WRIST AND HAND INJURIES

By

Prof J.A.O Mulimba

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- There are many injuries to the wrist and carpus
- In the time available only very important ones will be covered namely;
  - Colles fracture
  - Scaphoid fractures
  - Smiths fracture
  - Dislocations of the lunate
  - Bennet's fracture
  - Bartons fracture
  - Chauffer's fracture

COLLES FRACTURE:

Fracture of distal 5cm of the radius
Causes;
Fall on outstretched hand. The distal fragment displaces posteriorly
Deformities;
This typically referred to as dinner fork deformity
i.e

- posterior shift
- Posterior tilt
- Radial displacement
- Lateral tilt
- Supination
- Sometimes impaction

The fracture is often associated with fracture of ulnar styploid which often fails to unite.
Sometimes fracture extends into the articular surface of the wrist

Clinical features

- Pain and tenderness distal radius
- Swelling with dinner fork appearance
- Radial styloid is shifted proximally
- Ulnar styloid may also be tender
- X-ray

  Show the typical features described.

  Sometimes the fracture is not displaced

  Always take AP and Lateral views

  Bone may appear osteoporotic

  There may be ulnar styloid fracture

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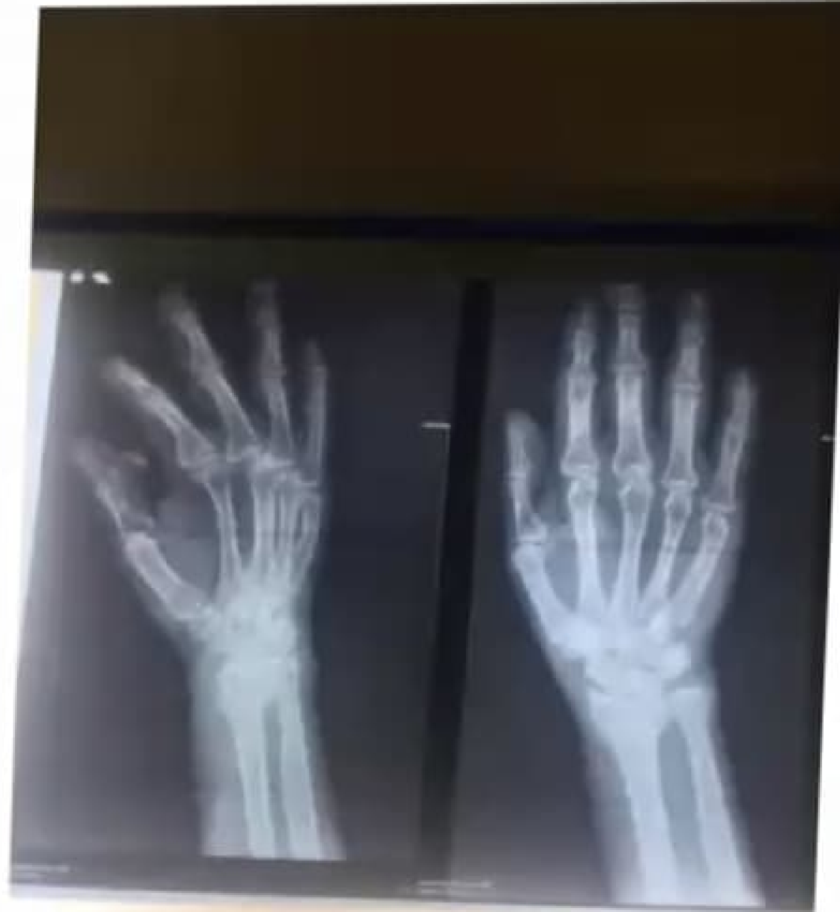

