What causes neck pain?

Non-specific neck pain
Many people develop a stiff and painful neck for no obvious reason. It may happen after sitting in a draught or after a minor twisting injury, for example while gardening. The underlying cause for this type of neck pain is not fully understood, so it is called 'non-specific neck pain'. Having non-specific neck pain does not mean that your neck is damaged and often it happens in people whose necks would appear completely normal under an x-ray. It is the most common type of neck pain and often disappears after a few days.

Cervical spondylosis
With everyday use over many years the discs and the facet joints become worn. This wear varies from person to person. The discs become thinner and this causes the spaces between the vertebrae to become narrower. Also, 'spurs' of bone, known as osteophytes, form at the edges of the vertebrae and the facet joints. In a way this is a particular form of osteoarthritis but it is known as 'cervical spondylosis'. These changes may also occur at the bottom of the spine where they are known as 'lumbar spondylosis'. These conditions should not be confused with ankylosing spondylitis, where inflammation in the spine can cause the bones of the spine to fuse together. The abnormalities found in cervical and lumbar spondylosis can be seen on x-rays and are present in almost everyone by the age of 65. However, many people have no neck pain even though quite significant changes can be seen on their x-rays. When these changes do cause pain it may come either from the linings of worn joints or from stretched ligaments. Occasionally bulging discs or osteophytes pinch the nerve roots and this causes pain or numbness that travels into the arm. If the vertebral artery is pinched, this reduces the blood supply to the area of the brain that controls balance and this may lead to dizziness. Rarely an extra rib (cervical rib) can cause partial blockage of the blood supply to the arms, resulting in pain and numbness in the hands. Very rarely, in severe spondylosis, the spinal cord can be squeezed, which causes weakness and numbness in the arms and legs.

'Whiplash'
This type of injury often follows a rear-end collision in a car. In this type of collision, first the body is carried forward and the head flips backwards. Then, as the body stops, the head is thrown forwards. Following a whiplash injury there is often a delay before the pain and stiffness start. Although whiplash can badly damage your neck, the majority of people who suffer these shunt accidents do not have major damage. In most cases injuries feel better within a few weeks or months. Seat belts and properly adjusted headrests in cars have significantly reduced the damage from whiplash injuries.

Tension
Most muscles of the body relax completely when they are not being used but some muscles (known as 'anti-gravity muscles') have to work all the time in order to keep your body upright. Muscles at the back of your neck must always be tensed, otherwise your head would fall forwards when you are sitting or standing. When these muscles work too hard it can cause neck pain and tension headaches. People who are worried or under stress often tighten their muscles more than is necessary to hold their head upright – in other words, they are literally 'tense'. Tension headaches are very common and are often wrongly called migraines.
What are the symptoms of neck problems?

**Pain**
You may feel pain in the middle of your neck or on one side or the other. The pain may travel to the shoulder and shoulder blade or to the upper chest. In tension headaches the pain often travels to the back of the head and sometimes to the side of the head and behind the eye or even into the ear. If a nerve root is pinched, then as well as the pain you may have numbness or tingling that can be felt down the arm right to the fingers.

**Stiffness**
This is common. You may find it painful to move and your muscles feel tight. Stiffness is often worse after long periods of rest or after sitting in one position for a long time. You may also have muscle spasm or, in cervical spondylosis, you may lose movement because of the changes to the bones and discs.

**Noisy joints**
You may hear or feel clicking or grating (called 'crepitus') as you move your head. This is caused by roughened bony surfaces moving against each other or by ligaments rubbing against bone. The noises are often loudest at the top of the neck. This is a common symptom and can be upsetting.

**Dizziness and blackouts**
These can sometimes happen when bony changes in cervical spondylosis cause pinching of the vertebral artery. You may feel dizzy when looking up, or you may occasionally have blackouts.

**Torticollis**
Sometimes if you have neck pain you may also have muscle spasms that turn the head to one side. This is called torticollis. Although not very common, it is an unpleasant side-effect of neck pain. It usually lasts only a few hours or days, although rarely it may continue for several weeks.

**Other symptoms**
If you have long-lasting neck pain and stiffness, particularly if your sleep is disturbed, then you may feel excessively tired and this can cause depression.

**Why does neck pain become persistent?**
In some cases of persistent pain the cause of the pain (such as a facet joint or a disc) can be identified. However, it is important to realise that pain can sometimes continue even after the original cause (whiplash, facet or disc) has long since settled down. Pain may at first cause you to avoid normal activities and movement. If your initial spell of neck pain lasts a long time, lack of activity can cause the neck muscles to become weak, and this reduces the ability of the cervical spine to take further knocks. You may also lose confidence in your ability to resume your normal activities. This may affect your work, your social life and your personal relationships. Naturally, you may feel depressed and anxious in this situation and this could lead to further loss of confidence, frustration and anger, particularly if family members and the medical profession appear unhelpful or unsympathetic. If you are anxious or depressed as a result of the pain, you may not feel like exercising, so your muscles become weaker still, and so it goes on. This can happen to anyone, and the longer it continues the harder it will be for you to recover your movement and confidence. The sections that follow explain what can be done to prevent or break this cycle of pain.
How can I help myself?
Most attacks of neck pain settle down within a few days and do not need medical treatment. Resting for a few days is often all you need.

