

## EXTENSOR POLLICIS TENDONITIS SYNDROME

The extensor pollicis longus muscle has its origin on the lateral part of the middle third of the ulnar shaft on the dorsal border below the abductor pollicis longus muscle. Its tendon appears at its distal extreme, just proximal of the distal head of the radial bone, near its articulations with the lunate and scaphoid bones (lateral carpal bones). The tendon proceeds over the scaphoid and trapezium bones, over the length of the first metacarpal and phalangeal bones, to insert at the base of the terminal (second) phalanx of the thumb on its dorsal aspect. The extensor pollicis brevis muscle has its origin on the dorsal surface of the radius below the abductor pollicis longus muscle. Its tendon runs just lateral to the extensor pollicis longus tendon to insert at the base of the first phalanx of the thumb on the dorsal aspect.

Tendonitis may occur if either or both of the extensor pollicis longus and extensor pollicis brevis tendons are “over stressed” through direct trauma (as from a blow) or over stretching. A DSR survey of the areas over the two tendons should be performed to confirm the presence of an inflammatory process.

An inflammation of the extensor pollicis brevis tendon appears as a zone of high skin resistance from just proximal of the distal head of the radius to just distal of the base of the metacarpal phalangeal (mp) joint. Patients suffering from this condition typically complain of a pain centered between the distal radial head and the scaphoid bone. Indeed the symptomology may emulate that experienced by the de Quirvain’s Syndrome sufferer. If so, the patient will experience extreme pain when the thumb is folded into the palm of the hand, the fingers curled over it, and the wrist deviated medially (pulling the thumb down). Indeed, the only defining difference may lie within the speed of the patient’s recovery. If it is a simple tendonitis, the patient may experience an immediate cessation of pain when the tendonitis is relieved. If a *de Quirvain’s syndrome* is present, relief will only occur when the scar tissue causing the condition has been broken down. That may take a great many more treatments to relieve than a simple tendonitis.

An inflammation of the extensor pollicis longus tendon appears as a zone of high skin resistance from just proximal of the distal head of the radius to just distal of the base of the distal interphalangeal (dip) joint. The suffering patient may complain of pain in and around any or all of the joints that the tendon crosses, especially if the thumb is fully extended and abducted, though flexion may also be a problem.

Experience has shown that when the patient fails to respond positively to treatment (in either of the aforementioned conditions) there may be a proximal contributory factor. In this case it has proven to be an inflammation (as defined by DSR Survey) over the extensor pollicis longus muscle. It is unclear, to the author why this relationship exists, but trial and error has shown it to be a factor. The inflammatory pattern in question is over the extensor pollicis longus muscle when the wrist is pronated in a “palm down” position. It’s not clear whether the problem is muscular or neurological, but unless the inflammation involved is not remedied the extensor tendon problem still remains a problem. As a side note, this inflammation pattern shows up sometimes when persistent tendonitis is present in tendons involving either finger flexors or extensors, which more or less argues for a possible neurological basis for the problem.