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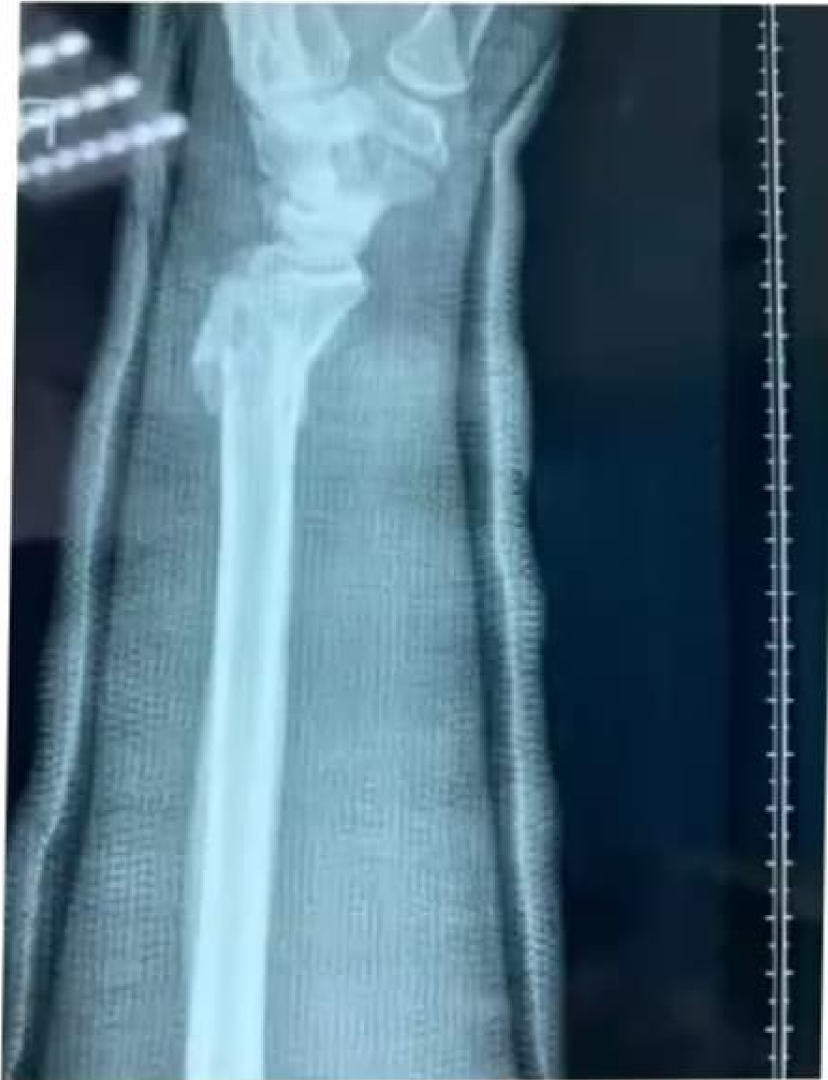

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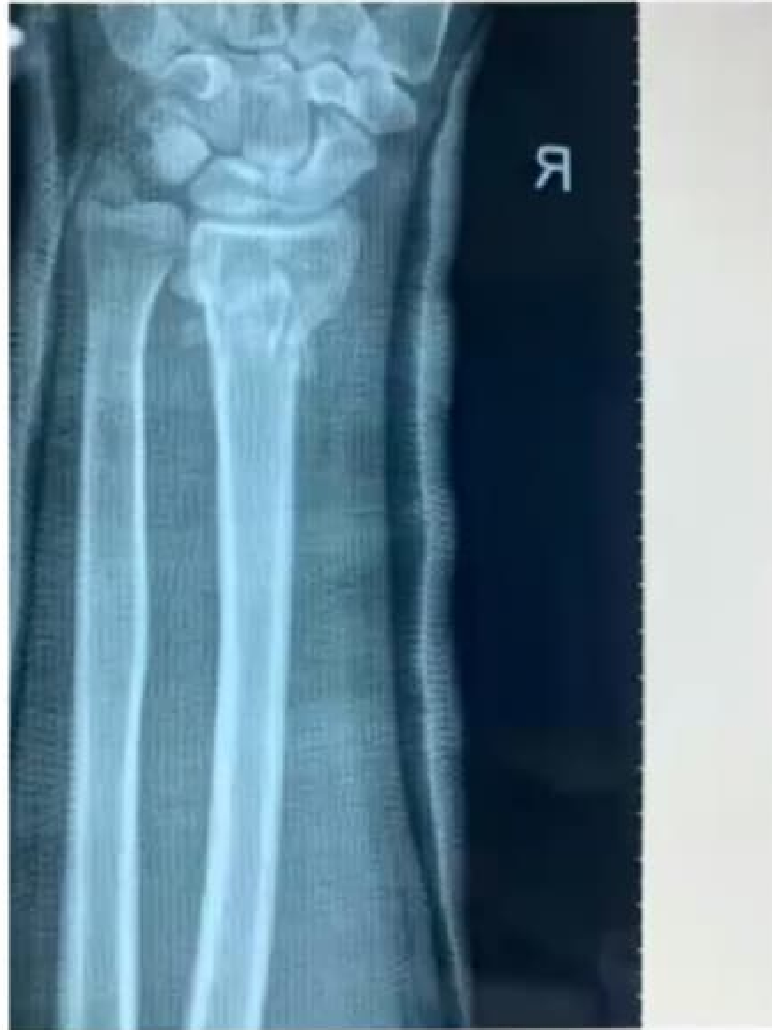

