

Fact Sheet: Carpal Tunnel Syndrome



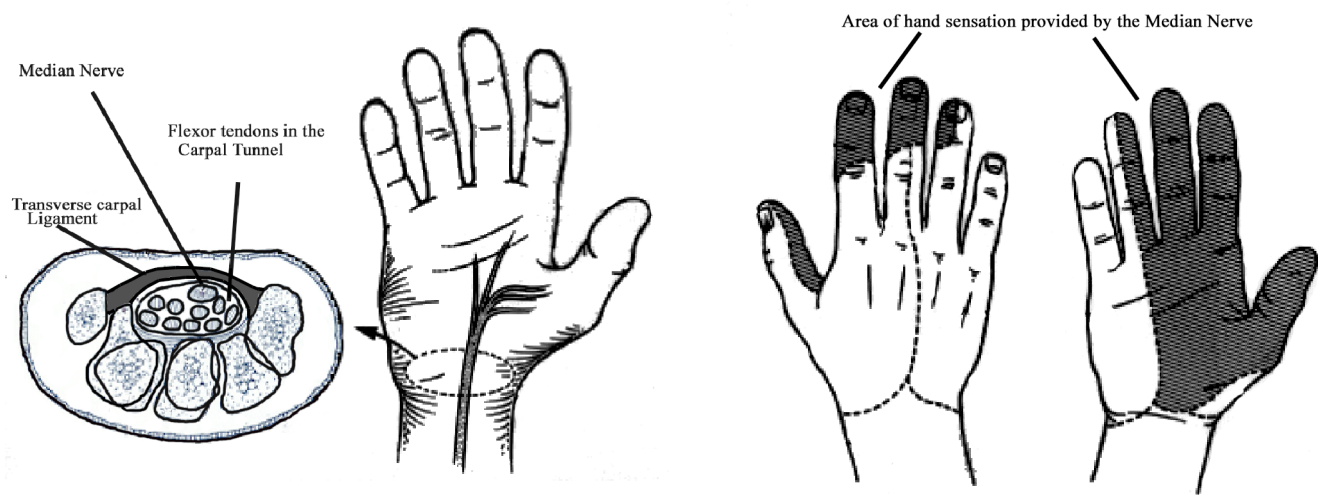
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What is Carpal Tunnel Syndrome?

The carpal tunnel is a passageway in the wrist formed by the eight carpal (wrist) bones, which make up the floor and sides of the tunnel, and the transverse carpal ligament, a strong ligament stretching across the roof of the tunnel.

Inside the carpal tunnel are nine flexor tendons which flex (bend down) your fingers and thumb. Also running through the carpal tunnel is the median nerve, a cord about the size of a pencil containing thousands of nerve fibres supplying sensation (feeling) to the thumb middle and index fingers, and half of the ring finger.



Carpal tunnel syndrome is caused by increased pressure in the carpal tunnel resulting in compression of the median nerve. Thickening of the tendons can restrict the space within the tunnel and cause the nerve to become pressed against the ligament forming the roof of the tunnel. When the relatively soft structure of the median nerve is pushed up against this ligament, blood flow to the nerve is restricted, causing a sensation often described as "pins and needles" to the fingers. In severe or chronic cases, numbness can occur.

What are the causes?

Carpal tunnel syndrome can be caused by a variety of problems. Most patients are healthy women over 40 years of age. In these patients the cause is an age-related gradual thickening of the tendons so that they take up more space in the carpal tunnel and cause nerve compression

Certain medical conditions that may lead to compression of the median nerve include:

- Diabetes
- Hypothyroidism
- Wrist fractures & dislocations
- Rheumatoid/degenerative arthritis
- Pregnancy
- Inflammation of the tendons
- Fluid retention
- Tumours (very rare)

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Occupational activities which involve all of the following 3 factors may cause carpal tunnel syndrome:

1. Repetitive strong grasp
2. Vibrating tools
3. Cold exposure

Non-work related activities of daily living and leisure may provoke symptoms of carpal tunnel syndrome in those who are susceptible. Some examples include lawn-mowing, long distance driving, knitting or wood carving. Not all people involved in these types of work or other activities will develop carpal tunnel syndrome. Proper work pacing, regular rest breaks, reducing repetition and force, and the use of ergonomically designed tools and equipment can minimise the risk.

