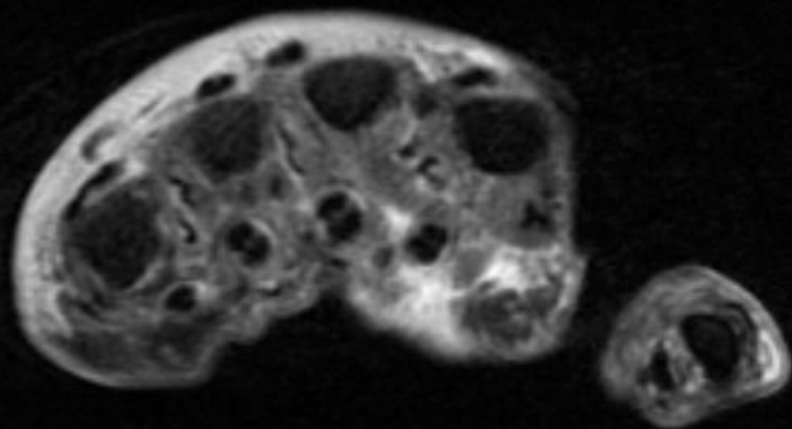
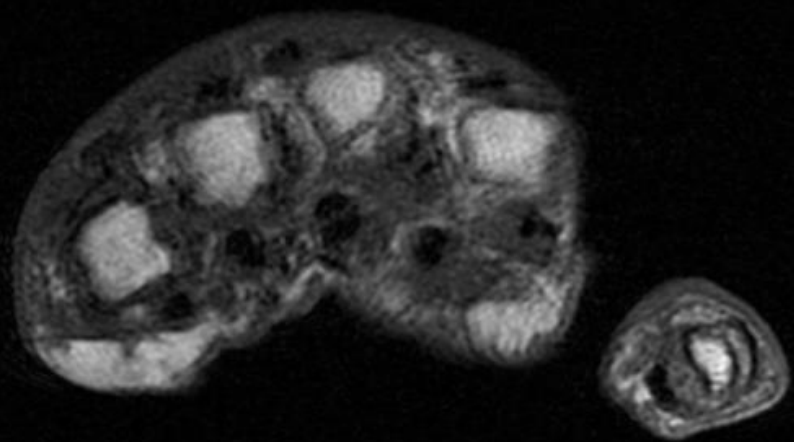
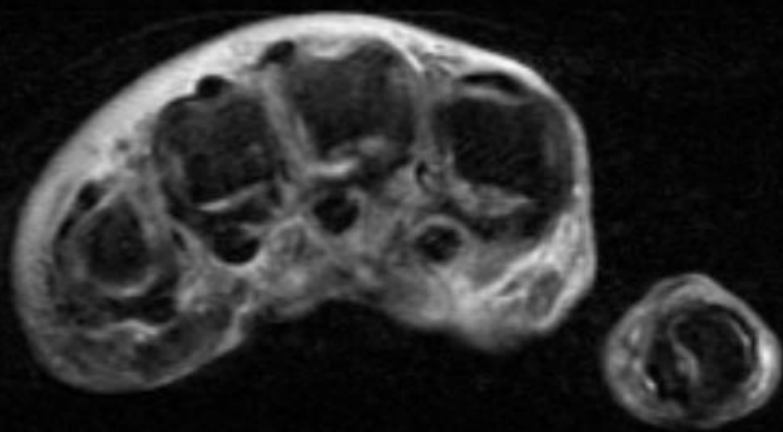
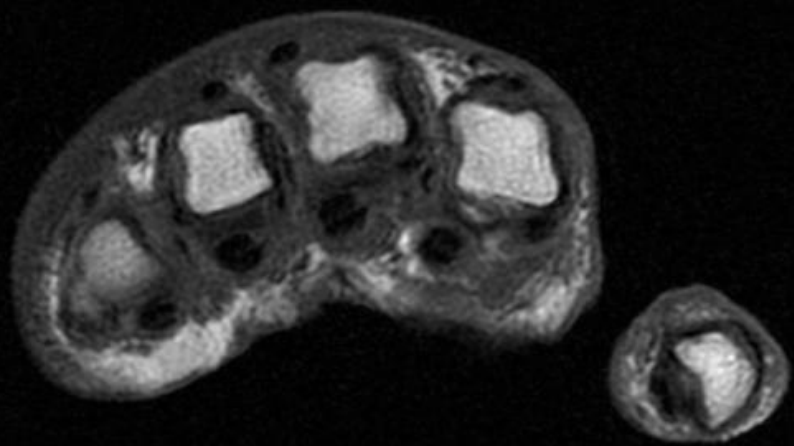