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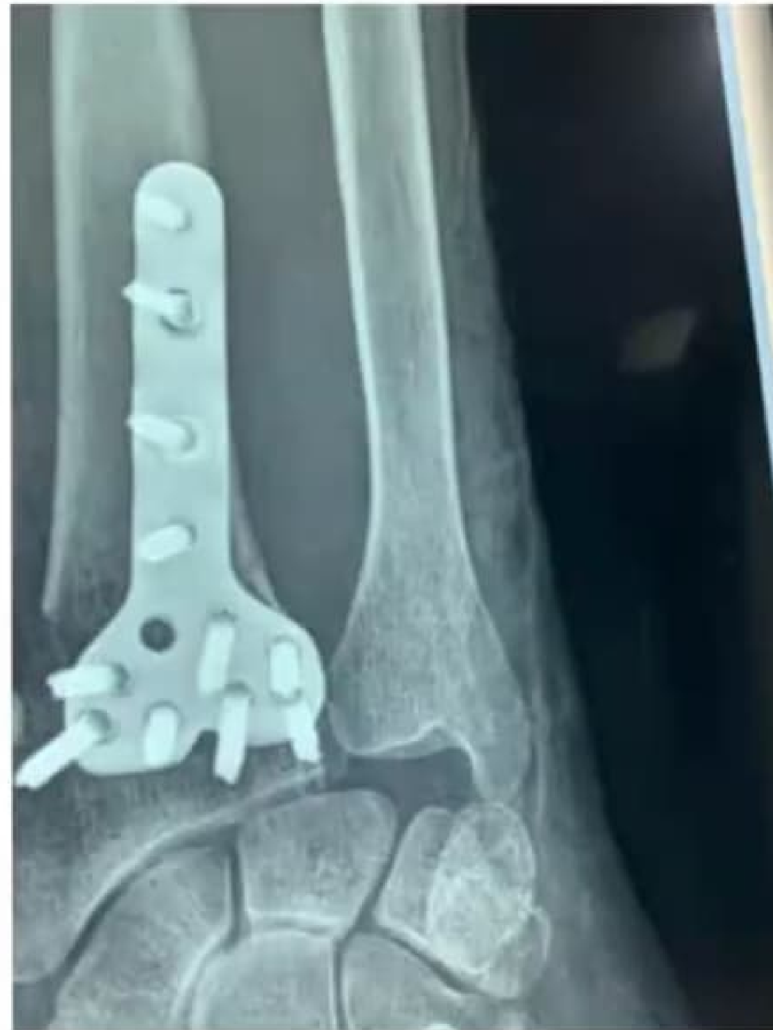

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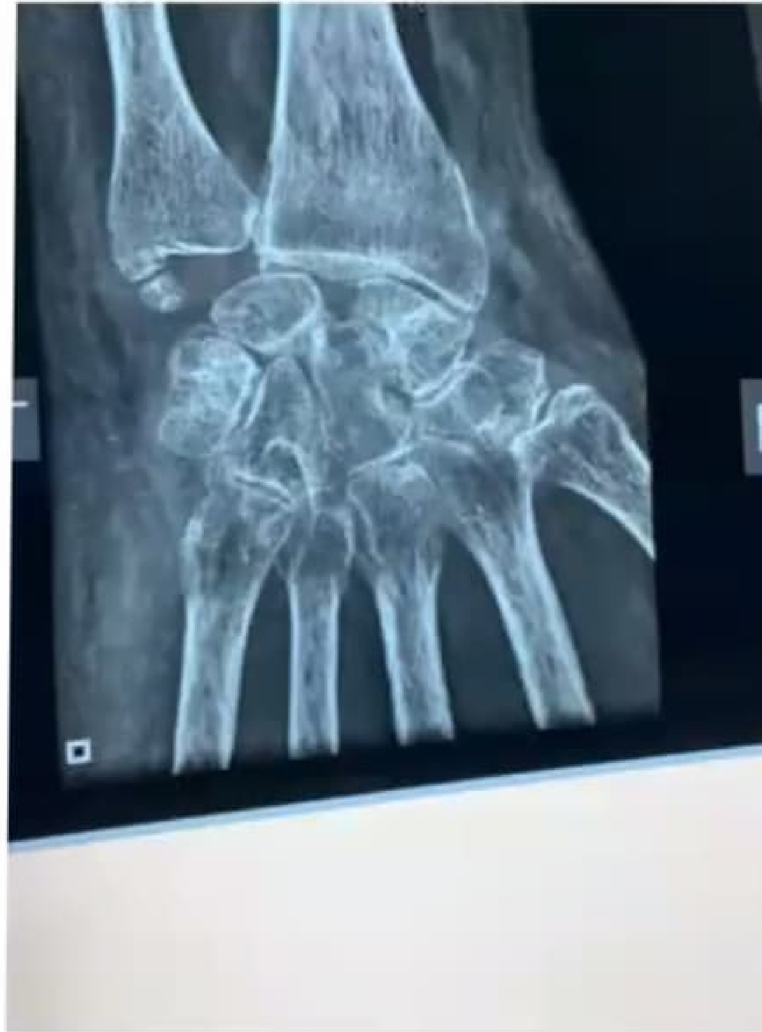

Treatment

- Usually closed reduction correcting the above mentioned displacements
- The reduction is held in a below elbow cast with wrist in volar flextion and ulnar deviation
- This way the reduction is stable
- Because of the frequent displacement and deformity the fracture is increasingly being operated

Complications of colles fracture

- Malunion
- Stiffness of the wrist
- Severe osteoporosis also called Sudeck's osteodystrophy
- Persistent pain
- Rapture Extensor Pollicis Longus
- Carpal Tunnel Syndrome

SMITHS FRACTURE;

