If you have been diagnosed with Carpal Tunnel Syndrome (CTS) this leaflet will explain what it is, the symptoms, and the causes. It will also explain how the diagnosis is made and the treatment options available.

**What is Carpal Tunnel Syndrome?**
CTS is a condition where pressure on one of the nerves to the hand (known as the median nerve) causes uncomfortable pins and needles sensations in the hand and in more severe cases, also numbness and weakness. This nerve runs from the neck, down the arm, and through a tunnel at the wrist (the carpal tunnel) and into the hand. The carpal tunnel is formed by the wrist bones in a ‘u’ shape and a wide ligament that sits across the top to form the roof of the tunnel.

**What causes CTS?**
CTS can occur as a result of increased pressure in the carpal tunnel and therefore compression of the nerve in this space. In the majority of cases CTS can occur without any identifiable cause. However there are some factors that can be linked to its occurrence including diabetes, pregnancy, under active thyroid conditions, wrist fractures, and various forms of arthritis. Patients with CTS often report the symptoms do get worse with heavy activity.

Many people with CTS experience their symptoms largely at night time in the early stages of the condition. With progression of the condition symptoms develop during the day also and with increasing frequency.
**How is it diagnosed?**
Diagnosis of CTS is made from a combination of assessments including:

- patient history as to the pattern of the symptoms
- nerve conduction studies (NCS) (electrical tests of the nerves) which help to clarify the diagnosis in difficult cases and measure the severity of nerve compression; and
- clinical tests performed by GP, consultant, or therapist.

**How can it be treated?**
Different treatment options are available dependent on the severity of the symptoms experienced and the results of the nerve conduction studies.

- **Splint provision**
  You may be provided with a splint, usually to wear at night only, to hold your wrist in a neutral position allowing for maximum space in the tunnel and therefore reducing the pressure on your median nerve. This is a very safe treatment and approximately a third of patients find these helpful with no other intervention needed.

- **Injections**
  A local cortisone steroid injection can be administered into the carpal tunnel to give your some relief from symptoms. There are some very rare complications with local injections such as infection or nerve damage from the injection itself. Approximately four out of five patients will benefit from a steroid injection but in some cases the symptoms will re-occur.

- **Surgery**
  If the CTS is quite severe and other treatments have not helped, surgery may be an option. This involves a small cut across the carpal ligament at the base of your palm to make more room for the nerve, easing the pressure within the tunnel. It is usually performed under local anaesthetic as a day case for the majority of patients.

  Most patients get very good and permanent relief from the symptoms following surgery. However, in some patients diagnosed with very severe CTS, even with surgery, there is a chance the nerve damage may be irreversible and this would be discussed with the surgeon before operating.

**What happens if I choose not to have the operation?**
The symptoms of pain and numbness may stay the same, increase, or even become permanent. The muscles in your hand may become weak, causing problems with some activities. A minority of patients however, may improve even without any treatment.
What are the risks with surgery?
Serious complications are uncommon. However a small number of patients can experience complications, some of which resolve with time. These include:

- scar tenderness and hand weakness
- aching/pain especially on gripping; and
- wound infections, which can occur in approximately one in every 100 cases.

A very small percentage of patients will develop a serious reaction to the surgery and develop Complex Regional Pain Syndrome (CRPS). This is a rare condition but can cause severe pain, swelling, and stiffness in the hand which can take several months to improve or may even continue.

The onset of CRPS can often be a gradual and may not be noticeable for four to six weeks. If you have on going persistent pain and swelling throughout your whole hand after this period of time then please contact the consultant you were under for the surgery for a review, or visit your own GP.

What happens before my operation?
You will be contacted by the preassessment clinic and a nurse will discuss your operation with you. You may need to undergo some routine tests before your operation such as a blood test. Please feel free to ask questions and raise any concerns that you may have regarding your operation. You will be asked some questions about your general health and it would be helpful if you have a list of your medications ready; the nurse will need to know their names and the doses. This includes non-prescription medicines such as herbal/complimentary medicines.

