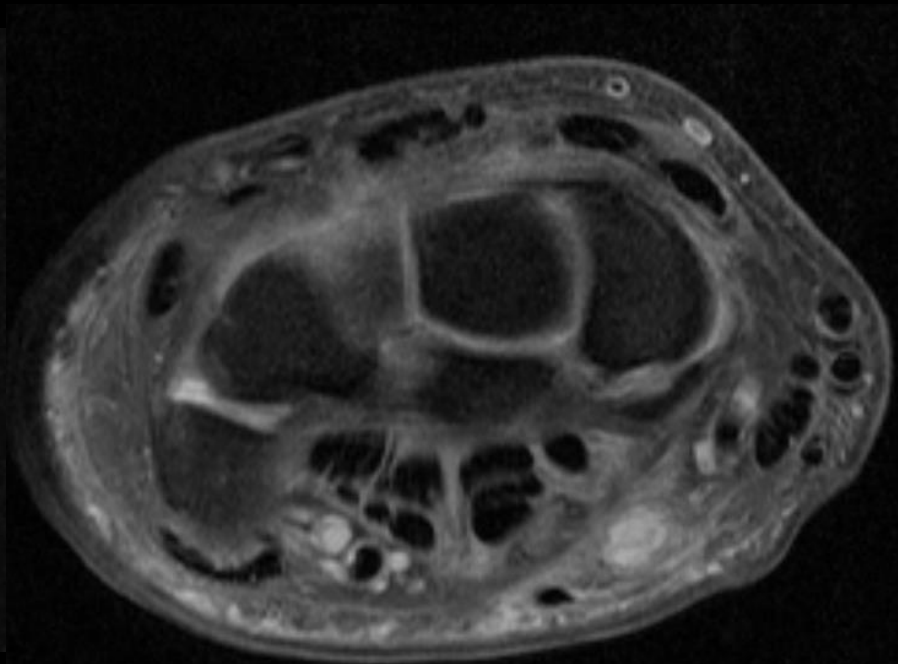
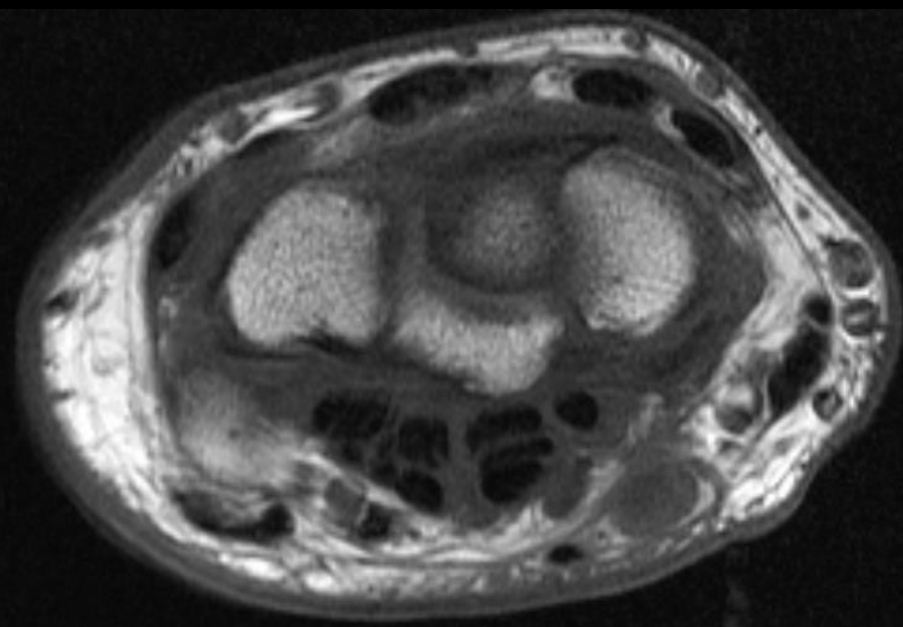




