

## Why Surgery is Sometimes Necessary for Carpal Tunnel Syndrome

When symptoms are severe or do not improve, surgery may be needed to make more room for the nerve. Pressure on the nerve is decreased by cutting the ligament which forms the roof (top) of the tunnel on the palm side of the hand. Incisions for this surgery may vary, but the goal is the same — to enlarge the tunnel and decrease pressure on the nerve. Following surgery, soreness around the incision may last for several weeks or months. The numbness and tingling may disappear quickly or slowly. It may take several months for strength in the hand and wrist to return to normal. Carpal tunnel symptoms may not completely go away after surgery, especially in severe cases.



We hope that this information is helpful in understanding your condition, the possibility of further testing and treatment options.

## HAND, ARM, WRIST

### Carpal Tunnel Syndrome QUICK OVERVIEW

#### What is CTS?

- Increased pressure or pinched nerve at the wrist.

#### Symptoms:

- Pain
- Numbness
- Tingling
- Weak grip
- Clumsiness
- Loss of sensation

#### Treatment:

- Non-Surgical
  - Changing hand use patterns
  - Wrist splint
  - Anti-inflammatory medication
  - Injections
- Surgery may be necessary in severe cases

## PATIENT EDUCATION SERIES

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# Carpal Tunnel Syndrome



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## Your Neuromuscular Specialist Has Diagnosed Carpal Tunnel Syndrome

Carpal tunnel syndrome is a condition brought about by increased pressure or a pinched nerve at the wrist. Symptoms may include numbness, tingling, and pain in the arm, hand, and fingers.

### Carpal Tunnel Anatomy

There is a space in the wrist called the carpal tunnel where the median nerve and nine tendons pass from the forearm into the hand. Carpal tunnel syndrome happens when pressure builds up from swelling in this tunnel and puts pressure on the nerve. When the pressure from the swelling becomes great enough to disturb the way the nerve works, numbness, tingling, and pain may be felt in the hand and fingers.



## Causes of Carpal Tunnel Syndrome

Most people believe that only a person who works in a factory or on computers can get carpal tunnel syndrome. In reality, most people who get CTS, don't work in an overuse job or have a repetitive hobby. The cause is usually unknown. Pressure on the nerve can happen several ways: swelling of the lining of the flexor tendons, overuse at work or play, wrist fractures, and arthritis can all narrow the tunnel. Keeping the wrist bent for long periods of time while sleeping can also contribute. Fluid retention during pregnancy can cause swelling in the tunnel and symptoms of carpal tunnel syndrome, which often go away after delivery. Thyroid conditions, rheumatoid arthritis, and diabetes also can be associated with carpal tunnel syndrome. There may be a combination of causes.

### CTS Symptoms: What, Where and When

Carpal tunnel syndrome symptoms are pain, numbness, tingling, or a combination of the three. The numbness or tingling most often affects the thumb, index, middle, and ring finger. Many patients experience the numbness over the entire hand. The symptoms are usually felt during the night but also may be noticed during daily activities such as driving or reading a newspaper. Patients sometimes notice that they have a weaker grip, occasional clumsiness, and may drop things. In severe cases, sensation may be permanently lost and the muscles at the base of the thumb slowly shrink (atrophy).

## How a Neuromuscular Specialist Diagnoses Carpal Tunnel Syndrome

A detailed history including medical conditions, how the hands have been used, and whether there were any prior injuries is important. An x-ray may be taken to check for other causes of the complaints such as arthritis or a fracture. In some cases, laboratory tests may be done if there is a suspected medical condition that is associated with CTS. A NCS (nerve conduction study) and EMG (electromyogram) may be done to check for other sites of nerve problems as well as to evaluate the carpal tunnel. EMG and NCS are the "gold standard" of diagnosis.



### Non-Surgical Treatment for Carpal Tunnel Syndrome

Symptoms can often be relieved without surgery. Identifying and treating medical conditions, changing the patterns of hand use, or keeping the wrist splinted in a straight position may help reduce pressure on the nerve. Wearing wrist splints at night may relieve the symptoms that interfere with sleep. Anti-inflammatory medication taken by mouth or injected into the carpal tunnel may help relieve the carpal tunnel symptoms.