

Back problems

Back pain is a common problem that affects most people at some stage in their lifetime. The back is prone to a range of problems including postural stress, muscle strains, ligament sprains, disc problems, sciatica, arthritis, structural defects, disease and fracture.

Structures of the back

The back is an intricate structure of interlocking components. Vertebrae are the bones that stack on top of each other to make up the spinal column and protect the spinal cord. Between each vertebra are the discs that act as shock absorbers and give the spine its flexibility. Facet joints and strong ligaments hold the vertebrae together, while the muscles control and produce the movements of your back.

Causes of back pain

There are many possible causes of back pain. Any structure in the back has the potential to cause pain if affected by injury or disease. Pain may result from:

- A sprain or strain of the joints or muscles of the back
- Doing an activity such as lifting something too heavy or lifting too often
- Bad posture over a long period of time
- Lack of exercise.

Degeneration of the spine such as that seen in arthritis, disc disease, osteoporosis and some congenital abnormalities can also result in back injury and increase the risk of back pain.

Types of back conditions

There are many different back conditions, all of which can cause back pain. These include:

- Soft tissue injuries – like sprains and strains
- Disc problems
- Postural stress
- Sciatica
- Structural problems
- Disease
- Fracture.

Soft tissue injuries – sprains and strains

An out-of-condition back or one with pre-existing problems is more susceptible to soft tissue injuries like sprains and strains.

- **Sprain** – a joint injury that involves stretching or tearing of the ligaments.
- **Strain** – an injury to muscle or tendons.

Stretching a ligament or muscle too far or too quickly could result in a tear of the tissue. Excessive force and repetitive use may also damage muscles.

Disc problems

The intervertebral discs are the spongy cushions between the vertebrae. As we age, these discs dry out and harden, making them prone to injury. The term 'slipped disc' is misleading. The disc doesn't actually move out of place, but can bulge (prolapse), herniate or even rupture.

Most disc problems arise from prolonged stress or injury and may be caused by straining the back (such as when lifting).

Postural stress

Poor posture for an extended period of time places stress on all of the structures of the spine. Ligaments and joint are overstretched and muscles are overworked and may spasm.

Sciatica

Sciatica is nerve pain arising from the sciatic nerve that runs from the spine into the buttock and down the back of the leg. The cause is usually a disc bulge or prolapse pressing on the spinal (intervertebral) nerve. Other causes include narrowing of the nerve tunnel between discs due to osteoarthritis.

Structural problems

Structural problems of the back can cause pain by putting added stress on the structures of the spinal column:

- **Kyphosis** – an excessive outward curve of the upper back, which is sometimes referred to as 'hunchback'.
- **Scoliosis** – an excessive sideways curve that can affect either the upper or lower regions of the spine.

Causes of kyphosis and scoliosis include birth defects, lifelong bad posture and certain diseases that affect the integrity of the bones, such as osteoporosis.

Disease

Back problems are more likely to be caused by lifestyle factors such as inactivity than by serious disease. However, some of the diseases that can affect the spine include:

- **Ankylosing spondylitis** – a disease that causes inflammation and pain in spinal joints and limb joints.
- **Arthritis** – especially osteoarthritis, a condition in which cartilage that normally cushions two joints breaks down.
- **Cancer** – bone cancer either originates in bone tissue (quite rare) or is caused by the spread of cancer cells from an original tumour somewhere else in the body.
- **Osteoporosis** – a disease that involves thinning of the bones. It commonly occurs in women after the menopause but also affects men with increasing age.

Fracture

A broken bone (fracture) occurs when a force exerted against bone is stronger than the bone can structurally withstand. Some diseases, such as cancer or osteoporosis, make fractures more likely.

Prevention of back pain

If you reduce the stress and strain on your back, it could help to reduce the risk of injury. You can help to reduce pressure on your back by staying active.

You can also help prevent back pain if you avoid:

- Slouching in chairs or in the car
- Sitting for long periods without a break
- Lifting incorrectly
- Being unfit or out of shape.

Treatment

Treatment for back problems depends on the specific condition. In many cases of back pain, the first and most important treatment is to keep active and resume normal activities – work, sport and recreation – as soon as possible. The majority of back injuries will improve by themselves. Other treatment options may include:

- **Physiotherapy** – this can provide mobilisation and manipulation, specific stabilisation exercises, ergonomic advice, postural advice and taping and bracing.
- **Medication** – including painkillers and anti-inflammatory drugs. There are also specific treatments for osteoporosis.
- **Low impact exercise** – aerobic activities that do not jolt the spine are helpful for many people. Some of these activities include walking, swimming or cycling.
- **Strength training** – developing and maintaining a tight 'girdle' of muscle can reduce back pain and the risk of future injury.
- **Weight loss** – being overweight or obese can load the back with unnecessary strain.
- **Surgery** – in severe cases, when the condition does not respond to other treatments, it may be necessary to undergo surgery. The techniques used depend on the condition. For example, surgery for a ruptured disc involves removing the fragments that may be pressing on nerves.

Where to get help

- Your doctor
- Physiotherapist
- Australian Physiotherapy Association

Things to remember

- Back pain is common and is usually not associated with a serious disease or problem.
- You can help to reduce pressure on your back by staying active.
- Treatment for back problems depends on the specific condition - always see a registered health professional.

This page has been produced in consultation with, and approved by:

La Trobe University - Health Science, School of Physiotherapy

Content on this website is provided for education and information purposes only. Information about a therapy, service, product or treatment does not imply endorsement and is not intended to replace advice from your doctor or other registered health professional. Content has been prepared for Victorian residents and wider Australian audiences, and was accurate at the time of publication. Readers should note that, over time, currency and completeness of the information may change. All users are urged to always seek advice from a registered health care professional for diagnosis and answers to their medical questions.

For the latest updates and more information, visit www.betterhealth.vic.gov.au

Copyright © 1999/2012 State of Victoria. Reproduced from the Better Health Channel (www.betterhealth.vic.gov.au) at no cost with permission of the Victorian Minister for Health. Unauthorised reproduction and other uses comprised in the copyright are prohibited without permission.