

## Plain Language Summary

### The Management of Carpal Tunnel Syndrome



Photo courtesy of Robin Kamal, MD, FAAOS

#### Background

Carpal Tunnel Syndrome (CTS) is a common problem that happens when nerves in your arm get squeezed. This can happen to up to 5 out of 100 adults. People with CTS often feel numbness, tingling, and weakness in their hands. It might feel like "pins and needles" or like their hand is very heavy. It can make it hard to do things like button a shirt or pick up small items. Many people with CTS can't do their jobs properly and might miss work. In the US, people with CTS can miss up to 28 days of work, which is second only to broken bones.<sup>1</sup> For older people on Medicare, CTS costs between \$2.7 and \$4.8 billion each year.<sup>2</sup>

#### Risk Factors

CTS can happen for different reasons. It might be because of the way your wrist is shaped, which can be influenced by your genes, whether you're a boy or a girl, or just the size of your wrist. Sometimes, bone spurs or swelling can make the space in your wrist smaller. Some diseases, like Diabetes, Rheumatoid Arthritis, or wrist injuries, are linked to CTS. Even though doing the same movements over and over or keeping your wrist in one position for a

long time can make CTS worse, there is no evidence that shows that using a keyboard a lot can cause Carpal Tunnel Syndrome.

#### Diagnosis

Your doctor will determine if you have Carpal Tunnel Syndrome (CTS) by looking at your hand and asking you about your symptoms. Strong evidence shows that they should use a special diagnostic tool called the Carpal Tunnel Syndrome 6 (CTS-6) to help predict the presence of CTS. If they need more information, they might use an ultrasound, or a test called Nerve Conduction Studies, which tests how well your nerves work. Moderate evidence shows that MRI scans and Upper Limb Neurodynamic Testing are not good for diagnosing CTS.

#### Treatment Options

Your doctor will talk about different ways to treat your CTS based on your symptoms and lifestyle. Some treatments, like acupuncture, insulin injections, heat therapy, magnet therapy, nutritional supplements, oral diuretics, NSAIDs, anticonvulsant medications, or phonophoresis, might not work. Limited evidence shows they might not give more relief than doing nothing at all.

The following treatments might help a little, but they might not work for a long time: oral corticosteroids, hyaluronic acid injections, hydro-dissection, kinesiotaping, laser therapy, peloid therapy, perineural injection therapy, topical treatments (lotions or medications rubbed on the skin), shockwave therapy, exercise, ozone injections, massage therapy, manual therapy, and pulsed radiofrequency. Strong evidence suggests that PRP injections and corticosteroid injections usually don't give long-term improvement.

Research evaluating patient reported outcomes (surveys of patients regarding their symptoms and outcomes) shows that there isn't much difference between the non-surgical ways to treat Carpal Tunnel Syndrome (CTS). Most of these treatments only help a little or for a short time. If your symptoms don't get better, you might consider surgery.

## Surgical Management

If you choose to have surgery, it can be done in the doctor's office or in an operating room, both are safe and suitable. You might have local anesthesia to numb just your wrist, or you might get medicine to help you relax during the surgery. There are two main types of surgery: one with a small cut over the nerve (mini-open) and another with smaller cuts away from the nerve using a small camera (endoscopic). Both are safe and effective.

If you have other medical problems, your doctor might ask for some lab tests or x-rays, but most people don't need them. If you take blood thinners, you can usually keep taking them during surgery. Your doctor will decide if you need antibiotics for the surgery, but most healthy people don't need them for CTS surgery.

### What to expect after surgery

After surgery, most people can manage pain with NSAIDs or acetaminophen, but some might need stronger medicine like Tramadol. Your surgeon will tell you if there are things you should avoid after surgery. Moderate evidence indicates that you won't need a splint or brace and can get back to normal activities soon. Since there aren't many restrictions, moderate evidence suggests that most people don't need hand therapy or additional treatment, but your surgeon will always check what's best for you.

CTS is a common problem that can make it hard to work and do fun things. Luckily, treatments can stop the nerve from being squeezed and relieve pain and weakness. If you have these symptoms, talk to your surgeon. They'll help you figure out the best way to treat it and make things better for you.

## References

1. Hubbard, Zachary S., et al. "Economic benefit of carpal tunnel release in the Medicare patient population." *Neurosurgical focus* 44.5 (2018): E16.
2. US Bureau of Labor and Statistics, US Department of Labor, 2011. Nonfatal occupational injuries and illnesses requiring days away from work, 2015; from <https://www.bls.gov/news.release/osh2.nr0.htm>

*This summary was written by the Committee on Healthcare Safety.*

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Additional resources for patients are available at [OrthoInfo.org](https://www.OrthoInfo.org).