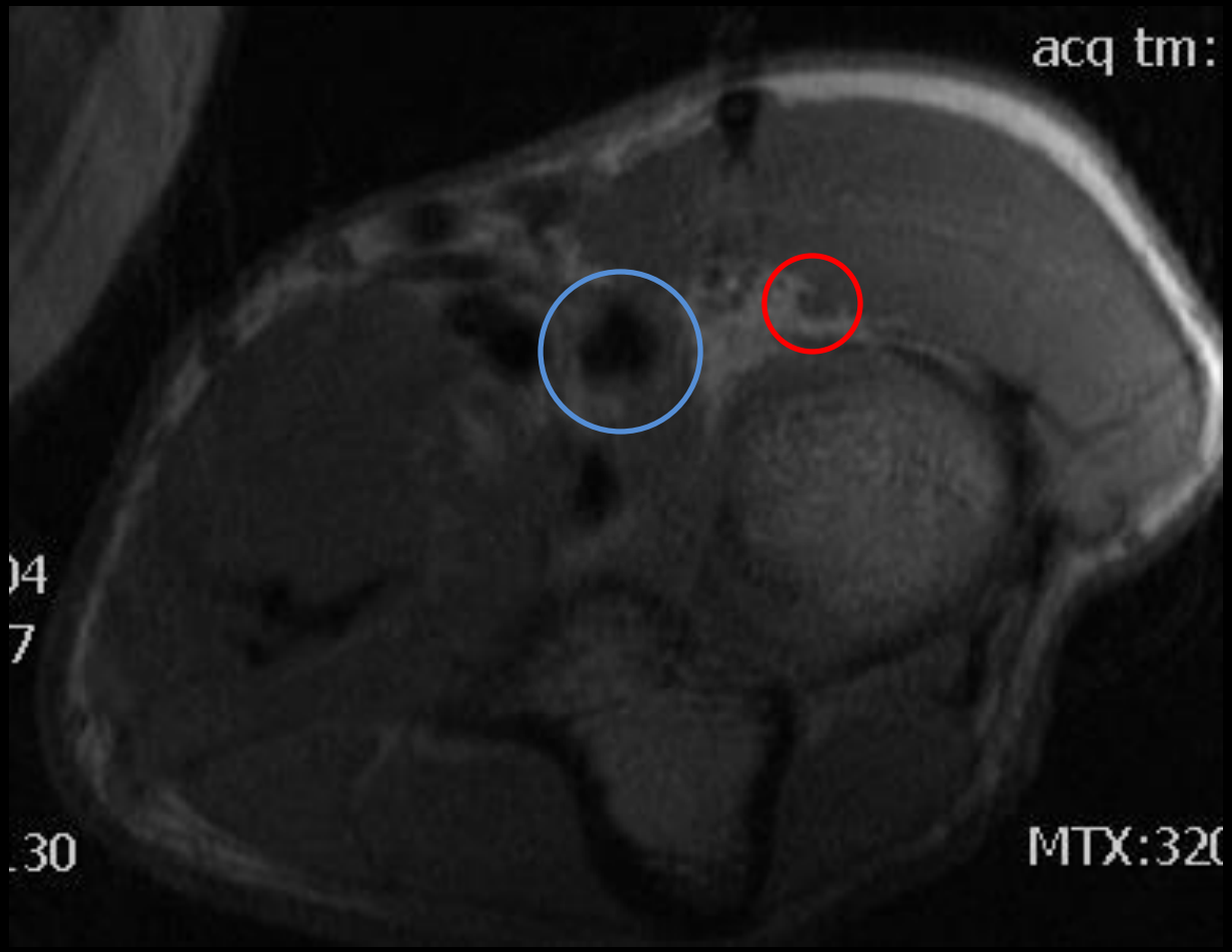
63 year-old male with finger drop after distal biceps tendon rupture repair

