Prakoshtha ***Asthi Bhanga /Bhagna***

လက်ဖျံရိုးကျိုးခြင်း (Fractured radius and ulna)

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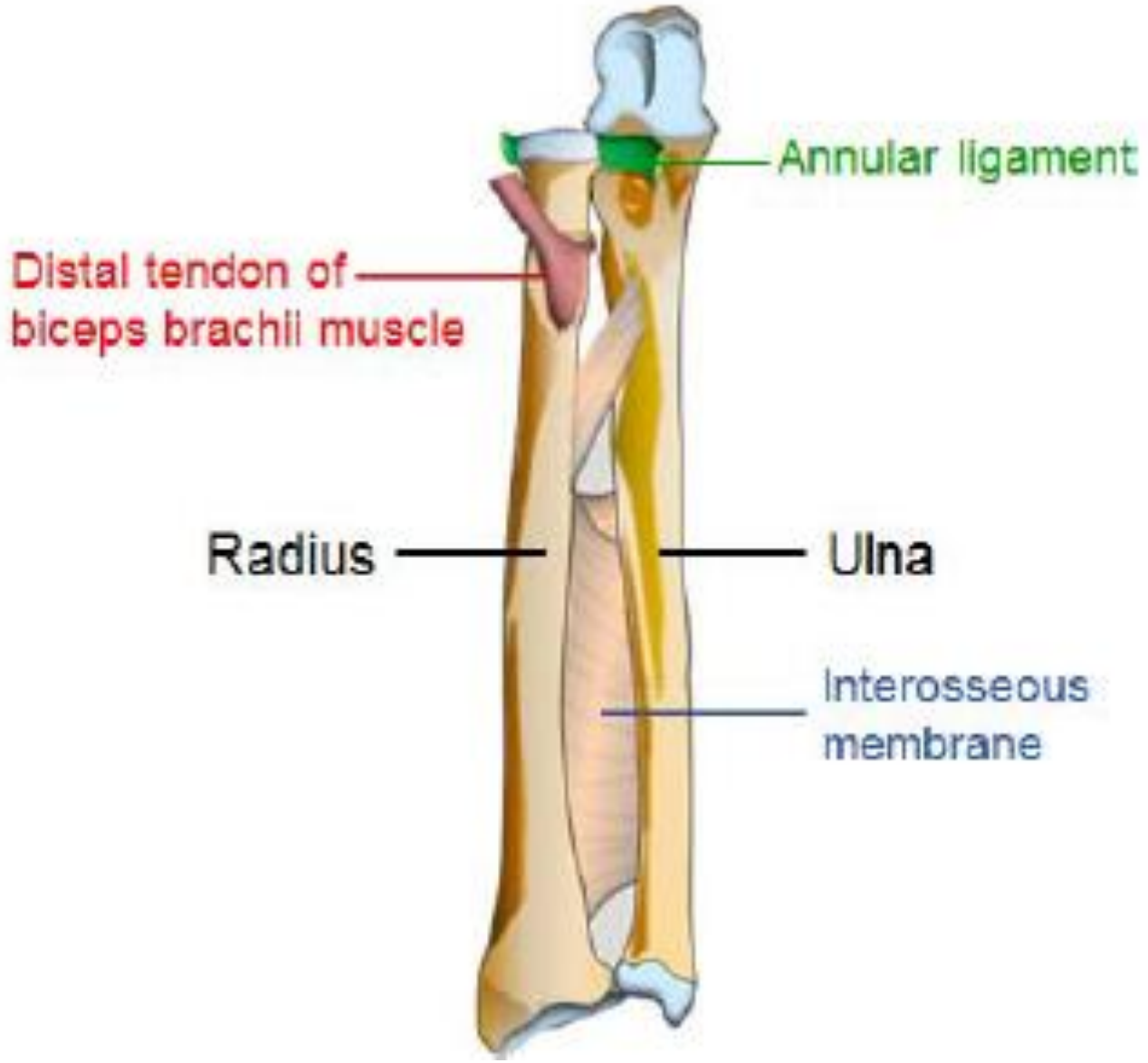
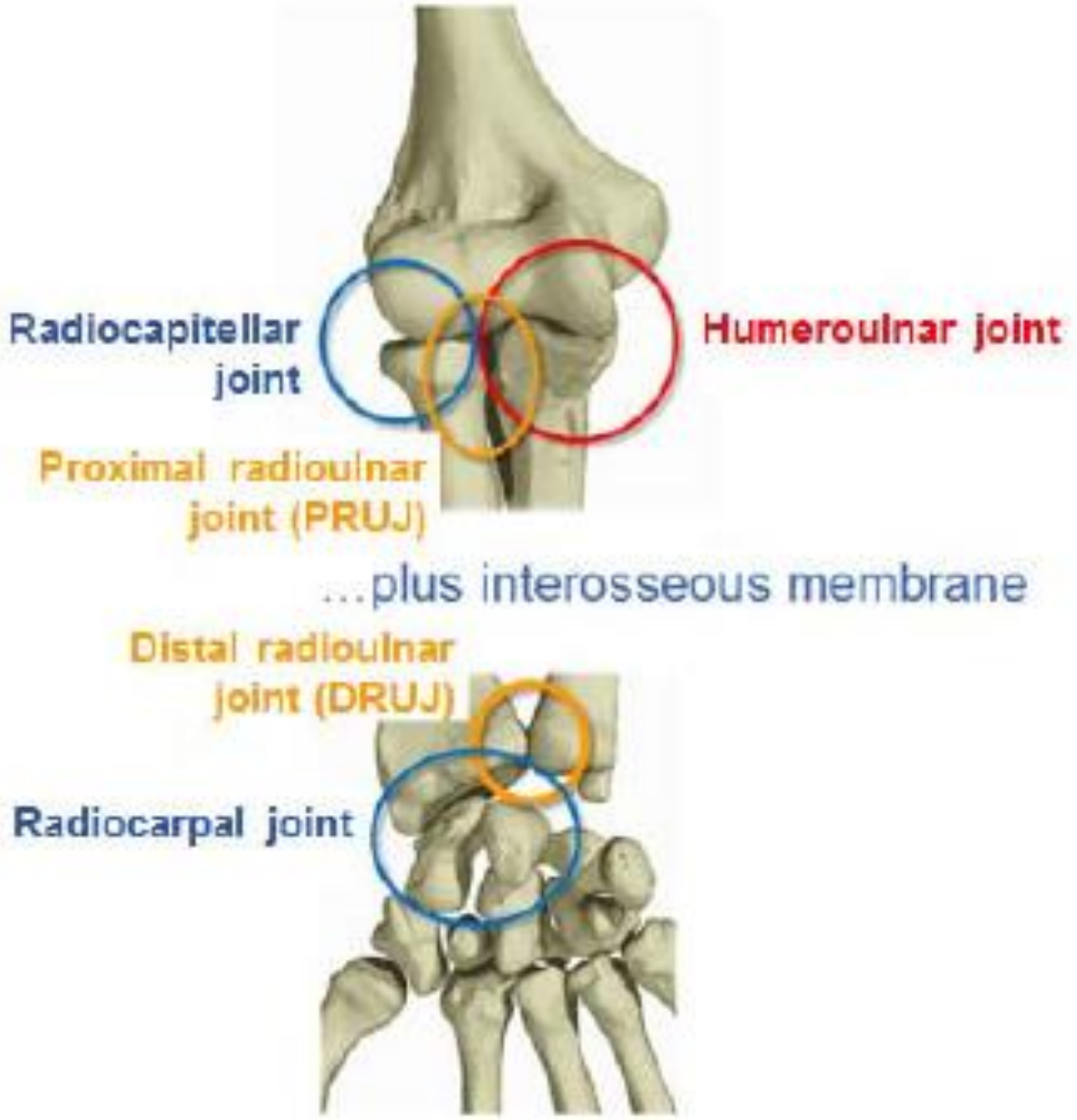
