

back pain



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Back pain is very common.

It affects 15 to 30 per cent of people at any one time, and up to eight out of 10 people have experienced it at some time in their lives.

Back pain is not a disease but a symptom and, in most cases, no cause is found. Most bouts of back pain are mild and short-lived (acute back pain) and clear up with either no treatment at all or simple treatment you can manage yourself. Unfortunately, some episodes are more difficult or protracted, extending for months or years (chronic back pain), in which case expert help may be needed.

The aim of this brochure is to provide general information about the nature and management of back pain. It is not a substitute for expert advice, especially if pain is severe or ongoing. It is designed to help you find out what kinds of treatments are generally available, who to see if you do need expert help and what to expect if you see a health practitioner about back pain. Every case of back pain is unique, and the best solution for you may involve a treatment or combination of treatments specially tailored to meet your needs.

Structure of the back

The bony units that are visible in X-rays of the back are the vertebrae. The illustration opposite shows the arrangement of the bony elements.

The vertebral column or spine consists of:

- Seven cervical vertebrae which support the neck. These curve inwards to form the natural bend in the neck called the cervical lordosis.
- The 12 thoracic vertebrae, from which the ribs arise. These curve outwards to form the thoracic kyphosis.
- Five lumbar vertebrae, forming the lower back. These curve inwards to form the lumbar lordosis.
- The sacrum, which attaches the spine to the hip bones.
- The coccyx, or tail bone, at the very bottom of the spine.

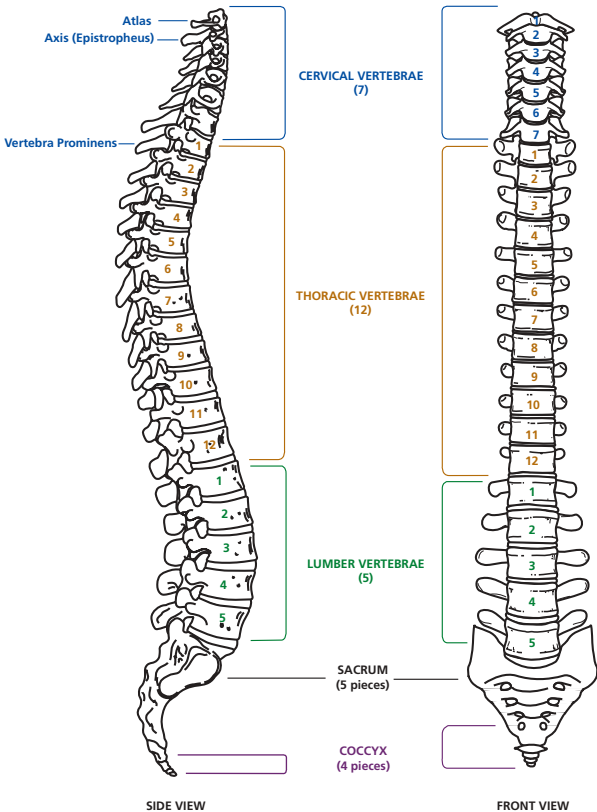
X-rays of the back create the mistaken impression that it comprises only bones separated by empty space. Vertebrae are held together by discs between them and by facet joints at the back of each vertebra. The discs, muscles, tendons and ligaments of the back that connect the vertebrae are sometimes called 'soft tissues' because they don't show up on X-rays, but they are actually very tough - the back is one of the strongest structures in the body.

Potentially any of the components of the back, including bones, soft tissues, nerves or blood vessels can be a source of pain.

Another important function of the spinal column is to enclose and protect the spinal cord, which is



made mostly of nerves linking the brain to the rest of the body. A nerve root is a bundle of nerves where it leaves the spinal cord between two vertebrae. The tunnel between two vertebrae through which the nerve roots pass is called the intervertebral foramen. Nerve roots are particularly prone to injury at this site because they are often compressed by prolapsing (outward bulging) disc material or by swollen, thickened joints and ligaments. However, only a small proportion of back pain is due to nerve compression or injury.



Self-care of your back

Taking the following precautions to protect your back may be all that is required to avoid or prevent further attacks of back pain.