Jeremy Grubin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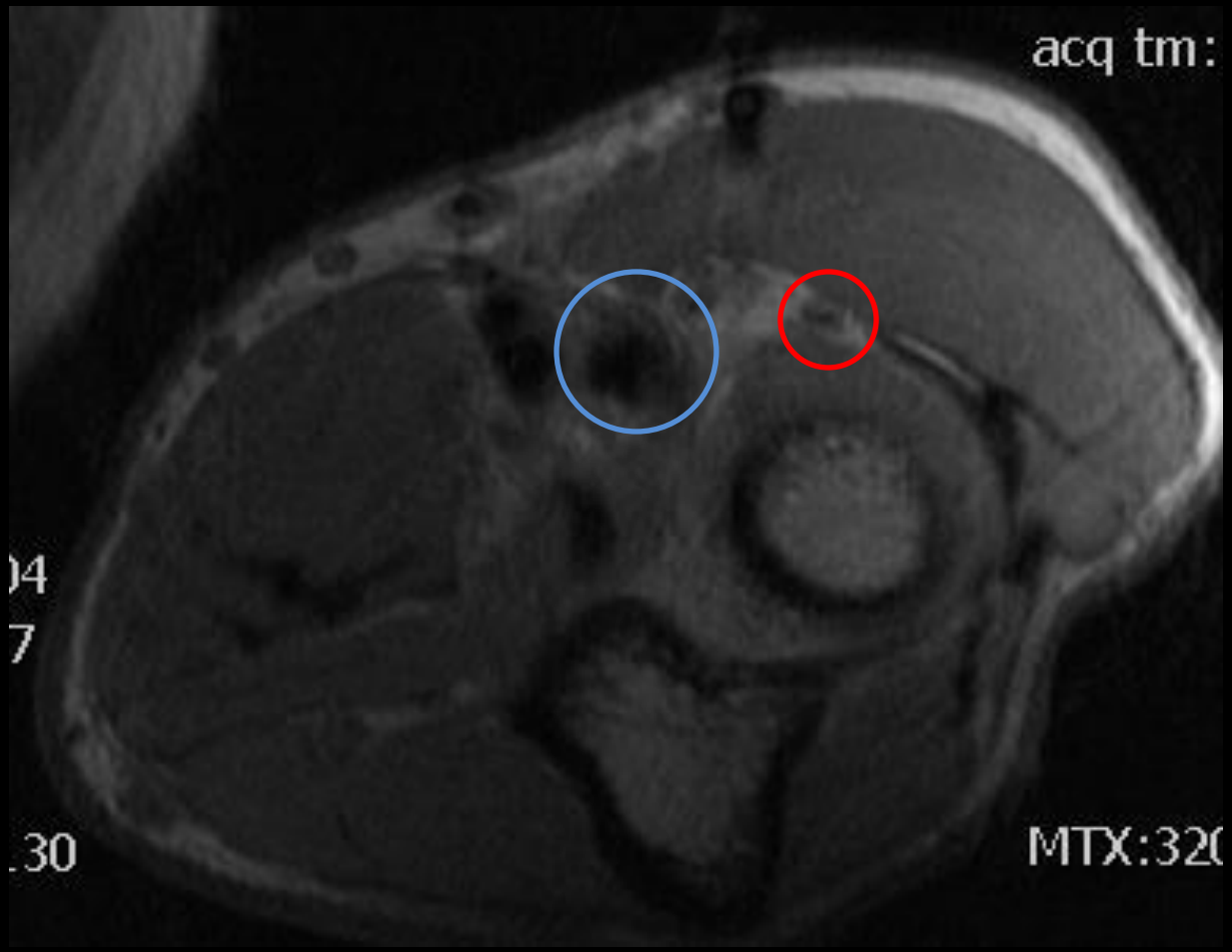
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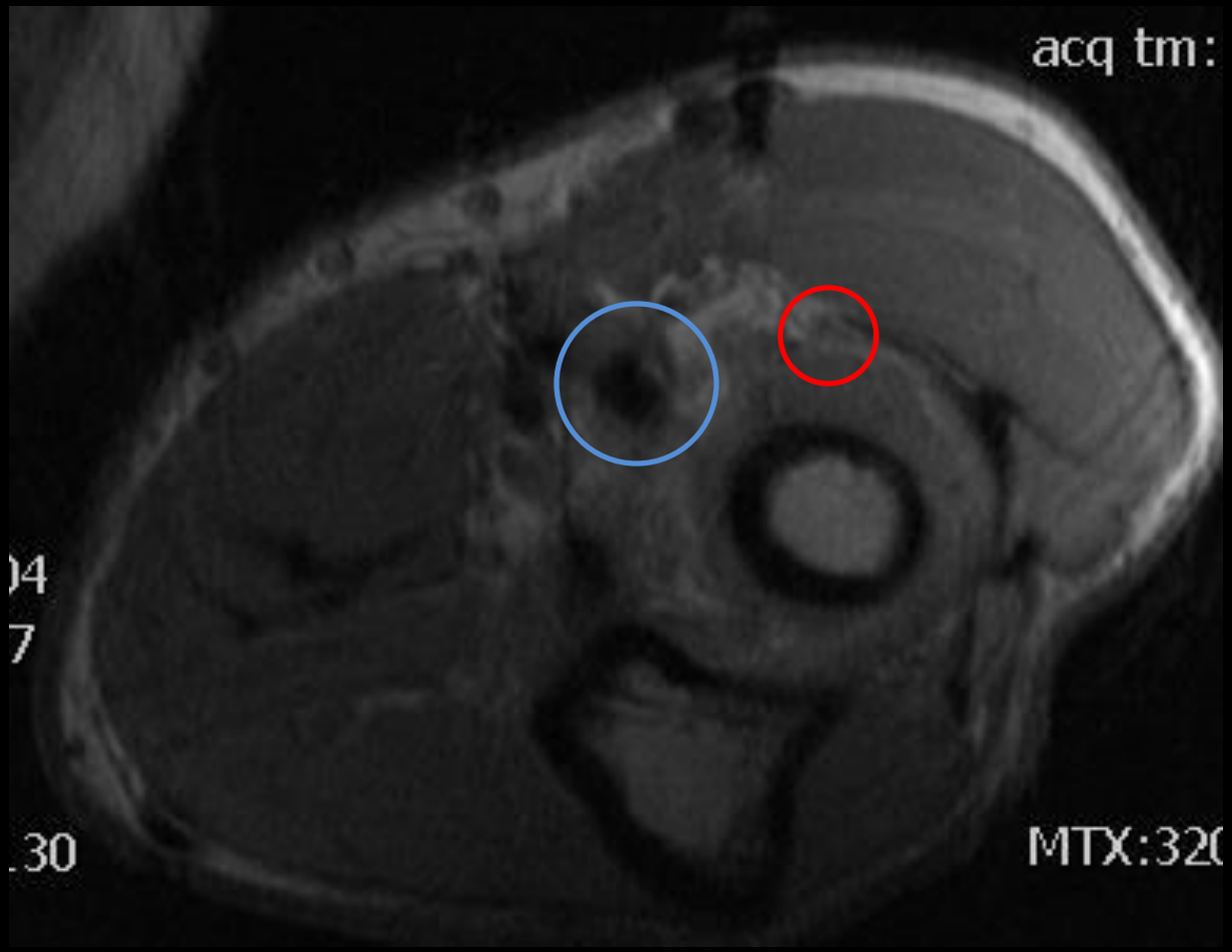
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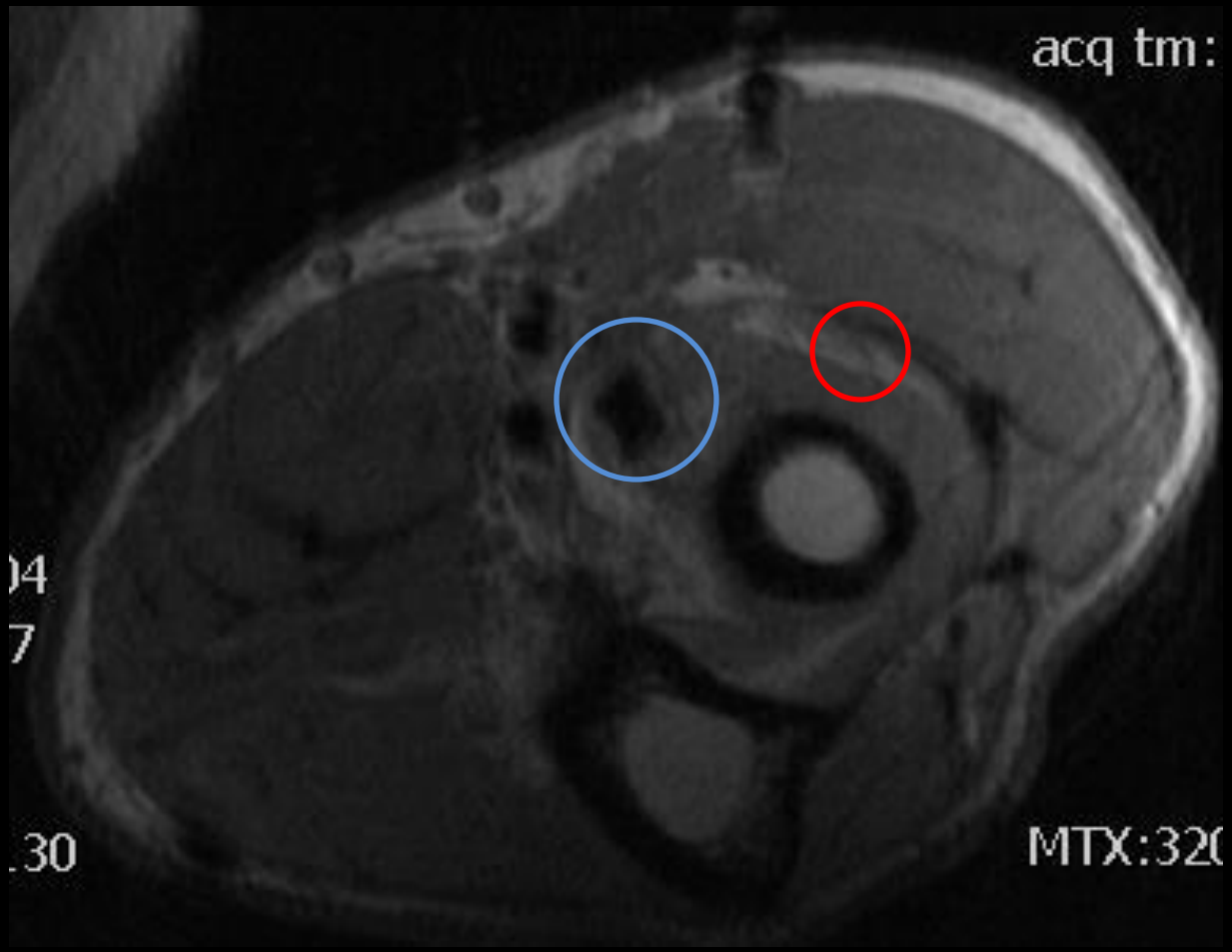
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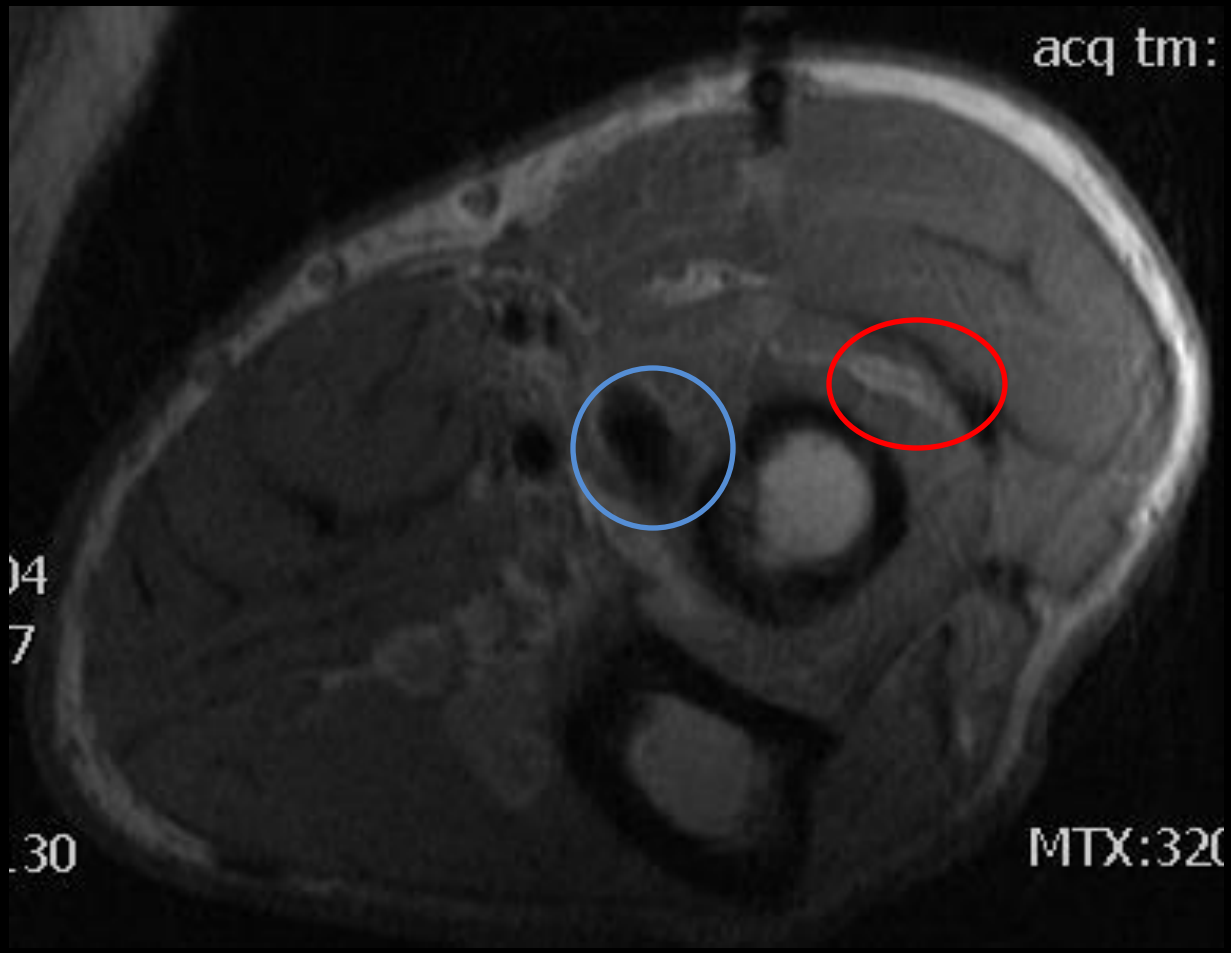
