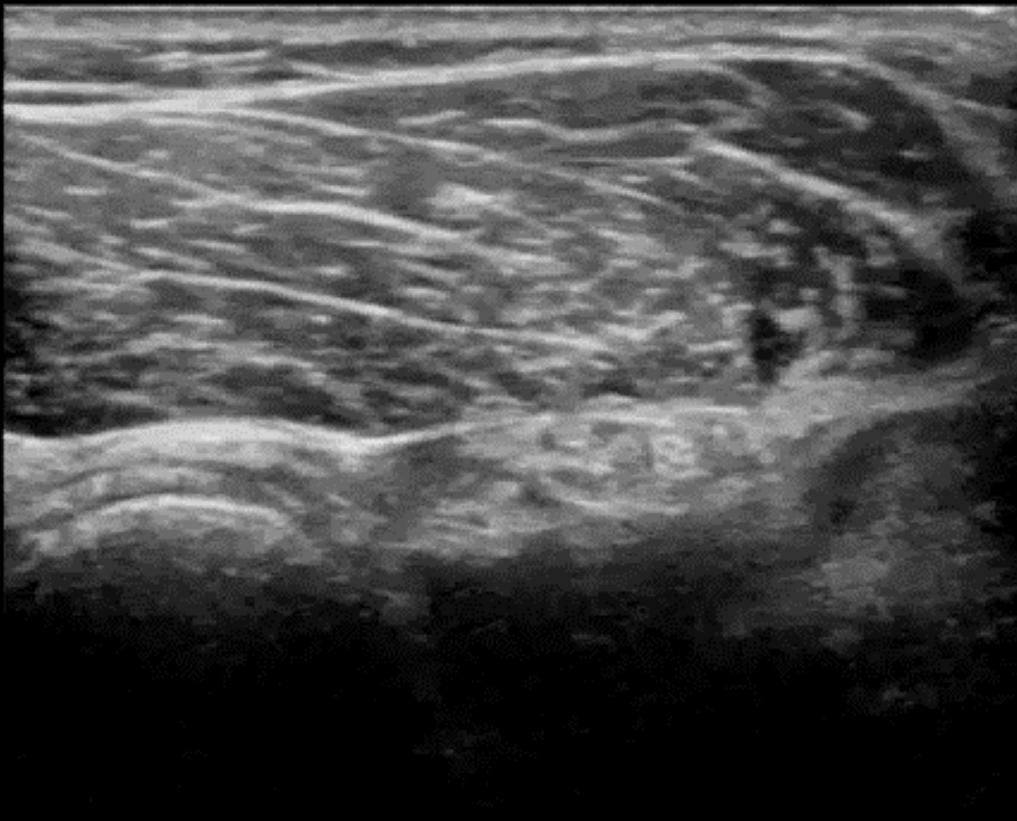




49 year old male with history of distal biceps tendon tear s/p reconstruction, presenting for dorsolateral hand pain and sensory loss.

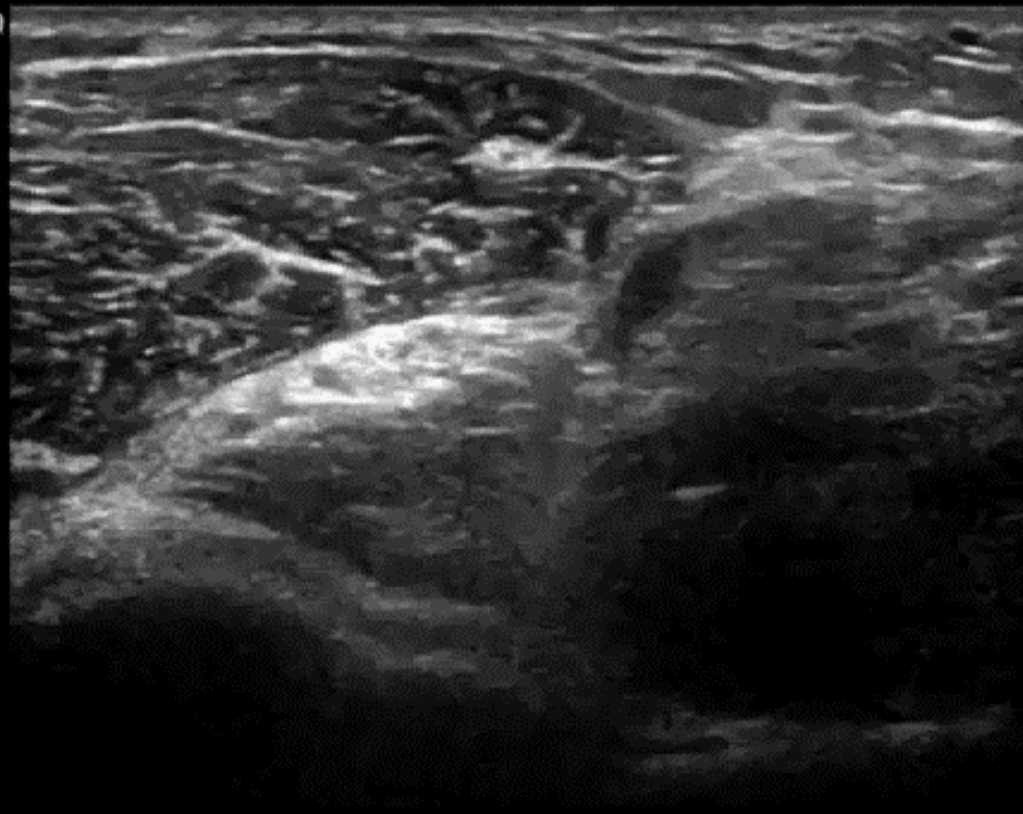
LOGIQ
E9



RT RADIAL N

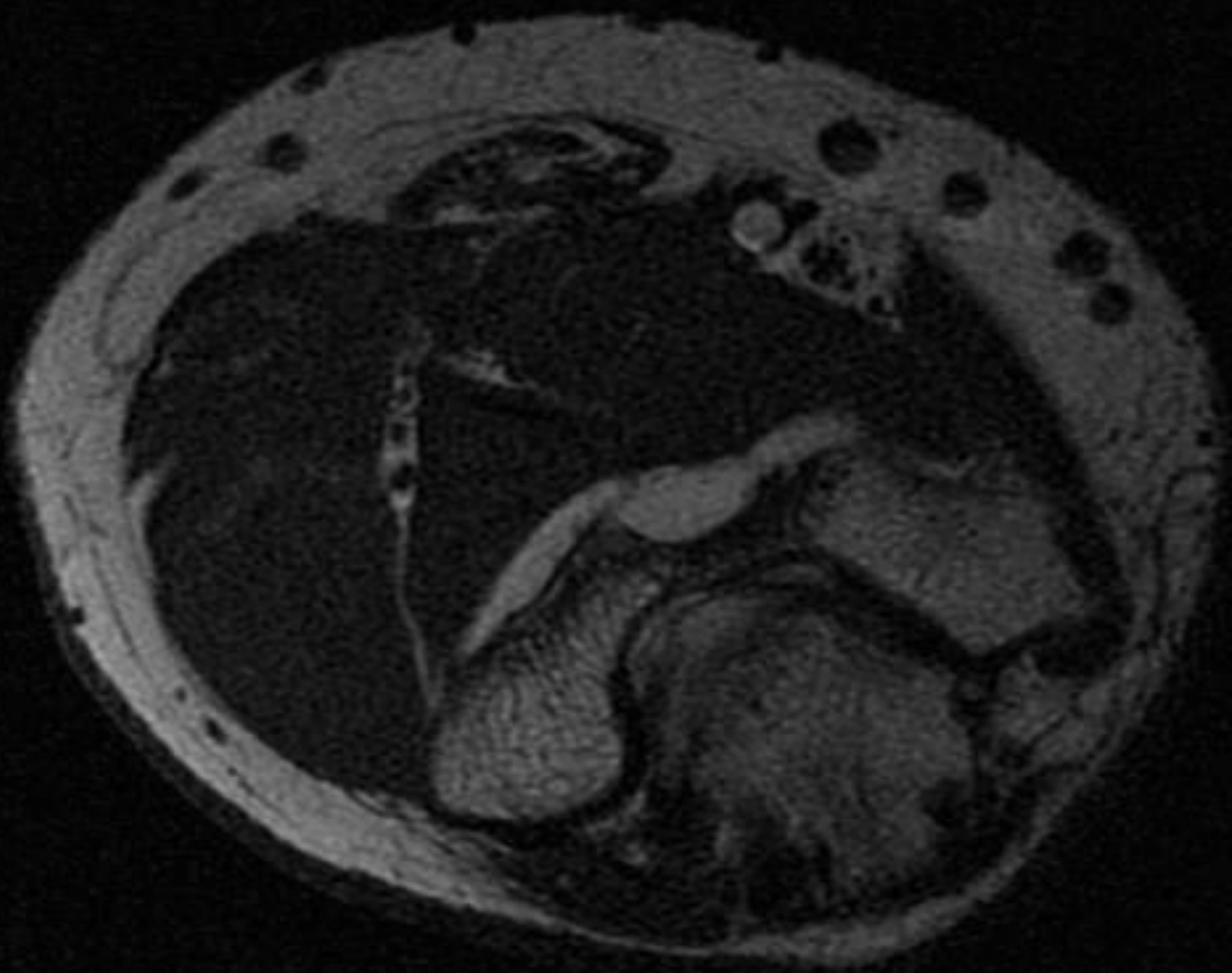
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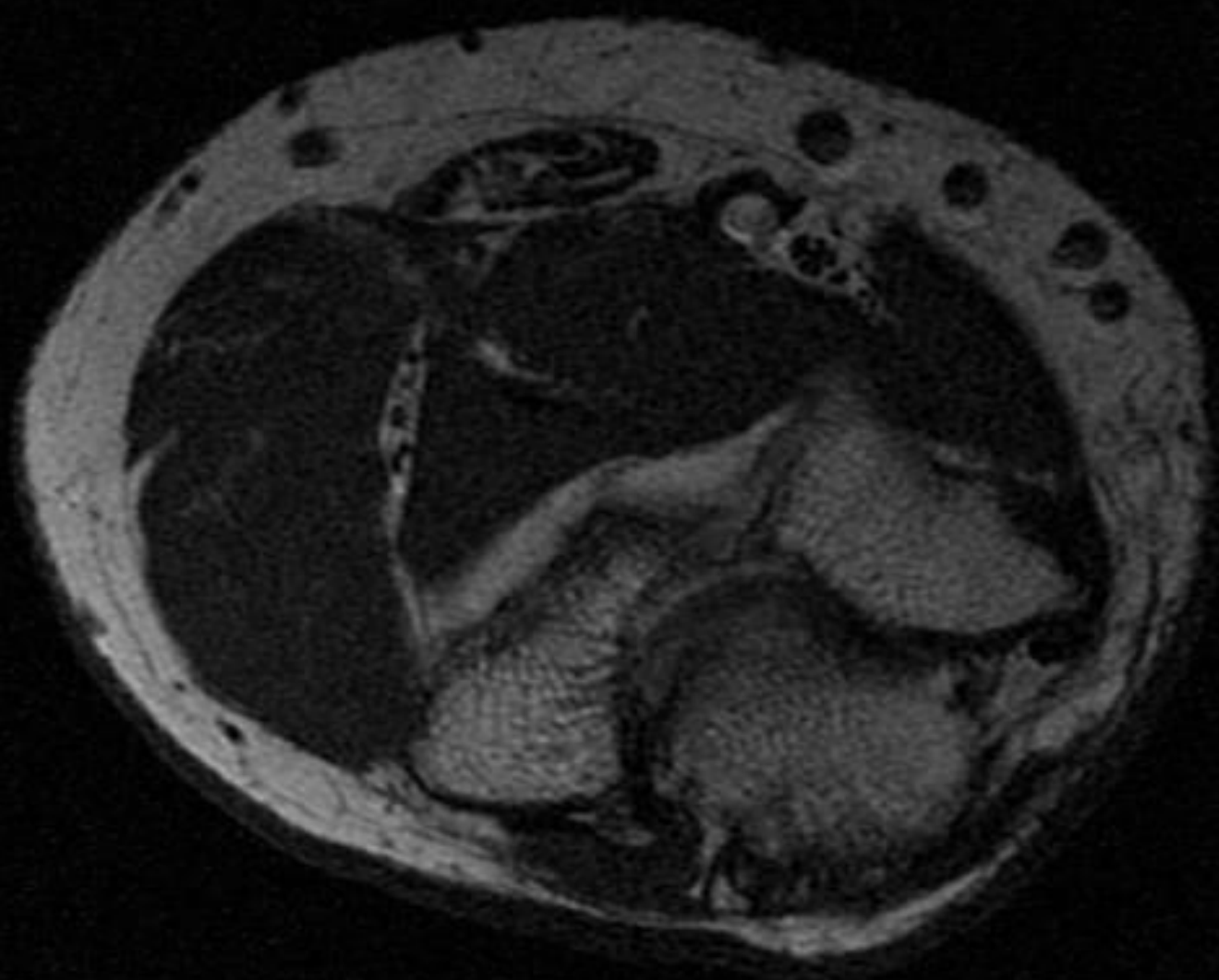
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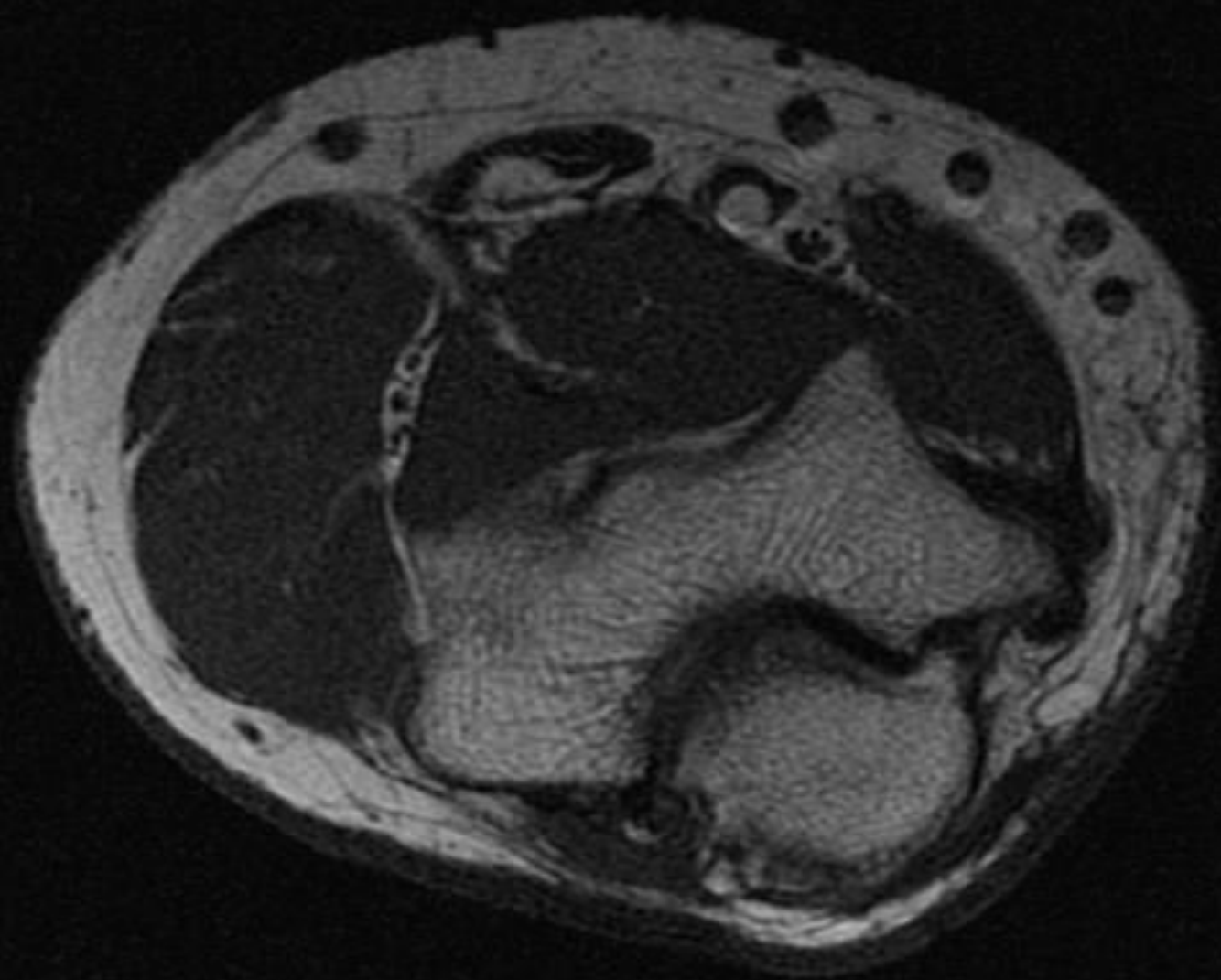


