

DE QUERVAIN'S TENOSYNOVITIS



1. Extensor Pollicis Longus.
2. Extensor Pollicis Brevis.
3. Abductor Pollicis Longus.

What is it?

Irritation or swelling of the tendons found along the thumb side of the wrist. The two involved tendons are called Extensor Pollicis Brevis and Abductor Pollicis Longus. The irritation causes the shared lining (sheath) around the tendons to swell making it difficult for the tendons to move as smoothly as they should. This can lead to pain and discomfort. The condition is most common in women between 30 and 50 years of age and may occur in both wrists in up to 30% of patients. The condition may be associated with diabetes, pregnancy and thyroid disease.

What Causes this?

Onset is occasionally due to direct *trauma*, such as, a direct blow to the wrist. However, the main cause is due to *repetitive* occupational or recreational activities. For example, the condition is typically seen in those activities that use the thumb and wrist a great deal, such as, washing, wringing wet clothes, screwing and unscrewing etc.

With these activities there is often repetitive deviation of the wrist while the thumbs are fixed as in strong gripping.



What are the signs & symptoms?

Main Symptoms – Pain is felt over the thumb side of wrist and a soft pocket of swelling is usually palpable. Sharp pain can be produced by certain active and resisted thumb movements. There may be pain on gripping, forceful grasping, pinching or wringing movements. There may be occasional grating (crepitus) during wrist movements. A special diagnostic test called Finkelstein's test (as shown in the diagram to the right) may produce excruciating wrist pain.

What will physiotherapy consist of?

It is important that De Quervain's tenosynovitis is treated quickly in order to prevent the condition from becoming chronic, which ultimately leads to the formation of scar tissue and fibrosis. In the initial stages, physiotherapy will aim to reduce inflammation, swelling and pain in order to optimise movement and function. The following treatment options may be employed:

Massage encompasses a variety of techniques and is given with sufficient pressure through the superficial tissue to reach the deep lying structures. It is used to increase blood flow, decrease swelling, reduce muscle spasm and promote normal tissue repair.

Deep friction is an aggressive massage technique. It is applied across the tissue fibres. Pressure is given as deeply as possible. This technique is initially painful but can cause a numbing effect. It can be used to break down scar tissue, restore normal movement and prepare the injured structure for mobilisation or manipulation.

Mobilisation is a manual technique where the joint and soft tissues are gently moved by the physiotherapist to restore normal range, lubricate joint surfaces, and relieve pain.

Ultrasonic Therapy transmits sound waves through the tissues stimulating the body's chemical reactions and therefore healing process, just as shaking a test tube in the laboratory speeds up a chemical reaction. It reduces tissue spasm, accelerates the healing process and results in pain relief.

Interferential Therapy introduces a small electrical current into the tissues and can be used at varying frequencies for differing treatment effects. E.g. pain relief, muscle or nerve stimulation, promoting blood flow and reducing swelling/inflammation.

Other treatments that may be used

Laser Therapy emits beams of light into the tissues of the body, stimulating chemical reactions and having a similar effect to ultrasound though using light energy instead of sound energy.

Acupuncture is an oriental technique of introducing needles into the skin to increase or decrease energy flow to promote pain relief and healing.

Injection Therapy is a specialist procedure, which needs the consent of your G.P. Your physiotherapist might recommend an injection before "hands on" physiotherapy is commenced. A non-harmful steroid and local anaesthetic are injected directly into the injured structure. It has a dramatic effect on removing inflammation and promoting healing.

Bracing involves wearing a wrist/ thumb splint during the acute stage of the condition in order to protect the thumb from any unwanted damage. This may have already been provided by your GP or following accident and emergency attendance. If appropriate, your physiotherapist can order one for you.

What should the patient do to help their condition?

Active Rest – keep active but avoid activities that aggravate your condition i.e. any activity that places strain on your thumb/ wrist. You may need to wear your brace in order to protect your thumb when sleeping or when performing more physical activities of daily living.