Pain and drooping of middle
finger



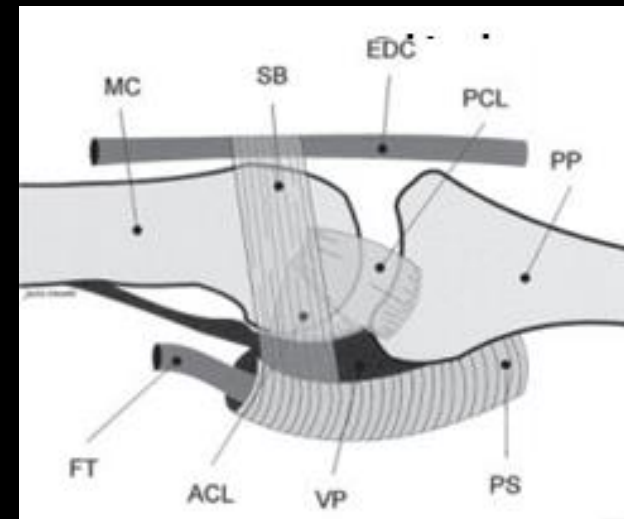


Boxer's knuckle

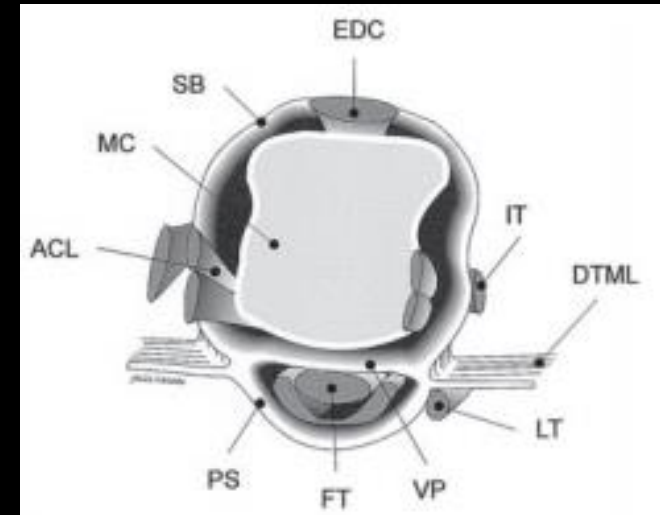


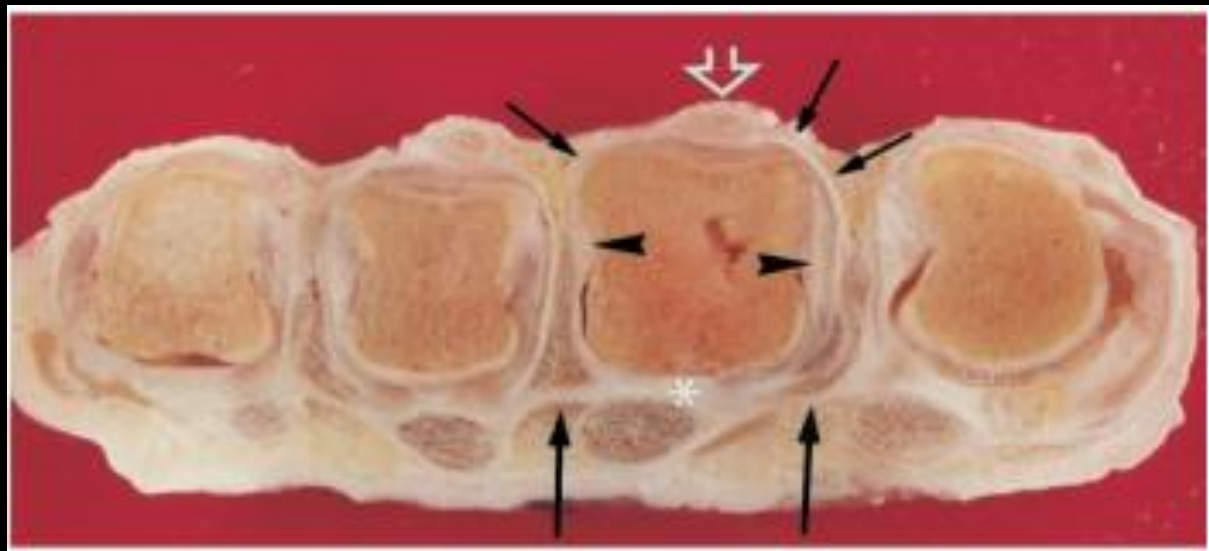
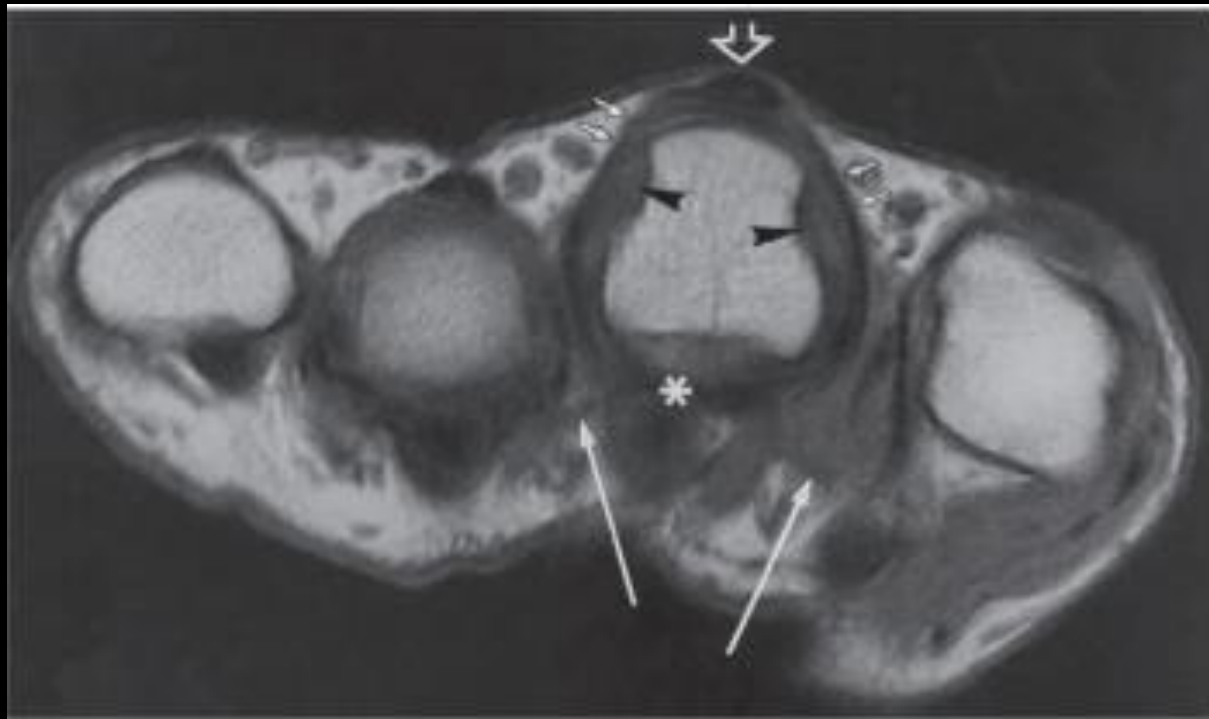
MCP Joint and extensor mechanism anatomy

- Collateral ligaments are taut in flexion and lax in extension – allowing abduction and adduction
- Volar plate – important stabilizer of the joint and interconnected with adjacent MCP joints by deep transverse metacarpal ligament
- Extensor hood (including its sagittal bands) – stabilizes extensor tendon at this level and contributes to stability of the joint

