

Osteoarthritis of the spine

What is osteoarthritis of the spine?

Osteoarthritis (os-tee-o-arth-ri-tus) is the most common type of arthritis, and the spine is one of the most commonly affected parts of the body. Osteoarthritis of the spine affects the back and neck.

Osteoarthritis of the neck is sometimes called cervical spondylosis. Spondylosis means 'arthritis in the spine', and cervical is the medical term for the neck.

The joints in your body go through a normal cycle of damage and repair during your lifetime. But sometimes the process your body goes through to repair joints can change their shape or structure. When these changes happen in one or more of your joints, it's called osteoarthritis.

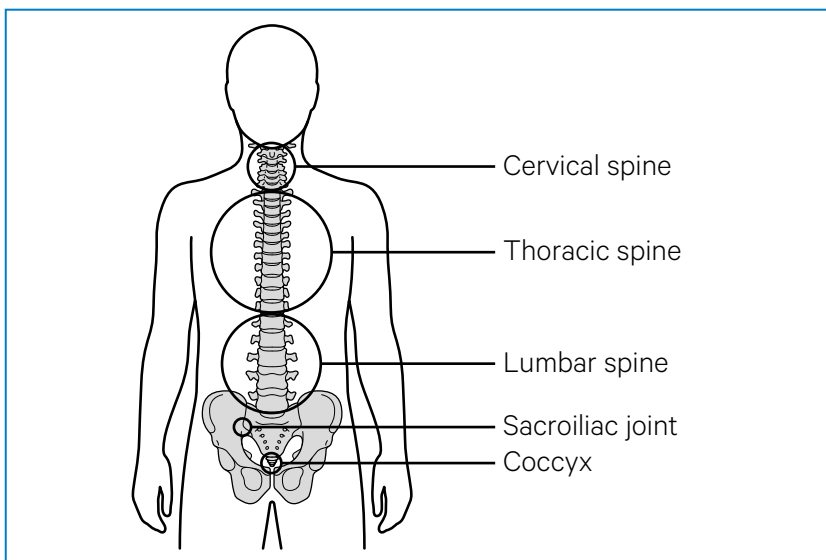
Having back or neck pain doesn't mean you have osteoarthritis. Most cases of neck and back pain only last a short while and will improve by themselves, without treatment.

A joint is where two or more bones meet. You have a number of facet joints that sit on either side of your spine and guide the movement of the bones in your back and neck.

There are 33 vertebrae in your spine – these start at the top of your neck and run all the way down your back, to your tailbone.

The spine is sometimes called the vertebral column or spinal column. Its purpose is to protect your spinal cord, carry the weight of your body and help you move around. The spine is split into five sections – cervical, thoracic, lumbar, sacrum and coccyx.

Figure 1. Sections of the spine



The ends of your facet joints are covered in a smooth and slippery surface, known as cartilage. There are also discs of cartilage between each of your vertebrae. The cartilage and discs allow your spine to move with as little friction as possible. Strong ligaments surround your spine and support the vertebrae, to help keep them in place.

Osteoarthritis means that the cartilage of your facet joints and discs has got thinner and the surfaces have become rougher. This can mean that your back or neck don't move as smoothly as they used to, and they might feel stiff or sore.

