

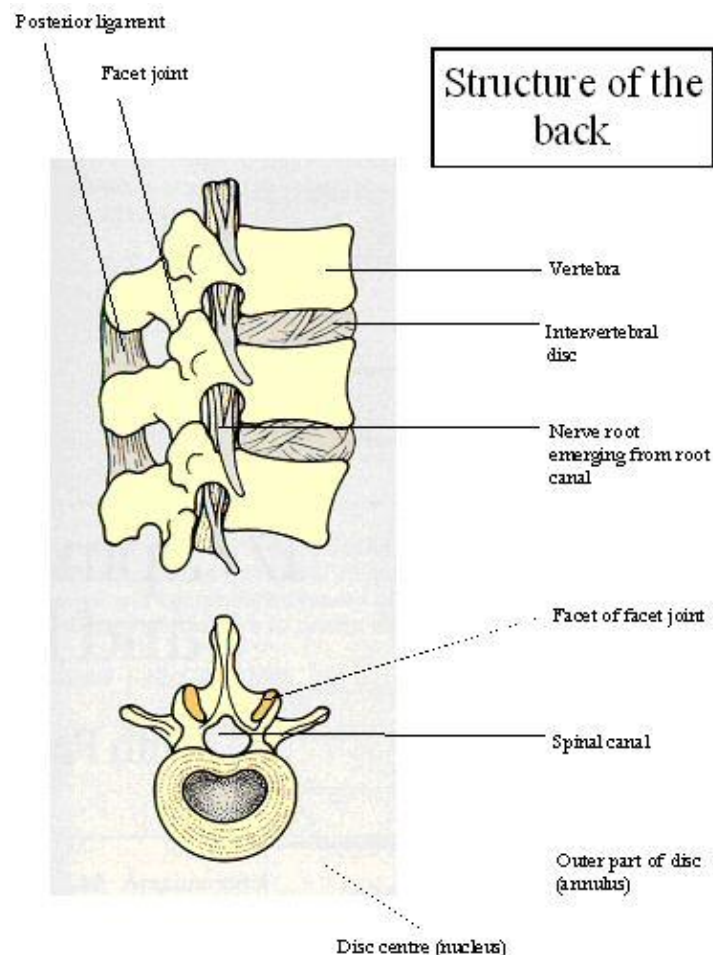
# Living with your Back

Human beings walk on two legs, but their backs are not really designed to take the strain. Neither are humans designed to live more than about 40 years; in olden days some disease (or a sabre-toothed tiger) would finish most people off within that span, so the skeleton would rarely degenerate greatly.

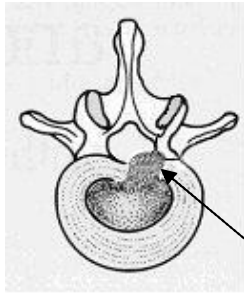
Now we live longer, “wear and tear” changes in the back are common. Some people injure their backs, and injury can produce an acute problem, or result in wear and tear later. Sometimes the back can be affected by inflammation, and rarely an infection or cancer can involve the spine. Back pain is the result of all of these, but most acute back pain is mechanical in origin.

A human spine is quite complicated. It comprises a series of bones (**vertebrae**) stacked one on another, separated by shock absorbing pads (**intervertebral discs**). The vertebrae have a round solid front bit and a ring-like back bit, through which runs the **spinal cord**; the stack of rings forms the **spinal canal**. The discs are rather like toothpaste tubes in section, with a tough outer layer and a pulpy middle. Nature has invented a locking system to stop the bones slipping about in the form of overlapping joints at the back (**facet joints**). Between each pair of vertebrae a pair of **nerves** emerge from the spinal canal through a space formed by the vertebrae at the front and the facet joints at the back (the **root foramen**). At the bottom end several vertebrae are fused together to form the **sacrum**, which forms the back part of the **pelvis**. The whole spine is held together by **ligaments** and moved about by **muscles**.

Any of the parts of the back can cause back pain. Your doctor may be able to work out which bits in the back are causing the problem, so it's important to tell your story clearly. However it is never quite as easy as the books say and it's often very difficult to decide where the problem is.



If a disc is damaged, the tough outer layer can bulge, or it can split allowing the pulp to be squeezed out like toothpaste from a split tube. This is known as a **disc prolapse** or “slipped disc”.



A disc prolapse

Often the prolapse comes out sideways and presses on a nerve root; the result is pain in the distribution of the nerve, which is severe, often like an electric shock, and often accompanied by tingling (**paraesthesiae**), numbness or weakness. It usually goes right into the foot. This combination of symptoms is **sciatica**. It is made worse by bending forwards or when the nerve is stretched by raising the leg straight in the air with you lying flat on your back. Some people develop sciatica only when they walk, and this goes off when they rest. This condition is known as **root claudication**. It is usually caused by overgrowth of bone into the root foramen— wear and tear.