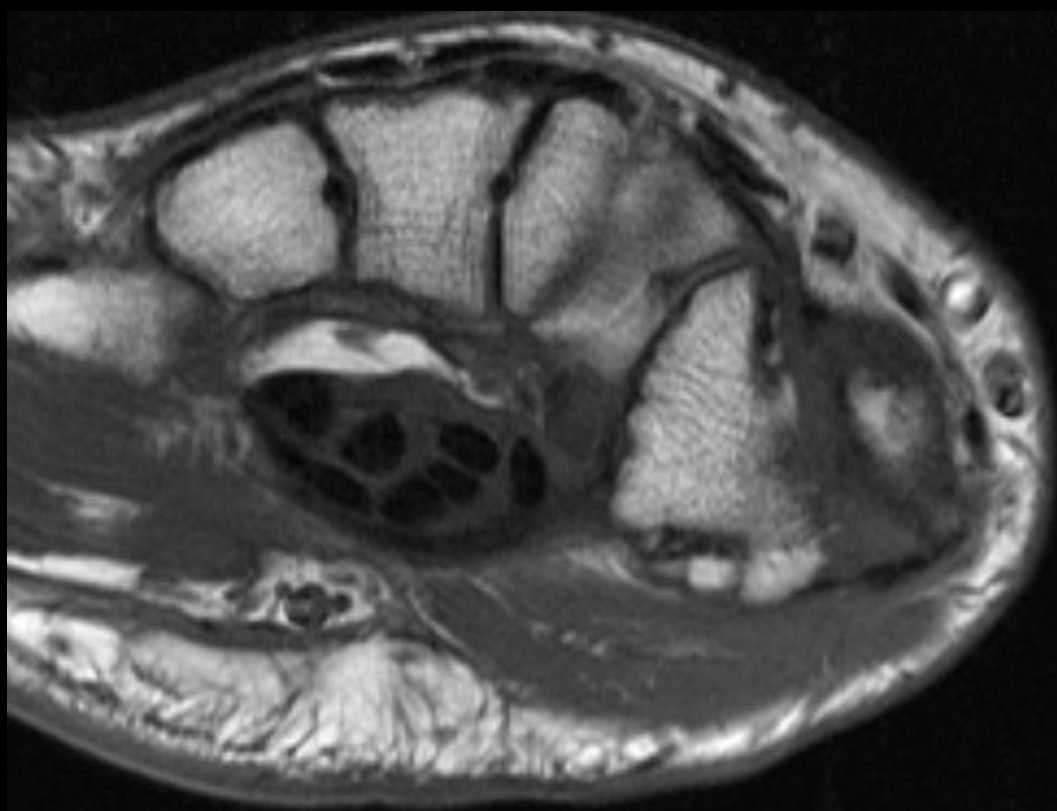
60 y/o man, 2 mon h/o wrist
pain, swelling, decreased ROM

Brock Hansen

11/4/2016



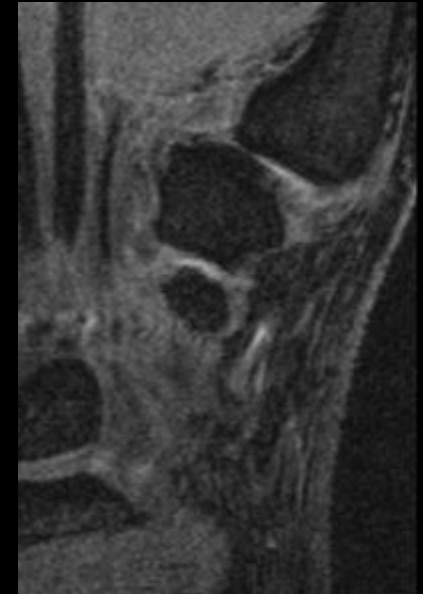
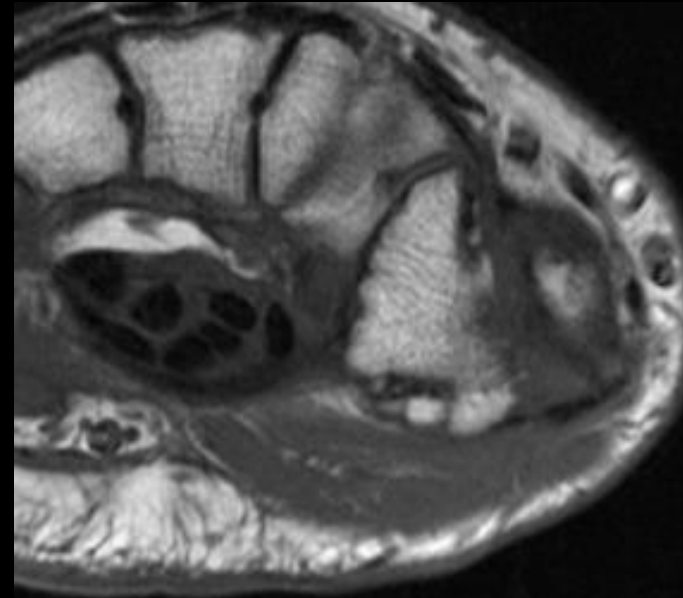