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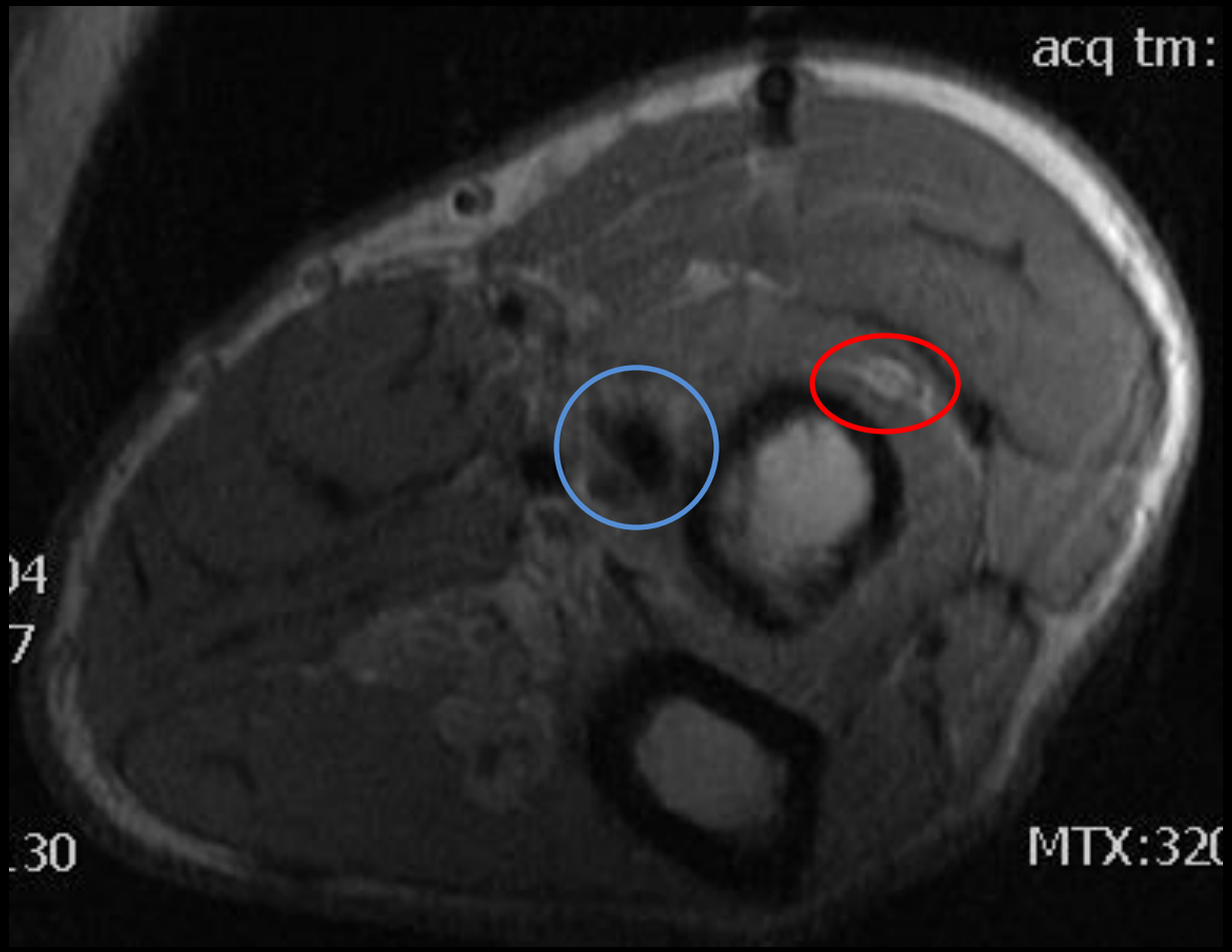
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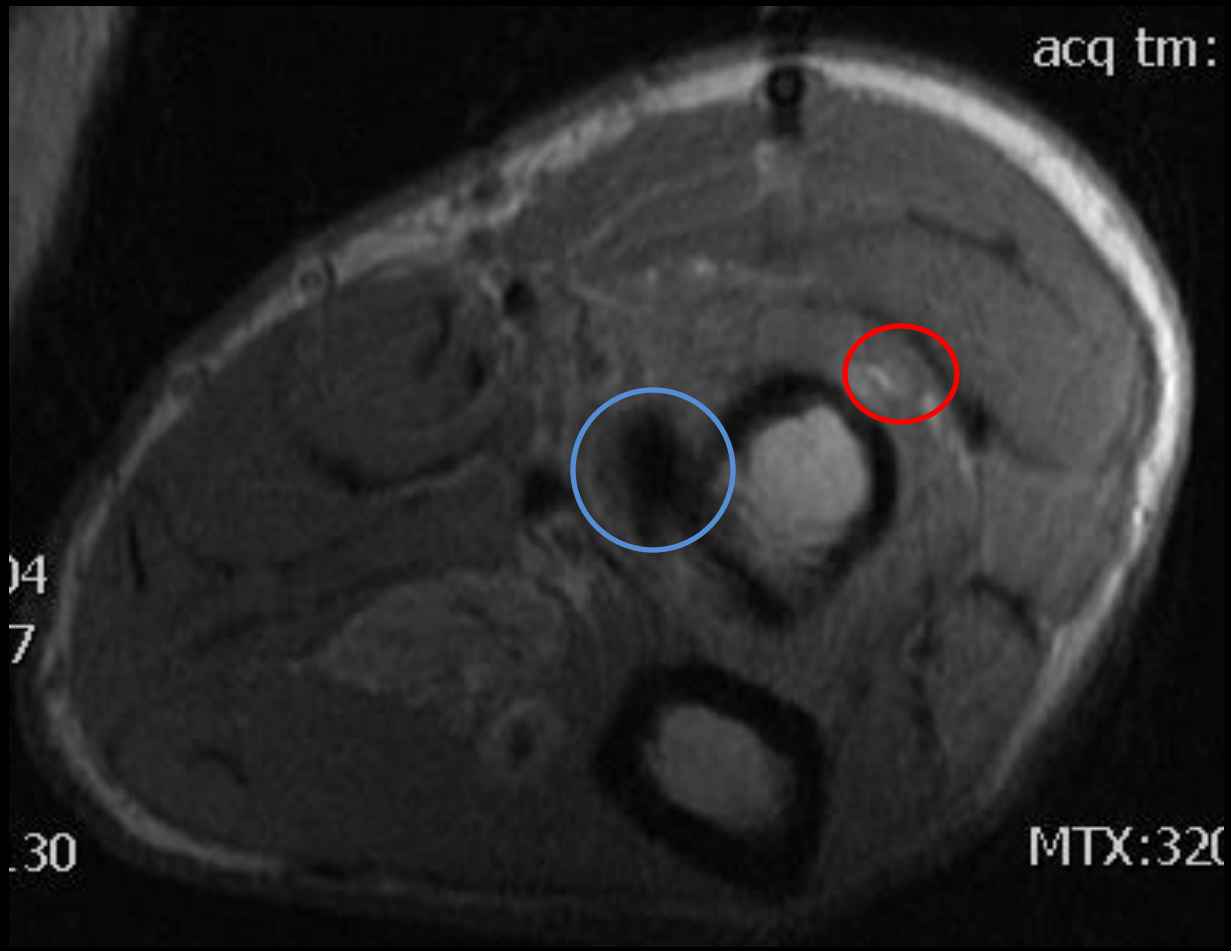
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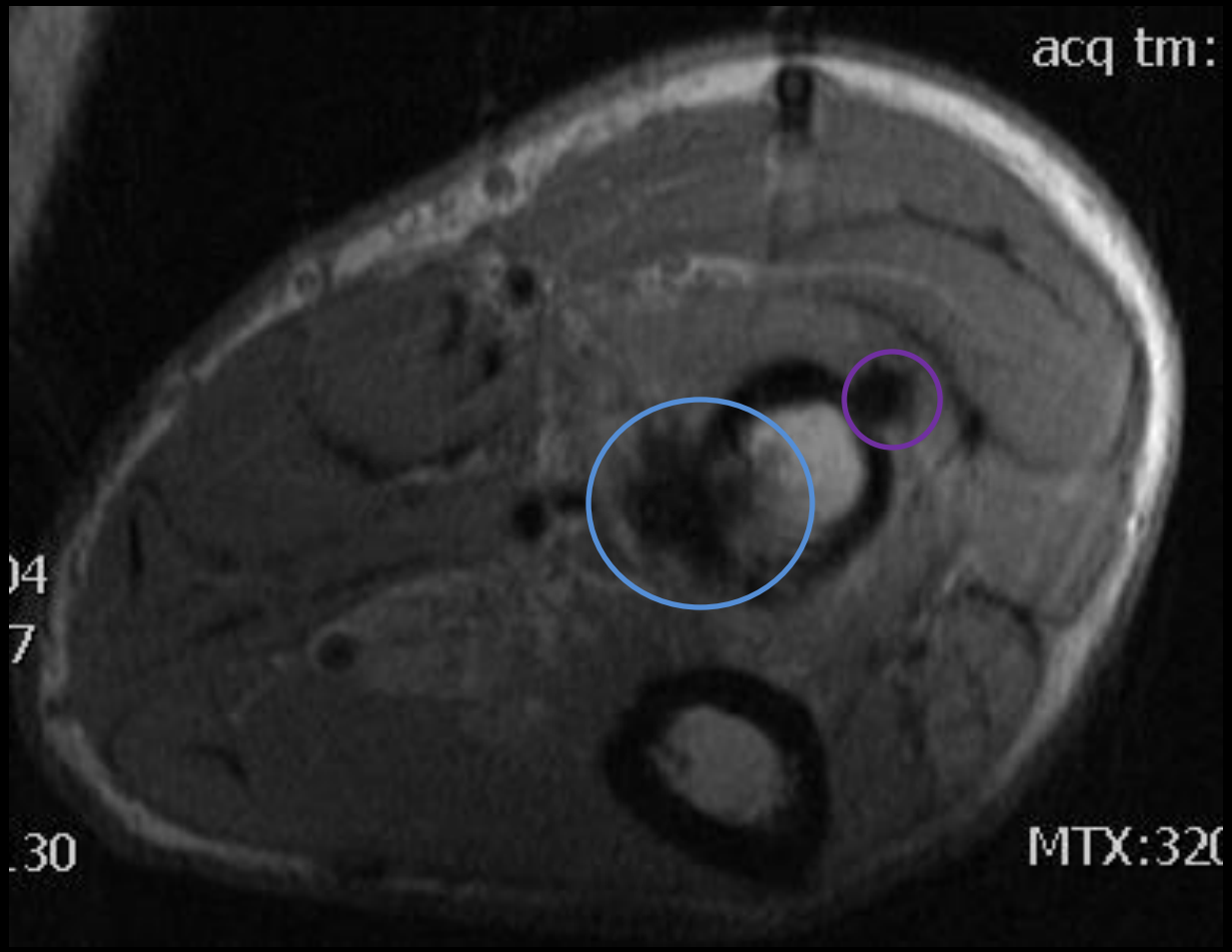
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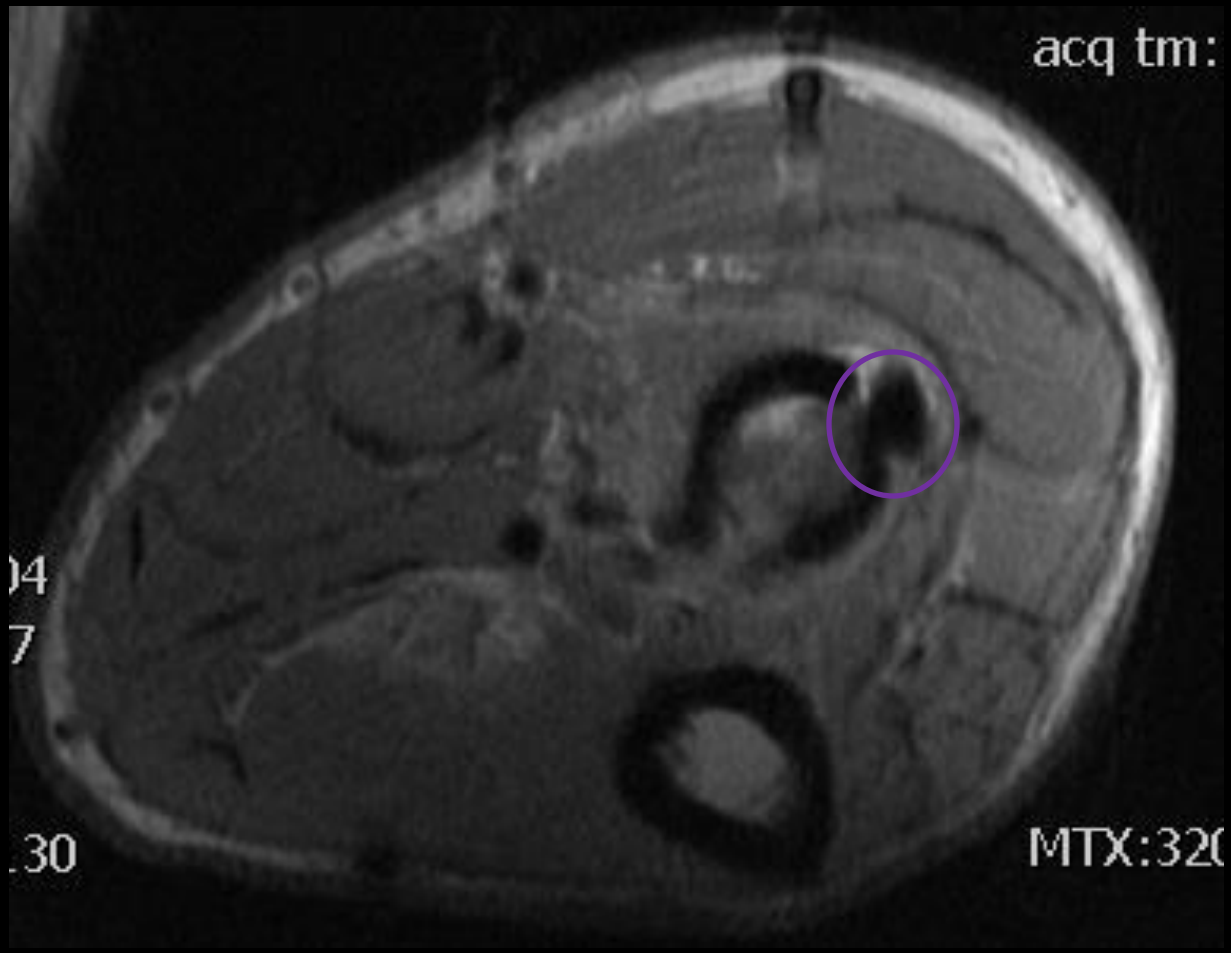
