Category: Surgery
*Current Policy Effective Date: 1/1/07

Title: Spinal Cord Stimulation (SCS)  Procedure Code(s): Multiple codes

Description/Background

Spinal cord stimulation (SCS) for the treatment of chronic pain was developed in the late 1960s and refined in the 1980s. SCS requires a trial placement of either single or multiple leads in the area of the cord to produce a pattern of paresthesia. A lead may be placed through a needle or by surgical laminectomy. Although the percutaneous route is simpler, lead migration occurs more frequently with this method. However, since laminectomy is a major operation, most patients opt for the less invasive, percutaneous implantation route. A different level of placement of the leads is used for varying types of pain (e.g., C7-T3 for angina pectoris).

When the patient and physician feel the trial phase has yielded acceptable results, the permanent implantation can be performed. The lead is placed and secured to the spinal ligaments and fascia. An incision is made in either the buttocks or anterior abdominal wall where a one-inch subcutaneous pouch is created. A permanent connection system is tunneled from the dorsal area to the pouch incision. The generator can be external or totally implantable.

The FDA has approved total implantable systems by Medtronic such as Synergy® and Intrel 3® which are currently available in the United States. These systems allow up to eight electrodes for simulation.

Some radio frequency systems (percutaneous) available in the USA are Renew by ANS and Matrix by Medtronic. In these systems, the implant is much smaller, weighs less than those which are totally implantable and the external power source doesn’t require surgical replacement.
The implantable system is capable of handling more than eight electrodes on more than two leads. Systems with sixteen electrodes on two or more leads are capable of attaining broader coverage than systems with eight electrodes on two leads.

The advantage of the implantable system over the percutaneous system is that the individual does not have to wear the generator outside of the body. The disadvantages of the implantable system are the difficulty of upgrading the system with new software and of changing the power source.

Features of the neurostimulation systems may include:

- **Continuous stimulation** – The stimulation mode consists of a single, continuous stimulation program for less complex or unilateral pain patterns.

- **DualStim®** - DualStim® is a stimulation delivery mode that allows automatic cycling between two stimulation sets in a single program. In DualStim® mode, amplitude and pulse rate (frequency) are shared and must be set the same for both programs.

- **MultiStim®** - This stimulation mode allows automatic cycling of multiple stimulation sets within a program to stimulate different regions that cannot be captured with a single program. Multiple stimulation sets can be linked together in a program, each with individually adjusted parameters for amplitude, frequency, pulse width and electrode polarity.

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**CPT/HCPCS Level II Codes and Description** *(Note: The inclusion of a code in this list is not a guarantee of coverage. Please refer to the medical policy statement to determine the status of a given procedure)*

**Established codes:**

- 63650 Percutaneous implantation of neurostimulator electrode array, epidural
- 63655 Laminectomy for implantation of neurostimulator electrodes, plate/paddle, epidural
- 63660 Revision or removal of spinal neurostimulator electrode percutaneous array(s) or plate/paddle(s)
- 63685 Insertion or replacement of spinal neurostimulator pulse generator or receiver, direct or inductive coupling
- 63688 Revision or removal of implanted spinal neurostimulator pulse generator or receiver
- 95971 Electronic analysis of implanted neurostimulator pulse generator system (e.g., rate, pulse amplitude and duration, configuration of wave form, battery status, electrode selectability, output modulation, cycling, impedance and patient compliance measurements); simple spinal cord, or peripheral (i.e., peripheral nerve, autonomic nerve, neuromuscular) neurostimulator pulse generator/transmitter, with intraoperative or subsequent programming
- 95972 Electronic analysis of implanted neurostimulator pulse generator system (e.g., rate, pulse amplitude and duration, configuration of wave form, battery status, electrode selectability, output modulation, cycling, impedance and patient compliance measurements); complex spinal cord, or peripheral (except cranial nerve) neurostimulator pulse generator/transmitter, with intraoperative or subsequent programming, first hour
- 95973 Electronic analysis of implanted neurostimulator pulse generator system (e.g., rate,
pulse amplitude and duration, configuration of wave form, battery status, electrode selectability, output modulation, cycling, impedance and patient compliance measurements); complex spinal cord, or peripheral (except cranial nerve) neurostimulator pulse generator/transmitter, with intraoperative or subsequent programming, each additional 30 minutes after first hour (List separately in addition to code for primary procedure)

95974 Electronic analysis of implanted neurostimulator pulse generator system (e.g., rate, pulse amplitude and duration, configuration of wave form, battery status, electrode selectability, output modulation, cycling, impedance and patient compliance measurements); complex cranial nerve neurostimulator pulse generator/transmitter, with intraoperative or subsequent programming, with or without nerve interface testing, first hour

Other codes (investigational, not medically necessary, etc.):
N/A

Diagnoses/Medical Conditions:

- Chronic pain syndromes
- Chronic refractory angina pectoris

Medical Policy Statement

The safety and effectiveness of spinal cord stimulation (SCS) have been established. It may be considered a useful therapeutic option for the treatment of the following conditions:

- Severe, chronic and intractable pain of the trunk or limbs that has been unresponsive to conventional treatments.
- Chronic refractory angina pectoris in patients who have failed medical therapy and are not considered candidates for revascularization procedures.

