Non Vascularised Osteochondral Grafts for Finger Injuries

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Rationale

- Often young patients, delayed presentation
- Concern with implants; short life span

Rationale

- Replace like with like
- Vascularised transfers extremely demanding
- Non vascularised seem to do just as well

Assumptions

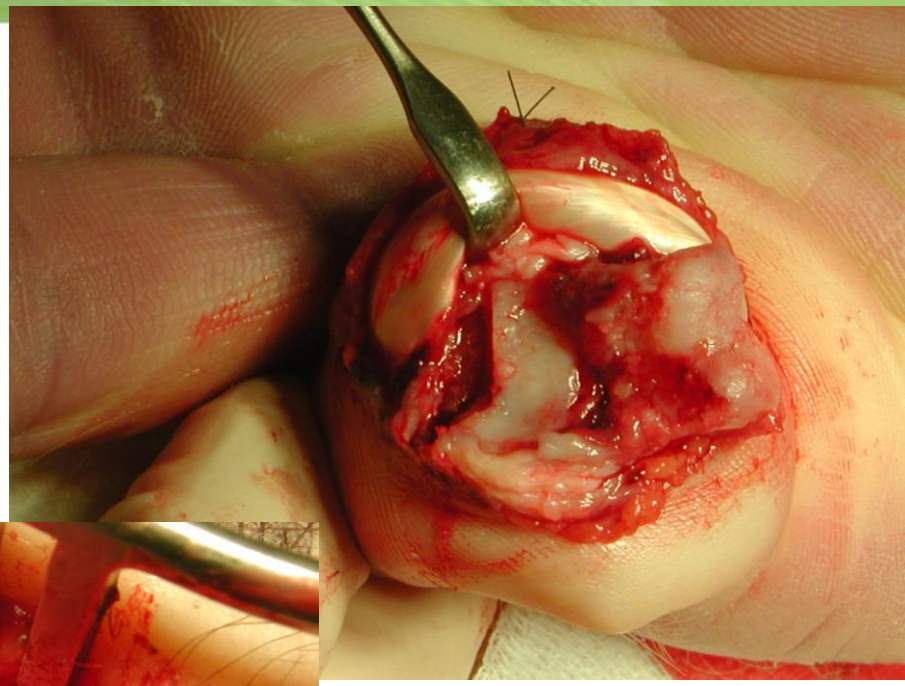
- Hemi-hamate well described
- Toe joint transfers well described
- Both sides of joint can be affected by injury

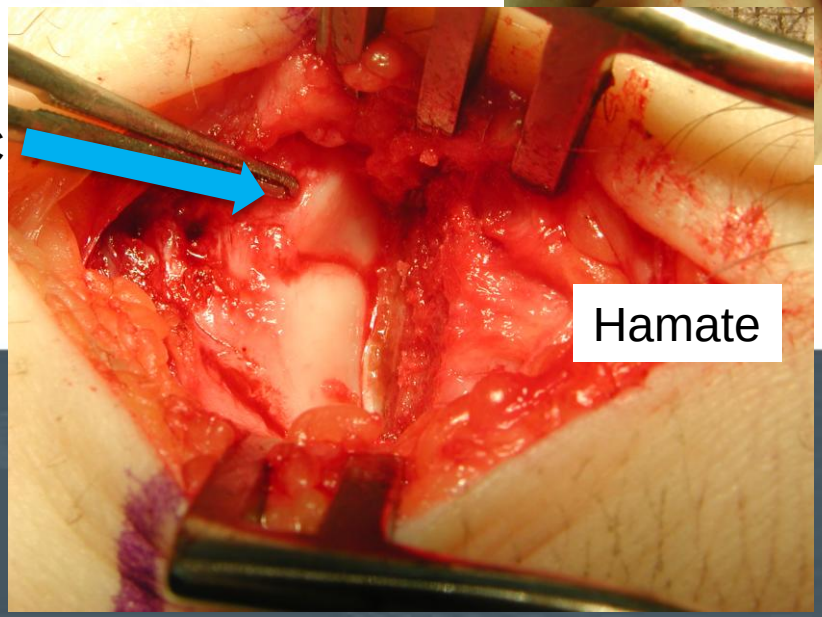
Case 1

- Chronic fracture dislocation PIP joint
- Injury playing football
- Painful
- Almost no motion

