

Gamekeeper's Thumb and Finger Pathology


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Disclosures

- Book Royalties: Elsevier
- Consultant: Bioclinica
- Medical Director: POCUSPRO
- Advisor: Philips
- Not relevant

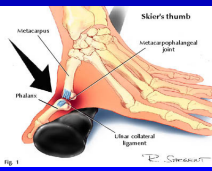


Syllabus on line and other educational material:
www.jacobsonmskus.com


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Gamekeeper's or Skier's Thumb

- Injury: ulnar collateral ligament of first MCP joint
- Chronic (gamekeeper's thumb): historically in Scottish gamekeepers
- Acute (skier's thumb): acute hyperabduction



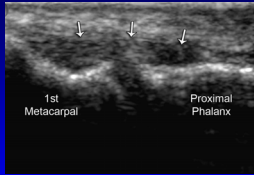
Acute Mechanism



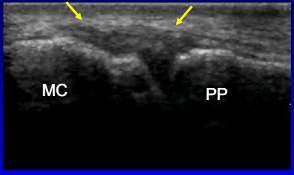
Chronic Mechanism

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Ulnar Collateral Ligament: thumb

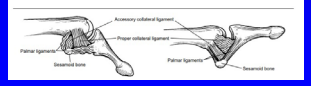


1st Metacarpal Proximal Phalanx



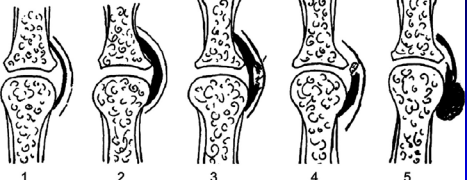
MC PP

Note: sliding of adductor aponeurosis with isolated interphalangeal joint flexion



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Ulnar Collateral Ligament: thumb



1
Normal

2
Sprain

3
Partial Tear

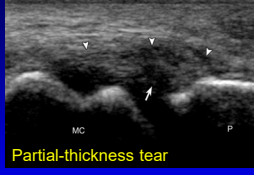
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Nondisplaced Complete Tear