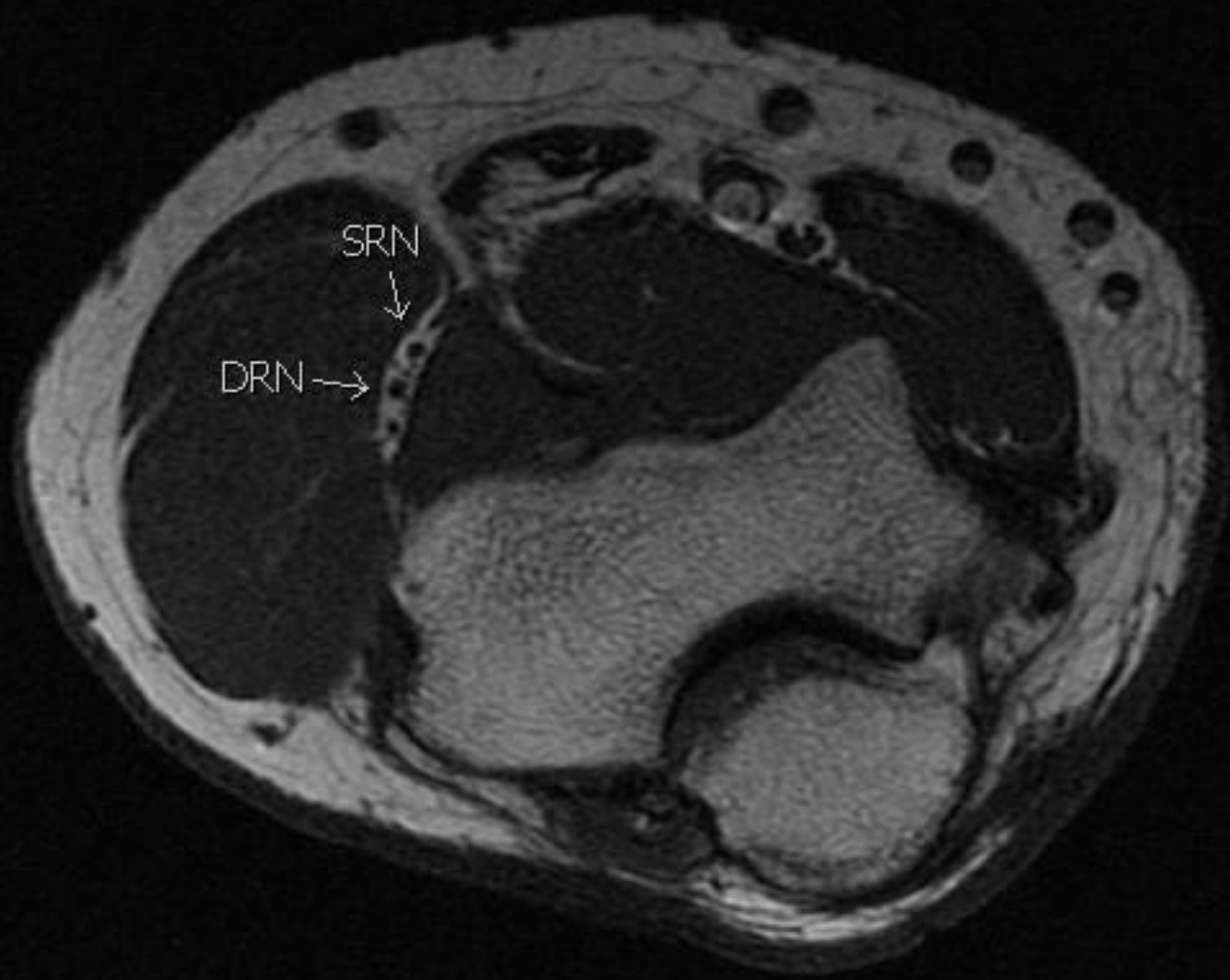
RT RADIAL N

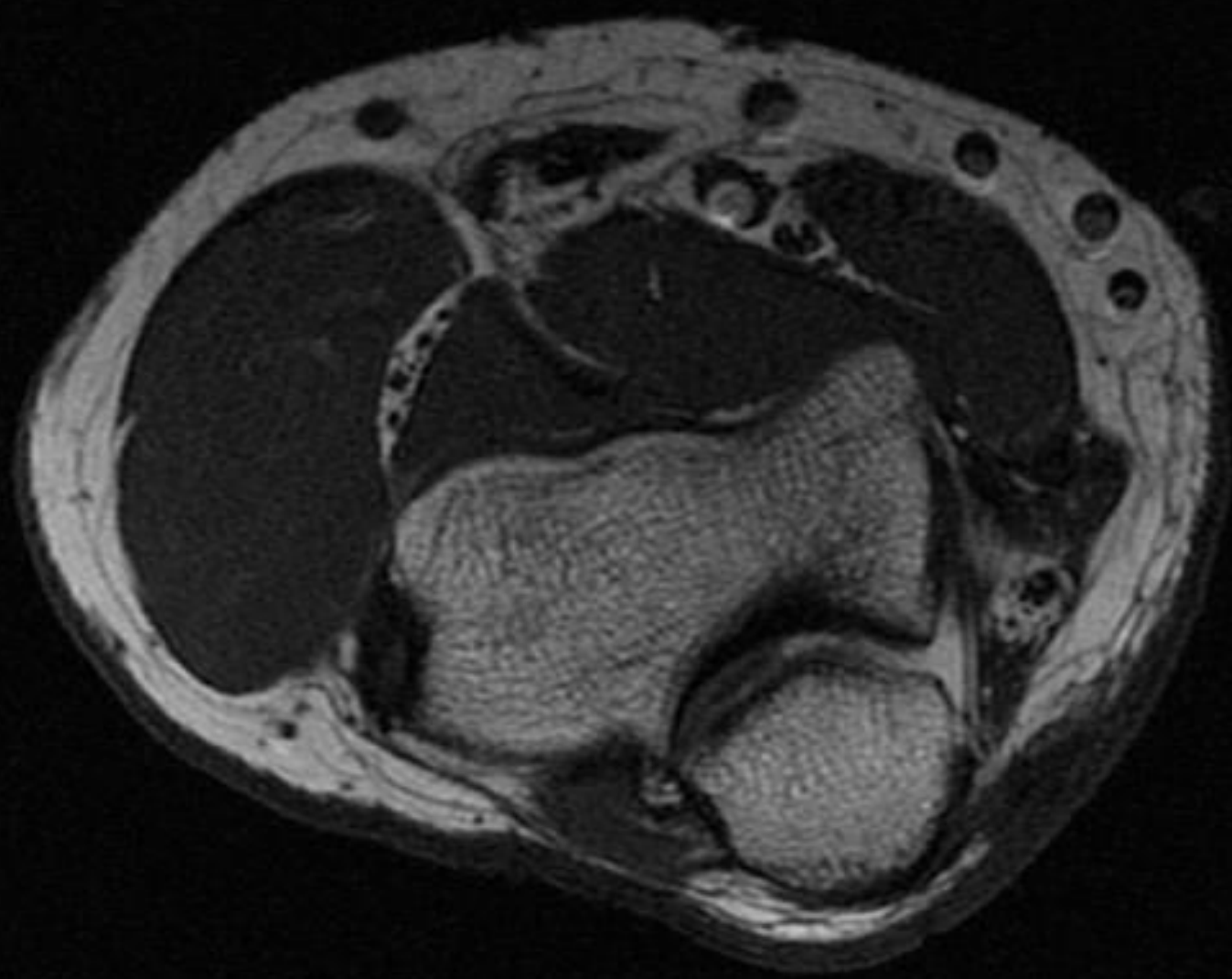
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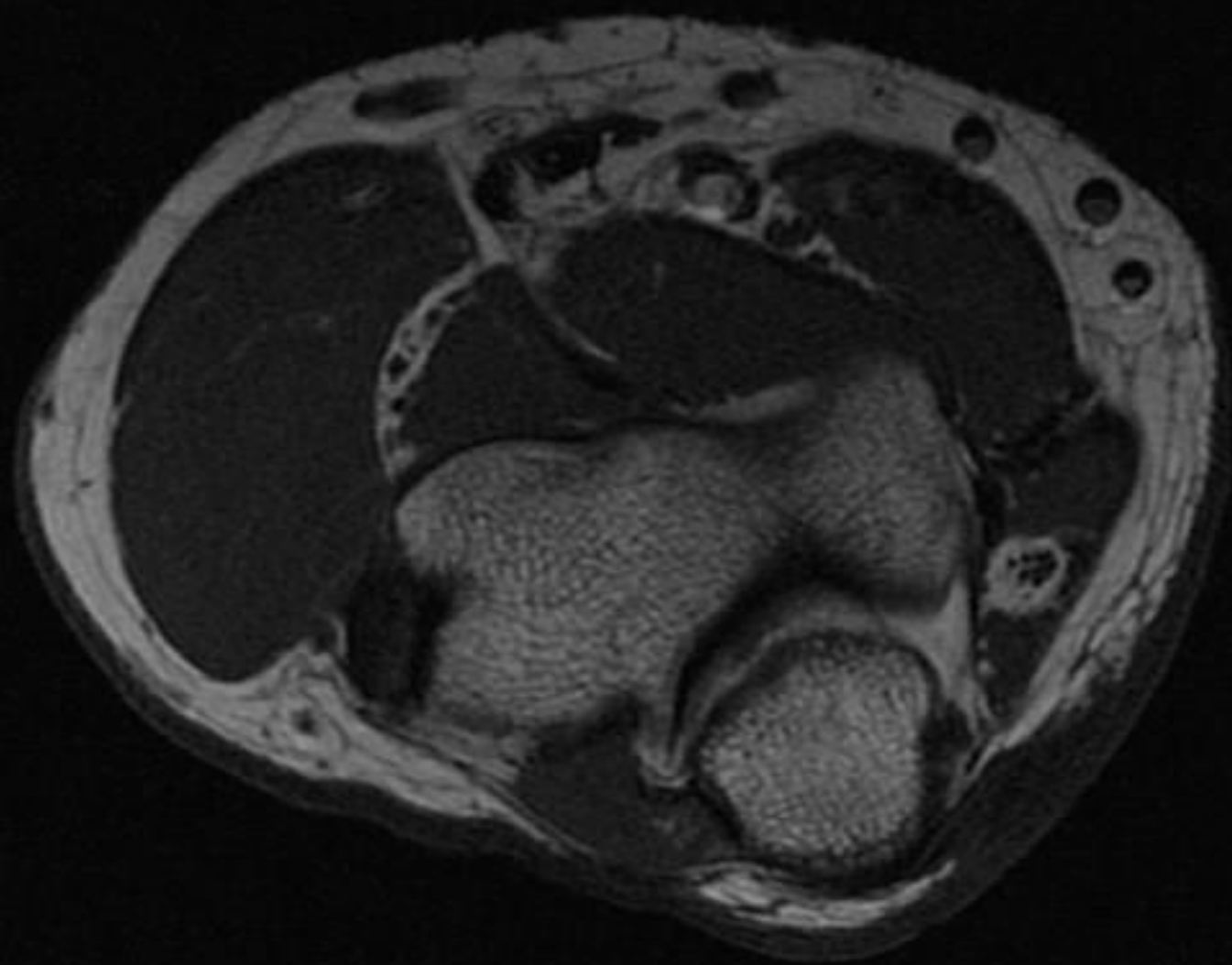


