

Tendon Injuries of the Wrist and Hand

There are many tendons which run from the elbow into the hand. Often most tendon injuries resolve after a few weeks however some can become more persistent and last several months. Most injuries tend to resolve after approximately six weeks. There are many different terms used to describe a tendon injury – the most common are:

- **Tenosynovitis** – this means there is some inflammation around the synovium (tendon sheath) which can cause pain as the tendon glides within its sheath
- **Tendonitis** – this means inflammation of a tendon. This injury usually occurs acutely
- **Tendinosis** – this means long-term deconditioning of a tendon without inflammation
- **Tendinopathy** – this is a general term for tendon injuries which does not specify the type of injury

There are certain tendinopathies which are more common than others and will be discussed below. The symptoms of tendinopathies are most commonly pain, tenderness and occasionally swelling and associated heat. The pain is usually provoked by moving or using the affected area.

Firstly, what is a tendon? A tendon is a strong piece of soft tissue that connects a muscle to a bone. The muscles within your forearm contract to pull on the tendons which run into your hand causing movement. Some (but not all) tendons are also covered with a sheath known as a synovium. The job of the synovium is to provide lubrication for the tendon to glide effectively within its sheath.

Despite the many different terms listed above, the cause and management of all of these conditions are very similar. The most common cause of symptoms is overload. All soft tissues have a certain tolerance to load depending upon our own activity levels and tendon health. If we complete a certain activity which is repetitive and overwhelming for the tendon, this can provoke an inflammatory response which may lead to some level of pain or discomfort. In this type of injury, the symptoms usually occur after completing something which the hand is not used to or following a trauma.

There are other conditions or factors which can also contribute to a tendinopathy. These include:

- Diabetes
- Rheumatoid arthritis
- Certain antibiotics
- Menopausal patients – this is related to an oestrogen deficiency which can impact on tendon structure
- High cholesterol
- Infection – this is rare. An open wound in the area may enable bacteria to infiltrate infect the tendon sheath. If you have experienced an injury such as this, you should see your GP to rule out any cause of infection.

After an initial injury, relative rest in the first instance can help to settle symptoms. Try modifying or reducing the provocative activities to allow symptoms to settle. Sometimes a splint or a bandage over the affected area can aid symptoms to settle. In the diagrams below, there are some ideas of specific splints for specific conditions.

As most commonly tendon pain is caused by inflammation, applying ice in the first few days can also help symptoms to settle. Please ensure you do not apply ice directly to the skin – ensure you use a wet towel or something similar to protect your skin.

Often non-steroidal anti-inflammatories such as ibuprofen are utilised to help relief symptoms. It is advised this is discussed with your GP or pharmacist to ensure you are able to take this type of medication.

If symptoms fail to settle, physiotherapy can help to provide specific exercises to improve the strength and range of movement available at the tendon. An outline of common exercises given are described below. If you feel you require further therapy input, please [click here](#) to arrange an appointment.

The most common tendonopathies include:

DeQuervain's Tenosynovitis

This is a tenosynovitis affecting the tendons on the thumb side of the wrist. This usually occurs after activities involving moving the thumb away from the wrist e.g. hammering or when repeatedly picking a child up.

What can i do about the problem?

1. Deload

If your symptoms have just come on because of a sudden increase in load, they are probably as a result of local inflammation within the tendon. They will usually settle within 6-12 weeks, as long as you are able to 'deload' the tendon. This essentially means not repeating the heavy activity again and again, and making sure you modify your day to day activities for a couple of weeks so they don't cause excessive pain.

If your symptoms are due to constant exposure, then again you may want to 'deload'. You can do this for example by modifying your work tasks, getting help with heavy lifting, or using more equipment.

In order to settle the problem down we recommend using a donjoy thumb splint, these are available online or your GP can refer you for one on the NHS.



A useful technique to employ during this deloading phase is 'relative rest'.

Relative rest refers to a technique where by you limit your activities based upon your symptoms.

To start with you have to rate your pain on a scale of 0 to 10 where 0 is no pain at all, and 10 the worst pain imaginable. The aim with relative rest is not to let you pain go anymore than 2 points up this scale with your day to day activities (i.e if your rest pain is 2 you should not provoke pain more than 4). This can mean cutting activities short or modifying how you do them for a short period of time. You should apply the principles of relative rest for a few weeks until the pain begins to settle.

If you think you are going to struggle with deloading because of the nature of your job, come and see us. There are other strategies we can employ to achieve deloading which we can teach you, but they do require a detailed face to face assessment.

2. Reload

If you completed the deloading phase or you think you have a tendon underuse problem the next thing to do is to gradually start exposing the tendon to load again.

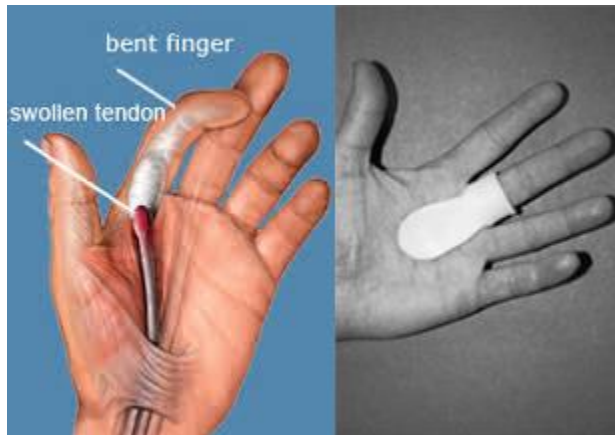
Why do this? Because these strong amazing structures get their ability to cope with loading by exposure to it. The tendon needs to know in the long term what the normal demand on it is going to be and has to relearn how to cope with this. Once the tendon has 'settled down' you can start this gradual education.

The best place to start is with isometric exercises. These are static contractions of the muscle and tendon. These have been shown to reduce short term pain (so are good for self administering pain relief) and help to prepare the tendon for beginning to accept loading through movement.

If your symptoms persist please speak to your GP about an MSK referral.

Flexor tenosynovitis

This is another condition which affects the synovium of the tendon. This can occur on the palm side of the hand. The symptoms of this usually are localised swelling or tenderness along the tendon sheath, reduced movement and pain. Sometimes the finger may be held in a slightly bent position. Triggers for this tenosynovitis are causes outlined above plus tasks which include repeated gripping or bending of the fingers.



The diagram above shows a splint commonly used to help settle symptoms. Essentially wearing a splint which holds the larger knuckle straight can help to reduce pain levels. With any splint it is particularly important that you remove it regularly and do not become overly reliant upon it.

A further common tenosynovitis of the hand is commonly known as trigger finger – this is technically called stenosing flexor tenosynovitis and can be similar in presentation to flexor tenosynovitis. This occurs when there is a degree of thickening to the tendon sheath. Sometimes it is possible to palpate a small nodule in the palm of the hand. As the tendon glides through its sheath, it passes under certain structures known as pulleys – their role is to keep the tendon close to the surface of the bone. If the nodule is large enough, the finger may become locked in a position that requires manipulation to straighten the finger. This can occur after completing tasks which involve a lot of pressure on the palm of the hand.



Using the principles above plus a splint which can hold the finger straight overnight, symptoms may settle after a period of weeks.

Should symptoms fail to settle, in certain conditions a corticosteroid injection may be considered to help reduce any inflammation in the area.

This would be discussed with you in more detail if required. Your physiotherapist could arrange this if necessary.