P3 Fractures

LISA LEONARD

INTRODUCTION

Anatomy

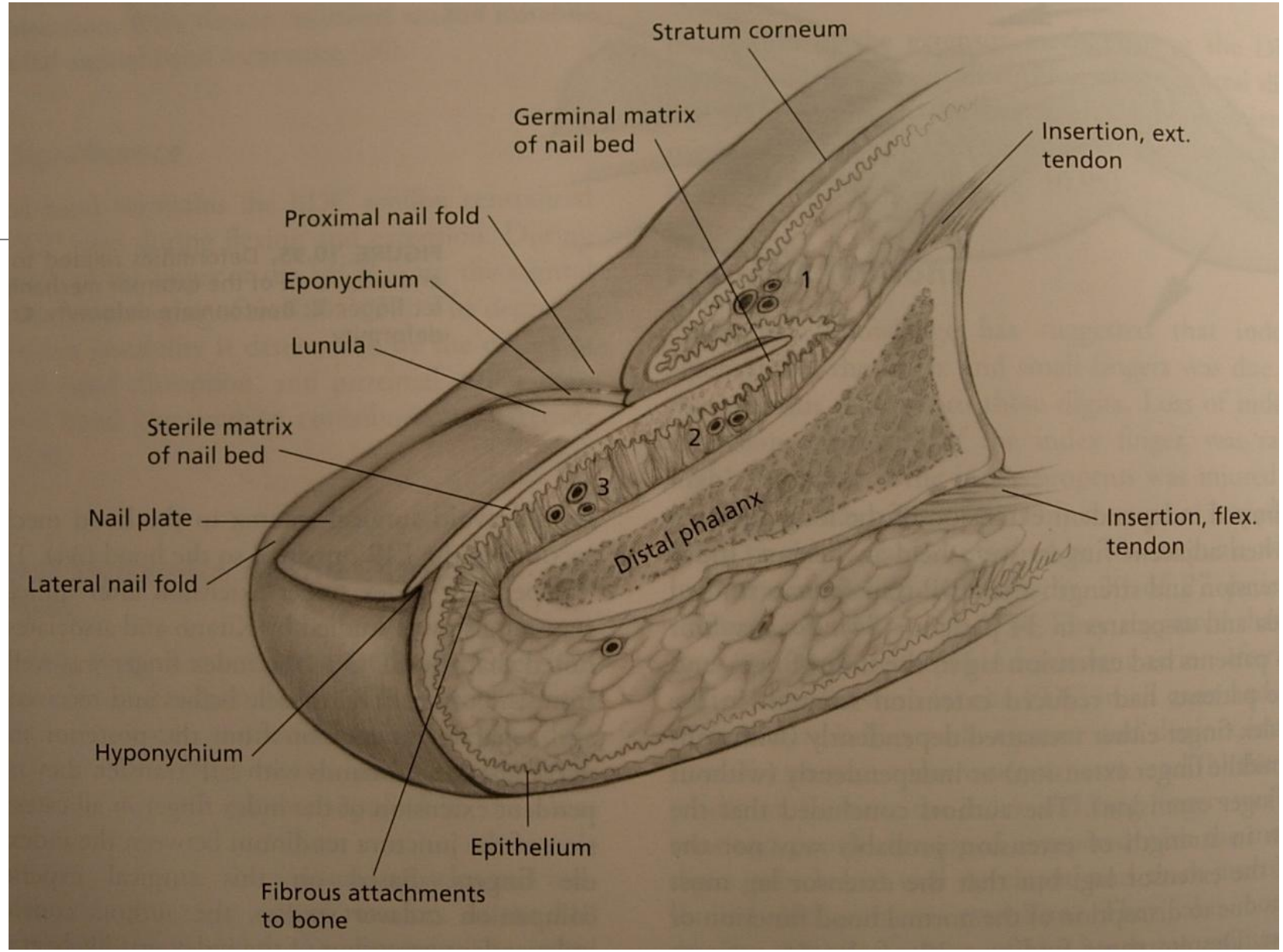
Tuft #s/Nailbed injuries

Shaft #s

Mallet injures

FDP avulsions

Anatomy


Stratum corneum
Germinal matrix of nail bed
Insertion, ext. tendon
Proximal nail fold
Eponychium
Lunula
1
2
3
Sterile matrix of nail bed
Nail plate
Lateral nail fold
Distal phalanx
Insertion, flex. tendon
Hyponychium
Epithelium
Fibrous attachments to bone

Tuft Fractures/Nailbed injuries

Mechanism:

- Usually a crush injury – in a door often

Examination points:

- What is the state of the nailplate?
- How much adjacent soft tissue injury is there?

Initial Management:

- Antibiotics?
- Can/should A&E be dealing with these?

Tuft Fractures/Nailbed injuries

When do I intervene?