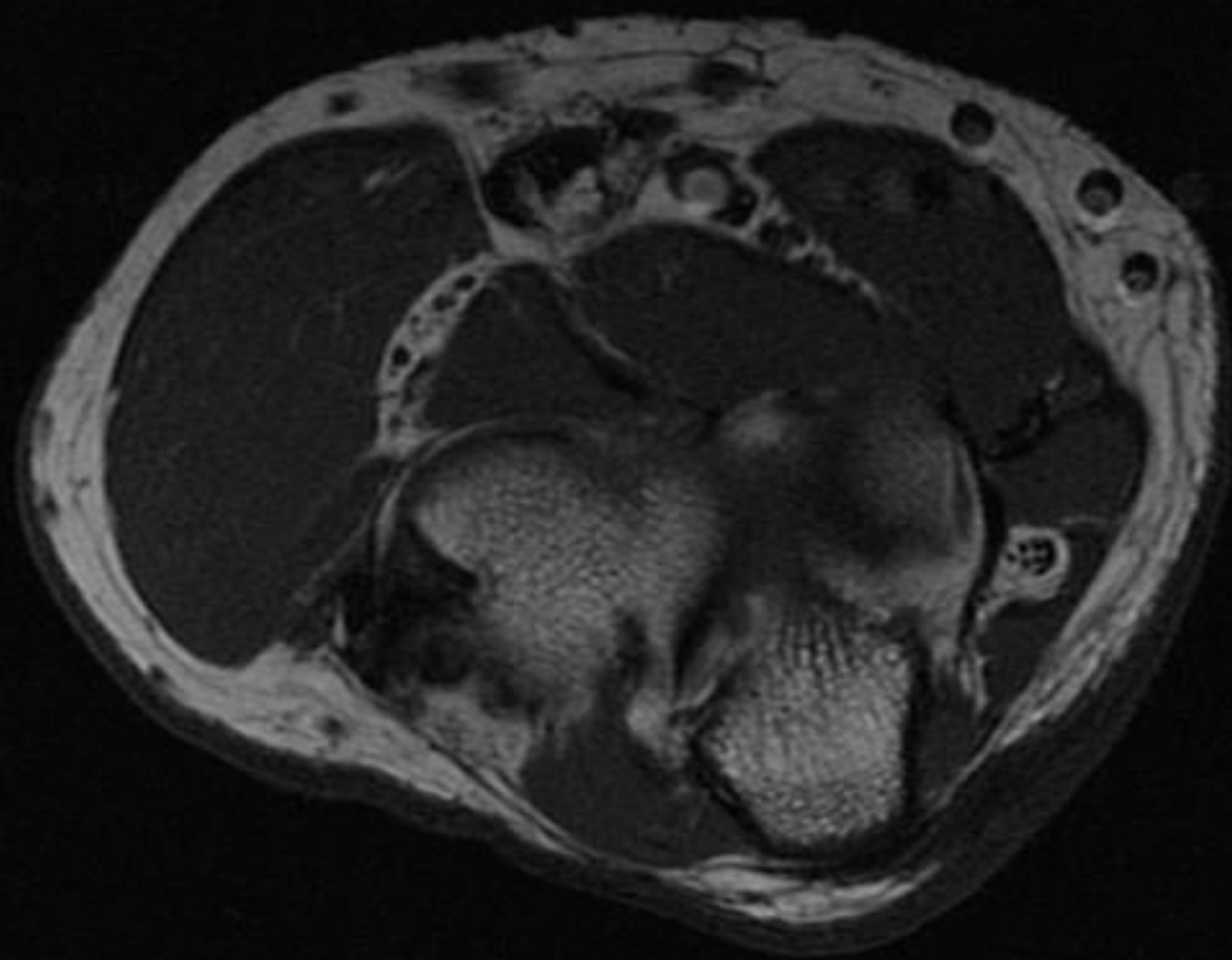


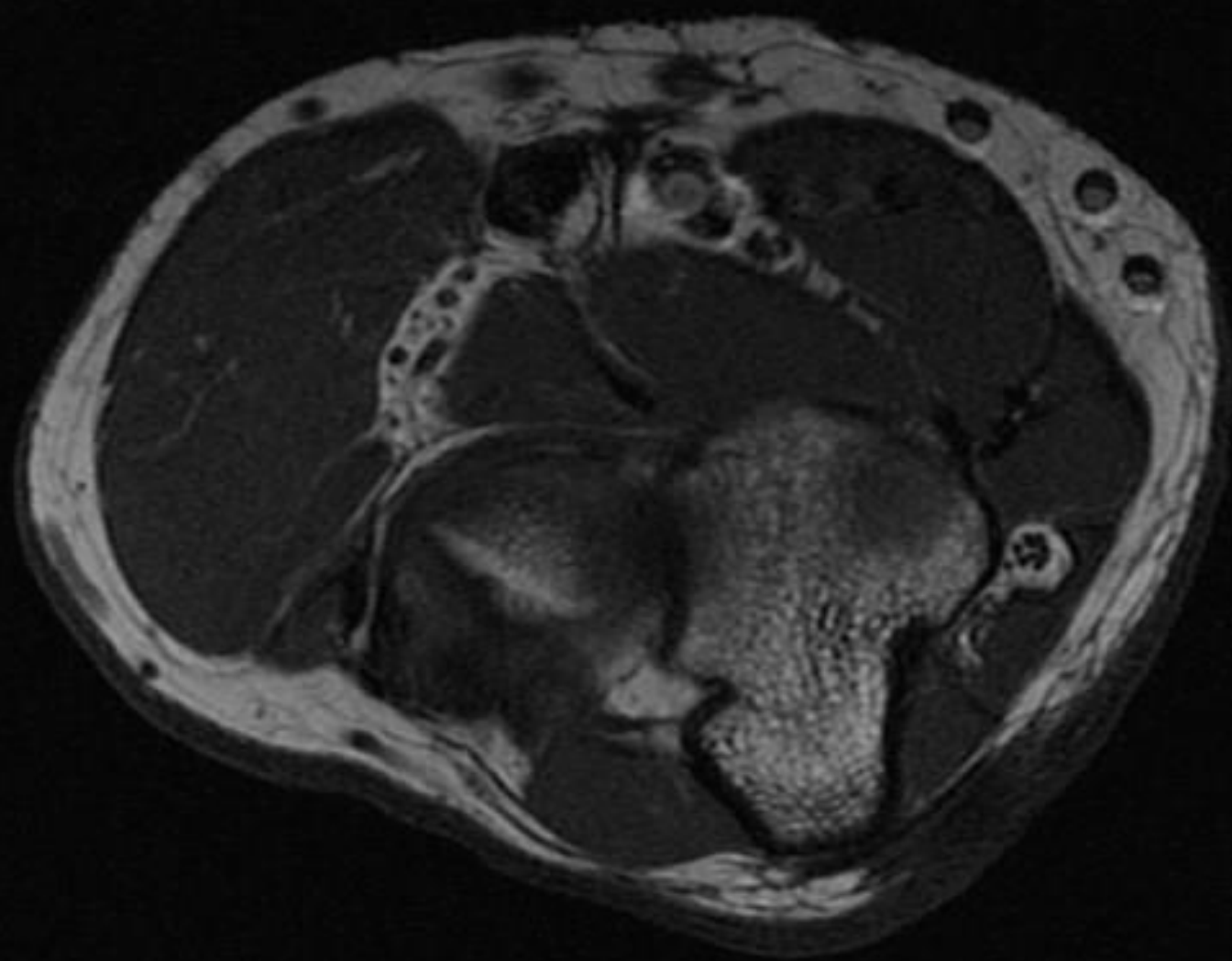


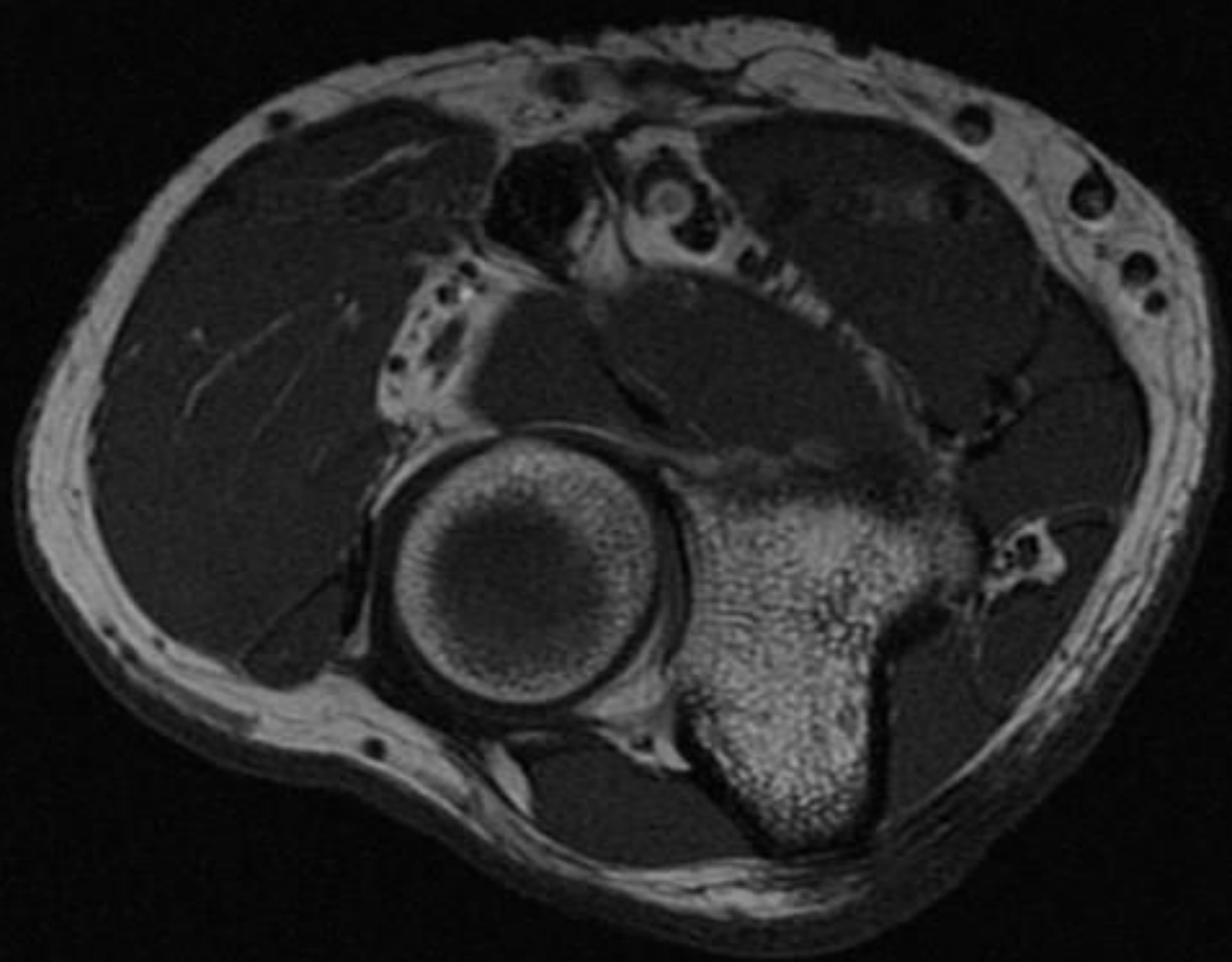


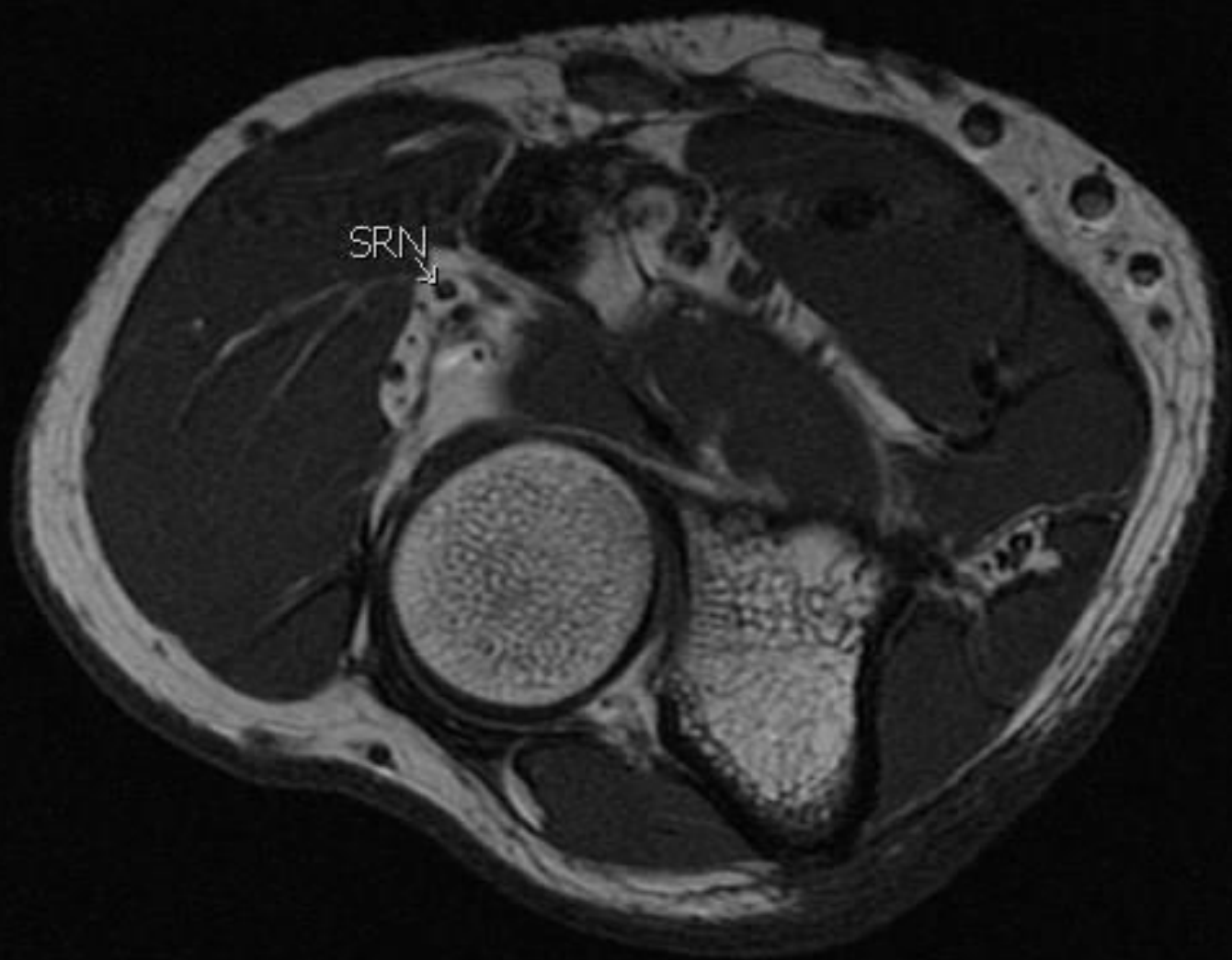


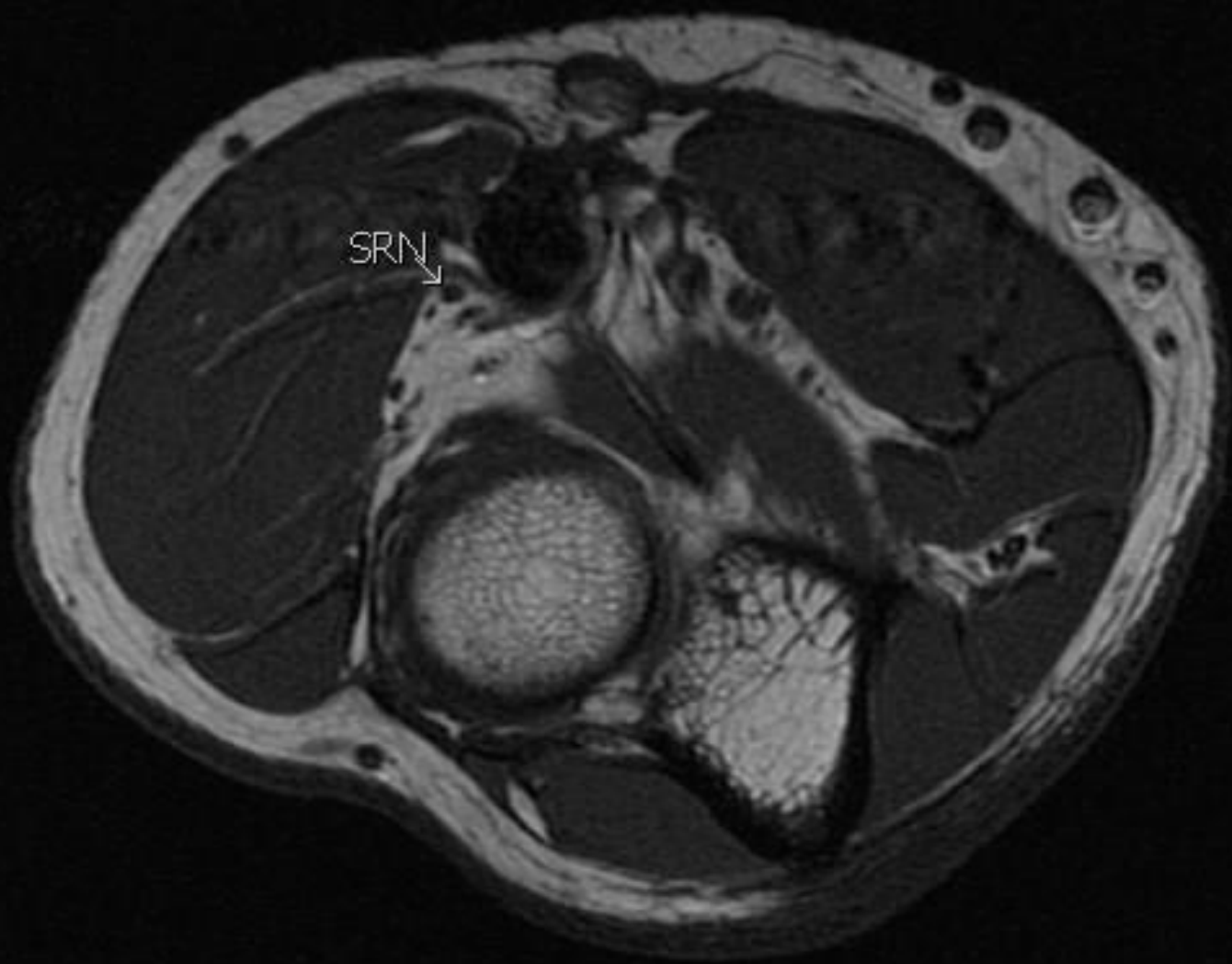


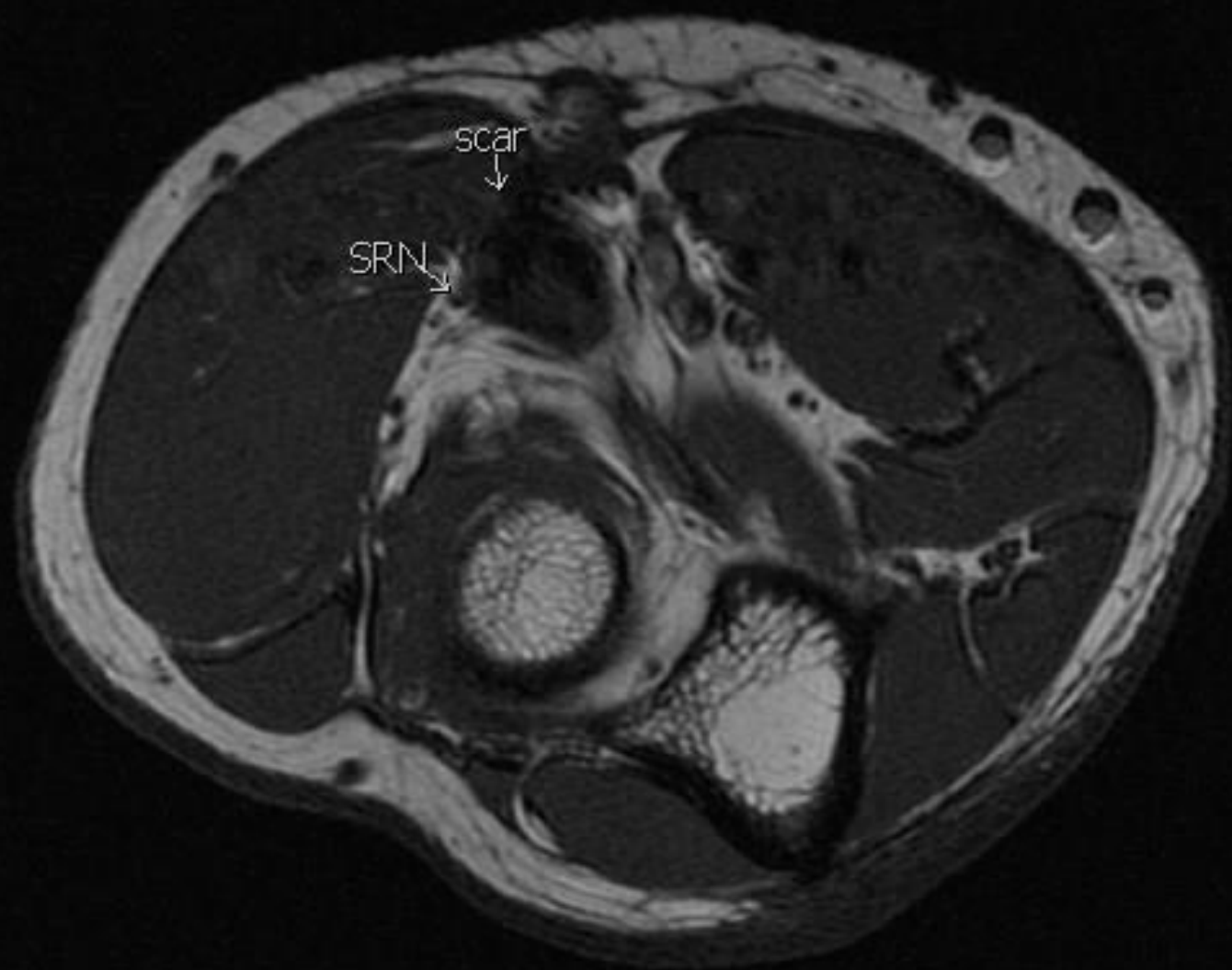














