Orthopaedic Connection

Anatomy Lesson – The Disc

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Transforming patient information into patient understanding.

Everyone has at least some basic knowledge of a disc. Oh by the way it has two spellings both of which are correct. I have always spelled it DISC, probably from my Cleveland Clinic training. But many people spell it DISK which is also correct.

What is it?
The simplest answer is that a disc is the spinal structure that keeps the back bones (vertebra) separated from each other. In a healthy normal spine you see a vacant clear space between the vertebra on plain x-rays.

Structure
The disc can be described as a shock absorbing cushion. The actual tissue structure of the disc can be considered as two parts. The tough fibrous outer shell gives the disc its structure and strength.

The other part of a disc is an inner core of a jelly like substance. A healthy core of jelly contains 90% water. Behind the disc is a very tough ligament that adds strength and runs the length of the spine within the spinal canal.

So far so good. Youth is wonderful. Back is healthy, feels good, no injures.

Aging
Medically the jelly core is termed nucleus pulposis.
As years pass this structure loses much of its water and becomes somewhat like gristle. Furthermore the outer portion called the annulus becomes weaker and some fibers can tear.

If you are like the majority of people at about age forty your back begins to ache off and on. It may or may not be related to anything you have done. The age of onset and symptoms are quite variable.

Certain occupations are notorious for causing a “bad back”. Professional golfers are especially affected as are many other occupations that involve twisting. This type of “bad back” pain is called discogenic pain. Up to this time the symptoms have affected only the back. There are many nerves in the ligament structure I referred to and that is where most of the pain seems to come from.

At this point certain tell tale findings begin to appear on plain x-rays.

Disc Herniation
If the disc material begins to press outward it can irritate important nerves passing close to the disc. Depending on the degree of pressure you can begin to have pain passing from the back into the buttock and down the leg. It almost always occurs on one side only.

The leg pain is referred to as sciatica as everyone knows. The disc material is not actually pressing on the sciatic nerve, but on smaller nerves next to the disc that eventually form the large sciatic nerve.

The process I have been describing is not termed arthritis at this point.

Arthritis, Spinal Stenosis
By the time you reach 60 and you have had a “bad back” for awhile you begin to develop some structural changes in the spine that can be easily seen on plain x-rays. Spurs can be seen as well as disc space narrowing and even some constriction of the passages where the nerves exit the spine to form the sciatic nerve.
Disc trouble is a very large topic and my goal today was to make you aware of this portion of the spine and the changes it undergoes.
I hope I have accomplished this. See you next week.

My patients put their trust in me and what I do improves the quality of their lives.

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Dr. Haverbush