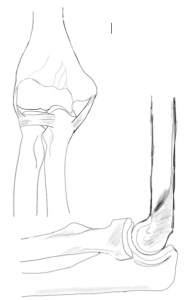
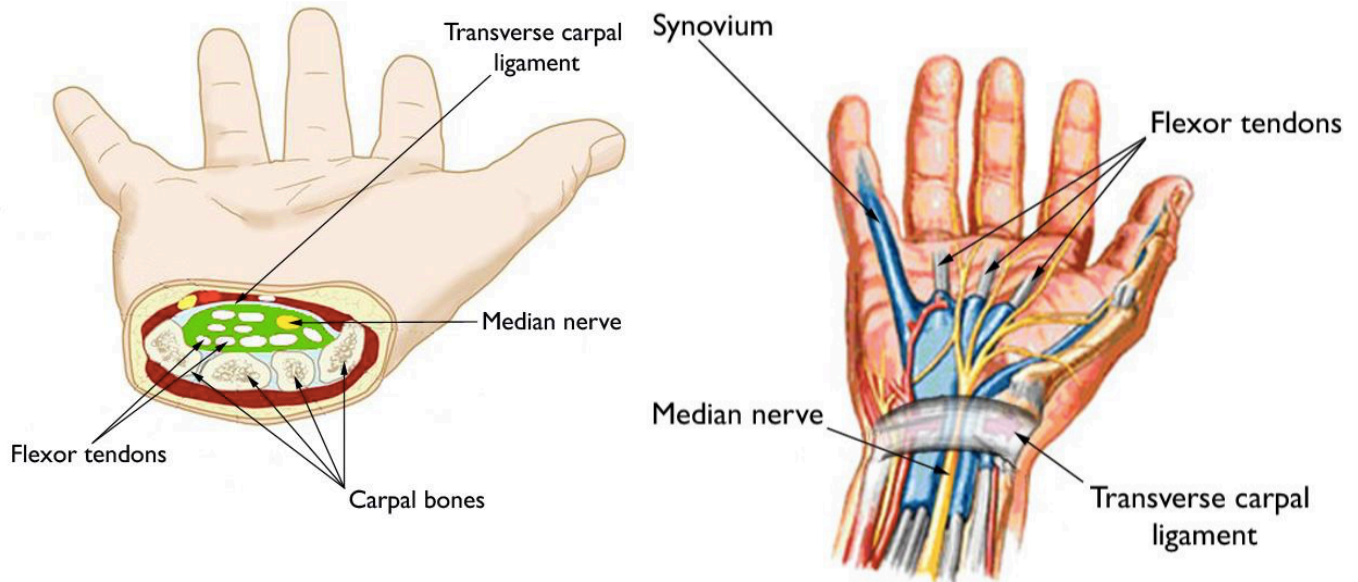


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CARPAL TUNNEL SYNDROME



[HTTPS://ORTHOINFO.AAOS.ORG/EN/DISEASES--CONDITIONS/CARPAL-TUNNEL-SYNDROME/](https://orthoinfo.aaos.org/en/diseases--conditions/carpal-tunnel-syndrome/)

- **Heredity.** This is likely an important factor. The carpal tunnel may be smaller in some people or there may be anatomic differences that change the amount of space for the nerve—and these traits can run in families.
- **Repetitive hand use.** Repeating the same hand and wrist motions or activities over a prolonged period of time may aggravate the tendons in the wrist, causing swelling that puts pressure on the nerve.
- **Hand and wrist position.** Doing activities that involve extreme flexion or extension of the hand and wrist for a prolonged period of time can increase pressure on the nerve.
- **Pregnancy.** Hormonal changes during pregnancy can cause swelling.
- **Health conditions.** Diabetes, rheumatoid arthritis, and thyroid gland imbalance are conditions that are associated with carpal tunnel syndrome.

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A clinical aid for diagnosing carpal tunnel syndrome

Symptoms and history	
Numbness predominately or exclusively in median nerve territory <i>Sensory symptoms are mostly in the thumb, index, middle and/or ring fingers</i>	3.5
Nocturnal numbness <i>Symptoms are prominent when patient sleeps; numbness wakes patient from sleep</i>	4
Physical examination	
Thenar atrophy and/or weakness <i>The bulk of the thenar area is reduced or manual motor testing shows strength of grade 4 or less</i>	5
Positive Phalen test <i>Flexion of the wrist reproduces or worsens symptoms of numbness in the median nerve territory</i>	5
Loss of 2 point discrimination <i>A failure to discriminate two points held 5mm or less apart from one another, in the median nerve innervated digits, is a positive test suggestive of CTS</i>	4.5
Positive Tinel sign <i>Light tapping over the median nerve at the level of the carpal tunnel causing radiating paraesthesiae into the median nerve innervated digits (not proximally) is a positive test</i>	4

