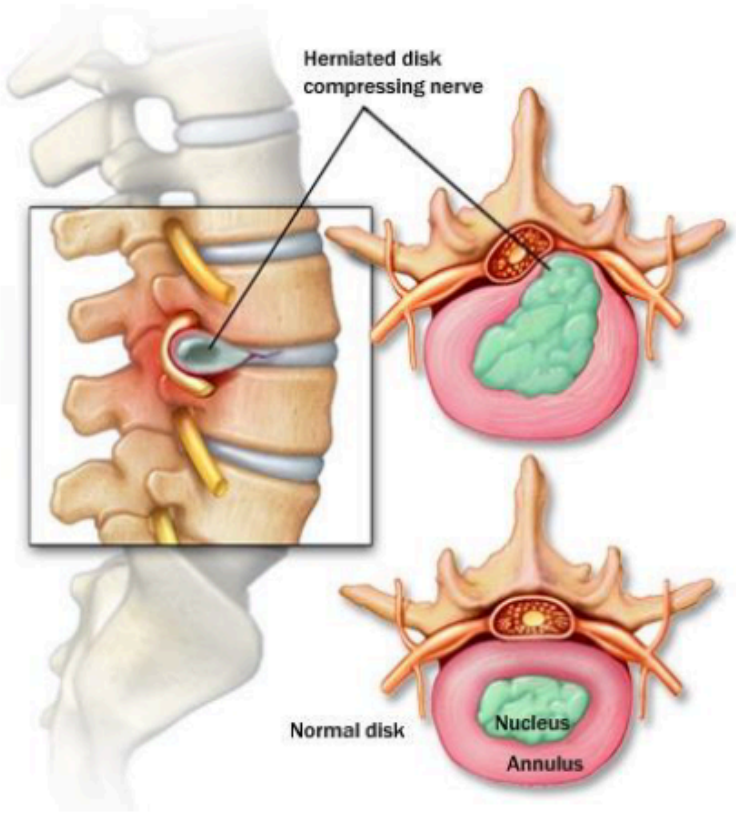
DISCOGENIC LOW BACK PAIN

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.

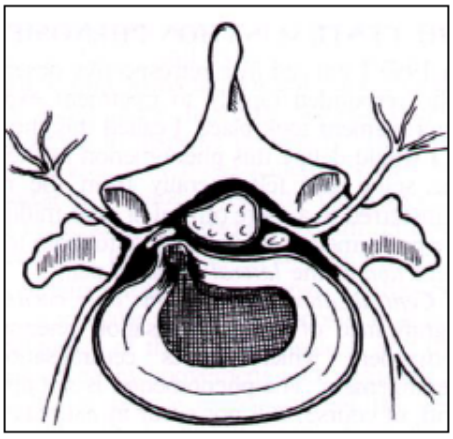
Studies have shown that certain postures or positions change the load on the disc – the higher the load, the greater the risk of injury. Excessive disc loading will increase the risk of disc fibre tears or excessive disc bulging.

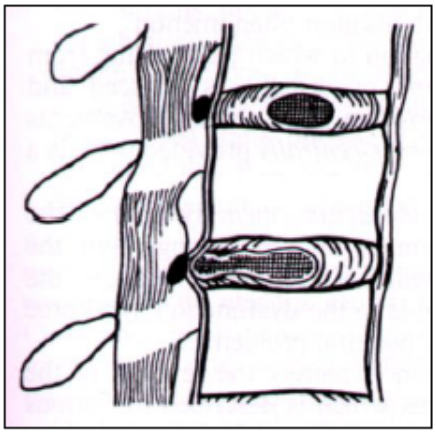


The figures below compare the effect of load on a disc in different positions:

Activity	Load on disc (kg)
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

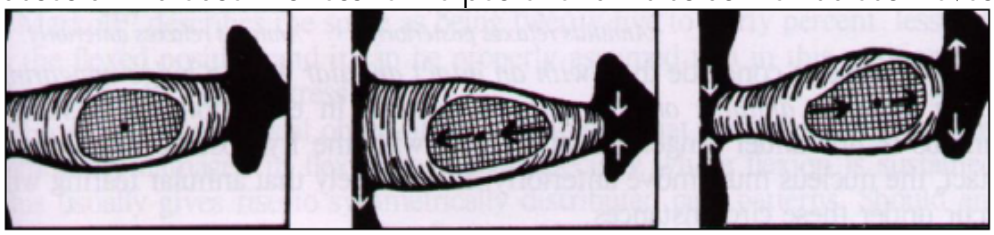
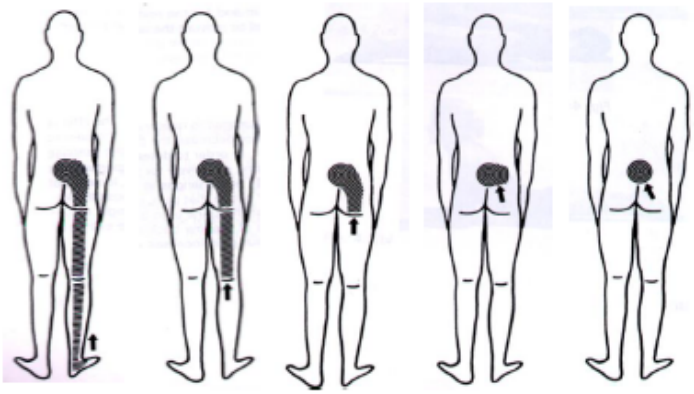
A ‘slipped disc’ is not an accurate term and is often used incorrectly. The correct term is ‘prolapse’ or rupture. This occurs when the outer fibrous layers tear or distort and some of the softer centre squeezes out. This can result in pressure on the nerves that run close to the discs, and this may cause leg pain. Not all low back pain is caused by a disc prolapse – the discs can also cause pain if they are inflamed. As we age it is quite common to have bulging discs and this does not necessarily cause pain. Many people experience low back pain due to degenerative facet joints, irritation to the soft tissues close to the spine or from muscle spasm or trigger points within the muscles.





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. This is normal.
Flexion causes an increase in stress to the posterior annulus as the nucleus moves posteriorly.



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 generally the wrong activities or incorrect positions.