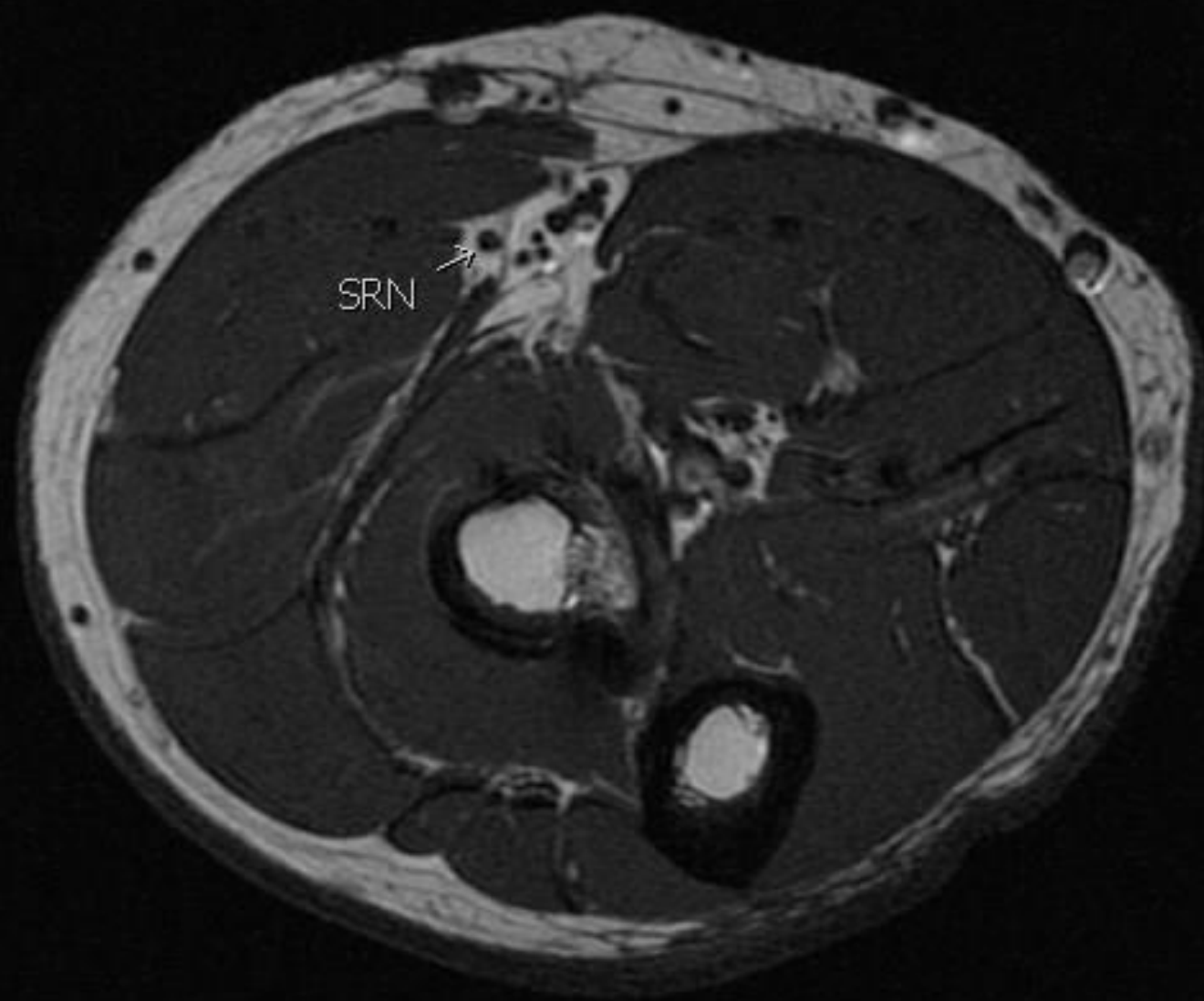


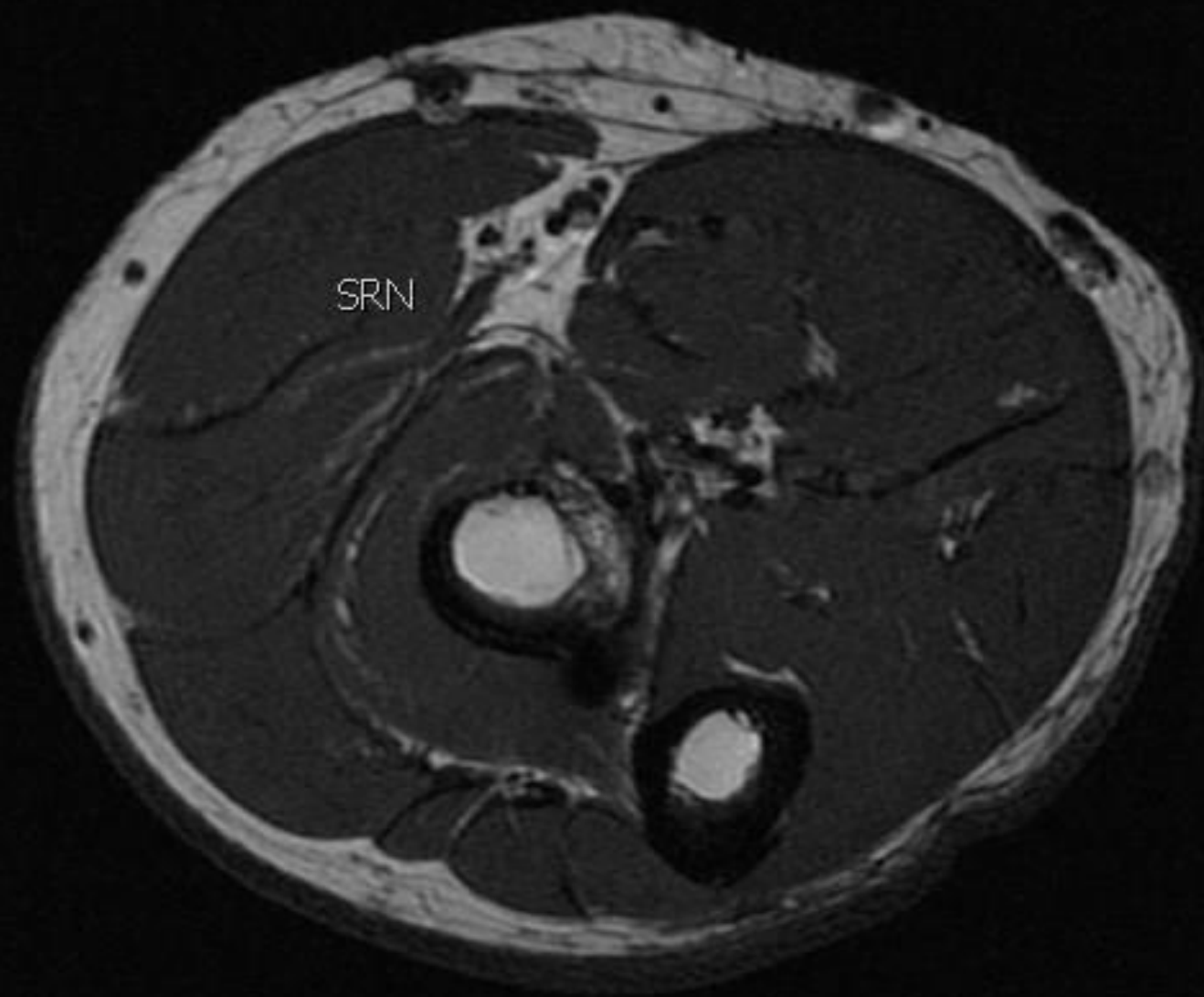


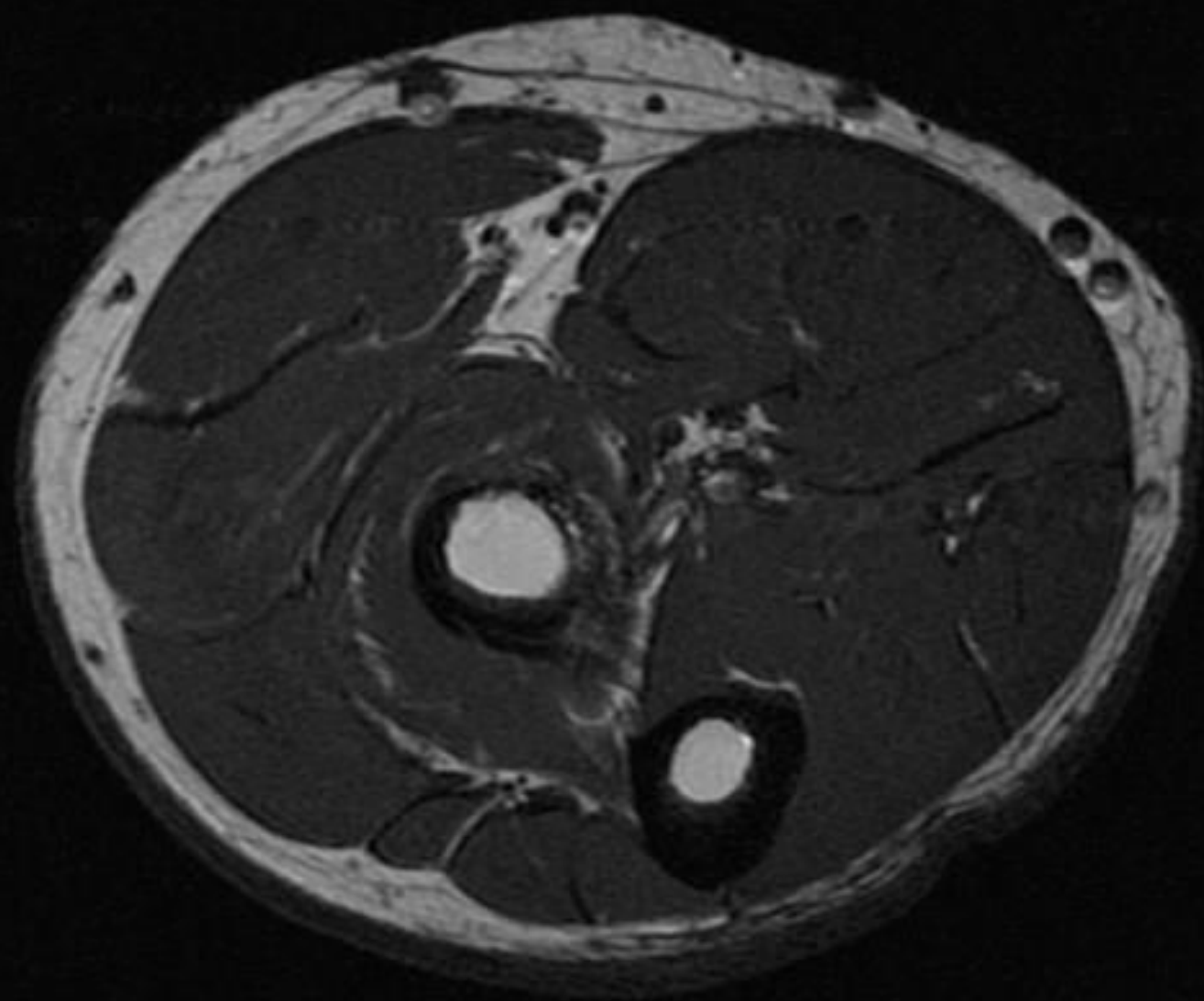


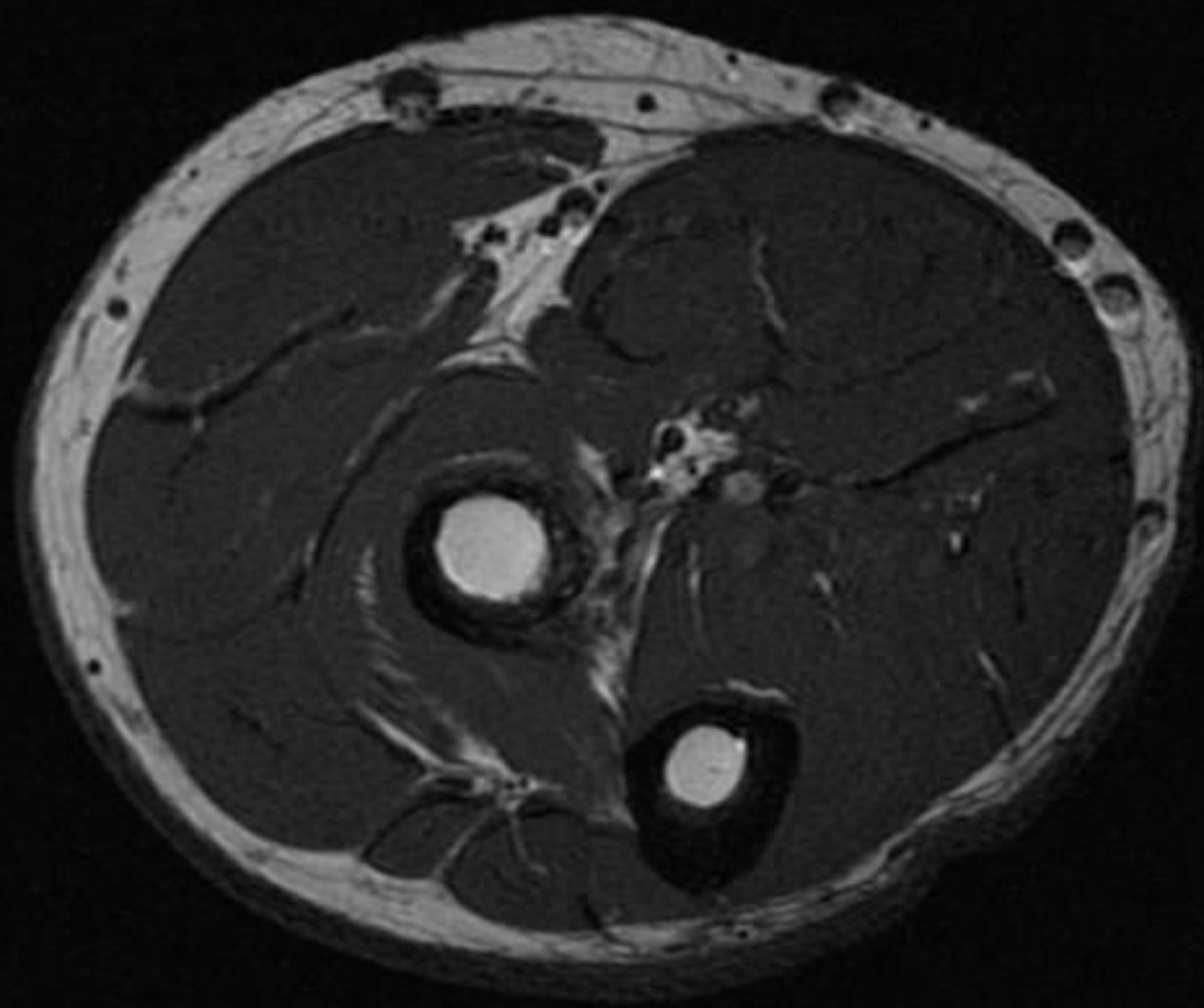








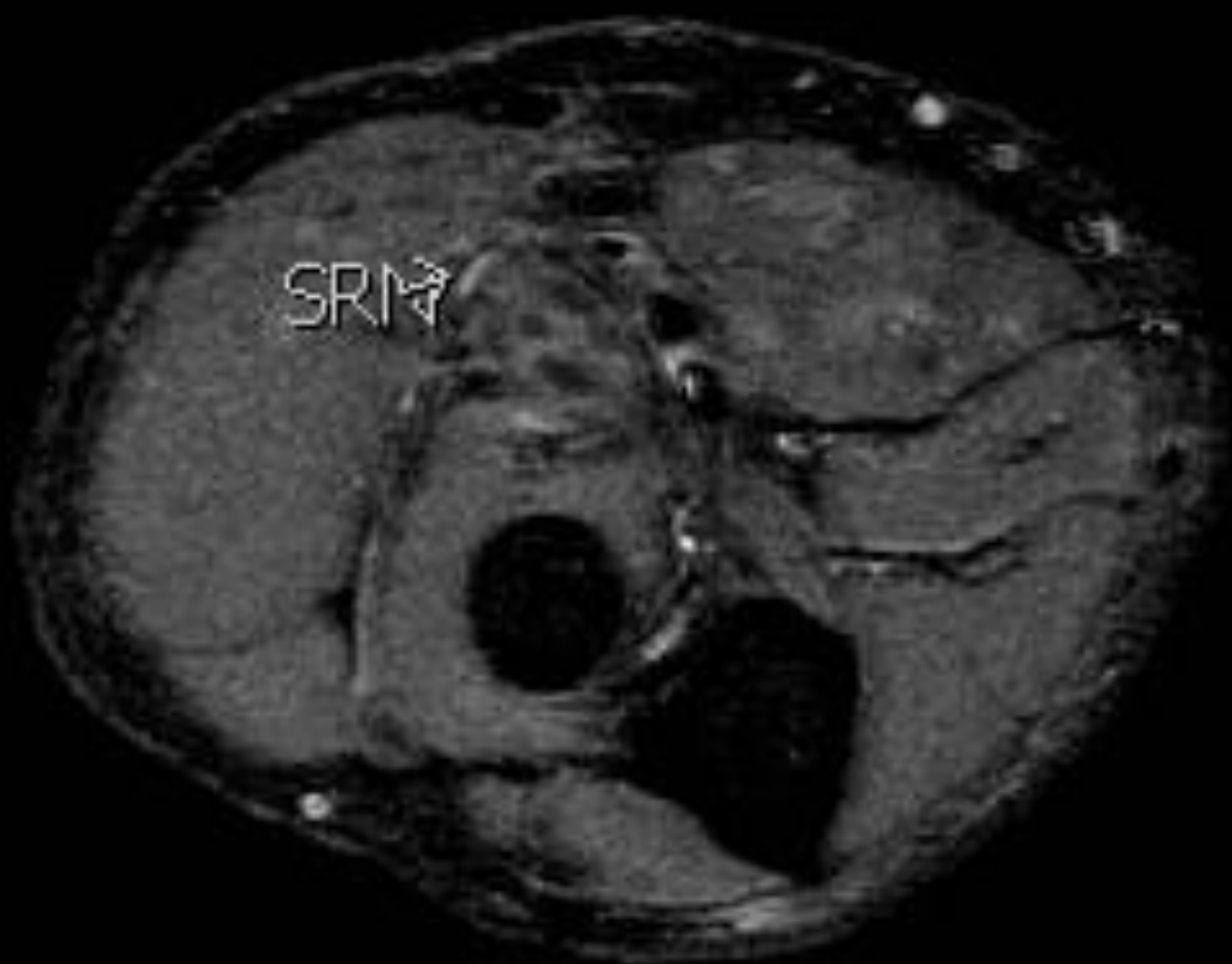




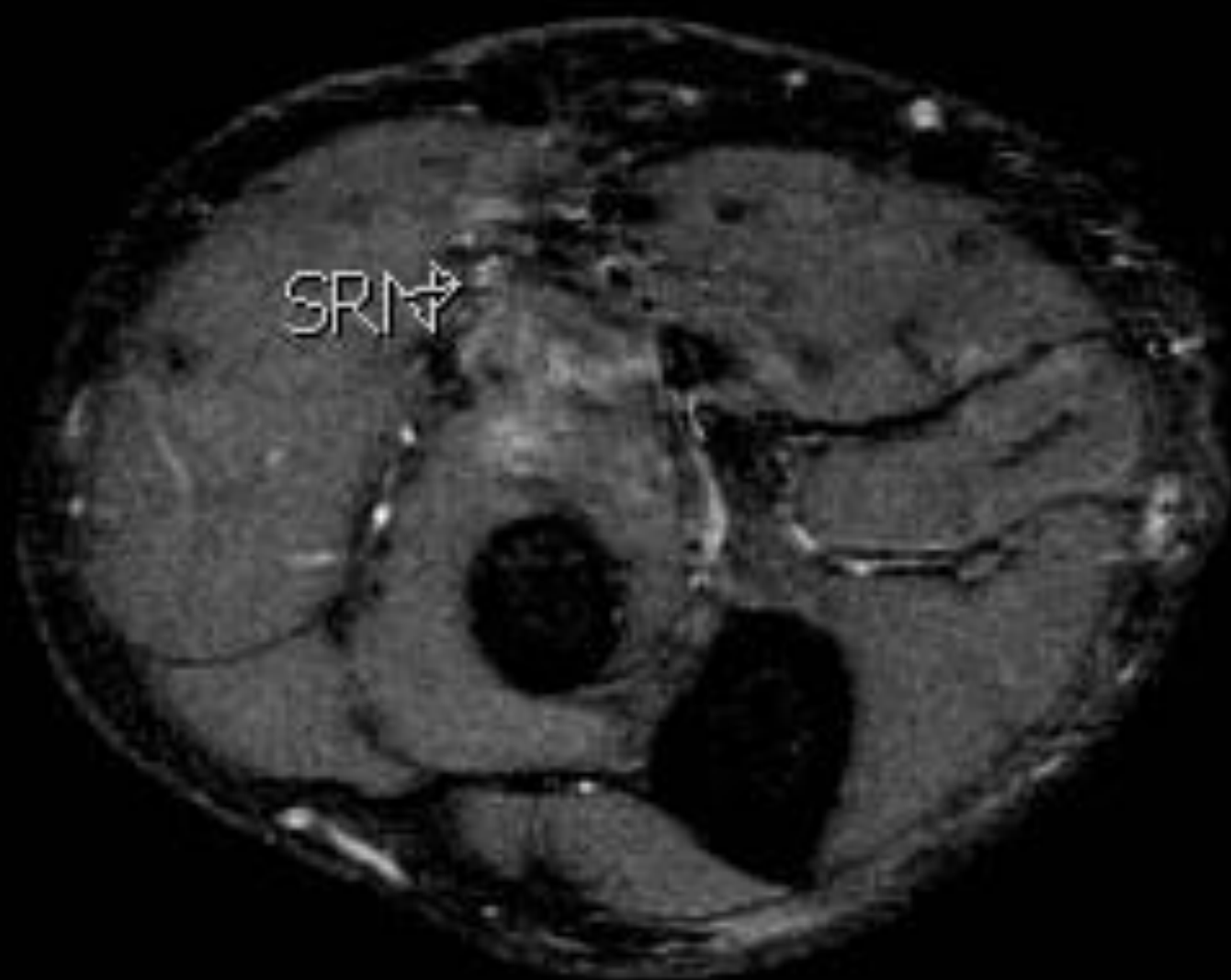




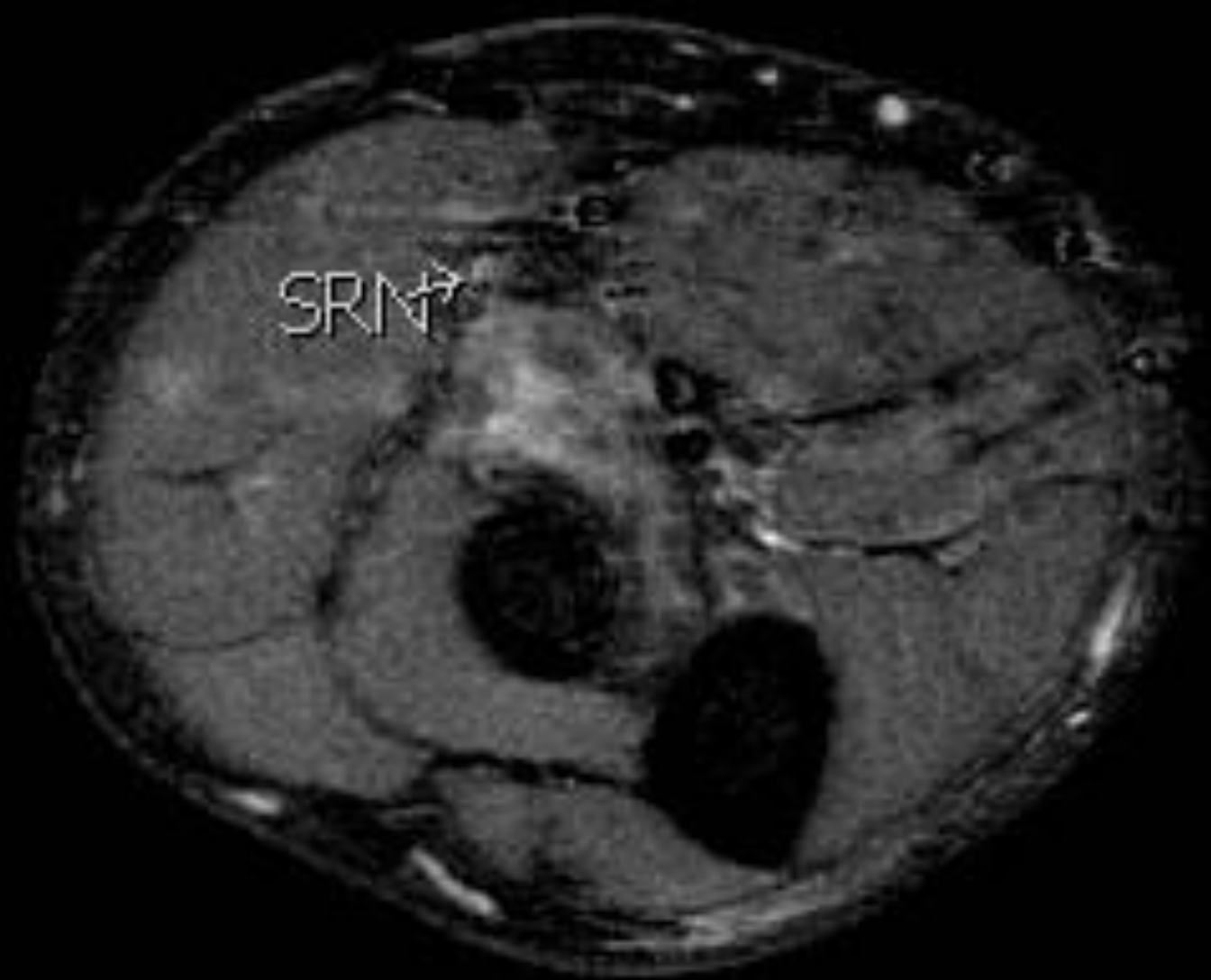


