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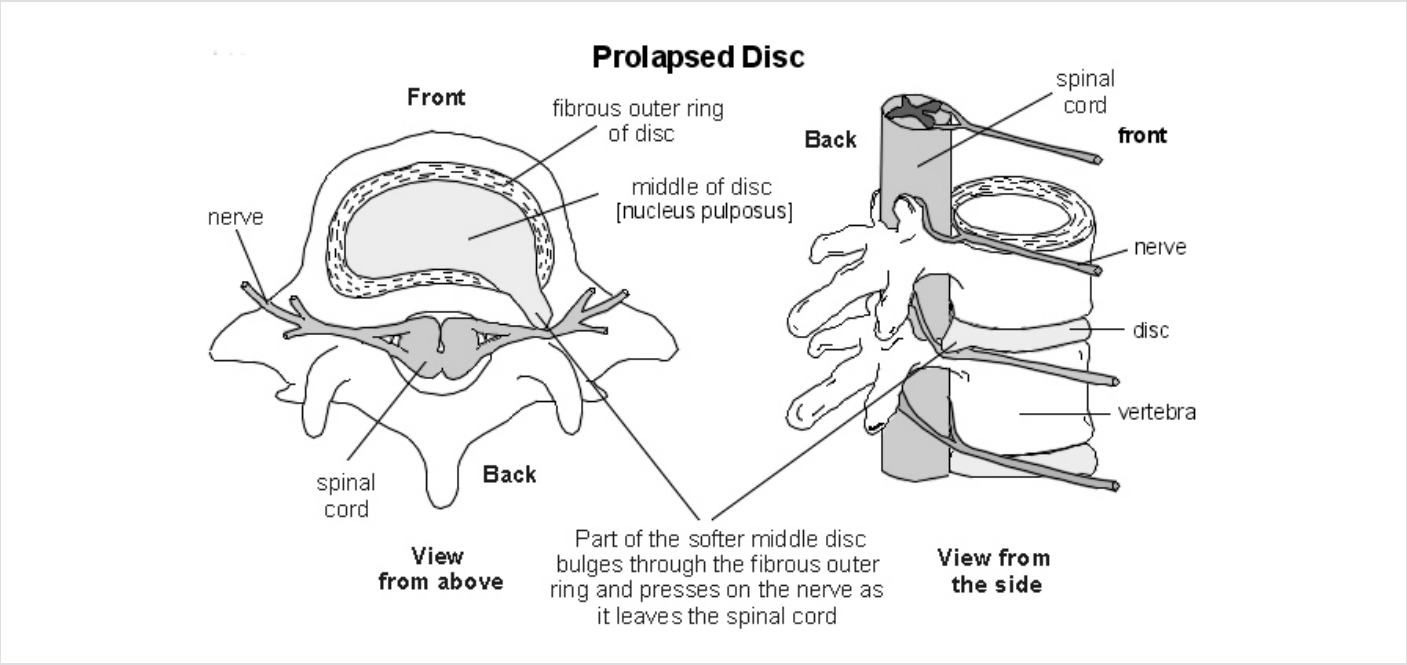
Prolapsed Disc (Slipped Disc)

A 'slipped' (prolapsed) disc often causes sudden, severe lower back pain. The disc often presses on a nerve root which can cause pain and other symptoms in a leg. In most cases, the symptoms ease off gradually over several weeks. The usual advice is to carry on as normal as much as possible. Painkillers may help. Physical treatments such as spinal manipulation may also help. Surgery may be an option if the symptoms persist.

What is a slipped disc?



When you have a 'slipped' (prolapsed) disc, a disc does not actually slip. What happens is that part of the inner softer part of the disc (the nucleus pulposus) bulges out (herniates) through a weakness in the outer part of the disc. A prolapsed disc is sometimes called a herniated disc. The bulging disc may press on nearby structures such as a nerve coming from the spinal cord. Some inflammation also develops around the prolapsed part of the disc. Inflammation may irritate a nerve and also causes swelling, which may put pressure on a nerve.

Any disc in the spine can prolapse. However, most prolapsed discs occur in the lower back (the lumbar spine). The size of the prolapse can vary. As a rule, the larger the prolapse, the more severe the symptoms are likely to be.

Understanding the back

The spine is made up of many bones called vertebrae. Each bone (vertebra) is roughly the shape of a flattened cylinder and between each vertebra is a disc. The discs are made of strong rubbery material which helps the spine to be so flexible. All the discs are the same - they have a stronger fibrous outer part and a softer jelly-like part in the centre called the nucleus pulposus.

The spinal cord contains the nerves that come from the brain. It is protected by the spine. Nerves from the spinal cord come out from between the vertebrae to relay messages to and from various parts of the body.

Strong ligaments attach to the vertebrae. These ligaments give extra support and strength to the spine. Various muscles also go round, and are attached to, various parts of the spine. (The muscles and ligaments are not shown in the diagram below, for simplicity.)