5
Displaced Complete Tear (Stener Lesion) (+ fracture)


Radiographics 2006;26:1007 **RadioGraphics**

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UCL: tears



Partial-thickness tear



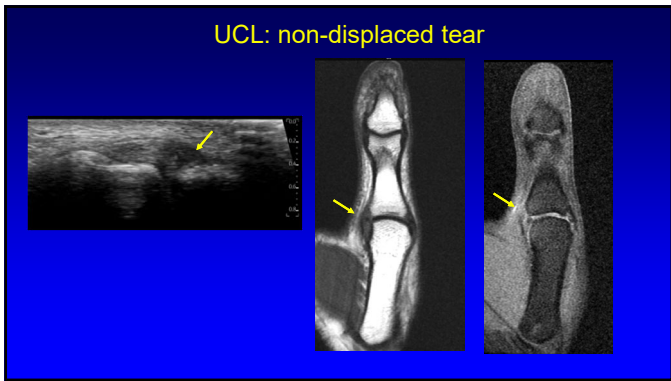
Full-thickness tear



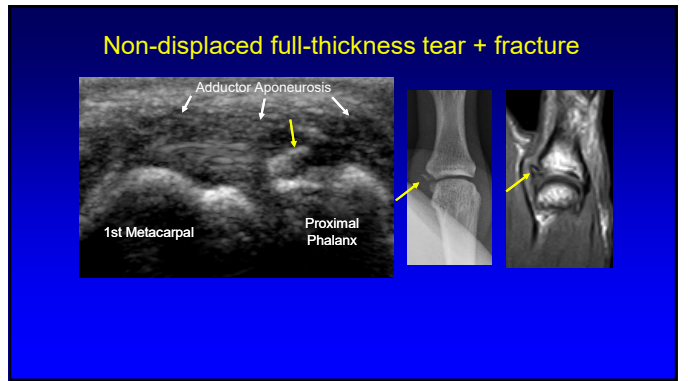
Normal

Teaching Point:
90% of UCL injuries are distal

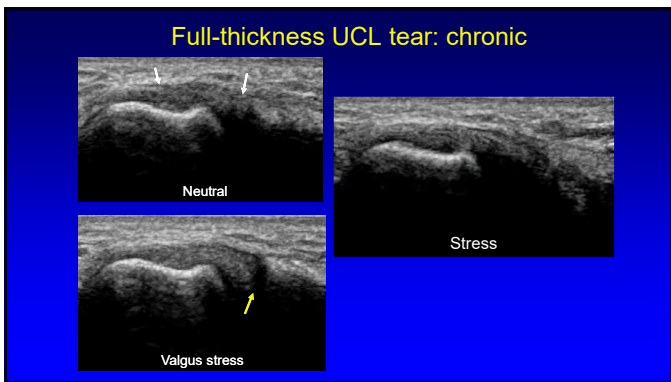
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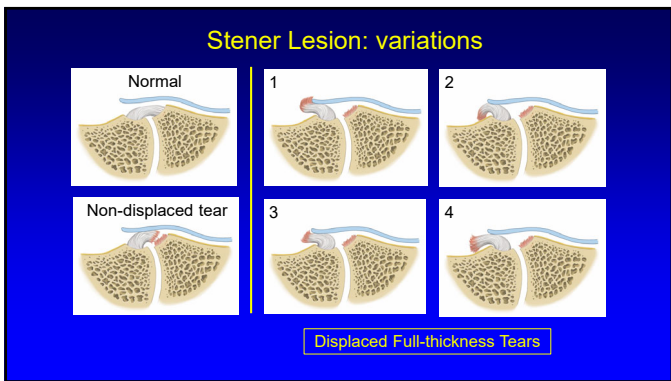
Stener Lesion

- Displaced proximal stump of UCL
 - Hypoechoic & round
 - Proximal to MCP joint
 - At proximal edge of adductor pollicis aponeurosis
- No tissue spanning MCP joint
- "Yo-yo on a string" sign
- Ultrasound: 100% accuracy

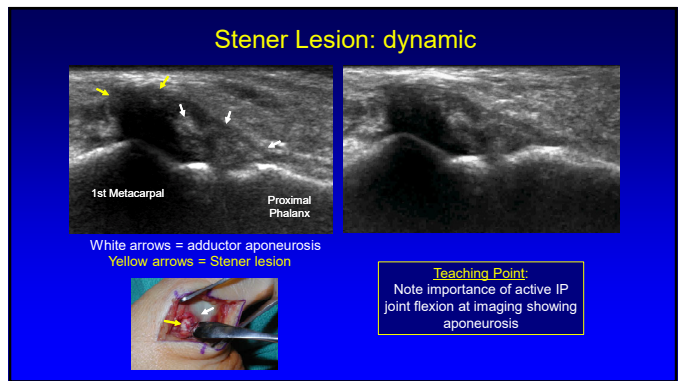
Yellow arrows: Stener
White arrows: aponeurosis

