

Wrist tenosynovitis (de Quervain's tenosynovitis)

Fritz de Quervain was a Swiss surgeon whose interests included wrists and thyroid glands. He was a prolific writer, publishing dozens of articles and books. He gave his name to a type of thyroiditis and this wrist disorder, and is probably the one responsible for the presence of iodine in your table salt (J Hand Surg Am 2004;29:1164).

De Quervain's tenosynovitis is a common primary care presentation, a clinical diagnosis and tends to cause pain and swelling on the radial aspect of the wrist (JAMA 2022;327:2434).

This article was updated in November 2022.

What is it?

- There is thickening and degeneration of the shared tendon sheath containing the tendons of abductor pollicis longus and extensor pollicis brevis.
- The changes cause narrowing of the canal which then causes changes in the tendon fibres, resulting in swelling.
- Smooth gliding of the tendon through the sheath is then affected (JAMA 2022;327:2434, <u>BMJ Best Practice</u>, accessed November 2022).
- The exact causative mechanism remains unknown. It is not considered an inflammatory process; this is more of a fibrotic pathology (JAMA 2022;327:2434).
- More common in the dominant hand (Ortho Bullets, accessed November 2022).

Epidemiology

- Incidence 1 in 1000 per year (Ortho Bullets, accessed November 2022).
- More common in women (<u>BMJ Best Practice</u>, accessed November 2022).
- Peak incidence in the 50s but pregnant and postnatal females have increased incidence when younger.

Risk factors

- Overuse.
- Postpartum (Obstet Gynaecol 1986;68:411).
- Association with video gaming: gamer's thumb (Int Orthop 2019;43:2587, Ann Occup Environ Med 2014;26:22).
- Not thought to be occupational as no study has ever established an association between hand use at work or trauma with de Quervain's tenosynovitis (Plast Reconstru Surg. 2013;132:1479, BMC Musculoskelet Disord 2015;16:126, J Wrist Surg 2019;8:90).
 - We are not occupational health experts, and we would think very carefully before stating our professional opinion that this condition is caused by a patient's job, e.g. on a fit note or report. This is a potentially contentious medico-legal situation and you may be called upon to justify your opinion to our 'learned friends'...

History and examination

- Gradual-onset pain, tenderness and swelling on the radial side of the wrist, around 1–2cm proximal to the radial styloid.
- Pain exacerbated by thumb movement.
 - o Base of thumb osteoarthritis (in the 1st carpo-metacarpal joint) can coexist, and at times be difficult to distinguish from wrist tenosynovitis. Osteoarthritis may be tender over the joint line and have a positive 'grind test' (axial pressure is applied to the thumb, thus compressing the joint without stretching and provoking the tendons) (BMJ Best Practice, accessed November 2022).

Special tests

There are two important tests (Finklestein's and Eichhoff's) and two important learning points. First, the learning points and then the tests!

- Finklestein's test is more accurate than Eichhoff's test, as well as being less uncomfortable.
- BUT...Eichhoff's test is commonly misdefined as Finklestein's test! (J Hand Microsurg 2018;10:116).

That sounds confusing! What are the tests?

Eichhoff's test (commonly misnamed Finklestein's test) is performed by asking the patient to make a fist enclosing the thumb. The wrist is then passively, briskly moved into ulnar deviation, which causes pain around the radial styloid (J Hand Surg 1992;17:481).

Finklestein's test can be broken down into 3 stages (although it was not originally described in steps):

- First, place the patient's wrist over the edge of a table (mid-supination, i.e. thumb uppermost) and into gentle active ulnar deviation. A positive test reproduces 'the pain' around the radial styloid.
- If that doesn't elicit the pain, the examiner may apply gentle passive ulnar deviation.
- If that does not elicit pain, then finally, the examiner grasps the patient's thumb and passively flexes it into the palm, which may reproduce the pain (J Hand Surg Am. 2010;35:1513).

The Finklestein test (as described here) is more specific and with fewer false positive results than the Eichhoff's test (J Hand Microsurg 2018;10:116). More research is required to produce accurate sensitivity and specificity figures (Stat pearls, accessed November 2022).

The 'selfie test'

The COVID pandemic heralded several innovations in remote consulting. A novel test called the 'selfie-posture test' has been proposed for diagnosing de Quervain's tenosynovitis. Here, the patient holds their mobile phone in the posture used to take a 'selfie photo', with an extended arm, flexed wrist, a little ulnar deviation and the thumb placed in the position over the screen to enable hitting the shutter button (flexion/opposition). The authors propose that this test might be useful in telemedicine diagnostics, although there are no studies looking at its accuracy yet! (J Family Med Prim Care 2020;9:2139)

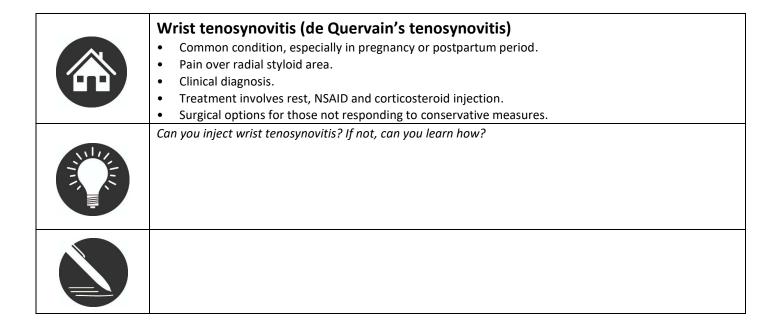
Investigations

De Quervain's tenosynovitis is a clinical diagnosis, but ultrasound *could* be used if diagnostic doubt exists (J Hand Surg Am 2009;34:759).

Management

The following approach is suggested (BMJ Best Practice, accessed November 2022):

- NSAID (topical or oral) and immobilisation with a thumb splint (spica) for 4–6 weeks.
- Corticosteroid injection (may be used in pregnancy).
 - o A 2015 meta-analysis suggested corticosteroid injection provided an 84% success rate in reducing symptoms compared with controls (splint, placebo injection, acupuncture) (Open Orthop J. 2015;9:437).
- If non-operative treatment fails, surgical release of the first dorsal extensor compartment may be performed.



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