

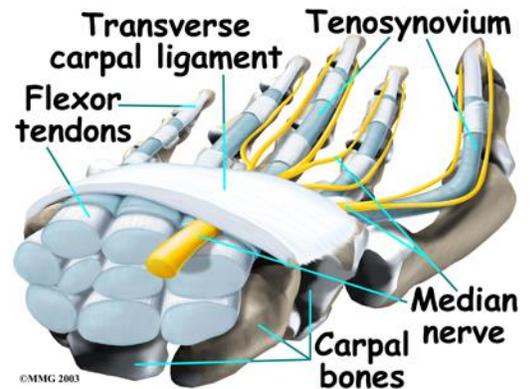
# Carpal Tunnel Syndrome

**C**arpal Tunnel Syndrome is extremely common, and is a very misunderstood condition. In recent years, it has received much coverage in the press but is still not completely understood, even by the scientific community.

The media has branded this condition as an occupational disease because of workers linking pain in their hands to repetitive activities, such as typing or assembly line work. Despite popular opinion, this condition is not caused by repetitive activity, although repetitive activity, such as typing, can aggravate it.

Carpal Tunnel Syndrome simply means that there is a compression of the median nerve in the hand. The roof of this tunnel is a structure called the transverse carpal ligament.

Besides the median nerve, there are tendons which flex the fingers and thumb which run through the canal. When the lining around these tendons is inflamed, there is less space for the nerve, and it becomes compressed; this is easiest to think of as a pinched nerve. This compression of the median nerve leads to the symptoms of Carpal Tunnel Syndrome.



The symptoms most often reported with Carpal Tunnel Syndrome are numbness and tingling in the hand, which often begins at night. There may also be pain and weakness in the hand, particularly in the thumb. If allowed to progress for many years untreated, this could lead to atrophy of the muscles at the base of the thumb.

The diagnosis of Carpal Tunnel Syndrome is made based on simple clinical tests and patient symptoms, and confirmed by a nerve conduction study. This study measures the velocity and the latency of the nerve impulses across the median nerve at the wrist, and can tell the physician if the patient has a compression of the median nerve.

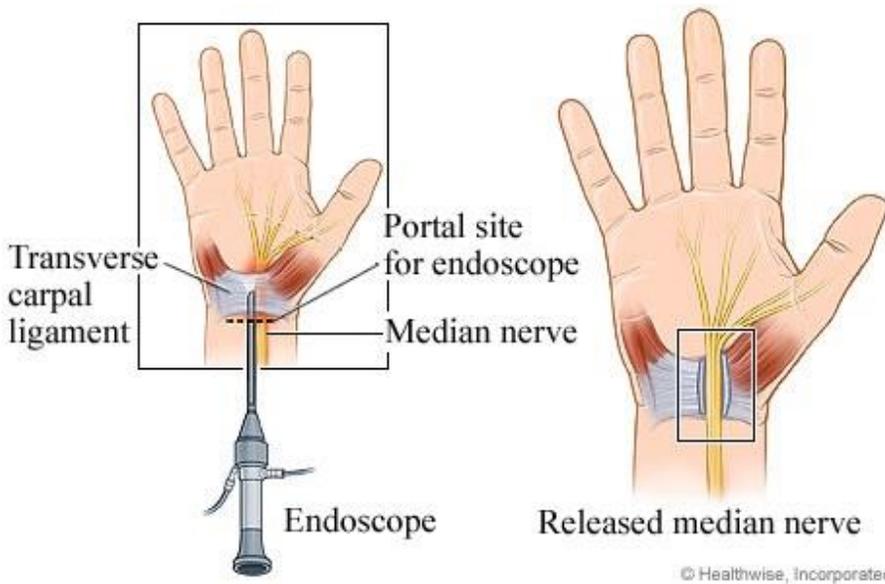
This condition most commonly occurs in middle-aged women, often premenopausal. It can be caused by chronic conditions, such as diabetes, gout, or thyroid disease, even when these conditions are controlled with medications. It is also commonly seen in women in their third trimester of pregnancy. When any of these other conditions are ruled out, the condition is labeled idiopathic, meaning it is caused by an unknown process.

Carpal Tunnel Syndrome often coincides with related conditions such as tendinitis in the fingers (trigger finger), or tendinitis in the wrist. For example, DeQuervain's tendinitis leads to pain in the wrist at the base of the thumb.

The treatment for Carpal Tunnel Syndrome is often directed at decreasing the inflammation of the tendons. Injections of steroids, such as cortisone, can lead to a temporary decrease in the swelling. This will temporarily allow the median nerve more room in the carpal tunnel, and relieve the pain.

Symptoms of Carpal Tunnel Syndrome are magnified at night because the hand is at the same level of the heart, leading to pooling of the fluid in the soft tissues within the canal. Also, we tend to flex our wrists at night during dreaming, creating pressure within the canal. The most common treatment without the use of medications or injections is a night splint. The splint prevents patients from flexing their wrists at night, which relieves some pressure within the canal.

There are also hormonal changes which are quite complicated that can lead to increased fluid retention at night. As a remedy to this, some researchers believe that high doses of vitamin B6 can act as a diuretic and decrease fluid in the carpal canal, leading to relieve of symptoms.



If the compression is severe enough and the patient does not respond to conservative treatment, the next step would be surgery. Surgery for Carpal Tunnel Syndrome is also misunderstood by the public. People think they will lose function in their hand if they have surgery. The truth is that surgery is extremely successful.

This surgery actually entails a very simple concept. A division is made in the ligament which serves as the roof of the carpal tunnel. This increases the space in the carpal tunnel, allowing the median nerve to function better.

The most recent breakthrough in the treatment of Carpal Tunnel Syndrome, which is commonly used at Badia Hand to Shoulder Center, is called Endoscopic Release. In this procedure, an incision of less than one centimeter is made in the crease of the wrist, and an endoscope, which is a tiny camera, is inserted. This allows the surgeon to literally see the inside of the hand, and make the division of the ligament without a large open incision.

This is not a laser surgery, but rather surgery using fiber optic technology, allowing a surgeon to operate “from the inside out”. This means that tender tissue is not violated and there is minimal pain after the procedure. The main advantage of this technique is not only minimizing the unsightly scar, but also decreased recovery time, which allows one to return to work quickly.

The long term results of an Endoscopic Carpal Tunnel Release are excellent, with many more benefits to the patient than the traditional means of treatment. In the post-operative period, patients occasionally complain of some soreness in the palm when resting their hand upon a hard surface, but otherwise there are minimal complications or pain after the procedure.

Carpal Tunnel Syndrome is an easily diagnosable condition. It is also easily treatable, when treated by a trained physician. There are many other painful conditions in the hand and wrist which need to be evaluated by a dedicated hand surgeon. If you have pain in your hands, take heart; don't quit your typing job; call Badia Hand to Shoulder Center for an appointment, and free yourself from this unnecessary pain.

For more information regarding Carpal Tunnel Syndrome or any upper extremity concerns, please call Badia Hand to Shoulder Center at 305-227-HAND (4263), or contact Dr. Badia directly through our website, [www.drbadia.com](http://www.drbadia.com).