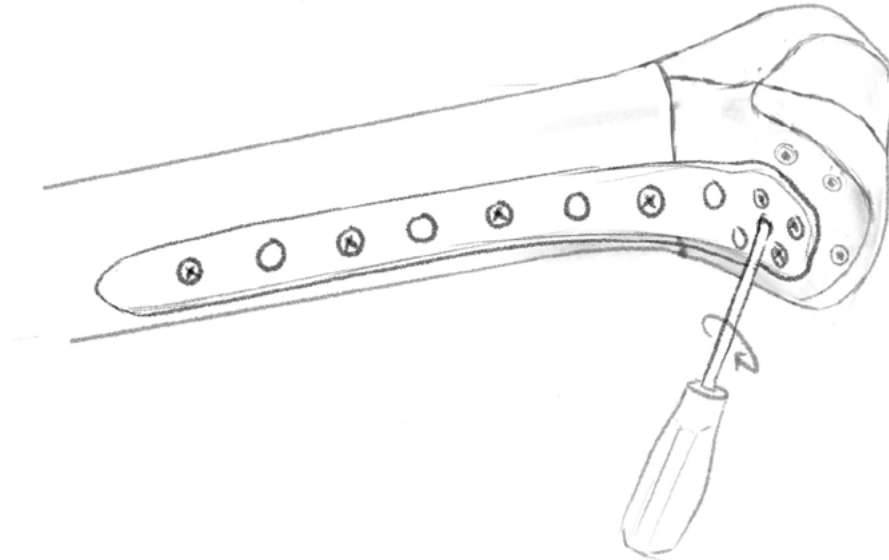


Figure 4.5

The first screw is placed in hole E using a 4.3 mm calibrated drill bit and 5.0 mm titanium monocortical locking screws? Length of screw needed is measured using 2.0 mm k-wire direct measuring device. Typically 26 mm length screws are used for the shaft. Continue insertion of screws in the same manner. Remove pull reduction instrument and replace with screw. Insert a minimum of 4 screws proximally and distally idk how many? Hole A screw is inserted last. Assess stability and confirm final position of implants.

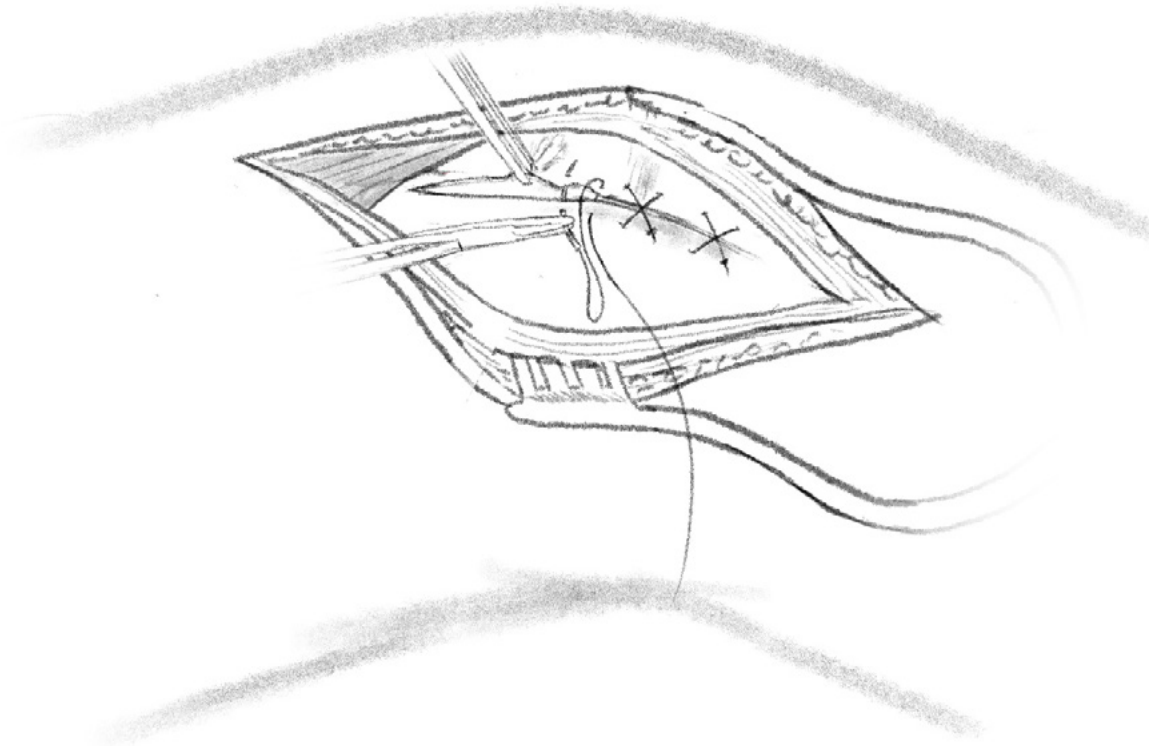


Figure 5. Closure & Sticking

Irrigate wound, suture and place soft incision dressing over distal femur

- Deep closure: close arthrotomy with figure of eight 0 vicryl sutures
- Superficial closure: subcutaneous with 2-0 vicryl and skin closure with 3-0 vicryl suture or staples