

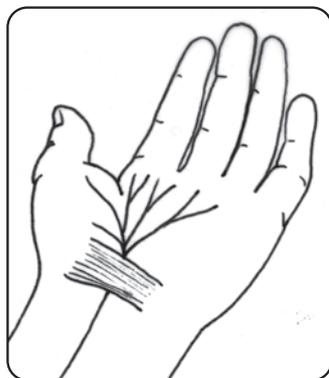
## Surgery for Carpal Tunnel Syndrome Carpal Tunnel Release

### Introduction

We expect you to make a rapid recovery after your operation and to experience no serious problems. However, it is important that you should know about minor problems, which are common after this operation, and also about more serious problems that can occasionally occur. The section '**What problems can occur after the operation?**' describes these, and we would particularly ask you to read this. The headings from this section will also be included in the consent form you will be asked to sign before your operation.

### What is Carpal Tunnel Syndrome?

The carpal tunnel is a passageway through the wrist, formed by the carpal (wrist) bones and the band of tissue that runs over them (the carpal ligament). Through this tunnel pass tendons and one of the hand's major nerves (the median nerve). The tendons allow your fingers and thumb to bend. The nerve sends sensations (such as pain / pins and needles / numbness) from the thumb, first two fingers and the nearby area of the palm of the hand to the brain. The nerve also controls some muscles that move the thumb.



'Carpal tunnel syndrome' describes the symptoms experienced when swelling or narrowing in this tunnel causes pinching of the median nerve. Often the exact cause is unknown, or there may be a combination of causes. Pressure may build up within this tunnel because of: disease

(eg. rheumatoid arthritis), injury, very large cysts (fluid filled lumps), swelling of the lining of the tendons, fluid retention due to pregnancy, menopause or the oral contraceptive pill, or possibly as a result of repetitive motions (eg. keyboard use).

Symptoms may include numbness, tingling, aching and pain in the hand, wrist and arm. Often patients experience these symptoms at night and they can be bad enough to wake them from sleep. Some people develop weakness in the strength of their grip and may be prone to dropping things.

In longstanding cases sensation may be permanently lost and the muscles at the base of the thumb slowly shrink. Once pain begins, this condition may gradually get worse and without treatment may result in permanent nerve damage. It is not uncommon for carpal tunnel syndrome to occur in both hands.

### Who gets Carpal Tunnel Syndrome?

It occurs more often in women than men, usually between the ages of 30 and 50.

It is seen more frequently in people who use hand-held vibrating tools repetitively at work and in keyboard operators.

### What is the treatment?

It is important to identify and treat any contributing medical conditions. Resting the hand or changing how you use your hand may also help reduce pressure on the nerve.

In some cases, splinting the hand (to rest the wrist) and anti-inflammatory medications (tablets that reduce swelling and pain), will relieve the symptoms. A light removable splint is used to keep the wrist in a natural straight position. Wearing wrist splints at night may relieve the symptoms that interfere with sleep.

If the symptoms are more severe a steroid injection near the carpal tunnel can help reduce swelling and so relieve carpal tunnel syndrome, though this may just be a temporary effect.

When symptoms are very severe or do not improve with these methods, surgery may be needed to make more room for the nerve. This operation is known as a '**carpal tunnel release**'.

## What happens before the operation?

On the day of your operation you may eat breakfast before a morning operating list and a light lunch if you are on an afternoon list.

You should have a shower or a bath, remove make-up, nail polish, piercings and jewellery before you go to the operating theatre. Wedding rings need to be removed if they are on the affected hand otherwise they can remain on. It is not necessary to remove contact lenses, false teeth etc. but let your nurse know if you have them.

When you come into hospital a nurse will admit you to the ward. You will be asked to sign a consent form giving the surgeon permission to perform your surgery.

## What about the anaesthetic?

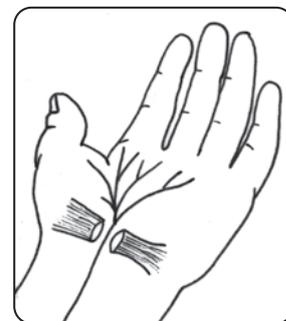
You will be having a 'local anaesthetic' for this operation. This involves a few small injections around your wrist and hand, which causes a brief stinging sensation. The surgeon will ensure the area is numb before operating and you will remain pain-free during the surgery and for a few hours afterwards. At no time will you be able to see any part of the operation as a screen is placed between you and the surgeon. The surgery itself usually takes about 15 - 30 minutes.

Occasionally a more extensive form of local anaesthetic which numbs the whole arm, or even

a general anaesthetic, may be necessary for this procedure. This usually happens when a second carpal tunnel release operation is needed or the individual procedure is particularly complicated. If this is the case, you will be given instructions about not eating and drinking for 6 hours before the operation.

## What does the operation involve?

After injecting the local anaesthetic, the surgeon puts a tourniquet, which is like a blood pressure cuff, around the top of the arm. This feels very tight, and a little uncomfortable, but is necessary to prevent blood reaching the hand during the operation.



The surgeon then makes an incision (cut) from the middle of the palm to the wrist, providing access to the tissue that is pressing on the nerve, the carpal ligament. A section of this tissue is cut, enlarging the tunnel and so relieving pressure on the nerve. Stitches are used to close the skin.

The results of the surgery will depend on how long you have had this condition and how much damage has been done to the nerve.

## What happens after the operation?

After surgery your hand may be in an immobilising splint made of plaster or a bulky dressing to restrict movement of your wrist for a few days and promote healing. Keeping your hand elevated so that it is higher than your elbow will reduce any swelling and pain that may occur and you may be supplied with a sling on discharge. You will usually go home on the same day but expect to stay for at least an hour after your operation.

