

# Carpal Tunnel Syndrome

## General

Carpal Tunnel Syndrome (CTS) is a condition in which a nerve in the wrist becomes trapped. It is caused by swelling of tissue around the flexor tendons, which causes the nerve to be pinched. This causes a numb or prickly feeling and pain in the arm, hand and fingers. In the wrist runs a tunnel, the carpal tunnel. Through this tunnel, the middle hand nerves and the nine flexor tendons run from the forearm to the hand.

## Cause

Possible causes may include:

- Making the same movement (overload) for a long time
- A tendonitis: the sheath of the muscle tendons swells, increasing the pressure on the nerve in the carpal tunnel.
- Sprains, bone fractures and joint inflammation (arthritis) can also lead to narrowing of the tunnel.
- It occurs regularly in patients with rheumatism, diabetes or an underactive thyroid gland.
- Pregnancy: a pregnant woman often retains a lot of fluid. This can cause a swelling in the tunnel with associated complaints. In this case, carpal tunnel syndrome usually passes spontaneously after pregnancy.

The symptoms usually occur at night. Some activities, in which the hand is used in a certain position, for example driving, cycling or reading the newspaper can also cause complaints.

## Complaints

These can vary per person. For example, you may suffer from:

- Numbness or tingling sensation in one or both hands, especially in the palm, thumb, index, middle and ring fingers; never in the little finger.
- Loss of strength of your hand and sensory disturbance in the fingertips, making it easy to drop something
- If you have been suffering from the condition for a long time and therefore the pressure on the nerve is prolonged, the hand will function less well but the pain will be less. In the worst case, permanent loss of sensation can occur and the muscles of the thumb shrink from the thumb.

## Examination

In order to make the correct diagnosis, it is important that you inform your doctor well. For example, your doctor will want to know more about the use of your hand, your profession, about previous injuries to your hand or wrist and about your complaints.

Sometimes further examination needs to be done. This may include:

- A nerve conduction examination and a muscle function examination (electromyography) to make sure that the nerve is not trapped in another place. This examination is performed by the neurologist for which you will receive a referral from your doctor.
- An X-ray to rule out another cause, such as a bone fracture or joint inflammation.
- A blood test if your doctor suspects that another disease (e.g. rheumatism) plays a role in the development of carpal tunnel syndrome.

## Preparation

If you are taking blood-thinning medications (e.g. marcoumar, sintrom(itis), ascal, clopidogrel, children's aspirin) you should report this during the consultation. The use of these drugs should be discontinued 1 week before surgery. If you are under treatment elsewhere or are allergic to a certain substance or medicine, you must also report this.

## The treatment

Depending on the cause, your doctor will recommend one or more options as treatment. That could be:

- Adjusting certain activities, aimed at reducing the load on your hand and wrist. The pinched nerve gets space again.
- Keeping the wrist straight: the swelling can decrease and the nerve gets space again.
- Wearing a wrist splint during the night can reduce your symptoms and improve your night's sleep.
- An operation to release the nerve.

In the case of an operation, the purpose of the procedure is to widen the tunnel, causing the nerve to come out of its tightness. Possibly this is done in combination with cleaning the tendon sheaths. The procedure usually takes no longer than half an hour. You will be given a local anaesthetic of the palm, wrist or wrist of the arm. When anesthesia of the entire arm, a blood pressure monitor band is inflated around your upper arm for a short time. The tendon site on the palm side, which forms the 'roof' of the tunnel, is incised. The tunnel becomes wider and the nerve is laid free.

## After the treatment

You will be given a pressure bandage around the hand. Keep your hand high. You need to wear a sling for several days. At bedtime, place the hand on a pillow so that the wrist is higher than the elbow. The pain as a result of the procedure usually decreases quickly. However, the scar area can still be sensitive for up to 6 months. Specifically, pain can be present at the site of the scar (also called 'pillar pain' pillar pain) that can sometimes last up to 3 months if there is pressure on the place where the scar is when strengthening or if you put yourself off with the palm of your hand.

The tingling at night quickly decreases. The return of the feeling can sometimes take months. It can also take a long time for the strength in your hand and wrist to return to normal. Sometimes the complaints persist after the procedure. If the wrist is heavily loaded too quickly after the procedure, the CTS can return. It takes about 6 weeks for the roof of the tunnel to be repaired. During that time, you should not put a heavy load on the hand. Often you will be prescribed a rest splint at the first check-up. You should not make a wringing motion with your hand,

for example, turning lids of jars or caps of bottles screwing. When you can go back to work depends strongly on your work; household, office, etc.

Massage with a cream or lotion can make the scars more quickly supple, however, you should only do this after the sutures have been removed and if the wound is closed. As long as the scars are red, it is advisable to protect them with a sunblock. You should keep in mind that it takes at least 6 months before scars are completely healed.

### **Possible complications and risks**

Complications with CTS treatment are rare. Possible complications are bleeding and infections. If you have a lot of pain or if the wound continues to bleed, you should immediately contact the specialist. Sometimes during the procedure a small nerve branch is damaged that runs to a number of muscles in the thumb mouse. Usually you will not notice this, but sometimes the thumb movements can be a bit disturbed. If you have severe pain with swelling or there is a discoloration of your hand, you should contact the treating specialist immediately.

### **Justification text**

This text is intended to complement the conversation with your doctor. The general information cannot always do justice to each individual situation. If you have any questions after reading this information, the plastic surgeon will be happy to discuss them with you during the consultation hour. It can be useful to put your questions on paper in advance.

Source: Jeroen Bosch Hospital