- Avulsed nail plate
- Contaminated open fractures
- Associated adjacent soft tissue damage

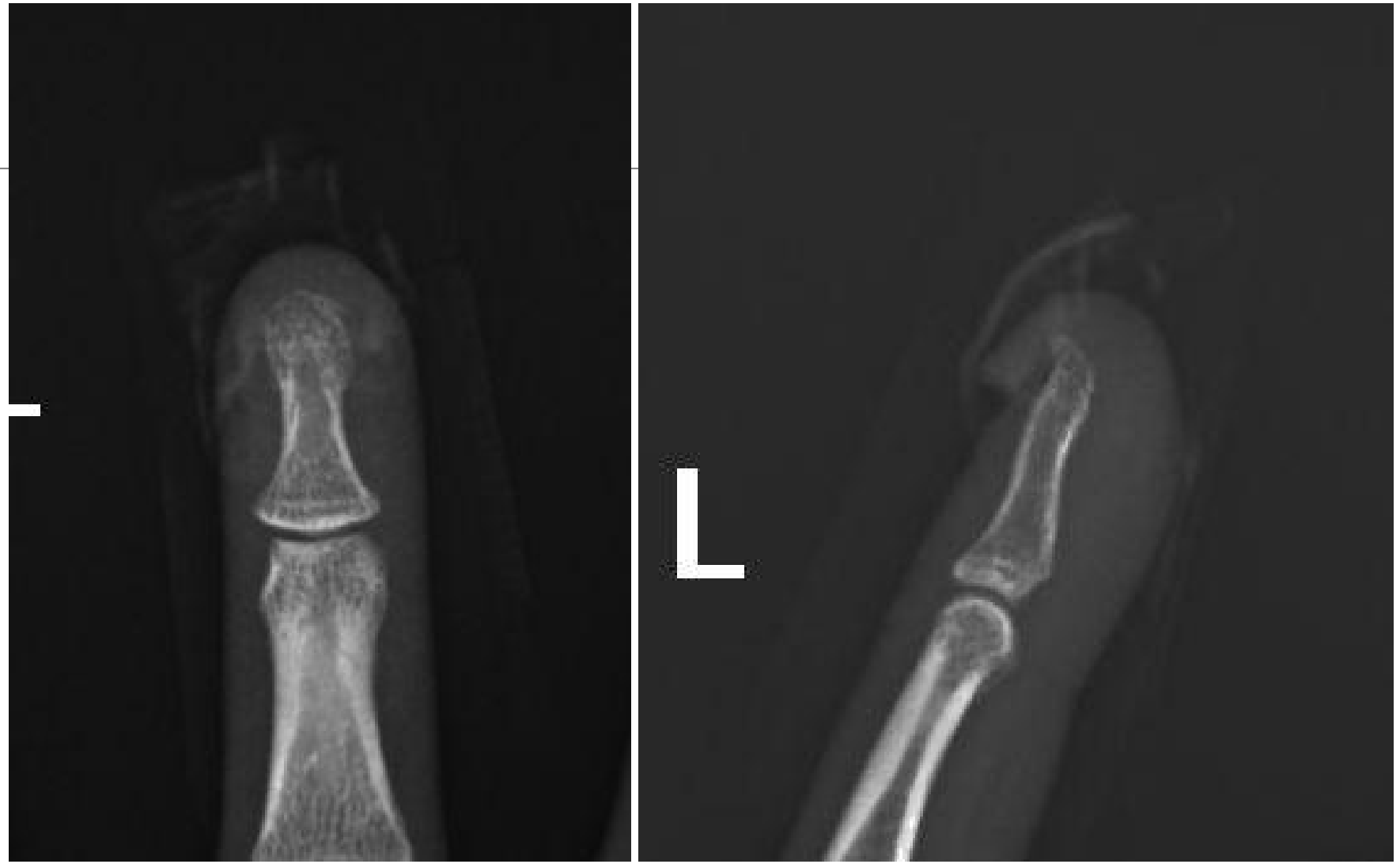
Tuft Fractures/Nailbed injuries

What do I do?

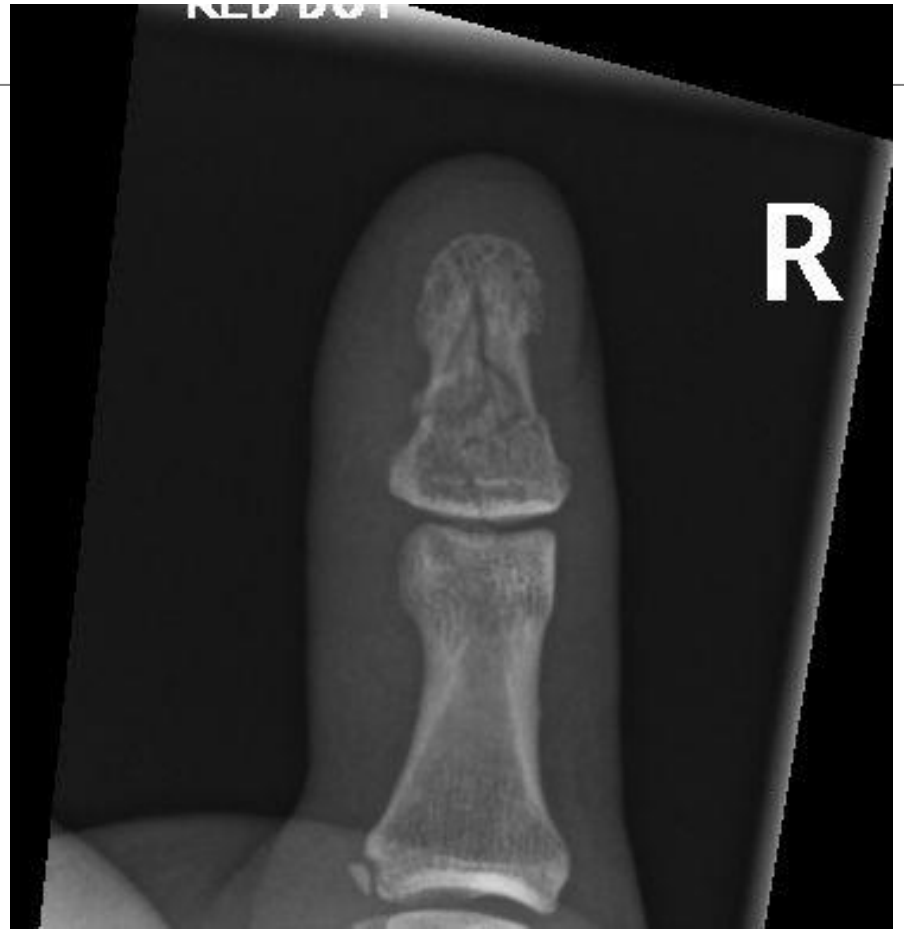
- I almost never pin these
- Keep/clean/re-insert nail plate if possible
- Do not remove good bits of nail plate just to repair nailbed and re-attach
- I do use artificial ‘nail’ for nailfold if needed, held on with X suture

