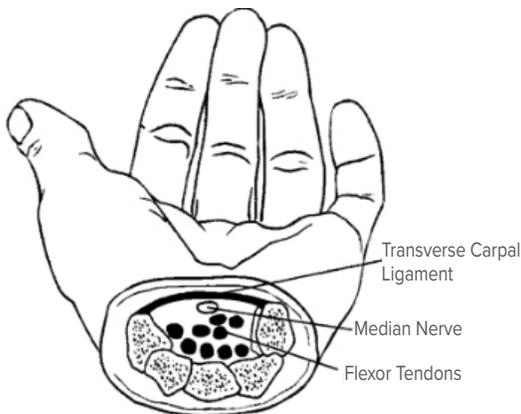
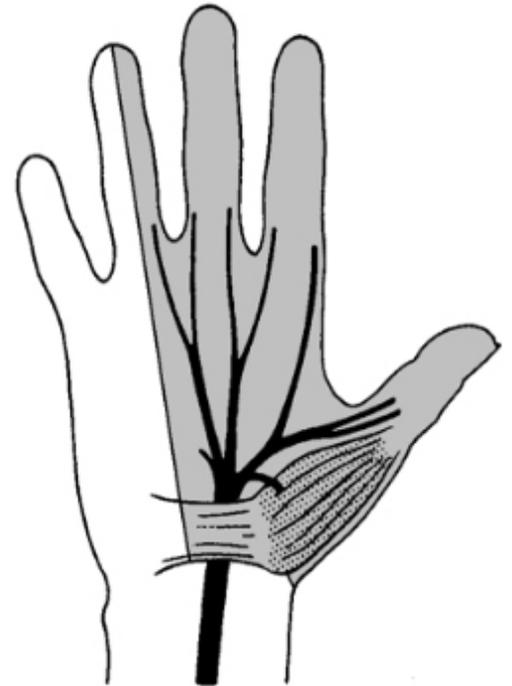


## Definition

Carpal tunnel syndrome (CTS) is the most common compression neuropathy in the upper extremity and is caused by pressure on the **Median Nerve** at the level of the **wrist**. It is like someone stepping on, or kinking, a garden hose which results in a decreased flow at the end of the hose. You will feel this pressure as numbness, tingling, a “pins and needles” sensation and even sometimes as pain.

## Clinical Symptoms

The hallmark of CTS is numbness, tingling or “pins and needles” in the thumb, index, middle and half of the ring finger. The small finger is generally not affected. Your hands can feel clumsy. There can be the sense of weakness, with difficulty holding objects or twisting off a jar top. Occasionally, there is the sensation of the feeling moving up the arm.



The sensation noted with CTS is considered painful by some but more often as numbness, tingling or “pins and needles.” It is most often noted at nighttime. Frequently people are woken at night with their symptoms and massage their hand, lower it over the side of the bed or run it under warm water in order to “get the circulation back.” Others note the symptoms only as they awaken in the morning. As the symptoms progress, people feel the numbness during daytime activities such as brushing one’s hair, reading the newspaper, driving or even at work.

## Who gets Carpal Tunnel Syndrome?

Anyone can get it but it is more common in certain patient populations. Any person who is involved in high use and repetitive activities with their hands can have CTS. Carpal tunnel syndrome has a clear association with patients that have rheumatoid arthritis, diabetes and thyroid disorders. Pregnant women, due to hormonal changes and the resultant fluid shifts in their body, can get temporary CTS that often goes away after childbirth.

## How do you know I have CTS and not something else?

The symptoms that people describe are common and tests performed in the office can confirm the problem. I will take a thorough history and then examine your neck, arm, wrist and fingers. Since this problem is one of pressure at the level of the wrist and palm, I will try to duplicate it. If there is any question, I will order an Electrodiagnostic or Nerve Study. This study measures how fast your nerve is working. It is like putting a water flow meter on a garden hose and measuring how fast the water is getting to the end. If there is pressure on the nerve (i.e., the hose) then the test will show slowing of the nerve conduction to the fingers. Not everyone who has CTS has a “positive” or abnormal test.

## What is the treatment?

Treatment always begins with the use of a wrist splint. The goal is to keep the wrist straight. The type of splint is important only in that it is comfortable for you. We begin by using the splint at bedtime in order to prevent sleeping all night long with your wrist bent which would be like kinking the garden hose. Occasionally, the splint is also worn with daytime activities or at work.

Modifying or **lessening the frequency of activities that aggravate** your symptoms is also important.

Often, hand surgeons will give a **steroid injection** into the carpal tunnel. The use of a splint in combination with a steroid injection can give 20-25% of patients’ permanent relief, decreasing the chances of surgery.

If the symptoms are severe or when these conservative measures do not provide full relief, then **surgery** is indicated. The surgery is an operative release of the tight carpal tunnel ligament in the palm and wrist region. There are two major methods to perform the surgery. The “open” technique uses a one-and-a-half-inch incision in the middle of the palm. The “endoscopic” technique uses a half-inch incision along the wrist. In the endoscopic technique, the tight ligament is cut using a TV guided device through a much smaller incision in less sensitive skin than the palm. The endoscopic technique will allow you to return to personal and work activities earlier than the open technique. The results of these techniques are generally no different at the end of six months. Although a laser is not used, some people refer to the endoscopic technique as the “laser technique” which is a misnomer.

## What is the recovery like?

After the endoscopic operation, a bulky bandage is used for about 2 days. You are allowed to use your fingers the very first day and return to work as soon as you are comfortable—some people return to light work the next day. After the stitches are removed you are allowed to perform light activities. Within two to three weeks, most people are using their hand normally. The heaviest of activities such as power grip, heavy lifting and push-off activities become natural after several more weeks.

## Will I need therapy afterward?

Most patients will benefit from a short course of therapy which is individualized.