EMORY PAIN CENTER

Spinal Cord Stimulator

What are the indications for a spinal cord stimulator (SCS)? You may be a candidate for SCS if you have severe, chronic pain caused by abnormal pain signaling from the nerves in your body that has not responded to prior non-surgical or surgical management.

What is a spinal cord stimulator? SCS delivers mild electrical energy to the spinal cord that interrupt pain signals to the brain to reduce the amount of pain experienced. These impulses are generated by a small device that is implanted under your skin and contain insulated wires called leads that deliver the impulses to the spinal cord. Using a handheld device that works like a remote control, you can adjust the stimulator to specific areas and levels of pain, depending on your activities and how your pain changes during the day.

Every patient's pain experience is different pain and relief from spinal cord stimulation can vary, though most successful cases achieve a 50 to 70 % decrease in pain on average. This may help you return to a more active lifestyle and reduce your use of pain medications. SCS does not eliminate the source of the pain.

What are the steps for placing a spinal cord stimulator? There are two stages involved in the spinal cord stimulator procedure. Most insurance companies require a psychological evaluation prior to the first stage in order to insure that patients have the best outcome. The first is a trial stage, like a test drive, during which the leads are temporarily placed via needles to test the effectiveness of the device and whether you are comfortable with the way it works for you. This is done outpatient and you will test the device for approximately one week at home in your normal surroundings and during your normal activity level.

If you have a positive experience with the stimulator, we will perform a second procedure to permanently implant the device with the leads and an attaching battery. This is a minor surgical procedure typically done as outpatient.

What is the procedure for placing a spinal cord stimulator? During the implantation of the trial device, you will receive a local anesthetic to numb the area and mild sedation to keep you relaxed. Insulated wires are carefully placed through a needle into the epidural space, which is adjacent to the spine. The wires are then connected to a stimulator battery that remains outside your body for the duration of the trial. The leads are easily removed through the skin at the end of the trial period with almost no discomfort.

If the device is successful at reducing your pain, then you will have a permanent implantation procedure. This is very similar to the trial procedure. However, a small incision in the back is needed to allow the leads to be placed underneath the skin, and another small incision is needed for the stimulator battery to be implanted under the skin, usually in the buttocks or flank area.
In most cases, the stimulator is barely visible underneath the skin. The implanted stimulator battery is rechargeable and typically lasts 5 to 10 years, depending on the model and how often it is used.

What are the side effects/risks of SCS? Serious side effects and complications are uncommon. The most common problem is pain for a few days at the site where the wires and stimulator battery were inserted. This is normal and can be controlled by pain medications for a few days until it subsides. Other complications include infection, bleeding, nerve injury, spinal cord injury, dural puncture or tear, and migration or breakage of the wire.

Most people return to light levels of activity several days after the procedure. Heavy lifting, excessive bending and twisting should be avoided for up to two months to allow the leads to heal in the appropriate position without moving. Swimming in pools or sitting baths should also be avoided until the skin if fully healed.

How effective is a spinal cord stimulator at relieving pain? While the treatment does not work for everyone, 50% to 70% patients report a meaningful reduction in overall pain, as well as an increased ability to participate in normal activities of daily living. Many patients find that they can decrease or stop taking pain medications after undergoing SCS placement. Recent advances also allow more control for patients to adjust the stimulation if the pain changes in location or severity.