MEDICAL POLICY

POLICY TITLE	SPINAL CORD AND DORSAL ROOT GANGLION STIMULATION (FORMERLY SPINAL CORD STIMULATION)
POLICY NUMBER	MP-1.069

Original Issue Date (Created):	**7/10/2002**
Most Recent Review Date (Revised):	**4/5/2021**
Effective Date:	**8/1/2021**

I. POLICY

Top

Spinal cord stimulation with standard or high-frequency stimulation may be considered **medically necessary** for the treatment of severe and chronic pain of the trunk or limbs that is refractory to all other pain therapies when all the following criteria are met.

- The treatment is used only as a last resort; other treatment modalities (pharmacological, surgical, psychological, or physical, if applicable) have been tried and failed or are judged to be unsuitable or contraindicated;
- Pain is neuropathic in nature (i.e., resulting from actual damage to the peripheral nerves). Common indications include, but are not limited to, failed back syndrome, complex regional pain syndrome (i.e., reflex sympathetic dystrophy), arachnoiditis, radiculopathies, phantom limb/stump pain, peripheral neuropathy. Spinal cord stimulation is generally not effective in treating nociceptive pain (resulting from irritation, not damage to the nerves) and central deafferentation pain (related to central nervous system damage from a stroke or spinal cord injury);
- No serious untreated drug habituation exists;
- Demonstration of at least 50% pain relief with a temporarily implanted electrode precedes permanent implantation;
- All the facilities, equipment, and professional and support personnel required for the proper diagnosis, treatment, and follow-up of the patient are available.

Dorsal root ganglion neurostimulation is considered **medically necessary** for the treatment of severe and chronic pain of the trunk or limbs that is refractory to all other pain therapies when all the following criteria are met:

POLICY TITLE	SPINAL CORD AND DORSAL ROOT GANGLION STIMULATION (FORMERLY SPINAL CORD STIMULATION)
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- The treatment is used only as a last resort; other treatment modalities (pharmacological, surgical, psychological, or physical, if applicable) have been tried and failed or are judged to be unsuitable or contraindicated;
- Pain is neuropathic in nature; i.e., resulting from actual damage to the peripheral nerves. Common indications include, but are not limited to, failed back syndrome, complex regional pain syndrome (i.e., reflex sympathetic dystrophy), arachnoiditis, radiculopathies, phantom limb/stump pain, peripheral neuropathy. Spinal cord stimulation is generally not effective in treating nociceptive pain (resulting from irritation, not damage to the nerves) and central deafferentation pain (related to central nervous system damage from a stroke or spinal cord injury).
- No serious untreated drug habituation exists;
- Demonstration of at least 50% pain relief with a temporarily implanted electrode precedes permanent implantation;
- All the facilities, equipment, and professional and support personnel required for the proper diagnosis, treatment, and follow-up of the patient are available.

Spinal cord stimulation is considered **investigational** in all other situations, including but not limited to treatment of critical limb ischemia to forestall amputation, treatment of refractory angina pectoris, heart failure, and cancer-related pain. There is insufficient evidence to support a conclusion concerning the health outcomes or benefits associated with this procedure.

Guideline

"Burst" neurostimulation is an alternate programming of a standard SCS device. A clinician programmer application is used to configure a standard SCS device to provide stimulation in "bursts" rather than at a constant ("tonic") rate.

Cross-References:

MP-1.042 Deep Brain Stimulation
MP-6.020 Transcutaneous Electrical Nerve Stimulation (TENS)
MP-6.045 Sympathetic Therapy for the Treatment of Pain
MP-6.046 Threshold Electrical Stimulation as a Treatment of Motor Disorders
MP-6.047 Interferential Current Stimulation
MP-6.048 Electrical Stimulation for the Treatment of Arthritis and Miscellaneous Conditions
MP-6.049 H-Wave Electrical Stimulation
MP-6.050 Percutaneous Electrical Nerve Stimulation (PENS) and Percutaneous Neuromodulation Therapy (PNT)
MP-6.051 Neuromuscular and Functional Neuromuscular Electrical Stimulation

POLICY TITLE	SPINAL CORD AND DORSAL ROOT GANGLION STIMULATION (FORMERLY SPINAL CORD STIMULATION)
POLICY NUMBER	MP-1.069

II. PRODUCT VARIATIONS

Top

This policy is only applicable to certain programs and products administered by Capital BlueCross and subject to benefit variations as discussed in Section VI. Please see additional information below.