It is important to have loose fitting tops to enable you to put your arm through easily. On discharge you will be given a supply of painkillers and a letter for your GP.

You will not be able to drive home afterwards. Please arrange for someone to accompany you home and to be available should you need to call them during the evening.

## At home

It will be at least two weeks until you can use your hand properly again so please ensure you have arranged help at home if you need it, particularly if it is your dominant hand. For example, if you have small children.

It is important that you keep your hand elevated as much as possible, either in the sling provided or up on pillows when in bed or resting. Please make sure you move your unaffected joints, for example your elbow and shoulder, every hour to prevent stiffness.

3-5 days after your operation you will come to the hospital for your wound to be checked. At this point you can start using your hand for light activities only and start exercising your wrist and hand. You need to keep the wound clean and dry until the sutures are removed. You could put a bag over your hand in the bath or shower to make this easier.

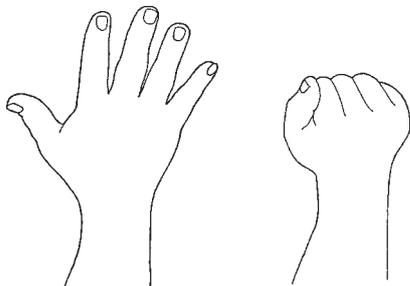
### For the first 2 weeks:

Use your hand for light activities within the limits of your pain and swelling. Avoid tight gripping, lifting, repetitive finger bending and leaning on your hand.

### Exercises

Repeat the following exercises 10 times every hour during the day:

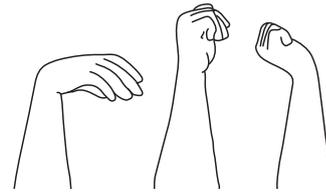
1. Stretch your fingers out straight, then make a tight fist. Help your finger tips towards your palm using your other hand, then try to keep them there.



2. Touch the tip of your thumb to the tip of your little finger, then slide your thumb down to the base of your little finger as far as able. Then bring your thumb back and out to the side.



3. Holding your hand in the air (with your elbow on a table or your knee), gently bend your wrist forwards then backwards as far as possible, within the limits of your pain and wound.



4. Holding your hand in the air (with your elbow on a table or your knee), bend your wrist from side to side.



At about 2 weeks after the operation date, if you do not have dissolvable stitches, they will need to be removed – you should have an appointment at the hospital for this to be done. It is a good idea to take painkillers before these appointments. The nurse will decide if you need to be seen by a hand therapist at this point.

### After 2 weeks

Continue with the exercises until full range of movement is achieved.

When the wound has healed (at around 3 weeks post op), start to massage the scar with firm circular movements for 5 minutes 4 times a day. Continue with your massage until the scar is no longer tight or lumpy (this may take several weeks or months).

If your scar is, or becomes, sensitive, try touching, tapping it and exposing it to different textures. This will help make the feeling more normal.

Avoid heavy use of the hand for 6 weeks in total.

You should allow a period of 2 - 4 weeks before driving.

Your return to work will depend on your job. Light manual workers can return to work in 2 - 3 weeks. Heavy manual workers should not return for 6 weeks depending on the type of work.

If you have any concerns regarding pain, movement or scarring please contact the hand therapy team (phone numbers at the end of this leaflet).

Depending on your progress you may need appointments with the dressing clinic or hand therapists at the hospital. A few months after the operation a member of your surgeon's team may want to review your general progress in clinic.

## What problems can occur after the operation?

### Swelling

Swelling of the hand, including fingers, is common in the early postoperative period. Keeping your hand elevated above your elbow will help reduce the swelling.

### Scar

You will have a scar in your palm, near the wrist, which may be tender for up to 6 months. We will advise you to massage the area firmly four times a day for 5 minutes or so with an unscented moisturising cream after it has healed. Sometimes the scar can become sensitive to touch. Exposing it to different sensations can help this, e.g. tapping, rubbing and brushing with different textures.

### Nerve damage

The nerves supplying feeling to the skin around the scar may be damaged during surgery and this can cause numbness and / or pain in the hand and fingers. Occasionally the nerve is permanently damaged, but in most cases the feeling will eventually return although it can take several months.

### Stiffness

Occasionally your fingers, thumb or wrist may become stiff after the surgery. Try to exercise these joints every hour or so and if concerned contact the hand therapists.

### Infection

An infection can occur after any operation and may need to be treated with special wound dressings and antibiotics.

### Bleeding

Carpal tunnel surgery can result in a collection of blood under the stitches, which is painful and can cause problems with wound healing. This is usually managed by removing some of the stitches. Please contact us if there is excessive oozing.

### CRPS (Complex Regional Pain Syndrome)

A small percentage of people who have hand surgery complain of their hand being unusually painful, sensitive, swollen and stiff. When detected the condition is treated with painkillers and hand therapy (physiotherapy / occupational therapy).

### Ongoing Symptoms

Carpal tunnel syndrome can recur due to some of the causes listed earlier. To prevent this you may need to modify your job.

If surgery is not successful and your symptoms fail to improve there may be different reasons for the symptoms. This will be discussed when you are seen again at your clinic follow-up appointment.

## Useful telephone numbers

If you have any queries pre-operatively please contact the **Plastic Surgery Nurse Practitioners**, on **01392 406185** (Monday – Friday, 8am – 6pm).

If you experience any problems after your discharge from hospital, you can telephone **Otter Ward** on **01392 402807** (24 hours a day).

If you experience any problems with your hand exercises or function of your hand then please contact the **Hand Therapists** (Physiotherapists and Occupational Therapists) on **01392 402429** (Monday – Friday, 8.30 – 5pm).

The Trust cannot accept any responsibility for the accuracy of the information given if the leaflet is not used by RD&E staff undertaking procedures at the RD&E hospitals.

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