

Cervical spondylosis

Introduction

Cervical spondylosis is a medical term used to refer to age-related 'wear and tear' that can affect bones and tissues in the neck.

The most common symptoms of cervical spondylosis are neck pain, stiffness and headaches. More rarely, it can trap nerves in the neck, leading to:

- pain radiating from the arms
- pins and needles in the arms and legs
- loss of feeling in your hands and legs
- loss of co-ordination and difficulty walking

However, many people with cervical spondylosis experience no noticeable symptoms.

Treating cervical spondylosis

In most cases the symptoms of cervical spondylosis can be relieved using a combination of:

- medication, such as non-steroidal anti-inflammatory drugs (NSAIDs) including ibuprofen
- exercise, such as swimming and walking
- self-care techniques such as supporting your neck with a firm pillow at night

In a small number of cases surgery may be required to remove or repair a damaged section of the cervical spine (see below).

What causes cervical spondylosis?

As people get older the effects of aging can wear down bones and tissues that make up the spine. For example, the discs of the spine can dry out and shrink and the ligaments can stiffen.

This 'wear and tear' can then result in some degree of cervical spondylosis.

Who is affected

Cervical spondylosis is a very common condition. It is estimated that 9 out of 10 adults will have some degree of cervical spondylosis by the time they are 60 (but many will not have any noticeable symptoms).

Outlook

The outlook for most cases of cervical spondylosis is generally good. Most cases respond well to treatment after a few weeks. Though it can be common for symptoms to reoccur later.

In around 1 in 10 cases a person can go on to develop long-term (chronic) neck pain.

Symptoms of cervical spondylosis

The most common symptoms of cervical spondylosis are neck pain and stiffness.

Occasional headaches may also occur, which usually start at the back of the head, just above the neck, and travel over the top to the forehead.

Pain usually comes and goes, with flare-ups followed by symptom-free periods.

Around 1 in 10 people develop long-lasting (chronic) pain.

Other, more severe, symptoms usually only occur if:

a slipped disc or other bone pinches or irritates a nearby nerve (known as cervical radiculopathy)

the spinal canal (bones that surround and protect the nerves) becomes narrower, compressing the spinal cord inside (known as cervical myelopathy)

These problems are described in more detail below.

Cervical radiculopathy

The most common symptom of cervical radiculopathy is a sharp pain that 'travels' down one of your arms. (This pain is also known as brachialgia).

You may also experience some numbness or 'pins and needles' in the affected arm and find that stretching your neck and turning your head makes the pain worse.

Cervical myelopathy

Cervical myelopathy occurs when severe cervical spondylosis causes narrowing of the spinal canal (also known as stenosis) and compression of the spinal cord.

When the spinal cord is compressed, it interferes with the signals that travel between your brain and the rest of your body. Symptoms can include:

a lack of co-ordination, for example you may find tasks such as buttoning a shirt increasingly difficult

heaviness or weakness in your arms or legs

problems walking

less commonly, urinary incontinence

(loss of bladder control)

bowel incontinence (loss of bowel control)

If you think you are experiencing symptoms of cervical myelopathy you should see your DOCTOR as soon as possible.

Left untreated, cervical myelopathy can lead to permanent spinal cord damage and long-term disability

Causes of cervical spondylosis

To better understand the causes of cervical spondylosis, it is useful to know more about the structure of your spine.

The spine is made up of:

vertebrae: ridge-shaped sections of bone that make up the structure of the spine (spinal column) and protect the nerves

discs: discs of tissue that have a tough, flexible outer shell and a softer inside that is the consistency of toothpaste. They lie in between the vertebrae, cushioning and supporting them

spinal cord: the main bundle of nerves carrying messages up and down your spine, between the brain and the rest of the body

nerve roots: the beginning sections of the nerves that come out of the spinal cord, exiting through 'key holes' all the way down the spine

As you get older, the discs tend to dry out and become susceptible to tears. Your body will also try to compensate for the wearing of the joints by producing small lumps of extra bone to better support your neck and stiffen the spine. These lumps of extra bone are known as bone spurs or osteophytes.