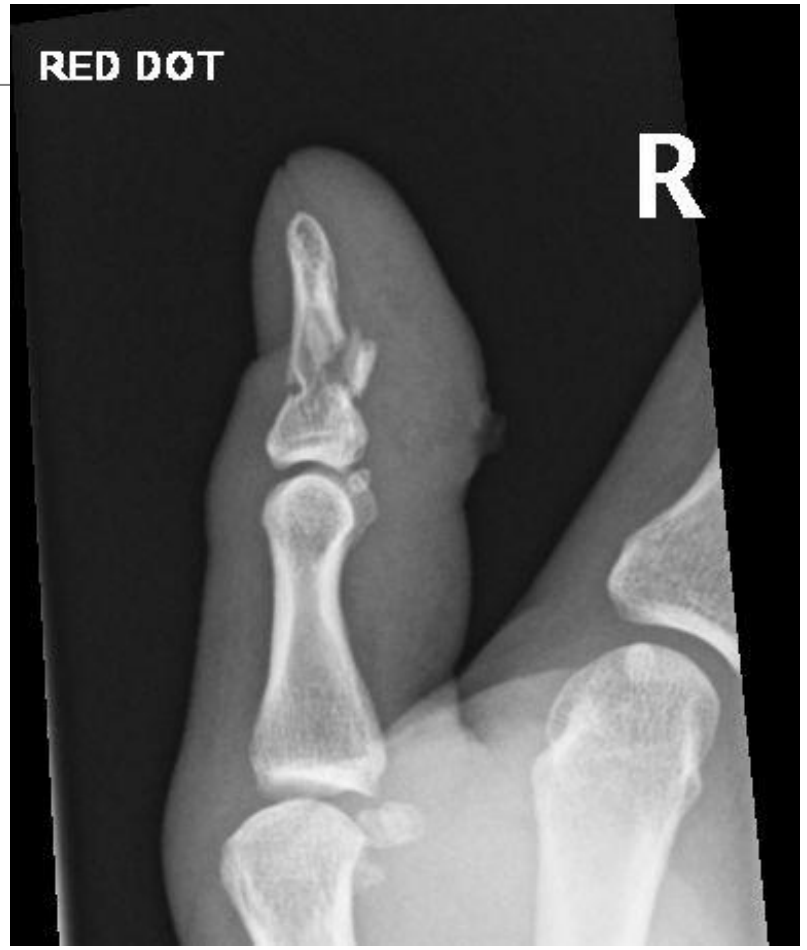
Example

Example



Example





Shaft Fractures

Mechanism:

- Various

Examination points:

- What is the state of the nailplate?
- Is there a growth plate injury?
- Is there any adjacent soft tissue injury?

Initial Management:

- Antibiotics?
- Splint?

Shaft Fractures

When do I intervene?

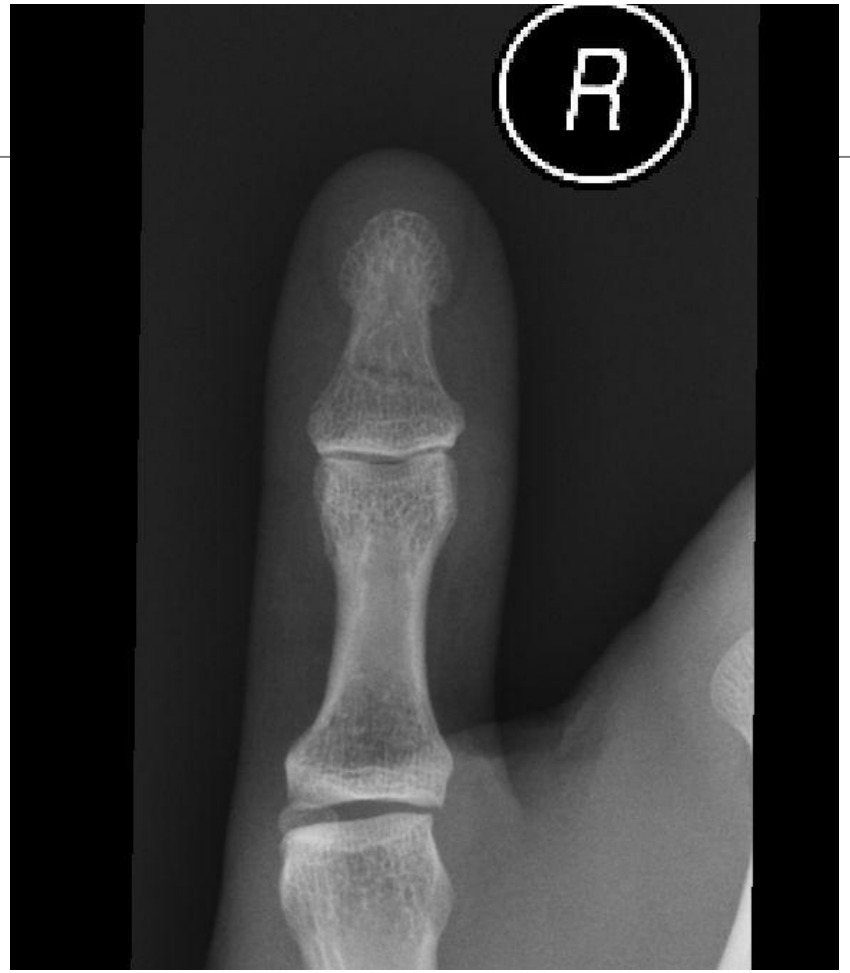
- Very rarely
- To repair soft tissues
- Significant fracture displacement that might interfere with nail plate growth

