

## Back problems

Back pain is a common problem that affects many 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. The vertebrae are the bones that stack on top of each other and make up the spinal column. 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 and 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
- Repetitive lifting
- Bad posture over a long time
- Obesity
- Pregnancy
- Poor muscle tone
- Lack of exercise
- Ageing.

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

### 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

A **sprain** is a joint injury characterised by tearing of the ligaments, while a **strain** is 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. An out-of-condition back, or one with pre-existing problems, is more susceptible to sprains and strains.

### 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 injury and might be caused by straining the back (such as when lifting) or excessive compression, which can happen after having poor posture for a long time.

### 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, muscles are overworked and may spasm, and nerves may be compressed in some positions.

### **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**

**Kyphosis** is an excessive outward curve of the upper back, which is sometimes referred to as 'hunchback'. **Scoliosis** is 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. These problems may cause pain by producing strain on the structures of the spinal column.

### **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 characterised by the breakdown of cartilage that normally cushions two joints.
- **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 characterised by 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 if you avoid:

- Slouching in chairs or in the car
- Sitting for long periods without a break
- Standing badly
- Lifting incorrectly
- Sleeping on a sagging mattress
- Being unfit or out of shape
- Generally overdoing it.

### **Treatment options**

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 if given enough time and care. Treatment for back problems depends on the specific condition, but can include:

- **Physiotherapy** – this can provide mobilisation and manipulation, specific stabilisation exercises, ergonomic advice, postural advice, taping and bracing as required.
- **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 best, such as walking, swimming, cycling or weight training.
- **Strength training** – a tight 'girdle' of muscle can reduce back pain and the risk of future injury.
- **Weight loss** – being overweight or obese loads 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. Degenerative conditions may benefit from surgery to fuse vertebrae and restrict painful movement.

## Where to get help

- Your doctor
- Physiotherapist
- Australian Physiotherapy Association Tel. (03) 9534 9400

## Things to remember

- Some of the more common back problems include soft tissue injuries, disc problems, postural stress, sciatica, structural defects, disease and fracture.
- Any structure in the back has the potential to cause pain if affected by injury or disease.

## Want to know more?

For references, related links and support group information, go to More information.

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

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