

Dr. Gene Desepoli

Carpal Tunnel Syndrome Treatment Sheet

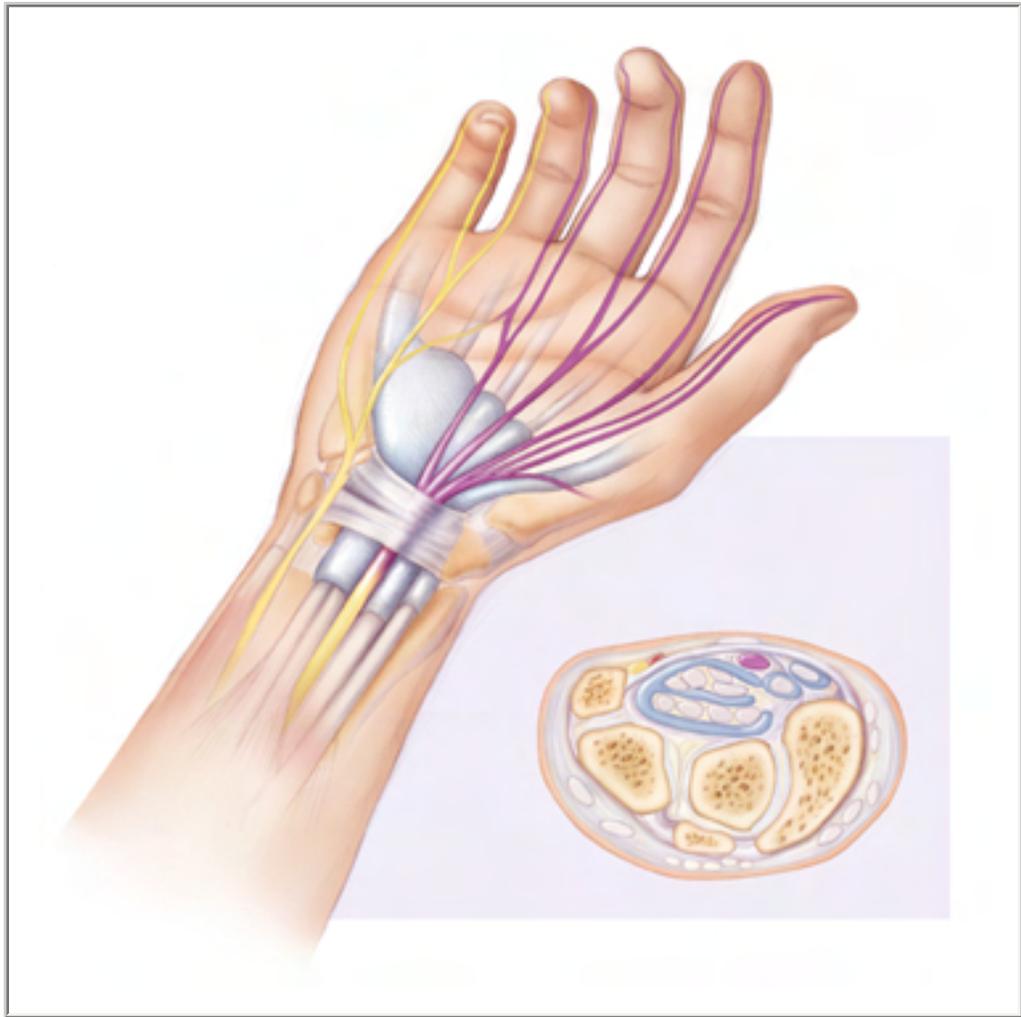
Pathology:	Repetitive overuse of the wrist irritates the tendons housed within the carpal tunnel area and will eventually inflame the median nerve. Chronic inflammation will lead to fibrosis and indiscriminate adhesions build-up within the tunnel.
History:	The patient will have a history of repetitive wrist overuse. Symptoms are mild at first and may worsen to the point of becoming extremely debilitating. Holding the forearm in a prolonged isometric position not only fatigues the muscles but limits circulation, further contributing to the downward spiral of dysfunction.
Assessment:	Generalized pain with most wrist/elbow movements. Pain and paresthesia in the lateral 3 ½ fingers. Positive <u>Phalen's</u> test; positive <u>Tinel's sign</u> of the wrist Positive <u>o-ring</u> test (weakness in thumb opposition). Atrophy of the thenar eminence (the "ape hand" of median nerve damage) Mild to moderate swelling inside the carpal tunnel Nerve conduction velocity tests may have been shown to be positive.
Bolstering/ Patient comfort:	Ensure that all muscles are relaxed during treatment.
Heat/Cold Therapy:	Ice is necessary to reduce inflammation and sensitivity at the carpal tunnel. Heat may be used over the proximal forearm to promote tissue pliability and to increase blood flow.
General Massage:	Massage of all muscles from the shoulder to the hand is appropriate.
Specific Massage:	Transverse friction massage is applied to the entire wrist area (dorsal and volar aspects) focusing on the tendons and carpal ligaments. Compression, broadening and additional strokes are applied to the wrist flexor and extensor muscles to reduce hypertonicity. Friction to the ligaments and tendons of the fingers/hand is important because of the tendency of the patient to limit usage The z-stroke is specific for the anterior (volar) wrist to myofascially-release soft-tissue structures while avoiding excess pressure on the median nerve. Note: most sources suggest avoiding direct friction to the median nerve, but the advanced therapist should apply friction to address adhesions which do form between the median nerve and surrounding structures (tendons)
Evaluate / Treat TrPs:	Eliminate trigger points in the wrist extensors and flexors to allow normal muscle lengthening to occur.
Stretching Exercises/ Range of Motion:	Passive: When inflammation subsides, restore wrist ROM. Active: With time, the patient can take greater responsibility for their care.
Strengthening:	Isometric contractions at first, followed by more active strengthening if the patient permits.
Patient Education:	The patient must be educated regarding the avoidance of activities that aggravate this condition. Self-awareness and frequent breaks from activities that might fatigue the wrist are important. Self-treatment including ice application and massage can be taught to the patient.