Osteophytes can cause the spine to become too rigid, leading to stiffness and neck pain. The changes in bone structure can also squash nearby nerves and the spinal cord. This tends to be more common in older people.

Slipped disc

A slipped disc, also called a prolapsed or herniated disc, occurs when one of the discs of the spine is ruptured (splits) and the soft inside spills out.

If this soft material presses against a nerve in the neck, it can cause severe pain radiating to the arm (cervical radiculopathy), and can occasionally result in compression of the spinal cord (cervical myelopathy).

Slipped discs are generally seen in younger people and is not as common as the process of osteophyte formation described above.

Diagnosing cervical spondylosis

Cervical spondylosis is usually suspected if there are typical symptoms of neck pain and stiffness.

It will also be considered as a cause of radiating arm pain, problems with use of the hands or difficulty walking.

Various tests, described below, can be used to rule out other conditions and confirm the diagnosis.

Physical examination

Cervical spondylosis can limit the range of movement in your neck. You will be asked to rotate your head from side to side and tilt your head towards your shoulders.

Your DOCTOR may also test reflexes in your hands and feet and check you have full sensation in all your limbs. Problems with your reflexes or a lack of sensation could indicate nerve damage caused by narrowing of your spinal cord (cervical myelopathy).

You may be referred for an X-ray which will show characteristic features of spondylosis, such as the presence of osteophytes (lumps of extra bone).

Further testing

Further testing may be required if cervical myelopathy is suspected or your symptoms are severe and fail to respond to conventional treatments.

Details of some of the tests you may have are described below.

MRI scan

A magnetic resonance imaging (MRI) scan is a type of scan that uses strong magnetic fields and radio waves to produce detailed images of the inside of the body.

An MRI scan can be useful in detecting underlying damage to the nerves.

CT scan

A computerised tomography (CT) scan involves taking a series of X-rays which are reassembled by a computer to produce a more detailed image. CT scans can provide a much more detailed scan of your bones compared to an X-ray.

A CT scan is now usually only performed if you are unable to have a MRI scan for medical reasons; for example if you have a pacemaker.

Treating cervical spondylosis

Treatment for symptoms due to cervical spondylosis aims to relieve pain and prevent permanent damage to your nerves.

Pain relief

Over-the-counter painkillers

Non-steroidal anti-inflammatory drugs (NSAIDs) are thought to be the most effective painkillers for symptoms of cervical spondylosis. Some commonly used NSAIDs include:

diclofenac

ibuprofen

naproxen

If one NSAID fails to help with pain you should try an alternative.

However, NSAIDs may not be suitable if you have asthma, high blood pressure, liver disease, heart disease or a history of stomach ulcers. In these circumstances, paracetamol would probably be more suitable. Your pharmacist or DOCTOR will be able to advise you.

Codeine

If your pain is more severe, your DOCTOR may prescribe a mild opiate painkiller called codeine. This is often taken in combination with NSAIDs or paracetamol.

A common side effect of taking codeine is constipation. To prevent constipation, drink plenty of water and eat foods high in fibre, such as wholegrain bread, brown rice, pasta, oats, beans, peas, lentils, grains, seeds, fruit and vegetables.

Codeine may be unsuitable for a number of people, especially if taken for long periods of time. Your DOCTOR will be able to advise whether it is safe for you to take codeine.

It is generally not recommended for people who have breathing problems (such as asthma) or head injuries, particularly those that increase the pressure in the skull.

Muscle relaxants

If you experience spasms, when your neck muscles suddenly tighten uncontrollably, your DOCTOR may prescribe a short course of a muscle relaxant such as diazepam.

Muscle relaxants are sedatives that can make you feel drowsy and dizzy. If you have been prescribed diazepam, do not drive. Also, do not drink alcohol as the medication can exaggerate its effects.

Muscle relaxants should not be taken continuously for longer than a week to 10 days at a time.

Amitriptyline

If pain persists for more than a month and has not responded to the above painkillers, your DOCTOR may prescribe a medicine called amitriptyline.