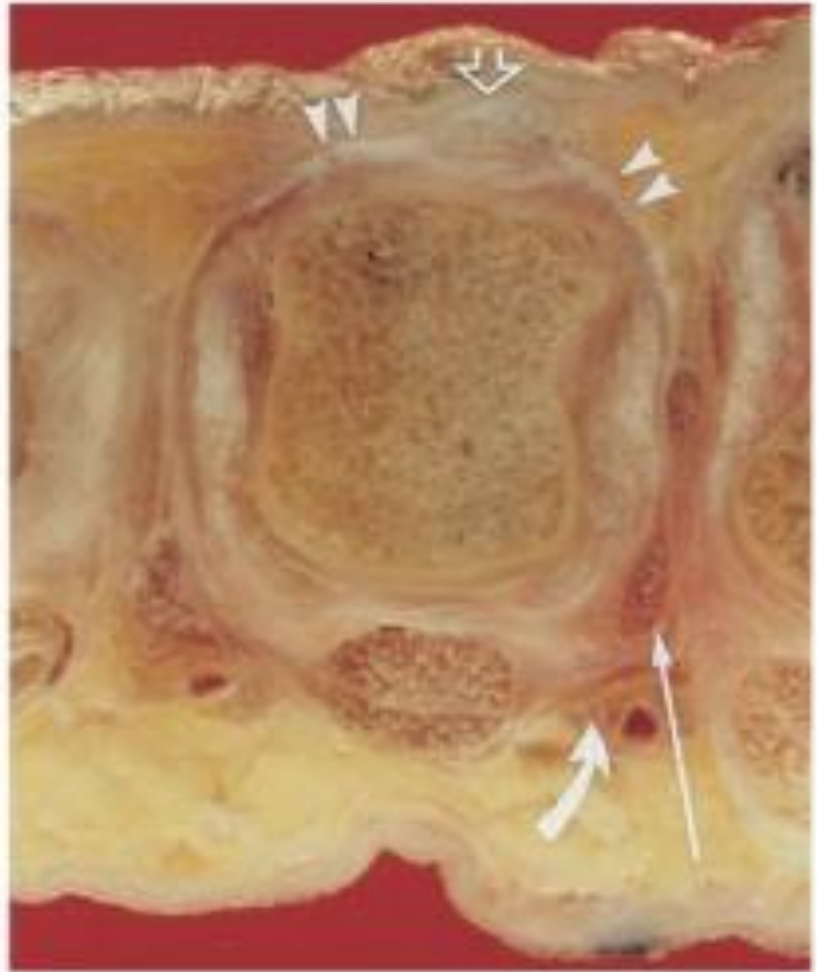
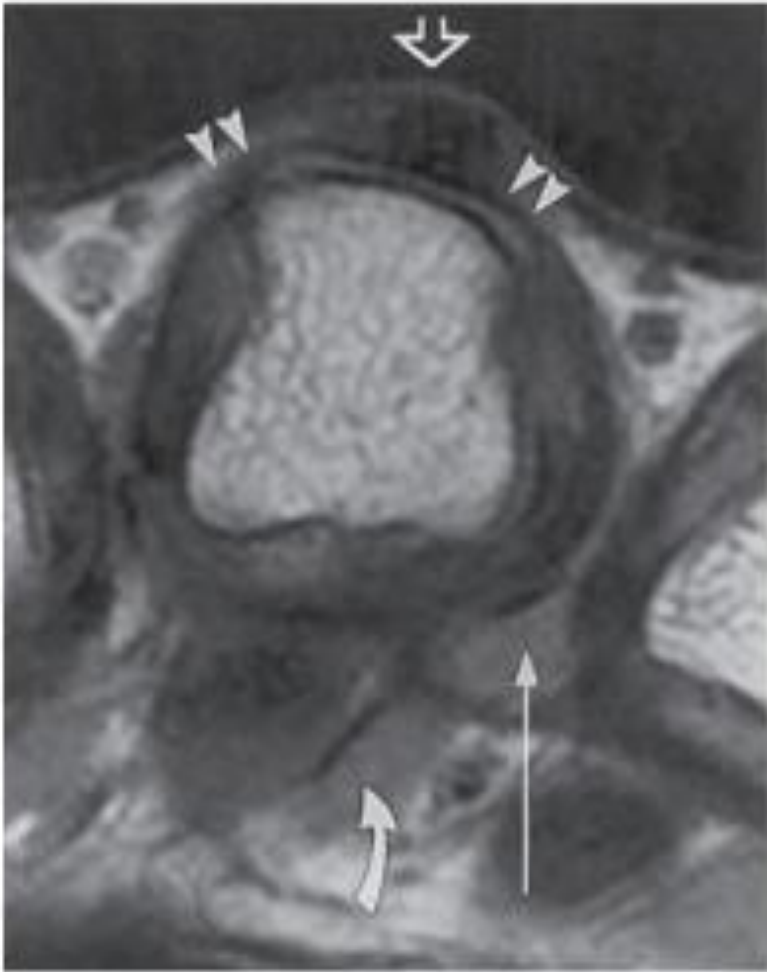