Case 1

- Intra op significant defect on both dorsum of P1 & volar base P2
- Hemi-hamate + 5th metacarpal base osteochondral graft





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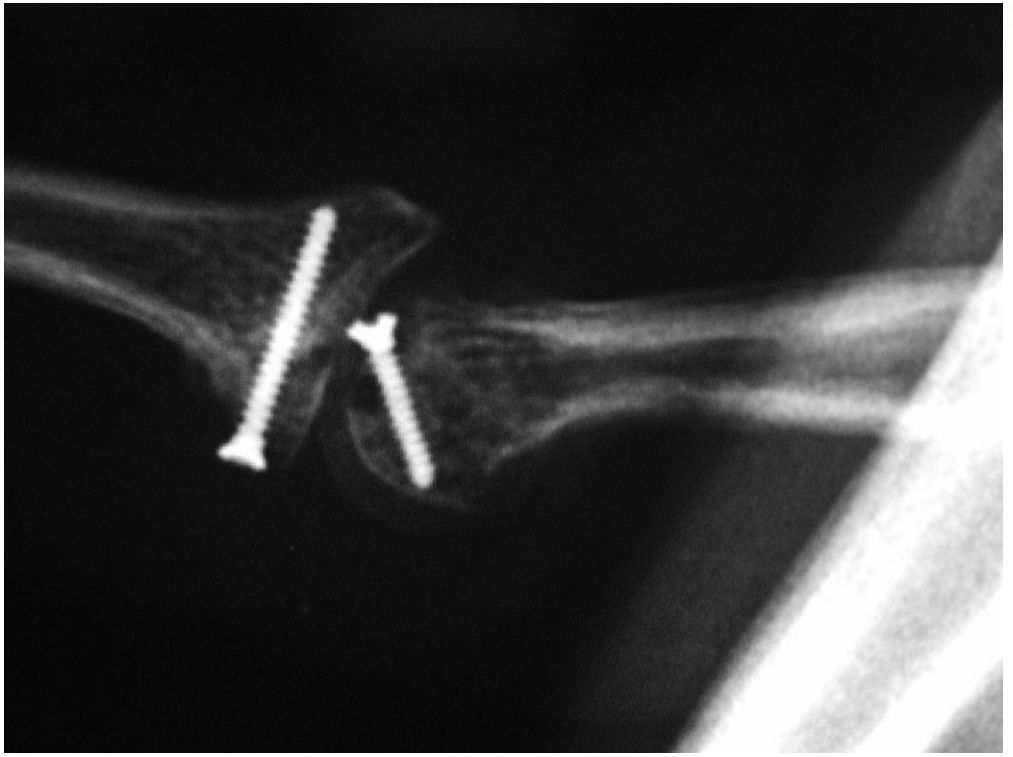
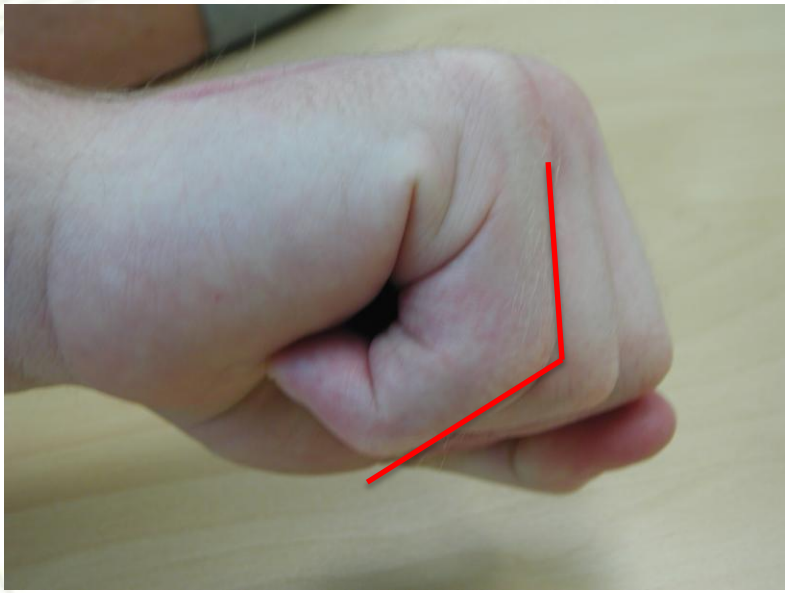
Case 1