- Sit, walk and stand with a balanced, relaxed posture.
- Improve your footwear (avoid high heels).
- Avoid sudden forceful movements.
- Bend and lift properly. Bend your knees. Take care not to twist when lifting. Avoid lifting heavy objects.
- Choose mattresses, chairs and cars with seats that give good physical support.
- Maintain a healthy body-weight.
- Avoid lying on your stomach when you sleep.
- Exercise regularly – flexibility and strengthening exercises are especially important. Consider attending gym, yoga or tai chi classes. Seek advice from a physiotherapist as to which exercises are most appropriate for you.
- Avoid staying in the same position, especially sitting, for too long. Stand, stretch and walk a little every half hour.
- Give up smoking. It's linked to back pain so quitting may help reduce pain, and will also lower the risk of heart disease, cancer and other diseases.

When to see an expert

Seek expert advice when back pain:

- Is severe, persistent (longer than a few weeks) or recurring (bouts come and go).



- Is associated with a fall or an injury that may have caused a fracture (especially if you have osteoporosis).
- Doesn't respond to simple treatments.
- Interferes with your normal activities or work for a prolonged period of time.
- Completely immobilises you.
- Causes you to take painkillers continuously for more than a few days.
- Is associated with other distinct symptoms such as weight loss, pins and needles, numbness in the legs or feet, fevers, sweats or chills, difficulties controlling the bladder or bowel, pain and swelling in the joints.
- Gives you concern of any kind.

Make the most of Medicare

Changes to Medicare called Medicare Plus came into effect in 2004.

Although many different kinds of health practitioners have some expertise in the treatment of back pain, only your general practitioner (GP) is able to determine most accurate diagnosis of the problem. In the case of persistent (often called chronic) pain, your GP is the only health professional able to prepare a suitable care plan that allows you to gain access to the benefits introduced under the Medicare Plus program.

What your GP will want to know

You can expect to be asked the following sorts of questions on the first consultation:

- Where is the pain?
- What kind of pain is it (for example, is it a dull ache, sharp pain, a pain that shoots down a leg)?

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- Did it come on slowly or suddenly?
- Is it there all the time, and how long has it been going for?
- What were you doing when you first felt the pain?
- Does anything make the pain worse or better?
- Is the pain worse during any particular part of the day?
- How has the pain affected your daily activities?

Think about the answers to these questions before you see your GP. Other questions will follow, as well as a physical examination, and possibly some tests.

What you may want to ask your GP

As well as concerns you have about the cause and outcome of your back pain, you may also want to ask your GP about:

Tests. If these are needed, ask about what they involve, and if there are any risks.

Treatments. For any treatment recommended, ask about benefits, risks and the strength of evidence for its effectiveness.

More information. Most brochures (like this one) offer general information only – once you have discussed the problem with your GP, they may be able to direct you to information more specific to your needs.

Imaging and other tests

In most cases, tests are not necessary.

Plain X-rays show only changes affecting the position and integrity of the vertebrae, and do not show pain. This is because back pain often involves disturbances in function rather than structure.

Sometimes tests are necessary to rule out serious illnesses, especially if your GP or specialist has



detected signs that suggest the presence of specific or treatable conditions. A few examples of these alerting signs include:

- Fever or other signs of infection.
- Unexplained weight loss.
- Back pain that has followed a fall or a blow to the back.

In a small number of patients with back pain, a medical practitioner may recommend further imaging tests such as:

- CT-scan (computed tomography).
- Radionuclide bone scan.
- MRI scan (magnetic resonance imaging).

Be guided by your doctor as to whether any of these procedures are necessary for you. If any are recommended, ask your doctor to explain their purpose, benefits, risks, how they are done and what will be required of you.

Abnormal test results may not explain back pain.

Back pain is generally thought to be caused by the same kinds of disease processes that affect most other parts of the body. These are trauma (or injury), degeneration (wear and tear due to age), tearing or straining of muscles and ligaments, infection or tumours. However, in most cases, the specific cause of back pain in a particular person is never found. Abnormalities are often discovered on X-rays or scans, but they can be unrelated to the pain. The following tables describe some conditions that affect the back, but which may or may not account for your pain. Often the presence of most of these conditions makes little difference to treatment.

