



STIMULATION THERAPY AND DEVICES

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Summary of Changes

Clarifications:

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Deletions:

- Pg. 10, Section XVI, A. Reference to InterQual® criteria has been removed as the medical policy will now be used for TENS determinations.

Additions:

- Pg. 7, Section XIII, language indicating the trial should be for “two weeks” has been added.
- Pg. 10, Section XVI, A, was added to reflect that the “Use of TENS for any diagnosis for a two month trial does not require prior authorization”.
- Pg. 10, Section XVI, B, was updated to reflect that the authorization of TENS beyond the two month trial is required “for any diagnosis (with the exception of those listed in C below)”.

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All stimulation devices require prior authorization by Priority Health.

I. BONE GROWTH STIMULATORS

Refer to InterQual® DME criteria. Both invasive and non-invasive bone growth stimulators must meet InterQual® criteria for Bone Growth Stimulators.

II. CHRONIC SKIN ULCERS

Electrical or electromagnetic stimulation of wounds and skin ulcers in a home setting is **not a covered benefit**.

III. DEEP BRAIN STIMULATION

Unilateral or bilateral deep brain stimulation is a covered benefit when **both** of the following criteria (A & B) are met:

A. *One* of the following:

1. Stimulation of the thalamus in patients with disabling, medically unresponsive tremor due to essential tremor(ET) or Parkinson's disease(PD). Diagnosis of ET based on postural or kinetic tremors of hand(s) without other neurologic signs, or diagnosis of idiopathic PD based on the presence of at least two cardinal PD features, such as tremor, rigidity, bradykinesia, which is of a tremor-dominant form. OR
2. Stimulation of the subthalamic nucleus (STN) or globus pallidus in patients with previously levodopa-responsive Parkinson's disease and symptoms such as rigidity, bradykinesia, dystonia or levodopa-induced dyskinesias. OR
3. Stimulation of the STN or globus pallidus in patients seven years of age or above with disabling, medically unresponsive primary dystonias including generalized and/or segmental dystonia, hemidystonia and cervical dystonia (torticollis).

AND

- B. Disabling, medically unresponsive tremor or dystonia is defined as **both** of the following:
1. Marked disabling tremor of at least level 3 or 4 on the Fahn-Tolosa-Marin Clinical Tremor Rating Scale (or equivalent scale) in the extremity intended for treatment causing significant limitation in daily activities
 2. Inadequate symptom control despite optimal medical management for at least 3 months before implant

Deep brain stimulation (both unilateral and bilateral) is considered investigational and not a covered benefit for other conditions, including but not limited to:

1. Tremor from other causes such as trauma, multiple sclerosis, degenerative disorders, metabolic disorders, infectious diseases, drug-induced movement disorders
2. Cluster headaches
3. Voice tremor
4. Psychiatric disorders, including obsessive-compulsive disorder
5. Significant brain damage, atrophy, cognitive impairment, dementia or depression, which would be worsened by or would interfere with the patient's ability to benefit from DBS.
6. Tourette's syndrome
7. Current psychosis, alcohol abuse or other drug abuse.
8. Structural lesions such as basal ganglionic stroke, tumor or vascular malformation as etiology of the movement disorder.
9. Previous movement disorder surgery within the affected basal ganglion.
10. Significant medical, surgical, neurologic or orthopedic co-morbidities contraindicating DBS surgery or stimulation.
11. Treatment of dystonia or any neurological movement disorders other than ET or PD as outlined in this policy.

Contraindications to deep brain stimulation include the following:

1. Patients who are not good surgical risks because of comorbid medical problems or because of the presence of a cardiac pacemaker
2. Patients who have medical conditions that require repeated MRI
3. Patients who have dementia that may interfere with the ability to cooperate
4. Patients who have had botulinum toxin injections within the last six months

IV. DIAPHRAGMATIC/PHRENIC PACING

Diaphragmatic/phrenic pacing is covered as DME to improve ventilatory function in stable, non-acute patients with spinal cord injury (SCI) when ALL of the following criteria are met:

- Patient has high quadriplegia at or above C-3, and
- There are viable phrenic nerves, and



- Patient's diaphragm and lung function are adequate.