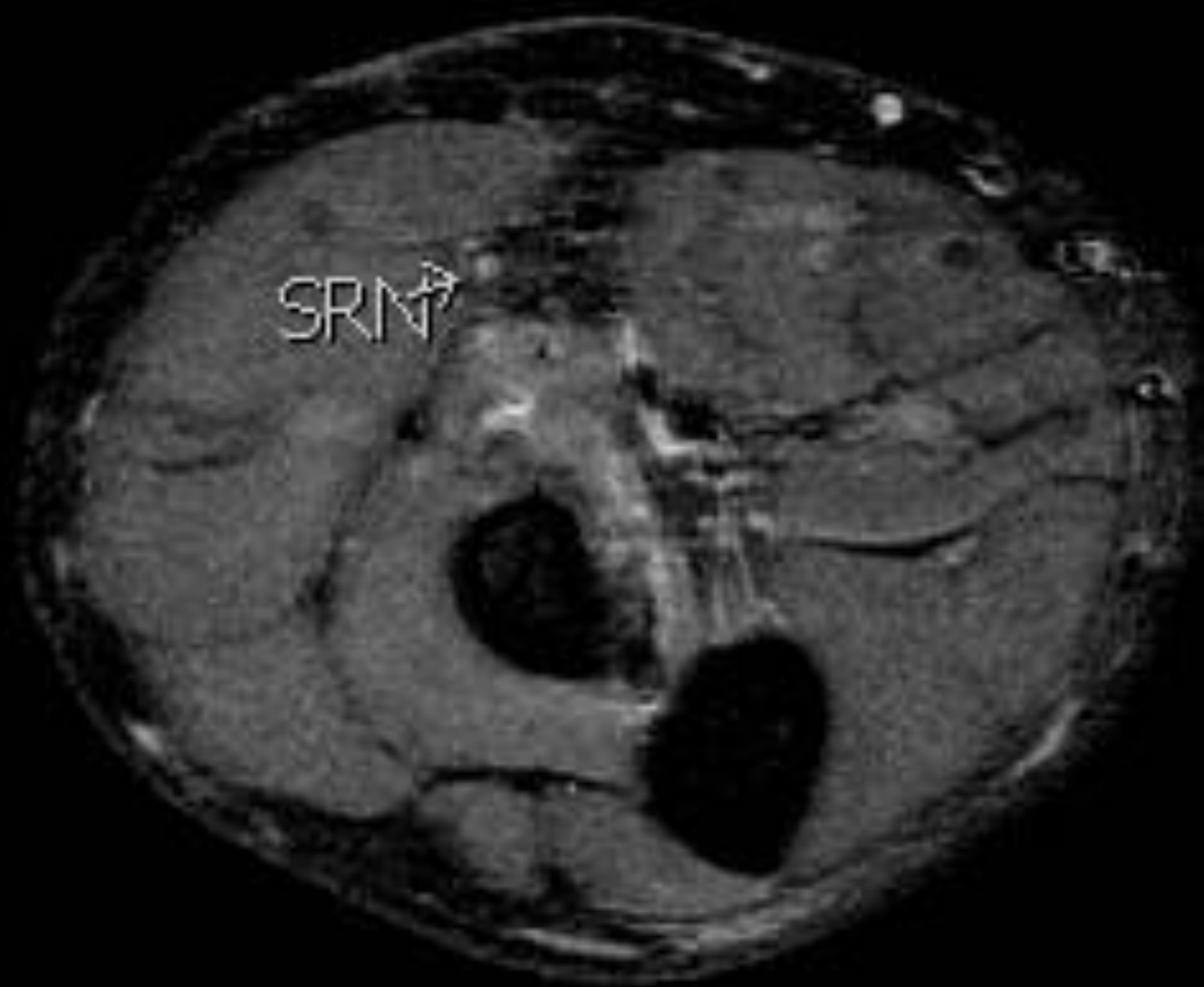


SRN

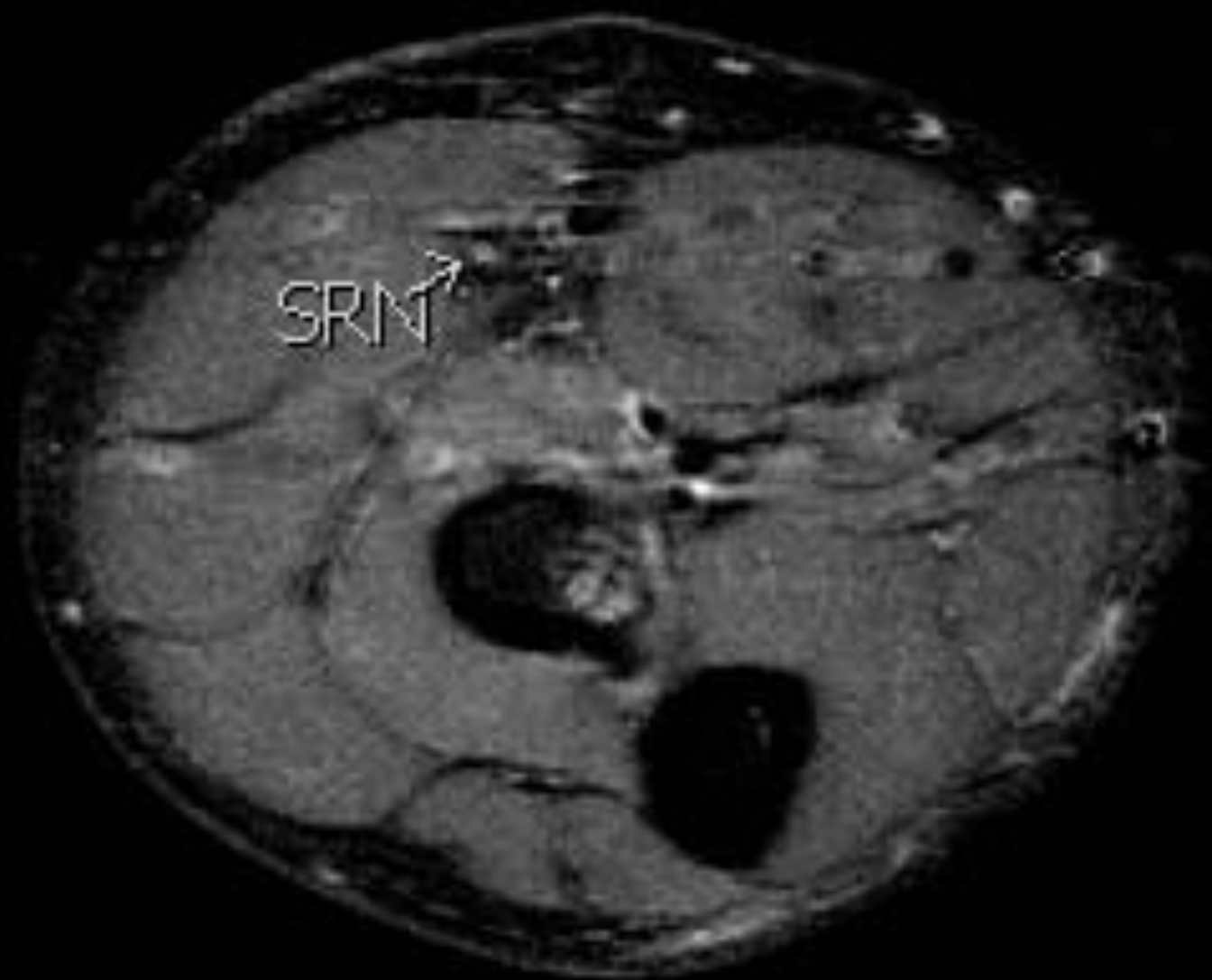


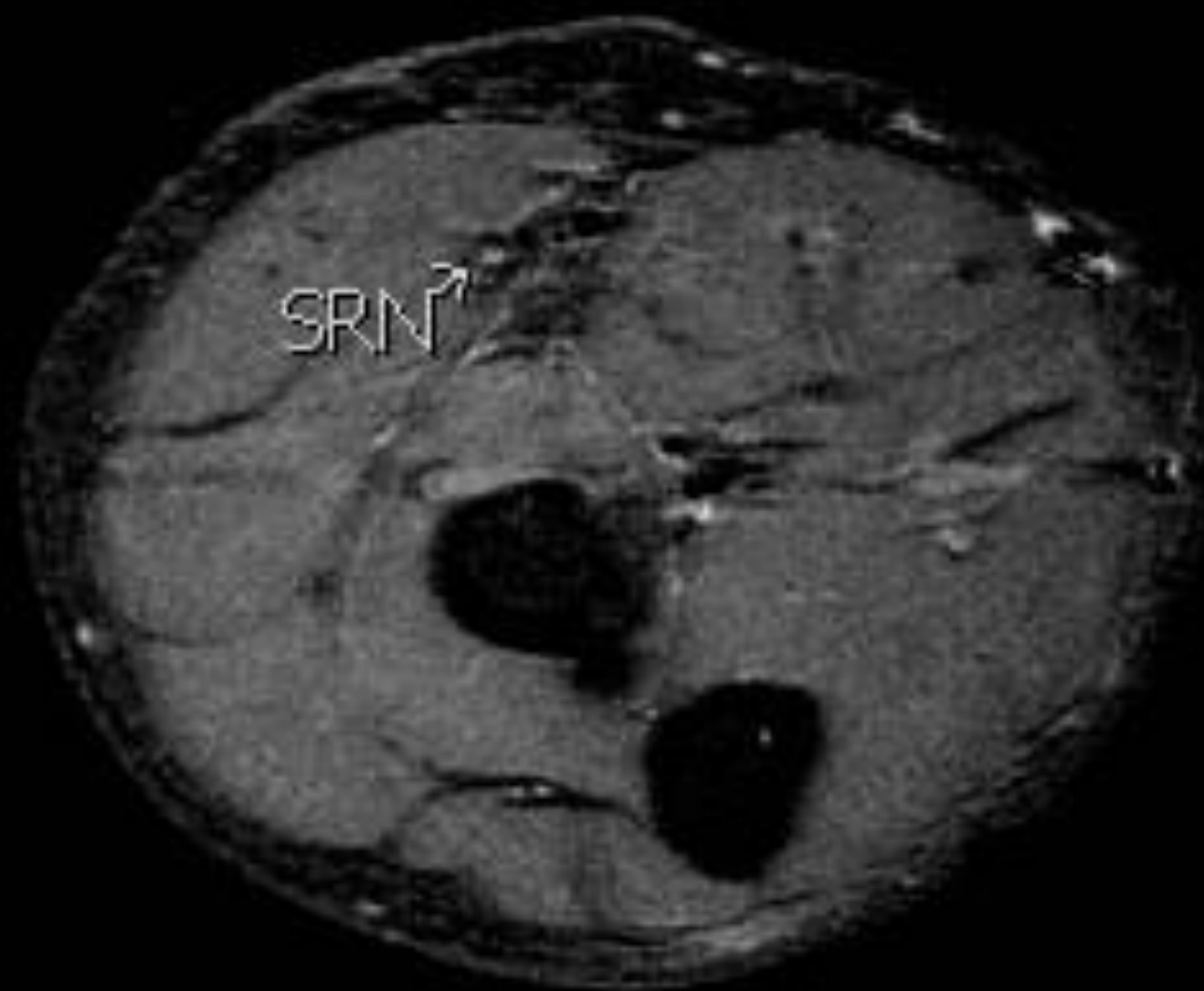
SRM →











STOP

Wartenberg's Syndrome*

- Compressive neuropathy of the superficial sensory radial nerve

*Atypical Case