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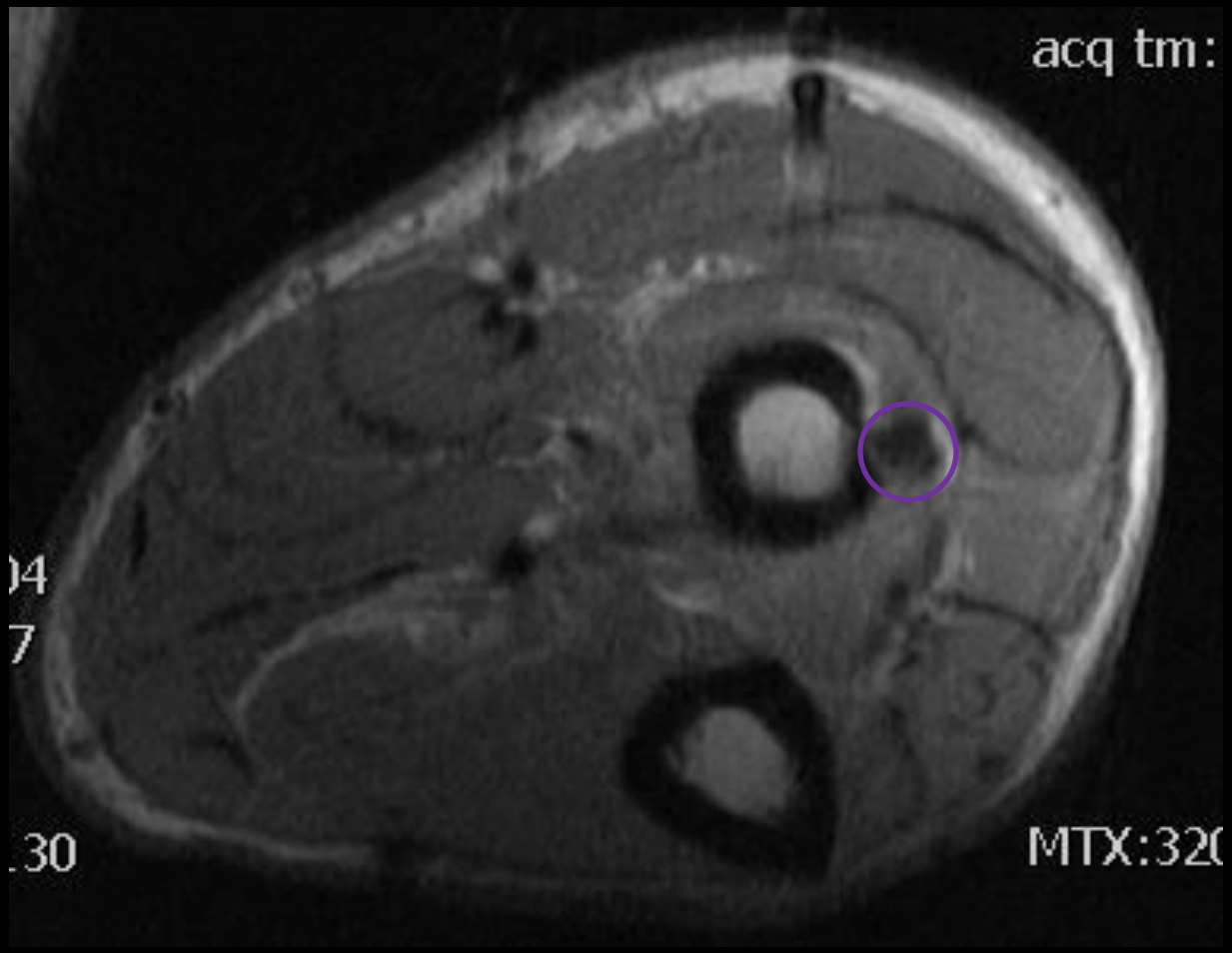
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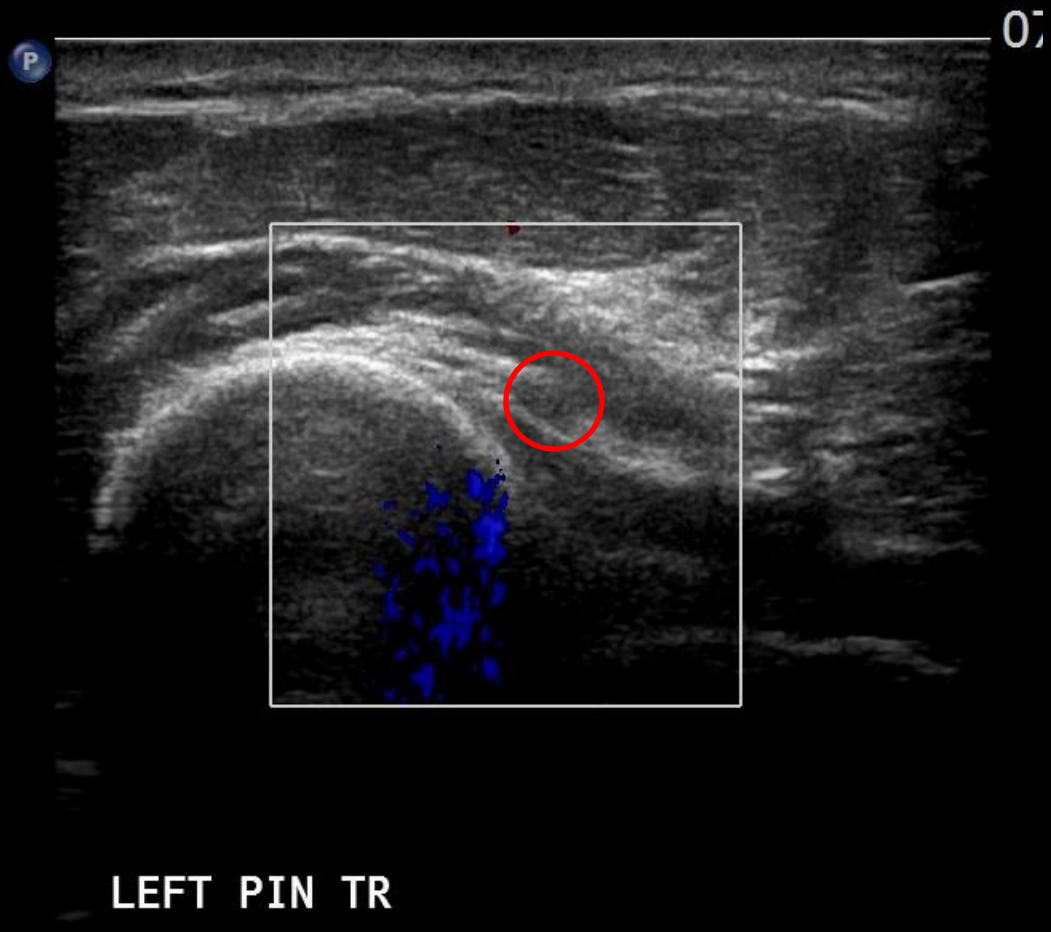
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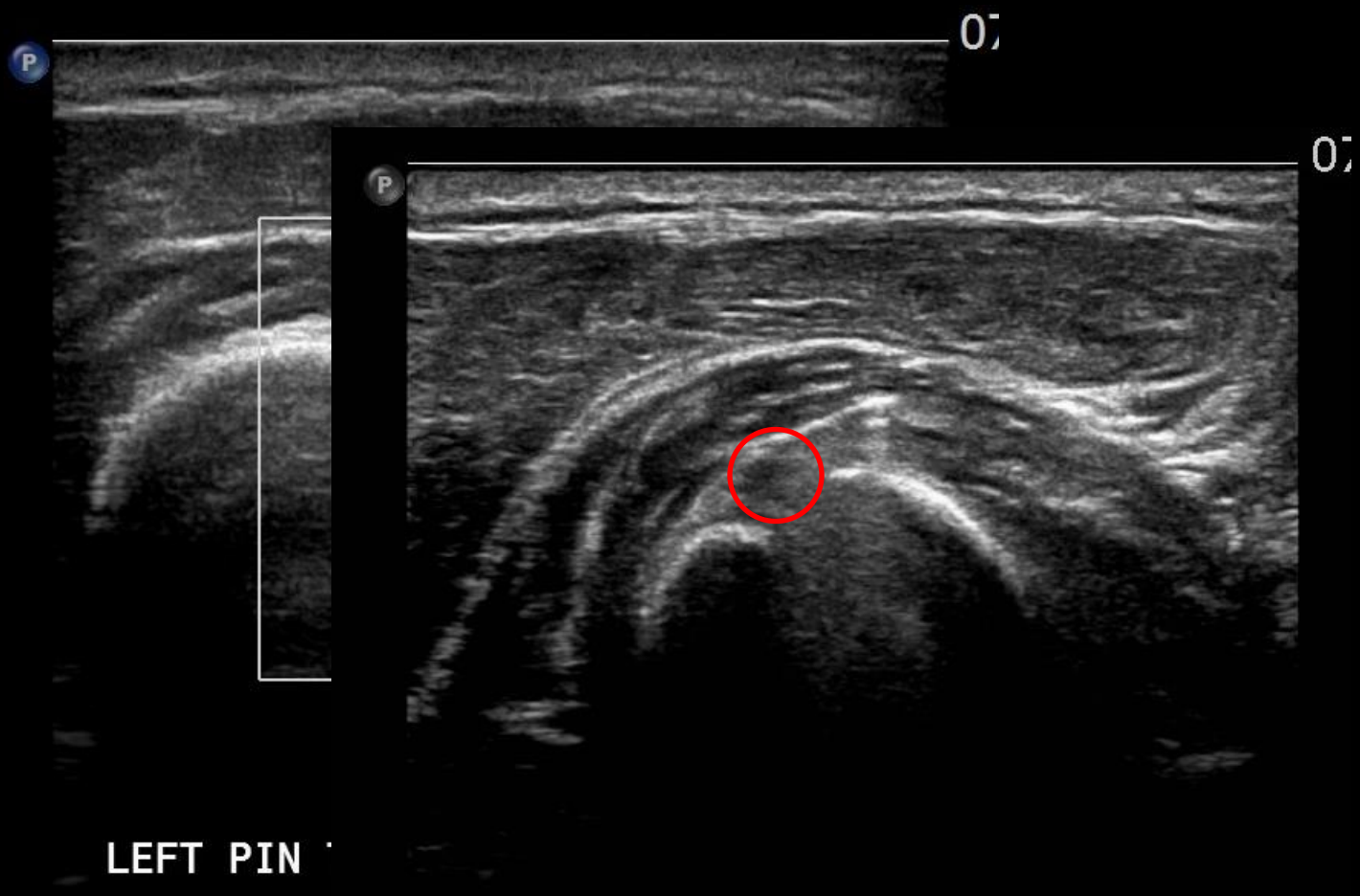
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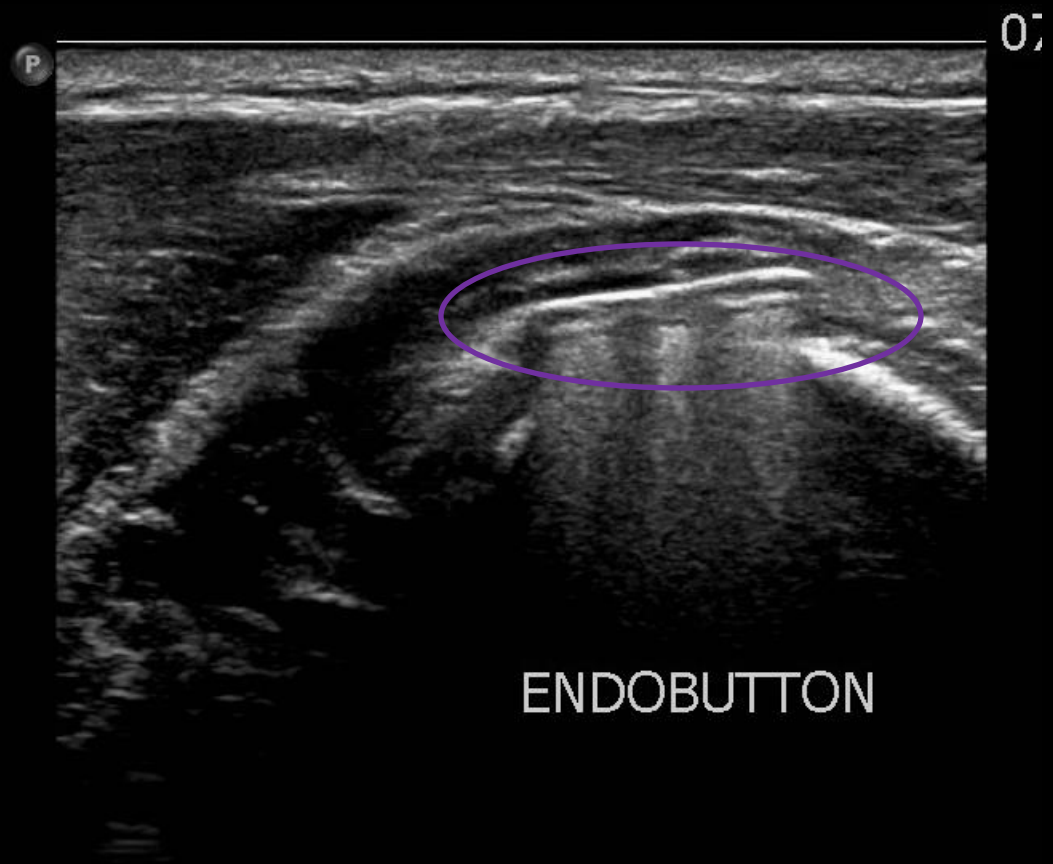
LEFT PIN TR