FEP PPO: ***Note*** **-** The Federal Employee Program (FEP) Service Benefit Plan does not have a medical policy related to these services. The FEP Medical Policy manual can be found at: https://www.fepblue.org/benefit-plans/medical-policies-and-utilization-management-guidelines/medical-policies.

III. DESCRIPTION/BACKGROUND

Top

Chronic Pain

Spinal cord stimulation (SCS) has been used in a wide variety of chronic refractory pain conditions, including pain associated with cancer, failed back pain syndromes, arachnoiditis, and complex regional pain syndrome (i.e., chronic reflex sympathetic dystrophy). There has also been interest in SCS as a treatment of critical limb ischemia, primarily in patients who are poor candidates for revascularization and in patients with refractory chest pain.

Spinal Cord Stimulation

SCS also called dorsal column stimulation-involves the use of low-level epidural electrical stimulation of the spinal cord dorsal columns. The neurophysiology of pain relief after SCS is uncertain but may be related to either activation of an inhibitory system or blockage of facilitative circuits.

SCS devices consist of several components: (1) the lead that delivers the electrical stimulation to the spinal cord; (2) an extension wire that conducts the electrical stimulation from the power source to the lead; and (3) a power source that generates the electricity. The lead may incorporate from four to eight electrodes, with eight electrodes more commonly used for complex pain patterns. There are two basic types of power source: one type, the power source (battery), can be surgically implanted or worn externally with an antenna over the receiver; the other, a radiofrequency receiver, is implanted. Totally implantable systems are most commonly used.

The patient's pain distribution pattern dictates at what level of the spinal cord the stimulation lead is placed. The pain pattern may influence the type of device used. For example, a lead with eight electrodes may be selected for those with complex pain patterns or bilateral pain. Implantation of the spinal cord stimulator is typically a 2-step process. Initially, the electrode is temporarily implanted in the epidural space, allowing a trial period of stimulation. Once treatment effectiveness is confirmed (defined as at least 50% reduction in pain), the electrodes

and radio-receiver/transducer are permanently implanted. Successful SCS may require extensive programming of the neurostimulators to identify the optimal electrode combinations and stimulation channels.

Traditional SCS devices use electrical stimulation with a frequency of 100 to 1000 Hz. In 2015, an SCS device, using a higher frequency (10000 Hz) than predicate devices, was approved by the U.S. Food and Drug Administration (FDA) through the premarket approval process. High-frequency stimulation is proposed to be associated with fewer paresthesias, which are a recognized effect of SCS. In 2016, the FDA approved a clinician programmer application that allows an SCS device to provide stimulation in bursts rather than at a constant rate. Burst stimulation is proposed to relieve pain with fewer paresthesias. The burst stimulation device works in conjunction with standard SCS devices. With the newly approved app, stimulation is provided in five, 500-Hz burst spikes at a rate of 40 Hz, with a pulse width of 1 ms.

The incidence of adverse events related to spinal cord stimulation have been reported to occur in 30% to 40% of cases. Adverse events can either be hardware-related or biological. Hardware-related complications include lead migration or lead failure or fracture. Biological complications include infection and pain. More severe biological complications are rare, including dural puncture headache (estimated incidence, up to 0.3%) and neurological damage (estimated incidence, 0.25%).

Other neurostimulators target the dorsal root ganglion (DRG). Dorsal root ganglia consists of sensory cell bodies that transmit input from the peripheral nervous system to the central nervous system, and play a role in neuropathic pain perception. Dorsal root ganglia are located in the epidural space between spinal nerves and the spinal cord on the posterior root in a minimal amount of cerebrospinal fluid, amenable to epidural access. Two systems targeting the DRG have received approval or clearance from the FDA.