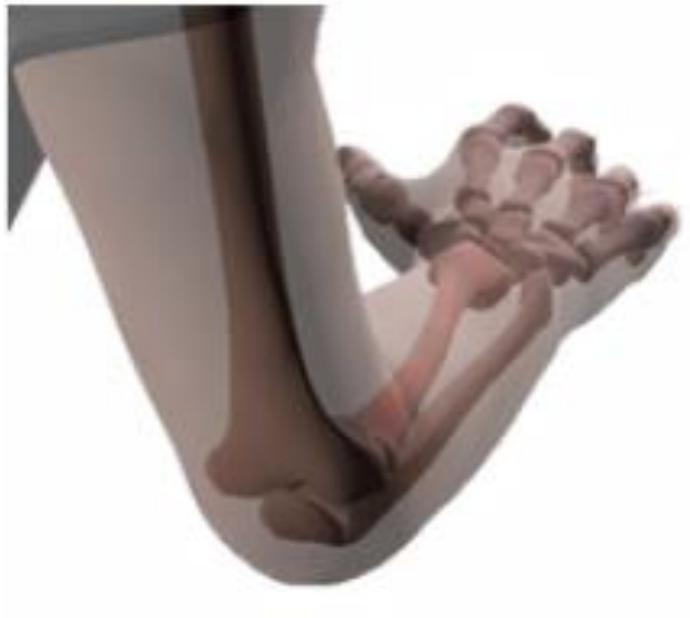
1. Anatomy
2. Mechanisms of injury
3. Sites of fracture
4. Types of fracture
5. Signs and symptoms
6. Line of Treatment
7. Condition for referral