Spinal cord stimulation is considered investigational as a treatment of critical limb ischemia as a technique to forestall amputation.

Rationale

SCS is a relatively safe and reversible option for various types of severe chronic pain of multiple origins including but not limited to:

- Neuropathic pain (e.g., resulting from actual damage to peripheral nerves)
- Failed back surgery syndrome (FBSS)
- Peripheral vascular disease
- Angina pectoris
When compared to repeat back surgeries, destructive procedures or abuse of medications, the non-addictive characteristics of SCS make it an attractive alternative for chronic pain management refractory to conventional treatment.

Spinal cord stimulation is generally not effective in treating nociceptive pain (resulting from irritation, not damage to nerves) and central deafferentation pain (related to central nervous system damage from a stroke or spinal cord injury).

Medical Policy Position Summary (Non-clinical summary statement for customer use)

A spinal cord stimulator (SCS) is an implantable medical device used to treat chronic pain that arises from nerves. An electric impulse generated by the device near the back surface of the spinal cord provides a paresthesia ("tingling") sensation that changes the awareness of pain by the patient. The surgeon introduces the spinal cord stimulator lead into the epidural space (the epidural space is inside the spinal canal separated from the spinal cord) either by a needle-puncture through the skin or by open surgery on the spine. A pulse generator or radiofrequency receiver is implanted in the abdomen or buttocks. A wire harness connects the lead to the pulse generator.

How the SCS actually works to relieve pain is not entirely clear. Pain theories suggest how SCS reduces pain. One theory proposed is the gate control theory of pain. The theory assumes that there is a gate in the spinal cord that controls the flow of pain signals to the brain. The theory suggests that the body can inhibit these pain signals or "close the gate" by activating certain nerve fibers in the spinal cord. The spinal cord stimulation system, implanted near this area, stimulates these pain-inhibiting nerve fibers, masking the sensation of pain with a tingling sensation (paresthesia).

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Inclusionary and Exclusionary Guidelines (Clinically based guidelines that may support individual consideration and pre-authorization decisions)

N/A

The SCS is to be utilized as follows:
- The treatment is used only when other treatment modalities (pharmacological, surgical, psychological or physical, if applicable) have been tried and failed or are judged to be unsuitable or contraindicated.
- No serious untreated drug habituation exists.
• Demonstration of pain relief by at least 50% with a temporarily implanted electrode precedes permanent implantation.
• Patients are carefully screened, evaluated and diagnosed by a multidisciplinary team prior to application of these therapies.
• All facilities, equipment and professional and support personnel required for the proper diagnosis, treatment and follow-up of the patient are available.

Related Policies

• Bone (Osteogenic) Stimulators
• Deep Brain Stimulation for Parkinson’s Disease
• Interferential Current Therapy
• Pelvic Floor Stimulation as a Treatment of Urinary Incontinence
• Vagal Nerve Stimulation
• Vagal Nerve Stimulation for Treatment-Resistant Depression

Medicare Information

There is no national or local medical review policy for Medicare regarding spinal cord stimulation. Medicare pays for the codes associated with this procedure.

(The above Medicare information is current as of the review date for this policy. However, the coverage issues and policies maintained by the Centers for Medicare & Medicaid Services [CMS, formerly HCFA] are updated and/or revised periodically. Therefore, the most current CMS information may not be contained in this document. For the most current information, the reader should contact an official Medicare source.)

References

The articles reviewed in this research include those obtained in an Internet based literature search for relevant medical references through 8/25/05, the date the research was completed.
### Joint BCBSM/BCN Medical Policy History

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Next Review: This is an established policy and no longer subject to periodic review

### Pre-Consolidation Medical Policy History

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BLUE CARE NETWORK
POLICY: SPINAL CORD STIMULATION (SCS)

I. Coverage Determination:

Spinal cord stimulation is a covered benefit for the management of severe, chronic and intractable pain that has been unresponsive to conventional treatments.

II. Benefit Information:

- For all implanted SCSs BCN-1, 5, 10, FEHBP and Michigan Catholic Conference certificates will cover in full
- BCN Basic benefit is subject to a 50% copayment, which does not apply toward the annual copayment maximum.
- BCN Self Referral Option (SRO) -
  Tier 1 Copayment – Covered in full when medically necessary and preauthorized by the member’s PCP and BCN.
  Tier 2 Copayment – 20% of the reimbursement amount of all inpatient fees when medically necessary and preauthorized by BCN. Note: The member is not responsible for any amount charged by a non-panel facility that exceeds the BCN approved amount. The copay applies after the deductible has been met. The copay applies to the member’s annual copayment maximum.

III. Benefit Exclusions:

All those not meeting medical policy criteria

IV. Administrative Guidelines:

- The member’s contract must be active at the time the service is rendered.
- The service must be authorized by the member’s PCP except for Self-Referral Option (SRO) members seeking Tier 2 coverage.
- Services must be performed by a BCN-contracted provider, if available, except for Self-Referral Option (SRO) members seeking Tier 2 coverage.
- Appropriate copayments will apply
- CPT - HCPCS codes are used for descriptive purposes only and are not a guarantee of coverage.
- Payment is based on BCN payment rules, individual certificate benefits and certificate riders.

V. Effective Date:

Policy updated: 12/05/02, 3/11/04, 1/1/07 (policy retired)