As seen in:

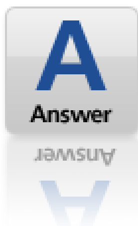
Ask the Experts

Back Pain After Surgery—What Can I Do?

Question:

A few years ago, I had a spinal fusion from L4 to S1. Unfortunately, I still have unbearable pain, and I'm considering a spinal cord stimulator. Do you think that's a good option for me since surgery didn't work? Can I have one put in, even if I have hardware (screws and rods) from the fusion?

—Brooklyn, NY



Answer:

Persistent pain following lumbar fusion is referred to as either Post Laminectomy Syndrome (PLS) or Failed Back Syndrome (FBS), and I know how disappointing it is for patients to still have pain after surgery. In evaluating whether spinal cord stimulation is appropriate for an FBS patient, I look at a couple of factors.

First of all, it's important to consider if the original diagnosis and reason for surgery was correct. In medical terms, we talk about the "indication for surgery," so *perhaps* your original indication for surgery was incorrect. In patients whose pain never improved following surgery, commonly their original indication for surgery was misdiagnosed.

If, however, your back pain lessened initially but then redeveloped, it's likely that you have epidural scar tissue or arachnoiditis, both issues that can occur after surgery. In those cases, patients generally also have pain that radiates down their leg—commonly known as sciatica, but also called radicular leg pain. These patients are ideal candidates for a spinal cord stimulator (SCS) trial.

Another factor I look at for SCS is the percentage of back pain to leg pain. SCS is generally more successful if there's a larger percentage of leg pain.

I also consider the component of neuropathic pain versus nociceptive pain. Nociceptive pain is usually associated with a joint, tendon, or muscle; neuropathic pain occurs when the nerves themselves are damaged. SCS works better for neuropathic pain, so your doctor will need to figure out if your pain is nociceptive or neuropathic. (There are some new developments in treating nociceptive back pain with SCS—related to hardware and technology improvements-but in the past, it's been more successful with neuropathic pain.)

This Week's Expert:

Edward J Kowlowitz, MD
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Dr. Ed Kowlowitz is the owner and medical director of the Center for Pain Management and Center for Special Surgery. A native of New York, he earned his undergraduate degree in biomedical engineering at Columbia University and completed medical school at New York Medical College. After completing his residency at Danbury (Conn.) Community Hospital, he performed both his anesthesiology residency and chronic pain management fellowship at Duke University Medical Center.

Prior to opening the Center for Pain Management in 1992, Dr. Kowlowitz held numerous additional positions, including Chief of Anesthesiology at PhysiciansCare Outpatient Surgical Center, and Medical Director of the Winona Hospital Pain Management program.

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Psychology also plays a part in pain. That may be surprising to some people, but others may find that an obvious statement. Chronic or recurrent pain can lead to depression. Before trying SCS, the doctor should determine that the patient doesn't have any psychological barriers to improvement. By that I mean that the patient should not be so depressed that even if their pain generators were removed, they wouldn't be able to identify that they were better.

All of those preceding factors are important, but an SCS trial is the most predictive tool for who will or won't benefit from a permanent stimulator. It's absolutely necessary to do a trial with SCS. There are two basic ways to perform a trial, and your doctor will decide which is best for you. I'll give a quick explanation of the two trial methods:

- **SCS Trial Method 1:** This is the percutaneous method, and it's less invasive because it just punctures the skin with an epidural needle. The doctor then passes a temporary electrode through that needle and into the epidural space surrounding the dermatome and corresponding to where you have pain. (The *epidural space* is the area surrounding the dura membrane that covers the spinal cord; a dermatome is the specific area that's sensitized by a particular nerve root.) After figuring out the "sweet spot"—the areas where you need stimulation-the doctor will anchor the electrode and connect it to an outside generator. You'll need to leave it in for 2-7 days to see if the SCS reduces your pain by 50% or more. If you can't tell in 7 days, you already have your answer: SCS isn't a good option for you.

- **SCS Trial Method 2:** This method is more invasive because the doctor will actually cut down through the skin and implant the stimulation leads. The rest of the trial is the same—hook it up to an outside generator and see if it works in 2-7 days.

If the trial is successful (your pain is reduced by 50% or more), you can have a spinal cord stimulator permanently implanted, or with Trial Method 2, simply revised in a 30-minute procedure.

I explain all of that about patient selection and trial details because without knowing your case, I can't say if spinal cord stimulation will work for you. I do feel, though, that it's important to understand patient selection criteria and why SCS may not work for you.

However, I can offer reassurances about your spinal hardware concerns. You have screws and rods from L4 to S1, which is below the area where SCS leads are generally placed. When implanting the SCS in your case, I would enter the spine at the L1-L2 or T12-L1 level. The leads are then placed at T8-T9, which is in your mid-back region and above your low back fusion levels.

I'd also like to point out a study from Johns Hopkins University School of Medicine that evaluated repeat operation versus SCS for persistent or recurrent radicular pain (such as you may have following your back surgery). SCS was found to be more effective and less expensive than re-operation. This was a "crossover" study, so patients were given the option to switch from one group to the other if the treatment didn't work to relieve their pain. SCS accounted for the majority of the successes in both the primary group (patients who tried SCS to alleviate their persistent or recurrent pain) and in the crossover group (patients who tried re-operation first and then crossed over to SCS). Interestingly enough, none of the patients who failed SCS benefited from re-operation when they crossed over to the operative side of the study.

Dr. Kowlowitz employs a multidisciplinary approach to pain management, including assessment and treatment of pain and suffering.

He and his colleagues at Center for Pain Management use interventional procedures, physical therapy, medication management and psychological counseling, all of which are provided within the walls of his practice, to help patients manage or overcome their conditions.

Dr. Kowlowitz has a particular interest in neuromodulation to treat chronic neuropathic pain and has done extensive research and training with Advanced Neuromodulation Systems in order to evaluate and improve the safety and effectiveness of such devices. He is one of the leading implanters of spinal cord stimulators in the state of Indiana and the Midwest.