V. DORSAL COLUMN STIMULATORS (DCS)

Dorsal column stimulators (DCS) are covered for the following indications

A. Non-malignant pain:

DCS is covered for managing chronic, intractable, non-malignant pain (see below for angina) in patients who meet ALL of the following criteria:

1. There is documented pathology, i.e., an objective basis for the pain complaint, and
2. Other more conservative methods of pain management have been tried and failed, and
3. Patient is not a candidate for further surgical intervention, and
4. Patient does not have any untreated drug addiction problems (per American Society of Addiction Medicine (ASAM) guidelines), and
5. Patient has obtained psychiatric clearance, and
6. Patient has predominantly extremity pain as caused by radiculopathy, peripheral neuropathy, peripheral vascular disease or complex regional pain syndrome (CRPS), or failed back surgery syndrome with low back pain and significant radicular pain, and
7. Patient experienced significant pain reduction (50% or more) with a 2 day trial of percutaneous spinal stimulation.

B. Angina:

DCS is covered for the management of intractable angina in patients who are not surgical candidates and whose pain is unresponsive to all standard therapies when ALL of the following criteria are met:

1. Patient has angiographically documented significant coronary artery disease and is not a suitable candidate for revascularization procedures such as coronary artery bypass grafting (CABG) or percutaneous transluminal coronary angioplasty (PTCA), and
2. Patient's angina pectoris is New York Heart Association (NYHA) Functional Class III (patients are comfortable at rest; less than ordinary physical activity causes fatigue, palpitation, dyspnea, or anginal pain) or Class IV (symptoms of cardiac insufficiency or angina are present at rest; symptoms are increased with physical activity), and
3. Reversible ischemia is documented by symptom-limited treadmill exercise test, and
4. Patient has had optimal pharmacotherapy for at least one month. Optimal pharmacotherapy includes the maximal tolerated dosages of at

- least two of the following anti-anginal medications: long-acting nitrates, beta-adrenergic blockers, or calcium channel antagonists; and
5. Patient experiences significant pain reduction (50% or more) with a 2 day trial of percutaneous spinal stimulation.

Note: Criteria for exclusion from coverage of DCS in treating intractable angina pectoris include either of the following:

- Myocardial infarction or unstable angina in the previous 3 months, or
- Significant valve abnormalities as demonstrated by echocardiography.

Spinal cord stimulation **is not a covered benefit** for the following conditions:

- Post herpetic neuralgia
- Pain and spasticity related to spinal cord injuries
- Rectal pain
- Phantom limb pain
- Pain secondary to cancer
- Patient fails multidisciplinary screening as detailed above
- Axial pain exceeding radicular pain

VI. VAGAL NERVE STIMULATION

Vagal Nerve Stimulation is a covered benefit for seizure patients who remain refractory to optimal anti-epileptic medications and/or surgical intervention, or who have debilitating side effects from medications. The following also must be met:

1. For patients > 17 y.o.: Vagal nerve stimulation is covered for partial onset seizures only
2. Prior authorization by Priority Health

Vagal Nerve Stimulation for Treatment Resistant Depression is addressed in the “Vagal Nerve Stimulation for Depression” medical policy.

Vagal Nerve Stimulation for indications other than seizures or depression (e.g. autism, Alzheimer’s, obesity) has not been established as effective, is considered experimental and not a covered benefit.

VII. FUNCTIONAL ELECTRICAL STIMULATION (FES)

FES (or NMES) may be a covered benefit for acute or post-acute upper extremity rehabilitation following a stroke when criteria are met. Refer to NMES (Section XI) for criteria.

Functional Electrical Stimulation (FES) for all other diagnoses has not been proven efficacious and therefore is not a covered benefit.

VIII. GALVANIC STIMULATORS

Galvanic stimulators have not been scientifically shown to be medically effective or necessary and are not a covered benefit.