- Extensor tendons
 - Extrinsic (originate in forearm and elbow):
 - extensor digitorum communis
 - extensor indicis proprius
 - extensor digiti quinti minimi
 - Intrinsic (originate in hand): interosseous and lumbrical muscles
- Extensor tendons reach the hand by passing through fibro-osseous tunnels or dorsal compartments in the wrist
- At MCP joint the extrinsic tendons are stabilized over the dorsum of the metacarpal head by the extensor hood
- Sagittal bands are main component of extensor hood, which starts at the volar plate and has a dorsal tendinous point of insertion



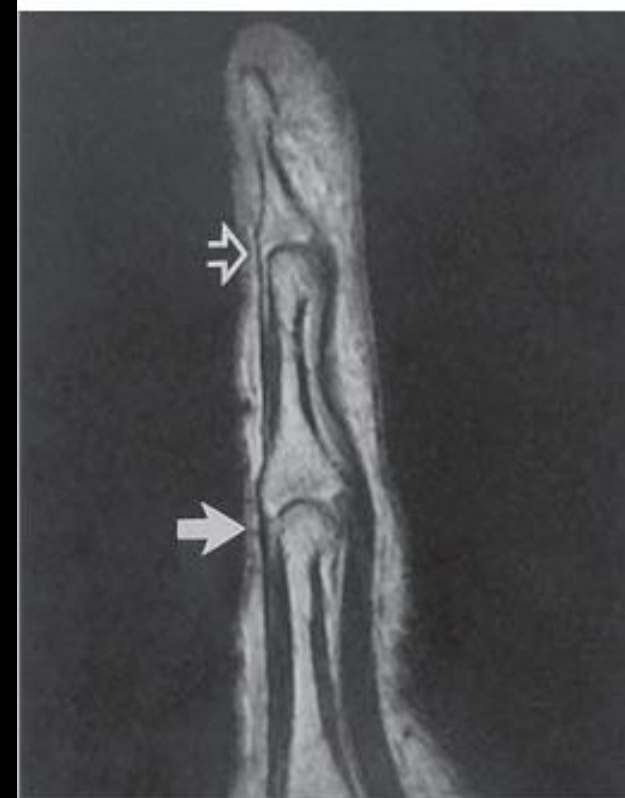



Clavero JA, Alomar X, Monill JM, et al. MR imaging of ligament and tendon injuries of the fingers. *RadioGraphics* 2002; 22:237-256

