

De Quervain's disease and de Quervain's tenosynovitis

An overview of best practice

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- De Quervain's disease and de Quervain's tenosynovitis represent different pathology but present similarly and management is essentially the same.
- De Quervain's tenosynovitis should not be used as a 'catch-all' diagnosis for pain or tenderness around the thumb or wrist.
- A combination of a wrist-thumb splint and non-steroidal anti-inflammatory medication is recommended for initial management.
- If there is no improvement after four to six weeks, a single corticosteroid injection may be administered.
- It is important to both control symptoms and maintain employability, modified duties may be required.

Definition: De Quervain's disease refers to a fibrous stenosing tenovaginitis of the first wrist extensor compartment. De Quervain's tenosynovitis refers to tenosynovitis of the first wrist extensor compartment involving the synovial sheaths of the abductor pollicis longus (APL) and/or the extensor pollicis brevis (EPB).

Epidemiology: The prevalence of de Quervain's disease and/or tenosynovitis of the first wrist extensor compartment amongst the general community is around 1%. There appears to be an increased prevalence in women during the later stages of pregnancy and in the early postpartum

period, the latter possibly being associated with infant handling.

Causation: The aetiology in many cases may not be identifiable. In some cases highly repetitive activities involving the thumb (extension and/or abduction) are implicated.

Pathology: This varies with respect to these clinical entities:

- In de Quervain's disease, the primary pathologic observation is a reactive fibrosis and thickening of the sheath of the first wrist extensor compartment. Concurrent pathology involving the underlying synovial sheaths may be present.
- In de Quervain's tenosynovitis, pathologic changes involve the synovium of the APL and EPB and may vary from inflammatory to fibrotic.

Clinical presentation: De Quervain's disease and de Quervain's tenosynovitis are characterised by:

- localised dorsal radial wrist pain (that may radiate proximally and/or distally)
- localised tenderness and sometimes crepitus and/or swelling over the tendon structures contained within the first wrist extensor compartment
- pain on thumb movement.

Additional features that may be present include localised tissue thickening, and triggering of the thumb.

Practice points:

To locate the first dorsal compartment, move the thumb into abduction and observe the tendons of APL and EPB forming the radial-palmar limit of the anatomical snuffbox. Follow these tendons proximally with your index finger to where they become secured to the radius just proximal to the radial styloid. The tendons are held in place here by a fibro-osseous sheath, which is the first

dorsal compartment. This sheath is the source of symptoms in de Quervain's disease. In de Quervain's tenosynovitis, swelling and tenderness of the APL and EPB tendons directly over this sheath are noted. One should also test for pain on resisted thumb abduction or extension.

Finkelstein's test may be useful but is not specific for these conditions; pain can be produced with this test even in normal wrists. Finkelstein's test was originally described as having the examiner grasp the thumb firmly then abruptly deviate the hand in an ulnar direction. A positive test result is a sharp pain felt in the region of the first dorsal compartment. In an alternative description of the test the patient grasps their thumb in the palm with the fingers of the same hand and the examiner then ulnar deviates the hand. Either variation may be helpful in combination with other clinical signs.

Imaging: Plain-film imaging may be appropriate where an alternative cause of dorsal radial wrist pain is suspected, such as osteoarthritis of the base of thumb. Ultrasound imaging should not be considered in routine cases but may be a diagnostic option where clinical doubt exists.

Differential diagnosis: Consider also osteoarthritis of the first carpometaphalangeal joint or wrist, scaphoid pathology, dorsal wrist ganglia, 'intersection syndrome', and peripheral neuropathy of the radial nerve. Additionally, consider conditions that may refer symptoms to the distal forearm/wrist from more proximal areas, for example cervical radiculopathy.

Management: Whilst de Quervain's disease and tenosynovitis are pathophysiologically different, management for them has historically been the same. The best evidence for initial conservative treatment options is the combination of a wrist-thumb splint and the prescription of a course of non-steroidal anti-inflammatory medication. If there is no improvement after four to six weeks, a single corticosteroid injection may be administered.

Wrist-thumb splints should be prescribed for at least daytime use and should hold the wrist and thumb in slight extension.

There is an absence of evidence concerning the effectiveness of non-steroidal anti-inflammatories when prescribed in isolation.

All patients should be educated on the diagnosed condition and, as appropriate, provided with advice on avoiding or minimising aggravating activities where possible.

In the absence of improvement by perhaps three months, or with clinical recurrence, referral to a specialist should be considered to confirm the diagnosis and optimise management. If there are mechanical features such as triggering, an earlier referral is justified. Additional factors that primary health care providers should consider include the existence of psychosocial factors both at home and in the workplace. In a minority of cases surgical decompression may be required and this is usually successful.

Rehabilitation:

It is important to both control symptoms and maintain employability. For someone who is not managing at work, a worksite assessment and modifications of duties should be considered. Where more persistent vocational difficulty is encountered, the wider determinants of pain and disability should be considered. It is important to note that psychosocial factors are a key determinant of rehabilitation outcome. In such circumstances ACC can facilitate any necessary assessment.

Issues relevant to ACC:

De Quervain's tenosynovitis should not be used as a 'catch-all' diagnosis for pain or tenderness around the thumb or wrist. The diagnosis is generally not difficult to make or exclude with sufficient attention to the anatomy.

Gradually developing de Quervain's disease or tenosynovitis may be covered if work related, but there needs to be a causal factor in the work, such as highly repetitive thumb extension and/or abduction. Cover would typically be provided for meat workers and assemblers or where the person's tasks are akin to such work.

De Quervain's tenosynovitis (but not de Quervain's disease) may develop following unaccustomed activity or following a traumatic blow to the region, and may therefore attract cover under the series of events or specific event route. In such cases one would expect a fairly quick resolution of symptoms.

References:

1. Distal Upper Limb: Guidelines for management of some common musculoskeletal disorders (2009) ACC.
2. Young et al. Physical Examination of the Wrist. *Orthop Clin N Am* 2007;38: 49-165.