

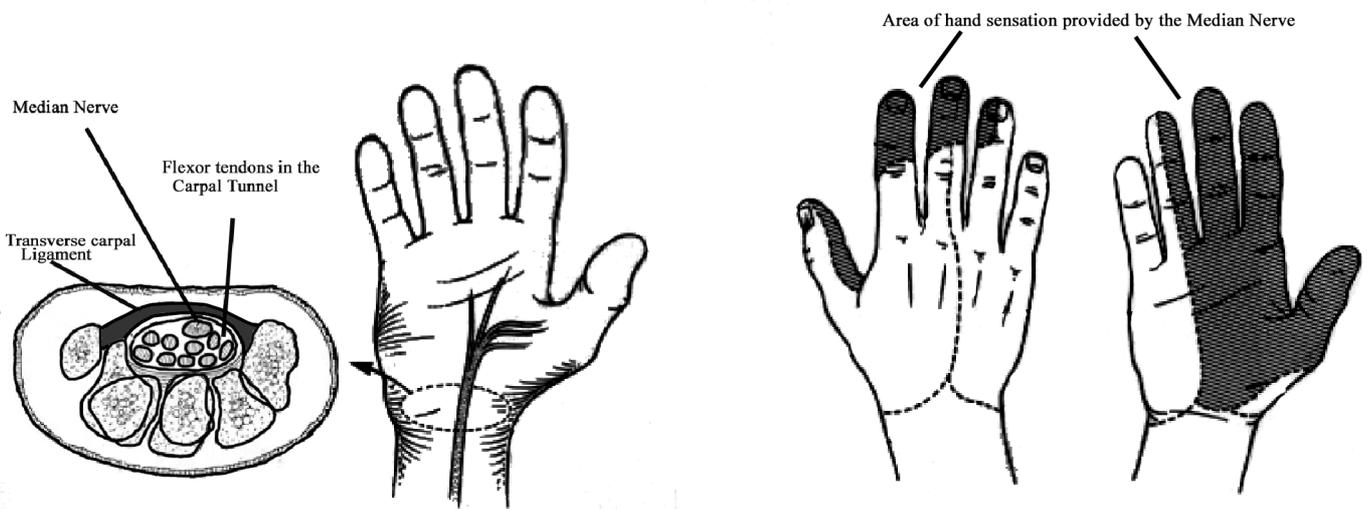
CARPAL TUNNEL SYNDROME

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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 that flex (bend down) your fingers and thumb. Also running through the carpal tunnel is the median nerve, 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 or by narrowing of the tunnel from wrist injuries or arthritis. Thickening of the tendons can restrict the space within the tunnel and result in pressure on the nerve and restricting blood flow to the nerve.



WHAT ARE THE CAUSES?

Carpal tunnel syndrome can be caused by a variety of problems. Most patients are healthy adults 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 may cause carpal tunnel syndrome:

- Diabetes
- Hypothyroidism
- Wrist fractures
- Pregnancy
- Fluid retention
- Osteo/rheumatoid arthritis
- Tumours (rare)
- Inflammation of tendon

Carpal tunnel syndrome can be caused by employment that involves all 3 of the following:

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

WHAT ARE THE SYMPTOMS?

Numbness, burning or tingling of one or more fingers are the most common symptoms. Often these symptoms first occur at night and can wake a person from their sleep. This occurs because our body fluid redistributes into the hands and feet at night causing more swelling in the carpal tunnel. Aching, burning or electric pain may extend into the fingers, up the arm to the elbow, and even as far as the shoulder and neck.

The symptoms are often worse with grasping activities such as holding a telephone or driving. In more severe cases, clumsiness or weakness can occur as well dropping of objects and difficulty doing up buttons or picking up small objects.

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. Non-operative treatment of patients with mild symptoms usually involves use of a splint and avoidance of activities that provoke symptoms,

A cortisone (steroid) injection 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.

WHAT IS INVOLVED IN THE SURGERY?

Carpal tunnel release is performed as a day surgery procedure under sedation with local anaesthetic. The operation takes approximately 40 minutes. It is necessary to fast for 6 hours before the operation. You will be admitted to the day surgery usually 1-2 hours before the operation and usually discharged 1-2 hours after the surgery.

A 2-2.5cm 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 will be 3 sutures and a bandage around the palm and wrist. It is possible to use the fingers and thumb for light activities on the day of surgery.



WHAT HAPPENS AFTER THE SURGERY?

When you go home your hand will be numb for many hours due to the anaesthetic. This will keep you pain-free. Strong pain relief is usually only needed in the first 48 hours. The bandage must be kept clean and dry until review in 10-14 days for removal of the sutures. During this time you may use your hand for light activities.

WHAT ABOUT RECOVERY?

Most people are unable to drive for 5-7 days after surgery due to weakness. Return to work depends on the particular occupation. Light clerical workers may return to work in a few days. Heavy manual workers may not return to work for 2-4 weeks and shall be on restricted duties for approximately 12 weeks.

You can expect some discomfort with use, and tenderness over the scar for at least 3-4 months. In heavy manual workers this may be more prolonged. The surgeon will review you at 2 weeks, and approximately 8-10 weeks following surgery. Generally all light daily activities are possible without discomfort at 6-8 weeks and by 3-4 months, most people are pain free and feel that their grip strength is normal. Improvements in strength and sensation depend on the extent of nerve damage prior to treatment. Regeneration of severely damaged nerves can occur for up to 2 years. There is an approximately 1 in 1000 risk of nerve injury which may result in some permanent loss of feeling. In a small percentage of patients scar tenderness ("pillar pain") can be very prolonged.