



## DO DISCS HEAL?

The intervertebral spinal disc remains one of the most intriguing and misunderstood structures in the human body.

The vast majority of the population will at some stage experience some back or neck injury, and a significant proportion of these will involve the intervertebral disc. However, there are still significant misconceptions about these types of injuries.

The intervertebral disc is of course made up of a thick fibrous layered outer coating called the annulus fibrosus, and the centre called the nucleus pulposa. It is fused to the end plates of the vertebra above and below and can move in all directions.

The nucleus itself is liquid in nature up until about the age of 17 in most people. At this stage the nucleus solidifies as part of natural development of the spine. The nucleus itself does not have direct blood supply, and annulus gains its blood supply through the surrounding blood vessels. Damage to the outer coating or end plate that causes bleeding into the nucleus, will result in a significant inflammatory response. Indeed bleeding into this area can in fact liquefy the solid nucleus in adults.

Other misconceptions can include the old adage a “slipped disc”. This of course is impossible due to the extremely strong fusion of the disc to the vertebral end plate.

Common injuries that can incur in a disc are a “prolapse” and a “bulge”. The prolapse itself involves tearing of the outer coating of the annulus and can also involve the nucleus protruding through this “tear”.

A bulging involves tearing of the deeper layers of the annulus but not the outer coating. The analogy of an air bubble in a retread tyre on a car can be a useful description.

Damage to these structures causes an inflammatory reaction, and ongoing pain. But it is also the start of the healing process. If this inflammatory reaction is appropriately managed early, then most disc injuries should heal, as with any other structure. If it is poorly managed it can lead to painful restriction to movement, and long-term disability.

Early intensive treatment from the Doctor and Physiotherapist aimed at returning normal movement and function, and controlling the inflammatory response and pain, can have a dramatic impact on the fate of that injury.