

# Carpal Tunnel Syndrome

Carpal tunnel Syndrome (CTS) is caused by pressure on the median nerve, which runs through a small space in your wrist, called the “carpal tunnel,” and controls all movement and feeling of your thumb and all of your fingers except for your pinky. Symptoms can include numbness, tingling, weakness, pain, and hand pain at night. The most commonly affected fingers include the thumb, index and middle fingers. Sometimes the ring finger may also be affected.



## What increases my risk of developing Carpal Tunnel Syndrome?

Many factors may increase the risk of developing carpal tunnel syndrome. Strong evidence supports that a high body mass index (BMI) and repetitive hand and wrist motions are associated with and increased risk of developing CTS. Other factors such as rheumatoid arthritis, gardening, assembly line work, computer work, vibration, tendinopathy/tendonitis, workplace forceful hand exertion/grip, and if you are peri-menopausal also may increase your chances of developing CTS.



## How can I tell if I have developed carpal tunnel syndrome?

Key symptoms for carpal tunnel syndrome are pain in the hand and arm with the presence of numbness and tingling. Additional factors such as a possible burning sensation located primarily in the first three fingers (thumb, index finger, and middle finger), hand weakness and trouble hold things, shock-like feelings, and nighttime pain is also associated with a possible carpal tunnel diagnosis.



## What should I do if I think I may have carpal tunnel syndrome?

If you think that you have CTS, you can start using a neutral wrist splint that can be purchased at many drugstores. The use of the splint has strong evidence of improving patient symptoms. If your symptoms do not improve, you should make an appointment with an orthopaedic doctor who specializes in hand issues.

## How is carpal tunnel syndrome diagnosed?

Your hand specialist may perform several physical examination maneuvers to diagnose CTS. Strong evidence suggests that use of a single physical examination test alone cannot accurately confirm the presence of carpal tunnel syndrome. Your hand specialist may also incorporate a survey or questionnaire or electrodiagnostic studies to help arrive at a diagnosis.

## Can special imaging be used to confirm or diagnose carpal tunnel syndrome?

There is limited evidence to support to not routinely utilize either an ultrasound or magnetic resonance imaging (MRI) as they may not accurately diagnose CTS.



## What non-surgical treatment options are available for carpal tunnel syndrome?

Brace/splint therapy is the first choice if there is no muscle wasting. If this form of treatment does not prove to be effective, strong evidence shows that a steroid injection improves patient reported outcomes.

Moderated evidence shows that oral steroids and therapeutic ultrasound, and limited evidences for laser therapy could improve your outcomes. There is strong evidence that supports that the use of magnet therapy and oral medications such as NSAIDS will not improve your reported outcomes.

### What should I do if non-surgical treatment options do not provide relief?

After six months of non-surgical treatments, there is strong evidence that surgical treatment has a greater benefit compared to splinting, therapy, and steroid injections. Strong evidence supports that the surgical release

of the transverse carpal ligament to relieve symptoms and improve function. Surgery can be performed in either a traditional open fashion (a larger incision made by a scalpel, and the surgery is performed through that incision), through a mini-open approach (utilizing a smaller incision) or endoscopically (utilizing a camera inserted through a small incision to perform the surgery). Limited evidence supports that endoscopic carpal tunnel release may provide both a quicker relief of symptoms and faster return to work than traditional open release. Evidence comparing a mini-open approach to open release is inconclusive. All surgical techniques similarly cut through the ligament that compresses the median nerve.

### What should I expect following surgery?

After surgery, you will only have soft dressings for a few days. Moderate evidence suggests that physical therapy following carpal tunnel release provides no additional benefits.

#### Resources:

American Academy of Orthopaedic Surgeons 2016 Management of Carpal Tunnel Syndrome Evidence-Based Clinical Practice Guideline <http://www.orthoguidelines.org/topic?id=1020>

**Please note:** This is a patient information handout that orthopaedic surgeons and physicians can provide to their patients. This information was current at the time of publication. However, medical information is always changing, and some information given here may be out of date. This patient handout is based off recommendations from the 2016 AAOS Management of Carpal Tunnel Syndrome Evidence-Based Clinical Practice Guideline. To review this guideline please visit <http://www.orthoguidelines.org/topic?id=1020>