

## AAP BRS podcast: Wrist Part 1

**De Quervain's tenosynovitis:** Overuse or post-traumatic condition with irritation of the abductor pollicis longus and extensor pollicis brevis tendons (1<sup>st</sup> dorsal compartment)

- **Presentation:** Progressively worsening wrist pain after inciting injury. Swelling over radial aspect of wrist. Aggravation with use.
- **Evaluation:** Inspect, palpate, evaluate passive ROM, strength testing, and check neurovascular structures. Edema in dorsal wrist may be present. Tenderness to palpation around "anatomic snuffbox". Provocative tests are Finkelstein or Eichhoff maneuvers.
- **Imaging:** Radiograph to rule out arthritis. Ultrasound can inspect area in question and may show increased fluid within the tendon sheath, thickening of the sheath, or signs of tendinopathy. MRI likely to show tendon thickening and increased fluid in the sheath (T2 signal intensity)
- **Management:** Resting the extensor pollicis brevis and abductor pollicis longus in thumb spica brace. Oral anti-inflammatories. Steroid injection into 1<sup>st</sup> extensor compartment.

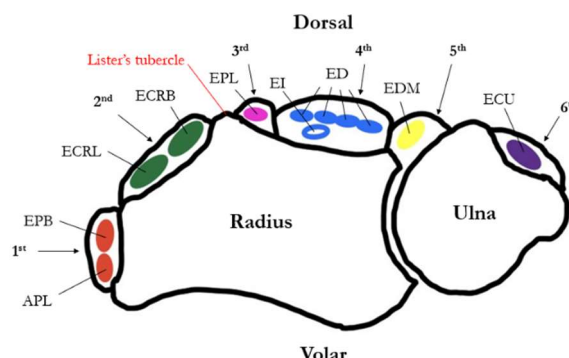
**Scaphoid fracture:** Most common carpal bone fracture. High risk of progression to arthritis (within 5-years) if missed at presentation due to retrograde blood supply (SNAC wrist).

- **Presentation:** Typically seen after falling onto an outstretched hand.
- **Evaluation:** Tenderness to palpation at the scaphoid tubercle on the anterior aspect of the hand, right at the base of the thenar eminence.
- **Imaging:** See imaging under "Wrist fractures." 30% of initial radiographs are negative. MRI for edematous change.
- **Management:** Thumb spica cast with 2-week re-evaluation. If healing seen at 2-weeks, transition to thumb spica split to be continued for 8 weeks. Surgical indications: >1mm of displacement, significant angulation/deformity, or proximal pole fractures.

### Wrist osteoarthritis

- **Mechanism:** Articular cartilage wears down over time. With little blood supply, there is little regenerative potential. As cartilage wears down the joint space decreases causing bone rubbing, leading to stiffness and pain in the joint.
- **Evaluation:** Incidence increases with age; consider in patients with pain in wrist. Pain that worsens throughout the day and is relieved with rest. Bony enlargement. Joint swelling and tenderness.
- **Imaging:** Not required to diagnose in patients with risk factors and typical symptoms.
- **Risk factors:** Age >50. Female sex. Obesity. Previous injury. Family history.
- **Management:** Initial management: oral anti-inflammatories, topical anti-inflammatories, exercise, physical therapy. Steroid injections if persistent. Surgical intervention if indicated.

### Dorsal wrist compartments:



### Wrist fractures:

- **Imaging:** PA and lateral wrist and hand images w/ specialized views of the carpal bones, including ulnar deviation PA view to extend the scaphoid.
- Carpal tunnel and supinated oblique views to evaluate hamate.
- **Colles fracture:** Fracture of the distal radius caused by falling on an outstretched hand with the wrist in dorsiflexion.
- **Smith fracture:** Fracture of the distal radius caused by falling on outstretched hand with the wrist in flexion or as a direct blow to the dorsal aspect of the wrist.

### Differential of wrist pain by location

Location	Differentials to consider
Ulnar side	<ul style="list-style-type: none"> <li>• Extensor carpi ulnaris tendinopathy and subluxation</li> <li>• Triangular fibrocartilage complex injury</li> </ul>
Radial side	<ul style="list-style-type: none"> <li>• Scaphoid fracture</li> <li>• Scapholunate instability</li> <li>• De Quervain's tenosynovitis</li> <li>• Carpal metacarpal osteoarthritis</li> <li>• Radiocarpal arthritis</li> </ul>
Volar side	<ul style="list-style-type: none"> <li>• Carpal tunnel syndrome</li> <li>• Hook of hamate fracture</li> <li>• Ulnar neuropathy</li> <li>• Flexor carpi radialis and flexor carpi ulnaris tendinopathy</li> </ul>
Dorsal side	<ul style="list-style-type: none"> <li>• Ganglion cyst</li> <li>• Carpal boss</li> <li>• Avascular necrosis of the lunate</li> <li>• Intersection syndrome</li> </ul>

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