

CERVICAL DISCECTOMY

A guide for patients

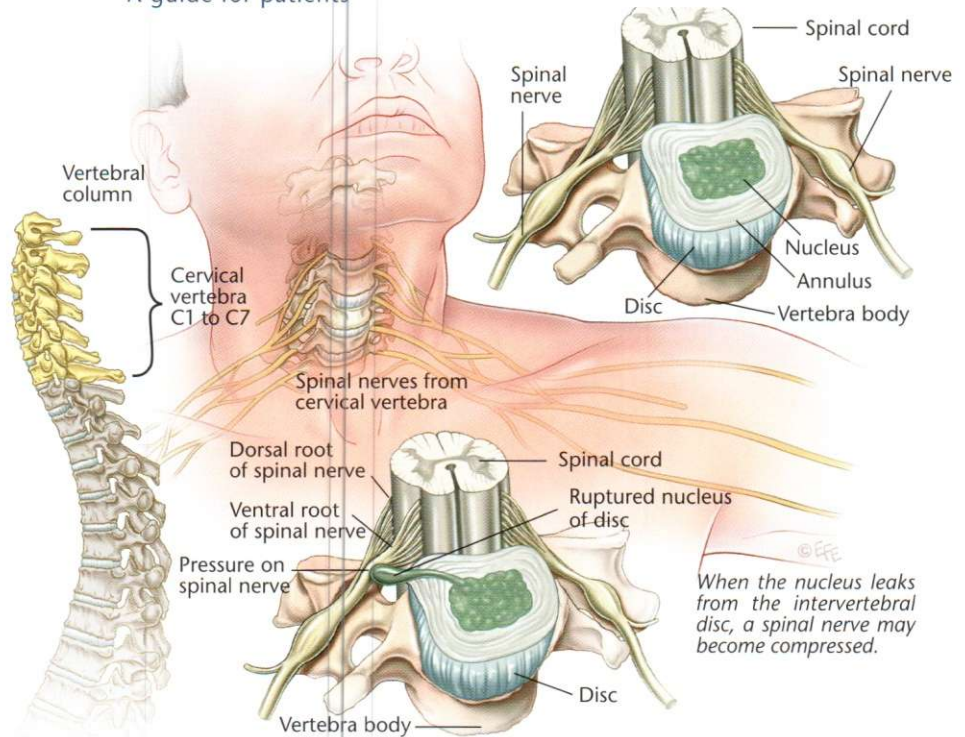
Cervical discectomy is one of the surgical procedures used to treat symptoms related to a damaged intervertebral disc that may be pressing on spinal nerve roots or the spinal cord in the neck. Symptoms of nerve root compression can present as pain, numbness, tingling, weakness and clumsiness in the upper limbs. Pressure on the spinal cord may cause altered sensation of the torso, difficulty walking, bowel/bladder dysfunction, and impotence in males. These symptoms may be associated with a combination of neck pain, shoulder pain, pain between the shoulder blades, and headaches.

Surgery can relieve pressure on nerve roots and the spinal cord by removal of part of a damaged intervertebral disc. The surgeon removes the bulging or damaged part of the disc to create more space around the nerve roots or spinal cord. This may reduce the inflammation and irritation associated with compression. A cervical discectomy is also called an anterior decompression.

Discs are soft but strong cushions of connective tissue that sit between each vertebra, as shown in the illustration. Each disc is composed of a strong outer wall called the annulus. In the middle is a softer gel-like core called the nucleus.

Discs act as shock absorbers for the spine during lifting, bending, and running. They maintain the correct spacing between vertebrae and allow bending and rotation between the vertebrae.

Discs are resilient to forces placed on them, but they can be weakened, damaged and thinned due to age, disease or acute trauma. Disc herniation is an



abnormal protrusion of the soft nucleus through or into the annulus, which can impact on the spinal nerves and spinal cord. Disc herniation can occur in four ways:

- 1 degeneration: the disc becomes weak and thin, and may shrink, but the nucleus does not break through the annulus
- 2 prolapse: the disc has a bulge
- 3 extrusion: nucleus ruptures through the annulus but remains in one piece
- 4 sequestration: the nucleus ruptures through the annulus, and fragments separate from the disc.

Ask your surgeon which type has occurred in your case.

The most common levels for disc

problems are C5-C6 (C6 nerve root) in about two patients in 10, and C6-C7 (C7 nerve root) in about seven patients in 10. Uncommonly, some patients have two or more disc herniations that need surgery. Compression of the spinal cord can require urgent surgery to relieve pressure.

Talk to your Neurosurgeon

This pamphlet provides general information. It is not a substitute for advice and explanations from your neurosurgeon. Although patients should be as informed as possible about surgery, every aspect cannot be covered in this pamphlet. Every case is different. Read this pamphlet carefully, and save it for reference. Some terms may need further explanation by your neurosurgeon. Write down questions you want to ask. Your neurosurgeon will be pleased to discuss:

- the diagnosis and treatment plan
- non-surgical options
- risks, benefits and limitations of surgery
- the chances of success and failure.

Use this pamphlet only in consultation with your neurosurgeon.

Consent form: If you decide to have treatment, your neurosurgeon will ask you to sign a consent form. Read it carefully. If you have questions, ask your neurosurgeon.

Your Neurosurgeon

IMPORTANT: FILL IN ALL DETAILS ON THE STICKER BELOW

DEAR SURGEON: When you discuss this pamphlet with your patient, remove this sticker and put it on the patient's medical history or card. This will remind you and your patient that this pamphlet has been provided. Some surgeons ask their patients to sign the sticker to confirm receipt of the pamphlet.