ENDOBUTTON
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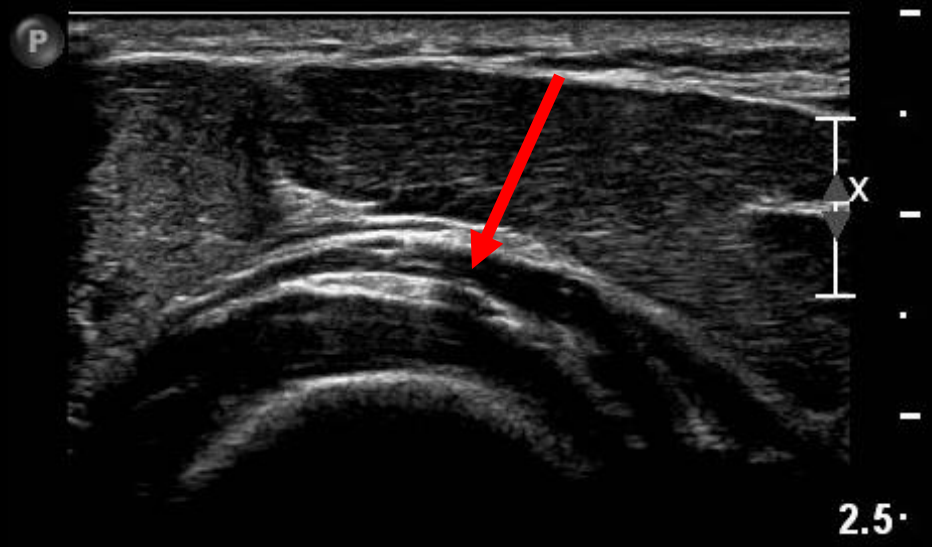
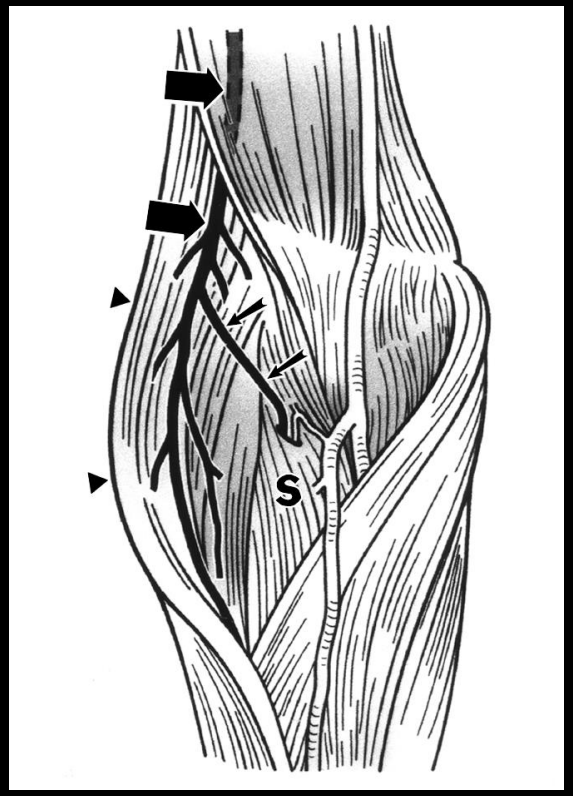