Figure 2. Healthy joints of the spine

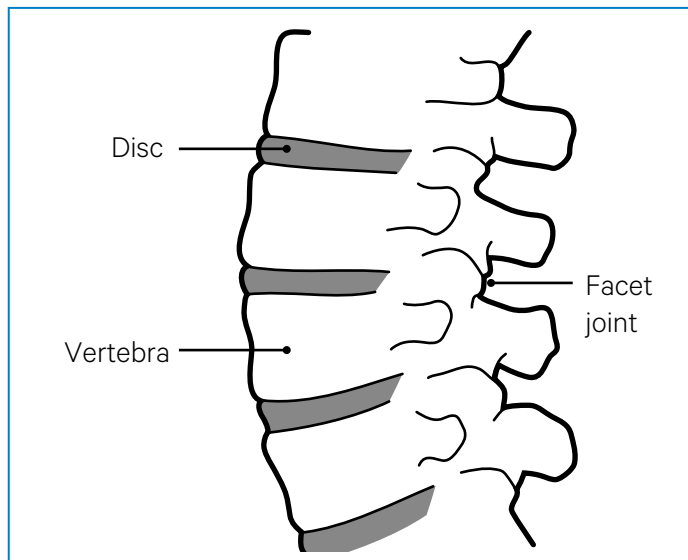
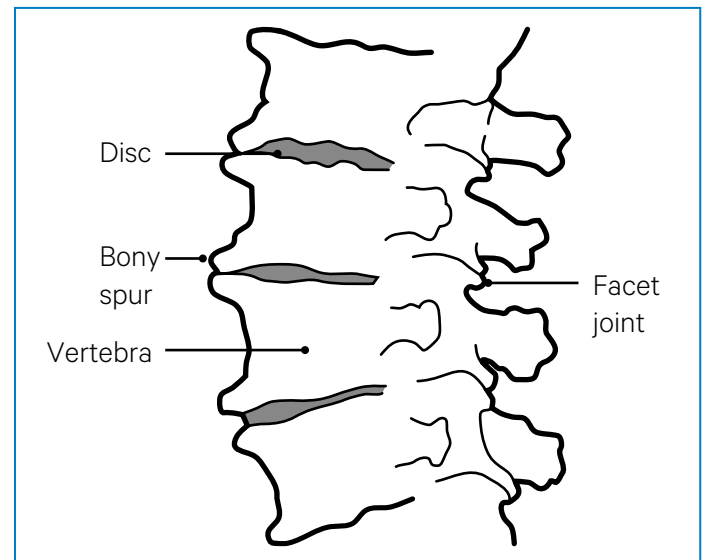


Figure 3. Joints of the spine affected by osteoarthritis



Osteoarthritis can affect anyone at any age, but it's more common in women and people over 50. Injuries or other joint problems, such as gout and rheumatoid arthritis, can make people more likely to get osteoarthritis.

People who aren't very active, don't have a healthy diet, or are overweight are more likely to get osteoarthritis of the spine. The genes people inherit from their parents can also affect the risk of osteoarthritis developing.

**For more information on the conditions above, see the Versus Arthritis booklets:
Osteoarthritis; Gout; Rheumatoid arthritis**

**You can view all our information online at:
www.versusarthritis.org**



How will it affect me?

The first sign of osteoarthritis of the spine is usually pain and stiffness in your back or neck.

The condition can be difficult to diagnose, as it can be hard to tell which symptoms are linked to osteoarthritis. It can even be hard to spot back and neck problems on x-rays of the spine, as changes caused by osteoarthritis don't always cause pain.

Symptoms of osteoarthritis of the spine will vary from person to person. The most common symptoms are:

- pain in your back or neck
- stiffness, especially first thing in the morning or after resting
- crunching or grinding noises when moving your back or neck.

People who have osteoarthritis in their neck might also have headaches or feel pain in their shoulders and arms.

It's normal for the cartilage in our joints to get thinner, especially as we get older. But in people with osteoarthritis, it's the body's normal process of repairing damage to joints that can cause pain and stiffness.

When the body starts to repair damage to cartilage, the whole joint can be affected – including the bone, tendons and ligaments.

During the repair process, the edges of the bones in the spine can grow outwards, forming bony spurs. These are known as osteophytes (pronounced os-tee-oh-fites). The discs between the vertebrae in the spine can also become thinner.

The pain might feel worse first thing in the morning, at the end of the day, or when you move your back or neck in a certain way. Some people have pain that wakes them in the night. You'll probably find that you have a mixture of good and bad days, and that the amount of pain you have changes.

Are there any complications?

Some people who have osteoarthritis in their neck might have problems swallowing or when they speak, but this is not very common. This can be caused by bony spurs affecting blood supply to the spinal cord.

