CUBITAL TUNNEL SYNDROME

INTRODUCTION

Cubital tunnel syndrome results from the compression of a nerve, the ulna nerve, within the cubital tunnel in the elbow. The purpose of this leaflet is to explain why it happens, and what can be done to relieve your symptoms.

WHAT IS INVOLVED?

Cubital Tunnel Syndrome is a common condition affecting middle aged patients. It is more common in men than women. It can be caused by a number of abnormalities around the elbow that compress the nerve and its blood supply. Causes include:

- Constricting fascial bands
- Direct compression, e.g. habitual leaning on elbows in lorry drivers
- Cubitus valgus (a possible late sequel to childhood supracondylar fractures -tardy ulnar palsy)
- Local pressure during sleep, inebriation or rarely while under general anaesthetic
- Subluxation (flicking) of the ulnar nerve over the medial epicondyle (funny bone)
- Growth of bone at the edge of the elbow joint (osteophytes and bony spurs)
- Joint deformity in osteoarthritis or rheumatoid arthritis
- Associated with medial epicondylitis (golfer's elbow)
- Ganglia
- Repetitive elbow flexion and extension, heavy manual work, playing guitar, drumming
- Elbow dislocation
- Venepuncture (taking blood)
- Large elbow bruise (haematoma)
- Rarely tumours

WHAT ARE THE SYMPTOMS?

Ulna nerve compression at the elbow at first causes intermittent numbness and pins and needles most often in the little finger and the half of the ring finger closest to the little. Occasionally, more of the hand and fingers are involved. It usually occurs in the middle of the night or wakes you in the early morning. The sensation is similar to hitting your "funny bone," but it tends to last longer. Eventually, the numbness becomes permanent as the nerves die, and weakness of grip and finger dexterity becomes compromised.

Figure 1The "ulna claw," or a position where the small and ring fingers curl up, occurs late in the disease and is a sign the nerve is severely affected.

CAN OTHER CONDITIONS CAUSE DAMAGE TO THE ULNA NERVE?

The ulnar nerve passes through many tunnels where the nerve could be pinched. Damage to the nerve can be part of a systemic disease affecting other nerves as well as the ulna nerve including:

- Problems originating at the neck (thoracic outlet syndrome, disease of the cervical spine)
- Brachial plexus abnormalities
- Elbow abnormalities (fractures, growth plate injuries, cubital tunnel problems, improper use)
- Wrist abnormalities (fractures, Guyon canal problems)
- Artery aneurysms or thrombosis
- Infections, tumors, diabetes, hypothyroidism, rheumatism, and alcoholism

HOW WILL MY SURGEON KNOW I HAVE IT?

Your surgeon has been trained to recognise, by clinical assessment, which of the three large nerves has been compressed and where this compression is taking place. X-rays help to document the presence and degree of tissue damage and whether complicating factors like fracture and arthritis of the elbow are also present.

Occasionally, he will recommend a neurophysiologist who will test the function of the nerves in your arm to give additional information regarding the nerve involved and the site of the compression.

WHAT IS THE USUAL TREATMENT?

Most cases of Cubital Tunnel Syndrome are from a sleeping position with the arm folded up so that the elbow is bent for long periods. Treatment of this cause involves simply altering the sleeping position to avoid bending the elbow. Mild cases may be treated by non-surgical methods such as weight loss, medications taken by mouth called non-steroidal anti-inflammatories may also reduce compression on the nerve and occasionally a simple **Elbow Support**, like the Spider Pad® Elbow, worn at night helps. The effectiveness of non-surgical treatment may be short lived.

When the symptoms have been ignored so permanent numbness and weakness have set in surgery is recommended. Your surgeon may recommend a Cubital Tunnel Decompression and occasionally an ulna nerve transposition depending on the cause of the nerve compression.

Figure 2 Before the operation with a useless claw hand (above) and Mr Hardy's patient 6 weeks after the operation (below) to decompress the ulna nerve of the right elbow.

There are two types of surgical procedure: Minimally invasive open and Endoscopic; both take somewhat less than 30 minutes.

WHAT WILL THE OPERATION INVOLVE?

Your surgeon will explain the procedure best for you, the benefits and risks in detail. The surgery is a day case procedure so you will be home the same day. The operation is performed with light sedation and local anaesthetic, usually performed without a tourniquet. The limb is prepared with an antiseptic and the rest of you in covered in sterile drapes. A small incision is made behind the funny bone, the nerve is identified and protected while the tissue forming the band over the nerve is released.

WHAT ARE THE BENEFITS & RISKS?

The benefit is to halt the progress of nerve injury in your hand and prevent pins and needles, permanent numbness or weakness. Most patients recover function over 6 weeks and fully the nerve damage at approximately 6 months after surgery.

Pre-existing symptoms of permanent numbness and weakness, which is a sign of death of the nerve cells, rarely may not be relieved even over time.

There may be bleeding. This often settles with elevation.

Infection occurs in less that 1% of patients because we all have bacteria on our skin and if these bacteria get into the cut they can multiply to produce infection. Infection can be surmised if you develop more severe pain after the first 24 hours. In these circumstances please contact your GP or surgeon immediately to have the sutures removed and go on antibiotics.

Nerve damage should never occur. Rarely, the condition can recur over years if the injury or your disease recurs. The effects of a combined peripheral neuropathy, for example from diabetes, cannot be treated by cubital tunnel decompression.

Immediately after surgery your elbow will be bandaged and will be kept elevated to keep the swelling down. You should maintain the elevation after you are taken home.

You may be given pain relief medications. It is important to keep the dressing dry so cover it with a plastic bag or "Limbo" when bathing or showering. You should order this before surgery. You will be told about exercising your hand by opening and closing your fingers and squeezing exercises.

You will probably be able to start light activities in one to two days. Avoid bending your elbow far forward or backward, and try not to bump the area around the sutures. We will arrange follow-up appointments so that we can make sure you are healing properly after surgery. If you develop a white or swollen hand, increasing pain for more than a few hours not relieved by medication, loss of sensation, throbbing, excessive swelling in the hand, or fever over 100 º F please contact your doctor or surgeon.

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