NHS
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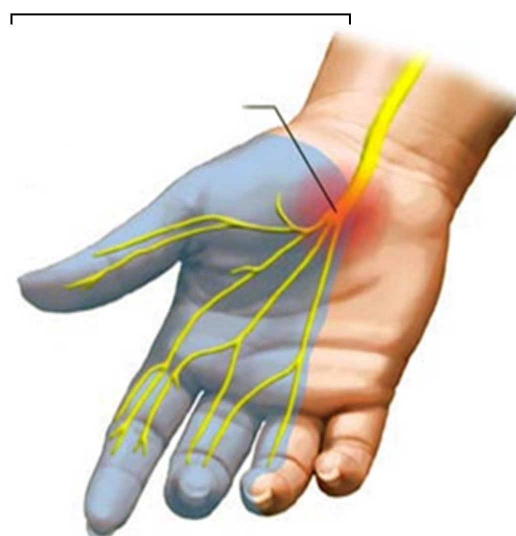
Carpal Tunnel Syndrome

Carpal Tunnel Syndrome (CTS) is a relatively common condition that can cause pain, numbness and a burning or tingling in your hand and fingers. This leaflet explains what causes it and how it can be treated.

What is the carpal tunnel?



The carpal tunnel is a small tunnel that runs across the wrist joint and into the base of the hand. It consists of a row of small bones (carpal bones) as the 'floor' and a strong ligament (transverse carpal ligament) as the 'roof'.

The tunnel contains flexor tendons required to bend the fingers, and the median nerve.

The median nerve supplies sensation to the thumb, index, middle and part of the ring fingers. It also supplies the short muscles of the thumb (thenar muscles).

What causes CTS?

If the pressure inside the tunnel increases, the median nerve gets squashed. This can cause symptoms of pain, tingling or numbness. It can also cause weakness of the thumb, leading to dropping objects held in the hand.

The most common cause of carpal tunnel is 'idiopathic', which means there is no known cause. Other causes include trauma, pregnancy, rheumatoid arthritis, hypothyroidism and diabetes.

What are the symptoms of CTS?

The degree of symptoms experienced varies from mild to severe. Many sufferers have gradually increasing symptoms over time, with muscle wasting at the base of the thumb in more longstanding cases.

- **Mild symptoms:** Intermittent tingling in the fingers. Occasional night waking. Mainly positional. No weakness.
- **Moderate symptoms:** Tingling most of the time with occasional numbness. Waking every night, often multiple times. Weakness in thumb with dropping things, but no flattening (wasting) of the thumb muscles.
- **Severe symptoms:** Numbness in the fingertips with difficulty doing fine work. Flattening (wasting) of the thumb muscles with weakness.

How is CTS diagnosed?

Diagnosis of CTS is made by assessing the pattern of symptoms, physical examination and sometimes with the use of nerve conduction tests.

How is CTS treated?

Mild and moderate CTS:

- Alteration of activities.
- Anti-inflammatory medication and painkillers.
- Night-time resting splint.

Severe CTS (i.e. symptoms get worse and affect your daily living):

- Local steroid injection.
- Carpal tunnel decompression surgery.

What is a local steroid injection?

It is an injection of either local anaesthetic combined with steroid or a steroid in isolation, to the carpal tunnel. This may give some relief by reducing any swelling in the tendons, which reduces the nerve compression. Studies suggest that 80% of patients get good relief of symptoms, but that the symptoms recur in 80% of patients within one year. The injection is either administered in Hand Clinic or by some GPs.

Up to two injections can be given, although many patients opt for surgery if symptoms recur after one. More than two injections can weaken the tendons and is a known cause of tendon rupture (break). If symptoms persist after one or two steroid injections, then a carpal tunnel decompression surgery is recommenced.

What is a carpal tunnel decompression?

Carpal tunnel decompression is the surgery performed to release the pressure on the median nerve within the carpal tunnel. Your surgeon will make a small incision in the palm of the hand and then cut through the transverse ligament or 'roof' of the tunnel, to allow the nerve more space. The surgery is performed mostly under a local anaesthetic – you are awake, but the surgical area is numbed. Usually the incision is stitched together with dissolvable sutures, which you need to keep clean and dry for two weeks after surgery.

On the day of surgery

You will be advised when and where to attend the hospital.

