

Q: WHAT IS SCS?

A: SCS is a means of providing pain relief by delivering electricity to the spinal cord through an implanted lead. The lead is powered by an internal pulse generator that is placed under the skin.

Q: WHAT ARE THE ADVANTAGES OF SCS?

A: SCS is a fully-reversible, non-destructive procedure that provides pain relief and allows the patient to function, especially in physical therapy.

therapy. When a patient cannot progress with physical therapy, sympathetic blockade (sympathetic blocks) should be used. If sympathetic blocks do not provide sufficient duration of pain relief to allow physical therapy, then SCS should be considered.

Q: WHEN SHOULD THE PATIENT PROGRESS FROM USING SYMPATHETIC BLOCKS TO CONSIDERING SCS?

A: If each sympathetic block provides a more sustained benefit than the previous

Q: ARE THERE DIFFERENT TYPES OF SCS TRIALS?

A: There are at least two ways of trying SCS. The first—pure percutaneous SCS—involves placing a needle through the skin. The lead is placed through the needle and is then sewn down to the skin for the trial. The second type of trial is called an implanted trial and a permanent lead is implanted under the skin. A temporary connector is brought out of the skin and connected to an external device for the trial. If

Spinal Cord Stimulation Q&A

By Joshua Prager, MD, MS

No medications are required and SCS provides the patient an opportunity to reduce medications while participating in the rehabilitation process.

Q: WHAT ARE THE DISADVANTAGES OF SCS?

A: SCS is an invasive procedure that requires surgery. It is expensive and with any surgical procedure there is always the risk of infection.

Q: IS SPINAL CORD STIMULATION (SCS) AN ACCEPTABLE THERAPY FOR TREATMENT OF COMPLEX REGIONAL PAIN SYNDROME (CRPS)?

A: Yes, when it is used as part of a comprehensive rehabilitation program. The international association for the study of pain (IASP) indicates in their treatment algorithm that the mainstay of treatment for CRPS should be physical

one, then it is logical to consider using sympathetic blockade to allow the patient to participate in physical therapy. If the blocks do not provide progressively long relief and plateau at a short period of relief, for instance less than a week, then an SCS trial is indicated.

Q: WHAT IS AN SCS TRIAL ?

A: SCS trial involves placing a spinal cord lead in the epidural space. For a period of time, usually at least a week, the patient experiences the SCS without having the system implanted. If the results are favorable and there are minimal undesired effects, then a permanent implant will be considered after an appropriate behavioral evaluation.

the implanted trial is successful, a permanent internal pulse generator is then connected after the temporary extension is removed.

Q: WHAT ARE THE ADVANTAGES OF A PERCUTANEOUS TRIAL?

A: A percutaneous trial is performed without cutting the skin. The lead is removed in the office and no incision is ever made. There is less pain after a percutaneous trial.

Q: WHAT ARE THE ADVANTAGES OF AN IMPLANTED TRIAL?

A: In an implanted trial, the lead can become permanent. There is no need to find the appropriate position for the lead at permanent implantation because it is already in place. The patient does not have to be awake for the second procedure.

Q: WHAT ARE THE DISADVANTAGES OF AN IMPLANTED TRIAL?

A: In an implanted trial, if the trial is unsuccessful, a second surgery is necessary to remove the lead. Patients experience more post operative discomfort after an implanted trial because skin incision and tunneling are performed.

Q: IS SCS PERMANENT?

A: No. In the event that the modality is no longer necessary, it can be removed without any harm to the patient. Although uncommon, SCS systems have been removed in patients with CRPS/RSD who have gone into remission.

Q: IS SCS APPROPRIATE FOR CHILDREN?

A: SCS has been used for children with CRPS/RSD. Because there is no nervous tissue destruction, this is an appropriate modality when nerve blocks do not provide a sufficient duration for relief. In children, where it is more traumatic to undergo nerve blocks because of anxiety, stimulation provides a method of delivering continuous pain relief without having to undergo additional procedures.

Q: HOW DOES THE PATIENT CONTROL THE SCS?

A: The patient has a radiofrequency remote control device similar to a remote control for television. The device is applied above the skin to allow the patient to adjust the stimulator and turn it on and off.

Q: WHAT POWERS A SCS?

A: An SCS is powered by an internal pulse generator that is quite similar to a pacemaker. Most modern internal pulse generators are battery powered. The battery is contained in the internal pulse generator in the same fashion that the battery is contained in a pacemaker.

Q: HOW LONG DOES A BATTERY LAST FOR AN INTERNAL PULSE GENERATOR?

A: It varies from as short as 18 months to as long as 5 years.

Q: ARE RECHARGEABLE BATTERIES AVAILABLE FOR INTERNAL PULSE GENERATORS?

A: Within the last three years, at least three rechargeable devices have been approved by the FDA.. One manufacturer warrants the battery for five years. Another manufacturer indicates the battery life will be nine years. Because experience with rechargeable batteries in internal pulse generator is limited, definitive data regarding longevity of the battery is not available. Laboratory bench testing for one battery suggests a lifespan of possibly as long as 25 years.

Q: WHERE IS THE INTERNAL PULSE GENERATOR IMPLANTED?

A: It is generally placed under the skin in the abdominal wall or the buttocks.

Q: HOW LONG DOES SURGERY FOR SCS LAST?

A: It ranges from as little as 15 minutes to as long as an hour. Permanent implantation requires approximately an hour to two hours

Q: WHAT IS REQUIRED BEFORE A PERMANENT IMPLANTATION?

A: A successful trial must be performed and most insurance carriers require a comprehensive behavioral evaluation before permanent implantation.

Q: DOES MEDICAL LITERATURE SUPPORT THE USE OF SCS FOR CRPS/RSD?

A: Numerous articles demonstrate success in relieving pain and reducing the amount of pain medication when using SCS to treat CRPS/RSD.

Q: WILL INSURANCE COVER SCS FOR CRPS/RSD?

A: It has been my experience that carriers cover SCS for CRPS/RSD provided that conservative therapy has been tried and has not been sufficiently

successful. The most expensive aspect of SCS is the hardware itself. Before considering SCS, authorization should be obtained to avoid unnecessary financial burden to the patient and the patient’s family.

Q: HOW LARGE IS THE SCS?

A: The leads are small wires. The internal pulse generator may vary in size from a device several times larger than a 25 cent piece to a device about the size of Zippo lighter.

Q: WHAT ARE IMPORTANT CONSIDERATIONS WHEN DECIDING WHETHER OR NOT TO USE SCS?

A: SCS is in itself not a solution to a patient’s problems in CRPS/RSD. It should be used as part of a comprehensive program to allow the patient to participate in vigorous physical therapy. SCS should be considered when other modalities do not provide sufficient relief to allow physical therapy to occur. It is essential that a successful trial be performed before a SCS permanent implantation is considered. It is best to seek a physician for implantation with significant experience in SCS who also works in conjunction with a comprehensive interdisciplinary rehabilitation program. It is important that the physician communicate with the patient and the patient’s family as well as with all members of the rehabilitation team.

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Joshua P. Prager, MD MS, is Director of the Center for the Rehabilitation of Pain Syndromes (CRPS), Departments of Internal Medicine and Anesthesiology, David Geffen School of Medicine at University of California, Los Angeles, California. Dr. Prager is vice-chair of the sympathetically mediated pain special interest group of the International Association for the Study of Pain. ■