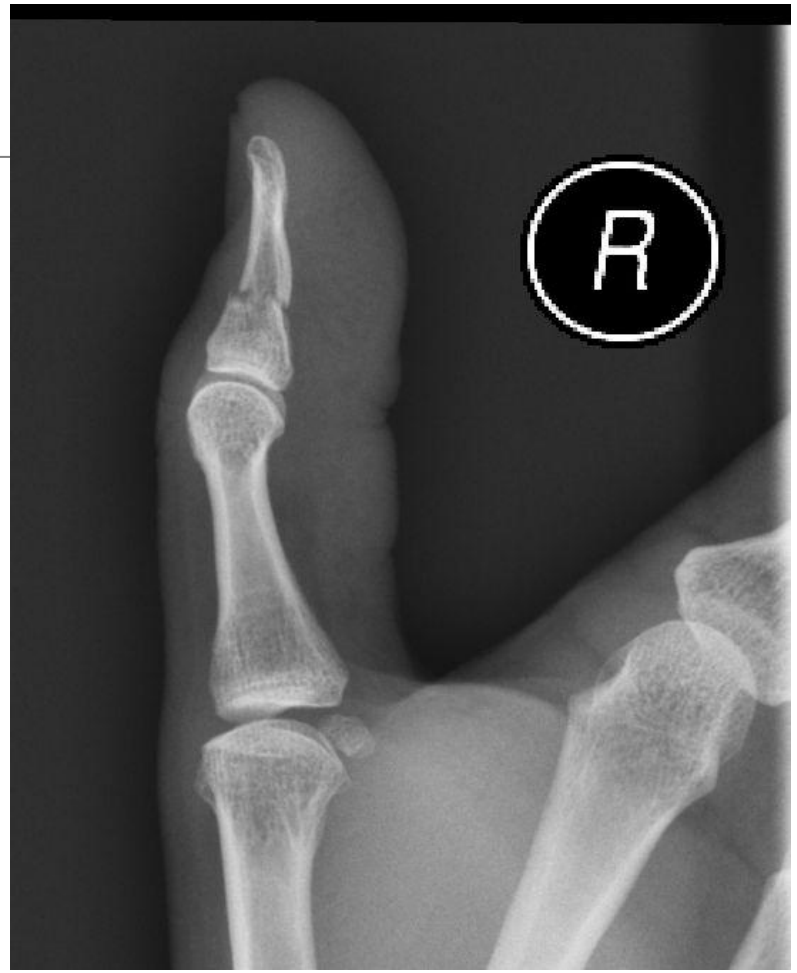
Shaft Fractures

What do I do?

- Not a lot
- Splint or not?
- K wire or not?

Examples





Mallet injuries

Mechanism:

- Often rather minor
- Usually closed avulsion
- ‘I caught the tip of my finger changing the sheets’

Examination points:

- Usually obvious extensor lag

Initial Management:

- Splint – what type??
- Xrays in splint

Mallet Fractures

When do I intervene?

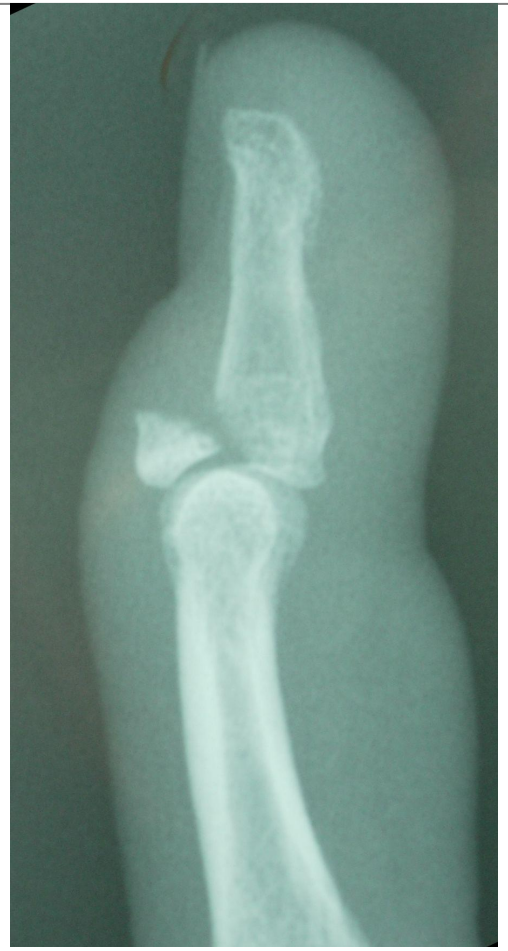
- Open fractures
- Growth plate involvement
- Joint subluxation in splint