A retrospective analysis of the FDA's Manufacturer and User Facility Device Experience (MAUDE) database provided information on complications related to the use of DRG stimulation. The MAUDE database was queried for DRG stimulation reports through 2017, identifying 979 episodes. Complications were predominantly device-related (47%; lead migration and lead damage), with the remaining comprised of procedural complications (28%; infection, new neurologic symptoms, and dural puncture), patient complaints (12%; site pain and unwanted stimulation), serious adverse events (2.4%), and "other" complications (4.6%). The prevalence of complications cannot be estimated using the MAUDE database; while facilities are mandated to report events, patients and health care providers may report events but are not mandated to do so.

Outcome Measures

The Initiative on Methods, Measurement, and Pain Assessment in Clinical Trials group has provided recommendations for four core chronic pain outcome domains that should be included

when selecting outcome measures for clinical trials of treatments for chronic pain: (1) pain intensity; (2) physical functioning; (3) emotional functioning; and (4) participant ratings of overall improvement. The Initiative on Methods, Measurement, and Pain Assessment in Clinical Trials has also suggested specific outcome measures to address these core domains and has proposed provisional benchmarks for identifying clinically important changes in these specific outcome measures (see Table 1).

Table 1. Health Outcome Measures Relevant to Trials of Chronic Pain

Domain	Outcome Measure	Description	Clinically Meaningful Difference
Pain intensity			
	• Numeric rating scale • Verbal rating scale • Visual analog scale	Rating of pain intensity on a scale of 0 (no pain) to 10 (pain as bad as you can imagine) or from 0 to 10 cm	• Minimally important: 10%-20% decrease • Moderately important: 30% or greater decrease • Substantial: 50% or greater decrease
Physical functioning			
	Disease specific	Measures of the interference of pain with physical functioning	
	• Multidimensional Pain Inventory Interference Scale	• 60 items, self-report • 12 subscales: interference, support, pain severity, self-control, negative mood, punishing responses, solicitous responses, distracting responses, household chores, outdoor work, activities away from home, and social activities • Items rated on 0- to 6-point scale • Interference subscale score calculated by mean of subscale items	• 0.6 or greater point decrease

	• Brief Pain Inventory Interference Scale	• 7 items, self-report • Measures intensity, quality, relief and interference of pain and patients' ideas of the causes of pain • Mean of the 7 interference items can be used as a measure of pain interference	• 1-point decrease
	• Oswestry Disability Index	Measures functional impairment due to lower back pain: • 10 sections, self-report • Sections: intensity of pain, lifting, ability to care for oneself, ability to walk, ability to sit, sexual function, ability to stand, social life, sleep quality, and ability to travel • Each section is scored on a 0 to 5 scale with 5 indicating the greatest disability • Total score calculated by taking the mean of the section scores and multiplying by 100	• 10 points
	General	Generic measure of physical functioning	
	• 36-Item Short Form Health Survey	Measure overall health status: • 36 items, self-report • 8 domains: physical function, physical role, general health, bodily pain, mental health, social function, vitality/fatigue, and emotional role	• 5-10 points

		• Physical Component Summary and Mental Component Summary scores are aggregate scores that can be calculated • Higher scores indicate better health status	
Emotional functioning			
	• Beck Depression Inventory	• 21 items, self-report • Measures severity of current symptoms of depressive disorders • Scores range from 0 to 63	• 5-point or greater decrease
	• Profile of Mood States	• 65 items, self-report • Measures total mood disturbance with 6 subscales: tension, depression, anger, vigor, fatigue, and confusion • Scores range from 0 to 200	• 10- to 15-point or greater decrease
Global rating of improvement			
	• Patient Global Impression of Change	• Single-item, self-rating • 7-point scale ranging from 1 (very much worse) to 7 (very much improved)	• Minimally important: minimally improved • Moderately important: much improved • Substantial: very much improved

Regulatory Status

A large number of neurostimulator devices, some used for spinal cord stimulation, have been approved by the FDA through the premarket approval process under FDA product code: LGW (stimulator, spinal-cord, totally implanted for pain relief). In October 2016, the FDA approved BurstDR™ stimulation (St. Jude Medical), a clinician programmer application that provides intermittent "burst" stimulation for patients with certain St. Jude spinal cord stimulation devices.