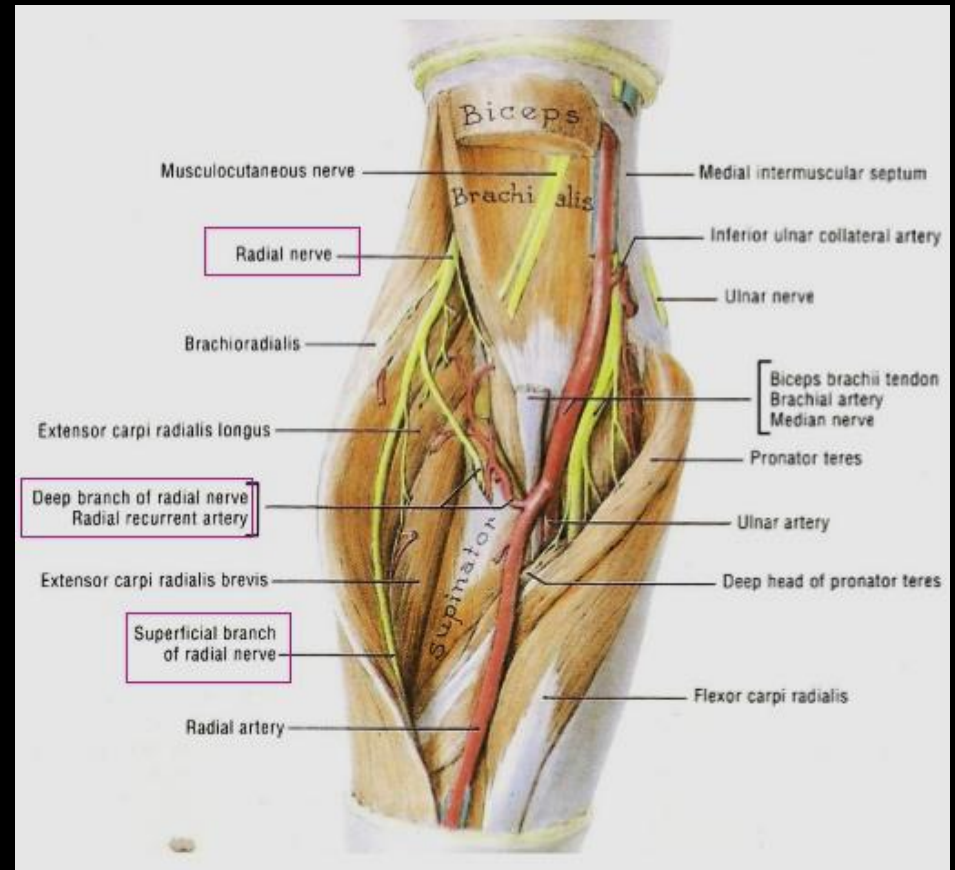
Anatomy

Radial Nerve

At the level of the radiohumeral joint line, the radial nerve divides into its terminal branches:

- Superficial branch
- Deep branch → PIN *

* PIN after it penetrates the supinator muscle



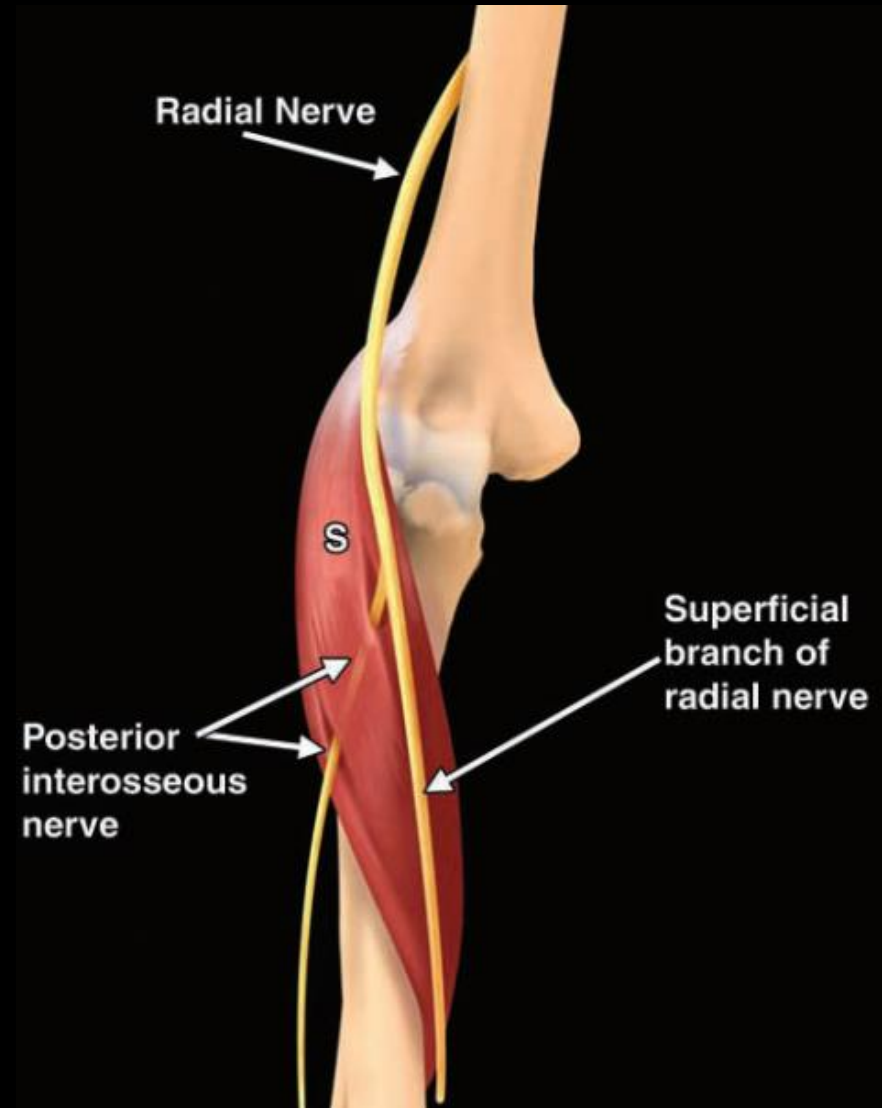
