Neck pain is common. Most of us will suffer from it to a greater or lesser extent during our lives. In most cases it may be unpleasant, inconvenient and even debilitating but not serious. Often the cause of the pain is unclear and may be described as ‘non-specific’. Fortunately, recovery occurs in a high proportion of cases, although the pain may become persistent in some cases.

The neck has seven cervical vertebrae (the same as in all mammals including the giraffe) which connect the base of the skull to the vertebrae of the thoracic region.

The uppermost vertebra is called the atlas and it articulates with the base of the skull which it supports.

Beneath it, the second vertebra is called the axis, which is responsible for the horizontal rotation of the head through the atlanto-axial joint which forms the
pivot with a projection called the odontoid process or dens.

The third to seventh vertebrae form the rest of the neck. By forward and backward movement at the intervertebral joints, they enable the head to nod and to enable the individual to look downwards or upwards.

Each vertebra has a body facing towards the front of the neck, separated from the adjacent vertebrae by a disc, which is made of a tough fibrous outer layer with a central gelatinous part and which has a cushioning effect and allows the spine to be more flexible.

There is also a backward-facing arch, through which passes the spinal cord. Nerves leave the spinal cord through the spaces created between the vertebrae (marked yellow on the diagram). The vertebral artery (shown red in the diagram) passes from the subclavian arteries in the upper chest, through holes (foramina) in each cervical vertebra before entering the skull as part of the blood supply to the brain.

Strong ligaments attach the vertebrae together to give strength and support, and various muscles are attached to the vertebrae to enable the spine to move forwards and backwards and to rotate to each side.

To the front and sides of the vertebral column there are innumerable vital structures passing between the head and the rest of the body. They include major blood vessels, lymph nodes and vessels, the oesophagus, the larynx and trachea, key nerves and organs including the thyroid and the parathyroid glands.

Neck pain frequently occurs as an acute event. Indeed most people will have had acute neck pain at some time in their lives.

The cause is often indeterminate and, for that reason, it is conveniently called ‘non-specific neck pain’. It is usually the result of a sprain of a ligament or a strain of the neck muscles. Bad posture is also implicated and is particularly likely in people who spend their days working at a desk and persistently looking down with a ‘bent-forward’ posture.

An acute cause of neck pain may be an injury such as that occurring with whiplash as in a car crash.

The injury may be again to muscles and ligaments but in a more forceful accident, one or more discs may be damaged through compression or one or more vertebrae may fracture.

Another more common cause is the development of an acute torticollis or wry neck.

It is a condition where the neck develops spasm and becomes twisted to one side. It is very painful to move into the straight position.
I was always taught that it was due to sleeping in a draught but that seems very far-fetched to me. It can be treated with simple analgesics if necessary and spontaneously resolves in a few days.

**Degenerative changes** in the cervical spine affect most people over 55 to a greater or lesser extent. The condition is also called *cervical spondylosis*.

The so-called ‘wear-and-tear’ results in persistent neck pain and, often, limitation of movement of the neck.

The changes themselves may affect the bones which display the signs of degeneration characteristic of arthritis. The discs may also be affected, becoming compressed or prolapsed (sometimes called ‘slipped disc’ although the disc does not ‘slip’), resulting in pressure on the nerves in the vicinity, a condition which is called *cervical radiculopathy*.

The result of pressure symptoms may be pain, tingling (paraesthesia) numbness or weakness affecting the arms and shoulders as well as the neck itself. The area of the upper limb affected will depend on the actual nerve compressed or irritated.

Other causes of neck pain are relatively rare. They may be the result of other bony diseases such as:

- Rheumatoid arthritis
- Ankylosing spondylitis
- Other disorders of bone

It may also be associated with:

- Infections
- Other nerve disorders
- Cancer, either primary or by spread from other sites.

**Medical Management**

Many causes of neck pain will be apparent and diagnosable by the GP without the need for further investigation.

The most common cause, non-specific neck pain, is not generally associated with any identifiable changes and X-rays or scans are not of value.

In general, investigations using blood tests, X-rays, CT or MRI scans, will only be employed in circumstances where the findings on examination are such that a more significant cause of the pain or other symptoms is suspected. Findings that will raise suspicions include:

- Progressively worsening pain
- If the pain occurs in someone with other more serious generalised disease
- If the pain is associated with systemic factors, such as debility or weight loss
- Pain associated with fever

The doctor may also consider the neck in circumstances where a patient develops symptoms elsewhere in the body, for example;

- Weakness in one or both lower limbs
- Disturbances in bladder or bowel function
- Disturbances in sensation in the extremities.

Such symptoms may indicate disease, injury or compression of the spinal cord at a higher level, including the neck.

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If the GP is not satisfied that the pain is non-specific or benign in nature, he or she will arrange a referral to a specialist for more detailed investigation, advice or treatment.

For the non-specific type of pain, there are a number of treatments which may help with the symptoms:

- **Exercise.** Regular movement of the neck, particularly to the left and right several times a day, is essential. It should be prevented from stiffening up and it is important to try to increase the range of movements gradually.
- **Posture.** Sitting at a desk and looking down for long periods is poor. The neck should not be persistently flexed. It is essential to sit upright with the neck as straight as possible.
- **Try not to sleep with the head propped up.** A good supporting pillow allowing the neck to remain straight is helpful.
- **Analgesia.** Painkillers are helpful. *Paracetamol* when required may be sufficient. Anti-inflammatory drugs may be more effective than paracetamol and *ibuprofen* can be purchased cheaply over the counter in pharmacies and supermarkets, etc. Other drugs such as *naproxen* or *diclofenac* are available on prescription from the GP, subject to ensuring that there are no contra-indications such as gastric bleeding, high blood pressure or asthma.
- **Sometimes stronger painkillers are necessary and their prescription should be discussed with the GP.** Sometimes, for short periods of exacerbation, a muscle relaxant may also be prescribed.

*Physiotherapy* may be valuable.

A variety of treatments are available and each is helpful for a proportion of patients on whom it is used.

The physiotherapist can also provide professional advice on the use of home exercises.

Chronic neck pain is a wearing and debilitating symptom. I speak as a sufferer, probably the result of working as a dentist for many years with the head held in a peculiar position when examining patients’ mouths.

I don’t think working as a medical practitioner, often with the head bowed over a desk checking records or latterly on the computer, has helped either!

I can, however, attest that exercising the neck and trying to maintain a good posture does help.

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