

# Lower back pain

## Signs, symptoms, treatment

The lower back is one of the most commonly injured areas in the body. In fact, it is estimated that approximately 70–80 per cent of people will experience lower back pain at some stage in their lives.

This article will give you some information about the lower back area and most common injuries. It will also run through some treatment options and exercises to help manage and prevent lower back pain.

**Subheader: Injury**

There are a number of injuries that can occur in the lumbar spine. In certain sports, athletes are susceptible to stress fractures in the vertebrae, but these are uncommon. The three most common injuries are:

- disc bulge
- facet joint irritation
- muscle or ligament strain or sprain.

### Treatment

If you suffer from back pain or sustain an acute back injury, it is important to seek the advice of a healthcare professional. Physiotherapy, in conjunction with other treatments such as anti-inflammatory medication, is an important part of rehabilitating most lumbar spine injuries. Your physiotherapist will assess your lumbar spine and determine the most likely cause for your pain. Treatment may then include joint mobilisation/manipulation, soft tissue

massage and releasing, acupuncture, electrotherapeutic modalities (such as ultrasound and interferential), and specific flexibility and strengthening exercises.

### Injury Protection

There are several ways to protect your lumbar spine and minimise your risk of injury. These include both mobility and core strengthening exercises as well as maintaining good posture and correct lifting technique.

### Mobility Exercises

The muscles and joints need regular movement to keep them supple. Therefore, it is very important to keep your lumbar spine moving on a daily basis, particularly if you have a sedentary or repetitive job. The following exercises are recommended by our physiotherapists to keep you moving:

- Extension stretch on fitball—hold for 10 seconds, repeat five times.
- Flexion stretch on fitball—hold for 10 seconds, repeat five times.
- Rotation stretch on fitball—repeat 10 times to each side.

The table outlines the signs and symptoms of the most common lower back injuries.

SIGNS AND SYMPTOMS	DISC BULGE	MUSCLE OR LIGAMENT STRAIN	FACET JOINT
OBSERVATION /PALPATION	Side shift of spine	Muscle spasm	Tenderness on palpation (touch)
MOVEMENT	Restricted forward bend	Pain on forward bend and with return to upright	Pain on backwards bending and combined movement (backwards bend + twist)
PAIN	Central pain, can refer down leg and to groin	Mainly with movement but also with prolonged postures	Mainly with twisting and backwards bending
INVESTIGATIONS	CT scan or MRI	Not applicable	X-ray, and bone scan if not resolving

**Core Strengthening Exercises**

The 'core' refers to the deep abdominal muscles (transversus abdominus, deep fibres of internal oblique, multifidus), as well as the muscles of the pelvic floor. The abdominal component lies deep to the 'six-pack' muscle and wraps around the spine like a corset. The pelvic floor muscles span from the pubic bone to the tail bone (in between your legs) and help to support your pelvic organs. When functioning correctly, these groups of muscles provide stability to the entire lumbo-pelvic area during our normal daily activity.

The following exercises will help you to build up your core strength and could assist in the prevention of lower back pain. Injury, pain and poor posture can cause dysfunction of the core muscles, so if you have any problems whilst performing these exercises, please contact your physiotherapist.

• **Alternate leg-lifts on fitball**

Sit up straight on the ball and gently pull your belly button in towards your spine. Hold this position while you lift alternate legs 10cm off the floor. Repeat for two minutes.

• **Abdominal curls on fitball**

Start with your back resting on the ball, feet on the ground and arms across your chest. Slowly bring your chest towards your thighs, using your abdominals. Don't strain with your neck muscles. Do two sets of 20.

• **Bridging on fitball**

Start with your back resting on the ball and your feet on the ground. Lift your bottom up so that your body forms a straight 'bridge'. Keep your tummy and bottom muscles tight and hold for 10 seconds.

**Correct Posture**

Good posture, whether sitting or standing, involves maintaining the three natural curves of our spine; the cervical, thoracic and lumbar curves. The lumbar and cervical parts of the spine curve in the same direction (forwards), while the thoracic spine curves the other way (backwards).

All three of the curves can be maintained in both sitting and standing by ensuring that your ear, shoulder and hip are aligned.

**Correct Lifting Technique**

Incorrect lifting is a common cause of back injuries. There are several important steps to follow whilst lifting to minimise the risk of lower back injury:

- Bend your knees and use your legs to lift, not your back.
- Keep the load as close to your body as possible.
- Do not twist whilst carrying a load.
- Get someone to help for heavier or more awkward loads.

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Incorrect lifting techniques can lead to back pain and injury.



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