

Carpal Tunnel Syndrome

The myths, the facts, and the solutions



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Most people have heard of carpal tunnel syndrome (CTS), but there are a number of common and pervasive misconceptions about this condition.

To help you understand it better, a short anatomy lesson is in order. The carpal tunnel is a narrow passageway at the base of your hand. Nerves and tendons pass through this tunnel from your forearm right to the fingertips. The structure itself is formed by the small carpal bones at the back of the hand and a thick ligament on the palm side of the hand that is about an inch long, starting at the wrist crease.

The carpal tunnel is small and tightly packed. If the tendons swell from use or the tunnel is compressed by the wrist position, the nerve in the canal—the median nerve—is squeezed. That is the definition of carpal tunnel syndrome: a compressed median nerve.

The primary symptom of nerve compression isn't usually pain at first, it's numbness—specifically in the thumb, the index, middle and occasionally the ring finger—that often comes and goes. When patients complain of wrist or hand pain or weakness, especially when performing a task such as lifting something or opening a jar, it is usually not CTS but more often arthritis or tendinitis. A common misconception is that all wrist pain is CTS.

Certainly, when cases become more advanced, pain can become quite severe. Many people will complain of an aching pain at night that actually wakes them up. They have to shake the hand out or even get up and walk around to get the hand to feel better.

Picture the median nerve as a garden hose. If you roll a truck over it, it compresses but then springs back. But if you leave the truck parked on the hose all winter, it may not spring back. When that happens to the nerve, you begin to see permanent changes that can lead to wasting of the muscle, which in turn can cause permanent weakness in the hand.

Another misconception is that CTS is caused by typing or other repetitive motions. The research has failed to verify that. Rather,

the most common correlation is among those working in manual occupations, particularly in cold weather. Meat cutters working in a freezer, for instance, are at high risk for developing CTS.

Carpal tunnel syndrome can also be caused by factors not related to physical activity. Pregnancy, for one, can cause swelling in the joints, including the wrist. Endocrine diseases, such as diabetes or thyroid disease, can cause neuropathy and predispose patients for CTS.

Treatment options

Whatever the cause, treatments depend on the severity of the case. For those with numbness but no pain, we often conduct a nerve study to determine if the median nerve is compressed and failing to conduct signals as it should. If that's the case, simple rest and perhaps splinting at night can reduce the swelling in the tunnel and relax pressure on the nerve, relieving symptoms.

If the numbness is accompanied by pain, a cortisone injection usually gives great relief. But if symptoms are constant or severe, or if the nerve has been compressed for so long that the muscles are wasting, surgery to cut the ligament and open up the carpal tunnel is the best option to prevent long term damage.

Surgical advances have made carpal tunnel repair quicker and safer in recent years. In the 1970s and 1980s, surgeons made big 5 to 8 centimeter incisions across the wrist and kept patients in a splint for weeks to recover. Today, I do many surgeries endoscopically. That requires a tiny incision of less than 1 cm in the wrist crease and our incisions for open releases are much smaller. The procedure takes about 10 minutes, is done with local anesthetic and light sedation, and requires no splint afterward. All surgeries are done on an outpatient basis.

Patients can get back to work more quickly after these small incision procedures. Those who perform heavy labor might need up to 6 weeks to recover, but if you work a desk job you are typically back to work in a week... or sometimes sooner. I know this not only as a surgeon but also as a patient. I had carpal tunnel surgery myself on a Friday, and was operating again the following Tuesday.