Case 1



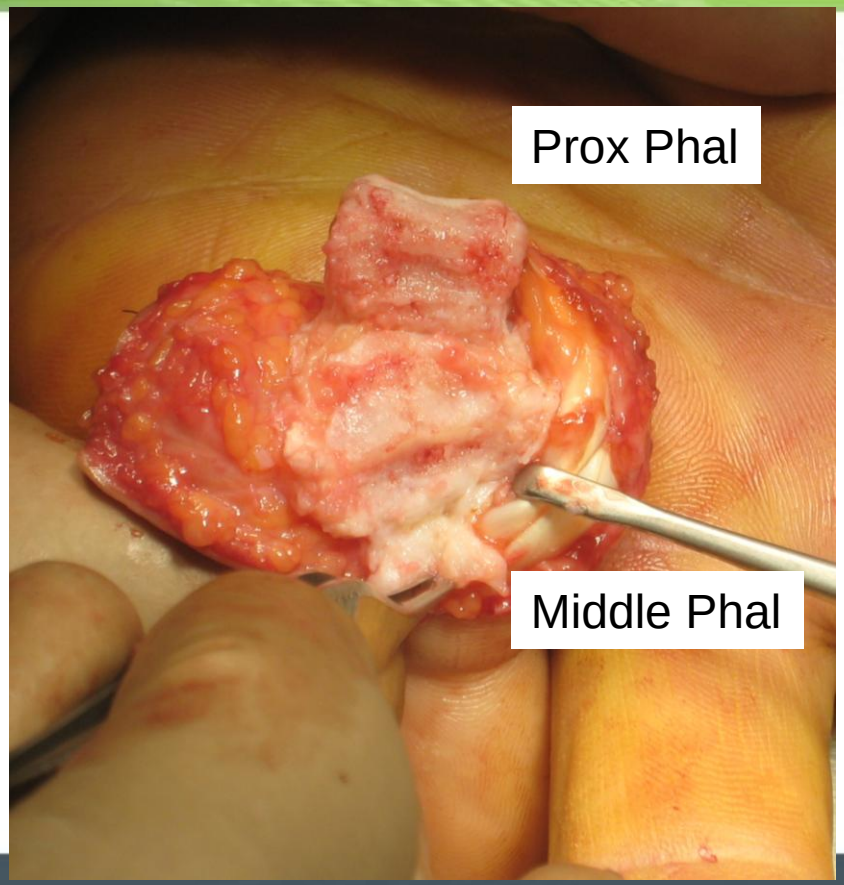
Range 0-70 degs

Case 2

- Chronic PIP fracture-dislocation, football injury (6 months)
- Pre op motion 5 deg arc
- Painful and limiting function (tradesman)
- Swollen

Case 2

- Shotgun approach to joint
- Intra-op defect of proximal and middle phalanx
- Large defect on proximal phalanx



