

**Ayurlog: National Journal of Research in Ayurved Science***A Web based quarterly online published Open Access peer reviewed National E-journal of Ayurved***Carpal tunnel syndrome – the painful tunnel****Somvanshi Jaydeep Shekhar<sup>\*[1]</sup>, Dr. A. K. Rai<sup>[2]</sup>**

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**Abstract:**

Carpal tunnel syndrome is a disease very commonly seen these days especially in middle aged women. The main symptoms of this disease are pain in the wrist joint with tingling numbness and due to this, inability to do routine chores. This disease occurs due to compression or pinching of the nerves passing through the wrist or which is also called as the carpal tunnel. In this article I m trying to bring to

light the common symptoms of this problem and also its treatment according to preventive, Ayurvedic and modern modalities.

**Key Words -** Carpal tunnel syndrome.**Introduction:**

This strange- sounding problem has nothing to do with the kind of tunnels you drive through. When someone has Carpal Tunnel Syndrome, or CTS, the ‘tunnel’ of bones and ligaments in their

wrist has narrowed. This narrow tunnel pinches a nerve, causing a tingly feeling or numbness in a person’s hand, especially in the thumb and first three fingers.

Someone with Carpal Tunnel Syndrome may have trouble typing on the

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computer or playing a video game. In fact repetitive motions (doing the same thing again and again) from those activities may be to blame for causing the Carpal Tunnel Syndrome in the first place.

**Where is this Tunnel?** - Take a look at the palm of your hand. Under the skin, at your wrist is the tunnel we are talking about. Nine tendons (tough bands of tissue that join a muscle with some other part of body) and one nerve pass through this tunnel from the forearm to the hand. The bottom and sides of the carpal tunnel are formed by wrist bones, and the top of the tunnel is covered by strong bands of connective tissues called a ligaments.

The tendons that run through the tunnel connect muscle to bones and help you use your hand and bend your fingers and thumb. The nerve that passes through the carpal tunnel to reach the hand is the median nerve.

The median nerve is quit tight inside the carpal tunnel. In fact, there is barely enough room for the tendons and the nerve to pass through it. If anything takes up extra room in the canal, the

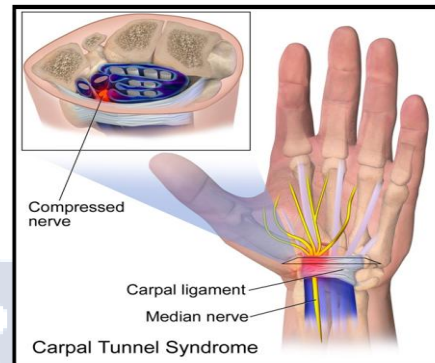
median nerve is pinched, which causes numbness and tingling in the area of the hands where the nerve spreads out. Swelling can occur when someone does the same thing over and over, like typing, sewing etc. This swelling can pinch the nerve.

People often attribute any discomfort or pain in the hand or wrist to carpal tunnel syndrome. However there are many other conditions which can cause similar complaints and it is important to know the difference.

This syndrome is common in people who perform repetitive motions of the hand and wrist for e.g. typing on a computer keyboard is the most common example, other causes including sewing, typing, driving, painting, writing, playing some musical instrument etc.

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### What is the median nerve?

It passes through the carpal tunnel to receive sensation from the thumb, index and middle fingers of the hands. Irritation of this nerve causing tingling and numbness of the thumb, index and first 3 fingers.

Women are more likely to suffer than men Age also plays a role as the incidence is high between the ages of 45 and 62. Health condition like diabetes, obesity, rheumatoid arthritis and thyroid, long term uses of contraceptives etc.

### Root Cause:

For most people with carpal tunnel syndrome the cause is unknown.

- Any condition that exerts pressure on the median nerve at the wrist may be the cause.

- Lack of physical exercise or too much strain at the wrist.
- Malnutrition could aggravate the condition further.

### Diagnosis:

Examination of the neck, shoulder, elbow, reflexes is performed to exclude other conditions that mimic the carpal tunnel syndrome. This syndrome is based on the symptoms and distribution of the hand numbness. One diagnostic key is, if the numbness in the fingers does not include the little finger, as the median nerve does not provide sensation to this finger.

