

## ULNAR NERVE DECOMPRESSION

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### DEFINITION:

Compression of the ulnar nerve occurs when the nerve is compressed along its course, as it runs down the inside of the arm around the elbow to the inside of the forearm.

The ulnar nerve is very important in supplying sensation to the inside part of the hand, usually the little finger and ring finger and strength to the small muscles of the hand. The nerve is usually compressed above, at and below the elbow. Other causes of compression include trauma to the elbow region, repetitive injury to the nerve with the elbow bent, and hormone disorders such as acromegaly and diabetes.

Compression of the ulnar nerve causes numbness in the little and ring finger, and weakness of the small muscles of the hand and fingers. The symptoms are usually worse with activity, especially bending the elbow.

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### INDICATIONS:

An operation to decompress the nerve is recommended when the numbness and pain affecting the inside of the forearm, little and ring fingers is worsening. In addition, it is very important to operate early, before any damage is done to the nerve causing permanent weakness and wasting of the small muscles of the hand.

If any weakness or wasting of the small hand muscles is already present before the operation, this may not always return to normal, despite having the operation to release the pressure on the nerve.

The diagnosis of ulnar compression is confirmed with special electrophysiological tests on the nerves supplying your arm.

These are called nerve conduction studies. When an electrical signal is sent down the nerve, the electrical impulse is dampened and delayed as it crosses above and below the elbow when compression of the nerve is present.

Nerve conduction studies performed by a specialist Neurologist will confirm the diagnosis. The Neurologist will inform the Neurosurgeon of your test result.

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### SUCCESS OF THE OPERATION:

The majority of patients obtain relief and improvement in the numbness and weakness affecting the hands. However, if there is nerve damage already present, with marked numbness, weakness and wasting of the muscles before the operation, the result of the operation is to preserve the current hand function and feeling, and obtain some improvement.

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### RISKS OF THE OPERATION:

The total risk of ulnar nerve decompression is approximately 2 – 3% or 1 : 33 / 1 : 50.

These include:

- Infection, usually of the skin requiring treatment with oral antibiotics
  - Post-operative bleeding requiring re-operation of the wound and drainage
  - Damage to the ulnar nerve
  - Failure of the weakness and numbness to improve following the surgery
- General medical complications of general anaesthetic and/or drug reactions

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**BEFORE SURGERY:** Tell Mr Malham about any medical conditions or previous operations. If you have a medical condition such as diabetes, heart problems, high blood pressure or asthma, Mr Malham may arrange for a specialist physician to see you for pre-operative assessment and look after you following the operation.

Inform Mr Malham of medication that you are taking and/or have allergies to medications.

Patient must stop using the following, 10 days pre-operatively:

- Aspirin
- Plavix
- Isocover
- Asasantin

Patient must stop using blood thinning medication (*such as Warfarin*), 3-5 days pre-operatively.

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**THE OPERATION:** You will be given a general anaesthetic and positioned on your side, usually the left side. Mr Malham uses a specialist Cardiothoracic Surgeon to help him with the chest opening and closure.

The skin level is marked using x-ray guidance.

The skin is then carefully cleaned with antiseptic. Local anaesthetic is used, and skin is cut along the line of the rib. Then either the ribs are separated, or a part of the rib is removed to allow better access. The lining of the lung, called the pleura, is opened and the anaesthetist collapses the lung on that side to visualise the spine.

The correct spine level is then checked by counting the ribs and again by x-ray.

Using loupe magnification or the microscope, the spine is inspected in detail.

The pressure on the spinal cord is very carefully relieved by either removal of the disc prolapse or tumour, using a high-speed drill and special instruments. Part of the vertebra may need to be removed to decompress the spinal cord and allow better access. The space in the vertebra is filled with a titanium “cage” filled with bone, bone block or bone cement. A titanium plate or rod with screws may be required to stabilise the reconstructed vertebra.

## THORACOTOMY FOR DISC PROLAPSE OR TUMOUR

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### THE OPERATION (CONT.):

A bone graft may need to be taken via a small incision from the iliac crest (hip bone).

A chest drain is then left around the lung and brought out through the skin.

The anaesthetist re-inflates the lung. Any remaining air or fluid around the lung drains out of the chest drain.

The chest wound is then closed in layers with either staples or dissolvable sutures to the skin.

You will be awoken from the general anaesthetic and taken to the recovery room.

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### AFTER SURGERY:

You will be carefully observed in the recovery room by the nursing staff for 1 hour following the operation. Your blood pressure, pulse, breathing, level of alertness and movements of arms and legs will be carefully monitored.

You will then be transferred back to the ward. During the first night following the operation, the nursing staff will perform these observations regularly. You will have pain relief medication given to you by the nursing staff or via an intravenous drip, which you control by pushing a button, called "patient controlled analgesia" (PCA). The PCA has a safety lock out so you cannot overdose on the painkillers no matter how many times you press the button.

The physiotherapist will see you the day after the operation, to help you breathe deeply and cough to help your lungs recover.

The chest drain will be removed 1 - 2 days after the operation, once the lung has re-inflated. The cardiothoracic surgeon will remove the drain.

The physiotherapist and nursing staff will gently help you walk on a regular basis.

Over the next 2 - 4 days following the operation, you will slowly walk more normally.

Normal length of stay following the operation is 5 - 10 days. You will be able to go home once you are independent with personal tasks.

You may require support during your recovery with walking and balance, requiring transfer for inpatient rehabilitation. This will be organised by Mr Malham and discussed with you.

If you have a tumour, Mr Malham will discuss the results with you. You may require referral to an Oncologist for additional treatment, such as radiotherapy or chemotherapy.

If you have an infection, you will be referred to an infectious disease physician for prolonged intravenous then oral antibiotics.

Mr Malham will review you approximately 4 - 6 weeks after you leave hospital or the rehabilitation centre.

Do not drive until you have seen Mr Malham for post-operative review.

At your post-operative review, your progress, if any further treatment is needed and return to work timing will be discussed.