Diagnosis

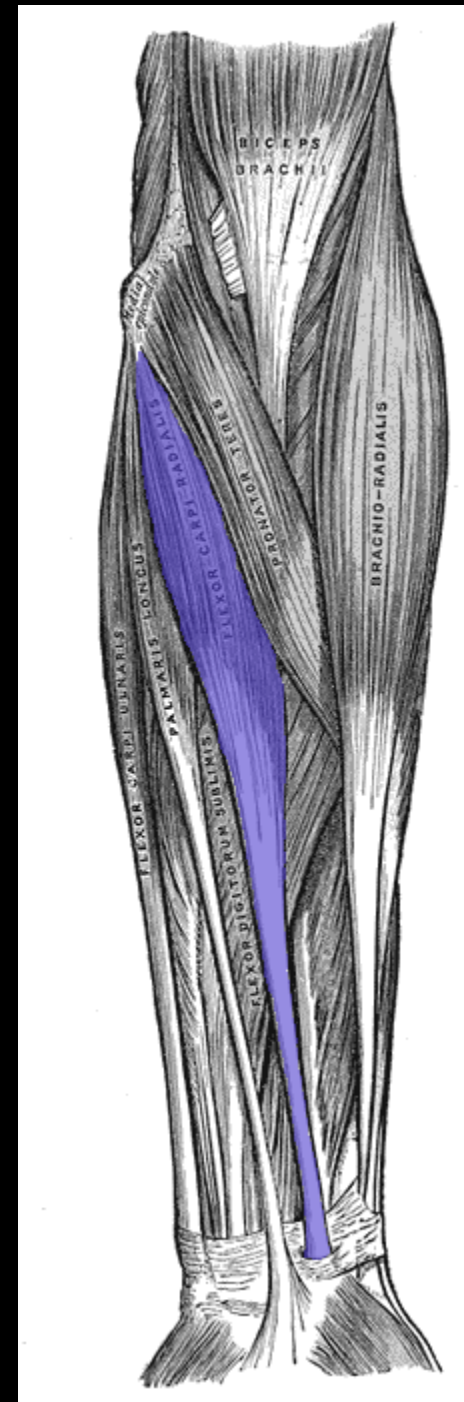
- **Flexor carpi radialis tendon rupture**

- FCR pathology rarely occurs as an isolated phenomenon, and tends to lack a clear-cut history of acute trauma.
- FCR pathology is overwhelmingly associated with OA of the triscaphe and 1st CMC joints.
- There are only isolated descriptions of sports-related FCR injuries
- Symptoms may include long-standing volar radial-sided pain, a history of a snapping sensation followed by pain, or a mass in the forearm.