Mallet Fractures

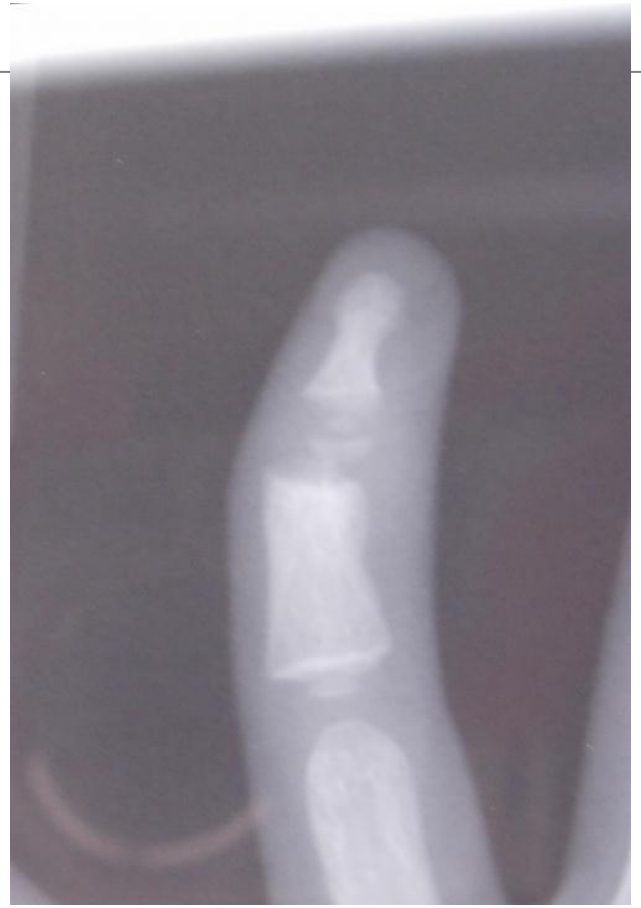
What do I do?

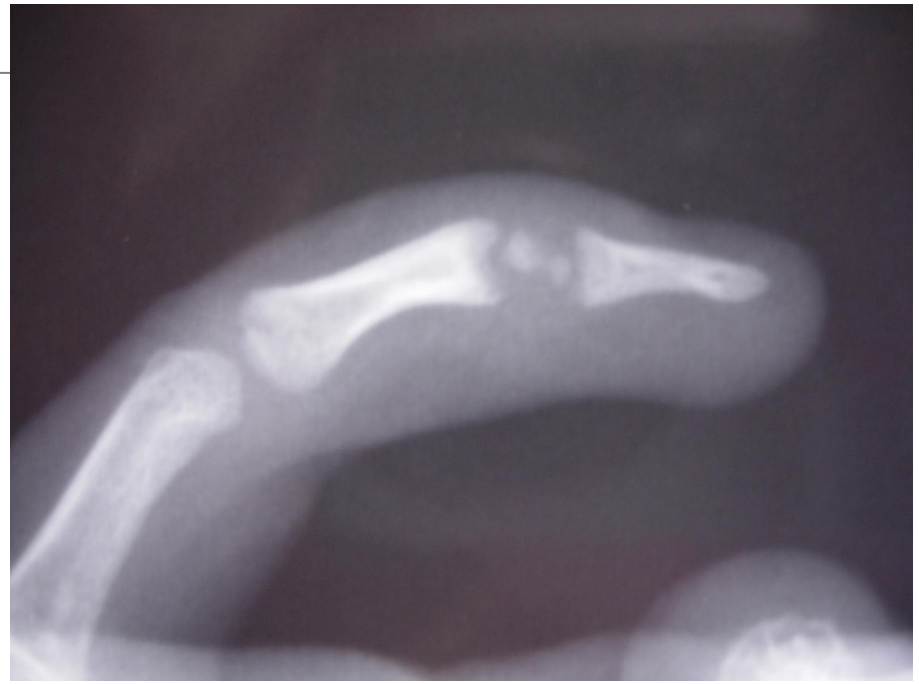
- K wires? Configuration? Splint thereafter? How long for?
- If delayed presentation/irreducible?