This is the reverse of Colles fracture

The distal fragment has volar displacement

Treatment is mostly conservative with plaster cast

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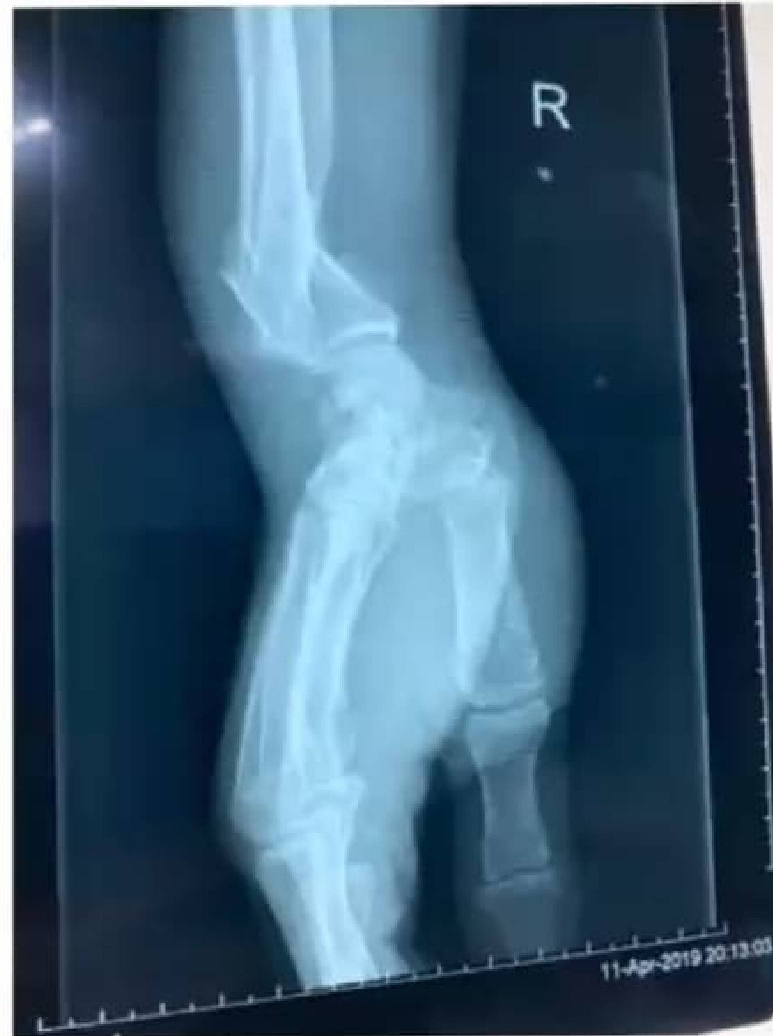

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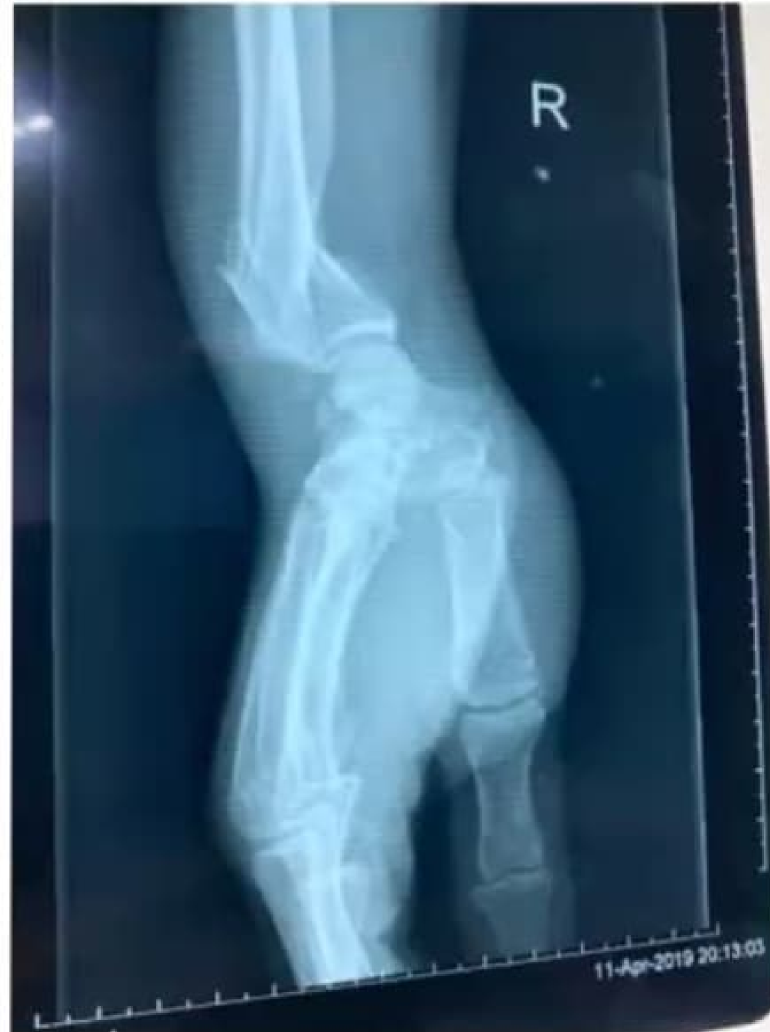

SCAPHOID FRACTURES;