The following table lists the original premarket approval information for devices with product code LGW.

Table 2. Premarket Approval Information for Devices With Product Code LGW

Device	Manufacturer	Original PMA number	Original approval date
Algovita Spinal Cord Stimulation System	Nuvectra Corporation	P130028	Nov 2015
Nevro Senza Spinal Cord Stimulation (SCS) System	Nevro Corporation	P130022	May 2015
Precision Spinal Cord Stimulation(SCS) System	Boston Scientific Corporation	P030017	Apr 2004
Genesis And Eon Family Neurostimulation (Ipg) Syst.	St. Jude Medical / Abbott Medical	P010032	Nov 2001
Itrel(R) Totally Implantable Spinal Cord Stim. Sys	Medtronic Neuromodulation	P840001	Nov 1984
Cordis Programmable Neural Stimulator Models 900a,	Cordis Corporation	P800040	Apr 1981

LGW: U.S. Food and Drug Administration product code; PMA: premarket approval.

In February 2016, the Axium Neurostimulator System (Abbott) was approved by the FDA through the premarket approval process (P150004) with product code PMP (Dorsal Root Ganglion Stimulator For Pain Relief). This implanted device stimulates the dorsal root ganglion. Further, it is indicated as an aid in the management of moderate-to-severe intractable pain of the lower limbs in adults with complex regional pain syndrome types I and II.

In August 2016, the Freedom Spinal Cord Stimulator (Stimwave Technologies), a wireless injectable stimulator, was cleared for marketing by the FDA through the 510(k) process (K180981) for treating chronic, intractable pain of the trunk and/or lower limbs. The Freedom device has implantable or injectable microstimulators that contain electrode(s). The microstimulators with electrodes are powered by a wireless battery pack worn externally. The device can be placed to target the spinal cord (ie, levels T7 to L5) or to target the dorsal root ganglion. FDA product code: GZB (Stimulator, Spinal-Cord, Implanted (Pain Relief))

IV. RATIONALE

Top

Summary of Evidence

For individuals who have treatment-refractory chronic pain of the trunk or limbs who receive standard SCS, the evidence includes systematic reviews and RCTs. The relevant outcomes are symptoms, functional outcomes, QOL, medication use, and treatment-related morbidity. Available RCTs are mixed regarding underlying diagnoses in select patient populations. However, those trials including patients with underlying neuropathic pain processes, have shown a significant benefit with SCS. Systematic reviews have supported the use of SCS to treat refractory trunk or limb pain, and patients who have failed all other treatment modalities have

few options. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

For individuals who have treatment-refractory chronic pain of the trunk or limbs who receive HFSCS, the evidence includes three RCTs. The relevant outcomes are symptoms, functional outcomes, QOL, medication use, and treatment-related morbidity. One RCT comparing high-frequency with standard SCS in patients who had not previously been treated with SCS found a clinically and statistically significant benefit associated with HFSCS. Another RCT in patients who had chronic pain despite previous treatment with standard SCS found no benefit for those receiving high-frequency stimulation compared with sham-control; however, it is difficult to compare these findings with other trials of SCS due to the different patient populations, short treatment periods, and the crossover period effect. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

For individuals who have treatment-refractory chronic pain of the trunk or limbs who receive DRG neurostimulation, the evidence includes an RCT and many case series. The relevant outcomes are symptoms, functional outcomes, QOL, medication use, and treatment-related morbidity. The unblinded RCT found that patients receiving DRG neurostimulation had significantly higher rates of treatment success (physical functioning score and QOL measures), at 3 and 12 months compared with those receiving standard SCS devices. DRG neurostimulation was found to be noninferior to SCS in percentage achieving≥50% pain reduction, emotional functioning score, and SF-36 scores. Both groups experienced paresthesia but patients in the DRG group reported less postural variation in paresthesia and reduced extraneous stimulation in nonpainful areas. Rates of serious adverse events were similar between the two study arms. While most of the case series were small (sample sizes ranged from 10 to 65), all reported results that were consistent with the RCT results. The largest case series had the longest follow-up, reporting continued improvements in pain and psychological scores through three years. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

Critical Limb Ischemia

For individuals who have critical limb ischemia who receive SCS, the evidence includes several small RCTs. The relevant outcomes are overall survival, symptoms, functional outcomes, QOL, morbid events, hospitalizations, and treatment-related morbidity. In some pooled analyses of these RCTs, SCS did not result in a significantly lower rate of amputation, although one meta-analysis that included a nonrandomized study reported a significant difference. The evidence is insufficient to determine the effects of the technology on health outcomes.