Right

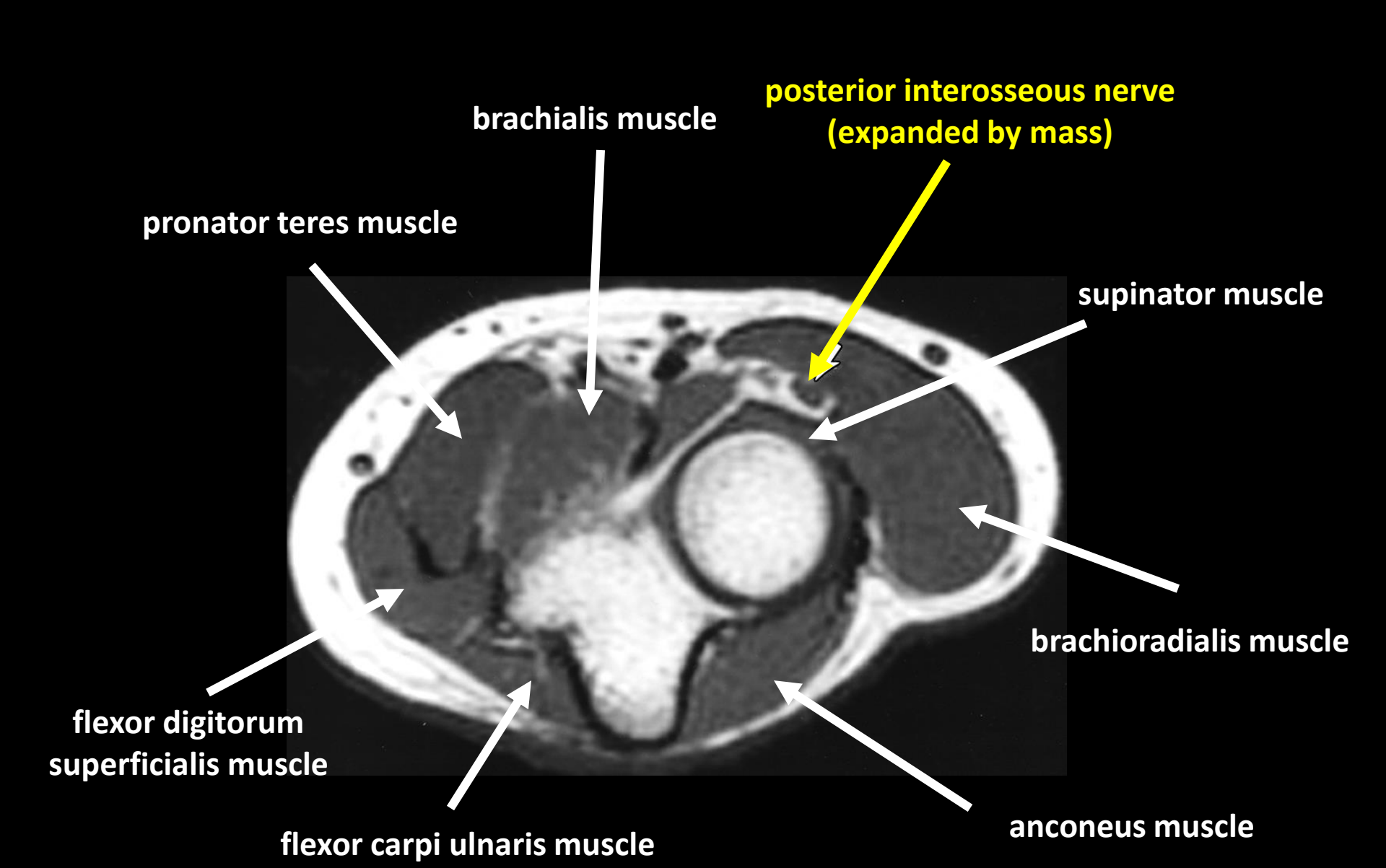
LEFT

Posterior Interosseous Nerve Syndrome

- Entrapment of deep branch of radial nerve just distal to elbow joint
- Results in paresis/paralysis of digital and thumb extensors, extensor carpi ulnaris, abductor pollicis longus
- Can be secondary to mass or intrinsic nerve abnormality



Chien AJ, Jamadar DA, Jacobson JA, Hayes CW, Louis DS. Sonography and MR Imaging of Posterior Interosseous Nerve Syndrome with Surgical Correlation. *AJR* 2003; 181: 219-221.