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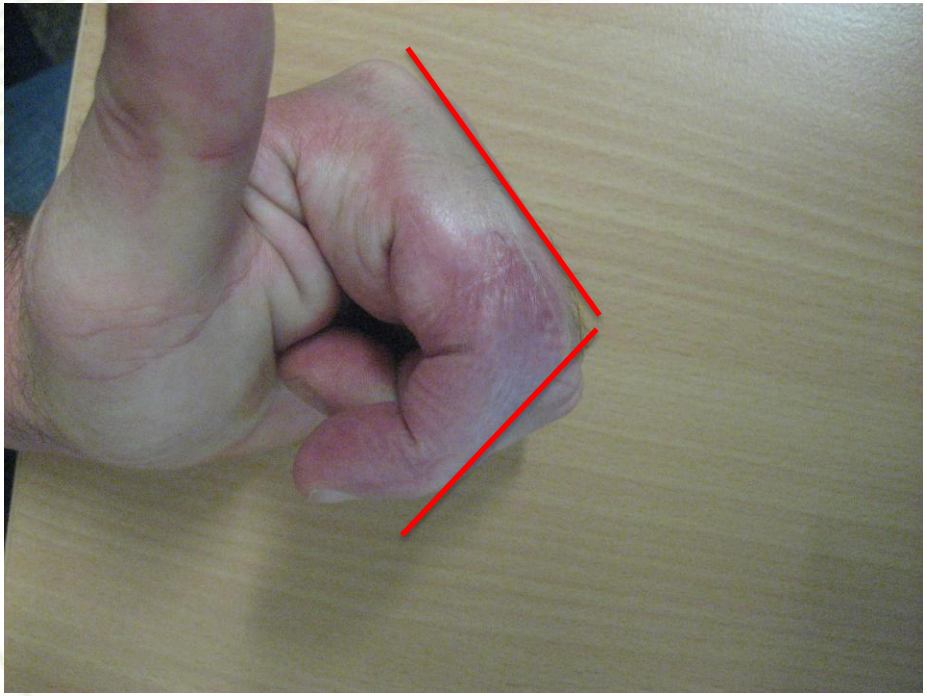
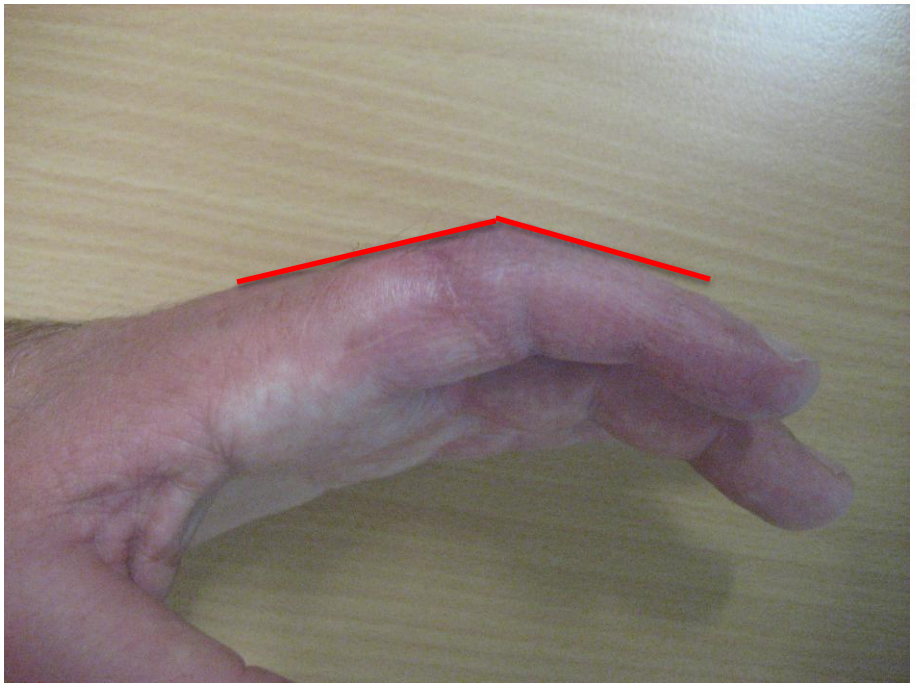
Case 2

- Hemi hamate + 4th metacarpal graft
- Initial harvest not large enough so second graft taken to fill entire defect

