Spinal Cord Stimulation

Spinal Cord Stimulation?

One treatment your doctor might explore when other methods haven't worked is spinal cord stimulation (SCS). This involves applying electrical currents to certain areas of the spinal cord. While it's not known how SCS works; most patients who get pain relief from SCS will usually have improvement in function as their pain improves.

Spinal cord stimulation was developed for the treatment of nerve pain. This type of pain is usually from injury to nerves and causes burning, shooting, or tingling. There may be other symptoms like painful numbness or a greatly increased sensitivity to things that would not normally cause pain, such as a light touch.

Getting Started with Spinal Cord Stimulation

Spinal cord stimulation is not for everyone as it involves placing a medical device in your body. Most doctors will try other treatments first and only suggest SCS if those do not provide enough relief for you. Because of the high start up cost, Medicare and most insurance companies ask that you have a psychological evaluation first to make sure there is nothing that could limit how well the therapy will work. You will also have a trial period before the permanent device is inserted. A spinal cord stimulation trial usually lasts three to seven days, but could last weeks if necessary to see how effective it is for you. For the trial, your doctor will place wires inside your spine through a needle. The wires will be positioned over areas of your spinal cord that are associated with your pain. During the procedure, you may be asked questions about whether you feel stimulation and where you feel it. Once a good area is located, your doctor will attach the wires to your skin. A temporary pulse generator (battery) will be placed outside your body and the end of the wires will be attached to it. It is programmed to provide a soothing, tingling sensation to the areas of your body where you have pain. You will carry the pulse generator around with you during the trial time, and you will be asked to keep track of whether it relieves pain and if it helps you to do your every day activities. At some point, you and your doctor will decide whether it makes sense to have one of these devices permanently placed into your body.

How it Works

The permanent spinal cord stimulation system usually has a programmable (and possibly rechargeable) pulse generator (the battery). There are two different types of systems; one type the leads are put in place through a needle (these are called percutaneous leads) and the other type the leads are put in surgically (these are called paddle leads). Paddle leads are more stable and more energy efficient, but because they are put in surgically, there is a longer recovery period. You should discuss with your doctor which system would be best for you.

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Spinal cord stimulation has the advantage of giving you quite a bit of control. You will receive a controller that works a lot like the remote for your TV. You can turn it on or off, select different program settings, and control the stimulation. Another major advantage of SCS is that it uses electricity instead of drugs, so there are no side effects to speak of. Many SCS patients have found they can take less daily medication or even stop taking medication altogether.

What are the Side Effects and Risks?

As with any surgery, there are some risks from placing the device. One of the most common is infection. Because these devices are a foreign body and don't receive direct blood flow, an infection in your unit will probably not be able to be treated with antibiotics, so the system will likely have to be removed. You can have another device put in after the infection is completely gone (usually 3-6 months).

If you have an SCS system, you may not be able to have an MRI. The wires of the stimulator or generator can heat up and could cause damage. A CT scan may be a good substitute. Another problem that could happen is the lead wires can move, which causes the SCS not to work as well over the painful areas. In some cases the units can be reprogrammed to get the stimulation back. If reprogramming doesn't work, then the leads may need to be put back in place with surgery.

There's also a risk of the leads breaking and having to be replaced.

Portions taken from North American Neuromodulation Society (NANS).

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