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Carpal Tunnel Syndrome

Carpal tunnel syndrome (CTS) is a common problem affecting the hand and wrist. Symptoms begin when the median nerve gets squeezed inside the carpal tunnel of the wrist, a medical condition known as nerve entrapment

This syndrome has received a lot of attention in recent years because of suggestions that it may be linked with occupations that require repeated use of the hands, such as typing on a computer keyboard or doing assembly work.

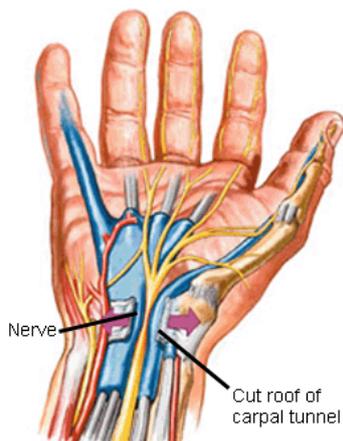
Actually, many people develop this condition regardless of the type of work they do.

It is more common in middle aged women

When non-operative is not effective, surgical release is indicated

Where is the carpal tunnel, and what does it do?

The carpal tunnel is an opening through the wrist to the hand that is formed by the bones of the wrist on one side and the transverse carpal ligament on the other.

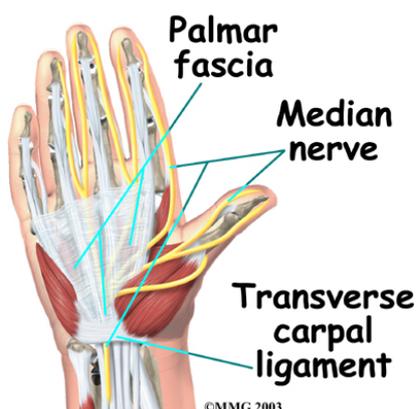


The median nerve passes through the carpal tunnel into the hand. It gives sensation to the thumb, index finger, long finger, and half of the ring finger. It also sends a nerve branch to control the thenar muscles of the thumb[opposition].

The median nerve and flexor tendons pass through the carpal tunnel. The median nerve rests on top of the tendons, just below the transverse carpal ligament.

What causes CTS?

- No cause: common
- Inflamed tendon sheath
- A traumatic wrist injury
- Various types of arthritis
- Pregnancy [retained extra fluid]
- Diabetics [more prone to symptoms of CTS]
- Low thyroid function (called hypothyroidism)
- Occupation: are at more risk for problems of CTS



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: include Force ,posture ,repetition,vibration

What does CTS feel like?

Tingling and numbness in the areas supplied by the median nerve.

May begin to feel like it's asleep, especially in the early morning hours after a night's rest.

Wakes up in the night with tingly feeling

Clumsiness in the hand; dropping things

Sometimes pain may even spread up the arm to the shoulder.

Muscle weakness: The thenar muscles of the thumb can

weaken, causing the hand to be clumsy

Touching the pad of the thumb to the tips of the other fingers becomes difficult

Making it hard to grasp items such as a steering wheel, newspaper, or telephone.



How do doctors identify the condition?

Evaluation by obtaining a history of the problem,

A thorough physical examination.

Careful investigation usually shows that the little finger is unaffected.

If started after a traumatic wrist injury, X-rays may be needed

Electrical studies of the nerves in the wrist may be requested by your doctor.

What can be done for CTS?

Nonsurgical Treatment

Avoid activities that are causing your symptoms

Avoid repetitive hand motions, heavy grasping, holding onto vibrating tools, and positioning or working with your wrist bent down and out.

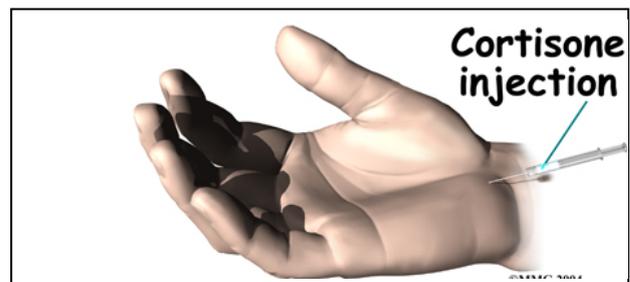
If you smoke, talk to your doctor about ways to help you quit.

Lose weight if you are overweight. Reduce your caffeine intake.

.A **wrist brace** will sometimes decrease the symptoms

Anti-inflammatory medications may also help control the swelling and reduce symptoms of CTS.

If these simple measures fail to control your symptoms, an injection of cortisone into the carpal tunnel may be suggested. This medication is used to reduce the swelling in the tunnel and may give temporary relief of symptoms.



Surgery

If all attempts to control your symptoms fail, surgery may be suggested to reduce the pressure on the median nerve.

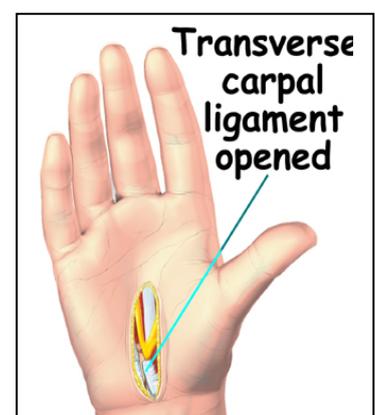
By releasing the pressure on the nerve, the blood supply to the nerve improves, and the vast majority of people get relief of their symptoms. However, if the nerve pressure has been going on a long time, the median nerve may have thickened and scarred to the point that recovery after surgery is much slower.

Open Release

The standard surgery for CTS is called open release under local anaesthesia. Open surgical procedures use a large skin incision.

In open release, an incision is made down the front of the wrist and palm

The transverse carpal ligament is divided to take pressure off the median nerve.



After **dividing** the transverse carpal ligament, the surgeon stitches just the skin together and leaves the loose ends of the transverse carpal ligament separated.

What should I expect after treatment?

It generally takes longer to recover after open carpal tunnel release than the endoscopic release.

Pain and symptoms usually begin to improve, but you may have tenderness in the area of the incision for several months [3 months] after surgery.

After the skin is stitched together, your hand will be wrapped in a **bulky dressing**. The bulky dressing is reduced in 48 hours

Sutures were removed after 10 days.

Night pain should disappear early, Some pain around the wrist [pillar pain] may take 2 months to disappear

What might go wrong?

Some of the most common problems are

infection : <1%

incision pain : may persist for 3months [Pillar pain]

scar tissue formation

nerve damage [Neuroma formation] or damage to Thenar branch

Chronic regional pain syndrome

Very rarely recurrence of symptoms