*Melville D. et al. Skeletal Radiology 2013; 42:667

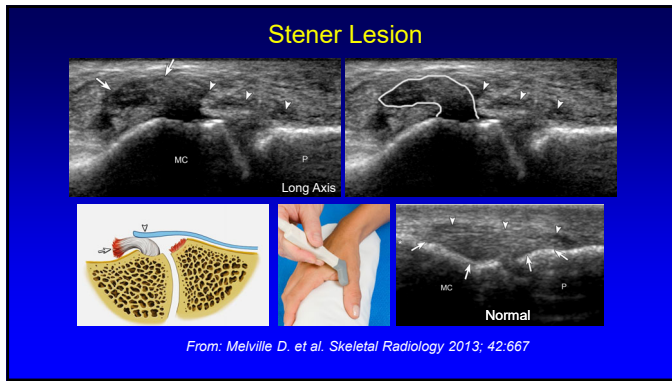
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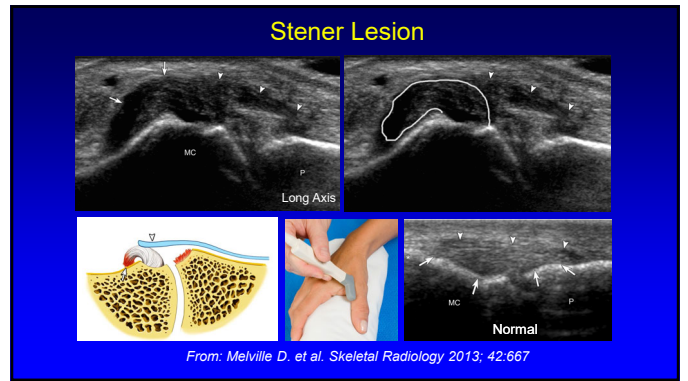
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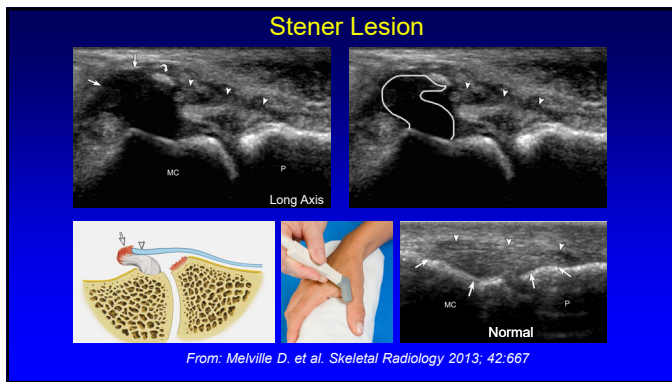
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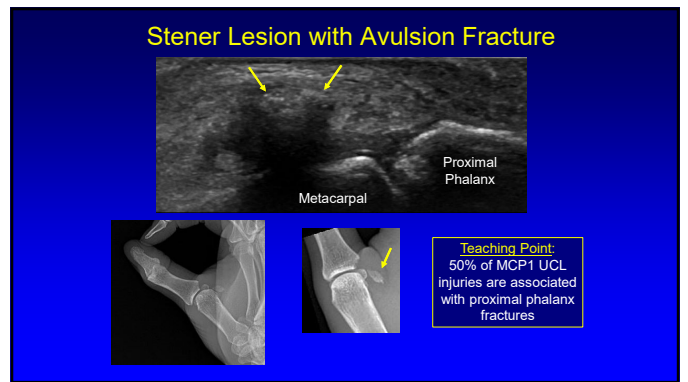
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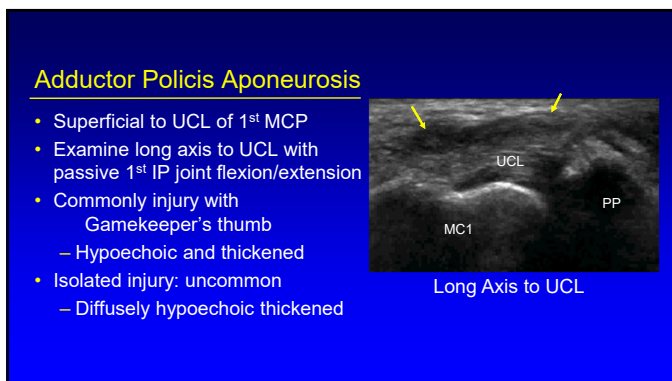
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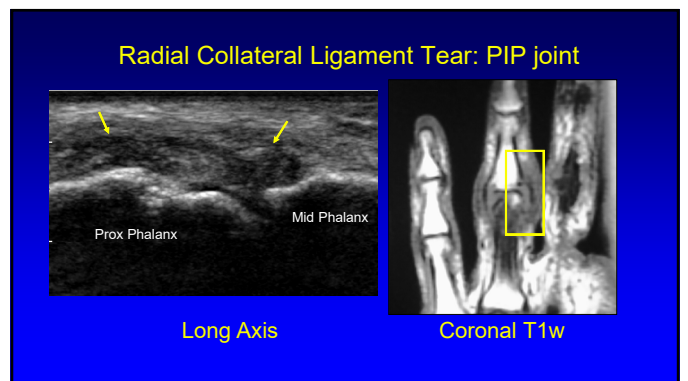
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Capsular Avulsion: 1st MCP Joint

Teaching Point:
Nearly all UCL tears will have volar ligament injuries

Manneck S et al. *Skeletal Radiol* 2021; 50:505

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Pulley Tear

- A2 and A4 pulleys: most important
- Sagittal image
 - Bowstringing
 - Hypoechoic edema / hemorrhage
- Dynamic evaluation*

*Radiology 2002; 222:755
Radiology 1998; 206:339

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A2 – 4 Pulley Injury

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A4 Pulley Injury: bowstringing

From: Klausner A et al. *Radiology* 2002;222:755-761

Normal: < 1 mm; incomplete rupture: 1 – 3 mm; complete: 3 mm

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Trigger Finger: thumb

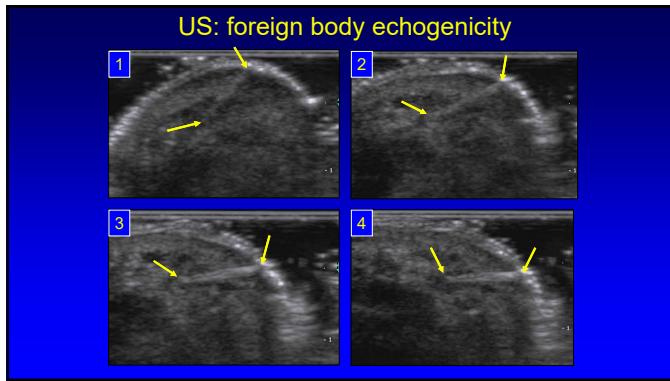
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Soft Tissue Foreign Bodies