Case 2





Range 25-85 degs, 6 months

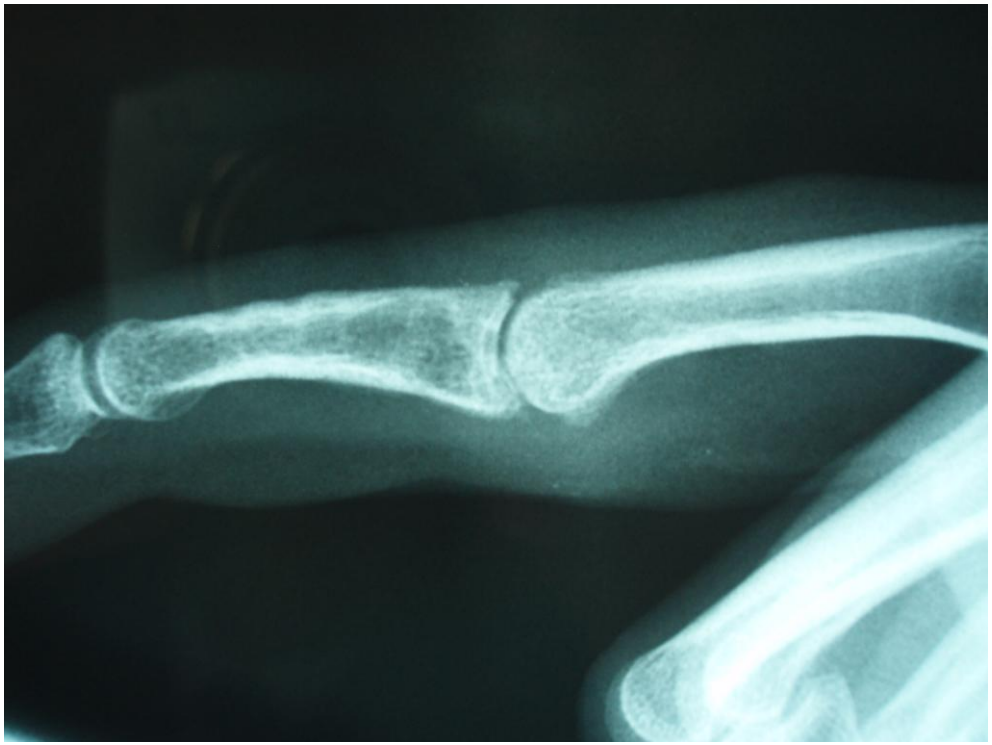
Case 3

- Initial injury base of middle phalanx fx
- Had ORIF x 2, failed
- Poor motion and pain

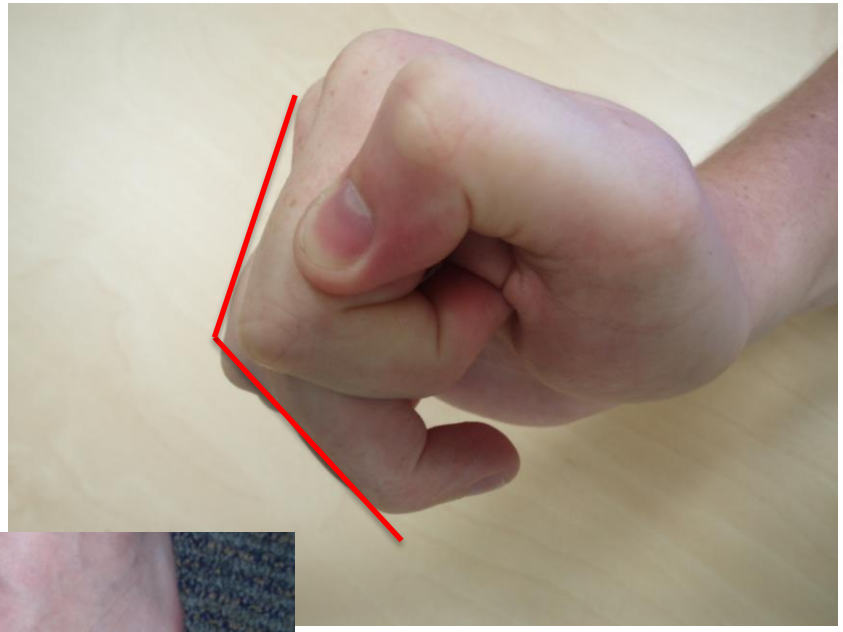
Case 3

- Non vascularised 2nd toe hemi joint transfer
- Required secondary plate removal and tenolysis