Examples

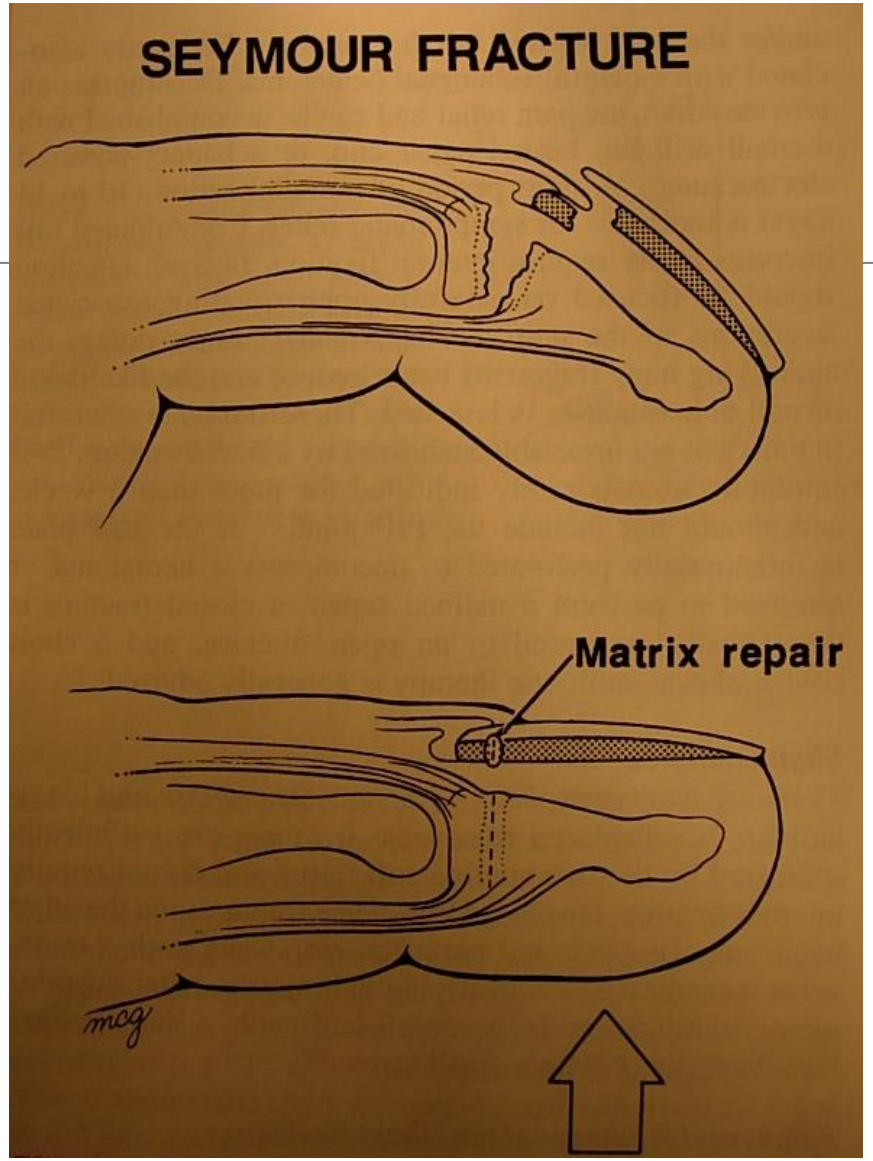


Examples





Examples



FDP avulsions

Mechanism:

- Often more energetic
- Usually closed avulsion
- ‘Rugger jersey finger’

Examination points:

- Loss of normal cadence of hand
- Fresh ones will be bruised and swollen
- Test systematically

Initial Management:

- Xray whole finger

FDP avulsions

When do I intervene?

- Open fractures
- Fresh injuries/fractures in good position
- Classification?