Note: this leaflet is about a 'slipped' (prolapsed) disc in the lower back (the lumbar spine). **There is a separate leaflet about disc problems in the neck, called Cervical Spondylosis**.

Who gets a slipped disc?

Bouts of back pain are very common. However, less than 1 in 20 cases of sudden-onset (acute) back pain are due to a 'slipped' (prolapsed) disc. (Most cases of back pain are classed as simple low back pain. This is thought to be caused by a minor problem in a muscle, ligament, or other structure in the back - for example, a strained muscle. See separate leaflet called Back and Spine Pain for a general overview of the different types of back pain.)

The most common age to develop a prolapsed disc is between 30 and 50 years. Twice as many men as women are affected. A prolapsed disc is rare in anyone under 20 years of age. For information and advice on back pain in young people, see separate leaflet called Back Pain in Children.

What causes a slipped disc?

It is not clear why some people develop a 'slipped' (prolapsed) disc and not others, even when they do the same job or lift the same sort of objects. It seems that some people may have a weakness in the outer part of the affected disc. Various things may trigger the inner softer part of the disc to squeeze out through the weakened outer part of the disc. For example, sneezing, awkward bending, or heavy lifting in an awkward position may cause some extra pressure on the disc. In people with a weakness in a disc, this may be sufficient to cause a prolapse. Factors that may increase the risk of developing a prolapsed disc include:

- A job involving lots of lifting.
- A job involving lots of sitting (especially driving).
- Weight-bearing sports (weightlifting, etc).
- Smoking.
- Being overweight (obesity).
- Increasing age (a disc is more likely to develop a weakness as we become older).

Slipped disc symptoms

Back pain

The pain is often severe and usually comes on suddenly. The pain is usually eased by lying still and is often made worse if you move your back, cough or sneeze.

Nerve root pain (usually sciatica)

Nerve root pain is pain that occurs because a nerve coming from the spinal cord is pressed on (trapped) by a 'slipped' (prolapsed) disc, or is irritated by the inflammation caused by the prolapsed disc. Although the problem is in the back, you feel pain anywhere along the course of the nerve in addition to back pain. Therefore, you may feel pain below your knee as far as your calf or foot. Nerve root pain can range from mild to severe but it is often worse than the back pain. People often describe nerve root pain as a burning pain. With a prolapsed disc, the sciatic nerve is the most commonly affected nerve. (The term sciatica means nerve root pain of the sciatic nerve.) The sciatic nerve is a large nerve that is made up from several smaller nerves that come out from the spinal cord in the lower back. It travels deep inside the buttock and down the back of the leg. There is a sciatic nerve for each leg.

Other nerve root symptoms

The irritation or pressure on the nerve next to the spine may also cause pins and needles, numbness or weakness in part of a buttock, leg or foot. The exact site and type of symptoms depend on which nerve is affected.

Cauda equina syndrome - rare, but an emergency

Cauda equina syndrome is a particularly serious type of nerve root problem that can be caused by a prolapsed disc. This is a rare disorder where the nerves at the very bottom of the spinal cord are pressed on. This syndrome can cause low back pain plus:

- Problems with bowel and bladder function (usually inability to pass urine).
- Numbness in the saddle area around the back passage (anus).
- Weakness in one or both legs.

Cauda equina syndrome needs urgent treatment to stop the nerves to the bladder and bowel from becoming permanently damaged. See a doctor immediately if you develop these symptoms.

To read more about this condition, see separate leaflet called Cauda Equina Syndrome.

Some people do not have symptoms

Research studies where routine back scans have been done on a large number of people have shown that some people have a prolapsed disc without any symptoms. It is thought that symptoms mainly occur if the prolapse puts pressure on or irritates a nerve. This does not happen in all cases. Some prolapses may be small, or occur away from the nerves and cause minor or no symptoms.

How does a slipped disc progress?

In most cases, the symptoms tend to improve over a few weeks. Research studies of repeated MRI scans have shown that the bulging prolapsed portion of the disc tends to shrink (regress) over time in most cases. The symptoms then tend to ease and, in most cases, go away completely. About 50 out of every 100 people improve within 10 days, and 75 out of a 100 after four weeks. In only about 2 out of every 100 people with a 'slipped' (prolapsed) disc is the pain still bad enough after 12 weeks that they end up having to have surgery (see below).

Do I need any tests?

Your doctor will normally be able to diagnose a 'slipped' (prolapsed) disc from the symptoms and by examining you. (It is the most common cause of sudden back pain with nerve root symptoms.) In most cases, no tests are needed, as the symptoms often settle within a few weeks.

Tests such as X-rays or scans may be advised if symptoms persist. In particular, a magnetic resonance imaging (MRI) scan can show the site and size of a prolapsed disc. This information is needed if treatment with surgery is being considered.

It should be noted that, as explained above, it is known that people can have a disc prolapse without any symptoms. It is therefore very important to make sure that any prolapse seen on a scan matches up with your symptoms. Low back pain is very common and so can happen to someone who has a disc prolapse on their MRI scan but the disc prolapse is not the cause of the pain. See separate leaflet called Lower Back Pain.