Painkillers
You can take simple painkillers such as paracetamol. Non-steroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen, available at chemists, often help but can sometimes cause indigestion, so be careful if you have a history of stomach upsets. As an alternative you can rub anti-inflammatory gels or creams onto tender areas with less risk to the digestion.

Massage
Gentle massage of the neck muscles, particularly with aromatic oils, often helps. Please note, however, that some oils can be poisonous (toxic) in large quantities and can be harmful during pregnancy or with conditions such as epilepsy. Rubbing the area with liniments can also help – these produce a feeling of warmth and reduce pain. Some liniments available over the counter contain capsaicin (an extract of the capsicum, or pepper, plant), and a similar but stronger preparation is available on prescription.

Exercises
Simple exercises can help to restore your range of movement, promote strength, ease localised stiffness and help get your neck back to normal. You should start by exercising very gently and gradually build up. You can expect to feel some slight discomfort at first.

Gently tense your neck muscles for a few seconds by moving your head to the left right up and down. If you do this every day, the neck movements will increase your muscle strength.

Relaxation
Stress can make neck pain worse (see 'Tension' above). One way of reducing the effects of stress is to learn how to relax the neck muscles. Relaxation and exercises are not mutually exclusive – they complement each other. You can sometimes get audiotapes to help with relaxation from your doctor or a physiotherapist.

Posture
Pain and stiffness can be caused by poor standing posture or by too soft a bed or the wrong thickness of pillow. If your desk is too low, so that your head is bent forward for long periods, then the neck may be stretched and you may develop muscle pain. Check your desk height and chair design at work and in the home – this is important to prevent problems. Similarly, if you work at a computer screen it is important to have screen, desk and chair set at the correct heights. Many firms employ people to check that their employees are sitting properly – check with your line manager or occupational health nurse.

What if the pain won't go away?
If pain lasts for more than a few days, or if pain spreads into the arm, then you should see your doctor (GP). S/he will examine your neck and may arrange physical treatments.

Most cases of neck pain can be confidently diagnosed and treated without any special tests. Very occasionally your GP may ask for an x-ray to rule out other important causes of neck pain, such as ankylosing spondylitis or an infection.

If your pain is very bad, or if it spreads into your arm or you have dizzy spells, your GP may send you to see a specialist. The specialist may be a rheumatologist, orthopaedic surgeon or neurosurgeon, depending on the problem. Further tests may be needed, such as x-rays, blood tests, or magnetic resonance imaging (MRI) scans. An MRI scan will only be done if there is a suggestion that there is a nerve (or nerves) being pinched in the neck, and if further treatment is being considered. A specialist may recommend
injections into certain parts of the neck, but only once it is clear exactly where the pain is coming from. Surgery is very rarely needed – only in severe cases of nerve or spinal cord involvement.

What treatments are available?

Physical treatments
Physiotherapists, chiropractors and osteopaths are all trained to treat neck problems. Manual treatments carried out by one of these therapists are often all that is needed. Sometimes manipulation is uncomfortable at the time, so it is important that you understand what is involved. Make sure you talk to your therapist about the treatments before they start.

Collars
There is no evidence that these are any help for short-lived or long-lived neck pain. Some people find they help at night to keep the neck in a good position while they are asleep. An alternative for use at night is a 'neck pillow', which is a specially shaped piece of moulded foam. These are available from good department stores.

Injections
In some cases an injection may help. The injection may be a long-acting local anaesthetic or a steroid preparation, and may be given into the small facet joints of the neck or sometimes into the narrow spaces where the nerves emerge from the spine. These injections are usually given by a specialist (a radiologist or anaesthetist) and are performed in an x-ray department so that the specialist can see exactly where the injection is going.

Surgery
Only rarely is surgery necessary. Surgery may help if a nerve is pinched and it is causing weakness or severe pain which won't go away. The surgeon will ask for a scan to look at the nerves and bones before discussing with you the need for the operation and the pros and cons of surgery.

Other treatments
Acupuncture can help relieve neck pain. At the moment there is no evidence that reflexology or a change in diet are effective.

What other help is available?
If your neck pain lasts for many months you may need help to cope. The answer may be a pain management programme which aims to teach you how to control, and live with, your pain. Understandably, people avoid situations which make their neck pain worse, such as certain positions and activities. Education, therefore, plays an important part in the pain management approach, and will include a full explanation of the physical and psychological factors contributing to your pain. Most people will be able to exercise and become fitter, although it will take longer for some than for others. In this way people regain their physical confidence and are able to do more in spite of their pain. Specific exercises also help to strengthen the neck muscles that have become weak with lack of use.

Pain management programmes vary from outpatient group sessions, usually led by physiotherapists, to residential in-patient programmes lasting 2–3 weeks. There are only a few residential centres in the UK but there are many non-residential centres. These programmes include education, exercise, coping strategies and the use of medication. They are led by a team including doctors, nurses and physiotherapists. Psychologists are also usually part of the team as they can explain why you might suffer psychological distress and how you can cope with this.