Amitriptyline was originally designed to treat depression, but doctors have found that a small dose is also useful in treating nerve pain. You may experience some side effects when taking amitriptyline, including:

drowsiness

dry mouth

blurred vision

constipation

difficulty urinating

Do not drive if amitriptyline makes you drowsy. Amitriptyline should not be taken by people with a history of heart disease.

Gabapentin

Gabapentin (or a similar medication called pregabalin) may also be prescribed by your DOCTOR for helping radiating arm pain or pins and needles caused by nerve root irritation. This medicine is otherwise used as an anti-epileptic drug.

Some people may experience side effects that disappear when they stop the medication, such as a skin rash or unsteadiness. Gabapentin needs to be taken regularly for at least two weeks before any benefit is judged.

Injection of a painkiller

If your radiating arm pain is particularly severe and not settling, there may be an option of a 'transforaminal nerve root injection', where steroid medication is injected into the neck where the nerves exit the spine. This may temporarily decrease inflammation of the nerve root and reduce pain.

Side effects include headache, temporary numbness in the area and, in rare cases, spinal cord injury (limb paralysis).

Your DOCTOR would have to refer you to a pain clinic if you wished to explore this option.

Exercise and lifestyle changes

You could consider:

doing low-impact aerobic exercises such as swimming or walking
using one firm pillow at night to reduce strain on your neck
correcting your posture when standing and sitting

The long-term use of a neck brace or collar is not recommended as it can make your symptoms worse. Do not wear a brace for more than a week, unless your DOCTOR specifically advises you to.

Surgery

Surgery is usually only recommended in the treatment of cervical spondylosis if:

there is clear evidence that a nerve is being pinched by a slipped disk or bone (cervical radiculopathy), or your spinal cord is being compressed (cervical myelopathy)

there is underlying damage to your nervous system likely to worsen if surgery is not performed

Surgery may also be recommended if you have persistent pain that fails to respond to other treatments.

It's important to stress that surgery often does not lead to a complete cure of symptoms. It may only be able to prevent symptoms from getting worse.

The type of surgery used will depend on the underlying cause of your pain or nerve damage. Surgical techniques that may be used include:

Anterior cervical discectomy – This is used when a slipped disc or osteophyte (lump of extra bone) is pressing on a nerve. The surgeon will make an incision in the front of your neck and remove the problem disc or piece of bone. This procedure results in a fusion across the disc joint. Some surgeons will insert a bone substitute to encourage fusion and occasionally put a metal plate across the disc if there is slippage of one vertebra on the one beneath.

Cervical laminectomy – The surgeon will make an incision (small cut) in the back of your neck and remove pieces of bone contributing to compression of your spinal cord. A similar approach is known as a laminoplasty in which bones are spread open to widen the space, but not removed

Prosthetic intervertebral disc replacement – This relatively new surgical technique involves removing a worn disc in the spine and replacing it with an artificial disc. The results of this technique have been promising, but as it is still new, there is no evidence about how well it works in the long term or whether there will be any complications.

Most people can leave hospital within three to four days, but it can take up to eight weeks before you can resume normal activities. This may have an impact on your employment, depending on the type of work that you do.

Many people are recommended to return to work on a part-time basis at first. So you should discuss the situation with your employer prior to surgery.

Complications of surgery

Like all surgical procedures, surgery on the cervical spine carries some risk of complications, including:

rare complications associated with general anaesthetic, such as heart attack, blood clot in the lung (pulmonary embolism) or a severe allergic reaction (anaphylaxis)

some mild difficulties with swallowing (dysphagia); this usually passes within a few months

hoarse voice – this is a rare complication but when it does occur it can be permanent

paralysis (inability to move one or more parts of the body), which could occur if there is bleeding into the spinal canal after surgery or the blood supply to spinal nerves is damaged

infection of your wound after surgery, which is not usually serious and can be treated with antibiotics (deeper spinal infection is more serious but very rare)

damage to nerves, which occurs in rare cases – this can result in persistent feelings of numbness and 'pins and needles'

If it is decided you could benefit from surgery, your consultant will discuss the specific risks and benefits related to your situation.