Smoking greatly increases the risk of complications during and after surgery, so the sooner you can stop the better. Even a few days before your operation can help improve the recovery afterwards. For free help and advice regarding this contact your GP or local Stop Smoking Service.

Will I have to stay in hospital?
No, the procedure is carried out as day surgery so you will need to be in hospital for approximately three to four hours.

What will happen when I arrive at hospital?
Please refer to your appointment letter as to where you should attend for your surgery. When you arrive at hospital you will be greeted by a member of the ward staff and advice will be given regarding your care.

How will I feel after the operation?
You may be in a little discomfort after you surgery and this is quite normal, but it is not common to be in large amounts of pain. You may take simple painkillers such as paracetamol if you feel it necessary and you are able to take this kind of medication.
What should I do if I experience pain at home?
If you experience a large increase in pain after discharge home, and certainly if you start to feel unwell in yourself, you can contact your GP for advice regarding further management and pain relief. If this is outside GP hours then go to your nearest accident and emergency (A&E) department or minor injuries unit. They may need to check your wound and can then advise on what to do next.

When can I drive/go back to work?
You will need someone to drive you home on the day of your surgery. We recommend you return to driving when your hand feels comfortable when using if for general daily activities. This is often around one to two weeks after your surgery.

Return to work is very dependent on the work you do, for example light duties can be around one to two weeks whereas more demanding work may not be possible for around three to six weeks.

When can I return to my normal activities?
You should return to normal everyday activities as your pain allows, often around two to three weeks after surgery.

Will I need a follow-up appointment?
You may be offered an appointment following your carpal tunnel decompression at the therapy led surgical discharge clinic. The details of your appointment or who to contact in the event of a problem will be included in your post-operative discharge summary.

When will the dressing and stitches be removed?
You may remove the bulky dressing on your hand after 48 to 72 hours, leaving the small dressing over your wound; it is very important to keep this clean and dry. If you experience any excessive pain, swelling, or tenderness around your wound it might mean you have an infection and it is then advisable to visit your GP or minor injuries unit to have your wound checked.

Avoid any excessive weight bearing activities for the first four weeks such as pushing up from a chair or heavy gripping.

In some cases dissolvable stitches are used and will start to fall out after approximately 10 to 14 day. Others will need to be removed professionally either by your GP, practice nurse, or consultant. You will be advised of this at the time of your surgery.

How do I care for my scar?
The length of the scar will vary on a case by case basis. The number of stitches also varies but the surgeons aim to make the scar as cosmetically acceptable as possible.

Your scar may become sensitive to touch during the healing phase therefore it is very important to massage your scar with a small amount of water based hand cream for up to eight weeks after surgery. This will help to soften the scar tissue and reduce its sensitivity.
Post-operative rehabilitation
For the first 48 hours after your surgery keep your hand elevated to reduce the swelling and prevent stiffness in your fingers. Do not walk with your hand dangling down.

Exercises
It is important to start these exercises on the day of your surgery. They may be uncomfortable but should not be painful.

1. Make a full fist and straighten your fingers out straight again.

2. Touch your thumb to the tip of all your fingers.

3. Spread your fingers out as far as possible and back again.

4. Reach as high into the air as you can.

It is good to carry these exercises out four times daily and between five to 10 of each exercise depending on your comfort.
Further information
If you have any further questions please ask your consultant or therapist.

You can get further information from the following web site www.carpal–tunnel.net

If you would like this information in another language, audio, Braille, Easy Read, or large print please ask a member of staff.

Any complaints, comments, concerns, or compliments please speak to your doctor or nurse, or contact the Patient Advice and Liaison Service (PALS) on 01227 783145 or 01227 864314, or email ekh-tr.pals@nhs.net

Further patient leaflets are available via the East Kent Hospitals web site www.ekhuft.nhs.uk/patientinformation