The commonest fracture of the carpus

Occurs when patient falls on outstretched hand

65% fracture through the waist

15% fracture through the proximal pole

10% through the distal body

10% distributed in the rest of the body

Clinical features

Pain and swelling at the wrist
Tenderness at the anatomical snuff box
X-ray;
Very often no fracture is seen initially
Some become obvious after about 2 weeks
Views taken- AP
- Lateral
- Scaphoid views

Increasingly CT Scan is used to make the diagnosis

The significance of this fracture

It is often missed

It commonly goes into non-union especially fracture through the waist

Displacement of more than 1mm is classified as unstable

It is likely to land you into medicolegal problems

Treatment

- Conservative is by plaster cast which immobilises the thumb as well
- Failure to heal is treated by compression screw fixation with or without bone grafting
- Failure to unite is due to failed blood supply to the proximal fragment

LUNATE

This is important due to its dislocation rather than fracture

Two important types:

1, Perilunar dislocation of the carpus

the lunate remains fixed to the radius

rest of the carpal bones are dislocated

2, Dislocation of the lunate

The lunate dislocates alone anteriorly leaving the rest of the carpal bones

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Treatment

This is usually surgical in either case as closed reduction tends to fail

So try closed if it fails operate

It is disabling if not properly reduced

Early reduction is relatively easy

BENNETT'S FRACTURE

This is a fracture of the base of the 1st metacarpal

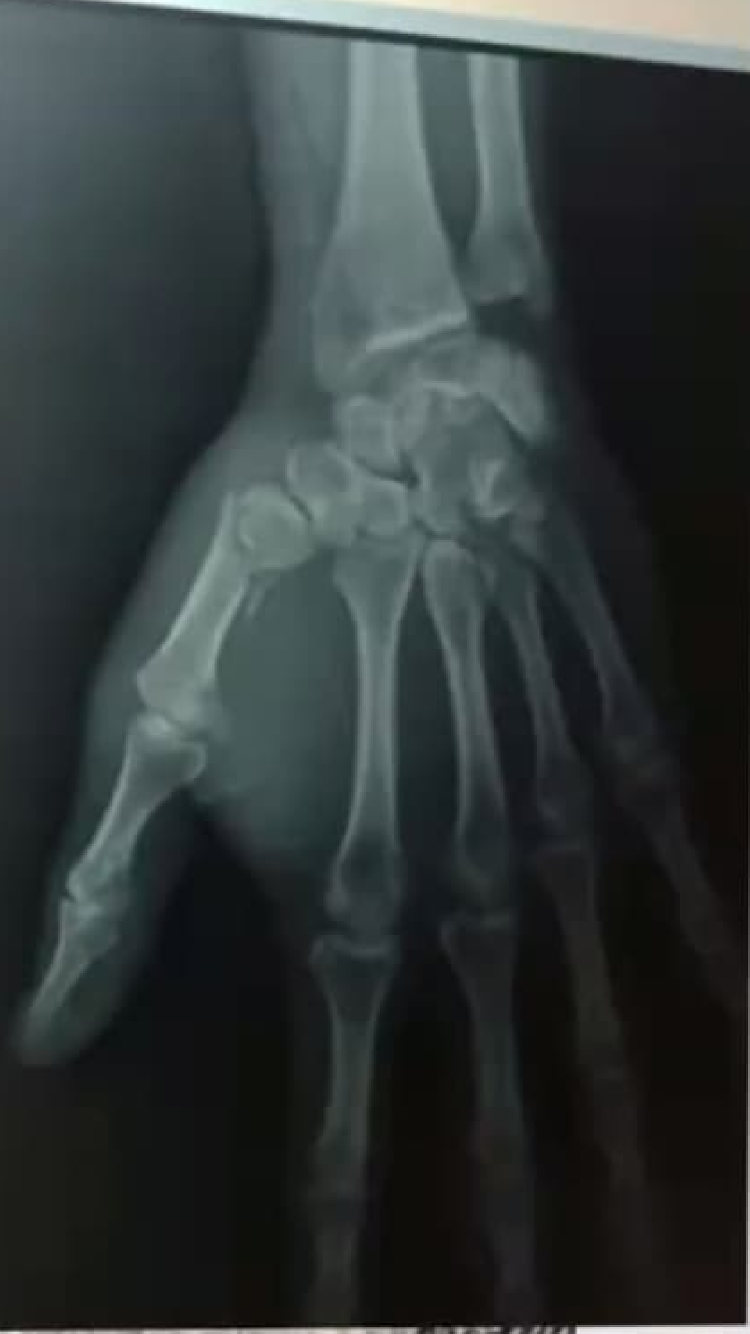
Fracture extends into the CMJ

Usually displaced

Clinical features;

