

Sagittal Band Injury

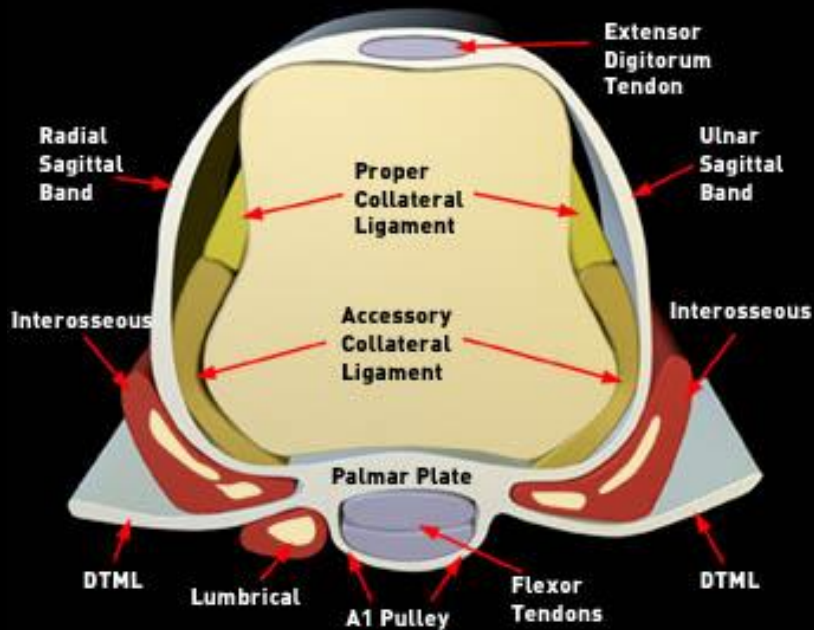
Normal Anatomy



Extensor apparatus zones

Normal Anatomy

- Girdle at the level of the MCP joint that serves as the primary stabilizer of the extensor tendon



SB anatomy

- Retinacular system- sagittal bands
 - the sagittal bands are part of a closed cylindrical tube (or girdle) that surrounds the metacarpal head and MCP along with the palmar plate
 - origin
 - volar plate and intermetacarpal ligament at the metacarpal neck
 - insertion
 - extensor mechanism (curving around radial and ulnar side of MCP joint)

SB Function

- Function
 - primary stabilizer of the extensor tendon at the MCP joint
 - juncturae tendinum are the secondary stabilizers
 - resists ulnar deviation of the tendon (especially during MCP flexion)
 - prevents tendon bowstringing during MCP joint hyperextension

Sagittal Band Rupture

- Also known as traumatic extensor tendon dislocation and boxers knuckle
- Mechanism of injury
 - Most commonly occurs in flexed position with when a knuckle hits a sharp surface (i.e. tooth) resulting in an oblique laceration (central laceration may lead to isolated injury to the extensor tendon)
- Location
 - Most commonly occurs in the middle finger radial side