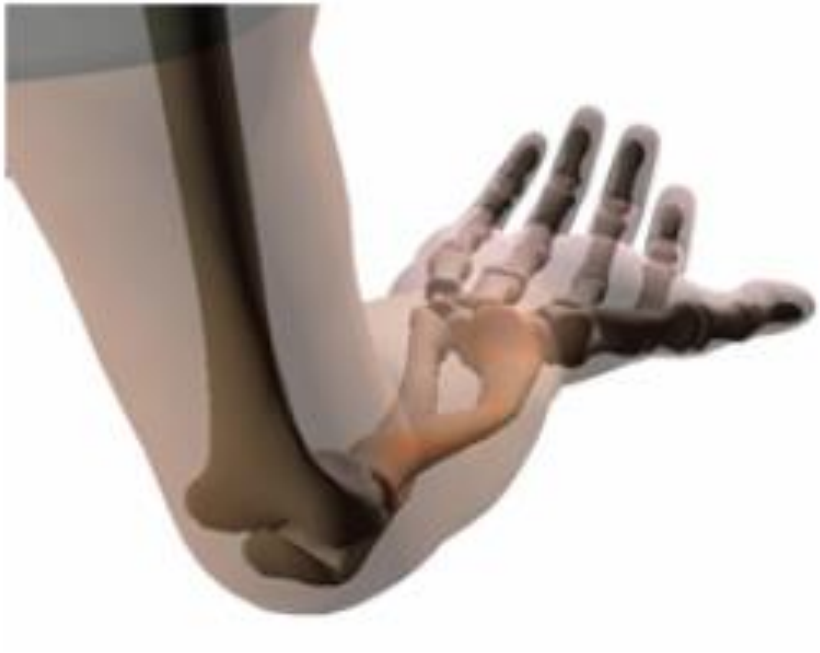

Annular ligament
Distal tendon of
biceps brachii muscle
Radius
Ulna
Interosseous
membrane


Radiocapitellar joint
Humeroulnar joint
Proximal radioulnar joint (PRUJ)
...plus interosseous membrane
Distal radioulnar joint (DRUJ)
Radiocarpal joint

Pronation



Supination



Epidemiology

10–14% of all fractures occur in the forearm

The fracture mechanism is often high-energy trauma, resulting in:

Axial compression

Bending

Rotation

Direct trauma

Fractures of the forearm

- Monteggia fracture-dislocations

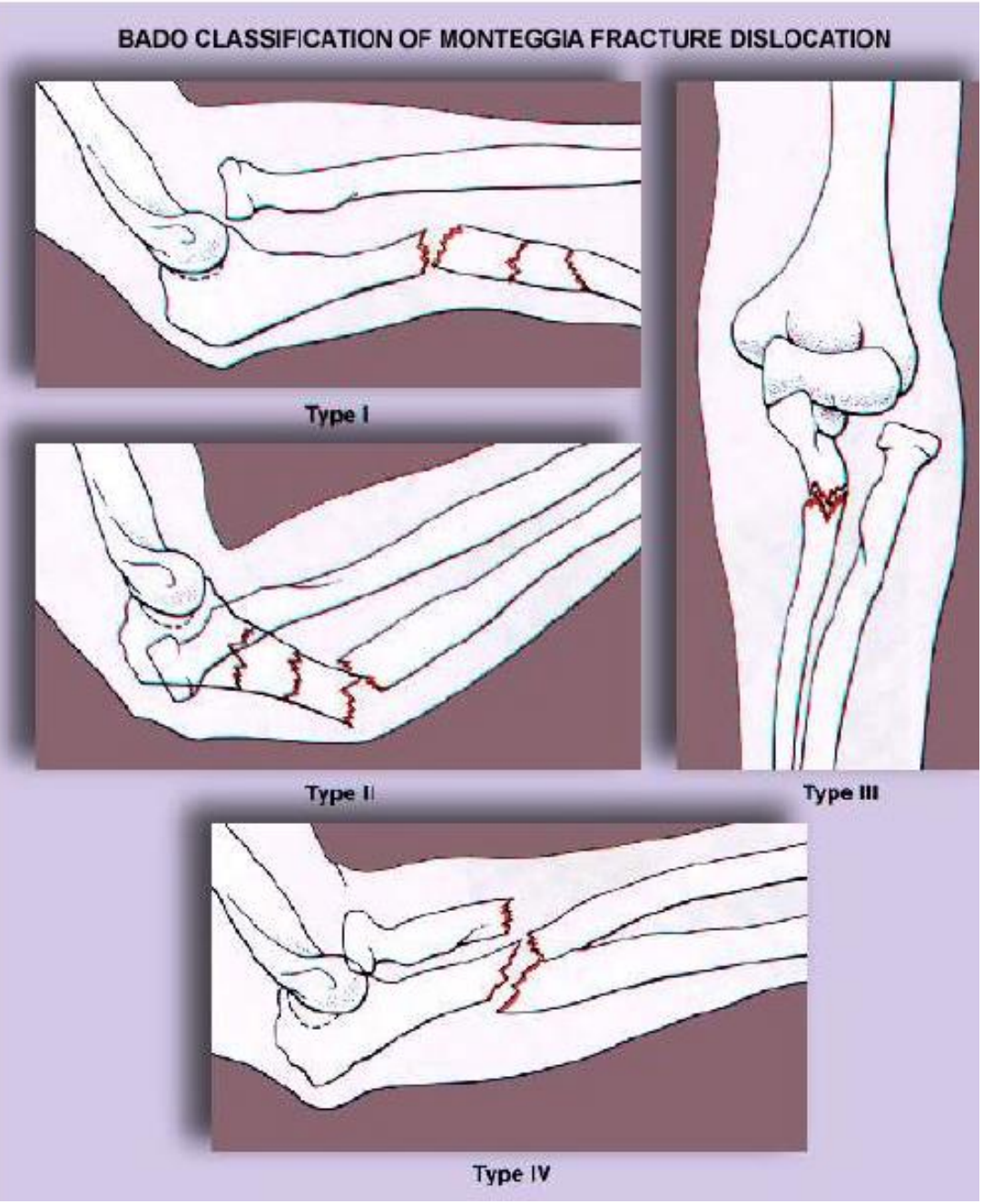
Bado classification of fractures of the proximal ulna:

I = with anterior radial dislocation

II = with posterior radial dislocation

III = with lateral radial dislocation

IV = with anterior radial dislocation and fracture



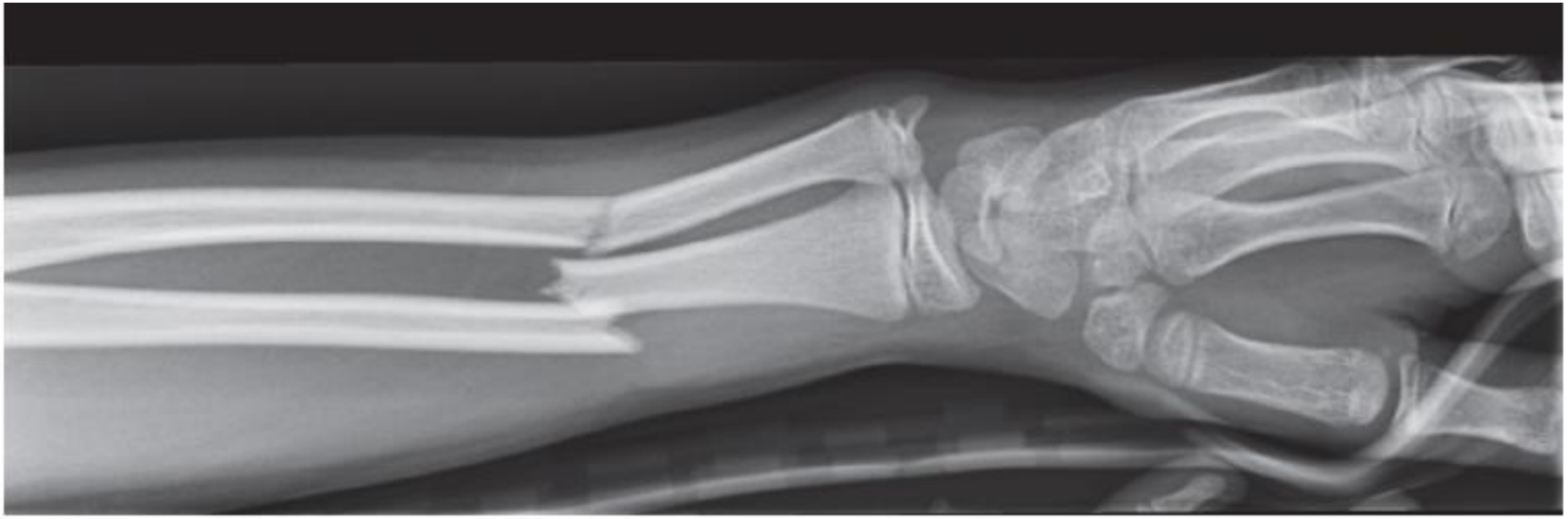


Fig. 6. A supination-apex-volar–fracture that is commonly caused by landing against an outstretched limb, the forearm being in pronation.