Pain /swelling base of the thumb

Tenderness and crepitus at the base of the metacarpal



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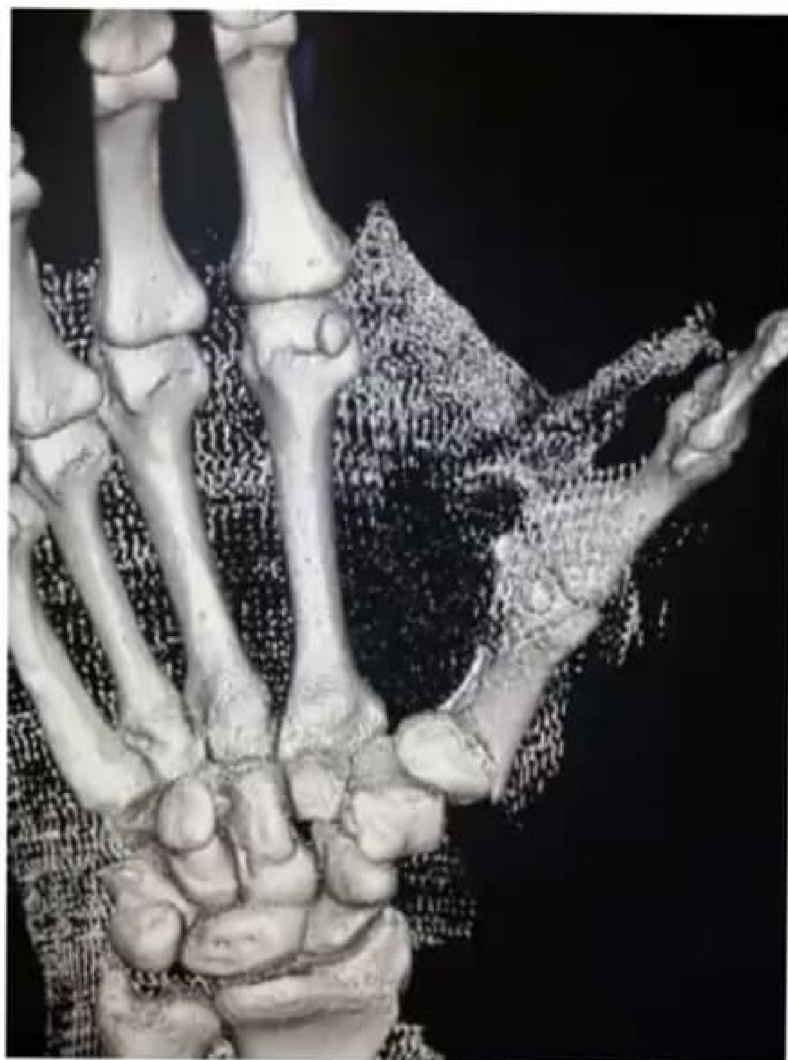

Management

- Closed manipulation and plaster cast with the thumb in abduction and padding at the base of the metacarpal to give pressure to the fragment
- If conservative treatment fails, then open reduction and screw fixation

ROLANDO FRACTURE;

Fracture base of the 1st metacarpal with no extension to the articular surface

Treatment is by casting

METACARPAL FRACTURES

These are common

Mostly caused by direct blow

Rarely displace much as they are tethered by small muscles of the hand

Treatment is by;

- Wrist brace
- Casting
- Pinning if displaced

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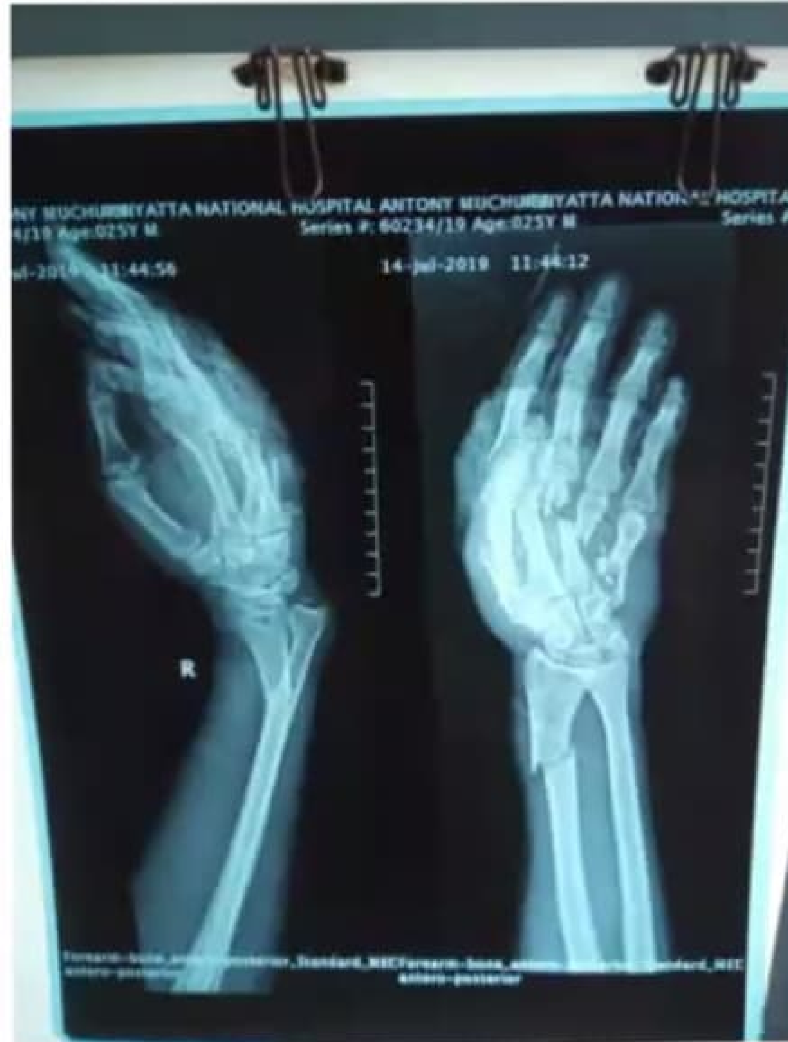