IX. HIGH-VOLTAGE PULSED ELECTROGALVANIC STIMULATORS

High-voltage pulsed electrogalvanic stimulators are covered as DME for patients with levator syndrome (proctalgia fugax, chronic anal pain syndrome) who meet ALL of the following criteria:

- No underlying disease has been revealed by anorectal exam or by manometry, radiology, or endoscopy, and a neurological cause for the pain cannot be detected, and
- Patient has failed prior conservative treatments, namely, high fiber diet, withdrawal of drugs that cause constipation (e.g., narcotics, calcium channel blockers) or diarrhea (e.g., quinidine, theophylline, antibiotics), perineal strengthening exercises, rectal massage, warm baths, and drug therapy (e.g., sedatives, muscle relaxants, and non-narcotic analgesics).
- More than three 60-minute sessions, administered over a 10-day period, are not considered medically necessary and are not covered. Electrogalvanic stimulators for home use are not covered because they have not been proven to be safe and effective for home use.

X. INTERFERENTIAL STIMULATORS

Interferential stimulators, including those combined with muscle stimulation (e.g. RS-4i), have not been scientifically shown to be medically effective or necessary and are not a covered benefit.

XI. NEUROMUSCULAR ELECTRICAL STIMULATION (NMES)

Neuromuscular electrical stimulators (NMES) are covered as DME for either of the following (A or B):

A. Disuse atrophy where the nerve supply to the muscle is intact and the patient has ANY of the following non-neurological reasons for disuse atrophy:

- Previous casting or splinting of a limb, or
- Contractures due to burn scarring, or
- Recent hip replacement surgery (NMES is covered until physical therapy begins), or
- Previous major knee surgery (when there is failure to respond to physical therapy).

B. Acute or post-acute upper extremity rehabilitation following a stroke, with all of the following:

- NMES or FES (Functional Electrical Stimulation) is done in conjunction with conventional physical or occupational rehabilitation
- Therapy is restorative in nature
- Reasonable expectation for meaningful functional improvement within 90 days in ability to perform functional day-to-day activities

More than 2 hours of NMES per day is not considered medically necessary and is not covered.

Prior authorization by Priority Health is required. Compliance logs, if available, may be reviewed for continued authorization.

A form fitting conductive garment is **not a covered** benefit.

NMES is **not a covered benefit** for ANY of the following:

- Spinal cord injury
- Stroke (CVA), except for upper extremity rehabilitation following stroke as above
- Cerebral palsy
- Other upper motor neuron disorders
- For general muscle strengthening in healthy individuals
- For cardiac conditioning
- For the treatment of denervated muscles

XII. PERCUTANEOUS ELECTRICAL NERVE STIMULATION (PENS) AND PERCUTANEOUS NEUROMODULATION THERAPY (PNT)

PENS and PNT have not been proven to be effective and are **not a covered** benefit.

XIII. PERIPHERALLY IMPLANTED NERVE STIMULATORS

Peripherally implanted nerve stimulators are covered as DME for treatment of intractable neurogenic pain when ALL of the following criteria are met:

- Patient has chronic intractable pain, refractory to other methods of treatment (analgesics, physical therapy, local injection, surgery), and
- There is objective evidence of pathology (e.g., electromyography), and
- There is no psychological contraindication to peripheral nerve stimulation, and
- Patient is not addicted to drugs, and
- A two week trial of transcutaneous stimulation was successful (resulting in at least a 50% reduction in pain).

Peripheral nerve stimulation has been shown to be effective in treating neurogenic pain in the following conditions:

- Reflex sympathetic dystrophy
- Causalgia
- Plexus avulsion
- Operative trauma
- Entrapment neuropathies
- Injection injuries

Peripheral nerve stimulation has NOT been shown to be effective in treating post-herpetic neuralgia and is not covered for this indication.

XIV. Pulsed Electrical Stimulation for the treatment of osteoarthritis of the knee (e.g. BioniCare 1000®)

Coverage Decision:

Based on the available evidence in the peer-reviewed medical literature, Priority Health considers pulsed electrical stimulation for the treatment of osteoarthritis of the knee to be experimental and investigational because the short-term and long-term effectiveness of the treatment have not been established.

