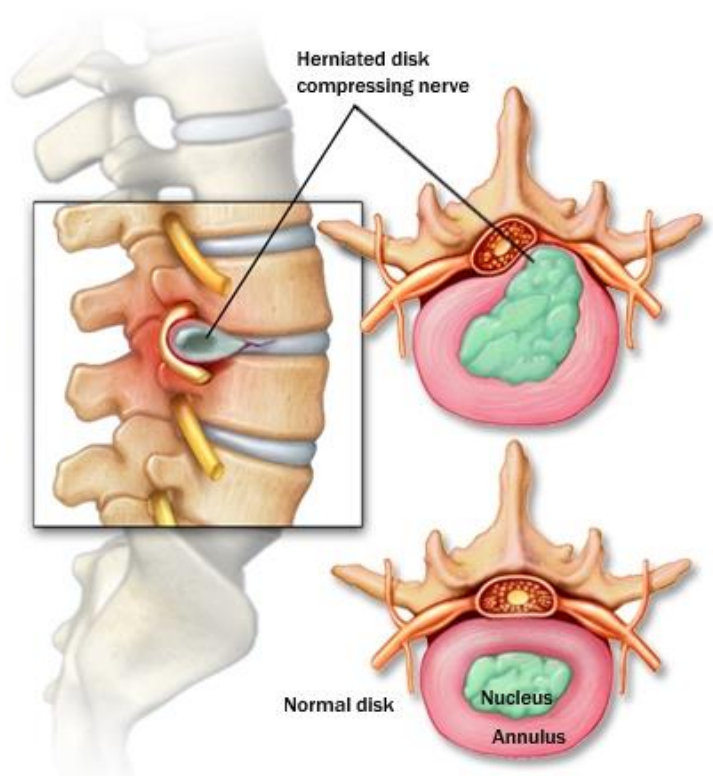


Discogenic Low Back Pain

Discs consist of several tough outer fibrous layers (anulus fibrosus), which surround the soft centre (nucleus pulposus). The nucleus hardens with age.

The discs act as cushions between the vertebrae. Being overweight places additional stress on the discs.

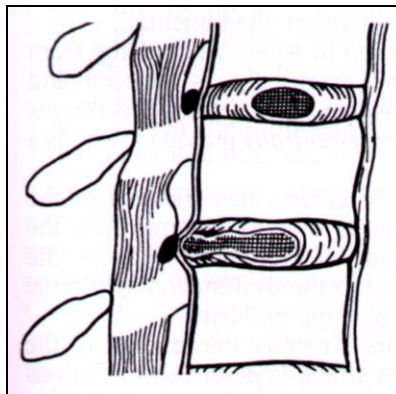
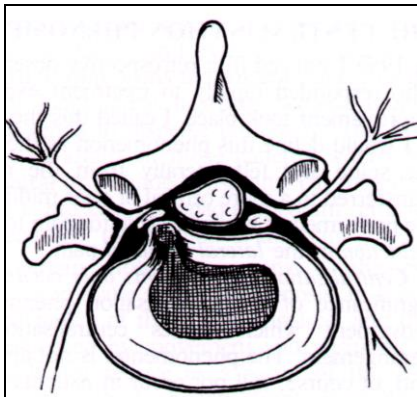
Studies have shown that certain postures or positions change the load on the disc – the higher the load, the greater the risk of injury or further damage. Excessive disc loading will increase the risk of disc fibre tears or disc bulging.



The figures below compare the effect of load on a disc in different positions:

| <u>Activity</u> | <u>Load on disc (kg)</u> |
|-----------------------------------|--------------------------|
| Lying on back | 30 |
| Standing | 70 |
| Sitting | 100 |
| SITTING SLUMPED | 180 |
| Walking | 85 |
| Coughing, Sneezing | 110 |
| Laughing | 120 |
| BENDING FORWARD 20 degrees | 120 |
| Lifting 20kg with back straight | 210 |
| Lifting 20kg with back bent | 340 |

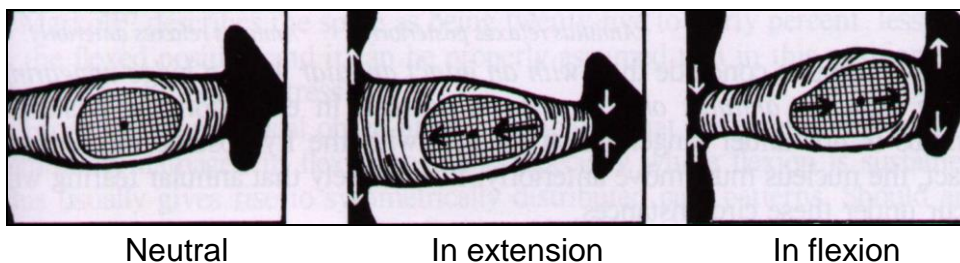
A 'slipped disc' is not an accurate term – the correct term is 'prolapse' or rupture. This is often used to describe when the fibrous layers tear and some of the softer centre squeezes out. This can result in pressure on the nerves that run close to the discs, and this may cause leg pain. Not all low back pain is caused by a disc prolapse – the discs can also cause pain if they are inflamed or bulging. In addition, many people experience low back pain due to worn joints (degeneration).



How posture and exercise can affect disc bulges

During movements of the spine the nucleus pulposus changes position. In lumbar extension there is a forward movement of the 'nucleus'. The reverse occurs in flexion.

Flexion causes a considerable increase in stress to the posterior annulus as the nucleus moves posteriorly.



Neutral

In extension

In flexion

The aim of treatment is to 'centralise' your pain. Correct activities or positions should cause the pain to move towards the midline of the spine and away from the areas that you have been feeling the pain. Conversely, activities or positions which cause the pain to move away from the low back and perhaps increase buttock or leg pain are the wrong activities or incorrect positions.

