

## Summary of Facts

1. Numbness of thumb and first two fingers
2. Experience clumsiness and drop things
3. Symptoms are most common in women age 40-60
4. Symptoms become more evident at night.
5. Most common causes are usage of the hands with personal crafts. Could also be related to diabetic neuropathy and repetitive occupational traumas
6. Either with conservative or surgical treatment, favourable prognosis is likely with the correct diagnosis.

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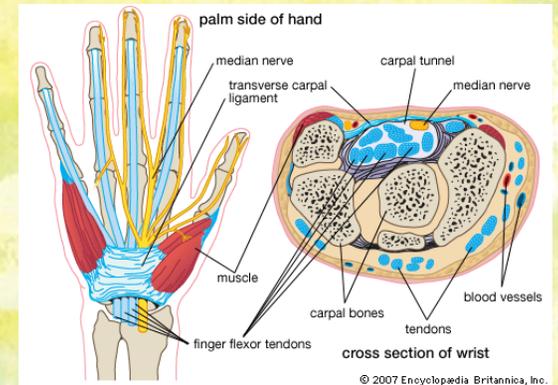


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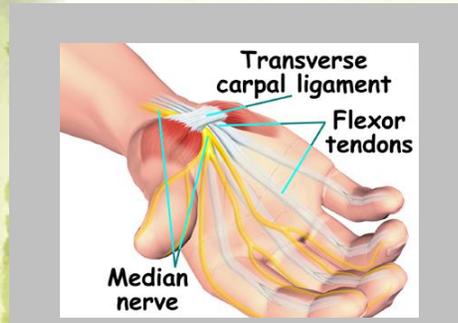


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## WHAT IS CARPAL TUNNEL SYNDROME?



## Carpal Tunnel Syndrome

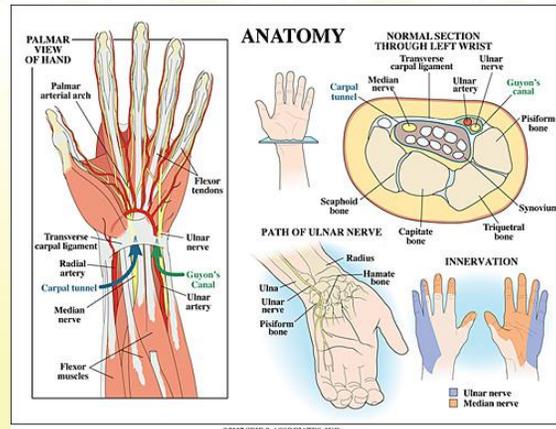


Structures involved with CTS

**Carpal Tunnel Syndrome (CTS)** is the most common neurological disorder in medical practice. Often it is misdiagnosed or ignored as a sign of old age, symptoms of arthritis, poor blood circulation or cardiac condition, etc. The most common cause of CTS is constant usage of the hands with personal crafts such as crocheting or utilizing a sewing machine. Other causes could be related to diabetic neuropathy, occupational trauma from utilizing vibrating power tools; pregnancy complications with joint swelling can often precipitate CTS. The common causes of carpal tunnel syndrome can be remembered using the mnemonic, **MEDIAN TRAP** for Myxoedema, Edema, Diabetes mellitus, Idiopathic, Acromegaly, Neoplasm, Trauma, Rheumatoid arthritis, Amyloidosis and Pregnancy.

CTS is evident when the median nerve is compressed at the wrist. Repeated use of the hand may cause swelling of the tendons which may press on the median nerve as it travels through the carpal tunnel.

Burning sensation, numbness and pain in the fingers are the most common symptoms. Numbness usually occurs in the thumb, index finger and half of the ring finger.



These sensations may result in clumsiness, causing the patient to “drop things”. The pain in the fingers may be intermittent and can radiate as high as the elbow or shoulder. The pain has been described as a dull ache that will become evident with use of the fingers or while working with the hands over the head. Symptoms are most common in women, especially between the ages of 40 and 60.

Unfortunately, these symptoms are more evident at night. Sometimes the patient is awakened by the pain. It has been reported that sometimes the pain is relieved by the dropping of the hand over the side of the bed or by shaking the affected fingers.

X-ray and blood tests (for arthritis, diabetes, etc) are helpful to understand the patient's basic medical condition.

**Electromyography (EMG) and Nerve Conduction Study** offers a definite role in diagnosing CTS. It reveals its presence, evaluates its progress, and it can assist the physician in deciding which methods of treatment might be necessary

**Conservative Treatment** has been effective in early or mild cases; rest, oral analgesics, anti-inflammatories, splinting, chiropractic adjustment, acupuncture, Graston technique®, KinesioTaping® or local injection in the carpal tunnel. The wrist should be splinted in a neutral position all day and preferably all night.



CTS Splints keep wrist in a neutral position

Commercial wrist splints are made of a washable material and Velcro fasteners. Consequently, this makes the splint light, comfortable and easy for the patient to re-apply themselves.



In advanced cases of Carpal Tunnel Syndrome which show active ongoing neuromuscular deterioration (as seen in the electromyography (EMG) testing), and after no favourable response to conservative treatment, surgery is indicated. If surgery is necessary, a simple operation to open the carpal tunnel often succeeds in relieving the pressure on the median nerve.

Sternbach G (1999). "The carpal tunnel syndrome". *J Emerg Med* 17 (3): 519–23. doi:10.1016/S0736-4679(99)00030-X. PMID 10338251  
 ."Carpal tunnel syndrome as an occupational disease". *The Journal of the American Board of Family Practice / American Board of Family Practice* 16 (6): 533–42.