

# Tenosynovitis and peritendinitis of the forearm and wrist

An overview of best practice

August 2009

## ACC Review 46

- Peritendinitis and tenosynovitis are principally characterised by localised pain and tenderness overlying the tendon(s).
- In the absence of tenderness or objective swelling of specific tendon(s), the diagnosis of tenosynovitis or peritendinitis is unlikely to be correct.
- A positive outcome may be anticipated with a conservative regime: education, analgesia, advice on activity modification and wrist splinting where required.
- Exposure to highly repetitive, forceful wrist movements, especially in activities with which one is unaccustomed, is a risk factor.

### Definition:

Peritendinitis and tenosynovitis describe pathology that involves the structural components that surround a tendon (respectively the paratenon/epitenon or synovial sheath)<sup>1</sup>. Tendinitis and tendinosis are conditions that involve the tendon itself and are not discussed here.

### Epidemiology:

Peritendinitis or tenosynovitis is most likely to be observed in adults between the ages of 30 and 50 years (for non-infective and non-systemic related pathologies). The prevalence of definitive cases of peritendinitis or tenosynovitis in general community residents is likely to be in the range of 0.5-3%<sup>1</sup>.

### Causation:

Aetiological factors for peritendinitis and tenosynovitis are poorly researched<sup>2</sup>. There are multiple accounts in the literature of working or sporting groups that commonly suffer from tenosynovitis. Typical accounts involve symptoms developing on a return to work or upon starting a new activity with unfamiliar, rapid and forceful movements of the wrist and hand. The risk factor of interest is grip force coupled with highly repetitive wrist movements that result in friction and therefore inflammation.

A combination of physical and psychosocial factors influences clinical presentation. Risk factors for the presence of symptoms, the reporting of symptoms, seeking health care and requiring time off work differ. More specifically, forearm pain attributed to tenosynovitis often turns out to be non-specific in its nature.

### Pathology:

Inflammation of the synovial sheath is considered to be the primary pathophysiologic process associated with acute tenosynovitis. However, the pathology of tenosynovitis as well as peritendinitis is poorly understood.

### Clinical presentation:

Peritendinitis and tenosynovitis are principally characterised by localised pain and tenderness overlying the tendon(s) of interest. Adjunct features may include localised swelling/tendon thickening, crepitus and functional difficulties with gripping/manipulation tasks.

Appropriate clinical signs are:

- localised tenderness and swelling anatomically associated with the course of a tendon (diffuse or circumferential swelling of the forearm/wrist is not characteristic)
- symptomatic pain reproduction during simple wrist movement, and/or
- symptomatic pain reproduction during resisted movement(s) of the musculo-tendinous unit in question.

Tenosynovitis should not be used as a “catch-all” diagnosis for unexplained forearm pain in the absence of tenderness or objective swelling along the course of a tendon.

Widespread pain or tenderness in the wrist or forearm that is not anatomically associated with the tendons themselves is not typical of this condition and a working diagnosis of non-specific forearm pain is then often more suitable. Similarly, pain that occurs at work but does not occur with similar wrist movements outside work is unlikely to represent tenosynovitis. A diagnosis of tenosynovitis, in the absence of a likely cause, should also be viewed with scepticism. The inappropriate use of incorrect diagnostic labels such as tenosynovitis can be counterproductive<sup>3,4</sup>.

### Imaging:

Ultrasound imaging is not necessary in most cases but may be a diagnostic option where clinical doubt exists.

### Differential diagnosis:

Primary health care providers should routinely screen for the presence of Red Flags that may indicate sinister pathology such as infection or tumours (rare). Other conditions that should be considered include local compression neuropathies, wrist ganglia, arthritis and conditions that may refer symptoms to the distal forearm/wrist such as cervical radiculopathy and elbow pathology.

### Management:

Research derived from non-controlled trials suggests, for patients who are diagnosed early in the clinical course, simple interventions may prove beneficial in reducing and resolving symptoms (simple analgesics, advice concerning the modification of activity, wrist splints,

physiotherapy). It is unclear whether NSAIDs offer benefit over simple analgesia. Some authors suggest that corticosteroid injections may also play a role (based on expert opinion) but there is little information on potential adverse outcomes<sup>5</sup>.

A positive outcome may be anticipated for patients diagnosed with these conditions who are treated with a conservative regime that includes education and behavioural adjustment advice. Early return to work is important, although some types of work may be unmanageable for a short period. The use of temporary modification in the workplace along with tackling any psychosocial obstacles to work is well supported by the literature<sup>3</sup>.

Factors that primary health care providers need to explore in order to assess the likelihood of delayed recovery include the duration of symptoms at the time of the initial consultation and the existence of psychosocial factors both within the individual and in the workplace. Factors of interest may vary over time and may require repeated assessment throughout an episode of care where clinical recovery is delayed.

Direct communication with the workplace to arrange modifications that will enable the patient to continue working whilst recovering should be considered. Cooperative and respectful communication between health care providers and employers may take time, but improves return to work outcomes<sup>6</sup>.

### References:

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