Case 3



Case 3



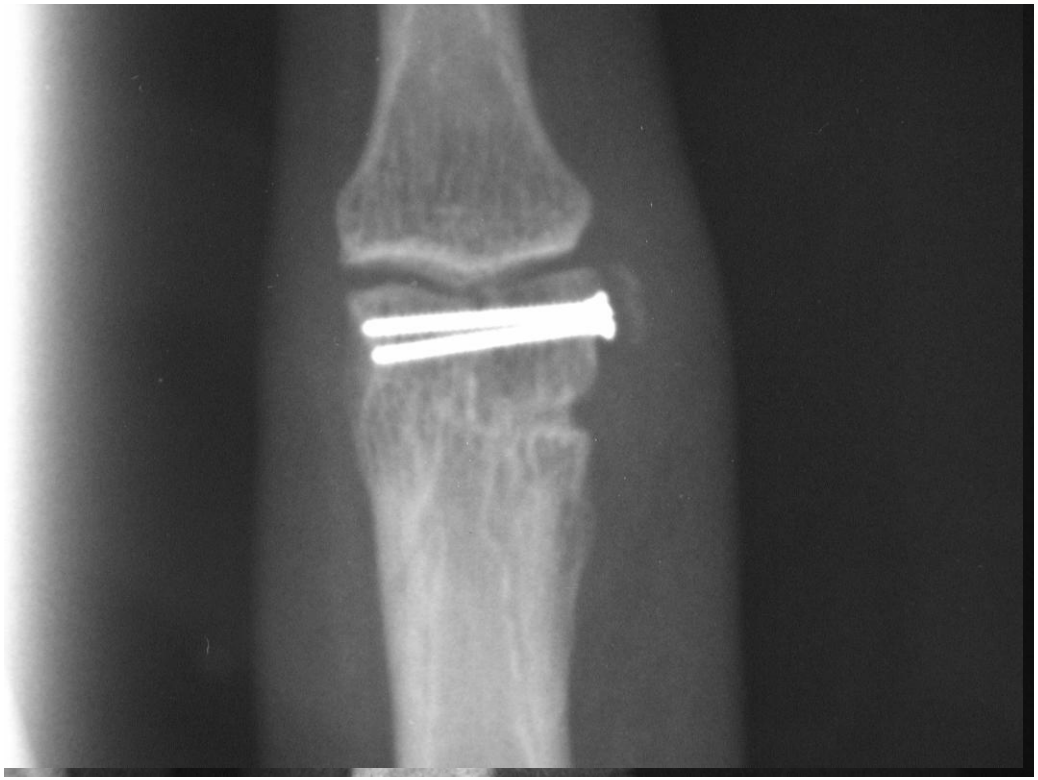
Range 0-50 degs

Case 4

- Condylar Fracture
- Initial ORIF
- Complicated by osteonecrosis of fragment

Case 4

- Loss of congruity
- Hemi toe condyle
- Last film at 4 months shows union



Hemi hamate technique

