

EXTENSOR TUNNEL SYNDROME

The *Extensor Tunnel Syndrome* is a bit exceptional in that little has been written relative to its etiology, symptomology, and treatment. Clinical observation has clearly demonstrated its existence. Patients suffering from it consistently report numbness and pain along the back of the wrist, hand, and into the dorsum of the thumb and first three fingers (consistent with the sensory distribution of the superficial radial nerve). It may be that patients who suffer from this syndrome are suffering from an anatomical anomaly that provides for the passage of the superficial radial nerve between the distal radial and ulnar heads, across the dorsum of the wrist, instead of along its lateral aspect. If such is the case, forced or prolonged full extension of the wrist might be responsible for compressing the nerve and producing the resultant sensory symptoms.

In the case of the *Extensor Tunnel Syndrome*, a DSR survey will demonstrate a typical pattern of relative high skin resistance across the dorsum of the wrist, along a broad line that separates the distal radial and ulnar heads. Generally, there is no observable swelling present, but interstitial swelling may be responsible for some of the pressure exerted on the nerve.

Treatment

Treatment of the *Extensor Tunnel Syndrome* centers on eliminating any inflammation and adhesions that are present and increasing circulation in the involved area.

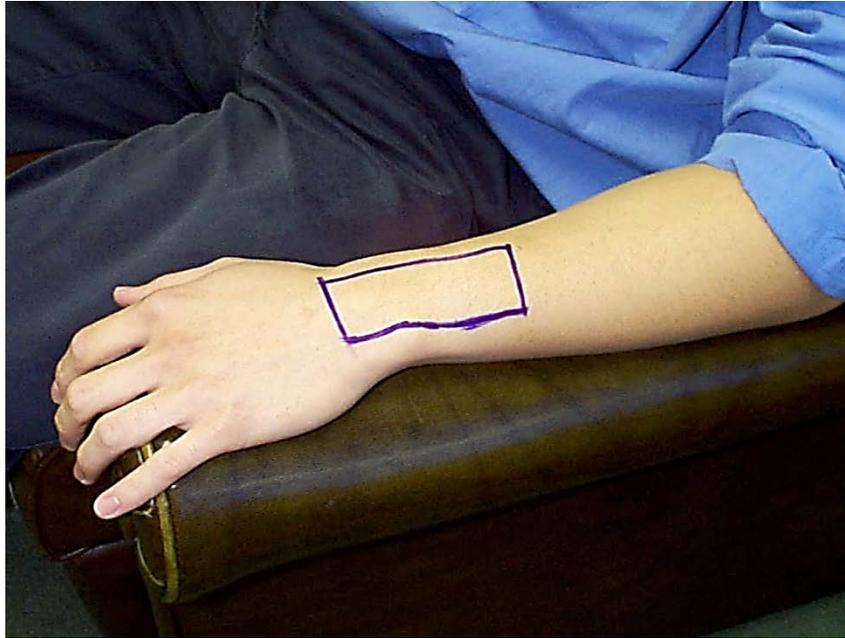
Application:

- Place a negative electrode over the inflamed zone and a positive 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).
- Preset the ultrasound unit to deliver a 1 MHz pulsed waveform at 1.5 W/cm². Ultrasound the inflamed zone 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 muscle group. Stimulate for 20 minutes.

The following treatment forms have also been effective.

Variation:

- Preset the ultrasound unit to deliver a 1 MHz pulsed waveform, at 1.8 W/cm². Ultrasound the inflamed zone, 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 to eliminate any adhesions that may be present.
- Twenty minutes after the first ultrasound, preset the ultrasound unit to deliver a 1 MHz pulsed waveform, at 1.5 W/cm². Ultrasound the inflamed zone, utilizing an effective non-steroidal anti-inflammatory as a coupling agent, for six minutes. This is performed to “cool off” the manipulated



The high skin resistance pattern commonly associated with the Extensor Tunnel Syndrome

zone by effectively halting the production of prostaglandins by the stressed tissues.

- Apply mechanical vibration, delivered at 60 to 120 Hz, to wrist extensor tendons, for two minutes. Apply the vibration at a relatively high but tolerably comfortable level for the patient. This is performed to increase capillary circulation in the involved tissues.

Variation:

- Preset the ultrasound unit to deliver a 1 MHz pulsed waveform, at 1.8 W/cm². Ultrasound the inflamed zone, 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 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 for approximately 6 minutes. This is performed to “cool off” the manipulated zone by effectively halting the production of prostaglandins (or facilitating enzyme destruction of **all** inflammatory being produced) by the stressed tissues.
- Apply mechanical vibration, delivered at 60 to 120 Hz, to the wrist extensor tendons, for two minutes. Apply the vibration at a relatively high but tolerably comfortable level for the patient. This is performed to increase capillary circulation in the involved tissues.

Response to treatment is generally rapid, with a cessation of symptoms almost as soon as the inflamed zone is relieved of adhesions. Continued relief depends on complete and continued elimination of inflammation.

Post Treatment Suggestions:

The patient should be instructed to avoid extreme dorsi flexion of the involved wrist, especially with force or against resistance. A neoprene universal wrist wrap may be of use in preventing extreme wrist extension when performing the functions of daily living, and when sleeping.

Trigger Points

The following trigger point formations may, singly or in combination, imitate or contribute to the pain associated with the *Extensor Tunnel Syndrome*: Scalenus, Scalenus (minimus), Infraspinatus, Coracobrachialis, Latissimus dorsi (upper portion), Serratus posterior superior, Subclavius, Subscapularis, Lateral triceps, Triceps (long head), Brachialis, Extensor carpi radialis longus, Extensor carpi radialis brevis, Extensor carpi ulnaris, Middle finger extensor, Fourth finger extensor, Extensor indicis proprius, Abductor digiti quinti, Second dorsal interosseus, and Adductor pollicis.