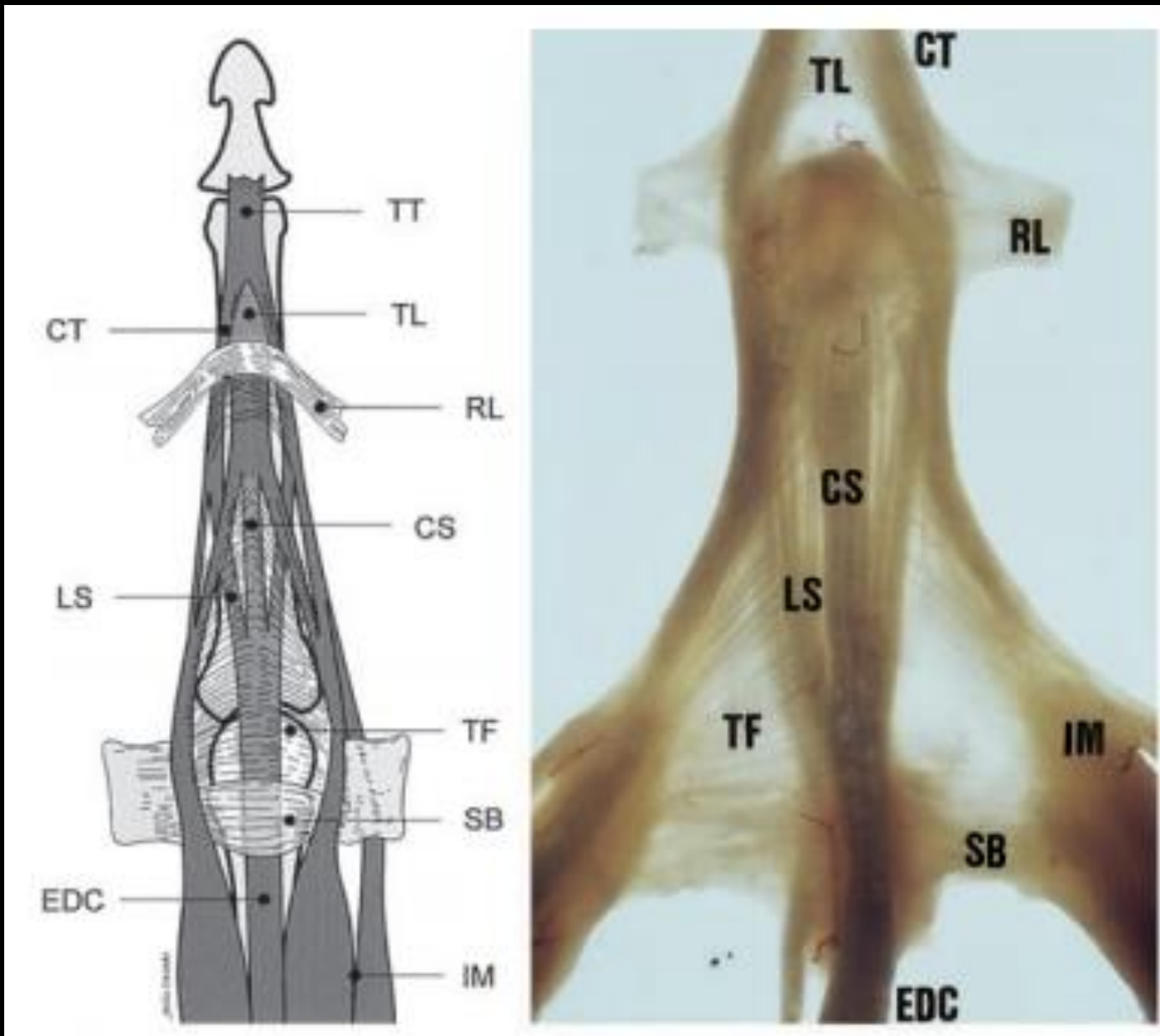


Clavero JA, Alomar X, Monill JM, et al. MR imaging of ligament and tendon injuries of the fingers. *RadioGraphics* 2002; 22:237–256