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Table 1. Commonly detected conditions, often

Medical name	Common names
Prolapsed disc	slipped disc
Spondylosis	lumbago
Osteoporosis	brittle or fragile bones
Osteomalacia	brittle or fragile bones
Kyphosis	back deformity
Scoliosis	back deformity
Spondylolisthesis	fast bowler's back
Osteoarthritis	arthritis

Table 2. Conditions which may be related to

Medical name	Common names
Compression fracture	back injury or broken vertebra
Nerve-root compression	sciatica or pinched nerve
Ankylosing spondylitis	arthritis of the back

Table 3. Painful conditions affecting the back,

Medical name	Common names
Non-specific back pain	back strain or lumbago
Fibromyalgia	fibrositis
Coccydynia	tail bone pain
Somatic referred pain	referred pain
Visceral referred pain	referred pain



not responsible for back pain

Definition

Inside part of vertebral disc squeezed out.

Wear and tear of the spine that occurs with age.

Thinning of bones.

Softening of bones due to lack of vitamin D.

Excessive outward curve of the upper spine.

Abnormal sideways or lateral curve of the spine.

Slippage of a vertebra out of the line of the column.

Degenerative changes due to age and wear.

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Definition

Physical wound or injury, such as fracture, to the spine.

Nerve(s) pinched as they leave the spine.

Inflammation and fusion of joints between vertebrae.

which are not visible on X-rays

Definition

No underlying cause found.

Pain/tenderness in muscles or ligaments of the back.

Pain in the lowermost part of the spine.

Pain from musculoskeletal structures felt some distance away from their origin.

Diseases of organs near the back, such as kidneys or pancreas, can sometimes 'show' as back pain.

Health practitioners who have expertise in the treatment of back pain are medical practitioners, physiotherapists, chiropractors and osteopaths.

Occupational therapists can also help assess your home and advise you about ways to make it 'back-friendly'.

Treatment of back pain

Many treatments are available for back pain, but there is much controversy as to whether some are effective. The absence of scientific evidence as to whether a particular treatment is effective does not necessarily mean it will not help you.

For back pain of short duration, all that may be required is short-term rest of two to three days, trying to observe good posture, being as active as possible and a short course of non-prescription painkillers. Prolonged rest should be avoided and, in fact, may be harmful. If symptoms worry you, or if symptoms persist, seek expert advice.

The following list gives explanations and descriptions of some of the more commonly available treatments in Australia. Although these are grouped in categories, more than one kind of treatment from different categories may be helpful in your case. Your health practitioner can give you more information and advice as to whether any might be suitable for you. No treatment is without some risk, including rest, which causes rapid loss of muscular strength.



Management other than by medicines or surgery

Staying active is better than bed rest for most kinds of back pain. Aim to get back to normal activities of daily living as soon as possible.

Written information is itself a help, particularly if you discuss it with a health practitioner.

Exercise is often recommended on the grounds that it strengthens weak back muscles, stretches tight muscles and improves the mobility of the trunk. There is no evidence that one specific kind of exercise is better than any other, so choose an exercise that best suits you. Consider land-based exercises, such as those designed to strengthen back or abdominal muscles, or water-based exercises, such as swimming or hydrotherapy. The best advice is to stay active and minimise rest. Some exercises can aggravate pain if performed incorrectly or too early. Supervision by a physiotherapist is advised.

Manipulation and mobilisation therapy involves the restoration of motion to a stiff region of the spine. It is a treatment method often employed by physiotherapists, trained medical practitioners, chiropractors and osteopaths. There is reasonable evidence that this treatment method speeds recovery from acute back pain and may be of some value in chronic low back pain. It often incorporates muscle-balancing therapies. Tell your practitioner if you have numbness, pins and needles or weakness in the legs, as these signs may mean that this form of treatment is inappropriate for you.

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Acupuncture is a form of treatment in which fine needles are inserted into specific points in the body thought to affect the transmission of pain signals. It appears to release the body's own natural painkillers. In a related treatment called acupressure (or Shiatsu), manual pressure is used instead of fine needles.

Cognitive behavioural therapy is a form of psychological management that aims to empower you to achieve control over pain. It also aims to teach you skills such as meditation and relaxation. This therapy recognises that the mind can have a powerful effect on blocking out the pain experience.

Workplace intervention involves enlisting the aid of a health practitioner or some other appropriate representative to become familiar with your workplace, make recommendations to prevent injury and back strain, and/or work with your employer to develop modified duties in accordance with your physical capacity.

Transcutaneous electrical nerve stimulation (TENS) involves self-administering mild electrical impulses to nerves in the skin via electrical pads that are taped over the back. It is painless, simple and can be used at home. It achieves similar results to acupuncture.