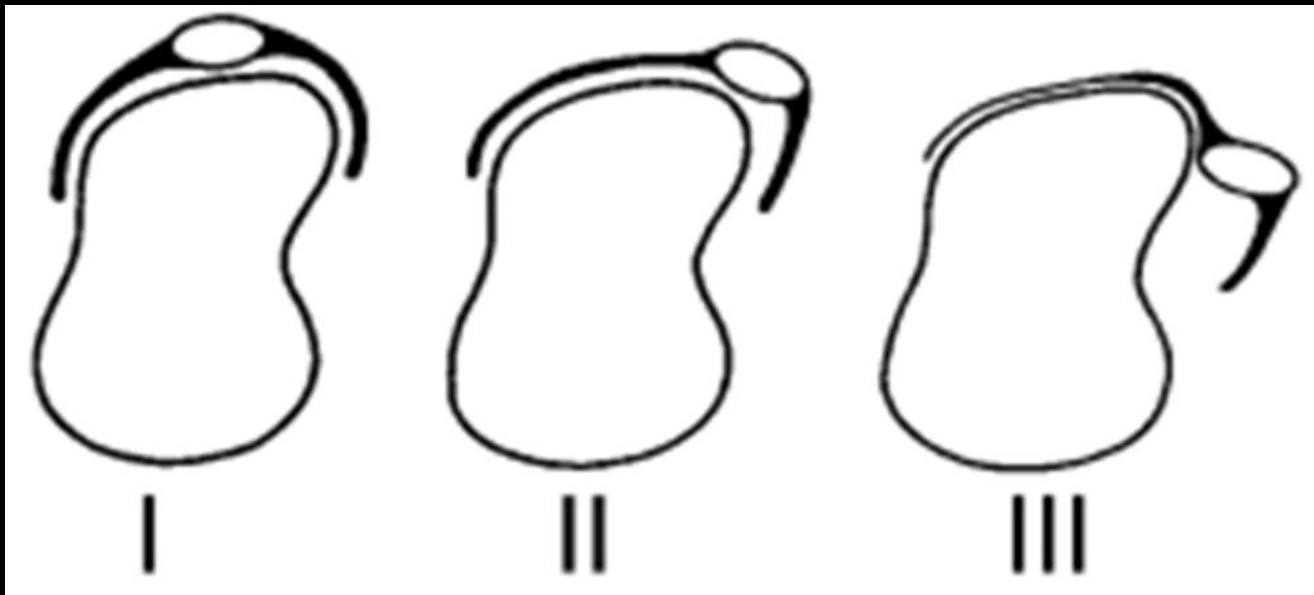


Sagittal Band Rupture

- Physical Exam
 - Snapping and subluxation of the extensor tendon when moving from extension to flexion