Pain in the buttock or leg can be produced by irritation of the other structures and is then rather duller and more difficult to describe; if it extends into the leg, it rarely goes below the knee. This sort of pain is known as **referred pain**. It is *not* sciatica. Pain from the facet joints is worse on straightening up and often produces morning stiffness. Pain from the ligaments is worse when those ligaments are stretched.

Whatever the underlying cause of acute back pain, the reaction of the back muscles is to tighten up and go into spasm. If this is one-sided, then the back will twist sideways— the origin of the “twisted pelvis” myth. The muscle spasm may itself be painful.

In older people, especially women after the menopause, acute low back pain can be caused by a **crush fracture** of a vertebra. This is most likely if the bones are thin (**osteoporosis**). Vertebrae are built like very dense scaffolding, and if one bit breaks, even if very small, it can cause severe pain like any other broken bone.

The following table sets out which conditions may be associated with which particular symptoms. The key questions your doctor may ask are shown with the answers for each common cause of acute back pain.

	Facet pain	Disc pain & sciatica	Ligament pain	Fracture
<b>Most painful movement</b>	Arching the back; straightening from bent position	Bending forwards	Bending forwards	Any movement
<b>Centre of pain</b>	In the back, often to one side	Back and down leg	Back	Back, usually very localised
<b>Where the pain goes</b>	Into buttock & down leg, but rarely below knee	Down leg into foot (on the top, or underneath)	Into buttock	Stays in the back
<b>How the pain goes</b>	Not easy to describe; rather dull; vague area in leg	Shoots down leg; like an electric shock; clear distribution in leg	Dull radiation from the central site	Sharp on movement; stabbing
<b>What makes it better</b>	Bending forwards	Lying down	Resting	Resting
<b>What makes it worse</b>	Straightening up, arching back, twisting; bending towards the side of the pain	Bending forwards; coughing; straining (eg on WC); walking (root claudication)	Bending forwards; bending away from the side of the pain	Any movement
<b>Is it bad at night</b>	Sometimes	Not usually	No	Yes, especially when turning in bed
<b>Is there morning stiffness</b>	Yes	No	Sometimes	No

Prevention is better than cure. The main important points are

- Take plenty of regular exercise. Walking and swimming are good, and simple back strengthening exercises are helpful.
- Keep your weight under control
- Lift heavy objects carefully, or with help, or not at all. It's often the unguarded movement that causes trouble.

### **Treatment of acute back pain**

In 95% of episodes of acute back pain, the best treatment is... **nothing!** In the acute stage, for the first two days or so, rest. Rest means rest, not getting up to make cups of tea; you don't walk on an acutely sprained ankle! You do not however have to lie on a hard floor; choose your most comfortable position; wriggle about if that makes it better. Thereafter what you do, or what your doctor suggests, may depend on what the problem is. Painkillers and anti-inflammatory drugs may take the edge off the pain; sometimes a muscle relaxant, like diazepam ("Valium") is useful.

**Facet joint pain** will usually settle within a week or two, but may take longer. Manipulation by a physiotherapist, osteopath or chiropractor can be helpful. Once the pain has started to settle, try to get moving again. Recent research suggests that getting moving quickly speed recovery. Persistent trouble can be helped by physiotherapy or sometimes injection into the offending joints.

**Ligament pain** will again usually settle after a few days. Treatment is much as for facet joints; sometimes a heat pad or local anti-inflammatory ointment or gel helps.

**Disc pain with sciatica** is probably best treated by rest. If a nerve is caught, manipulation may make things worse. If the sciatica refuses to settle, you may be sent for spinal stretching (traction), for an epidural injection or, if the sciatica is bad, for a special investigation such as a computerised tomography (CT) or magnetic resonance imaging (MRI) scan. These may show up the disc prolapse. Root claudication is also investigated the same way. You might need an operation to remove the disc fragment if it's big and causes persistent trouble. Sometimes an epidural injection will work.

A **spinal fracture** in osteoporosis will heal over two to three weeks, and the acute pain will almost always settle by this time. In the acute phase rest is best; anti-inflammatory tablets are often very good for this sort of pain.

One thing is important to remember. An ordinary X-ray will often be quite normal in an episode of acute back pain. Or it may show wear and tear changes that have been in the back for a long time— longer than the injury! So an ordinary X-ray may not help your doctor to make a diagnosis of the problem. An MRI scan is excellent for showing up disc prolapses and other serious conditions but is useless in the management of mechanical back pain.