If you have osteoarthritis of the spine, you may have other problems that may need treating. Let your doctor know urgently if you:

- have trouble going for a wee, or feel like you need a wee when you don't
- lose control of your bladder or bowel – the organs that control wee and poo
- have feelings of numbness or tingling around your genitals or bottom
- lose power in your legs
- feel unwell – like having a fever or sweating.

Spinal stenosis

Spinal stenosis is a condition that happens when the spinal canal, which contains the spinal cord, gets narrower. The most common symptoms are pain and weakness or numbness in the area linked to the affected part of the spine – such as the legs, arms, neck, back or shoulders.

Spinal stenosis is often caused by osteoarthritis, as the bony spurs that form on the edge of the vertebrae can irritate the nerves in your spine. It can usually be treated with exercise, over-the-counter drugs and steroid injections. Sometimes surgery will be needed to remove the spurs and make space in the vertebral column.

Managing your symptoms

There are a range of different treatments and things you can do for yourself that can help your pain and stiffness.

Exercise

Keeping moving is an important way to reduce the pain caused by your osteoarthritis. Many people with joint pain worry that moving more could make things worse, but this isn't true. Keeping your muscles and bones strong will support your joints. Exercise will also help you achieve and maintain a healthy weight, which will reduce strain on your spine and your legs.

You might hear crunching or grating noises as you exercise, but this isn't anything to worry about and doesn't mean the joints are being damaged. If you have osteoarthritis of the neck, these noises might seem loud, but this is only because they're so close to your ears. There are three types of exercise you should try to do:

- Stretching exercises – which can help maintain and improve the range of movement of your joints.
- Strengthening exercises – which help to keep your muscles and joints strong and supported.
- Aerobic or fitness exercises, which just means anything that increases your heart rate. These are great for your heart and can also help with back pain.

You should try to do at least two and a half hours of aerobic exercise each week to keep yourself healthy. This is about 20 minutes a day. Start off slowly and gradually build up how much you do.

You should also try to do strengthening exercises two days a week. Try to include the:

- arms
- back
- legs
- chest
- tummy
- shoulders
- hips.

If you're at risk of falls, it's important to do exercises to improve your balance and coordination at least two days per week. Yoga and tai chi can improve your balance and help your back pain.

You might need to avoid high-impact exercises such as running and lifting weights at times. These can put more strain on your joints, and you may feel stiff or sore. Swimming and cycling can be good alternatives, as your joints are supported while you exercise.

Your GP can talk to you about exercises, or they might be able to refer you to physiotherapy for a tailored exercise plan. Physiotherapists can suggest the best types of exercise, based on what you enjoy and how you feel.

Depending on what's available in your area, your GP may also be able to arrange for you to have hydrotherapy, where exercises are done in a warm-water pool with a physiotherapist. Hydrotherapy can also be called aquatic therapy. It's a good idea to talk to your doctor or physiotherapist before you start any new exercises.

**For more information on exercise and physical therapies, see the Versus Arthritis booklets:
Physical therapies for arthritis; Keep moving**

**You can view all our information online at:
www.versusarthritis.org**



Diet

Being overweight can put more strain on the bones of your spine, especially the lower back, so it's important to keep to a healthy weight. It's also important to have a balanced diet, with all the vitamins and nutrients you need to stay healthy.

You can try to lose weight by doing more exercise and eating a healthier diet, but make sure you speak to your doctor about this first, so they can give you advice. There's nothing to suggest that a specific diet will help with osteoarthritis, so it's important that you don't avoid any food groups entirely.

**For more information, see the Versus Arthritis booklet:
Diet and arthritis**

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Helping your joints

Pacing your activities might help reduce the strain you put on your back and neck. This could mean breaking tasks up into stages, or doing a little bit of something each day. Find your own balance between rest and activity, and make sure you take a break before you feel too tired to carry on or are in pain.