Massage might be beneficial for some people with back pain.

Application of heat or cold to the back with a hot water bottle, an ice pack or other such method may bring relief for some. There has been little research into this treatment. Avoid extremes of temperature that could damage your skin.



Traction and corsets are no longer recommended for the treatment of back pain.

Arthritis self-management programs offered by State and Territory Arthritis Offices may be useful for people with back pain. Check with your local State/Territory Office as to whether the program offered is appropriate for your condition.

Note: Not all the aforementioned treatments have been conclusively proven to be effective, but this does not mean they may not work for you. For any treatment recommended, ask your practitioner about proof of its effectiveness and safety. Also ask about duration, costs, and what it will involve.

Management of back pain with medicines

Medications taken by mouth are useful for the short-term relief of pain, but they don't cure back pain. Some over-the-counter medications, such as paracetamol, are purely for the relief of pain and very safe if used as directed. Others such as non-steroidal anti-inflammatory drugs (NSAIDs) act to reduce both pain and inflammation, and may be useful if inflammation is contributing to back pain. These medications can have serious side effects on the stomach, kidneys and blood cells responsible for preventing excessive bleeding. Chronic back pain sometimes also responds to other kinds of prescription medications. These were originally developed for other illnesses, such as anxiety, depression and epilepsy, but were subsequently found to be helpful in bringing relief from some kinds of back pain. A medical practitioner will discuss these with you if they are appropriate in your case.

Topical medications are pain-relief preparations applied as a cream or gel over a painful area. They may be helpful if the pain is restricted to a small well-defined area on the back. Ask your pharmacist for more details.

Injections

Intervertebral facet joint injections target the joints between vertebrae, which are often the source of spinal referred pain, especially if affected by arthritis. The procedure may be performed 'blind' or, preferably, under X-ray guidance. The joint is infiltrated with a long-acting local anaesthetic and steroids. If this procedure is effective but short-lived the nerves to the joint can be blocked by injecting them with anaesthetic (as with a dental anaesthetic for a filling). If this injection relieves the pain sufficiently but only for a short time then the nerve can be deadened for many months by treatment with a microwave probe (radiofrequency neurotomy).

Epidural injections deliver steroids into the epidural space, which lies between the outermost of the membranes covering the spinal cord and the vertebral canal. Relief is usually temporary.

Nerve root sleeve injection (NRSI) involves the injection of steroids or anaesthetic into the sheath around a nerve bundle near where it leaves the spine. Pain relief may only be temporary.



Surgery

Surgery is usually reserved for patients with specific signs or severe symptoms (such as leg pain and weakness) that don't respond to any other measures.

It can help some patients to varying degrees, and is highly successful for the relief of sciatica (leg pain caused by pressure on nerves in the spinal canal), but nearly half the patients who have surgery for back pain gain no benefit. In some cases where certain specific causes of pain can be found, the chance of a good outcome may be better. All surgery carries risks including:

- No improvement in symptoms.
- Wound infection, non-closure or heavy scarring.
- Damage to nerves or blood vessels.
- Allergies to anaesthetics or medicines.
- Blood clots in legs, which may travel and cause irreversible damage.

This is not a complete list. Ask your surgeon for more information.

Newer surgical methods to treat back pain arising from intervertebral discs are under investigation. They are only experimental at this stage (not widely available) and they are only appropriate when other measures have failed. These include:

- Disc replacement surgery, a procedure which involves removing a damaged disc and replacing it with an artificial one.
- Intradiscal electrothermal therapy (IDET), a procedure carried out under local anaesthetic, in which heat is directly applied to the inside of the disc through a thin flexible tube (or catheter).

The future

Finally, if you have been suffering from back pain for a long time, don't lose hope. New treatments are constantly being tested and developed. Ensure you are kept up to date with all current options by regularly talking to your health practitioner.

Sources of information

Arthritis Australia produces a range of brochures and provides support services for people with arthritis.

Contact your nearest State or Territory Office, or visit Arthritis Australia at www.arthritisaustralia.com.au

The Australian National Health and Medical Research Council (NHMRC) has information sheets for consumers on acute back pain among other topics on acute pain. These are available only via the Internet at:

www.nhmrc.gov.au/publications/synopses/cp94syn.htm

The Cochrane Library is an Internet source of reliable information about various treatments. Visit

www.update-software.com/clibng/cliblogon.htm



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