

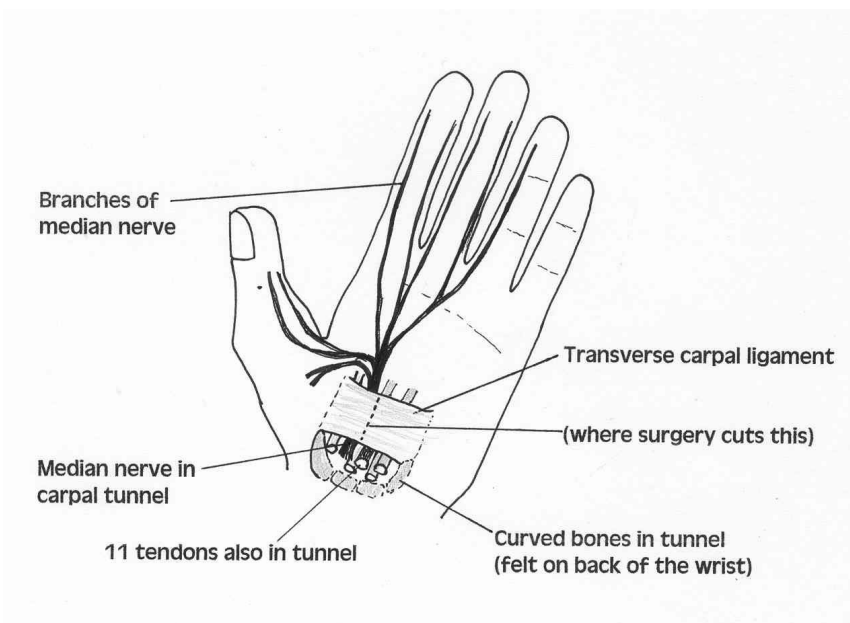
Carpal Tunnel Syndrome

What is carpal tunnel syndrome?

Carpal Tunnel Syndrome is all the symptoms that a patient has when there is pressure on the median nerve at the wrist. The nerve carries sensory messages (so you may get tingling, numbness and pain). It also carries motor messages (so the thumb muscles may feel weak). These symptoms are commonly worse at night, when there is more fluid in the wrist, or in different positions of the wrist.

Anatomy

The bones of the wrist are arranged like a tunnel. Through this tunnel travel 11 tendons which bend the fingers, and the median nerve. The tunnel is converted into a D-shape by a thick band of fibrous tissue, called the "Transverse Carpal Ligament". This is the size of a postage stamp, and is deep in the palm at the wrist. The tunnel can't change size. Anything that takes up space can squeeze the median nerve.



Who gets Carpal Tunnel Syndrome?

- 10% of the population have Carpal Tunnel Syndrome (some only occasionally).
- People with Diabetes have this more often.
- Women often get Carpal Tunnel Syndrome when pregnant, due to fluid shifts.
- Weight lifters get it because they build up the size of their tendons.
- People who work a lot with their hands.
- Someone who has had a fracture near the wrist.

Severe Carpal Tunnel Syndrome

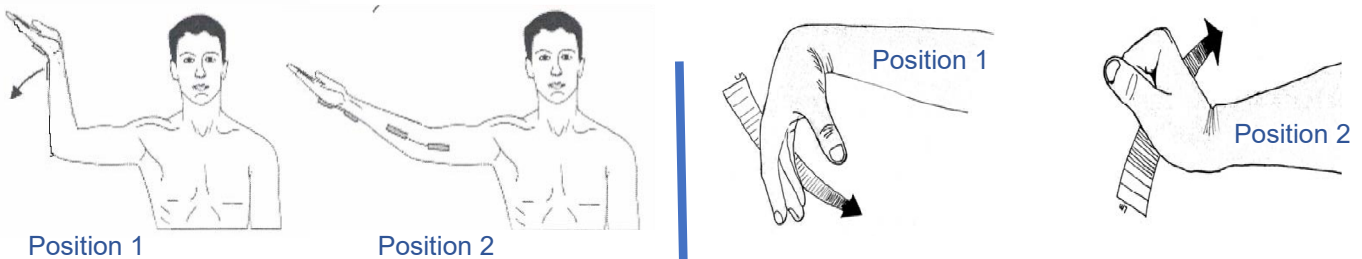
If the numbness is present all the time, the nerve is unlikely to recover fully. (Technically, the problem is with nutrition of the nerve and if it is constantly strangled, scar tissue forms within it. Operating reduces pain and some of the symptoms, but recovery is not full.)

Is there a test for it?

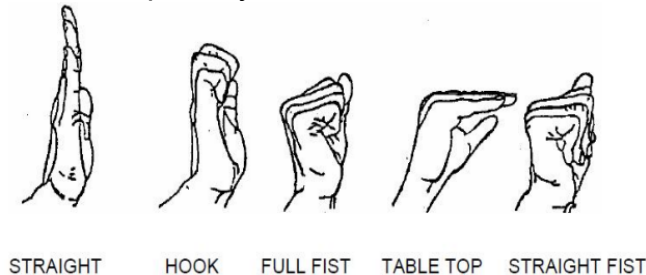
Some doctors request a "Nerve Conduction Test". This is done at Haywards Heath. There can be a wait for this. Tiny needles measure nerve impulse speed. The test is not sensitive. We very often treat people based on their symptoms and the findings of examination, without a test.

How do we treat Carpal Tunnel Syndrome?