Sagittal Band Rupture



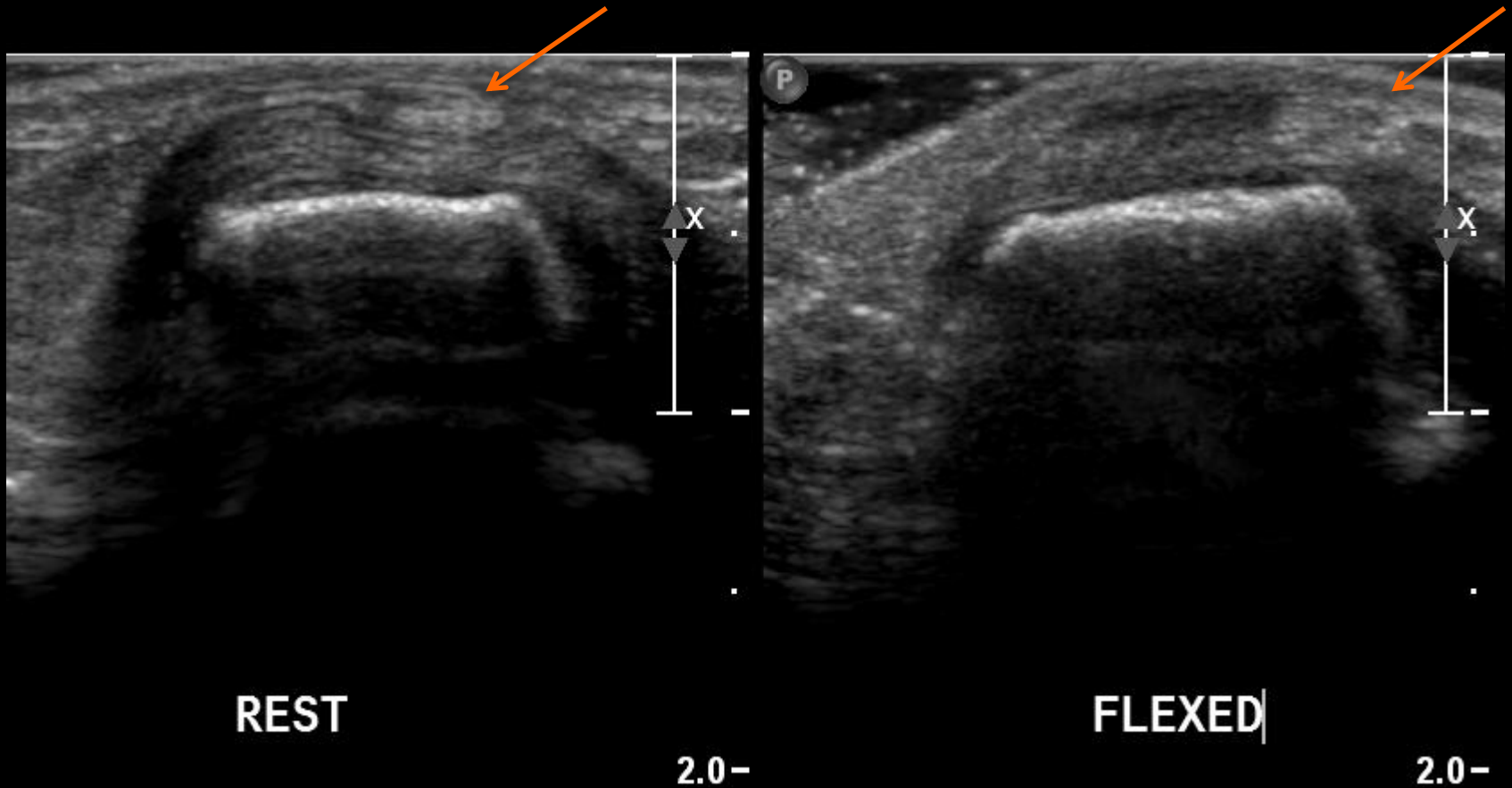
I – No extensor instability

II – Extensor subluxation

III – Extensor dislocation

Sagittal Band Rupture

- Ultrasound (dynamic)



Sagittal Band Rupture

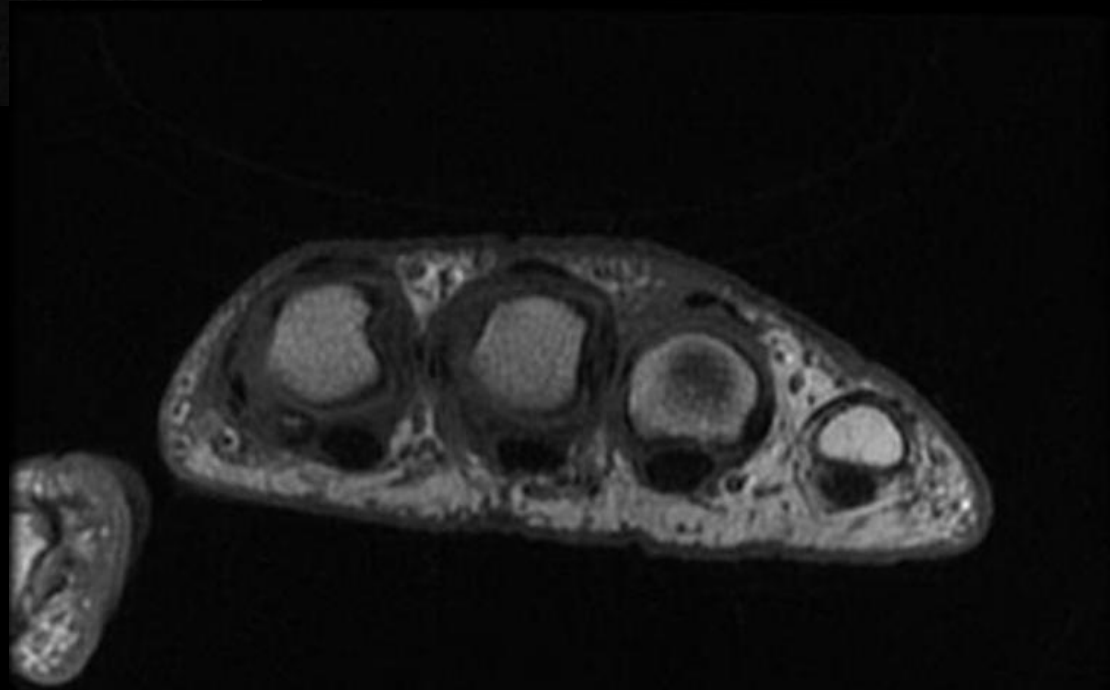
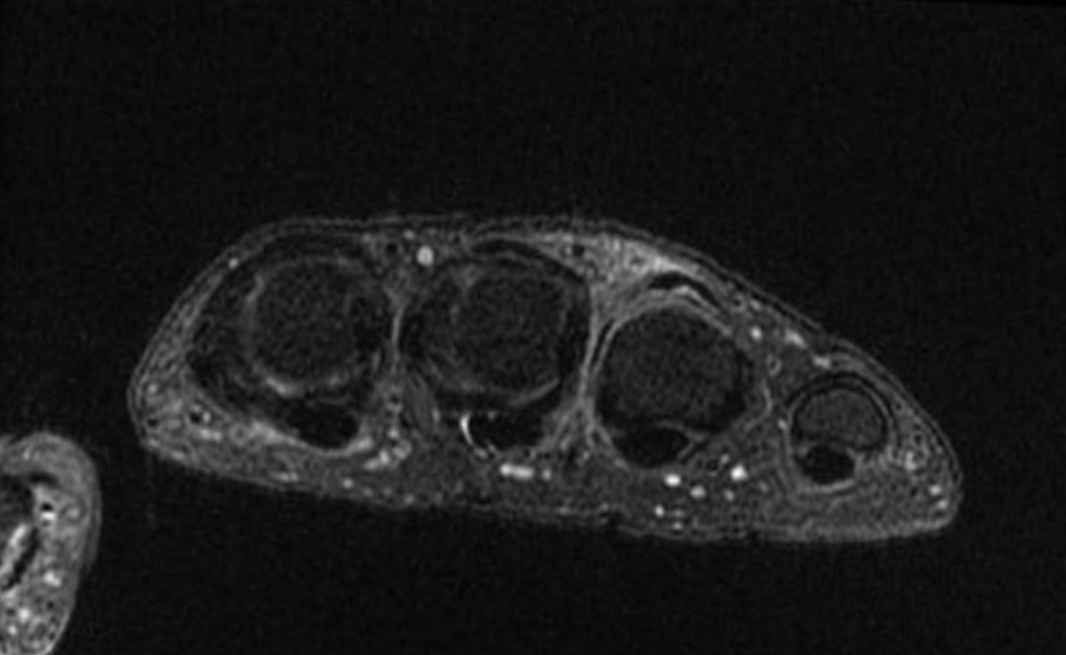
- MRI (dynamic)