Changing your posture can reduce muscle tension. Awkward positions can affect the muscles and tissues that support your spine, and this could lead to more pain. Try to change position and posture regularly, and consider your posture when working, watching TV, sitting, texting and walking. Try to avoid twisting your spine when lifting things. Instead, keep your back straight and bend your knees. Keep the weight of things you're carrying, such as shopping, close to your body and don't lift more than you can manage.

A physiotherapist or an occupational therapist can advise you on your posture and pacing your activities. An occupational therapist might also give you aids and devices that can help you around the home – such as long-handled reachers and sock aids. Comfortable and supportive shoes can help reduce the strain on your feet, as well as your hips, knees and spine. Try choosing a shoe with a thick, cushioned sole, with plenty of room in the toes.

**For more information, see the Versus Arthritis booklet:
Physical therapies for arthritis**

**For more information on managing your pain visit our website:
www.versusarthritis.org/about-arthritis/managing-symptoms/managing-your-pain**

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Coping with low mood and sleep problems

Living with pain can affect your mood and sleep, and it's normal to feel low from time to time. If this is something that affects you, try going along to a pain clinic, where you can learn how to manage your pain. They'll usually take place at outpatient clinics, and you can be referred to them by whoever is treating you.

Pain can be affected by different things, including feeling low or stressed. There are a number of talking therapies and techniques you can learn, which can help you manage your pain, support your emotional wellbeing, and deal with any low feelings you might have. Mindfulness and cognitive behavioural therapy (CBT) can help with osteoarthritis.

Learning to relax your muscles can also help, particularly if you have neck pain and are feeling stressed, as this can cause your muscles to become more tense. A pillow that's too firm or thick can make neck pain worse. Try to sleep with your head level to the rest of your body. It's important to have a mattress that gives your head and spine proper support. Try having a hot bath, reading a book, or listening to the radio or a relaxation CD to wind down before bed. If pain is waking you during the night, try taking paracetamol or another painkiller before bed. Talk to your doctor or a sleep expert for more advice.

**For more information, see the Versus Arthritis booklet:
Sleep and arthritis**



For more information on managing your pain visit our website:

www.versusarthritis.org/about-arthritis/managing-symptoms/managing-your-pain



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www.versusarthritis.org



Drugs

There are a number of different drugs that can be used to help manage the symptoms of osteoarthritis of the spine. However, as with all drugs, there may be some side effects. It's a good idea to discuss the best option with the healthcare professionals treating you.

Painkillers and NSAIDs

Many people with osteoarthritis will find that painkillers that can be bought over the counter or from shops and chemists, such as paracetamol, can help with pain.

Some people might need to take stronger painkillers, such as compound analgesics or opioid analgesics. However, these are only effective for a short period of time and aren't available for some types of spine problems. Compound analgesics include co-codamol, and opioid analgesics include morphine and tramadol.

Non-steroidal anti-inflammatory drugs (NSAIDs) can help with pain and inflammation. Ibuprofen can be bought from supermarkets and chemists, but some stronger NSAIDs, such as naproxen and celecoxib, are available on prescription.

Some NSAIDs are also available as a cream or a gel and can be rubbed over the affected area to help with pain. If you're already taking tablets or liquid versions of NSAIDs, speak to your doctor about creams and gels first, as you might not be able to use both at the same time.

Drugs for nerve problems

If the osteoarthritis in your back or neck is causing you problems with your nerves, there are some drugs that may help. They won't reduce the pain caused by your osteoarthritis, but they might help the irritation caused by your nerves being squashed or pinched.

Amitriptyline can help relax your muscles and improve your sleep, while drugs such as gabapentin or pregabalin work to reduce the effects on your nerves. These drugs are only available on prescription and will only be given if you're having symptoms of nerve problems. As with all drugs, they can be helpful for some people, but won't work for everyone.

Injections

There are two types of injections that may be used if you are having certain symptoms of osteoarthritis of the spine. A steroid injection, either in the neck or the tailbone, can help with the problems caused by any of your nerves in your spine being irritated. They're also used sometimes to treat pain caused by arthritis in other joints in the body. These should work for a few months.

