

# Carpal Tunnel Syndrome

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## ***What is carpal tunnel syndrome?***

Carpal tunnel syndrome is a condition of pain and numbness involving one or other hand. The cause relates to pressure on the median nerve as it travels through the wrist and often gets compressed or squashed by the tendons that run through the carpal tunnel to the fingers.

This condition is reasonably common and is one of the most common causes of forearm pain associated with tingling or numbness in the fingers.

## ***What are the symptoms?***

People may present with pain or numbness or both. The classic pain is pain that occurs at the front of the wrist and tends to radiate both up the forearm and down into the hand. In severe cases the pain will radiate up the arm and above the elbow so that localising the cause of the pain is very difficult. The pain is often worsened after a lot of activity of the fingers such as using secateurs or scissors or holding objects such as hammers and axes. The pain often wakes people at nighttime and people find that their hand is very painful and they need to hang the hand over the side of the bed to relieve the pain.

The numbness and tingling is typical in this condition and affects often the fingertips of the thumb, index and middle finger and may also affect a small amount of the ring finger. In severe cases the numbness will extend up the fingers into the palm of the hand. Again, this is worse after activity and often is worse at nighttime and may wake the person. In severe cases, the pressure on the nerve leads to weakness in some of the small muscles of the hand.

## ***What causes carpal tunnel syndrome?***

A number of conditions may cause this syndrome and it is not just one problem. Anything that leads to an increased pressure in the small tunnel that the tendons run through will tend to squash the nerve. Commonly this relates to pressure from swollen tendons and this is secondary to overuse of the fingers and hand.

Less commonly, other causes of swelling in the region such as arthritis of the wrist, an underactive thyroid gland, fluid retention in pregnancy or breast-feeding as well as swellings such as a ganglion in the wrist may all cause this kind of a problem.

### ***What are the risks?***

If left untreated, the pressure on the nerve tends to slowly get worse and eventually the nerve gets quite squashed. We know that if pressure is relieved when pain is the major symptom then people will make an excellent recovery. If there is tingling then recovery is excellent but if there is permanent numbness in the fingers then it will take the nerve quite a long time to recover. In the uncommon event where the pressure has been extreme or prolonged and there is muscle weakness in the hand then often this weakness will not recover completely following surgery.

### ***Are any tests needed?***

It is almost certainly essential to confirm that the pain and numbness relates to the carpal tunnel syndrome. Very commonly, people get pain in the forearm and tingling in the thumb and index finger from pressure on a nerve in the neck. A test to assess the electrical conduction in the nerve called an EMG and a nerve conduction study should be performed to be 100% sure that this is the diagnosis prior to contemplating surgery.

### ***What can I do to treat this?***

There is no doubt that if the symptoms have been present for a short time after overuse of the hand with pruning or unaccustomed use of the hand, then rest is all that is required. The use of rest, elevation and an anti-inflammatory medication will reduce swelling in the tendons and hopefully relieve pressure on the nerve.

Unfortunately, with prolonged symptoms of carpal tunnel syndrome it is highly unlikely that any form of home treatment or physiotherapy will lead to any long-term benefits.

### ***What treatments are available?***

Many treatments have been used to try and relieve pressure on the nerve but none provide long-term cure apart from surgery.

Use of anti-inflammatory medications will give temporary relief and so will the short-term use of fluid tablets that tend to reduce the amount of fluid in the body. Sometimes these treatments would be required for short-term use in people who need to finish off work prior to having surgery.

The injection of cortisone into the carpal tunnel will often relieve pressure quite dramatically. In many people who have not had long-term symptoms, this will be a curative procedure and they will never require any other treatment. In people with long-term symptoms, it is highly likely that symptoms will re-occur when the cortisone wears off and again this may be used to try and get people through a difficult period of work before they can get time off to have surgery.

Surgery is the treatment of choice for this condition and involves cutting the ligament at the roof of the carpal tunnel so that it springs open and gives the tendons and nerve more room. This procedure produces excellent results in the majority of people with a very low risk of it recurring.

### ***What is the long-term outcome?***

Provided the diagnosis is accurate, then surgical decompression of the carpal tunnel is curative. A small percentage may redevelop carpal tunnel syndrome and this probably relates to scar tissue developing where the surgery was performed and the whole process starting again.

It goes without saying that if there is a cause for the carpal tunnel syndrome such as arthritis or fluid retention or thyroid disease, then appropriate treatment for these conditions is preferable to surgery.