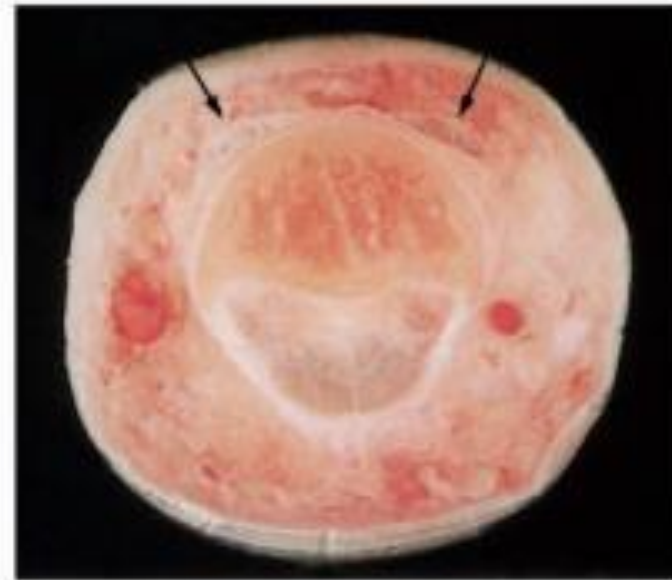
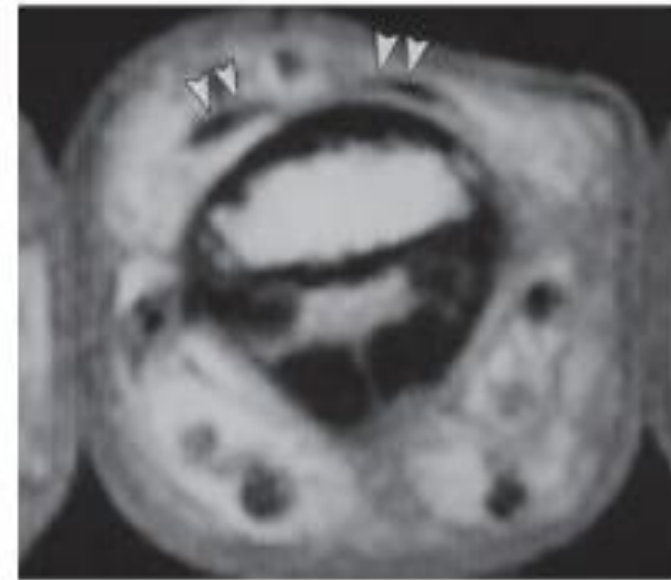
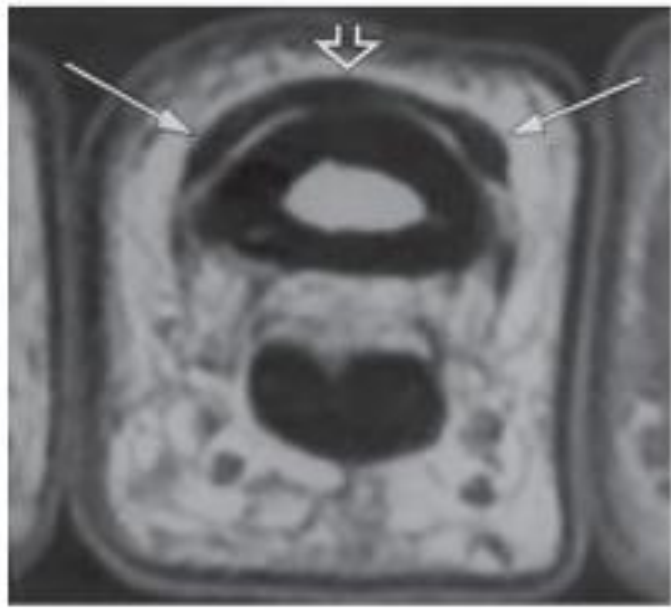
- Distal to the sagittal bands, the transverse fibers of the intrinsic tendons contribute to the anatomy of the extensor hood
- Distal to the MCP joint, the extrinsic and intrinsic tendons blend into the dorsal apparatus and are circumferentially distributed over the dorsum of the fingers.
- The extrinsic extensor tendon continues in the central and lateral slips
- Central slip (also receive fibers from intrinsic tendons) inserts on base of middle phalanx



- Intrinsic tendons contribute to form the lateral slips  conjoint tendons
- conjoint tendons converge distally to form the terminal tendon which inserts on base of distal phalanx



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Proximal
To PIP

At middle
phalanx

Clavero JA, Alomar X, Monill JM, et al. MR imaging of ligament and tendon injuries of the fingers. RadioGraphics 2002; 22:237-256

Boxer's Knuckle

- Subluxation or dislocation of the extensor digitorum communis tendon at the MCP joint
- Occurs as a result of tearing of the sagittal bands
- Usually due to a direct blow forcing the finger into flexion or of forced flexion and ulnar deviation
- Ulnar subluxation is more common and usually affects the middle finger
- Radial subluxation is unusual but can occur with forced valgus injury
- On exam the patient has pain and swelling over MCP joint
- Usually inability to completely extend the MCP joint
- If untreated can have a history of multiple episodes of pain and swelling over the MCP joint with a snapping sensation in the finger

Imaging

- Dislocation of the tendon best depicted on axial images
- Morphologic and signal intensity abnormalities within and around the extensor hood components (especially the sagittal bands) with poor definition, focal discontinuity and focal thickening

Treatment

- In acute phase, conservative treatment with splinting of the MCP joint in extension
- Surgical correction is necessary in chronic symptomatic cases

References

- Clavero JA, Alomar X, Monill JM, et al. MR imaging of ligament and tendon injuries of the fingers. *RadioGraphics* 2002; 22:237–256
- Clavero JA, Golano P, Farinaas O, Alomar, X, Monill JM, Esplugas, M. Extensor Mechanism of the Fingers: MR Imaging - Anatomic Correlation. *Radiographics* 2003; 23:593-611