### How is carpal tunnel syndrome diagnosed?

Early diagnosis and treatment are important to avoid permanent damage to

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the median nerve. A physical examination of the hands, arms, shoulders, and neck can help determine if the patient's complaints are related to daily activities or to an underlying disorder, and can rule out other painful conditions that mimic carpal tunnel syndrome. The wrist is examined for tenderness, swelling, warmth, and discoloration. Each finger should be tested for sensation, and the muscles at the base of the hand should be examined for strength and signs of atrophy. Routine laboratory tests and X-rays can reveal diabetes, arthritis, and fractures.

Physicians can use specific tests to try to produce the symptoms of carpal tunnel syndrome. In the Tunnel test, the doctor taps on or presses on the median nerve in the patient's wrist. The test is positive when tingling in the fingers or a resultant shock-like sensation occurs. The Phalen, or wrist-flexion, test involves having the patient hold his or her forearms upright by pointing the fingers down and pressing the backs of the hands together. The presence of carpal tunnel syndrome is suggested if one or more symptoms, such as tingling or increasing numbness, is felt

in the fingers within 1 minute. Doctors may also ask patients to try to make a movement that brings on symptoms.

Often it is necessary to confirm the diagnosis by use of electrodiagnostic tests. In a nerve conduction study, electrodes are placed on the hand and wrist. Small electric shocks are applied and the speed with which nerves transmit impulses is measured. In electromyography, a fine needle is inserted into a muscle; electrical activity viewed on a screen can determine the severity of damage to the median nerve. Ultrasound imaging can show impaired movement of the median nerve. Magnetic resonance imaging (MRI) can show the anatomy of the wrist but to date has not been especially useful in diagnosing carpal tunnel syndrome.

### Symptoms:

Start with mild pain or discomfort in the wrist region and slowly spreads to the hand and forearm.

### Common symptoms:

- Numbness in the hand especially in the wrist.

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- Burning and tingling sensation in middle and index fingers.
- Frequently accompanied by sharp pain radiating through arm and shoulder.
- Patient may note that they drop things.
- Persistent sense of weakness in hands.

Although it is not clear which are the activities that cause carpal tunnel syndrome, if the work or hobbies are hand intensive, you may be at a higher risk of developing the condition. There is nothing proven to prevent this syndrome but you can protect your hands from various ailments.

### Who is at risk of developing carpal tunnel syndrome?

Women are three times more likely than men to develop carpal tunnel syndrome, perhaps because the carpal tunnel itself may be smaller in women than in men. The dominant hand is usually affected first and produces the most severe pain. Persons with diabetes or other metabolic disorders that directly affect the

body's nerves and make them more susceptible to compression are also at high risk. Carpal tunnel syndrome usually occurs only in adults.

The risk of developing carpal tunnel syndrome is not confined to people in a single industry or job, but is especially common in those performing assembly line work - manufacturing, sewing, finishing, cleaning, and meat, poultry, or fish packing. In fact, carpal tunnel syndrome is three times more common among assemblers than among data-entry personnel.

### How to prevent?

It is important to exercise and relax all the muscles that are giving you problems every single day even when you are not in pain.

- Reduce your force while performing work.
- Take frequent breaks, at least 15 to 20 minutes by gently stretching your hands and bending them.
- Try to keep the hands warm as it is likely to develop hand pain and

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stiffness if you work in a cold environment.

### **How is carpal tunnel syndrome treated?**

Treatments for carpal tunnel syndrome should begin as early as possible, under a doctor's direction. Underlying causes such as diabetes or arthritis should be treated first. Initial treatment generally involves resting the affected hand and wrist for at least 2 weeks, avoiding activities that may worsen symptoms, and immobilizing the wrist in a splint to avoid further damage from twisting or bending. If there is inflammation, applying cool packs can help reduce swelling.

### **Non-surgical treatments:**

**Drugs** - In special circumstances, various drugs can ease the pain and swelling associated with carpal tunnel syndrome. Non-steroidal anti-inflammatory drugs, such as aspirin, ibuprofen, and other nonprescription pain relievers, may ease symptoms that have been present for a short time or have been caused by strenuous activity. Orally administered diuretics ("water pills") can decrease swelling. Corticosteroids (such as prednisone) or the drug lidocaine can be

injected directly into the wrist or taken by mouth (in the case of prednisone) to relieve pressure on the median nerve and provide immediate, temporary relief to persons with mild or intermittent symptoms. (Caution: persons with diabetes and those who may be predisposed to diabetes should note that prolonged use of corticosteroids can make it difficult to regulate insulin levels. Corticosteroids should not be taken without a doctor's prescription.) Additionally, some studies show that vitamin B<sup>6</sup> (pyridoxine) supplements may ease the symptoms of carpal tunnel syndrome.