You will be seen by the surgical team before your operation and they will go through the details of your surgery to ensure you fully understand the procedure. They will then ask you to sign a consent form and mark the correct wrist in preparation.

What happens after discharge?

After surgery your wrist will be bandaged and you will have a sling. We recommend keeping the hand elevated in the sling for the first couple of days. Your surgeon with tell you when you can remove or reduce your dressings. You must keep the dressings clean and dry.

Pain should be minimal after the surgery; however it may be sensible to take painkillers before bedtime if you require it.

Recovery after surgery

0-2 weeks:
It is important to keep the fingers moving immediately after surgery. However, be careful not to overuse the hand during the first two weeks as it may cause an increase in scarring and pain.

2-6 weeks:
If you are using the hand and it hurts – STOP! If you are using the hand and it doesn't hurt straight away but does later then you are overdoing it. If you go to do something and your instincts tell you it isn't right, then it probably isn't, so don't do it.

Once the wound has healed, you should be massaging the scar for 10 minutes with a non-scented moisturiser regularly every day. This will keep the wound supple and prevent adhesions forming.

Within these restrictions we encourage you to use the hand but not abuse it.

Work:
You should be back at work between two and six weeks, depending on your job. If you need a fit note certificate for time off work – ask the nurse before you are discharged. (Further certificates can be provided by your GP.)

Driving:
You must not drive while your hand is in the bandage. After this you can resume driving as soon as you feel comfortable and feel safe to control a vehicle. This will be at least two weeks after surgery, but can take longer. It is your responsibility to be safe and in control of your vehicle.

Return to sport:
You are able to return to sporting activities once the pain and swelling have settled.

Follow-up appointment

It is normal for your hand and wrist to feel stiff and weak for approximately three months after surgery. It usually improves with increased normal use of your hand again and as the scar sensitivity settles. However, if there are still ongoing concerns and functional restrictions after a few months, you can call the orthopaedic administration team on the number overleaf to arrange a follow-up appointment for a review. You will not routinely be offered a follow-up appointment unless you are expecting to be listed for the other hand once the first side has healed.

What to look out for after a carpal tunnel decompression

After your carpal tunnel release, the tingling/pins and needles symptoms should settle quickly. If your symptoms do not settle or worsen, please get in contact with us via the orthopaedic administration team.
The scar may be sensitive to direct pressure for several weeks and it often takes three months before you can press up on the heel of the hand. Massaging the scar significantly helps with this.

If your hand becomes red, hot, swollen or more painful than usual, contact your GP urgently for advice.

Are there risks of having a carpal tunnel decompression?

Any operation has risks. Although rare, these include the risk of infection, bleeding or bruising, reaction to the anaesthetic and damage to structures such as the nerve, tendons or arteries. Pillar pain is an aching pain across the wrist, which usually settles with time, Complex regional pain syndrome (CRPS) is a rare complication with a combination of pain, swelling and colour change to the hand. The scar may be sensitive for several weeks to direct pressure and it often takes three months before you can press up on the heel of the hand.

Decompression surgery has a high success rate of 95% (19 out of every 20 cases); however, sometimes it does not fully relieve the symptoms, especially if they have been present for a long time. In approximately 3% (3 out of every 100) cases there is a risk of recurrence in the future, which may require further surgery.

Further information

- www.readinghandsurgery.com
- The Arthritis Research Campaign (arc) www.arc.org.uk As well as funding research, ARC produce a range of free information booklets and leaflets.
- Arthritis Care www.arthritiscare.org.uk
- The Royal College of Surgeons of England have some patient information publications available on their website www.rcseng.ac.uk/patient_information

Useful numbers and contacts

Adult Day Surgery Unit (RBH):	0118 322 7622
Day Surgery Unit (WBCH):	01635 273492 / 273493 / 273494
Redlands Ward:	0118 322 7484 / 7485
Pre-Op Assessment Clinic:	0118 322 6546 / 6812
Orthopaedic Administration Team:	0118 322 7415 or email rbb-tr.cat5@nhs.net

If you have any concerns during the first 24 hours of your discharge, please phone the ward / unit you were admitted to.

Please note that the Adult Day Surgery Unit's opening hours are from 7.00am to 10.00pm (Mon-Fri). After 24 hours, please seek advice from your GP or NHS 111.

To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

RBFT Orthopaedic Unit, January 2025.
Next review due: January 2027.