Anatomy

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Anatomy

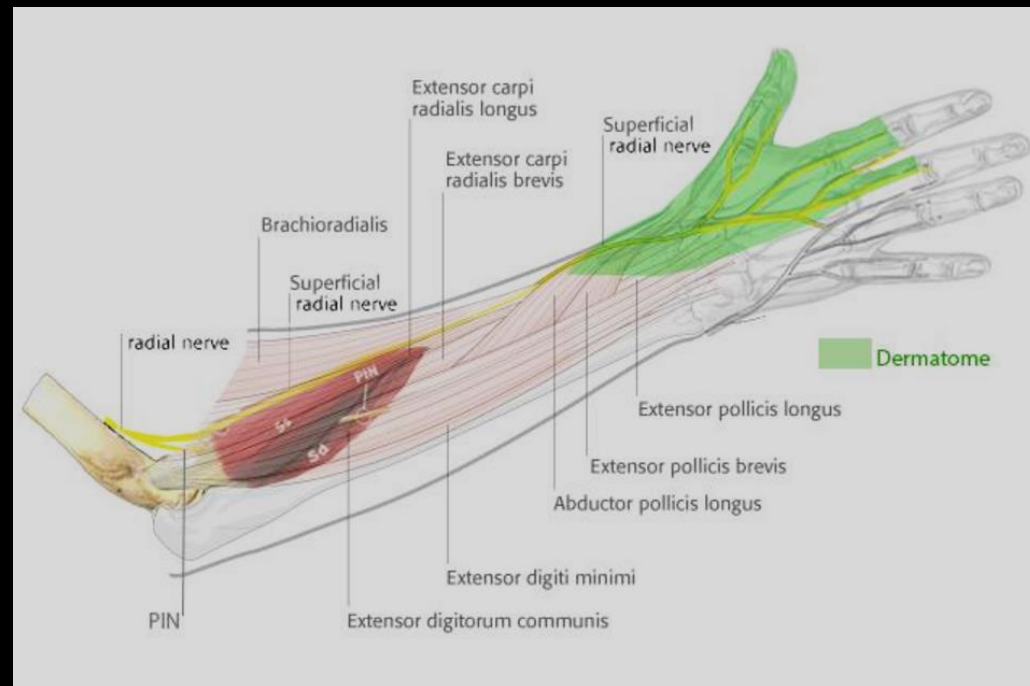
Superficial Branch of Radial Nerve

Medial branch

- sensory function to the ulnar half of the dorsal thumb, dorsal index, long, and radial half of the ring finger