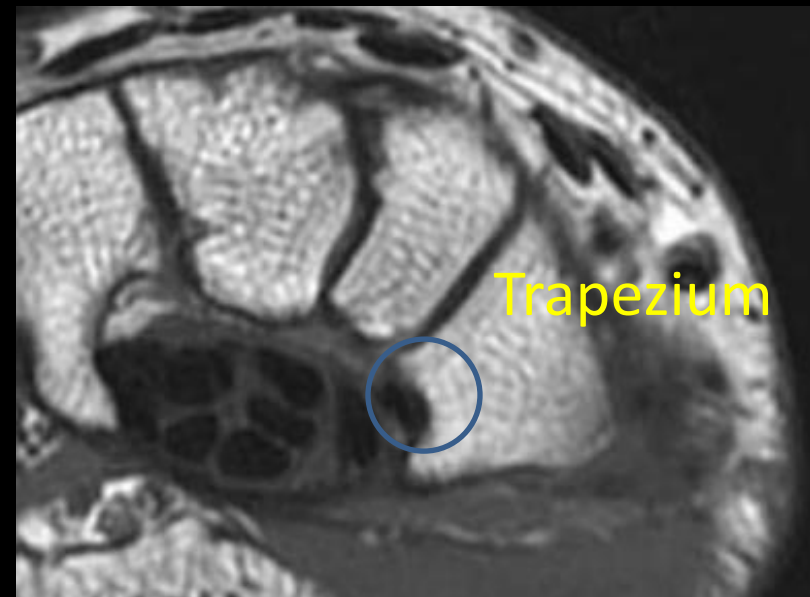
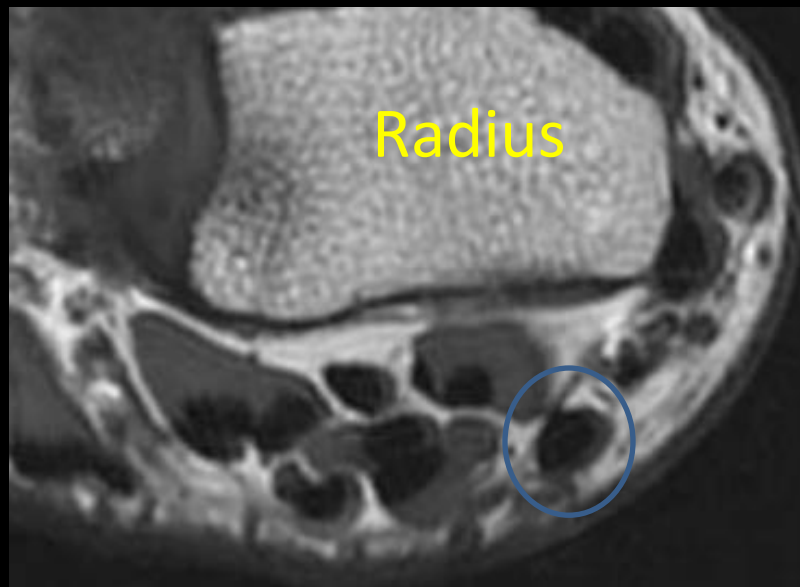


Relevant Anatomy

- Flexor carpi radialis (FCR) tendon is invested in a synovial sheath as it travels adjacent to the carpal tunnel at its radial aspect.
- FCR is sequestered within its own fibro-osseous tunnel by a reflection of the flexor retinaculum.



Relevant Anatomy



Relevant Anatomy

- FCR tendon passes along the volar aspect of the scaphoid and trapezium, intimate with the overlying capsule of the triscaphe joint, en route to its insertion on the base of the 2nd metacarpal.

Asterisk: Volar aspect of the trapezium ridge.

Arrowheads: Expected course of the FCR tendon depicted as a white stripe volar to the trapezium groove.