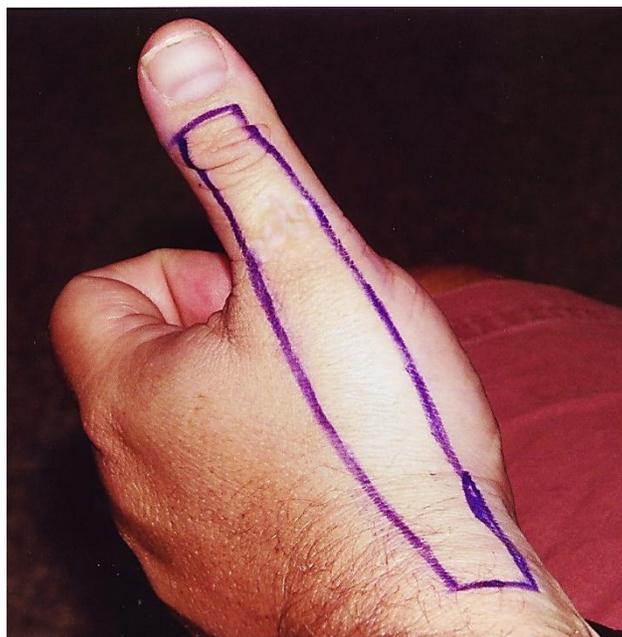
### Treatment

#### Application:

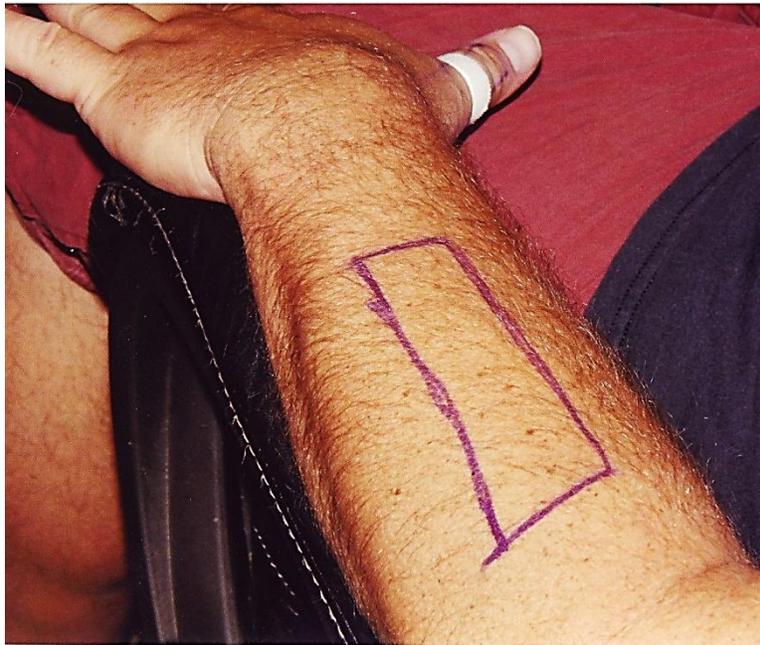
- Place a negative electrode over the inflamed zone and a positive electrode over the wrist extensor muscles. Preset an electrical stimulation unit to deliver a medium frequency current sufficient to produce a near tetanic contraction of the wrist extensor muscles, at 10-second intervals. Stimulate for 15 minutes.
- Manipulate the soft tissues in and around the inflamed zone, to break any adhesions that may be present (refer to Soft Tissue Manipulation in Tight Areas. Manipulate the inflamed zone alternately in the “thumbs up” position and then with the wrist fully pronated (internally rotated to 180°). Manipulation in one position seems to break up a different set of adhesions than the other.



**The high skin resistance pattern associated with an inflamed Extensor Pollicis Brevis Tendon**



**The high skin resistance pattern associated with an inflamed Extensor Pollicis Longus Tendon**



**The high skin resistance pattern over the Extensor Carpi Radialis Tendon, often found in association with inflammation of the Extensor Pollicis tendons**



**The encircling "tape job" designed to reduce pressure on the insertions of the distal Extensor Pollicis tendons**

- Preset the ultrasound unit a 3 (or 3.3) MHz, pulsed waveform, at 1.8 W/cm<sup>2</sup>. Ultrasound the inflamed zone(s), utilizing an effective non-steroidal anti-inflammatory as a coupling agent, for six minutes.
- Preset the electrical stimulation unit to deliver a visible contraction, at 7 Hz. Place a positive electrode over the inflamed zone, and a negative electrode over the wrist extensor muscles.
- Instruct the patient to encircle the thumb, between the mp and dip joints, with approximately 12 inches of ½ inch wide tape; if the distal end of the thumb turns blue or purple the tape should be judged to be **too tight** and loosened. Ideally, the tape should be replaced twice a day, for two weeks, and an effective topical anti-inflammatory (topical ibuprofen is favorite) applied before each taping.

***The following treatment forms have also been effective.***

**Variation:**

- Preset the ultrasound unit a 3 (or 3.3) MHz, pulsed waveform, at 1.8 W/cm<sup>2</sup>. Ultrasound the inflamed zone(s), utilizing an effective non-steroidal anti-inflammatory as a coupling agent, for six minutes. This procedure is designed to soften the adhesions that may be present.
- Manipulate the tissues in and around the inflamed zone(s) to eliminate any adhesions that may be present.
- Twenty minutes after the first ultrasound, preset the ultrasound unit to deliver a 3 (or 3.3) MHz, pulsed waveform, at 1.5 W/cm<sup>2</sup>. Ultrasound the inflamed zone(s) utilizing an effective non-steroidal anti-inflammatory as a coupling agent, for six minutes. This is performed to “cool off” the manipulated zone by effectively halting the production of prostaglandins by the stressed tissues.
- Instruct the patient to encircle the thumb, between the mp and dip joints, with approximately 12 inches of ½ inch wide tape (as illustrated below); if the distal end of the thumb turns blue or purple the tape should be judged to be **too tight** and loosened. Ideally, the tape should be replaced twice a day, for two weeks, and an effective topical anti-inflammatory (topical ibuprofen is favorite) applied before each taping.

**Variation:**

- Preset the ultrasound unit a 3 (or 3.3) MHz, pulsed waveform, at 1.8 W/cm<sup>2</sup>. Ultrasound the inflamed zone(s), utilizing an effective non-steroidal anti-inflammatory as a coupling agent, for six minutes. This procedure is designed to soften the adhesions that may be present.
- Manipulate the tissues in and around the inflamed zone(s) to eliminate any adhesions that may be present.
- Apply cold laser (with or without simultaneous electrical stimulation provided by the laser applicator) to the inflamed zone(s) for approximately six minutes. This is performed to “cool off” the manipulated zone by effectively halting the production of prostaglandins (or facilitating enzyme destruction of **all** inflammatories being produced) by the stressed tissues.

One or two sessions may be required to ameliorate the condition.

### **Post Treatment Suggestions:**

Instruct the patient to encircle the thumb, between the mp and dip joints, with approximately 6 inches of ½ inch wide porous cloth tape (as illustrated above). If the distal end of the thumb turns blue or purple the tape should be judged to be **too tight** and loosened. Ideally, the tape should be replaced twice a day, for two weeks, and an effective topical anti-inflammatory applied before each taping.

Encourage the patient to return in a few days if there is an increase or a return of pain in the thumb or involved joints.

### **Trigger Points**

The following is a list of trigger point formations which may, singly or in combination, refer pain into the thumb or the base of the thumb: Scalenus (anterior, medius, & posterior), Scalenus minimus, Infraspinatus, Subclavius, Subscapularis, Brachialis (superior & inferior), Supinator, Extensor carpi Radialis longus, Extensor carpi Radialis brevis, Middle finger extensor, Flexor carpi radialis, Brachioradialis, Pronator teres, Flexor pollicis longus, Opponens pollicis, and Adductor pollicis.