Evidence:

1. Zizic, et al. (1995) evaluated the safety and effectiveness of pulsed electrical stimulation for the treatment of osteoarthritis (OA) of the knee (n = 78). Patients were treated 6 hours per day for four weeks. The investigators reported that patients treated with the active devices showed significantly greater improvement than the placebo group for all primary efficacy variables in comparisons of mean change from baseline to the end of treatment. Improvement of greater or equal to 50% from baseline was shown in at least one primary efficacy variable in 50% of the active device group, in 2 variables in 32 %, and in all 3 variables in 24%. In the placebo group improvement of greater or equal to 50% occurred in 36% for one, 6% for 2, and 6% for 3 variables. Mean morning stiffness decreased 20 minutes in the active device group and increased 2 minutes in the placebo group ($p < 0.05$). No statistically significant differences were observed for tenderness, swelling, or walking time. The authors concluded that improvements in clinical measures for pain and function found in this study suggest that pulsed electrical stimulation is effective for treating OA of the knee. The investigators noted, however, that studies of the durability of results are warranted.
2. In 2002, the Cochrane Collaboration evaluated the published evidence on the effectiveness of pulsed electric stimulation for the treatment of osteoarthritis (OA). The study also assessed the most effective and efficient method of applying an electromagnetic field, through pulsed electromagnetic fields (PEMF) or electric

stimulation, as well as the consideration of length of treatment, dosage, and the frequency of the applications.

Only three studies with a total of 259 OA patients were eligible for inclusion in the review. Electrical stimulation therapy had a small to moderate effect on outcomes for knee OA, all statistically significant with clinical benefit ranging from 13-23% greater with active treatment than with placebo. Only 2 outcomes for cervical OA were significantly different with PEMF treatment and no clinical benefit can be reported with changes of 12% or less. The reviewers concluded that the current evidence suggests that electrical stimulation therapy may provide significant improvements for knee OA, but further studies are required to confirm whether the statistically significant results shown in these trials confer important and durable benefits.

3. Results of a four year study of the BioniCare device in 157 patients were presented as a poster presentation at the 2004 meeting of the American Academy of Orthopaedic Surgeons. Patients in this study had moderate to severe knee osteoarthritis and were considered candidates for total knee arthroplasty. The poster presenters reported that patients using the BioniCare system avoided total knee arthroplasty over 50% of the time ($p=0.0004$) at one, two, three and four year follow-up when compared to a matching group of 101 patients. Study patients who avoided surgery also reported “significant improvements in pain scores (mean improvement 40%), function (mean improvement 38%), and physician global evaluation (mean 38%).” The manufacturer is seeking publication of the full results of this study. This study does not have a randomly assigned control group.

References:

1. Zizic TM, Hoffman KC, Holt PA, et al. The treatment of osteoarthritis of the knee with pulsed electrical stimulation. *J Rheumatol.* 1995;22(9):1757-1761.
2. Hulme J, Robinson V, DeBie R, et al. Electromagnetic fields for the treatment of osteoarthritis. *Cochrane Database Syst Rev.* 2002;(1):CD003523.
3. Mont MA, He DY, Jones LC et al. Abstract: The use of pulsed electrical stimulation (PES) to defer total knee arthroplasty (TKA) in patients with osteoarthritis (OA) of the knee. Presented at American Academy of Orthopaedic Surgeons annual meeting, March 2004

This policy is based on the review and recommendation of Priority Health’s Technology Assessment Committee on March 4, 2005.

XV. SURFACE ELECTRICAL MUSCLE STIMULATION

Surface electrical muscle stimulation (direct or alternating current, not high voltage galvanic current) is covered as DME for the management of juvenile or adolescent idiopathic scoliosis when ALL of the following criteria are met:

- Patient has juvenile or adolescent idiopathic scoliosis that has not been surgically treated and the scoliosis is not currently being treated with bracing, and



- Spinal curvature is between 20 and 45 degrees (Cobb measurement based on radiographic studies), and
- Spinal curvature is highly progressive, with documented progression of curvature of 5 degrees or more within the past 12 months for curves between 20 and 30 degrees. (With these immature patients, curves of 30 degrees or more are presumed to be highly progressive.), and
- There is a minimum of 50% correction on forced lateral bending, and
- Patient has a minimum of 1 year of bone growth remaining, as judged by the physician.

Note: Since treatment may last from 6 to 18 months, purchase of the equipment may be covered if it is more economical than rental.