FCR Rupture presenting as a mass in forearm

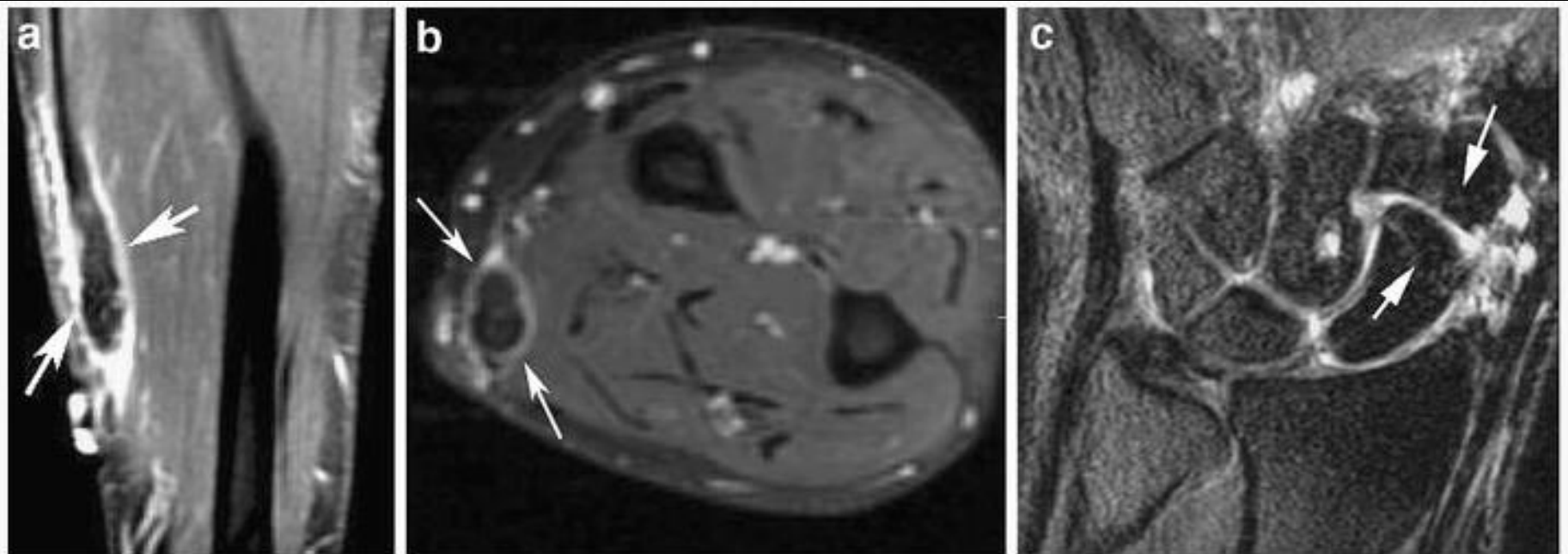


Fig. 2
54-year-old man with a torn and retracted FCR presenting as a mass in the forearm. **a** Sagittal fat-suppressed T1-weighted post-contrast MR image shows the proximally retracted FCR tendon in the distal forearm with surrounding enhancement (*arrows*). **b** Axial fat-suppressed T1-weighted post-contrast MR image shows the proximally retracted tendon overlying the volar compartment musculature of the wrist (*arrows*). **c** coronal fat-suppressed T2-weighted MR image show moderate STT osteoarthritis, including cartilage loss and reactive synovitis (*arrows*)

FCR Partial Tear

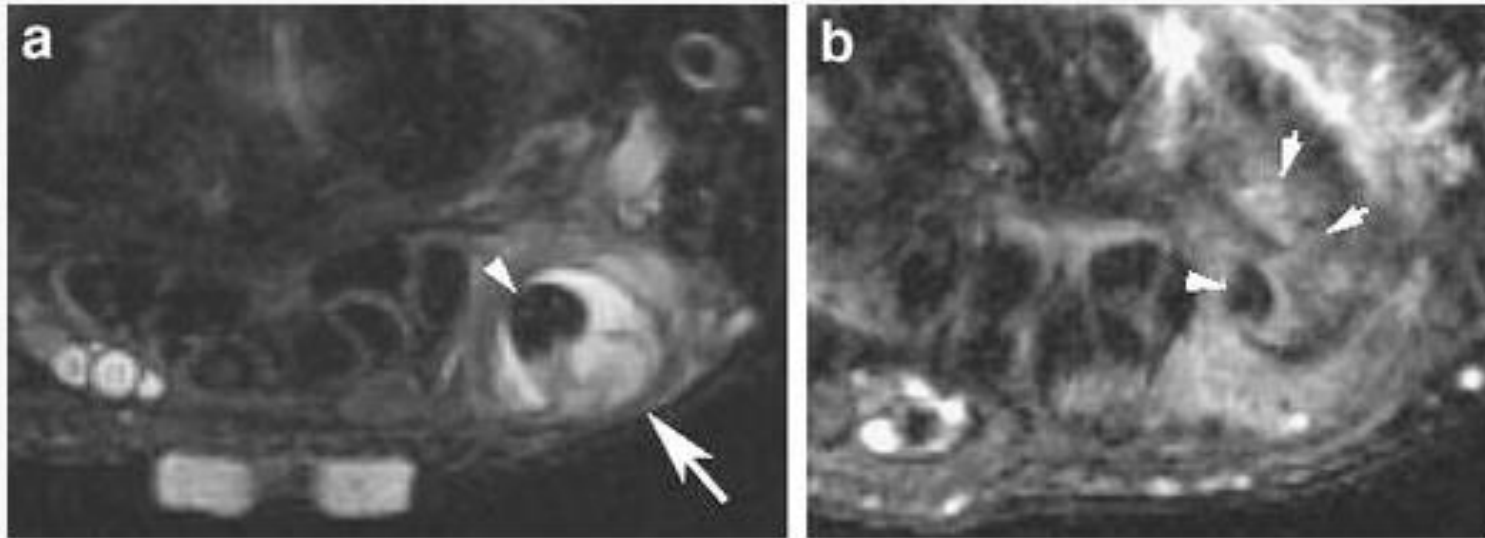


Fig. 3

43-year-old female with a partial tear of the FCR. **a** Axial T2-weighted fat-suppressed MR image shows a thickened proximal FCR tendon (*arrowhead*) with associated tenosynovitis (*arrow*). **b** Axial T2-weighted fat-suppressed MR image distal to **a** shows an attenuated distal FCR with intratendinous increased signal intensity (*arrowhead*). There are edema-like marrow changes in the subjacent trapezoidal crest (*arrows*)

