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Newsletter

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"You are here to be fixed"

The Little Secret About Spine Surgery

By Lloyd Maliner M.D.

So you have been suffering from unrelenting neck or low back pain. Finally your doctor sent you for an MRI of your neck and/or back where they discovered degenerative disc disease with bulging discs and osteophytes. It must be bad because now you find yourself in the office of a spine surgeon. You are here to be "fixed".

I am possibly the spine surgeon to whom you were referred and I have something to tell you. First let me make it clear that I am here to help you, the patient. I became a doctor and took an oath to "help people". Since I am a surgeon I tend to "help people" with surgery. Let's be honest, I earn my living by doing surgery (to help people). So if anyone is interested in doing surgery it is I: but only if I can "help" you. Well, I will let you in on a little secret regarding spine surgery for your neck or back pain: it probably will not help the pain if it truly is in your neck or back.

No, I am not trying to ruin my or my partners' business. I am trying to educate my patients so they have more realistic expectations. We surgeons are here to help the people of our community and though our business is based on doing surgery, our true objective is helping people. Our business relies not on doing as much surgery as possible but on satisfied patients referring others for help. This is why I can tell you this little secret.

You have been sent to us because we are the experts in regards to spine surgery. We are not only the experts regarding how to interpret all those studies, like the MRI's, but also how the results relate to you and your problem as an individual. You are here to "tap" that knowledge as well as discover whether or not you need surgery. Often we can help you in ways other than surgery, or point you in the direction of other "experts" who will be better able to help you.



Figure 1: Herniated Disc Causing Nerve Compression

Now I am probably confusing you because I have said that I do spine surgery and I do this to help people, but I probably cannot cure your back/neck pain. So why do I do this surgery? The key is I said surgery is not going to cure your spine pain. Spine pain is technically known as axial pain, which refers to pain involving the soft tissues along the spine or backbone. On the other hand

there is nerve pain, and surgery can often relieve nerve pain. Radicular or "nerve" pain is the pain caused by compression or pinching of a nerve, and is characterized by pain radiating into an extremity.

The relative indications for anterior lumbar interbody fusion include

Therefore surgery can cure arm or leg pain if it is caused by a pinched nerve, but not the "axial" back pain.

This means that I am also telling you that a pinched nerve does not cause neck or back pain *per se*. Certainly whatever is pinching the nerve may be contributing to the spine pain. Yes, even the pinched nerve can contribute to the spine

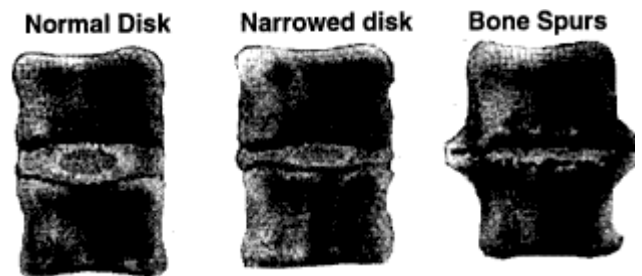


Figure 2: Degenerative Disc Disease

pain. However, most pain from a pinched nerve radiates down the extremity, such as "sciatica" in the leg. The nerve impingement can also cause other symptoms such as numbness or a feeling of "pins and needles" in the extremity. If the nerve is especially impinged there may even be weakness or paralysis, which is most worrisome.



Figure 3: The Complex Musculoligamentous Back

Probably the most common reason we do spine surgery is to "unpinch" nerves in the spine. This surgery has a high success rate of curing radicular pain. A "herniated" or "ruptured" disc is one of the more common causes of an impinged spinal nerve (Figure 1) Often patients who suffer from a ruptured disc do have a component of spine (neck or back) pain, but the main impetus for the surgery is the radicular pain. The classic example is the patient with a long history of back pain and a new leg pain. This same patient is puzzled after surgery that I could be so successful in curing their leg pain but did not help their chronic back pain.