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The most important and common fracture of the metacarpals is the Boxer's fracture

This is the fracture of the 5th metacarpal at its neck

It is usually caused by punching

The distal fragment goes into flexion

If patient does not want it to heal in flexion, then treatment is operative by correction and pinning

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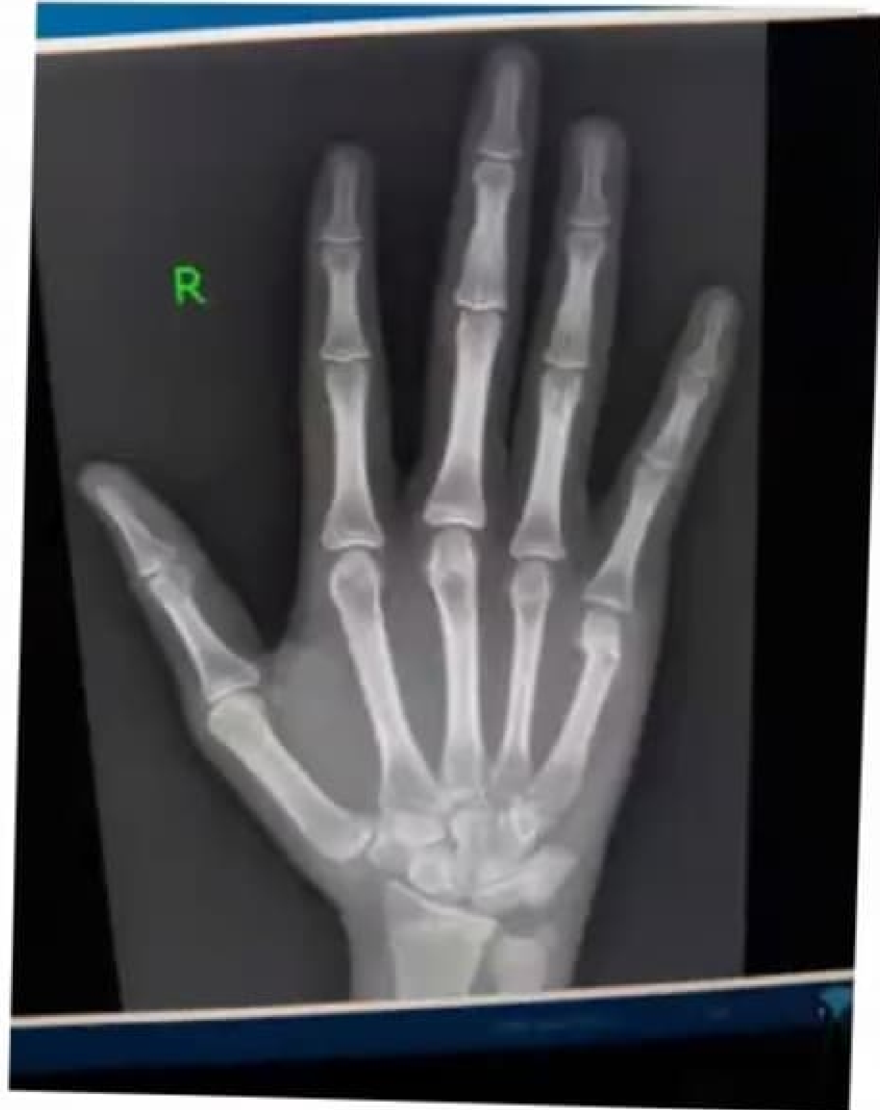