Apply an ice pack – for a maximum of 20 minutes. Do this in acute injuries where there is swelling, inflammation and pain. A bag of frozen peas wrapped in a damp cloth works well because it moulds to the shape of the thumb. Ensure that the skin does not change colour (the sign of an ice burn).

Contrast bathing - From 5 days post injury put the hand into a bucket of water as hot as you can withstand for 5 minutes followed by one with water as cold as you can withstand for 5 minutes repeat for approximately 20 – 30 minutes.

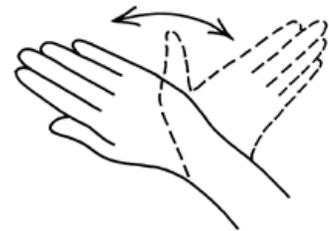
Take ibuprofen/ analgesia - according to the directions on the packet, up to the maximum daily dose. It is not suitable for people who have a history of stomach ulcers, or for some people with asthma. If in doubt, ask your pharmacist for advice.

Exercise programme –Your physiotherapist will instruct you as to which of the following exercises to begin with, when to add the others, as well as how to progress the exercises. The use of these exercises will vary depending on the level of pain.

1. Thumb circles.



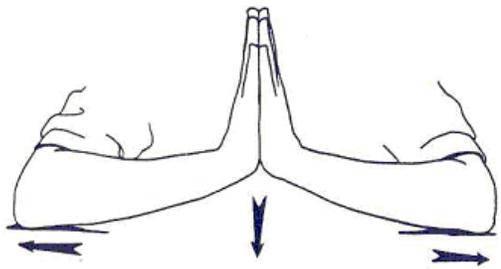
2. Hand deviations.



1: Make a fist and then straighten your thumb. Perform 10 small circles.

2: With your hand flat and fingers extended, slowly deviate your hand to the left and then to the right. This movement should be performed within a pain free-range of movement. Repeat 10 times.

3. Flexor stretch 1.



4. Flexor stretch 2.



5. Extensor stretch.



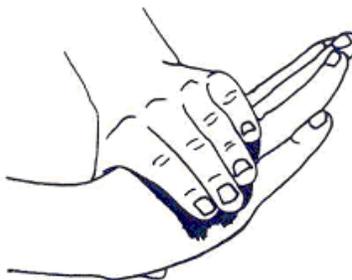
3 & 4: With your arm straight and your palm facing down, gently but firmly pull them backward toward your body until you feel a stretch over the inside of the elbow and underside of the forearm. Hold for 20-30 seconds. Repeat at least three times a day.

5: Extensor stretch - With your arm straight and your palm facing down, grasp the top part of your fingers and gently but firmly pull them back toward your body until you feel a stretch over the outside of the elbow and back of the forearm. Hold for 20-30 seconds.

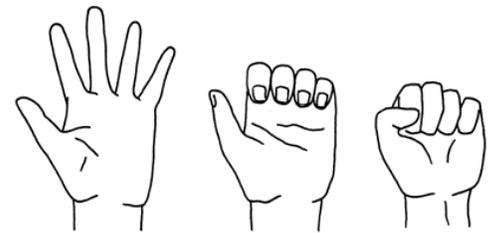
6. Flexion strengthening.



7. Extension strengthening.



8. Grip strength.



6 & 7: Slowly push the hand upward using the opposite hand as resistance. Do not let any movement occur and gradually increase the pressure until you are pressing as hard as you can without pain then slowly release. Perform 5-10 times and at least three times per day with the palm facing both upward and downward.

8: Slowly move your hand into the grip position and repeat 10 times. If this is pain-free then progress to squeezing a towel or different sized balls, gradually increasing the grip until you are squeezing as hard as you can without pain then slowly release. Repeat 5-10 times and at least three times per day.

What if physiotherapy does not help or resolve my condition?

It is very rare that physiotherapy does not resolve this condition, in these cases a cortisone injection may be appropriate and in very extreme cases surgery is a possible option. These options can be discussed with your therapist if appropriate.