Here is another thought which might make this apparent dichotomy more obvious. When we do surgery, most any surgery, we are not making anything "as good as new". Let's face it, for the most part your original equipment is the best you are going to get. This is especially true with spine surgery. We cannot operate on the spine without disturbing it. To get to either your neck or back we must cut muscles and ligaments. The actual surgery involves cutting or trimming discs and bones. After this assault during surgery how can the spine be expected to be anywhere near "as good as new"? If you had no spine pain prior to surgery you certainly will after surgery.

After all this I have to admit there are a few circumstances where surgery can help, not cure, spine pain. An easy example is a spine tumor. Removing the tumor usually relieves the majority of the pain. Of course, someone with a tumor in their spine needs the surgery for more important reasons than the pain. Another surgically treatable cause of spine pain is spinal instability or weakness. This type of problem is most obvious with trauma, such as a broken neck, but instability can also be due to severe degeneration or arthritis. Once again, the major reason for such surgery is usually not the pain, but to prevent neurological injury.

Another common misconception is that if the MRI shows degenerative changes, bulging discs and bone spurs (Figure 2), then the cause of pain is obvious and surgery is necessary. This is not true though it usually takes a spine specialist to make such a determination. You have to realize that the human body, and especially the spine, is

rarely, if ever, perfect. Almost everyone has something abnormal on his or her MRI, but obviously not everyone is suffering from spine pain. That means that some of these so called "abnormal" findings on the MRI are actually OK. So just because your MRI shows you have a bulging disc, it does not mean that that disc is the cause of your pain, that the disc should be "fixed", or even that doing something to that disc is going to make you feel at all better. That is why we, as spine surgeons personally review your MRI and examine you, the patient: we need to correlate the information. Otherwise we would just see you in the operating room and do surgery where the radiologist reported something was wrong.

One final piece of information, bones and discs are not all that sensitive. For example, people are always having rods and screws put in their bones to help with the pain, not cause it. The major source of pain, even with a broken bone, is the surrounding muscles and ligaments. This is especially true with the spine; the majority of axial pain is due to muscle and ligament injury. In fact, I feel that the most complex and important part of the human "back" is the musculoligamentous structures (Figure 3) and not the bony spine. This goes back to what I said in the beginning about spine surgery not helping spine pain but actually causing a certain amount of pain because of the tissue disruption. We can realign bones, trim discs, and unpinch nerves, but we cannot repair muscles and ligaments in the spine.

I hope I have allayed some fears and encouraged some realistic expectations. The goal of your visit with a spine surgeon should include a better understanding of why you hurt, knowing if there are any major concerns in your particular situation, and knowing what options exist to help you get better - including surgery.

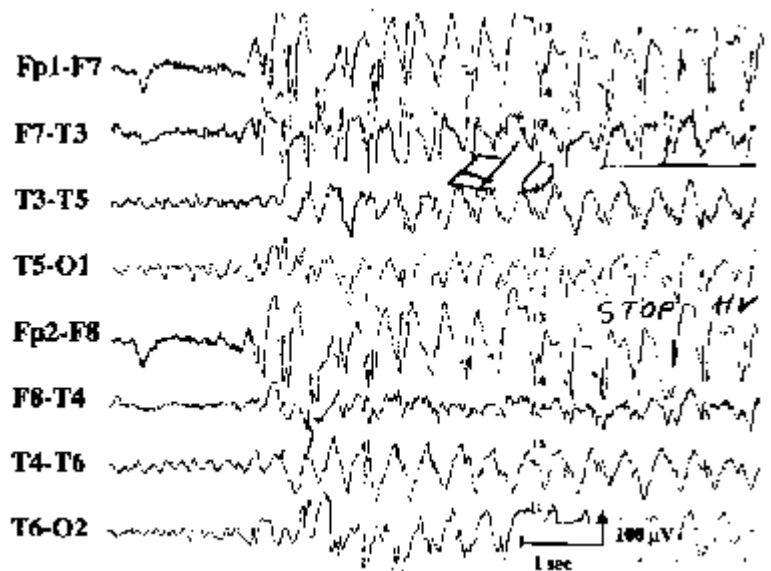
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Absence Seizures may be provoked during hyperventilation

By T. Richard Hostler, M.D.