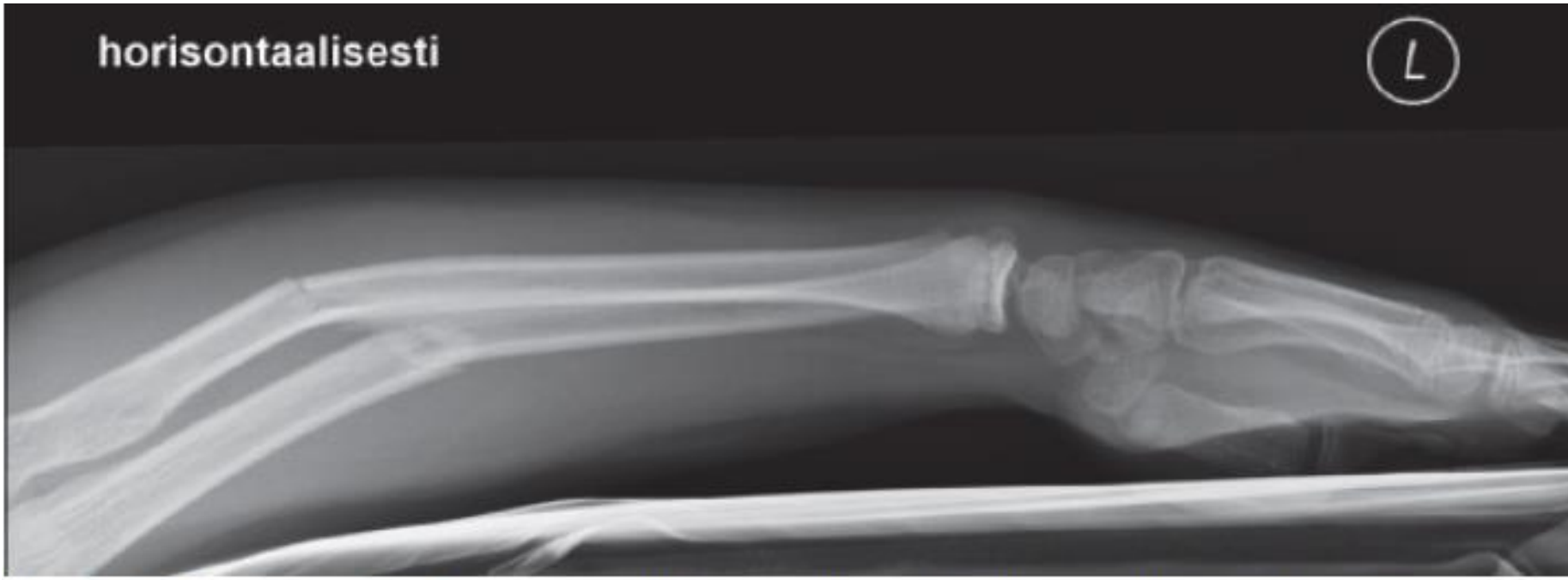
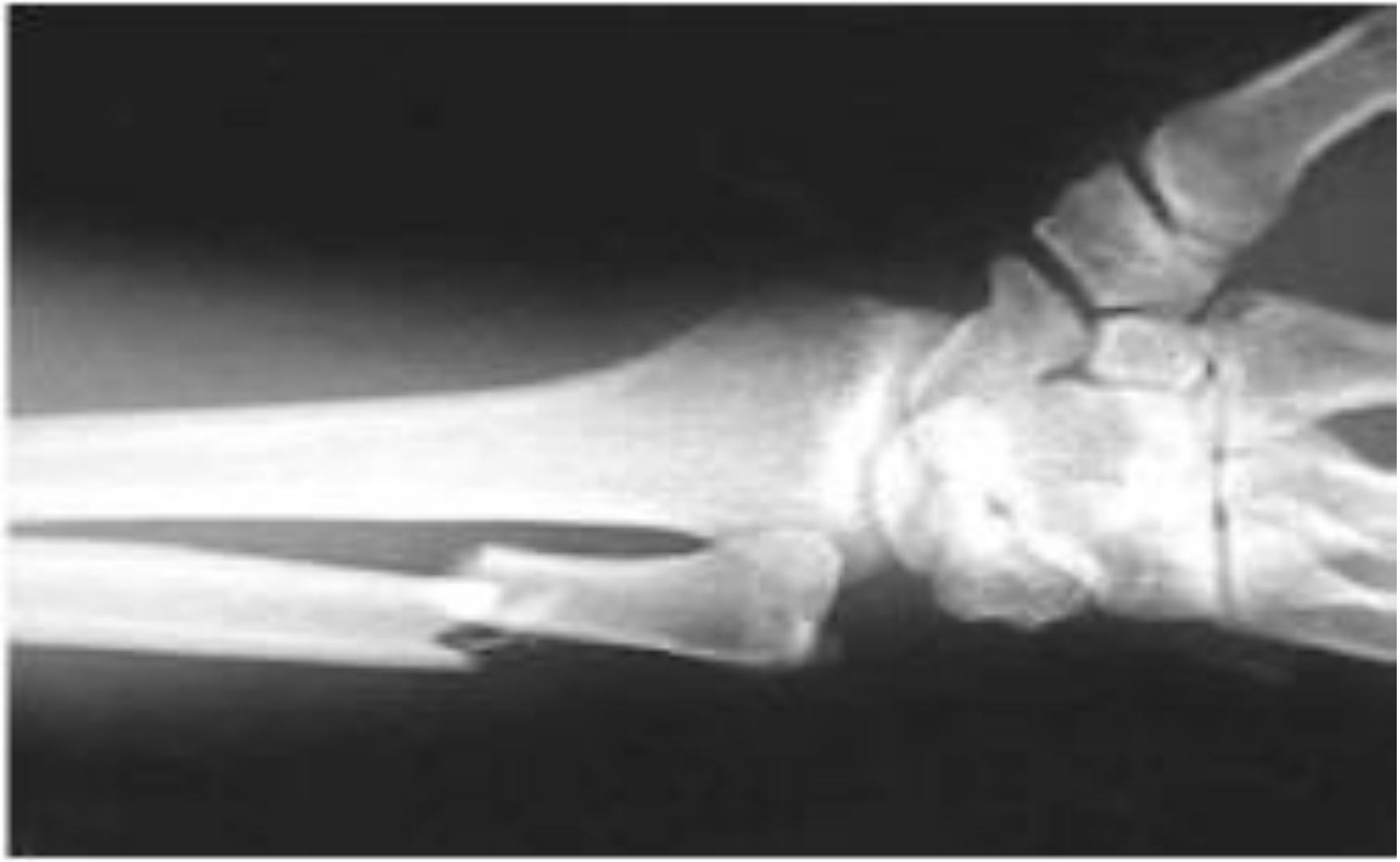


Fig. 7. A forearm shaft fracture with apex-dorsal and pronation deformity.

