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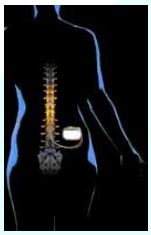
Spinal Cord Stimulation/Neuromodulation
PATIENT EDUCATION SHEET

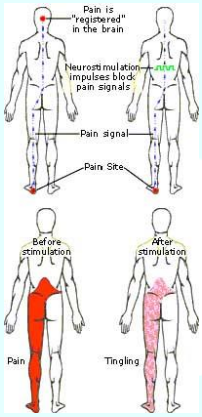
Anatomy of the Spine

The "epidural space" is the space between the covering of the spinal cord (dura mater) and the inside of the bony spinal canal. It runs the entire length of your spine. The “dura” is the sac which houses the spinal fluid and some parts of the spine, the spinal cord as well. Spinal cord stimulation (SCS) utilizes the epidural space to get in close proximity to the spinal cord where nerve signals originate, in an effort to control pain by interrupting the transmission of these signals.



How Does it Work?

A spinal cord stimulator is a very simple and elegant device that works by utilizing a very complex mechanism of how pain is generated in the human body. This is called the ‘gate-control theory’ and basically says that the brain can only allow a certain amount of information to pass through from the spine to the brain at any given time. This information is controlled by a ‘gate’ in the brain which closes when this limit is reached, and then reopens allowing more information (any stimulation or pain signals) to pass through.



Therefore, the more information that the spinal cord stimulator passing through into the device is the brain, the less information that gets through from those painful areas in your body. [This is very similar to the way a TENS unit works, which is a non-invasive device used to treat neuropathic pain.]

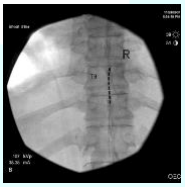
So What Types of Pain Can This Treat?

Typical candidates include those individuals with chronic radiculopathy (sciatica), failed back syndrome, neuropathy, reflex sympathetic dystrophy (complex regional pain syndrome), or vascular insufficiency.

What Can I Expect?

This procedure is performed for chronic pain which has failed to respond to other, more conservative treatments. It is an invasive, two-part procedure, which results in an implantation using minimally invasive surgery, and should be considered when weighing other options such as more extensive spinal surgery or chronic medication management.

The first part of the procedure is the ‘trial’ portion. This is a temporary implantation of soft lead wires into the spine using a needle, which are then connected to an external stimulator. This can be in performed under x-ray in the office-setting or outpatient surgical center, with local anesthesia or IV sedation. The trial period will test how well you respond to the stimulation and determine whether it is effective in controlling your pain. The trial typically lasts about 3 to 7 days, and precautions must be taken to insure the device remains clean and dry during this period. If your pain is successfully controlled during the trial period, you will be a candidate for permanent implantation of the spinal cord stimulator device.



The implantation is done in an outpatient surgical center or hospital by a surgical spine specialist. You will need to meet with a representative from the device company as well as a surgeon as part of your trial period, and we ensure proper communication with the spine specialist which helps to optimize the outcomes of the procedure.

Once completed, you will have a remote control system which allows you to control the settings on your device to help alleviate pain. Most people who choose this therapy are able to reduce their medication use, increased their activity levels and improved their quality of life. Although this portion of the procedure is considered permanent, the treatment and implantation is reversible and the device can easily be removed if needed.


Patient Programmer