



The four-minute med school: Disc damage for lawyers

Not all “jelly donuts” are for eating. Here’s spinal anatomy in language you and your client can understand.

BY JEFF DAVIS

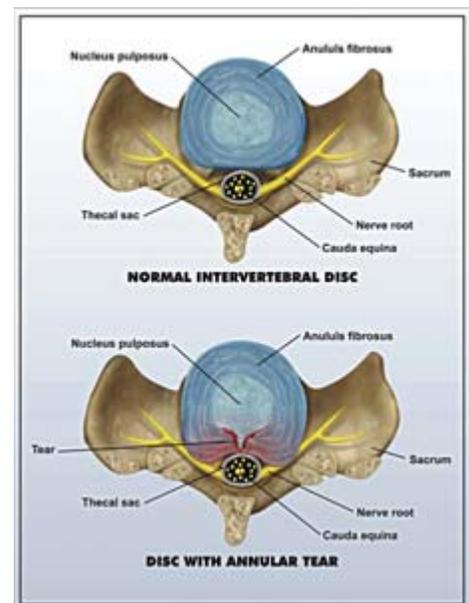
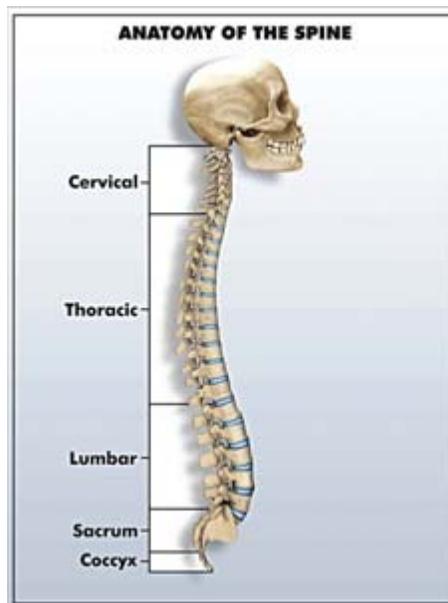
Much like an orthopedic surgeon could never handle voir dire or a cross examination as well as you could, you cannot be expected to know how the annulus fibrosus fits around the nucleus pulposus (the *what?* around the *which?*!) For the purpose of this article, we will focus on one of the most important areas of anatomy when dealing with injury cases: the spine.

Spine sections

The spine is comprised of four main sections. The **cervical** (the neck), **thoracic** (from the bottom of the neck to the top of the low back), the **lumbar** (the lower back) and the **sacrum** (the fused levels of bone below the waist). At the very bottom of the spine is a little “tail” of bone called the **coccyx**. Each of these levels is comprised of bony vertebral bodies.

Vertebrae

There are seven cervical vertebrae, 12 thoracic and five lumbar. The sacrum is fused together without discs. Each level of the spine is numbered from top going down to the bottom. For example, if you hear someone refer to “C-4,” you should know that the “C” stands for cervical and that it is the fourth vertebral body counting down from the skull. If you hear “L-5,” “L” refers to lumbar, and it is the bottom vertebral body, located just above the sacrum.

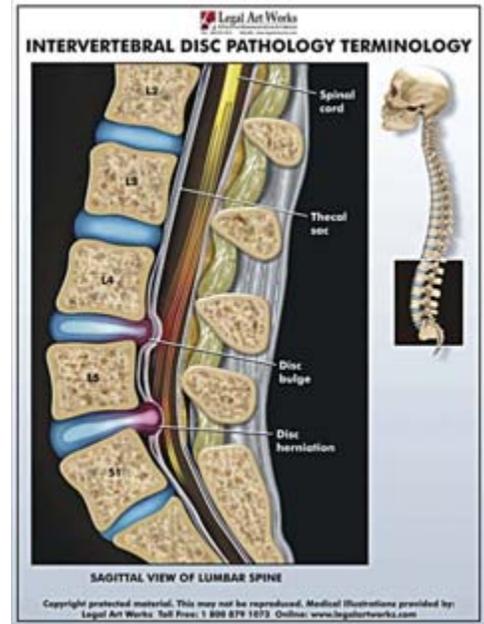
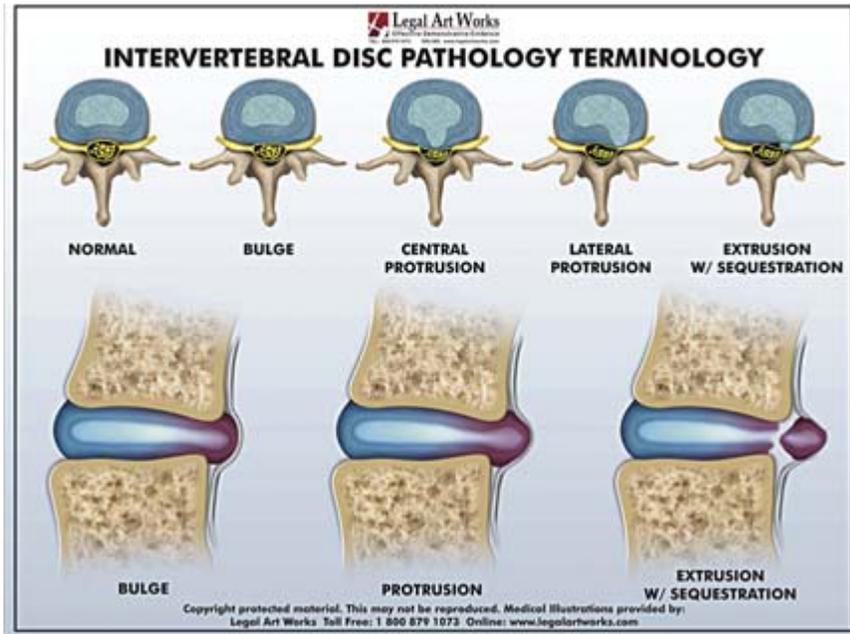