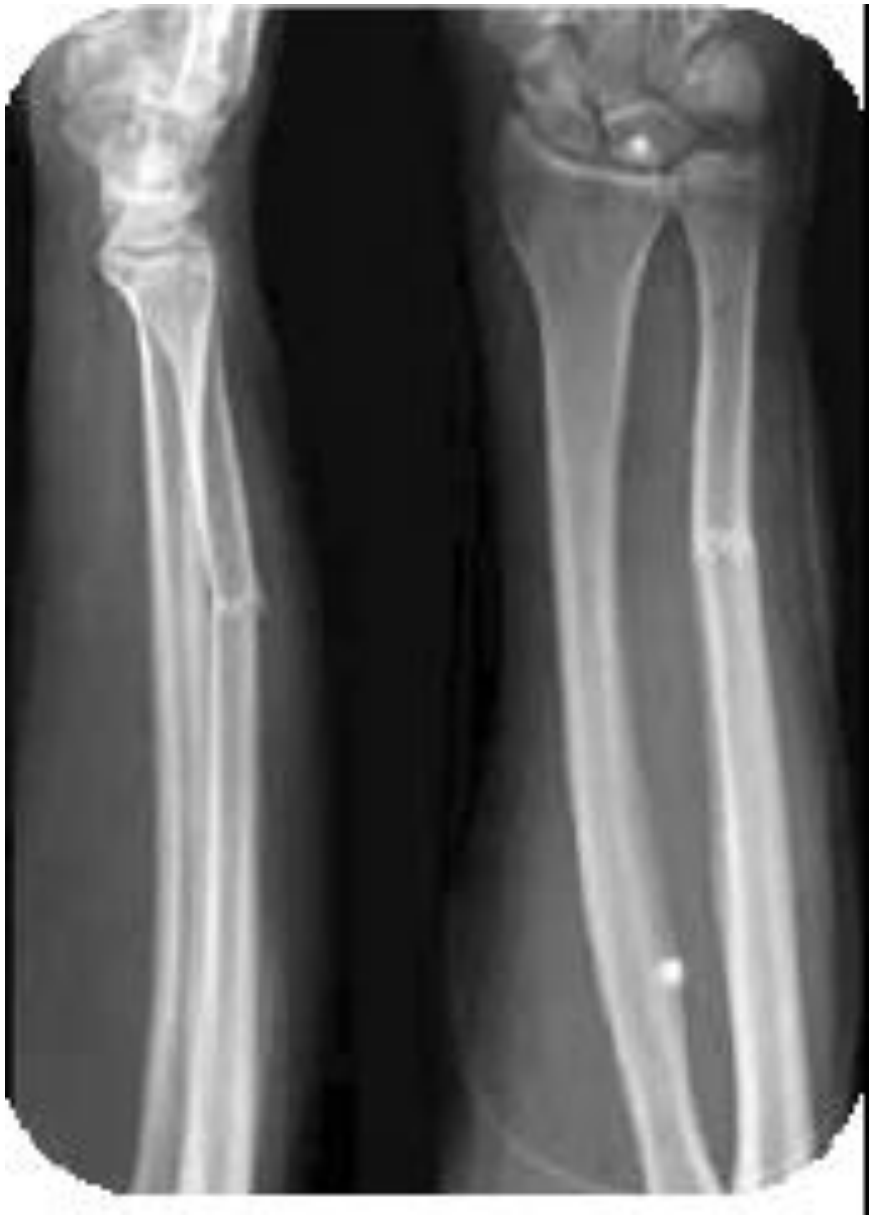


Treatment

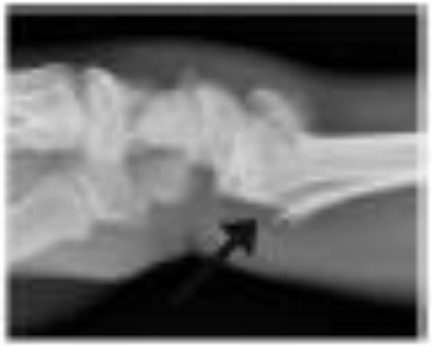
Nonoperative

1. Indications

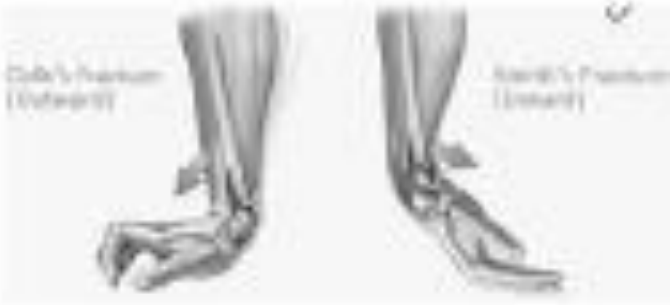
Fractures without displacement and without associated dislocation



Distal Radius Fracture Types



- **Colles' Fracture:**
  - Complete extra-articular fracture of distal radius w/dorsal displacement
  - 80% require reduction
  - Often loose reduction & require ORIF
- **Smith's Fracture:**
  - Reverse Colles'
  - Radius displaces palmarly (volar displacement)



