Carpal tunnel decompression for carpal tunnel syndrome

Information for patients
Neurosurgery
What is carpal tunnel syndrome?

Carpal tunnel syndrome occurs when the median nerve, which runs from the forearm into the hand, becomes pressed or squeezed at the wrist. The median nerve controls sensations to the palm side of the thumb and fingers (although not the little finger), as well as impulses to some small muscles in the hand that allows some of the fingers and thumb to move.

What symptoms will I have?

- The symptoms often first appear during the night, since many people sleep with flexed wrists. A person with carpal tunnel syndrome may wake up feeling the need to “shake out” the hand or wrist.
- The dominant hand is usually affected first and produces the most severe pain.
- Symptoms usually start gradually, with frequent burning, tingling, or itching numbness in the palm of the hand and the fingers, especially the thumb and the index and middle fingers.
- Some carpal tunnel sufferers say their fingers feel useless and swollen, even though little or no swelling is apparent. Decreased grip strength may make it difficult to form a fist, grasp small objects, or perform other manual tasks.
- In severe long-lasting untreated cases, the thumb muscles may start to waste away or your median nerve may be permanently damaged.
Why has this happened to me?

Carpal tunnel syndrome is a fairly common condition, about 3 in 100 men and 11 in 100 women develop carpal tunnel syndrome at some point in their life.

In the majority of cases no cause can be found. However, contributing factors include trauma or injury to the wrist such as repeated use of vibrating hand tools, manual work stress, fractures involving the wrist, pregnancy, arthritis conditions involving the wrist joint, and rarely hormone disorders of the pituitary gland and hypothyroidism.

How is the diagnosis made?

The diagnosis is made by the use of electrodiagnostic tests, either a nerve conduction test or an electromyography (EMG).

- 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 carpal tunnel syndrome, the speed of the nerve impulses is slowed across the wrist because of the nerve compression at that point.
- In electromyography (EMG), a fine needle is inserted into a muscle; electrical activity viewed on a screen can determine the severity of damage to the median nerve.

These electrodiagnostic tests are simple and safe to perform, take about ten to fifteen minutes, and are done as a separate outpatient appointment.
What is the procedure?

Carpal tunnel release surgery is routinely done as a day case. This means you have the procedure and go home the same day.

You will go into theatre and you will be asked to lie on the operating table with your hand out to the side. Whilst you are awake, your surgeon will first inject a local anaesthetic into your wrist and in the palm of your hand to completely block feeling from your wrist and palm area. This injection will cause a sharp sensation, which passes quickly. Antiseptic will be applied to the wrist and hand. The arm will then be covered by some sterile drapes. A cut about one to two inches in length is made in the skin over the wrist. The cut is then deepened to enable the surgeon to release the nerve. The skin is then stitched up.

The operation usually takes 10 to 20 minutes. A dressing is applied at the end and also a bandage.

What are the benefits of surgery?

The main benefit of having surgery is to relieve significant hand/forearm pain and tingling discomfort and therefore improve your quality of life. The operation is not ‘compulsory’, that is, it does not have to be done.

If you decide to go ahead with surgery and your hand symptoms later settle before having the operation, you need to let us know so that we can cancel your operation (and enable the slot to be used for another patient).
What about risks and complications?

Carpal tunnel release surgery is commonly performed and generally safe. You should not be unduly concerned with the risk of serious complications in making your decision. There are many steps that we take to try and stop complications happening and reduce the impact of such complications when they do happen.

However, in order to make an informed decision and give your consent, you need to be aware of the possible side effects and the risk of complications of this procedure.

Side effects are:

• local wound discomfort. This local wound discomfort can persist for up to two to three months after surgery.

Complications that can occur in about 1 - 2% of patients:

• an unexpected reaction to the local anaesthetic
• infection
• blood clot
• injury to nerves, blood vessels or tendons in the wrist
• very occasionally ‘reflex sympathetic dystrophy’ (a rare condition affecting the circulation to the hand caused by hand immobilisation over many weeks). This does not occur if instructions concerning hand exercises are followed.

Failure of the surgery to meet expectations, without anything going wrong does occur in up to 10% of patients. This means that despite the best efforts of the patient and the surgeon, the symptoms do not respond to surgery as one would normally expect. The more severe the nerve damage from your condition and the greater your age, the less likely that the operation will improve your pre-operative symptoms.
What are the alternatives to surgery?

There are several non-surgical treatment options available that might help to relieve your symptoms:

- **Self-help.** Changing the way you make repetitive movements, reducing how often you do them, increasing the amount of rest between periods of activity and gentle exercises may help to relieve mild symptoms.
- **Corticosteroid injections** may also provide some short-term relief.
- **Wrist splints** can help keep your wrist straight and reduce pressure on the median nerve and are often recommended for use at night.

Sometimes the symptoms improve without treatment, especially in women who develop carpal tunnel syndrome during pregnancy.

**Consent**

We must seek your consent for any procedure or treatment beforehand. Staff will explain the risks, benefits and alternatives where relevant before they ask for your consent. If you are unsure about any aspect of the procedure or treatment proposed, please do not hesitate to ask for more information.
What can I expect after the operation?

Your nurse will give you some advice about caring for your healing wound and how and when to remove the dressings and bandage before you go home. There is usually no need for physiotherapy following your operation as long as you carry out the exercise instructions that you are given at the time of discharge. You will need someone to drive you home.

If you have any concerns or worries please ask the nurses who are experienced in caring for patients who have had this type of operation and will be able to help you.

What about when I get home?

Ensure you take appropriate painkillers on getting home and before going to bed on the evening of surgery as there will be some pain as the local anaesthetic wears off. You should try to put your arm on one or two pillows overnight as they may help reduce any swelling.

You will need to attend your local GP practice for removal of skin sutures (stitches) at two weeks following surgery.

It is important to follow the exercise instruction sheet given to you at the time of your discharge from the ward.

You will also receive a follow-up clinic appointment for about eight weeks following your surgery.

If your scar is painful in the weeks or months that follow, massaging the area firmly with a moisturising cream such as E45 may provide some relief.
When can I go back to work?

You will require three to six weeks off work depending on your occupation (for example six week period for manual occupations). A sick note for work should be obtained from the ward nursing staff before discharge and this can be renewed if necessary from your GP.

Is there anything to look out for when I go home?

Contact your GP if you have any of the following symptoms, as you may have developed an infection:

- increasing pain or pain that can’t be controlled with painkillers.
- high temperature
- wrist feels unusually hot to the touch
- discharge or bleeding from the wound

If you have any concerns, phone the ward/department from which you were discharged.