FDP avulsions - classification

Leddy and Packer – 1977

- Type I
- Type II
- Type III

- Later type IV

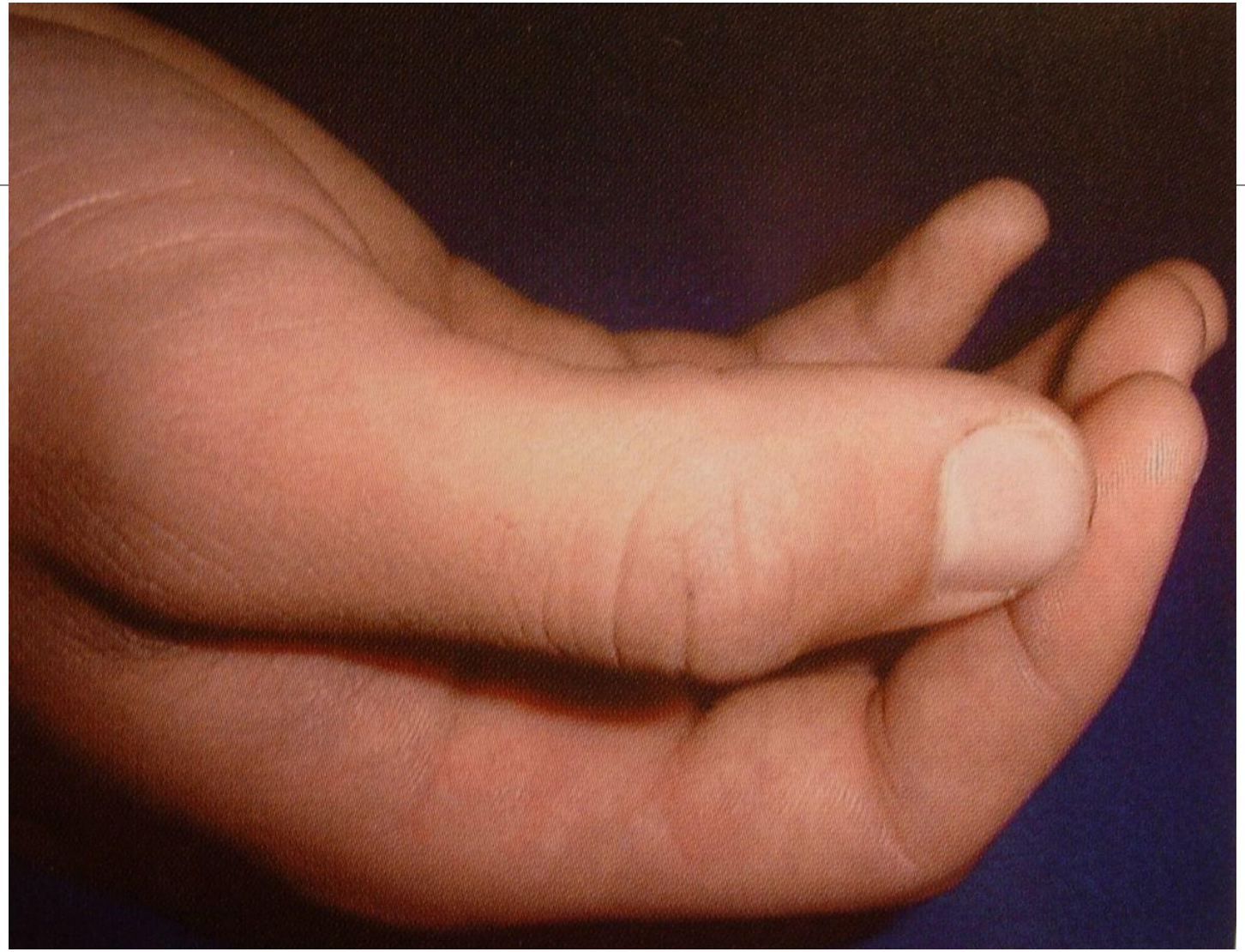
FDP avulsions

What do I do?

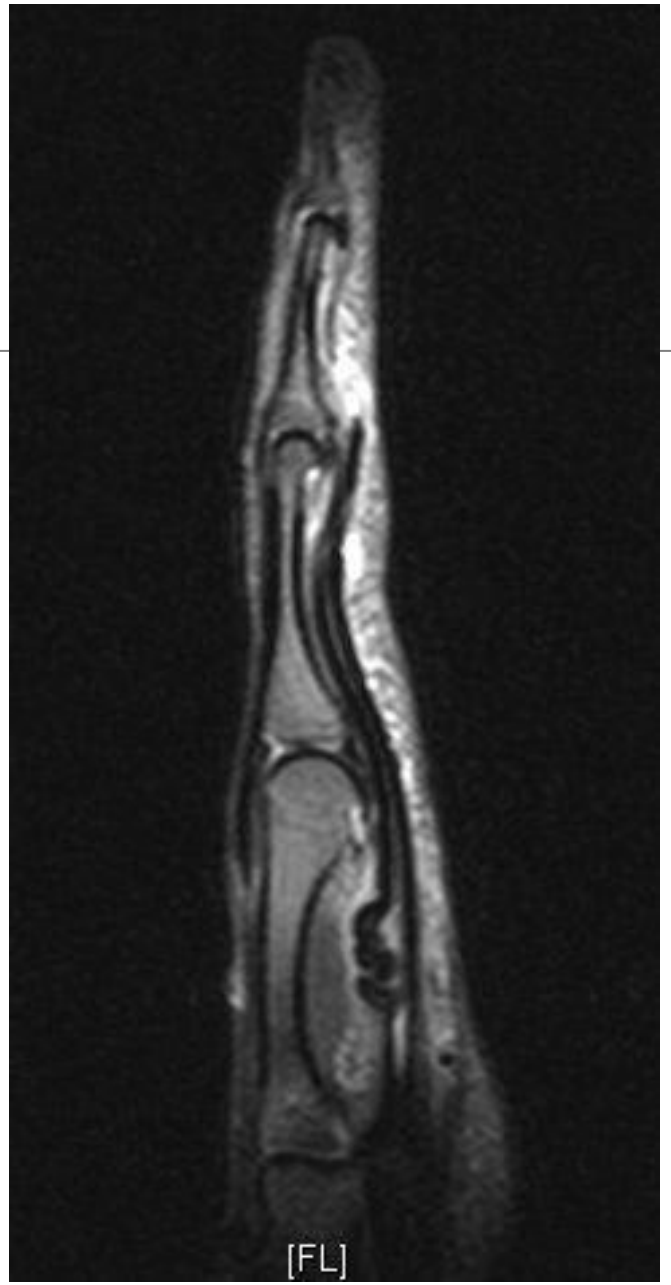
- Type I – 7-10 days
- Type II – longer
- Type III – usually present early
- Type IV – more difficult

- Technique?
- Delayed presentation?
- Marked proximal retraction of stump?