Radiofrequency denervation can be used to treat pain caused by changes to the facet joints. It involves using electrical currents through the tip of a needle to stop the nerve endings in your spine sending pain signals to your brain.

During radiofrequency denervation, you'll be given an injection called a local anaesthetic first, to numb the skin. You'll then lie on your front while the doctor looks at an x-ray of your spine, so they can inject the right place. If it works, you can expect it to last for up to two years, and you might be able to have it done again at a later date.

For more information, see the Versus Arthritis booklets:

Painkillers and NSAIDs; Steroid injections

You can view all our information online at:

www.versusarthritis.org



Other pain relief

Warmth on the affected joints has been shown to reduce pain and stiffness. This can be a bath or shower in warm water, or a heat pack applied to your skin. Different heat packs are available - many of which are reusable and can be heated in the microwave.

Some people find that applying ice packs, cold pads or packs of frozen vegetables can be soothing. When applying heat or cold packs to your skin, make sure you wrap them in a tea towel, rather than putting them on your bare skin, and never leave them on for longer than 20 minutes.

Transcutaneous electrical nerve stimulation (TENS) is a way of relieving pain that involves sending electrical pulses through pads attached to the skin. A physiotherapist or pharmacist should be able to give you advice about the different TENS machines available. Speak to a doctor about TENS if you have low back pain or a pacemaker, as this treatment might not be suitable for you.

The Alexander Technique is a therapy that improves posture, and reduces strain and tension in the spine by teaching new ways of sitting, standing and moving around.

Massage and acupuncture can sometimes provide pain relief, alongside exercise. The healthcare professionals treating you should be able to give you information on how to access these treatments.

Surgery

Osteoarthritis of the spine can often be treated without surgery. But if you're struggling to manage your symptoms, you might be referred to a surgeon, who will discuss your options with you.

Spinal stenosis that is irritating your nerves could lead to pain, numbness and weakness, which could affect your legs and arms. If this is happening, or if it's affecting your bladder or bowel, you may benefit from surgery.

Surgery could involve a small piece of bone or a disc being removed from your spine. In some cases, two or more of the vertebrae are fused together, to give the spine more stability.

Exercises for osteoarthritis of the spine

Exercise can be really helpful in improving the symptoms of osteoarthritis. Below, we've provided some exercises for people with osteoarthritis of the spine.

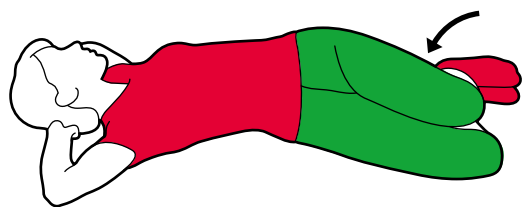
If you're trying these exercises for the first time, make sure you introduce them gradually. You'll benefit most from the exercises if you do them little and often, around two to three times a day. You may feel a little uncomfortable while doing the exercises, but they shouldn't feel very painful or make your symptoms worse.

Everyone responds to exercises differently and it's important to find which exercises are most helpful for you. If you're not sure which exercises to do, or have any concerns about exercising, speak to a health professional, such as your GP or a physiotherapist.

Back exercises

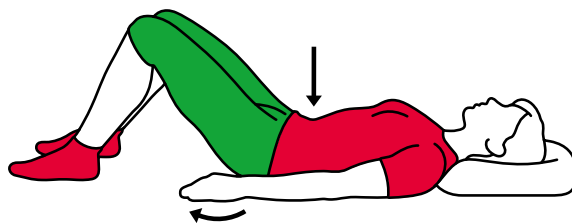
Knees to chest

Lie on your back with your knees bent. Bring one knee up and cup your hands around the back of your thigh. Pull your knee gently into your chest for five seconds. Repeat up to five times on each side.



