

## What is a spinal cord stimulator (SCS)?

A spinal cord stimulator, also called a dorsal column stimulator is a device which stimulates pain-carrying nerves via small electrical wires placed in the "epidural space" just outside the spinal cord.

## Am I a candidate for spinal cord stimulation?

Spinal cord stimulation is offered to patients with chronic and severe neuropathic (pain from damaged nerve tissue) pain. Some patients may have neuropathic pain in their extremities and some may have severe chronic low-back pain after spine surgery. It is for patients who have not responded to other treatment modalities.

## What is the purpose of the device?

A spinal cord stimulator interrupts nerve conduction along certain types of nerves that predominantly carry pain signals to the brain.

## How long does the procedure take?

This is a two-stage procedure. The first stage is the trial stage and does not involve any surgery. Through a specialized needle, one or two wires are placed in the epidural space. These wires are attached to an external generator which the patient controls. The wires may be left in place for up to 5-7 days. During this phase, the patient engages in relatively normal activity and gauges the effectiveness of the device. If it is successful and the patient is satisfied by the degree of pain relief, the second stage involves placing the wires under the skin, tunneling the wires to the location of the battery, and placement of the battery just under the skin. Each procedure can take up to 1-2 hours.

## Will the procedure hurt?

All of our procedures begin by injecting a small amount of local anesthetic through a very small needle. It feels like a little pinch and then a slight burning as the local anesthetic starts numbing the skin. After the skin is numb, the procedure needle feels like a bit of pressure at the injection site. If you experience any pain during the procedure, your doctor will inject more local anesthetic as needed.

## Will I be "put out" for this procedure?

The placement of the wires is done under local anesthesia with patients mildly sedated. This is necessary to ensure proper placement of the wires. The amount of sedation given generally depends upon the patient tolerance. For the generator

placement, patients are given stronger intravenous sedation.

### **How is the procedure performed?**

It is done with the patient lying on the stomach when placing the wires. For the insertion of the generator, patients are placed on their back or on the side. The patients are monitored with EKG, blood pressure cuff and blood oxygen-monitoring device. The skin is cleaned with antiseptic solution and then the procedure is carried out. X-ray (fluoroscopy) is used to guide the needle for wire placement.

### **Where are the wires inserted? Where is the generator placed?**

For the pain involving lower back and lower extremities, the wires are inserted in the midline at the lower back. The generator is then placed on the side of the abdomen. For the pain involving upper extremities, the wires are inserted in the midline at the upper back. The generator is then placed on the side of the chest.

### **What should I expect after the procedure?**

If the procedure is successful, you may feel that your pain may be gone or quite less. You will experience a fairly constant sensation of stimulation. You may have soreness due to the needles used for a day or two.

### **What should I do after the procedure?**

This procedure is normally a day-procedure. Some patients may be kept overnight for observation. You should have a ride home. We advise the patients to take it easy for a day or so after the procedure. Perform the activities as tolerated by you.

### **How long will the generators last?**

The implanted generators are rechargeable and the charging interval depends on the amount of power required by you to feel comfortable. Recharge intervals are typically every 2-4 weeks. The generator has a 5-year guarantee but is expected to last much longer.

### **What are the risks and side effects?**

Generally speaking, this procedure is safe. However, with any procedure there are risks, side effects, and possibility of complications. Please discuss your concerns with your physician.

### **Who should not have this procedure?**

If you are on a blood-thinning medication (e.g. Coumadin®), or if you have an active infection going on, you should not have the procedure.

## Where can I get additional information?

Although there are several device manufacturers that make a spinal cord stimulation system, currently Utah Pain Specialists uses the device made by Advanced Bionics. More detailed information is available from their site at [www.advancedbionics.com](http://www.advancedbionics.com).