What are the treatments for a slipped disc?

Keep going

If you have a 'slipped' (prolapsed) disc, you should carry on as normal as far as possible. This may not be possible at first if the pain is very bad. However, move around as soon as possible and get back into normal activities as soon as you are able. As a rule, don't do anything that causes a lot of pain. However, you will have to accept some discomfort when you are trying to keep active, but this is **not** harmful. Setting a new goal each day may be a good idea - for example, walking around the house on one day, a walk to the shops the next, etc.

In the past, advice had been to rest until the pain eases. It is now known that this was wrong. You are likely to recover more quickly and are less likely to develop persistent (chronic) back pain if you keep active when you have back pain rather than rest a lot. Also, sleep in the most naturally comfortable position on whatever is the most comfortable surface. (Advice given in the past used to be to sleep on a firm mattress. However, there is no evidence to say that a firm mattress is better than any other type of mattress for people with back pain.)

Medication

If you need painkillers, it is best to take them regularly. This is better than taking them now and again just when the pain is very bad. If you take them regularly the pain is more likely to be eased for much of the time, enabling you to exercise and keep active.

- **Anti-inflammatory painkillers**. Some people find that these work better than paracetamol (see below). They include ibuprofen which you can buy at pharmacies or obtain on prescription. Other types such as diclofenac or naproxen need a prescription. Some people with asthma, high blood pressure, kidney failure, or heart failure may not be able to take anti-inflammatories.
- **Paracetamol** may be sufficient if you take it regularly at full strength but it can safely be taken in addition to anti-inflammatories. For an adult, this is 1000 mg (usually two 500 mg tablets), four times a day.
- **A stronger painkiller** such as codeine is an option if anti-inflammatories do not suit or do not work well. Codeine is often taken in addition to paracetamol. Constipation is a common side-effect from codeine. This may make back pain worse if you need to strain to go to the toilet. To prevent constipation, have lots to drink and eat foods with plenty of fibre.
- **A muscle relaxant** such as diazepam is sometimes prescribed for a few days if the back muscles become very tense and make the pain worse.
- **A medicine for neuropathic pain**, such as amitriptyline, duloxetine, gabapentin or pregabalin, is often prescribed if the pain has gone on for more than a few days. These medicines need to be taken regularly to be effective.

Exercise

General exercise is very important if you have a prolapsed disc. It can help lessen the pain by strengthening the muscles that support your spine. Although it is not known if specific spinal exercises are better than generally keeping fit, a physiotherapist can advise you on what exercise you could do in your situation.

Exercise not only reduces the pain of a prolapsed disc but may also reduce the chance of it happening again.

Physical treatments

Some people visit a chiropractor or osteopath for manipulation and/or other physical treatments. It is debatable whether such physical treatments help all people with a prolapsed disc but they may provide some short-term comfort. They should be accompanied by regular exercise.

Epidural

An epidural is an injection given into the back. It is usually given into the area in the back around where the sciatic nerve comes out of the spine. It is performed by a specialist. The injection contains a type of local anaesthetic and a steroid, which is a very strong anti-inflammatory. It is essentially a long-term painkiller that can give you enough pain relief that you can start or continue to exercise.

Surgery

Surgery may be an option in some cases. As a rule, surgery may be considered if the symptoms are very severe and have not settled after at least six weeks or so. This is the minority of cases as, in about 9 out of every 10 people with a prolapsed disc, the symptoms have eased off completely or are not bad enough to warrant surgery by this time.

The aim of surgery is to cut out the prolapsed part of the disc and release the pressure on the nerves. This often eases symptoms. However, it does not work in every case. Also, as with all operations, there is a risk from surgery. A specialist will advise on the pros and cons of surgery and on the different techniques that are available.

It is not known whether it is better to have surgery or better to wait and see. Recent research suggests that surgery is better in the short term but makes no difference in the long term. For example people who had an operation had less less pain six weeks later than those who hadn't. However, it made no difference to the amount of pain someone had or the effect on their lives, after three months.

Can further bouts of back pain be prevented?

Evidence suggests that the best way to prevent bouts of back pain and 'slipped' (prolapsed) disc is simply to keep active and to exercise regularly. This means general fitness exercise such as walking, running, swimming, etc. There is no firm evidence to say that any particular back strengthening exercises are more useful than simply keeping fit and active. It is also sensible to be back-aware. For example, do not lift objects when you are in an awkward twisting posture.

Further reading & references

- Low back pain and sciatica in over 16s: assessment and management; NICE Guidelines (Nov 2016)
- Sciatica (lumbar radiculopathy); NICE CKS, February 2017 (UK access only)
- Jacobs WC, van Tulder M, Arts M, et al; Surgery versus conservative management of sciatica due to a lumbar herniated disc: a systematic review. Eur Spine J. 2011 Apr;20(4):513-22. Epub 2010 Oct 15.
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