What are the signs and symptoms?

Numbness, burning or tingling of one or more digits is the most common symptom. Often these symptoms occur at night and can waken the individual from sleep. This occurs because our body fluid redistributes into the hands and feet at night causing more swelling in the carpal tunnel in the early hours of the morning. An aching, burning or electric pain may extend up the arm, into the elbow, and as far up as the shoulder and neck.

Numbness and tingling may occur when performing everyday activities that involve flexing the wrist or grasping such as holding a telephone or driving. A decrease in sensation or feeling may result in clumsiness or weakness of the affected hand. Dropping of objects and difficulty doing up buttons or picking up small objects are common in more severe cases.

How is it treated?

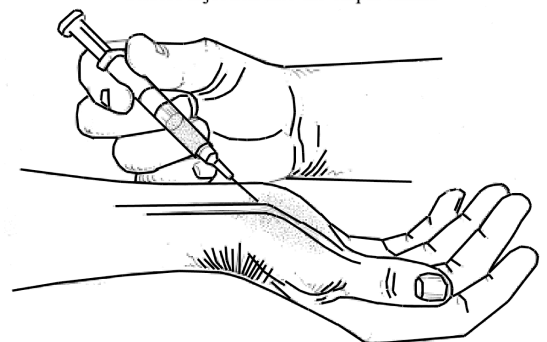
Most people will eventually require surgery as the natural course of carpal tunnel syndrome is to slowly get worse. If left unattended sensation may be lost and the hand can become very weak and clumsy. Conservative treatment of patients with mild symptoms usually involves use of a splint and avoidance of activities that provoke symptoms.

Your doctor may prescribe a splint to be worn to restrict movement of the wrist. Depending on the severity of the condition, the splint may be worn during the day and/or night. The length of time the splint is needed varies. Usually a splint is worn until the symptoms quiet down, which may be approximately 4-6 weeks.

In some instances, a cortisone injection may be administered into the carpal tunnel to decrease swelling. This may greatly reduce the symptoms. In general cortisone does not give permanent relief of the symptoms but may be helpful for several months.

When conservative treatment is not successful or in cases involving more severe symptoms, such as extensive weakness or numbness, surgery may be recommended.

Steroid injection into the carpal tunnel



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What is involved in surgery?

Carpal tunnel release is performed as a day surgery procedure under sedation with local anaesthetic. The operation takes approximately 20 minutes. You shall have to fast before the operation and shall be given these details. You will be admitted to the day surgery one hour before the operation and usually discharged one hour after the surgery.

A 2cm incision is made in the palm of the hand and the surgeon will cut (release) the ligament forming the roof of the tunnel. This relieves the pressure on the median nerve. There shall be three sutures and a bandage around the palm and wrist which leaves the fingers and thumb free to use.

What happens after surgery?

When you go home your hand will be numb for many hours due to the anaesthetic. This will keep you painfree. You will be given pain medication to take for the first few days after the operation and a clear list of instructions. The bandage must be kept dry for 5 days and you may then remove it and leave the wound open or apply a light dressing if you prefer. You will see the surgeon 10-14 days later for removal of the sutures. During this time you may use your hand for light activities.

What about recovery?

With the blood flow to the median nerve restored, the symptoms of burning and tingling are usually relieved soon after surgery. Due to weakness, most people are unable to drive for 7-10 days after surgery. Return to work depends on the particular occupation. Light clerical workers may return to work in a few days. If possible 10-14 days off work is ideal. Heavy manual workers shall be on restricted duties for approximately 12 weeks.

You can expect soreness from the incision for 4-6 weeks and discomfort from deep pressure for as long as several months. Your surgeon shall arrange to see you again 6-8 weeks following your operation. Improvements in strength and sensation depend on the extent of nerve damage prior to treatment. Normal grip strength may not return for several months following surgery. The natural healing process and regeneration of nerve fibres will continue throughout the following 6-12 months.