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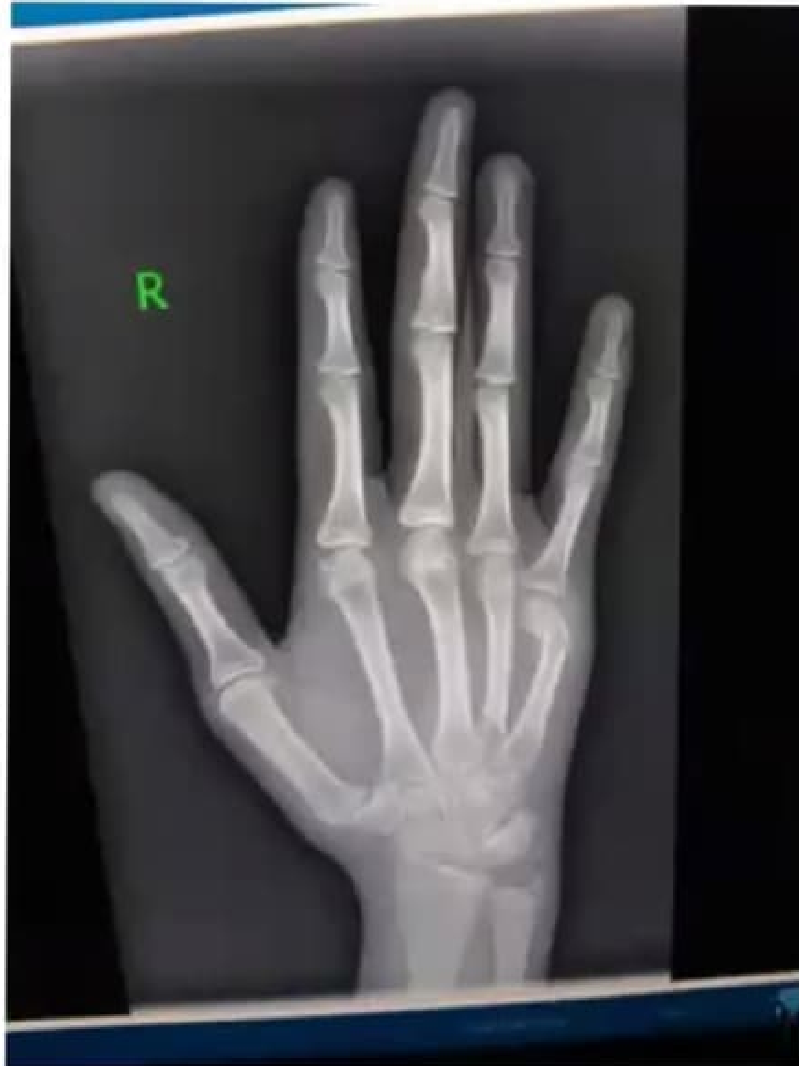

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Fractures of phalanges are common and mostly treated conservatively or by pinning

Avoid prolonged immobilization as the fingers become stiff very quickly

Err towards early mobilization usually 2-3 weeks

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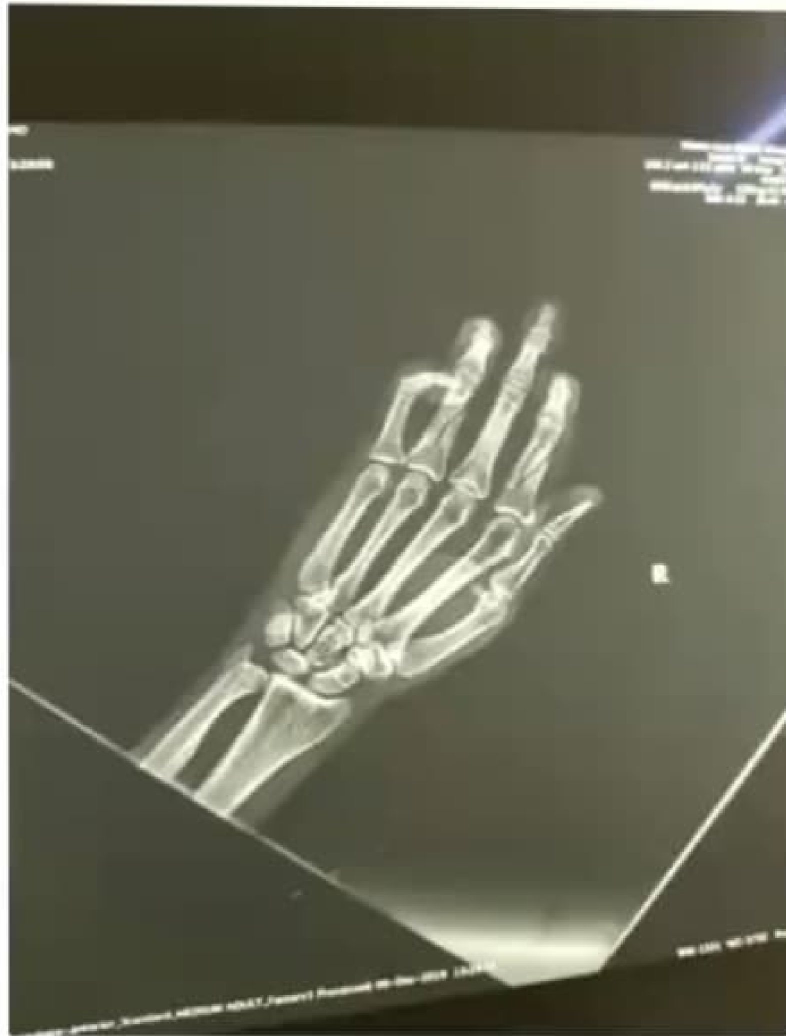

MALLET FINGER

Common injury to the fingers at the DIPJ

The distal phalanx is in flexion at DIPJ

Any attempt at active extension fails

Caused by avulsion of the long extensor from its attachment to the distal phalanx

Treatment;

- Mallet Splint
- Malleable metallic splint (Zimmer)
- Pinning
- Occasionally operative reattachment, but this very commonly leads to dorsal skin necrosis

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DISLOCATION OF HAND JOINTS

MPJ:

Two kinds

- Simple
  - Easily reduced closed
- Complex
  - More often closed reduction fails because of button holing Treatment is surgical

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- IPJ:

    Commonly dislocate

    Easily reduced with ring block