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CARPEL TUNNEL SYNDROME.

This general guide is designed to provide background information to the operation that you will shortly undergo. It aims to supplement verbal discussion, to answer common questions and to be readily available as an *aide memoir*. It cannot cover in detail every aspect of your individual operation and may not deal with some areas that are of particular concern to you. These can be dealt with individually.

You should feel free to ask about any aspect of your care. All your questions will be answered fully, honestly and in as much detail as you wish. In the heat of the moment it is easy for questions that you intended to ask to slip from your mind. You should note on paper any questions that you may have.

Further information is available at the web site above. This site also provides links to other sites that may provide additional information.

What is carpal tunnel syndrome?

Carpal tunnel syndrome (CTS) is name give to the symptoms that occur with entrapment of the median nerve at the wrist. The median nerve controls some of the muscles of the arm and hand. It supplies sensation to the skin of the thumb, index and middle fingers and half of ring finger.

The median nerve runs from the elbow through the forearm to enter the wrist and hand in the middle of the wrist on the palmer side. As it enters the wrist is passes through a 'tunnel' along side the tendons. The floor of the tunnel is made up of the carpel bones of the wrist (hence the name carpal tunnel) and the ceiling is a fibrous band called the flexor retinaculum. If the pressure in the tunnel is increased the median nerve is compressed and symptoms occur.

The causes of carpal tunnel syndrome

CTS is more common in women, and may affect one or both hands. Usually, no obvious cause is found (so called idiopathic CTS). Well recognised causes are pregnancy, the oral contraceptive pill, injuries to the wrist, rheumatoid arthritis, under-active thyroid gland (hypothyroidism) and excessive growth hormone (acromegaly). Repetitive use of the wrist, such as in typing, and the use of vibrating tools may also be implicated.

What are the symptoms of CTS?

The typical symptoms of CTS are pins and needles in the wrist, the hand and some fingers (as described above). They are usually worse at night. Symptoms can extend back up the forearm. They may progress to numbness and weakness of the small hand muscles supplied by the median nerve. Weakness in the hand muscles makes it difficult to grasp objects between the thumb and fingers. There is clumsiness of fine movement and dropping of objects that are held by the fine muscles of the hand (a cup is a typical example). If the CTS is not treated the fine muscles of the hand may waste.

Diagnosis

In many patients a proper history and examination will permit a confident diagnosis. If there is any doubt an electromyogram (EMG) will be performed. Small electrical currents are passed into the median nerve above the wrist and conduction to the hand is measured. If the nerve is trapped the electrical impulse are not properly transmitted. This test also excludes problems that might arise higher in the arm (e.g. from compression in the neck).

Treatment

CTS may resolve spontaneously when associated with pregnancy or a specific medical problem that can be treated.

In the short term conservative treatment may include support with a splint (especially at night), injection with steroids (to reduce inflammation), massage and simple pain killers and anti-inflammatory drugs.

If simple measures do not work or the symptoms are severe, or associated with muscle weakness, surgery is normal required. This operation can be performed under a regional block (the patient is awake) or general anaesthetic. It is normally undertaken as a day case.

A small incision is made in the wrist and the flexor retinaculum is divided. This relieves the pressure on the nerve. Local anaesthetic will be injected at the end of the operation.

Wound care

The wound is closed with stitches that are under the skin. They will be absorbed and do not need to be removed. Steristrips will be placed over the incision, and on top of that a plaster and on top of that a compression dressing.

The compression dressing can be removed the day after surgery. The plaster will tolerate a shower or a quick splash in a bath, but do not soak it. The original plaster should be removed no later than 48 hours after the surgery and the steristrips no later than four days after the surgery. Thus by 96 hours all the original dressings should have been removed. The incision will be covered by new cells and can then be left open. Afterward washing the wound should be padded rather than rubbed dry. You should not soak the wound or swim for at least ten days. If the incision is a bit sensitive you can cover it with a new plaster, but it should be left open at night.

The wound after CTS surgery is often sensitive and thickened for longer than other wounds. This is because of the keratin in the thick skin of the palm. Massage with a cream or oil will help the wound mature and settle.

Pain relief.

At surgery local anaesthetic will be injected and will provide pain relief for four to six hours. You are then likely to require some tablets for pain relief. Panadol or Panadeine should be adequate. You should take the first of these before the local anaesthetic wears off and you should remember that pain relieving drugs work best if you anticipate the pain. A small quantity of the drug taken regularly (even if pain free at that time) will work better than waiting for the pain to occur and then taking a larger dose of the drug. Most patients do not require oral pain relief for more than 72 hours. However, you may still wish to continue with pain tablets at night.

What can go wrong.

It is normal to have some pain for up to 48 hours, but thereafter the discomfort should fade away fairly quickly. If you find the pain starts to increase after the fourth or fifth day or the wound becomes swollen, red or discharges some fluid, you should seek advice of your General Practitioner. It is not unusual for there to be some bruising around the wound and

this will fade over three to four weeks. There may be some thickening round the wound and this may not soften for at least three months.