

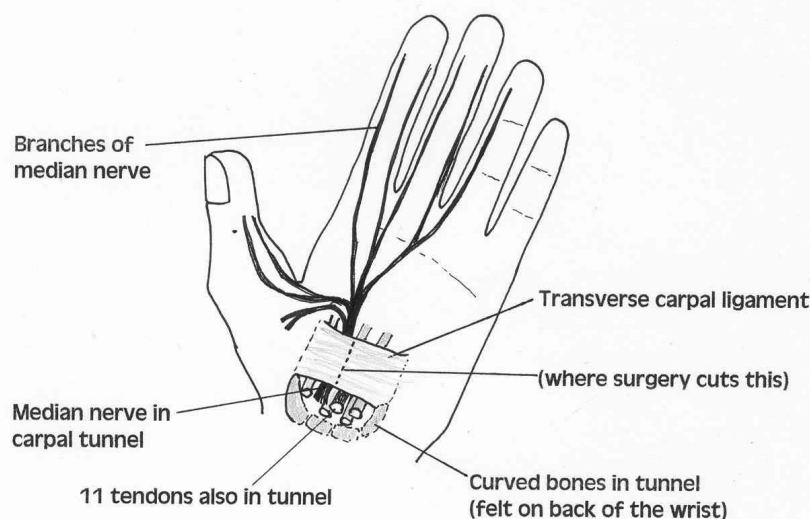
Carpal Tunnel Syndrome

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 about 2cm long and 3cm wide 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.
- Weightlifters 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

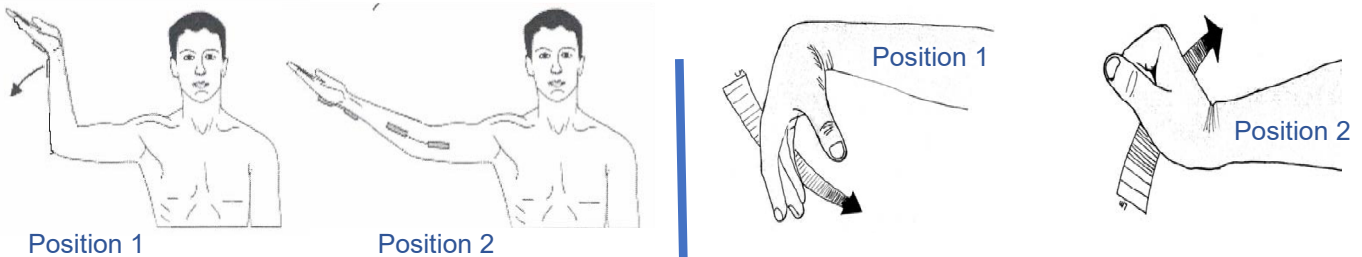
If the numbness is present all the time, the nerve is unlikely to recover fully. (Technically, the problem is with nutrition of the nerve and if it is constantly strangled, scar tissue forms within it. Operating reduces pain and some of the symptoms, but recovery is not full.)

Is there a test for it?

Some clinicians request a "Nerve Conduction Test". This is done in Brighton. There can be a wait for this. Tiny needles measure nerve impulse speed. The test is not sensitive. We usually treat people based on their symptoms and the findings of examination, without getting a test.

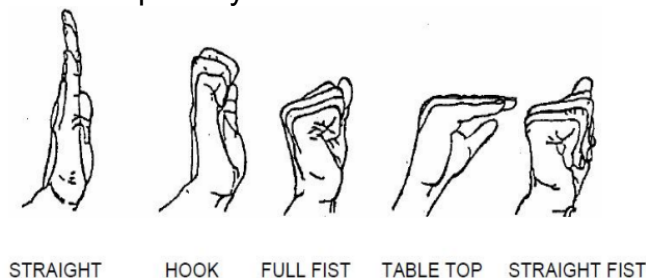
How do we treat Carpal Tunnel Syndrome?

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** – Folate is found in meat, chickpeas, green vegetables and nuts. Folic acid supplements are possible (at the same dose that pregnant women take, which is 400 micrograms, or more if you have poor intake of relevant foods) and B vitamins (found in peas, bananas, oranges, nuts and wholegrains). 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



Please also remember to move your neck and shoulder and aim for good posture.

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 or palm.
Weakness	Cutting a ligament alters the dynamics of the wrist. It improves over six months. Most people do not notice weakness, 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.
- Keep your hand elevated for at least the first two days (to reduce swelling).
- Remove the bulky bandage at two days, leaving a clean sticky plaster.
- Keep the hand dry until the stitches come out (usually at 10 to 15 days).
- Avoid lifting heavy objects for a month. Your hand will be weak.
- Tell us on the operation day if you think you will need a fit note for your work.
- Massage the scar once the stitches are out.
- Attend any post-op clinics (we usually ask you to make an appointment at your local GP practice for the practice nurse to remove your stitches at 10 to 15 day).
- Contact the orthopaedic clinic or consultant team if you need further advice.

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			0300 131 4576

How can I prepare for surgery?

It is important to prepare for an operation to reduce the risks of complications. You should stop smoking, do some exercise, eat healthily and prepare for the phase after surgery. Fruit, vegetables and protein help wound healing. There is information about how to do prepare at: <https://www.cpoc.org.uk/patients>.

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.

Your comments

We are always interested to hear your views about our leaflets. If you have any comments, please contact the patient experience team on 0300 131 4784 or esh-tr.patientexperience@nhs.net.

Hand hygiene

We are 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 our leaflets in alternative formats, such as large print or alternative languages, please contact the Equality and Human Rights Department on 0300 131 4434 or 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:

Prof Scarlett McNally	Consultant Orthopaedic Surgeon
Miss Miranda Champion	Consultant Orthopaedic Surgeon
Mr Hemant Thakral	Consultant Orthopaedic Surgeon

The directorate group that has agreed this patient information leaflet:
Diagnosis, Anaesthetic and Surgery.

Next review Date: August 2026
Responsible Clinician: Prof Scarlett McNally, Consultant Orthopaedic Surgeon
© East Sussex Healthcare NHS Trust – www.esht.nhs.uk