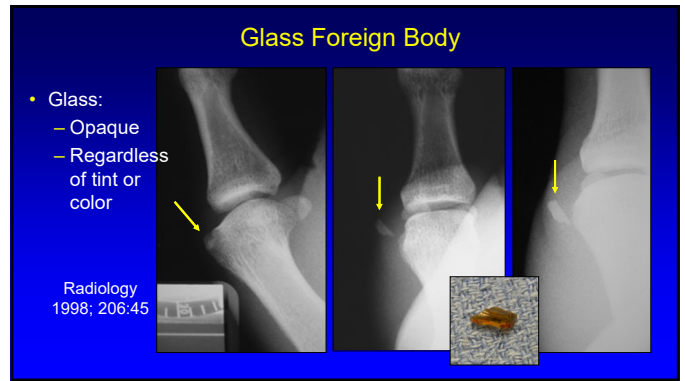
- Wood and plastic: not radiopaque on radiographs
- Echogenicity initially hyperechoic
 - Pitfall: anisotropy
- Halo: hypoechoic inflammation
- Artifact:
 - Smooth and flat: reverberation
 - Irregular surface: shadowing

Radiology 1998; 206:45

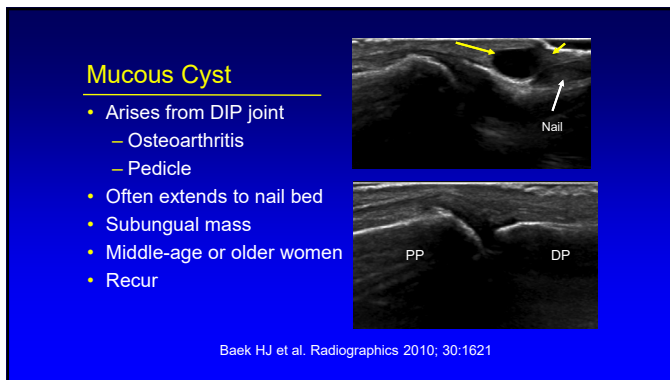
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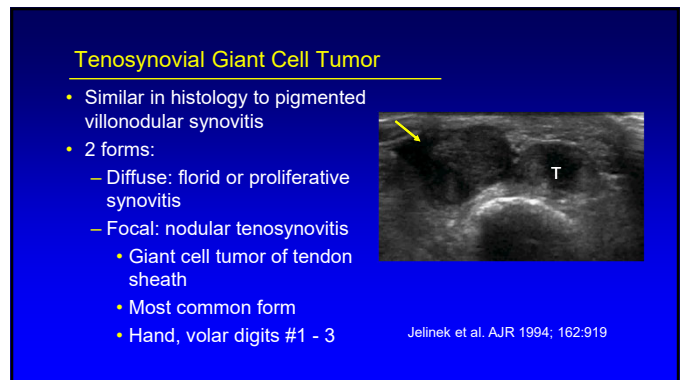
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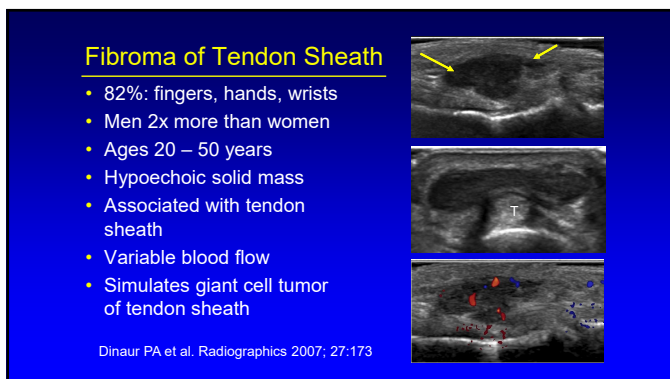
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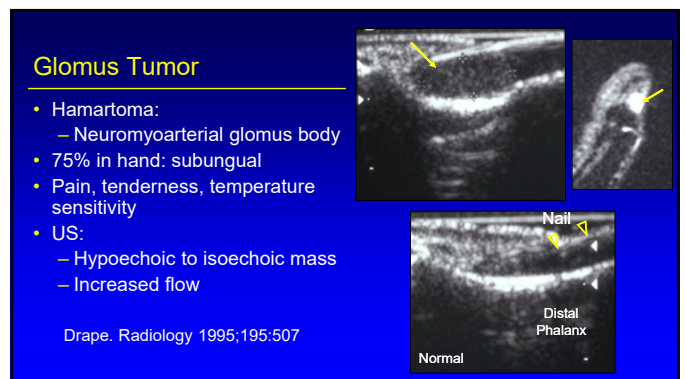
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Pitfalls: Gamekeeper's thumb

- Not scanning in correct plane
 - Use bone contours for guidance
- Misinterpretation of adductor aponeurosis as intact fibers
 - Passively flex interphalangeal joint
- Not recognizing Stener lesion:
 - Round area proximal to joint
- Not scanning the entire thumb

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Thank you!



Syllabus on line and other educational material:
www.jacobsonmskus.com

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