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## Back pain – disc problems

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### Summary

- Intervertebral discs are spongy cushions found between the vertebrae of the spine.
  - Common problems include degenerative disc disease and ruptured (or 'slipped') disc.
  - Risk factors for disc problems include obesity, advancing age, lack of exercise and incorrect lifting techniques.
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The term 'disc' is short for the 'intervertebral discs', the spongy cushions that separate the block-like bones (vertebrae) of the spine. These discs have a number of important functions including shock absorption, keeping the vertebral column stable and giving the vertebrae 'pivot points' to allow movement.

A disc is made of two parts: the elastic outer shell (annulus fibrosis) and the jelly-like contents (nucleus pulposus). It can handle quite a lot of pressure without damage, but certain types of pressure can damage the shell and push its contents out.

### Symptoms of disc problems

The symptoms of a damaged disc can vary according to its location and severity. Many people who show evidence on scanning of damaged discs have no symptoms. This means that, most commonly, there are no symptoms at all. However, general signs may include:

- Back pain
- Pain radiating down the legs
- Worsening pain associated with bending over or sitting down for a long time
- Worsening pain associated with activities like coughing or sneezing
- Numbness or pins-and-needles in an arm or leg.

### Risk factors for disc problems

Some people are more susceptible to disc problems than others. Risk factors include:

- Obesity
- Poor muscle tone
- Lack of regular exercise
- Cigarette smoking
- Advancing age
- Poor posture
- Incorrect lifting techniques.

Often, however, there is no recognisable risk factor present.

### Types of disc problems

Common disc-related problems include degenerative disc disease, ruptured (or 'slipped') disc and sciatica (nerve pain).

### Degenerative disc disease

The discs of a young child are plump and moist, but the water content reduces with age until the discs are comparatively thin and hard. As a result of this, friction between the bones is thought to increase, resulting in growths called bone spurs around the discs.

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In many cases, these age-related changes cause no problems, but some people experience a painful condition called degenerative disc disease. The most common symptom is back pain caused by holding the same position (either sitting or standing) for too long. It's among the most common causes of chronic back pain in older people.

### **Ruptured disc**

The term 'slipped disc' suggests that a disc has moved out of position, but this is not accurate. The discs are held firmly in place by various structures (including ligaments, muscles and the vertebrae themselves).

Terms like 'ruptured', 'herniated' or 'prolapsed' describe the situation better, as the real problem is not that the entire disc 'slips', but rather that a crack in the tough outer shell of the disc allows the soft jelly-like contents to ooze out. When this material comes into contact with other structures, especially the spinal nerves that run nearby, this can cause pain and alter nerve function.

The most common site for a ruptured disc is the lower back, and chronic lower backache can be a symptom. As we get older, the risk of rupturing a disc declines because the discs dry out and the contents are less able to ooze through any cracks.

### **Sciatica**

Sciatica is nerve pain from the sciatic nerve that runs from the spine into the buttock and down the back of the leg. A common cause of sciatica is a ruptured disc. The spinal cord normally has room to slide up and down inside the spinal column whenever the body moves. However, a bulging disc can protrude into the spinal column and press against the spinal nerves, hampering its movement and causing pain.

### **Diagnosis of disc problems**

Diagnosis of disc problems involves:

- Taking a medical history (to determine risk factors and predisposing conditions)
- A physical examination.

Other investigations are carried out if surgery may be required.

### **Treatment for disc problems**

The majority of disc problems will resolve regardless of treatment. Bed rest is occasionally best for initial management of severe sciatica, but most people can keep active with some restrictions according to the level of pain. Good pain control and allowing the person to move is often a good approach.

Some common treatments include:

- Heat treatment
- Regular massage
- An exercise program designed to improve strength and flexibility
- Non-steroidal anti-inflammatory drugs (NSAIDs) or steroids
- Pain-relieving medication
- An injection of anti-inflammatory steroids into the region of the disc
- Uncommonly, in severe cases of ruptured disc, an operation may be needed to trim the protruding bulge (laminectomy)
- Also uncommonly, in severe cases of degenerative disc disease, an operation may be needed to remove the disc and fuse together the two vertebrae on either side.

**Remember, most disc problems resolve without specific treatment.**

### **Self-help for disc problems**

Given time and the right conditions, a ruptured disc can heal itself. Ongoing maintenance can reduce the risk of disc problems in the future. Be guided by your doctor or health professional, but general suggestions include:

- Try not to sit still for long periods of time.
- Avoid lifting heavy objects.

- Remember that movements such as bending and twisting (especially at the same time) can increase pressure on your damaged disc.
- Work on increasing your abdominal strength. Strong stomach muscles help to support the back. People who work hard on their abdominal muscles probably have much less recurrence of back pain over the long term, but only if they keep doing the exercises.
- Pay attention to posture while sitting, standing and walking.
- Flexibility exercises, performed regularly, can improve mobility and help reduce muscle tension and back pain.
- Include a gentle program of back-strengthening exercises.
- Yoga is recommended by some practitioners as an excellent form of strengthening and stretching for people with back problems.

### Other causes of back pain

There are many other causes of back pain, so see your doctor if pain is strong. Important other reasons for back pain include:

- Muscular pain – probably even more common than disc rupture. It is usually localised to the back, without the pain spreading to the legs and very likely to fix itself without specific treatment
- Fracture – especially in elderly people, or those with osteoporosis
- Malignancy – some cancers can present with back pain. See your doctor if you have strong pain, night pain, have experienced weight loss or any other symptoms you are worried about.

### Where to get help

- Your doctor
- Physiotherapist
- Osteopath

### Things to remember

- Intervertebral discs are spongy cushions found between the vertebrae of the spine.
- Common problems include degenerative disc disease and ruptured (or 'slipped') disc.
- Risk factors for disc problems include obesity, advancing age, lack of exercise and incorrect lifting techniques.

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