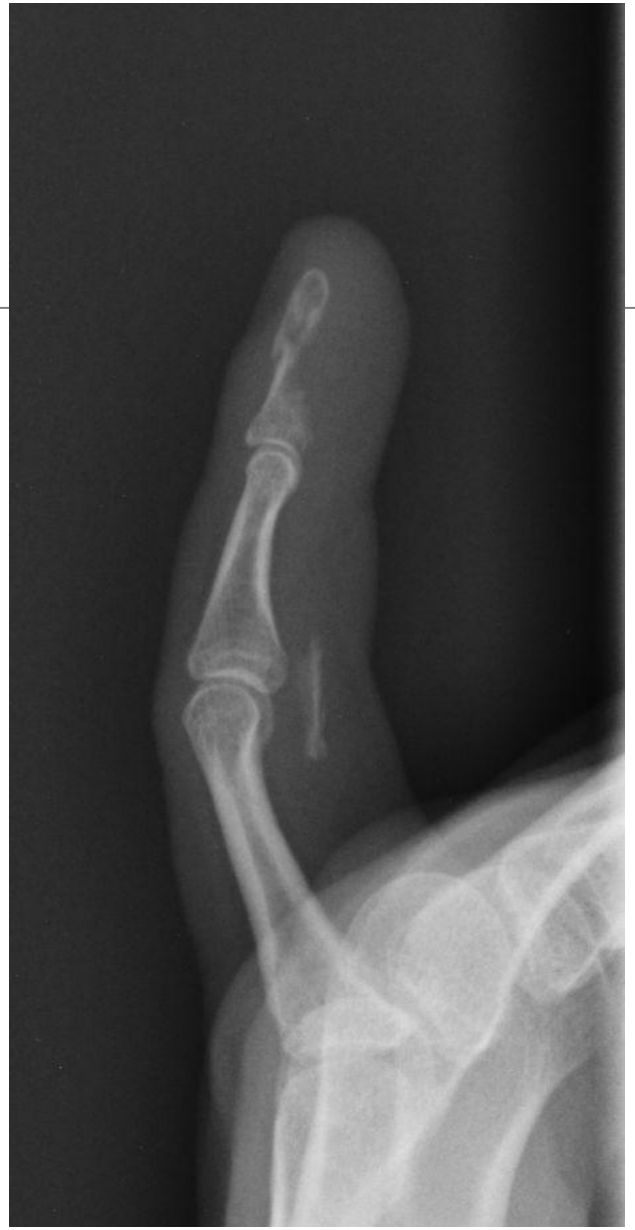
Examples



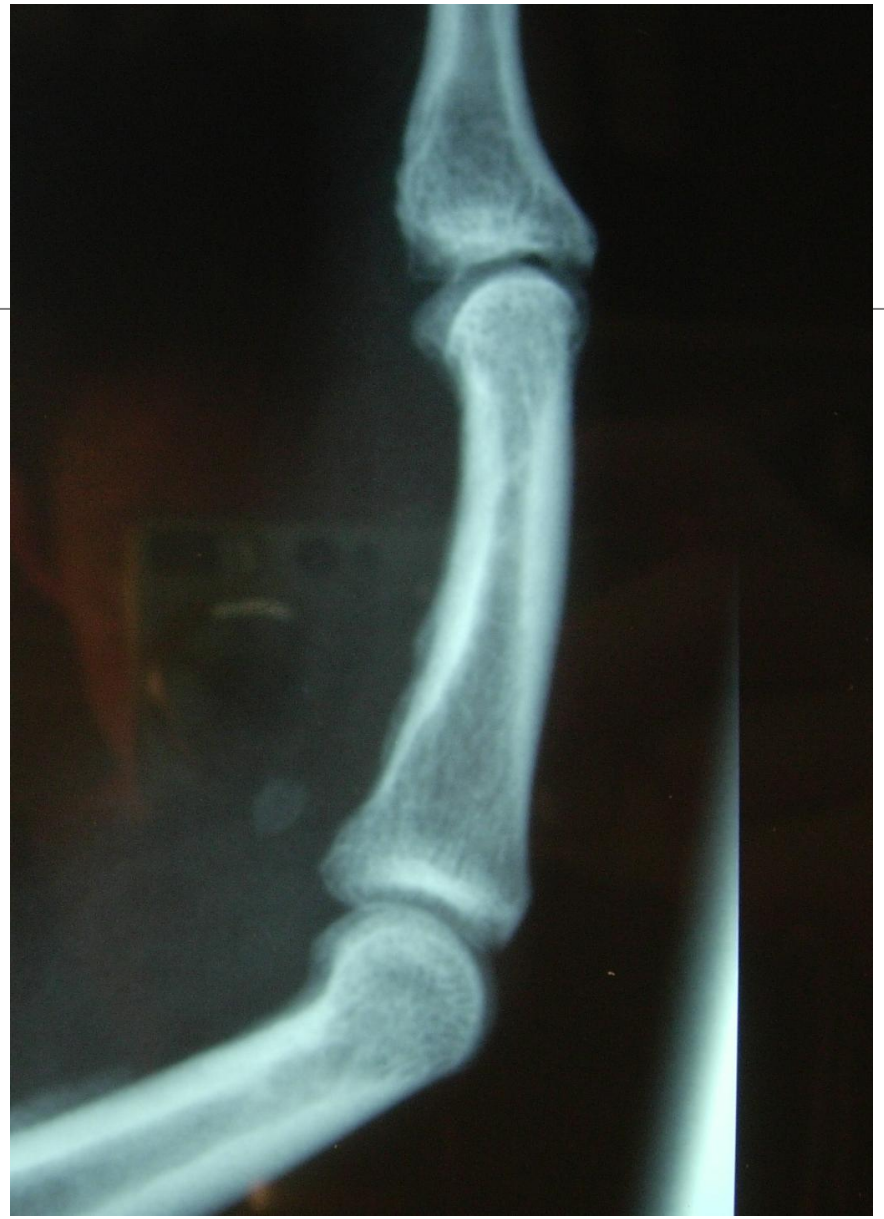
Examples



Examples



Examples



Conclusions

Distal phalangeal injuries are varied

Think of the soft tissues

Think of avulsions

Watch out for growth plate involvement in little ones