Treatment-Refractory Angina Pectoris

For individuals who have treatment-refractory angina pectoris who receive SCS, the evidence includes RCTs. The relevant outcomes are overall survival, symptoms, functional

outcomes, QOL, morbid events, hospitalizations, and treatment-related morbidity. Numerous small RCTs have evaluated SCS as a treatment for refractory angina. While some have reported benefit, most have not. In two recent RCTs, there was no significant benefit in the primary outcomes. The evidence is insufficient to determine the effects of the technology on health outcomes.

Heart Failure

For individuals who have heart failure who receive spinal cord stimulation, the evidence includes RCTs. Relevant outcomes are overall survival, symptoms, functional outcomes, quality of life, morbid events, hospitalizations, and treatment (n=66) did not find significant differences between groups but might have been underpowered to do so. The evidence is insufficient to determine the effects of the technology on health outcomes.

Cancer-Related Pain

For individuals who have cancer-related pain who receive SCS, the evidence includes case series. The relevant outcomes are symptoms, functional outcomes, QOL, medication use, and treatment-related morbidity. No RCTs evaluating SCS in this population were identified. The evidence is insufficient to determine the effects of the technology on health outcomes.

DEFINITIONS Top

ARACHNOIDITIS is a chronic inflammation of the arachnoid layer of the meninges, which are the coverings of the brain and spinal cord.

DORSAL COLUMN is a part of the spinal cord which is responsible for transporting sensory input from the body to the cerebral cortex. All incoming (afferent) information to the spinal cord is conveyed via the dorsal root fibers.

V. BENEFIT VARIATIONS Top

The existence of this medical policy does not mean that this service is a covered benefit under the member's health benefit plan. Benefit determinations should be based in all cases on the applicable health benefit plan language. Medical policies do not constitute a description of benefits. A member's health benefit plan governs which services are covered, which are excluded, which are subject to benefit limits and which require preauthorization. There are different benefit plan designs in each product administered by Capital BlueCross. Members and providers should consult the member's health benefit plan for information or contact Capital BlueCross for benefit information.

POLICY TITLE	SPINAL CORD AND DORSAL ROOT GANGLION STIMULATION (FORMERLY SPINAL CORD STIMULATION)
POLICY NUMBER	MP-1.069

VII. DISCLAIMER

Top

Capital BlueCross's medical policies are developed to assist in administering a member's benefits, do not constitute medical advice and are subject to change. Treating providers are solely responsible for medical advice and treatment of members. Members should discuss any medical policy related to their coverage or condition with their provider and consult their benefit information to determine if the service is covered. If there is a discrepancy between this medical policy and a member's benefit information, the benefit information will govern. If a provider or a member has a question concerning the application of this medical policy to a specific member's plan of benefits, please contact Capital BlueCross' Provider Services or Member Services. Capital BlueCross considers the information contained in this medical policy to be proprietary and it may only be disseminated as permitted by law.

VIII. CODING INFORMATION

Top

Note: This list of codes may not be all-inclusive, and codes are subject to change at any time. The identification of a code in this section does not denote coverage as coverage is determined by the terms of member benefit information. In addition, not all covered services are eligible for separate reimbursement.