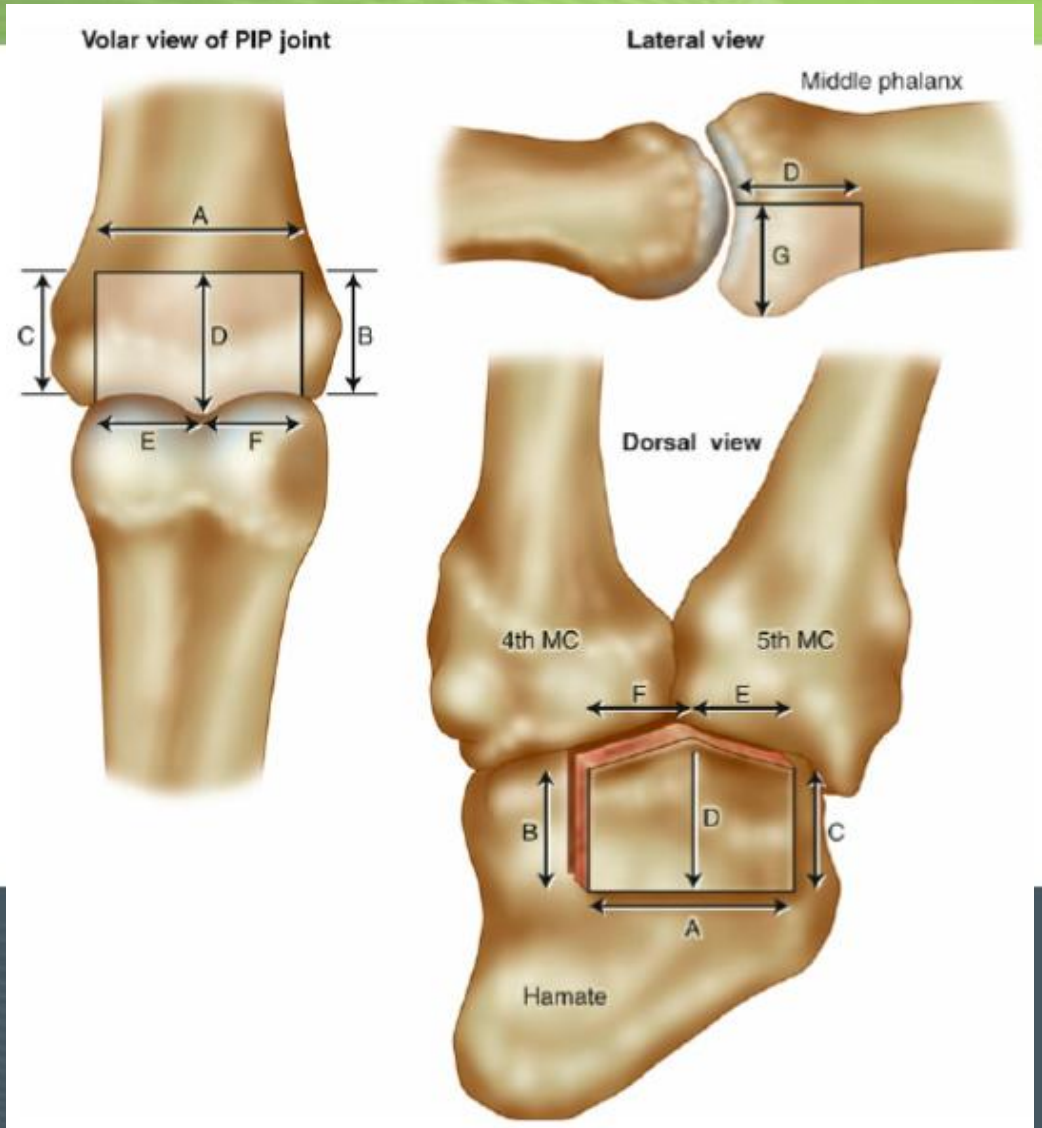
- Volar approach to PIP joint
- Shotgun the joint
- May need to elevate collateral ligaments

Hemi hamate technique

- Dorsal approach to $4^{th}/5^{th}$ CMC joint (can harvest metacarpal graft from here as well)
- Expose Joint
- Measure defect to reconstruct