XVI. TRANSCUTANEOUS ELECTRICAL NERVE STIMULATOR (TENS)

- A. Use of TENS for any diagnosis for a two month trial does not require prior authorization.
- B. Authorization of TENS beyond the two month initial trial for any diagnosis (except those listed in C. below) requires documentation of at least *two* of the following:
- Increased physical activity
 - Decreased pain
 - Decreased use of analgesics
- C. Use of TENS for the following diagnoses does not require authorization:
- 722.52 Degeneration of lumbar or lumbosacral intervertebral disc
 - 724.2 Lumbago
 - 724.5 Unspecified backache
 - 724.6 Disorders of sacrum

XVII. URINARY INCONTINENCE STIMULATORS

- A. *External electrical muscle stimulators* (e.g., Innova) are covered as DME for management of urinary incontinence when ALL of the following criteria are met:

- Patient is diagnosed with stress, urge, or mixed incontinence, and
- There is an average of 3 or more episodes of gross urinary incontinence per week, and
- There is no glycosuria or pyuria, and
- Patient has tried and failed pelvic floor exercises (Kegel exercises).
- Patient has failed maximal pharmacologic management.

- B. *InterStim Continence Control Therapy/Sacral Nerve Stimulation*:

Sacral nerve stimulation involves both a temporary test stimulation to determine if an implantable stimulator would be effective and a permanent implantation in appropriate candidates. Both the test and the permanent implantation are covered.

Implantation of the InterStim (Medtronic Inc., Minneapolis, MN), a device for stimulation of the sacral nerve, is covered for the treatment of any of the following:

1. urinary urge incontinence,
2. urgency-frequency syndrome
3. urinary retention.

The following criteria apply:

- Patient must be refractory to conventional therapy (documented behavioral, pharmacologic and/or surgical corrective therapy) and be an appropriate surgical candidate such that implantation with anesthesia can occur.
- Patient must have had a successful test stimulation in order to support subsequent implantation. Before a patient is eligible for permanent implantation, he/she must demonstrate a 50% or greater improvement through test stimulation. Improvement is measured through voiding diaries. Adequate bladder capacity and normal urinary tract
- The device must be FDA approved and used according to FDA labeling
- Age 16 years or older

Non-Covered: SNS is not a covered benefit in patients with, but not limited to, the following conditions:

- Patients with stress incontinence, urinary obstruction, and specific neurologic diseases (e.g., diabetes with peripheral nerve involvement) which are associated with secondary manifestations of the above three indications
- Neurogenic urinary retention
- Pregnancy
- Diabetes
- Interstitial cystitis
- Pelvic pain
- Fowler's syndrome
- Multiple sclerosis
- Patients with mechanical obstructions/strictures or cancer

C. *Percutaneous Tibial Nerve Stimulation (PTNS)*

Description:

Percutaneous tibial nerve stimulators are intended for use by patients with urinary urgency, urinary frequency, and urge incontinence. The stimulators deliver retrograde access to the sacral nerve through percutaneous stimulation of the tibial nerve.

Percutaneous tibial nerve stimulators are classified in the Food and Drug Administration (FDA) 510(k) database under the general Product Code NAM, which identifies them as nonimplanted, peripheral nerve stimulators for pelvic floor dysfunction, or nonimplanted, peripheral electrical continence devices. The FDA defines these devices as consisting of an electrode that is connected by an electrical cable to a battery-powered pulse source. The electrode is placed onto or inserted into

the body at a peripheral location and is used to stimulate the nerves associated with pelvic floor function to maintain urinary continence. When necessary, the electrode may be removed by the user.

Treatments are commonly 30 minutes in length and are given for 12 consecutive weeks. Reportedly, the benefits of these treatments continue for long periods of time; however, maintenance treatments are usually needed and tailored to each specific patient.

Policy:

PTNS may be a covered benefit for the diagnosis of urinary incontinence or overactive bladder when **both** of the following are met:

1. Failure of medication , AND
2. Failure of pelvic floor exercises (e.g. Kegels, biofeedback)

Coverage is limited to 24 treatments in a year.