Symptoms

Symptoms of carpal tunnel syndrome may include:

- Numbness, tingling, burning, and pain—primarily in the thumb and index, middle, and ring fingers
- Occasional shock-like sensations that radiate to the thumb and index, middle, and ring fingers
- Pain or tingling that may travel up the forearm toward the shoulder
- Weakness and clumsiness in the hand—this may make it difficult to perform fine movements such as buttoning your clothes
- Dropping things—due to weakness, numbness, or a loss of proprioception (awareness of where your hand is in space)

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Nonsurgical Treatment

If diagnosed and treated early, the symptoms of carpal tunnel syndrome can often be relieved without surgery. If your diagnosis is uncertain or if your symptoms are mild, your doctor will recommend nonsurgical treatment first.

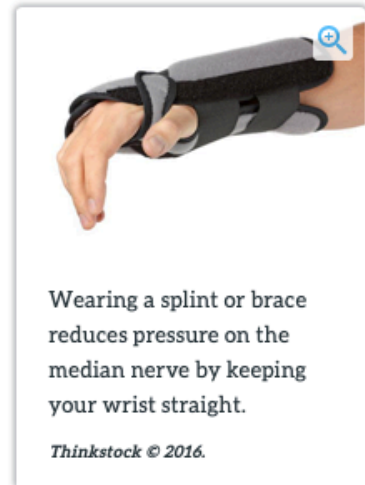
Nonsurgical treatments may include:

Bracing or splinting. Wearing a brace or splint at night will keep you from bending your wrist while you sleep. Keeping your wrist in a straight or neutral position reduces pressure on the nerve in the carpal tunnel. It may also help to wear a splint during the day when doing activities that aggravate your symptoms.

Nonsteroidal anti-inflammatory drugs (NSAIDs). Medications such as ibuprofen and naproxen can help relieve pain and inflammation.

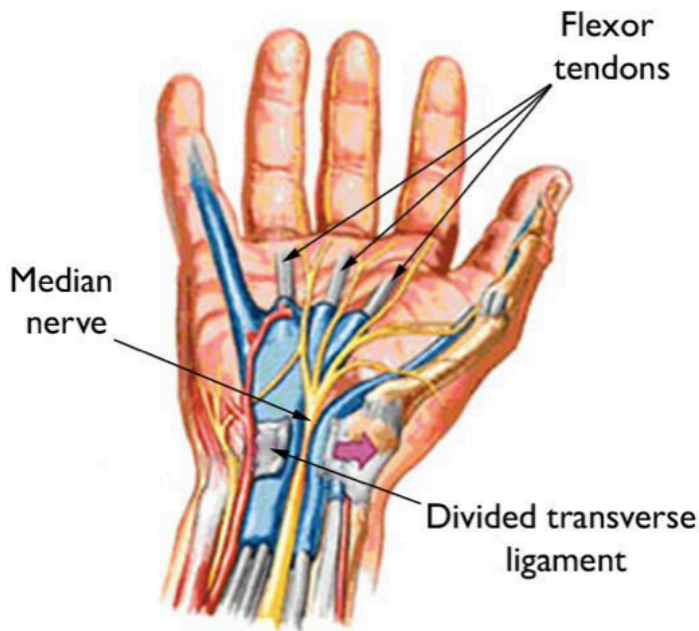
Activity changes. Symptoms often occur when your hand and wrist are in the same position for too long—particularly when your wrist is flexed or extended.

Steroid injections. Corticosteroid, or cortisone, is a powerful anti-inflammatory agent that can be injected into the carpal tunnel. Although these injections often relieve painful symptoms or help to calm a flare up of symptoms, their effect is sometimes only temporary. A cortisone injection may also be used by your doctor to help diagnose your carpal tunnel syndrome.



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Outcomes

For most patients, surgery will improve the symptoms of carpal tunnel syndrome. Recovery, however, may be gradual and complete recovery may take up to a year.

If you have significant pain and weakness for more than 2 months, your doctor may refer you to a hand therapist who can help you maximize your recovery.

If you have another condition that causes pain or stiffness in your hand or wrist, such as arthritis or tendonitis, it may slow your overall recovery. In long-standing cases of carpal tunnel syndrome with severe loss of feeling and/or muscle wasting around the base of the thumb, recovery will also be slower. For these patients, a complete recovery may not be possible.

Occasionally, carpal tunnel syndrome can recur, although this is rare. If this happens, you may need additional treatment or surgery.

Complications

Although complications are possible with any surgery, your doctor will take steps to minimize the risks. The most common complications of carpal tunnel release surgery include:

- Bleeding
- Infection
- Nerve aggravation or injury
- **Recurrent motor branch of median nerve injury**