**Exercise** - Stretching and strengthening exercises can be helpful in people whose symptoms have abated. These exercises may be supervised by a physical therapist, who is trained to use exercises to treat physical impairments, or an occupational therapist, who is trained in evaluating people with physical impairments and helping them build skills to improve their health and well-being.

**Alternative therapies** - Acupuncture and chiropractic care have benefited some patients but their effectiveness remains unproved. An exception is yoga, which has been shown to

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reduce pain and improve grip strength among patients with carpal tunnel syndrome.

### **SURGERY:**

Carpal tunnel release is one of the most common surgical procedures in the United States. Generally recommended if symptoms last for 6 months, surgery involves severing the band of tissue around the wrist to reduce pressure on the median nerve. Surgery is done under local anesthesia and does not require an overnight hospital stay. Many patients require surgery on both hands. The following are types of carpal tunnel release surgery:

**Open release surgery**, the traditional procedure used to correct carpal tunnel syndrome, consists of making an incision up to 2 inches in the wrist and then cutting the carpal ligament to enlarge the carpal tunnel. The procedure is generally done under local anesthesia on an outpatient basis, unless there are unusual medical considerations.

**Endoscopic surgery** may allow faster functional recovery and less postoperative discomfort than traditional open release surgery. The surgeon makes two incisions (about ½ inch each) in the wrist and palm,

inserts a camera attached to a tube, observes the tissue on a screen, and cuts the carpal ligament (the tissue that holds joints together). This two-portal endoscopic surgery, generally performed under local anesthesia, is effective and minimizes scarring and scar tenderness, if any. Single portal endoscopic surgery for carpal tunnel syndrome is also available and can result in less post-operative pain and a minimal scar. It generally allows individuals to resume some normal activities in a short period of time.

Although symptoms may be relieved immediately after surgery, full recovery from carpal tunnel surgery can take months. Some patients may have infection, nerve damage, stiffness, and pain at the scar. Occasionally the wrist loses strength because the carpal ligament is cut. Patients should undergo physical therapy after surgery to restore wrist strength. Some patients may need to adjust job duties or even change jobs after recovery from surgery.

Recurrence of carpal tunnel syndrome following treatment is rare. The majority of patients recover completely.

### **Ayurvedic view:**

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According to ayurveda, increase or vitiation of *Vata* results in compression and pain leading to this condition so management of vitiated *Vata Dosha* is the main line of treatment. Primarily, the aim is to ease the inflammation and pain by improving blood circulation and relaxing the muscle. It includes implementing of *Vatahara* lifestyle and diet along with *yoga* and exercise.

### **Vatahara lifestyle {tips for balancing Vata Dosha}**

- Regulate daily routine.
- Stay warm in windy cold weather.
- Reduce light, dry, cold food.
- Reduce pungent, bitter and astringent tastes.
- Early to bed and ample rest.
- Warm cooked foods.
- Massage at least 3 times a week (by sesame oil). If the symptoms are in wrist or hands, follow these:
- Stop activities that you feel are causing this, rest your fingers, hands and wrist.
- Apply ice on your wrist for 10 to 15 minutes at a time.

- Wear a wrist splint at night to keep it in neutral position and relieve pressure on the median nerve.
- Soak your hands and wrist in warm to hot water for around 15 minutes before you go to bed each night as heat can also ease pain by relaxing the muscles.
- Avoid sleeping on your hands.

### **Diet:**

- There may not be any specific diet but following a healthy diet is very important.
- Should include flax seeds, pumpkin seeds, and nuts as they are sources of omega 3 fatty acids which help in reducing inflammation.
- Avoid refined foods such as white bread, sugar.
- Stop consuming alcohol.
- Avoid caffeine (found in coffee and tea) and other stimulants like tobacco as they interfere with the peripheral circulation.

### **Home remedies**



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- Regular soft oil massage could help in relaxing muscles and improving blood circulation.
- Turmeric with honey can be used for application.
- Use of Ginger (*Zingiber officinale*) and Shallaki (*Boswellia serrata*) – it has strong anti-inflammatory and pain relieving properties.
- Ayurvedic medicines like *Chandraprabha vati*, *Yograj guggulu*, *Kaishora guggulu*, *Lakshadi guggulu*, *Rasnadi guggulu* and *Dashmoolarishtha* are very effective in managing pain and inflammation.

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