Rest



Flexion



SB rupture

- Rupture
 - ulnar sagittal band
 - partial or complete sectioning does not lead to extensor tendon dislocation
 - radial sagittal band
 - distal sectioning does not produce extensor tendon instability
 - complete sectioning leads to extensor dislocation
 - sectioning of 50% of the proximal SB leads to extensor tendon subluxation

Treatment

- Non-operative
 - Acute, non open injuries
 - Extensor tendon splint – allows maximum 30 degrees flexion at MCP joint

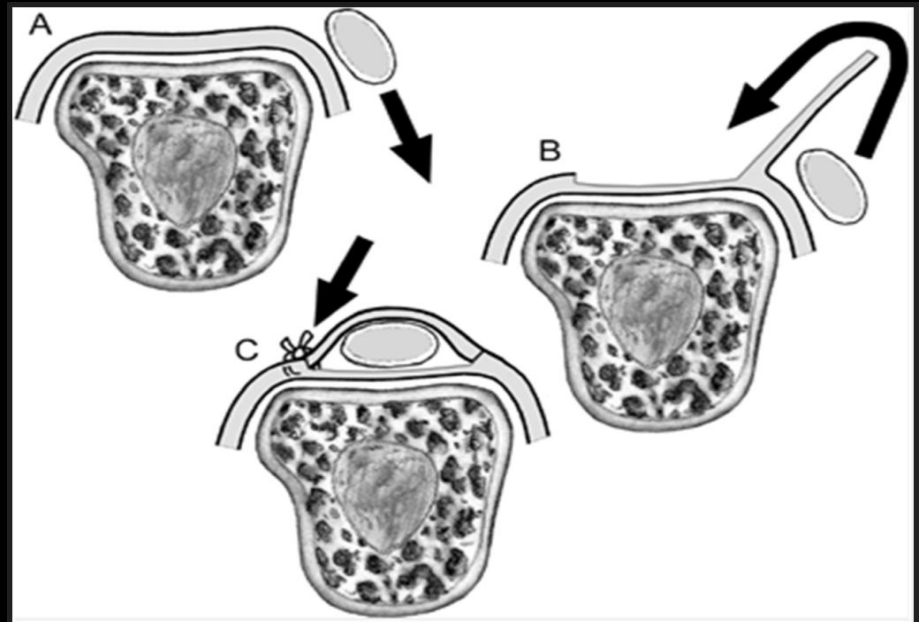


Treatment

- Operative
 - Chronic, open injuries, athlete



Direct Repair



Trap door technique