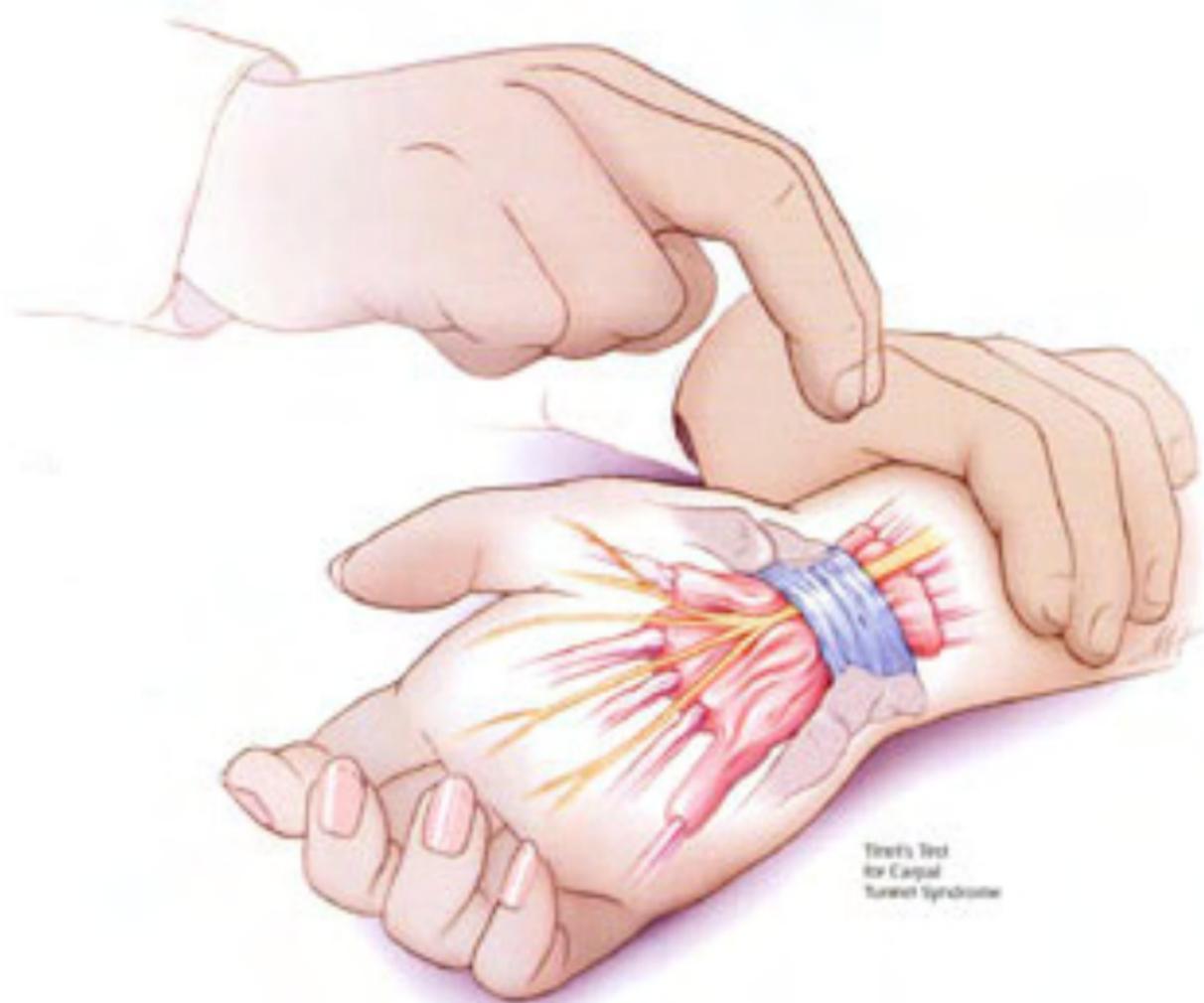
Ergonomic factors:

A temporary wrist-support may be worn, but exercise caution to prevent the patient from becoming too dependant on such a device. Consul the patient on using proper wrist supports (mouse pads) and on chairs with appropriately-adjusted armrests while typing.

Medical Referral

It is appropriate to co-treat the patient with a doctor and/or to receive medical approval. Other metabolic causes of carpal tunnel must be ruled out.





Tinel's Test
for Carpal
Tunnel Syndrome