PEEL HERE

The Surgical Procedure of Cervical Discectomy

The aim of discectomy is to remove the portion of the herniated disc that is causing symptoms. Cervical discectomy can be performed from the front of the neck (anterior approach) or the back of the neck (posterior approach).

ANTERIOR CERVICAL DISCECTOMY

The anterior approach is preferred because the disc can be removed through a small incision at the front of the neck.

The anterior approach allows ready access to the cervical spine from C2 to C7.

It usually results in less postoperative pain and need for pain relief due to less cutting of muscle and surrounding tissues.

It may help to maintain the normal alignment and curvature of the operated vertebrae.

A skin incision of about two to three centimetres is made at the front of the neck at the necessary level. Muscle tissue is moved aside so the surgeon can see the vertebrae. A small needle is inserted into the disc space, and an X-ray film is taken to check the level

is correct. A microscope is used to provide a magnified view.

When the surgeon locates the herniated disc, small instruments are used to remove all the disc to decompress the affected spinal nerves and spinal cord. Loose disc fragments are also removed.

Decompression of the spinal canal may be needed. The posterior longitudinal ligament may be removed to relieve pressure on the spinal cord. Bone spurs may be removed if impinging on the spinal cord or nerves. There is little or no manipulation of the spinal nerves or spinal cord in the anterior approach.

A spinal fusion is nearly always done (as shown in the illustration) to stabilise the vertebrae and prevent their collapse into the disc space. A small amount of bone is grafted into the disc space. A synthetic spacer may be used.

Titanium plates may be attached to the vertebrae and greatly assist stability and healing. In some cases, a cervical disc prosthesis

may be used instead of a fusion device.

The neck incision is closed with dissolvable sutures (stitches). The procedure normally takes two to three hours.

POSTERIOR CERVICAL DISCECTOMY

Some conditions are best treated with a posterior approach or, uncommonly, a combined anterior-posterior approach.

A skin incision of about three to five centimetres is made in the midline of the back of the neck. Muscle tissue is moved aside at the necessary level so the surgeon can see the vertebrae.

An operating microscope is used, and an X-ray film is taken to check the level is correct.

After some of the bone is removed, spinal nerves and the disc can be seen, and the disc herniation can be removed with manipulation of the spinal nerves and spinal cord.

The skin incision is closed with staples or sutures. The procedure usually takes two to three hours.

DIAGNOSIS

You will be asked about pain, numbness, weakness, previous similar or related symptoms, and any bowel or urinary problems. Your surgeon will examine you to determine muscle strength, reflexes, ability to feel pain, and ability to move.

Diagnostic imaging can provide pictures of spinal structures and abnormalities. Magnetic resonance imaging (MRI), computer tomography (CT), and X-ray examinations can often reveal the location and degree of abnormalities. One or more of these tests may be necessary for diagnosis and treatment planning.

TREATMENT OPTIONS

■ “Wait and see”: damaged or inflamed tissues may heal with time and symptoms can subside. Patients with mild symptoms often do well without surgery. Most patients with neuralgic (nerve root) pain do not require surgery and can improve spontaneously over four to eight weeks.

■ Physical therapy and mild exercise can be helpful if symptoms are not severe.

■ Other conservative therapies such as activity modification, rest in a soft or semi-rigid collar, bed rest and weight loss may help.

■ Oral pain-relievers (paracetamol, codeine, tramadol, oxycodone) can help in the short term. NSAIDs (such as ibuprofen) and corticosteroids can reduce

inflammation and provide pain relief. Muscle relaxants such as diazepam may relieve neck muscle spasm. Anticonvulsant medication (Tegretol, Epilim, Neurontin, Lyrica) and some antidepressive medication may treat nerve pain.

■ A nerve-sheath injection (foraminal block) is administration of local anaesthetic and cortisone to the area of the compressed spinal nerve. This can provide significant medium-term temporary relief. This may be long enough for symptoms to subside.

■ If symptoms persist longer than six to 12 weeks despite conservative treatments, or if the pain and disability are severe, discectomy may be an option.

■ Surgery is a first option in patients with severe or suddenly worsening nerve compression symptoms. Surgery does not always relieve symptoms such as neck pain or headache.

CANDIDATES FOR DISCECTOMY

When you decide if surgery is an appropriate option for you, your general health and the severity of symptoms are the most important factors to consider.

Signs of spinal cord compression (myelopathy), including difficulty walking or standing and/or bladder and bowel control problems, need urgent surgical decompression. Surgery is an option if you have a compressed spinal nerve with:

- weakness/numbness of arms or hands.
- severe, persistent arm, shoulder or shoulder blade pain that significantly limits normal daily activities
- other related, chronic symptoms not relieved by drugs or non-surgical treatments.

Surgery is typically not an option when:

- symptoms are improving
- pain and discomfort are not severe
- symptoms are not due to a compressed spinal nerve
- reasonable doses of medication are sufficiently relieving pain
- physical therapy or exercise reduces pain and discomfort
- another medical condition is likely to complicate surgery.

YOUR MEDICAL HISTORY

Your surgeon needs to know your complete medical history to plan the best treatment. Some health problems may interfere with surgery, anaesthesia, recovery or pain relief. Before surgery, tell your surgeon if you have had:

- an allergy or reaction to antibiotics, anaesthetic drugs or other medicines, surgical tapes or dressings
- prolonged bleeding or excessive bruising when injured, or
- a family history of excessive bleeding, recent or long-term illness, and any