Back stretch

Lie on your back, with your hands above your head. If this is uncomfortable, you can put a pillow under your head and keep your arms by your sides or folded over your chest. Bend your knees and roll them slowly to one side, keeping your feet on the floor. Hold the position for 10 seconds and move your knees back. Repeat this exercise three times on each side.



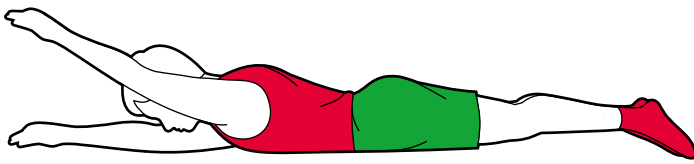
Pelvic tilt

Lie down, with your knees bent. Tighten your stomach muscles, flattening your back against the floor. Hold the position for five seconds. Repeat this five times.



One-leg stand

Holding onto something for support, bend one leg up behind you, and hold your foot if you can. Hold this position for five seconds. Repeat three times with each leg.

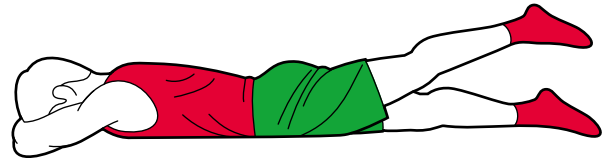


Arm raise

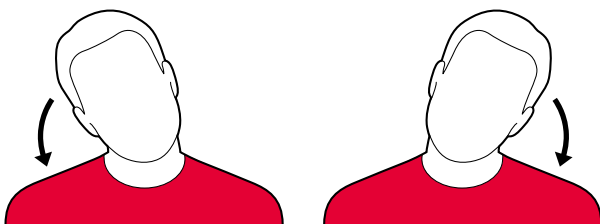
Lie on your stomach with your back in a neutral position. Tense the muscles in your lower stomach and raise one arm forwards. Hold this position for five seconds, and then relax your arm. Repeat this exercise 10 times with each arm.

Leg raise

Lie on your stomach with your back in a neutral position. Tense the muscles in your lower stomach and raise leg up off the bed or floor. Hold this position for five seconds, and then relax your leg. Repeat this exercise 10 times with each leg.



Neck exercises

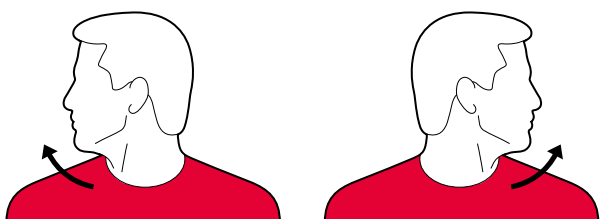
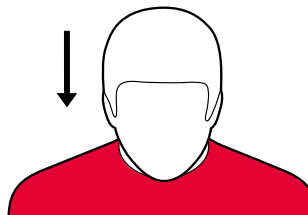


Neck tilt (side to side)

Tilt your head down on one side towards your shoulder, leading with your ear. Hold for five seconds. Return your head to its normal position, and then repeat the exercise on the other side. Repeat this five times on each side. If this is uncomfortable to do while you're standing or sitting, try it while you are lying down, so that your head is supported.

Neck tilt

Sit or stand, keeping a good posture. It's best to sit down if you have trouble balancing. Slowly tilt your head down, to rest your chin on your chest. Gently tense your neck muscles and hold for five seconds. Repeat five times.



Neck turn

Turn your head to one side, keeping your chin at the same level. Make sure you don't move beyond what's comfortable for you. Hold for five seconds in this position. Return your head to the centre, and then repeat the exercise on the opposite side. Repeat five times on each side. If this is uncomfortable to do while you're standing or sitting, try it while lying down, so that your head is supported.

Thank you!



A team of people helped us create this factsheet. We would like to thank Anna Anderson, Donna Leiserach, Iona Collins and Dr Faisal Shaikh for helping us review this factsheet.

We would also like to give a special thank you to the people who shared their opinions and thoughts on the factsheet. Your contributions make sure the information we provide is relevant and suitable for everyone.

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