FCR Partial Tear

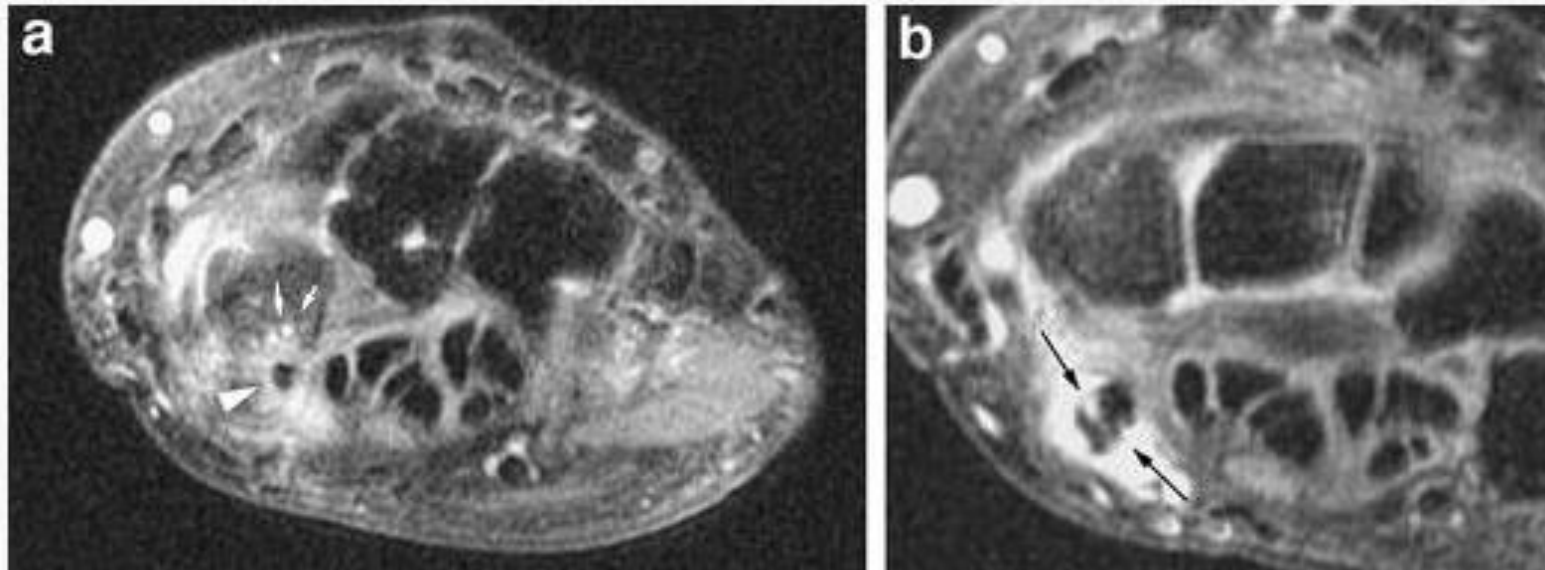


Fig. 4

61-year-old female presenting with radial-sided chronic wrist pain and a suspected ganglion cyst. **a** Axial T1-weighted fat-suppressed post-contrast MR image shows a diminutive FCR tendon (*arrowhead*) surrounded by synovitis. Notice the presence of reactive cystic changes in the trapezium sulcus (*small arrows*). **b** More proximally, an axial T1-weighted fat-suppressed post-contrast MR image shows a split FCR tendon (*arrows*) with tenosynovitis

