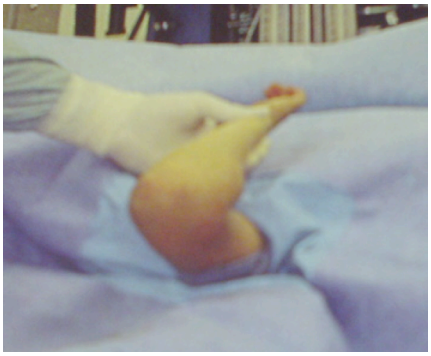
Technique of closed pinning:



I Under GA; tourniquet applied but not inflamed:

Closed reduction [Reduce: Traction in slight flexion; correct valgus and varus; Rotation and lock it full flexion with forearm in hyperpronation] and usually stable in full flexion and pronation.

Held this position with a tape and check in lateral and AP.

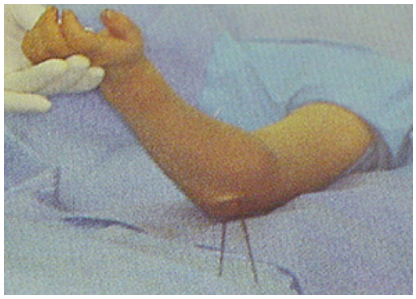
Lateral obtained by internal and external rotation of the shoulder. [in the unstable variety Type IV rotate the I.I]

II Mini drape and aseptic precaution

III First Lateral pin with shoulder in internal rotation using:

confirm in AP and lateral and add 2 additional pins

IV For Cross pinning:



a. Two lateral k wires; with shoulder in internal rotation

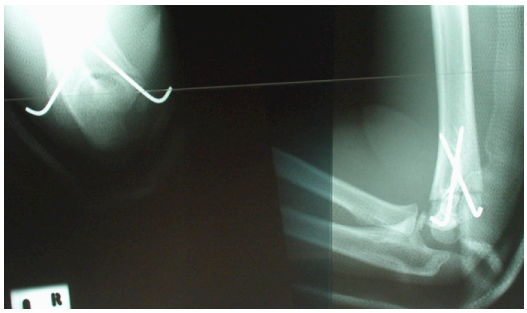
b. Shoulder in external rotation; elbow in more extended; stab anterior to medial epicondyle.

Blunt soft dissection to avoid damage to Ulnar Nerve with elbow in extension

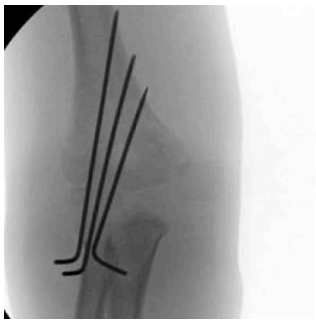
c. Pass the medial K wire and get purchase in the opposite cortex.

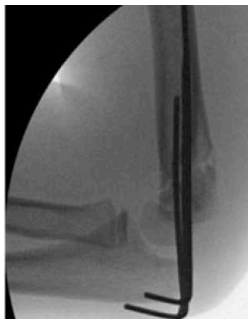
d. Cross over of the wire should be proximal to the fracture site

Cross Pinning

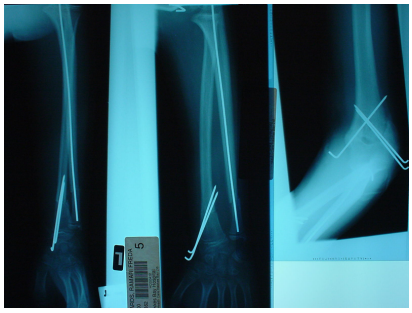


Lateral divergent pinning





Supracondylar fracture and fracture forearm and distal radius



Debate

1. Lateral pins or cross pins?

With cross medial pin, fixing with elbow in flexion 18% Ulnar nerve palsy; and fixing with elbow in Extension 4%

Lateral Pin fixation: No Ulnar nerve palsy

Lateral Divergent pin fixation is better.

2. Surgical emergency or not?

Comparison immediate Vs Delayed [more than 8 hours], no difference in outcome.

No need to operate middle of the night unless in certain situations.

3. In Type III when stable reduction is possible, is there any need for fixation?

Always.

Immobilisation needs flexion of 120° which is not possible by close method. Therefore high chance of loss of reducation and varus deformity of 60% been reported

4. If irreducible fracture, does it always require open reduction?

No. Try milking the brachialis off the proximal spike. Irreducibility is due to interposition of brachialis

5. What Approach?

Medial : Posterolateral displacement [to preserve the periosteal sleeve]

Lateral : Posteromedial displacement

Anterior : Fracture with neurology

Commonly: Medial. Ulnar nerve can be protected

6. Commonest nerve injury?

Anterior interosseous nerve; Recover by 6 weeks

Ulnar nerve is usually iatrogenic: Medial pin fixation. Usually recovers by 6 weeks and may take 4 months

7. Treatment for Iatrogenic ulnar nerve?

Continue pin for 3 weeks and then remove and observe

Or

Early removal [Lyons: JPO 18: 43]

Or

Preferred: Early removal + pass one more lateral and exploration [in 50% pin is through the nerve]