1. **Splint** – This can work very well, especially if symptoms are worse at night. It stops the wrist getting into positions where the nerve is more squashed. This should be attempted for 8-12 weeks before deciding if it has been effective or not.
2. **Vitamins** - Folic acid (same dose as pregnant women take) and B vitamins. These can help the nutrition of nerves.
3. **Nerve exercises** - Exercises that mobilise the nerve in the carpal tunnel may help the condition. The 2 x exercises below involve moving from position 1 to position 2, then back, and repeating. Perform 5-10 x repetitions at a time and do these around 5 x times



4. **Tendon Exercises** – Tendon gliding exercises can also be helpful at alleviating symptoms. Attempt each of the positions shown below, holding for 1 second. Repeat 5-10 times, and try 5 x times per day.



5. **Steroid injection** – can reduce the need or delay the requirement for surgery. We can do this in clinic. This helps in around 70% of case but doesn't always resolve symptoms. It can be repeated. A small quantity of steroid and local anaesthetic is injected.

Risks of injection:

- Infection.
- Not helping.
- Weakening tendons.
- Pain during the injection.
- Damage to small nerve branches.
- Making darker skin pale.
- Temporary adjustment of insulin requirement in people with diabetes.

6. Operation

Up to 90% of people feel better after this surgery. It involves cutting the Transverse Carpal Ligament. It takes about 15 minutes. We commonly do this under Local Anaesthetic (with an injection into the palm). In some patients, a General Anaesthetic (going to sleep) is offered. We often use a tourniquet, to reduce bleeding while we operate. This is uncomfortable for the first minute, and then one gets used to the sensation. We cut through the skin, the fat and the Transverse Carpal Ligament. We are careful at each end of the ligament, to prevent any strand being left. We are very careful to avoid damaging any nerve branches.

| Risks: | Explanation: |
|---------------------------------|--|
| Infection | This may need antibiotics. |
| Damage to the nerves | (rare) leading to numbness in part of the digit. |
| Weakness | Cutting a ligament alters the dynamics of the wrist. It improves over six months. Most people do not notice it, as they often have not used the hand properly due to the symptoms for some time. |
| Stiffness | We encourage you to move all joints after the procedure. |
| Recurrence | The ligament reforms with scar tissue. In 5% of people, this gets tight and they get symptoms again. |
| Scar sensitivity | We encourage patients to massage the scar as soon as the stitches are out. It may take a year to settle. |
| Persistent numbness or weakness | If the Carpal Tunnel Syndrome was quite severe before, it may not be possible to get full relief of symptoms. |
| Complex Regional Pain Syndrome | Pain and stiffness after hand surgery. |

After surgery you should:

- Exercise all the joints that you can. Keep moving the fingers.
- Remove the bulky bandage at two days, leaving a clean sticky plaster.
- Keep the hand dry until the stitches come out (usually 10 to 15 days).
- Keep your hand elevated for the first two days (to reduce swelling).
- Avoid lifting heavy objects for a month. Your hand will be weak.
- Massage the scar once the stitches are out.
- Attend any post-op clinics (we often remove stitches and check on exercises then).

Sources

Lewis, K.J., Coppieters, MW., Ross, L., Hughes, L., Vincenzino, B., Schmid, AB. (2020) Group education, night splinting and home exercises reduce conversion to surgery for carpal tunnel syndrome: a multicenter trial. *Journal of Physiotherapy*. 66. 97-104

Ly-Pen D, Andréu JL, de Blas G, Sánchez-Olaso A, Millán I. Surgical decompression versus local steroid injection in carpal tunnel syndrome: a one-year, prospective, randomized, open, controlled clinical trial. *Arthritis Rheum*. 2005;52(2):612-619. doi:10.1002/art.20767

Post-operative contacts:

Conquest DSU Mon–Fri Office hours 0300 131 4500 (ask for Richard Ticehurst ward)
Eastbourne DSU Mon-Fri 8am-6pm 0300 131 4500 (ask for Day Surgery Unit)
Eastbourne Orthopaedic outpatient matron 01323 734576

Important information

The information in this leaflet is for guidance purposes only and is not provided to replace professional clinical advice from a qualified practitioner.

It is important to prepare for an operation to reduce the risks of complications. There is information about how to do this at: <https://www.cpoc.org.uk/patients>.

Your comments

We are always interested to hear your views about our leaflets. If you have any comments please contact the Patient Experience Team – Tel: 0300 131 4731 or by email at: esh-tr.patientexperience@nhs.net

Hand hygiene

The trust is committed to maintaining a clean, safe environment. Hand hygiene is very important in controlling infection. Alcohol gel is widely available at the patient bedside for staff use and at the entrance of each clinical area for visitors to clean their hands before and after entering.

Other formats

If you require any of the Trust leaflets in alternative formats, such as large print or alternative languages, please contact the Equality and Human Rights Department.

Tel: 0300 131 4500 Email: esh-tr.AccessibleInformation@nhs.net

After reading this information are there any questions you would like to ask? Please list below and ask your nurse, doctor or practitioner.

Reference

The following clinicians have been consulted and agreed this patient information:

| | |
|-----------------------|--------------------------------|
| Mrs Scarlett McNally | Consultant Orthopaedic Surgeon |
| Miss Miranda Champion | Consultant Orthopaedic Surgeon |
| Mr Hemant Thakral | Consultant Orthopaedic Surgeon |

Next review Date: February 2024

Responsible Clinician: Mrs Scarlett McNally, Consultant Orthopaedic Surgeon