XVIII. NON-COVERED ELECTRICAL STIMULATION THERAPIES

The following electrical stimulation therapies are **not covered** because their effectiveness has not been established:

1. Cranial electrical stimulation (also known as electrosleep, electrotherapeutic sleep, cerebral electrotherapy, transcranial electrotherapy, transcerebral electrotherapy, craniofacial electrostimulation, and electric cerebral stimulation) for use in patients with headaches, depression, chemical dependency, or alcoholism (e.g., using the Liss Body Stimulator to treat this indication)
2. Electric reflex salivary stimulation (Salitron System) to treat xerostomia (dry mouth) secondary to Sjogren's syndrome
3. Gastric pacing to improve sluggish gastric emptying (gastroparesis)
4. Neuromuscular electrical stimulation for ANY of the following conditions:
 - Spinal cord injury
 - Stroke (CVA), except for upper extremity rehabilitation post stroke as noted in Section XI
 - Cerebral palsy
 - Other upper motor neuron disorders
 - For general muscle strengthening in healthy individuals
 - For cardiac conditioning
 - For the treatment of denervated muscles
5. Transurethral electrical stimulation for the management of neurogenic bladder dysfunction

6. High frequency pulsed electromagnetic fields (i.e., Diapulse and sofPulse device) for the treatment of wounds in the home setting or acute postoperative pain and edema
7. Interferential current therapy
8. Electrical stimulation for the treatment of Bell's palsy
9. Stellate ganglion blockade using TENS
10. Dorsal column stimulation for the management of chronic malignant pain
11. H-WAVE ® type stimulators for ANY of the following indications:
 - To reduce pain
 - To reduce edema
 - To accelerate healing
 - For treatment of chronic pain due to ischemia
12. Functional electrical stimulation for electrical stimulation of muscles in patients with spinal cord injuries and other neuromuscular conditions
13. Intramuscular stimulation (IMS) for the management of soft-tissue or neuropathic pain.
14. Galvanic stimulation therapy
15. Electrical stimulation for wound healing or skin ulcers in the home setting
16. Percutaneous Electrical Stimulation (PENS)
17. Percutaneous Neuromodulation Therapy (PNT)
18. Transcend® Implantable Gastric Stimulator for treatment of obesity
19. Synergy® Neurostimulator (Medtronic) for intractable migraine pain
20. Vagal nerve stimulators for all indications other than seizures as defined in Section VI. Non-covered indications include, but are not limited to, Alzheimer's disease, obesity, obsessive-compulsive disorder, autism and ADHD. See "Vagal Nerve Stimulator for Depression" medical policy
21. Microcurrent, Electrical Nerve Stimulation (MENS), including Frequency-Specific Microcurrent (FSM). Also known as Bio-Electric Stimulation Therapy (BEST), By Kingfisher Healthcare.

XIX. BACKGROUND

The following are brief descriptions of various types of electrical stimulation:

Transcutaneous Electrical Nerve Stimulation (TENS) is characterized by biphasic current and selectable parameters such as pulse rate and pulse width. In theory, TENS stimulates sensory nerves to block pain signals; it also stimulates endorphin production to help normalize sympathetic function. Most TENS units produce current of 1 to 80 microampere (mA), 9 V (average), 2 to 1,000 Hz, with a pulse width of 250 to 400 microseconds (mS).

Neuromuscular Stimulation (NMS), Electrical Muscle Stimulation (EMS) is characterized by low voltage stimulation targeted to stimulate motor nerves to cause a muscle contraction. Contraction/relaxation of muscles has been used to treat a variety of

musculoskeletal and vascular conditions. NMS/EMS differs from TENS in that it, through multiple channels, attempts to stimulate motor nerves and alternately causes contraction and relaxation of muscles, while TENS is designed to stimulate sensory nerve endings to help decrease pain.

Russian Muscle Stimulation, Burst-Modulated Alternating Current is similar to NMS/EMS in that it is designed to stimulate motor nerves. However, it is set at a frequency of 2,500 Hz, which, according to its proponents, allows for deeper muscle penetration and a more complete/stronger contraction of the muscle fibers.