Covered when medically necessary:

CPT Codes®								
63650	63655	63661	63662	63663	63664	63685	63688	95970
95971	95972							

HCPCS Code	Description
C1767	Generator, neurostimulator (implantable), nonrechargeable
C1778	Lead, neurostimulator (implantable)
C1787	Patient programmer, neurostimulator
C1820	Generator, neurostimulator (implantable), with rechargeable battery and charging system (to be used for non-high frequency generators)
C1822	Generator, neurostimulator (implantable), high frequency, with rechargeable battery and charging system
C1883	Adaptor/extension, pacing lead or neurostimulator lead (implantable
C1897	Lead, neurostimulator test kit (implantable)
L8679	Implantable neurostimulator, pulse generator, any type
L8680	Implantable neurostimulator electrode, each
L8681	Patient programmer (external) for use with implantable programmable neurostimulator pulse generator, replacement only
L8682	Implantable neurostimulator radiofrequency receiver
L8683	Radiofrequency transmitter (external) for use with implantable neurostimulator radiofrequency receiver

L8685	Implantable neurostimulator pulse generator, single array, rechargeable, includes extension
L8686	Implantable neurostimulator pulse generator, single array, non-rechargeable, includes extension
L8687	Implantable neurostimulator pulse generator, dual array, rechargeable, includes extension
L8688	Implantable neurostimulator pulse generator, dual array, non-rechargeable, includes extension
L8689	External recharging system for battery (internal) for use with implantable neurostimulator, replacement only

ICD-10-CM Diagnosis Code	Description
G54.0	Brachial plexus disorders
G54.6	Phantom limb syndrome with pain
G54.9	Dorsalgia, unspecified
G56.40	Causalgia of unspecified upper limb
G56.41	Causalgia of right upper limb
G56.42	Causalgia of left upper limb
G56.43	Causalgia of bilateral upper limbs
G56.81	Other specified mononeuropathies of right upper limb
G56.82	Other specified mononeuropathies of left upper limb
G57.70	Causalgia of unspecified lower limb
G57.71	Causalgia of right lower limb
G57.72	Causalgia of left lower limb
G57.73	Causalgia of bilateral lower limbs
G57.80	Other specified mononeuropathies of unspecified lower limb
G57.81	Other specified mononeuropathies of right lower limb
G57.82	Other specified mononeuropathies of left lower limb
G57.83	Other specified mononeuropathies of bilateral lower limbs
G58.0	Intercostal neuropathy
G60.0	Hereditary motor and sensory neuropathy
G60.2	Neuropathy in association with hereditary ataxia
G60.3	Idiopathic progressive neuropathy
G60.8	Other hereditary and idiopathic neuropathies
G63	Polyneuropathy in diseases classified elsewhere
G65.1	Sequelae of other inflammatory polyneuropathy
G89.0	Central pain syndrome
G89.21	Chronic pain due to trauma
G89.28	Other Chronic postprocedural pain
G89.29	Other Chronic Pain

G89.3	Neoplasm related pain (acute) (chronic)
G89.4	Chronic pain syndrome
G90.50	Complex regional pain syndrome I unspecified
G90.511	Complex regional pain syndrome I of right upper limb
G90.512	Complex regional pain syndrome I of left upper limb
G90.513	Complex regional pain syndrome I of upper limb, bilateral
G90.519	Complex regional pain syndrome I of unspecified upper limb
G90.521	Complex regional pain syndrome I of right lower limb
G90.522	Complex regional pain syndrome I of left lower limb
G90.523	Complex regional pain syndrome I of lower limb, bilateral
G90.529	Complex regional pain syndrome I of unspecified lower limb
G90.59	Complex regional pain syndrome I of other specified site
M34.83	Systemic sclerosis with polyneuropathy
M50.10	Cervical disc disorder with radiculopathy, unspecified cervical region
M50.11	Cervical disc disorder with radiculopathy, high cervical region
M50.120	Mid-cervical disc disorder, unspecified level
M50.121	Cervical disc disorder at C4-C5 level with radiculopathy
M50.122	Cervical disc disorder at C5-C6 level with radiculopathy
M50.123	Cervical disc disorder at C6-C7 level with radiculopathy
M50.13	Cervical disc disorder with radiculopathy, cervicothoracic region
M51.14	Intervertebral disc disorders with radiculopathy, thoracic region
M51.15	Intervertebral disc disorders with radiculopathy, thoracolumbar region
M51.16	Intervertebral disc disorders with radiculopathy, lumbar region
M51.17	Intervertebral disc disorders with radiculopathy, lumbosacral region
M54.10	Radiculopathy, site unspecified
M54.12	Radiculopathy, cervical region
M54.13	Radiculopathy, cervicothoracic region
M54.14	Radiculopathy, thoracic region
M54.15	Radiculopathy, thoracolumbar region
M54.16	Radiculopathy, lumbar region
M54.17	Radiculopathy, lumbosacral region
M54.18	Radiculopathy, sacral and sacrococcygeal region
M54.30	Sciatica, unspecified side
M54.31	Sciatica, right side
M54.32	Sciatica, left side
M54.40	Lumbago with sciatica, unspecified side
M54.41	Lumbago with sciatica, right side
M54.42	Lumbago with sciatica, left side
M54.5	Low back pain
M54.6	Pain in thoracic spine