Absence seizures are both subtle and very brief and may frequently be mistaken for day-dreaming. A typical absence seizure consists of a brief staring spell usually lasting less than 10 seconds and not more than 15 seconds during which consciousness is impaired. They begin and end abruptly without any confusion following the episode. The person experiencing the attack will usually proceed without perception of anything having happened.

In contrast to simple absence seizures, complex absence seizures, which are actually more common, include automatisms such as eye blinking or lip smacking and may include movement of the facial musculature. A slight nod of the head or semi-purposeful movements of the mouth and hands may also be noted. These automatisms are usually stereotyped, i.e., they remain unchanged from one attack



Burst of generalized 3-Hz spike and wave activity with behavioral arrest during hyperventilation.

to another. This seizure type rarely has an onset after the age of twenty years.

Absence seizures may be provoked by hyperventilation which can



usually be demonstrated in the office setting. Sleep deprivation and photic stimulation may also precipitate seizures. The syndrome, known as childhood absence epilepsy, is characterized by absence seizures having their onset between the ages of 5 and 10 years. Approximately 50% of children will experience a remission of seizures following adolescence. Approximately 40 to 50% of patients with absence seizures will also experience one or more generalized tonic-clonic seizures. Juvenile absence epilepsy describes a syndrome in which absence seizures begin at approximately the time of puberty but usually occur

less frequently than in the case of childhood absence epilepsy. Generalized tonic-clonic seizures are more likely to occur in this syndrome and these adolescents may also experience myoclonic seizures.

The electroencephalogram is particularly helpful in arriving at a diagnosis of this particular seizure type and is strongly recommended for any child suspected of demonstrating absence seizures. The treatment of absence seizures has traditionally consisted of one of two major anticonvulsants, either ethosuximide or valproate. The majority of children treated with these drugs will enjoy a very favorable response. Despite the success with which this form of epilepsy can be treated, many children with absence seizures remain undiagnosed. Hence it is recommended that if children are observed to demonstrate even very brief periods of staring this should not be regarded as simple day-dreaming.

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Lumbar Fusion with New "BMP Cages" gets FDA Nod

By William A. Brennan, M.D.

Until recently, many patients who needed to have back surgery in the form of lumbar fusion had to rely on bone graft taken from their own hip area. This frequently resulted in pain at the graft harvest site as well as an additional risk of infection.

Last week Medtronic Inc. obtained FDA panel recommendation for approval of a genetically engineered human Bone Morphogenetic Protein (rh-BMP-2) to hopefully do away with this problem in spine surgery. The protein is produced by bacteria in a similar way as many pharmaceuticals and is injected into titanium threaded cage-like devices (the "LT" cages). These cages are then used by spine surgeons during the lumbar fusion operation by placing them inside the disc space of the ailing back patient. The rh-BMP-2 then stimulates the edges of the vertebrae to start growing towards each other, resulting in eventual fusion. This is the beginning of back pain relief for many, but not all, back patients. The protein has undergone extensive testing in animals as well as humans and the clinical trials were impressive. Patients who received the BMP cages were noted to have undergone fusion by x-ray in dramatically less time than the regular "control" group. The percentage of patients who were unable to achieve proper fusion was also lower in the BMP group. All this information seems to indicate to the FDA panel that BMP is going to be a significant advantage to the patient undergoing Lumbar fusion.

Patients contemplating spinal fusion in the Cervical area will have to await further FDA panel review and Medtronic has not applied for permission to use the product in that area as of yet. It is reasonable to expect that kind of information to be coming along as the usefulness of the product grows.

