Dynamic external fixation for PIP fracture-dislocations

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Complex problem

Anyone can fix a finger!
• Splinting
• Open reduction & internal fixation
• K-wire stabilisation
• External fixation
  1. Static
  2. Dynamic
• Fusion
• Arthroplasty
• Replacement
Dynamic external fixation

• Easy
• Quick
• Not affecting fracture site  
  (ligamentotaxis)
• Immediate mobilisation  
  (enhance cartilage and joint remodelling)
• Cheap
Indications

• Unstable fractures of base of middle phalanx
• Unstable dislocations of PIP joint
• Flexion deformity of PIP joint (?)
• In combination with ORIF
Contra-indications

• Sepsis
• Bone loss
• Condylar fracture of P1
• Previous neurovascular repair
• (Collateral ligament injury)
Technique

- Local anaesthesia
- No tourniquet
- X-ray
- two or three 1.4mm K-wires
How I do it

- Compliant patient
- Local anaesthesia
- Confirm that joint is reducable
- Insertion of wires
- Bending of wires and formation of frame
How I do it
Radiographs
The third K-wire
Immediate mobilisation
Technique

- No incisions- no dressings
- Chiro clips
- Keeping finger dry
- X-ray check in 2 weeks
- X-ray check in 4 weeks and removal of frame in clinic
Complications

- Loss of reduction
- Pin site infection
- Stiffness
“Homemade” vs commercial

- Minimum cost
- Minimum invasion
- Minimum problems
- Right indications
• Bain GI, Mehta JA, Heptinstall RJ et al. Dynamic External Fixation for injuries of the Proximal Interphalangeal Joint. JBJS 80B: 1014-1019,1998


Thank you