Intervertebral discs

The intervertebral discs are located between the vertebral bodies. They are named according to the level of vertebral bodies located both above and below. For example, you might see a lower back disc referred to in a report as L4-5. If you see the term “L5-S1,” it means that the disc referred to sits between the bottom lumbar vertebral body and the top sacral fuse bone section.

The intervertebral disc is much like a jelly donut. (Please note that they do

not taste like jelly donuts, so sorry to disappoint any cannibals reading this and getting that mental image right now.) Using the jelly donut analogy, the “dough” on the outside of the donut is equivalent to the annulus fibrosus. The “jelly” on the inside is like the nucleus pulposus and the ingredients include water, collagen and protein. When you hear your radiologist describe an annular tear, what he or she means is that the “dough” has torn open and the fluid or “jelly” has leaked outside its original space in the center.



When this occurs, the disc has become a “bulge,” a “herniation,” “protrusion” or “extrusion.” Each of these variations of an intervertebral disc injury reflects differing levels of the severity of the disc coming out. Unfortunately, sometimes different radiologists will refer to the same disc injury using different names. They often do not realize that the wording they use in radiology reports can make a big difference in the value of your case.

These discs hold the vertebrae of the spine together, absorb shock and act as pivot points that allow the spine to rotate and bend. Therefore, it is a rather traumatic, painful and possibly debilitating experience for your client when any type of damage occurs. Thus, you can never be too careful when discussing the exact nature of the injury. For a general breakdown of each of these variations of disc pathology, see below.

The spinal cord

The spinal cord runs down the back from the brain stem all the way down to

the area of the sacrum at the bottom of the spine. The best way to think of the spinal cord is to imagine a really long sock being held vertically. Inside the sock is a long rope running down the center inside stretching from the top to the bottom. Imagine that inside this entire sock there is contained fluid surrounding the rope.

The “sock” is your thecal sac. The fluid is cerebral spinal fluid, also referred to as CSF, and the “rope” is your spinal cord. All of these things run down your back directly behind all of the intervertebral discs. When a disc has protruded out, bulged or herniated from its normal position, it is then putting pressure on the front side (also called the anterior side) of the thecal sac behind it.

For example, you may have seen a radiology report that describes how an MRI displays the herniated nucleus pulposus, or HNP, is anteriorly effacing the thecal sac. What this means is that the “jelly” has come out of the “donut” and is pressing upon the front of the “sock” causing the fluid to then put pressure on the “rope.”

Nerve roots

The spinal cord branches out at each level of vertebral body and disc. The branches coming off the spinal cord are called nerve roots. These roots extend out to all parts of the body, and this is why a neck injury can result in pain running down the arm and why a low back injury can cause leg pain. Additionally, in some cases, the disc can protrude or become herniated out towards the side and put direct pressure on the nerve root, causing more pain.

Conclusion

Now that you’re ready to start your residency in the ER, go celebrate by grabbing a jelly donut and a coffee! If you’ve found yourself referring to the illustrations included in this article in order to understand these medical concepts, imagine what an adjuster, defense attorney, mediator or jury might also need. You must enable the fact finders to get a clear understanding of your client’s injury and the impact it has on your client’s well being. Being able to explain



MAY 2009

the injury in simple language and including diagrams or illustrations to further explain these points will enable you to be successful because you will have thoroughly documented and explained the reasons you are asking for that particular amount of money for your client.



Davis

Jeff Davis is the founder, president and CEO of Legal Art Works at www.legalart-works.com. Legal Art Works' exhibits and 3D animations are used by trial attorneys across the United

States to help generate larger settlements and verdicts. Jeff Davis can be reached at (904) 356-0111 or by e-mail at jeff@legalart-works.com.

