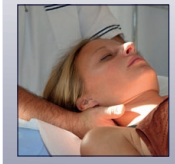
The Courtyard Clinic

Physical Health

Discs and Disc Injuries

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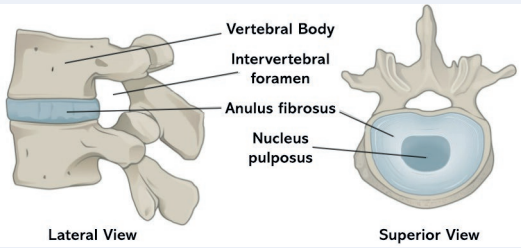
We have many patients whose first concern is that their back pain might be caused by a 'slipped disc'. Whilst we do regularly deal with disc injuries, they are far from the most common cause of back pain. This month we are going to explain the anatomy of an Intervertebral Disc, as well as how and why they can become damaged, and what it feels like when they do.

ANATOMY

A disc is not unlike a jam doughnut, in that the disc has a fluid centre known as the Nucleus Pulposus (NP). The NP is surrounded by a tough fibrous tissue known as Annulus Fibrosus (AF) which holds the NP in place. This fluid core means that the disc is particularly good at bearing weight and absorbing impact forces.

In a healthy spine the discs account for 20-25% of the total length of the vertebral column.



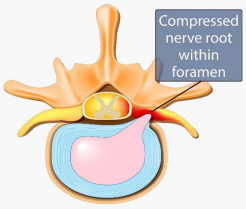
Until the age of around 10-11 the NP has a direct blood supply from which it receives all the nutrition it needs to grow and repair. After this it loses its blood supply and absorbs nutrient rich fluids from layer tissue on the vertebra above and below known as the 'Vertebral Endplate'. The absorption of this fluid is dependent on movement of the disc creating a pump-like action, if there is a limit to the movement in an area of your spine, then the NP receives insufficient nutrients to grow and repair and can become more susceptible to damage.

DISC DAMAGE

There are many ways in which the disc can become damaged. Although problems are often associated with bending, lifting and twisting, these are not the cause of the damage; instead they are most often the final straw. As mentioned, above, a disc needs movement to absorb sufficient nutrition. Sedentary lifestyles and desk-based work can put a strain on different areas of the back, stressing the disc at the same time as limiting the nutrition it receives. This causes damage to remain in poor or disrepair and reduce the stability of the disc.

BULGING/SLIPPED DISCS

A 'slipped' disc occurs when the viscous centre gets forced out through tears and fissures in the fibrous wrapper. This can vary in severity from a minor prolapse causing a slight bulging in the periphery of the disc, to a major prolapse where the NP bulges all the way out and puts pressure on the nerves. The most common sites of prolapse are in the base of the neck and low back because of the mechanical stress that these discs are under. The disc will usually 'slip' if a person is in a fully-forward bent position, and is then put under an extra stress (such as compression from lifting, or a strain from a twist). Symptoms of a disc prolapse may include dull or sharp pain, muscle spasm or cramping, weakness, tingling. Discs also commonly cause shooting or achy pain into the arms or legs.



Sometimes, a disc injury doesn't cause any symptoms at all. A disc may be bulging but unless it's pressing on a spinal nerve or the spinal cord, it may not cause any symptoms at all.

DEGENERATIVE DISC DISEASE (SPONDYLOSIS)

As we age there are changes in the types of cells inside a disc. From the ages of 18-20 there is a gradual decrease in the cells responsible for growth and repair. This means that with ageing our discs are progressively less elastic, less capable of retaining fluid and slower to heal. If combined with poor posture, inactivity or frequent heavy lifting, our discs may become so poor at retaining fluid that they become progressively more fibrous and start to shrink in height. This can create a mechanical strain on our spine and force the joints of our back to bear more weight, as well as potentially causing nerve compression and the formation of bony spurs. However, it also means that the disc is under much less risk of a prolapse. Prolapsed lumbar (low back) discs most often occur in people between 25-45 years of age and are rare in people under 20 or over 65 years.

TREATMENT

The key factor in disc health is maintaining a balance of flexibility and stability. This means ensuring that mechanically our spines can move freely with no restrictions which reduces stress on the vertebra and surrounding tissues. It also means maintaining core strength which protects our spine from strain and damage by allowing an integrated distribution of forces. Regular physical therapy, together with varied exercise helps to maintain a healthy well-functioning spine.

The Courtyard Clinic - *Osteopathy, Physiotherapy, Massage Therapy, Podiatry/Chiropody*



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