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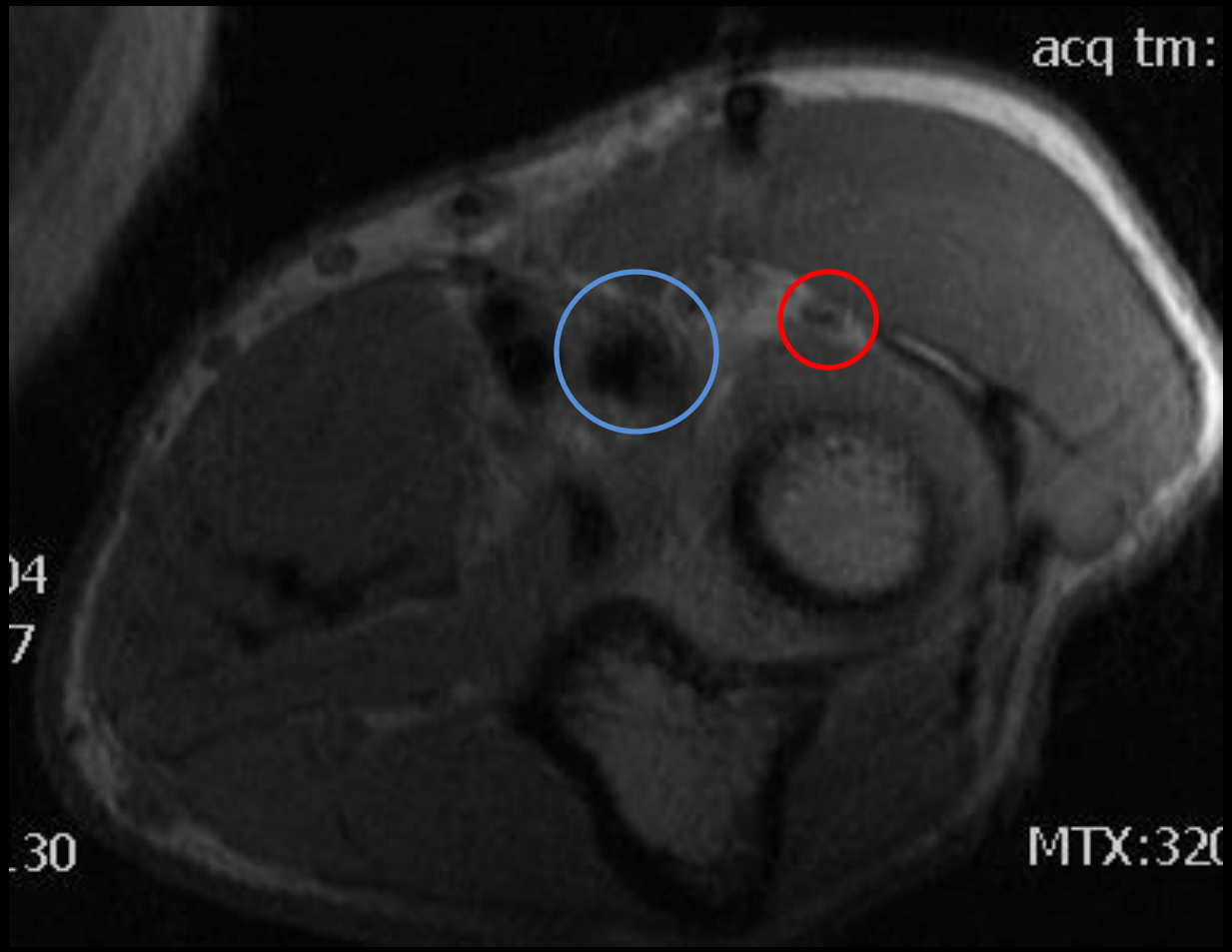
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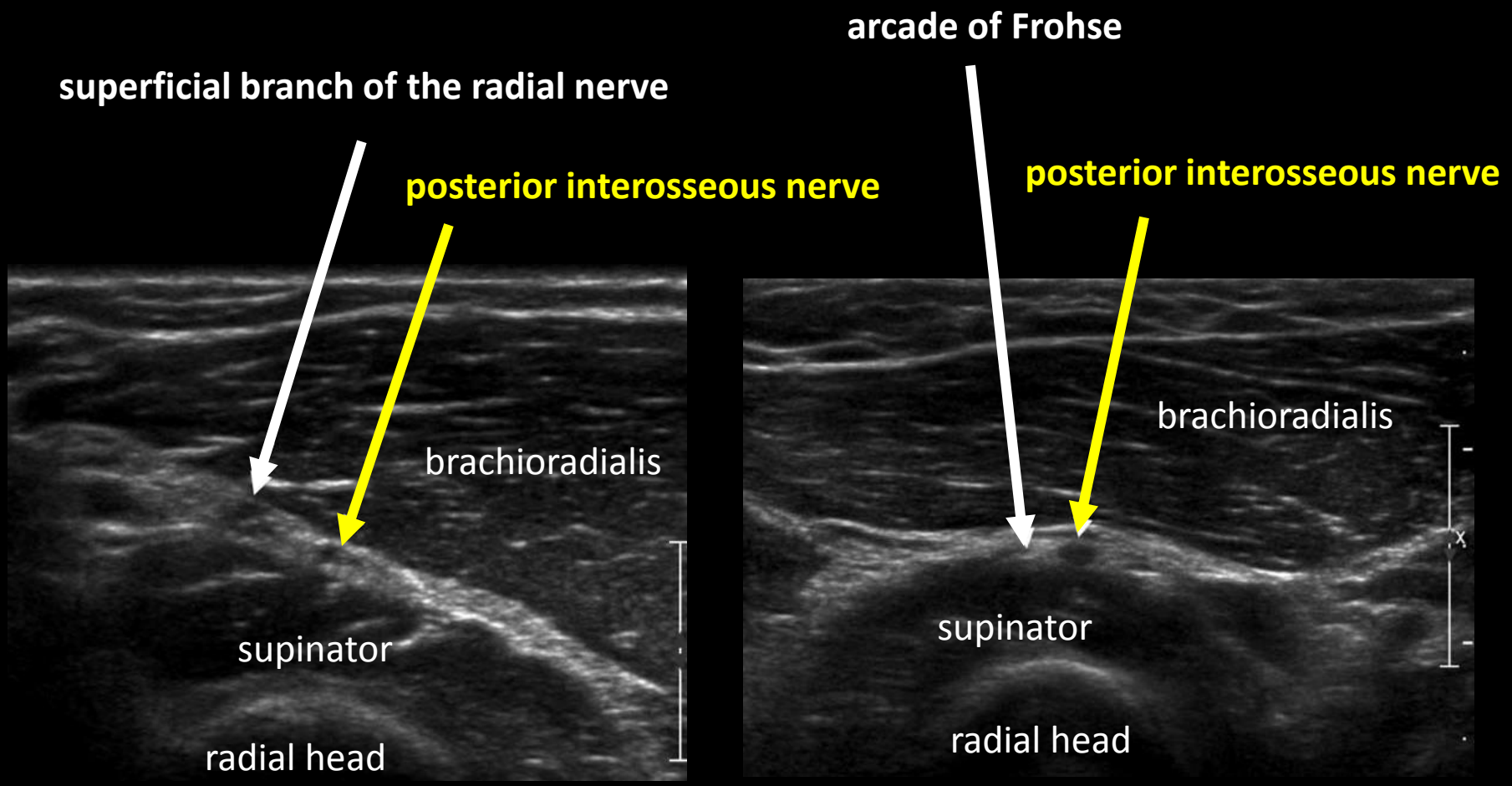
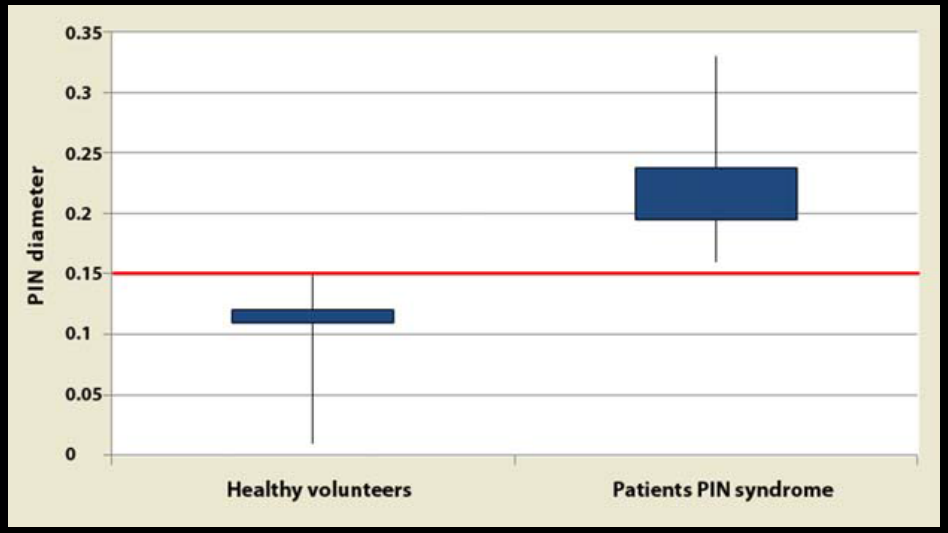


Djurdjevic T, Lozides A, Loscher W, Gruber H, Plaikner M, Peer S. High Resolution Ultrasound in Posterior Interosseous Nerve Syndrome. *Muscle Nerve* 2013; 49:35-39.