Lateral branch

- sensory function to the radial dorsal thumb



Anatomy

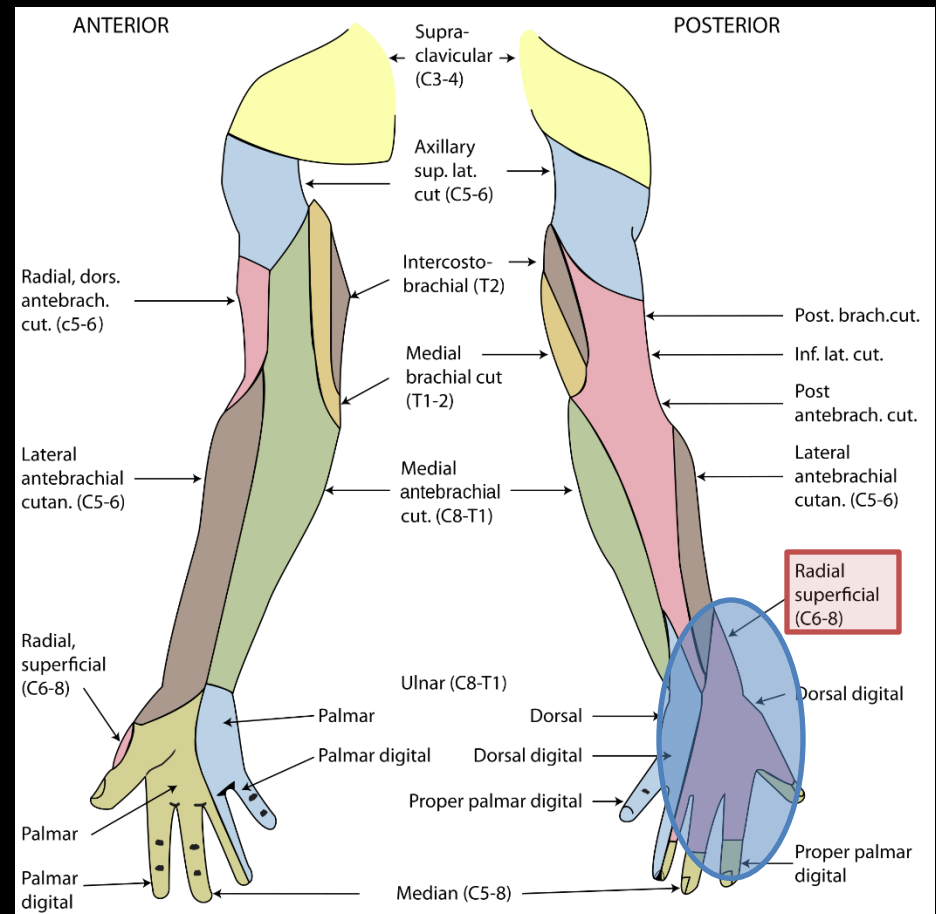
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Anatomy

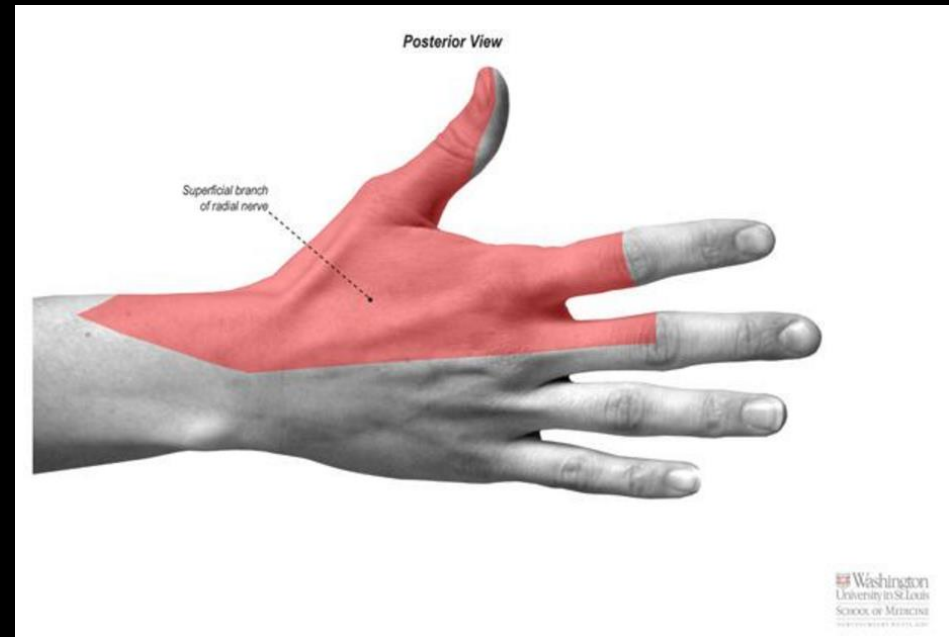
Superficial Branch of Radial Nerve

Medial branch

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Lateral branch

- sensory function to the radial dorsal thumb



Common Entrapment Neuropathies at the Elbow

Radial Nerve and Posterior Interosseous Nerve

- Entrapment at the radiocapitellar joint–radial tunnel, the leash of Henry, or the arcade of Frohse.

Median Nerve and Anterior Interosseous Nerve

- Entrapment at a supracondylar spur and Struthers ligament, the bicipital aponeurosis, the area between the humeral and ulnar heads of the pronator teres muscle, or the fibrous arch of the flexor digitorum superficialis muscle.

Ulnar Nerve

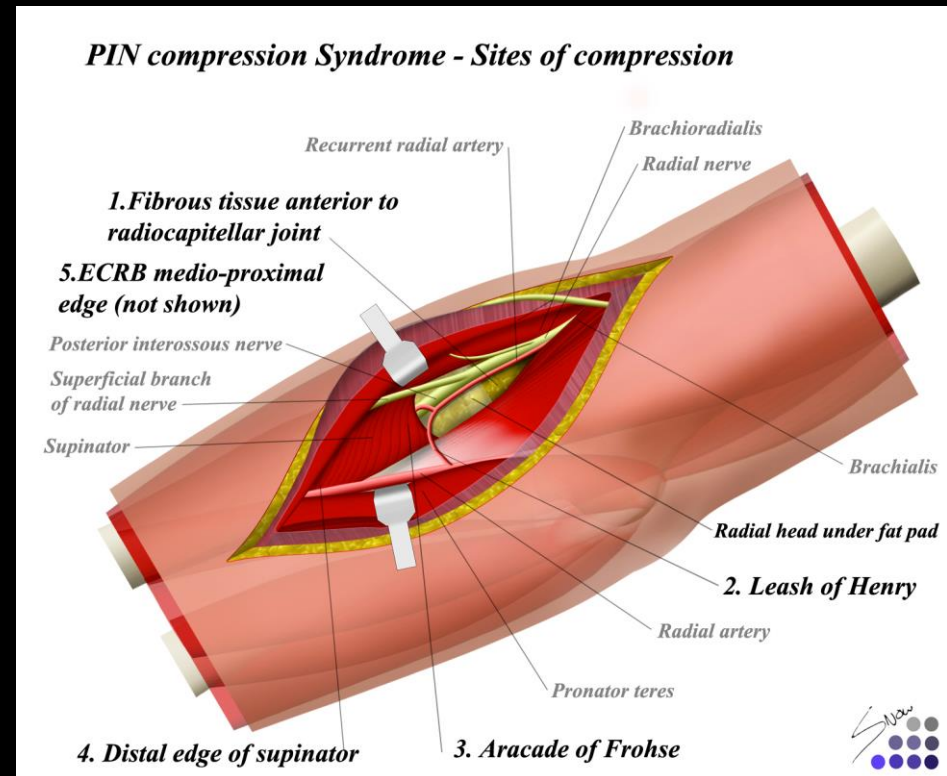
- Entrapment at the arcade of Struthers, the medial intermuscular septum, the cubital tunnel, the area between the two heads of the FCU, or the flexor pronator aponeurosis.

Not Superficial Branch of Radial Nerve

Entrapment Neuropathies at the Elbow

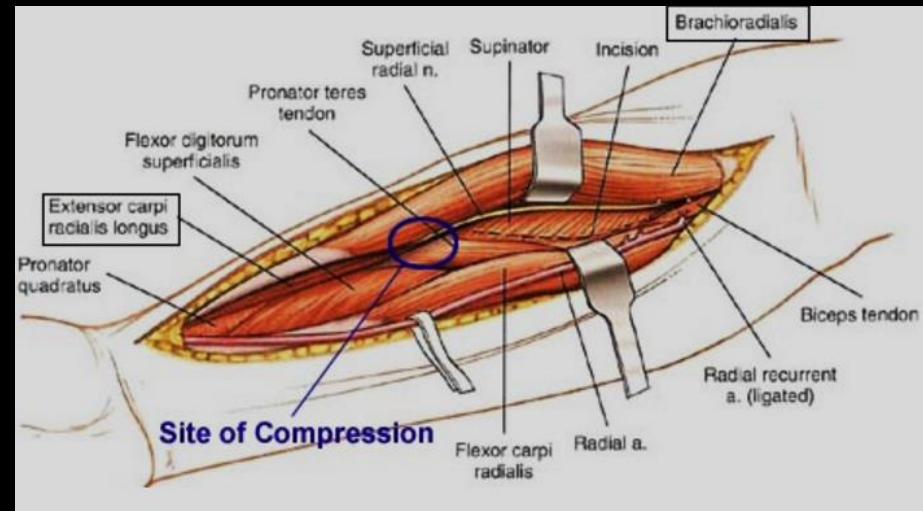
PIN Compression Syndrome

- Typically involves the deep branch of the radial nerve as it becomes the PIN
- 5 typical locations
 - fibrous tissue anterior to the radiocapitellar joint
 - “leash of Henry”
 - extensor carpi radialis brevis edge
 - "arcade of Fröhse"
 - supinator muscle edge



Wartenberg's Syndrome

- Compressive neuropathy of the superficial sensory radial nerve (SRN), also called "cheiralgia paresthetica"
- Characterized by sensory manifestation only with no motor deficits
- Parasthesias and numbness in the dorsoradial hand



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Typical Wartenberg's Syndrome

Causes

- May result from trauma or extrinsic compression in the forearm/wrist.
- SRN may be compressed by scissoring action of brachioradialis and ECRL tendons during forearm pronation, or by fascial bands at its exit site in the subcutaneous plane

Associated with De Quervain's disease in 20-50%, often the primary differential diagnosis

Prognosis

- Spontaneous resolution of symptoms is common
- 74% success after surgical decompression

EMG Report: 8/26/2016

Summary:

- Right radial nerve sensory response is absent. Right lateral and medial antebrachial, median, and ulnar nerve sensory responses are normal except for mild reduced amplitude in ulnar nerve.
- Right median, ulnar, and radial (EIP) nerve motor responses are normal.

Conclusion:

- This is an abnormal study. There is evidence of a right radial superficial sensory neuropathy. There is no evidence of a lateral antebrachial cutaneous neuropathy. There is no definite evidence of other radial nerve involvement, cervical motor radiculopathy, brachial plexopathy, or large fiber polyneuropathy.

References

1. Woon, Colin. "Wartenberg's Syndrome." *Orthobullets*. Web. 13 Oct. 2016.
2. Linda D, Harish S, Stewart B, Finlay K. Multimodality Imaging of Peripheral Neuropathies of the Upper Limb and Brachial Plexus. *Radiographics*. 2010;6:1373-1400. doi:10.1148/rg.305095169/-/DC1.
3. Stadnick, Michael. "Posterior Interosseous Nerve Syndrome." *Radsources*, 2014. Web. 13 Oct. 2016.
4. Watts, Evan. "PIN Compression Syndrome." *Orthobullets*. Web. 13 Oct. 2016.