FCR Partial Tear

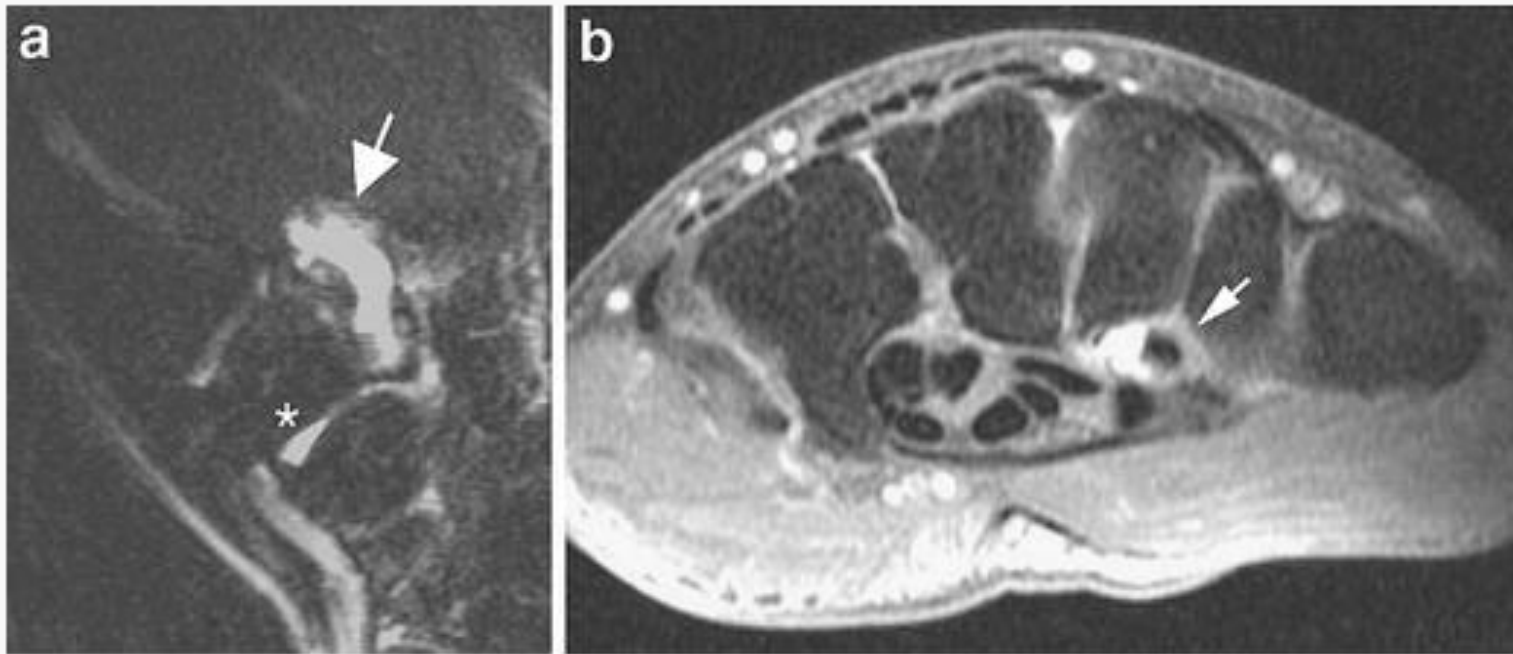


Fig. 7

34-year-old male with pain and swelling. **a** Coronal T2-weighted fat-suppressed MR image shows a ganglion cyst arising from the FCR tendon sheath (*arrow*). Notice the presence of STT osteoarthritis (*asterisk*). **b** Axial T1-weighted fat-suppressed post-contrast MR image shows passage of intravenous contrast into the FCR ganglion (*arrow*)

Summary

- There is an intimate anatomic relationship between the course of the FCR and the subjacent triscaphe joint.
- In the presence of triscaphe and 1st CMC osteoarthrosis, the FCR is predisposed to impingement during dynamic activities
 - Pathology ranges from tenosynovitis, to partial tear, to complete tear

Final points

- Status of the FCR is important if surgery is being considered for basal joint arthritis and/or 1st CMC instability, as the FCR is often harvested for this purpose (i.e. trapezectomy with ligament reconstruction and tendon interposition)
- Identification of a torn FCR can forewarn the surgeon to utilize an alternate tendon for interposition.

References

1. Parellada, Antoni J., et al. "Flexor carpi radialis tendinopathy: spectrum of imaging findings and association with triscaphe arthritis." *Skeletal Radiology* Vol 35, Issue 8 (2006): 572-578.
2. Rad source – Palmar Bursae and Flexor Tendon Sheaths of the Wrist and Hand
3. Khan, Waseem, et al. "Flexor Carpi Radialis Tendinopathy and its Association with Scapho-trapezio-trapezoid and First Carpometacarpal Osteoarthritis" Conference paper, Dec 2013 Radiological Society of North America 2013.