Utility of Ultrasound in PINS

- Retrospective study: 13 patients with confirmed PINS and 20 healthy volunteers
- AP diameter of PIN measured just proximal to arcade of Frohse
- Results
  - Healthy group: 0.01-0.15 cm, mean 0.11cm
  - PINS group: 0.16-0.33 cm, mean 0.2 cm
  - P<0.05
- Conclusion: can use 0.15 cm as cutoff



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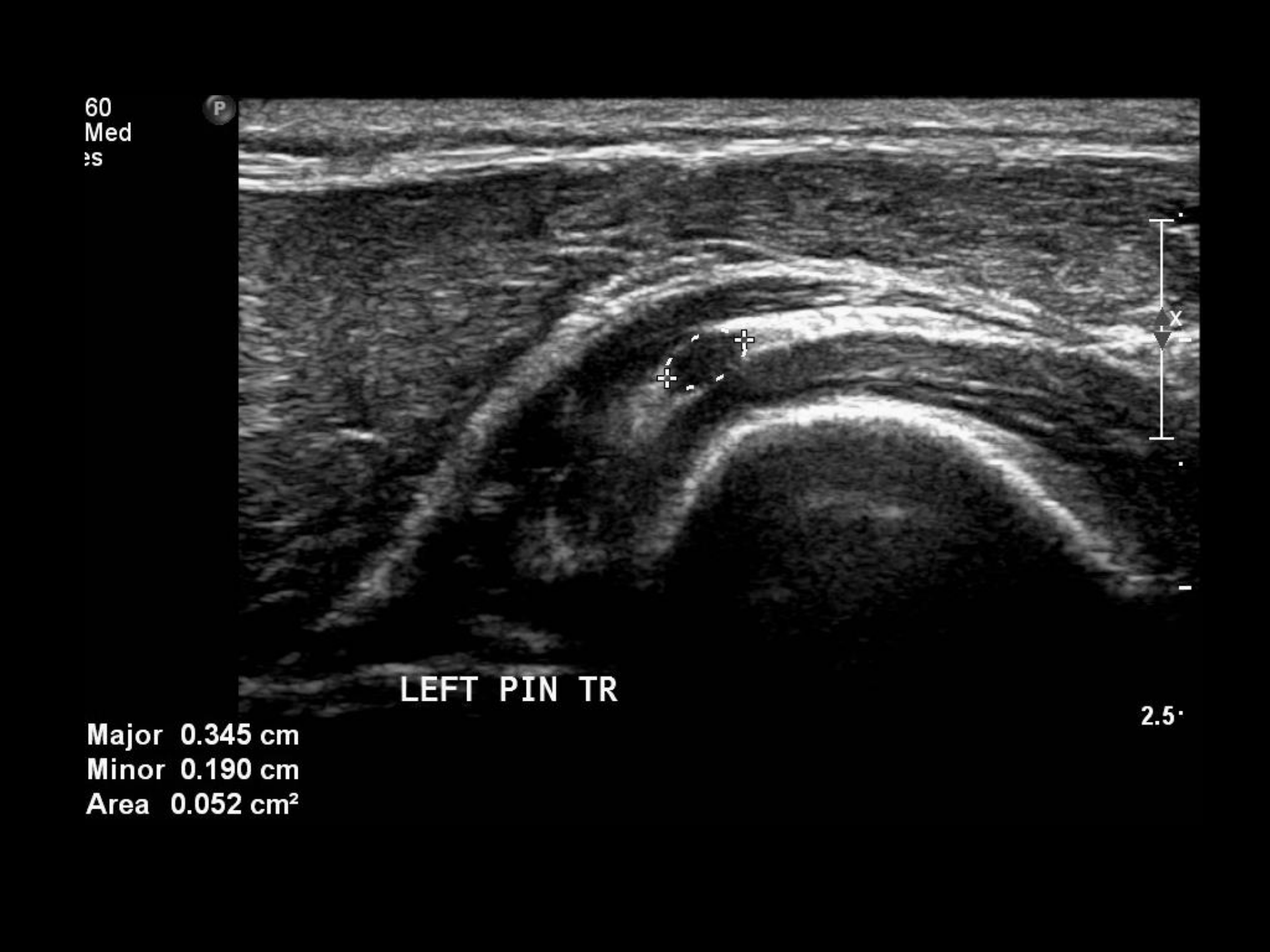
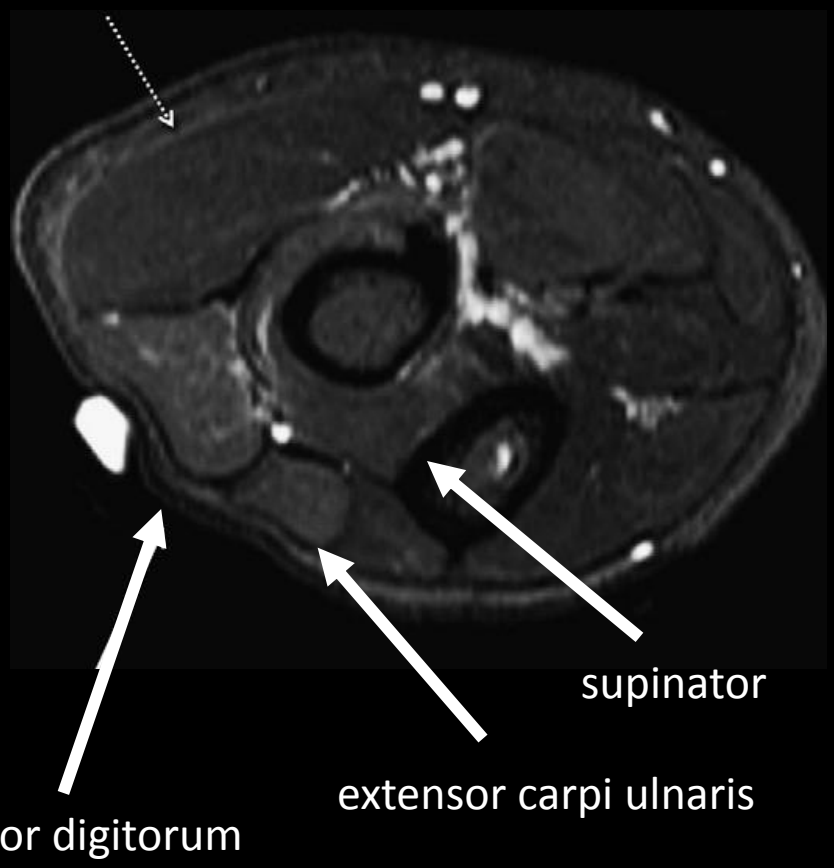

60
Med
es
P
LEFT PIN TR
2.5
Major 0.345 cm
Minor 0.190 cm
Area 0.052 cm²

MRI findings in PINS

- +/- signal abnormality in PIN
- Denervation edema or atrophy of supinator and extensor muscle group
- Sparing of extensor carpi radialis longus and brevis



Wenzke DR. MR Imaging of the Elbow in the Injured Athlete. *Radiol Clin N Am* 2013; 15:195-213.

PIN Injury after Biceps Tendon Rupture Repair

- One series of 53 patients – one patient with PINS, resolved within 6 weeks; no permanent nerve injury
- Another series of 13 patients – no nerve injury

Mokhtee DB, Brown JM, Mackinnon SE, Tung TH. Reconstruction of Posterior Interosseous Nerve Injury Following Biceps Tendon Repair: Case Report and Cadaveric Study. *Hand* 2009; 4:134-139.

References

1. Chien AJ, Jamadar DA, Jacobson JA, Hayes CW, Louis DS. Sonography and MR Imaging of Posterior Interosseous Nerve Syndrome with Surgical Correlation. *AJR* 2003; 181: 219-221.
2. Djurdjevic T, Lozides A, Loscher W, Gruber H, Plaikner M, Peer S. High Resolution Ultrasound in Posterior Interosseous Nerve Syndrome. *Muscle Nerve* 2013; 49:35-39.
3. Wenzke DR. MR Imaging of the Elbow in the Injured Athlete. *Radiol Clin N Am* 2013; 15:195-213.
4. Mokhtee DB, Brown JM, Mackinnon SE, Tung TH. Reconstruction of Posterior Interosseous Nerve Injury Following Biceps Tendon Repair: Case Report and Cadaveric Study. *Hand* 2009; 4:134-139.