



Carpal Tunnel Syndrome and Endoscopic Carpal Tunnel Releases

Clare K. McCarthy, M.D.

What is carpal tunnel syndrome?

Carpal tunnel syndrome (CTS) involves impingement of the median nerve in the wrist. The carpal tunnel is bound by bone on three sides, with a tight ligament serving as the “roof” of the tunnel. These structural components make the carpal tunnel a rigid space. Nine flexor tendons (two for each finger and one for the thumb), the median nerve, and the blood supply to the median nerve, which is only as thick as a strand of hair, pass through the carpal tunnel. It is compression of this blood vessel to the nerve that causes a “pins and needles” sensation in the fingers, similar to when your leg “falls asleep” after you have sat in the same position for a long time.

What causes it?

Any medical condition or activity that causes swelling in the carpal canal and resultant compression of the blood vessel to the median nerve can lead to CTS. Patients who are pregnant or who have rheumatoid arthritis or severe osteoarthritis in the wrist are at increased risk for developing CTS. Significant wrist fractures can lead to acute CTS. Repetitive activities, such as typing or the use of vibratory tools, can cause swelling around the flexor tendons in the carpal tunnel and pinch the blood vessel. Patients with smaller body frames are more likely to develop CTS, because their carpal tunnel is smaller than other, larger-framed individuals. There also is believed to be a genetic component associated with CTS.

What are the symptoms?

Most commonly, patients report numbness and tingling in the thumb and index, long, and ring fingers of the affected hand(s). Often these symptoms occur at night while sleeping and awaken the patient. They can also become noticeable with driving, reading the newspaper, talking on the phone, or applying makeup. As the numbness and decreased sensation worsen, simple activities, such as holding a pen or fastening a button, become very difficult because the patient cannot feel the object in their fingers. Patients also drop items as a consequence of their poor sensation. If CTS is allowed to progress, patients develop atrophy of the “meaty” muscle of the thumb in the palm of the hand. As this muscle weakens, patients lose their ability to oppose their thumb.

How is it treated?

Treatment depends on the severity of your symptoms. If your symptoms are mild or recent in onset, splinting and steroid injections are potential treatment options. If your symptoms are more significant, disrupt your ability to perform your normal activities, or are long-standing, your best treatment option might be an endoscopic carpal tunnel release (ECTR).



What does surgery entail?

Prior to the surgery, the anesthesiologist will numb up your arm with a shorting-acting nerve block, so that you will not feel anything during surgery. Patients are usually given some light sedation as well. An ECTR takes approximately four minutes to complete and involves only two cuts—one for your skin and one for the ligament underneath the skin. Once the ligament is released, the space in the carpal canal is increased by 25 to 40 percent.

If I need to have surgery, how long is the recovery process?

When you leave the operating room, your wrist will be wrapped in a soft, bulky surgical dressing that must remain dry and intact for 1 week. The day after surgery, you can use your hand for light activities, including eating, dressing, driving, and typing. Once you remove your surgical dressing, you can advance your activities as tolerated. For a few months, most patients experience some weakness of the hand.

As for your carpal tunnel symptoms, approximately 75 percent of patients receive full symptom relief and return of their normal sensation within a few days following surgery. For patients whose symptoms are severe or long-standing, it can take several months for their sensation to return to normal.

Once I have surgery, will my carpal tunnel syndrome return?

It is extremely rare for CTS to return following surgical release of the ligament. However, if this does happen, then other causes of the symptoms are considered.

If you wish to schedule an appointment to see Dr. McCarthy, please call 952-456-7000.