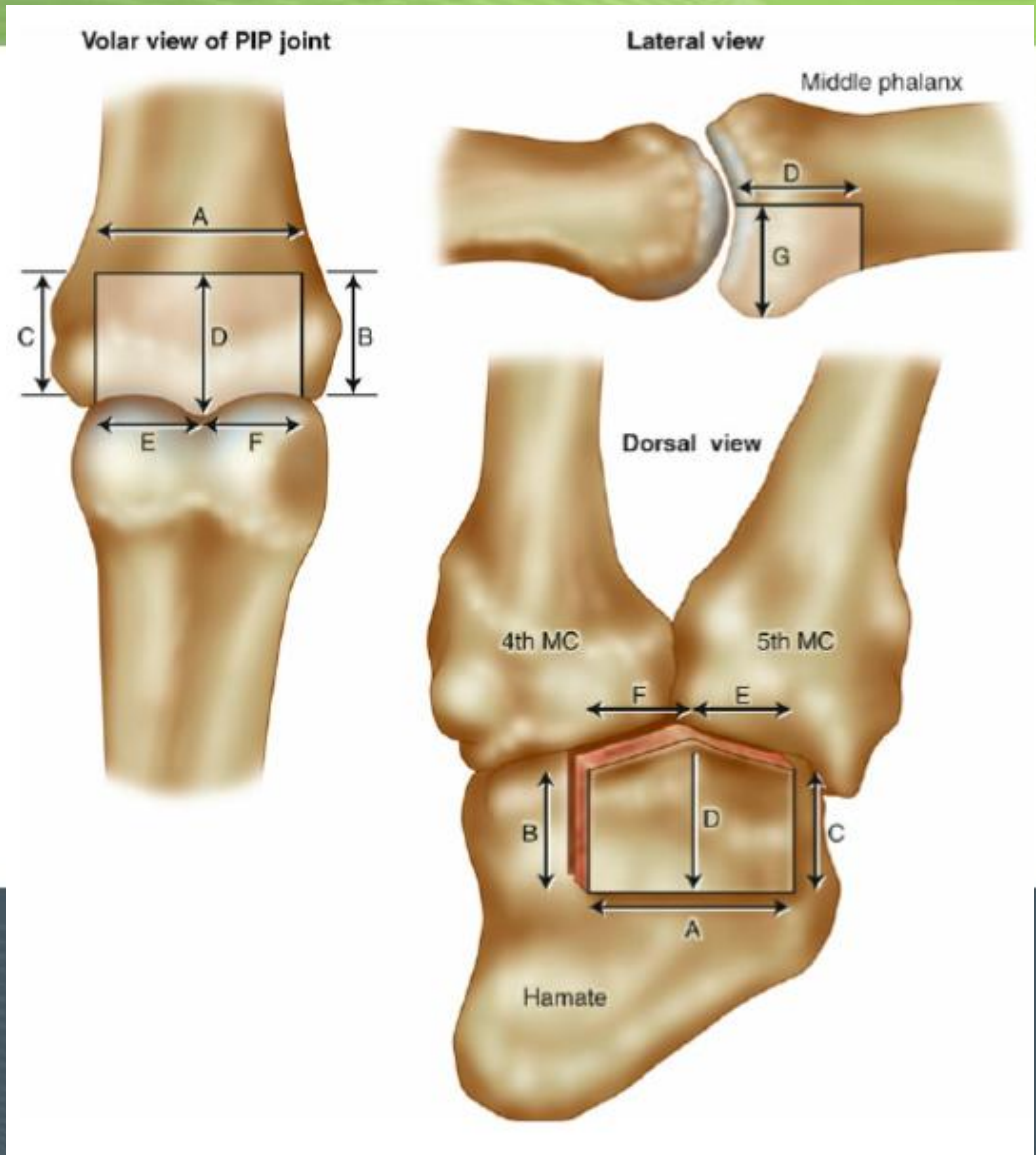
Hemi hamate technique

- Mark out graft on hamate
- Save radial and ulna edges of hamate



Hemi hamate technique

- Harvest graft
- Make a “back cut” and use curved osteotome to harvest



Hemi hamate technique

- Put a small K-wire into the graft to hold and place provisionally into defect
- Can then drill holes for screws
- Usually 10-11mm screws

Hemi hamate technique

- Final images always look like there is a step due to differing thickness of cartilage in hamate compared to phalanx

- Dorsal block splint, immediate flexion range

Summary

- Offer another option for reconstruction in difficult cases
- Graft site
  - Hamate
  - Metacarpal base
  - Toes

Thank You

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