Treatment

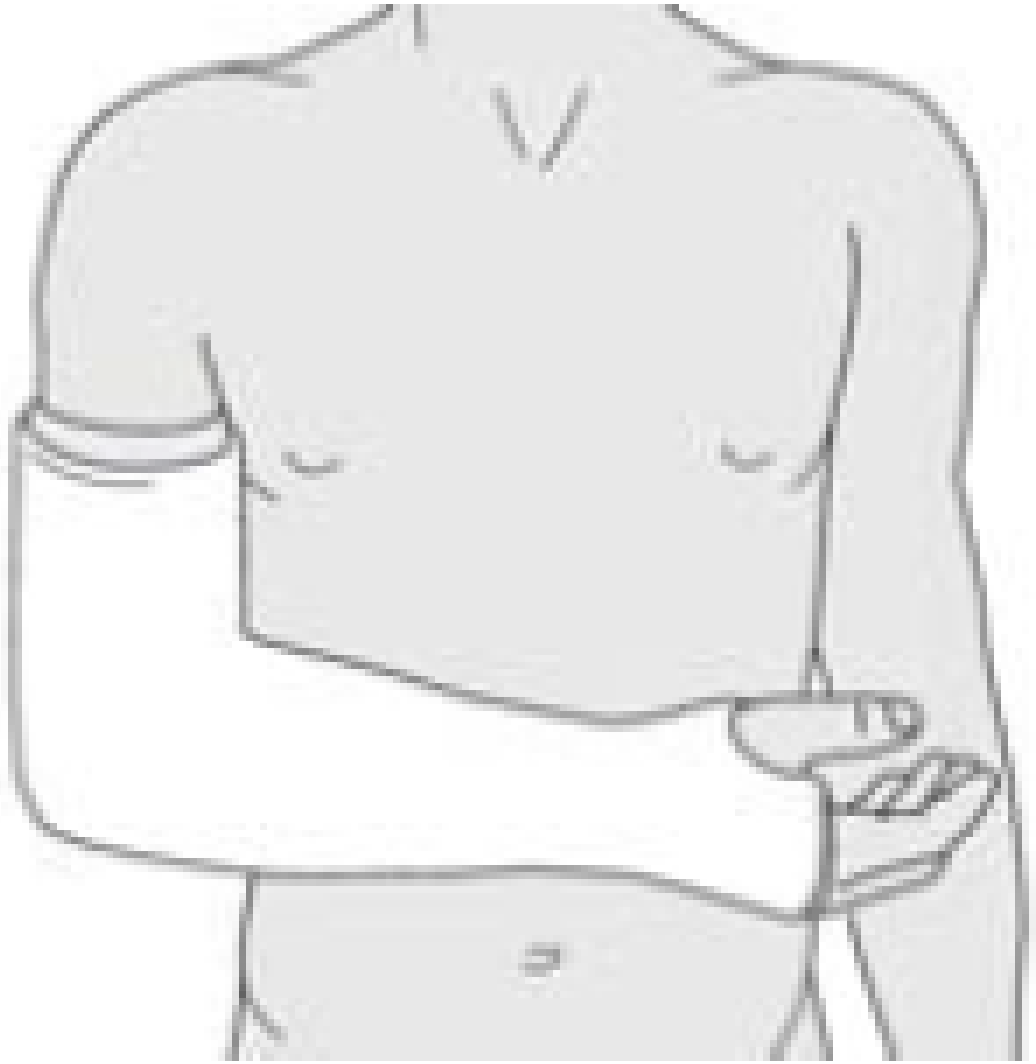
Cast for minimum 4 weeks—

including adjacent joints

Fractures in proximal forearm, cast in supination. A cast in supination position will reduce the displacing forces of supinator and biceps brachii muscles.

Fractures in middle or distal part, cast in neutral rotation

X-ray controls—frequently, ideally weekly to show fracture position.



Risks

Chance of delayed or nonunion is up to 30%.

Limited range of motion (ROM) after immobilization

Pronation, supination

Contracture of interosseous membrane

TM management for fracture of radius and ulna

- Reduction
- Medical Bandaging
- POP slab
- Oral Medication
- External application
- Supportive treatment
- Do and Don’t

References

Department of Physical Medicine.(2019). Third year fracture and traumatology text book. Department of Physical Medicine, University of Traditional Medicine, Mandalay.

Perry, Clayton, R. and Elstrom, John, A. (2012). Handbook of fractures. Published by: Lotus Press, P.O Box 325, Twin Lakes, Wisconsin 53181, web:www.lotuspress.com.

Solomon, L., Warwick, D and Nayagam, S. Apley's: System of Orthopaedics and Fracture, Ninth Edition.