M54.81	Occipital neuralgia
M54.89	Other dorsalgia
M79.10	Myalgia, unspecified site
M96.1	Postlaminectomy syndrome, not elsewhere classified
R52	Pain, unspecified

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Top

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81. *Blue Cross Blue Shield Association Medical Policy Reference Manual. 7.01.25, Spinal Cord and Dorsal Root Ganglion Stimulation, May 2020.*

X. POLICY HISTORY

Top

MP-1.069	**CAC 7/27/04**
	CAC 7/26/05
	CAC 9/27/05
	CAC 9/26/06
	CAC 9/25/07
	CAC 7/29/08
	CAC 5/26/09
	CAC 7/27/10 Consensus
	CAC 11/22/11 Adopt BCBSA. Added considerations for patient selection. Treatment to be used only as a last resort – failure of other treatment modalities. Pain is neuropathic in nature. No serious untreated drug habituation exists, Demonstration of at least 50% pain relief with temporarily implanted electrodes precedes permanent implantation. All facilities, equipment and professional and support personnel required for the proper diagnosis, treatment and follow-up of the patient is available. Remains medically necessary with criteria.
	7/26/13 Admin coding review complete
	CAC 9/24/13 Consensus review. No change to policy statements. References reviewed and updated.
	7/24/14 Added Medicare variation to reference to LCD L34705 Spinal Cord Stimulation (Dorsal Column Stimulation)
	CAC 9/30/14 Consensus review. Investigational statement modified to state "all other situations", with examples. Cancer-related pain added to investigational statement.
	CAC 9/29/15 Consensus review. Heart failure added to the list of examples of conditions considered investigational. Rationale and references updated. Coding reviewed. LCD number revised from L34705 to L35450 due to LCD ICD-10 update.
	Administrative 1/15/16: New 2016 code added (C1822); end dated code 95973 removed.

POLICY TITLE	SPINAL CORD AND DORSAL ROOT GANGLION STIMULATION (FORMERLY SPINAL CORD STIMULATION)
POLICY NUMBER	MP-1.069

	Admin update 1/1/17: Product variation section updated.
	CAC 7/26/16 Minor review. Added statement indicating high-frequency spinal cord stimulation is investigational. Background, rationale and references updated. Coding reviewed.
	CAC 7/25/17 Minor review. Investigational statement added for wireless injectable dorsal root ganglion neurostimulation. High-frequency spinal cord stimulation changed from investigational to medically necessary. Coding Reviewed.
	1/1/18 Admin Update: Medicare variations removed from Commercial Policies.
	6/5/18 Consensus review. No change to the policy statements. A guideline was added that "Burst" neurostimulation is an alternate programming of a standard SCS device. Rationale revised. References updated.
	5/10/19 Minor review. Changed Dorsal root ganglion neurostimulation from investigational to medically necessary for the treatment of severe and chronic pain of the trunk or limbs. Background, summary of evidence and references updated. Changed title to Spinal Cord and Dorsal Root Ganglion Stimulation. Previously Spinal Cord Stimulation. Coding reviewed and revised.
	5/4/20 Consensus review. No change to policy statements. Updated regulatory status and references. Coding reviewed, unspecified diagnosis codes added.
	4/5/2021 Consensus review. No change to policy statement. Coding reviewed with no changes. Rationale updated.

TOP