

# CARPAL TUNNEL SYNDROME

## What is Carpal Tunnel Syndrome?

The carpal tunnel is a tunnel at the wrist through which several tendons travel, as well as a nerve that supplies sensation and power to part of the hand. This is called the Median Nerve, and it can be affected if pressure in the tunnel builds up too much. If there is too much pressure on the nerve it does not transmit electrical signals very well and this leads to numbness, pins and needles, pain, and sometimes weakness.

Patients report altered sensation most commonly in the thumb, index finger, middle finger, and part of the ring finger. The little finger is usually not affected, although can be in some cases. Part of the palm can also be affected. There is often an aching in the hand, and it can be worse at night affecting sleep.

Severe cases can lead to numbness and weak grip, resulting in difficulty picking up objects and also dropping things.

## Why does it happen?

In most cases there is no obvious cause for it. There are some factors that mean you are more likely to get it, such as pregnancy where the wrist may swell, thyroid disorders, rapid weight gain, diabetes, and advancing age.

## What can be done about it?

Most cases will settle themselves, especially if related to pregnancy, Other cases get better if there is an underlying cause that is better controlled, such as diabetes or thyroid disorders.

Some cases will need particular rest, sometimes needing a splint at night time. These splints can be purchased cheaply and do not need to be work during the day. They are designed to prevent the wrist from being bent during sleep, to allow the nerve to have as much space as possible which will aid it's recovery. The wrist splints come pre-formed, but work better if they are straightened out. There is an aluminium strip which bends quite easily.

If wearing the splint for a weeks does not improve symptoms then surgery can be considered.

## What does surgery involve?

Surgery is done under local anaesthetic as a day case procedure. The area is numbed with a local anaesthetic injection, which is unpleasant during the injection. This is the worst part of the whole process. Once numbed, you will only feel gentle pressure but no pain.

A small cut is made about 3cm long. The tunnel roof is made of a thick ligament which is cut and the tunnel opened up. This gives the nerve plenty of space and releases the pressure on it. The wound is stitched with dissolving sutures.

## What are the risks of surgery?

Although it is a very safe operation there are risks with any surgery. Complications are rare but include:

- Infection
- Patches of numbness
- Sensitivity around the scar, needing massage to settle it down
- A feeling of weakness
- Stiffness, swelling, and aching in the whole hand, a condition known as Chronic Regional Pain Syndrome, which may last several months and require tablets to get better
- Recurrence of symptoms in the future
- The nerve may not recover even though it has been released.

All these risks are rare, but it is important to know about them if you are considering surgery, which is normally a very successful operation.

## What happens to the ligament that is cut?

The ligament springs apart leaving a gap. This will eventually fill with scar tissue and heal, giving the tunnel an overall larger volume. This usually takes a couple of months to solidify, and may be tender if you press hard on it until then, such as opening doors, pushing up from an armchair, etc. Occasionally this may take 6-9 months to solidify. Cutting the ligament does not weaken the wrist as it will eventually heal.

## What happens after surgery?

### Elevation

Your hand should be elevated in such a way that the wrist is above elbow level, i.e. there is a downward slope from the hand towards the elbow to allow gravity to help reduce any swelling. It is usually easy to keep the hand elevated, but some people need a sling to help them during the day; it is essential to rest them sloping on pillows or on your chest when in bed. In the first week the wound is usually slightly bruised and a little swollen. Please remember not to keep the hand hanging down or sit with your hand held down in your lap. You should try to elevate it for at least 2 weeks.

## Dressings

Your hand has been bandaged with a “wool and crepe” layered bandage. This bulky dressing minimises swelling and makes you feel more comfortable. The wound is protected and the hand gently immobilised. The bandage should remain intact and dry for 48 hours. After this time you may remove the bulky dressings and apply a fresh self-adhesive dressing over the operated area if needed.

You will be able to use your fingers for light activities such as buttons, eating etc on the same day as surgery, although there may still be some numbness from the local anaesthetic for several hours.

## Stitches

In most cases it is possible to use dissolving stitches, but occasionally stitches are used that need to be removed. In either case, unless instructed otherwise, please arrange for the nurse at your GP practice or the outpatient clinic to look at the wound around 7-14 days after surgery (and remove sutures if non-dissolving ones had to be used).

Although the wound heals within the first two weeks after surgery, the scar continues to mature for up to 6-9 months. In the first 6 weeks it is often pink/red, firm and tender. This is normal, and regular massage of the scar with a simple moisturising cream as soon as the wound has healed will speed up the scar maturation and your recovery.

## Painkillers

You might experience mild pain/discomfort once the local anaesthetic has worn off (most commonly 4-6 hours after the operation). You should take the painkillers as prescribed before the local anaesthetic has fully worn off, as they will be most effective this way.

## Exercises

Remember to continue light duties and move your fingers, elbow and shoulder joints in order to prevent stiffness. Even while in the hand bandage, try the following finger exercises as soon as possible:

- straightening the fingers completely
- making a claw and a fist with the fingers
- spreading the fingers as wide as possible
- touch each of your fingertips with the tip of your thumb

## Returning to work

Timing of your return to work is variable according to your occupation and the type of surgery. Light duties such as computer can be performed after a few days but you will need regular rest periods and to keep your hand elevated whenever you can to prevent swelling. Heavy activities can usually start at around 3-4 weeks.

You should not drive whilst your hand is bandaged. Most patient find it takes about 3 weeks until they are comfortable and safe driving.

## What about steroid injections?

Although steroid (cortisone) can be injected into the carpal tunnel to try and reduce the inflammation and pressure, it is usually only temporary and pressure will normally build up again over a few months. Injecting steroid so close to the nerve is not without risks, and I have seen cases of the nerve being permanently damaged as a result.

For this reason I do not inject the carpal tunnel, as surgery gives more reliable long term results and is low risk.

**If you have any problems when you are discharged following your operation please contact the Hospital ward.**