Functional Electrical Stimulation (FES), also known as functional neuromuscular stimulation and EMG-triggered neuromuscular stimulation, attempts to replace stimuli from destroyed nerve pathways with computer-controlled sequential electrical stimulation of muscles to enable patients with spinal cord injury or stroke to function independently, or at least maintain healthy muscle tone and strength.

High Voltage Pulsed Galvanic Stimulation (HVPGS) is characterized by high voltage (300 to 500 V), short pulse duration (2 to 60 mS) stimulation and exhibit a monophasic twin peak waveform. Most HVPGS produce a high peak current intensity 2,000 to 2,500 mA. Because the interval between paired pulses generated by HVPGS make up as much as 99% of each second that the current flows, the total current (average) delivered to the tissue per second does not exceed 1.2 to 1.5 mA; thus HVPGS has been reported to be tolerated by most patients.

Microcurrent Electrical Nerve Stimulation (MENS) is a “TENS-like” unit for home use that uses small amounts of electrical current for pain and tissue healing. According to its proponents, MENS acts on the body's naturally occurring electrical impulses to decrease pain and facilitate the healing process. MENS employs microamperage instead of milliamperage to drive its current into the injured site. What appears to be a small driving force is compensated by the pulse width of the waveform (500,000 mS). MENS uses current between 1 and 1000 mA at a voltage of 10 to 60 V, and a frequency of 0.5 to 100 Hz. MENS differs from TENS in that it uses a significantly reduced electrical stimulation. TENS blocks pain, while MENS (in theory) acts on the naturally occurring electrical impulses to decrease pain by stimulating the healing process. There is no evidence in the peer-reviewed medical literature to support the efficacy of MENS.

Electro-Acuscope, Microamperage-TENS: According to the manufacturer, the Electro-Acuscope is a feedback-oriented, microcurrent stimulator designed to generate complex waveforms that automatically adjust to meet the need of injured tissue. It is also known as the microamperage-TENS (TENS usually utilizes milliamperage current). The Electro-Acuscope supposedly can monitor moment-to-moment bioelectric activity and feed back appropriate current pulses. This feature of the Electro-Acuscope allegedly distinguishes it from other MENS devices. The Electro-Acuscope can generate both direct and alternating currents. Frequency settings range from 0.5 to 320 Hz. A current of less than 500 mA is recommended by the manufacturer.

Interferential Stimulation (IF) is characterized by two alternating-current sine waves of differing frequencies that "work" together to produce an interferential current that is also known as a beat pulse or alternating modulation frequency. One of the two currents is usually held at 4,000 Hz, and the other can be held constant or varied over a range of 4,001 to 4,100 Hz. Interferential currents reportedly can stimulate sensory, motor, and pain fibers. Because of the frequency, the interferential wave meets low impedance when crossing the skin to enter the underlying tissue. This deep tissue penetration can be adjusted to stimulate parasympathetic nerve fibers for increased blood flow. According to proponents, interferential stimulation differs from TENS because it allows a deeper penetration of the tissue with more comfort (compliance) and increased circulation.

Electro-Acupuncture, Acupuncture-like TENS (AL-TENS), Intense TENS: Electro-acupuncture is characterized by applying stimulation to specific acupuncture or trigger points on the body in small electrical impulses through acupuncture needles or with hand-held cutaneous probes. The frequency of stimulation may vary from 1 to 1,000 Hz. Electro-acupuncture stimulation differs from TENS because TENS uses a higher voltage cutaneous stimulation.

Percutaneous Electrical Nerve Stimulation (PENS) combines advantages of both electro-acupuncture and TENS. Rather than using surface electrodes, PENS uses acupuncture-like needles as electrodes. These needles are placed in the soft tissues or muscles at dermatomal levels corresponding to local pathology (needles are usually inserted above and below and into the central area of pain). A 5-Hz frequency with a pulse width of 0.5 mS is usually used. If relief is not attained within 15 minutes, the frequency may be lowered to 1 Hz. According to PENS proponents, the main advantage of PENS over TENS is that it bypasses the local skin resistance and delivers electrical stimuli at the precisely desired level in close proximity to the nerve endings located in soft tissue, muscle, or periosteum of the involved dermatomes.

H-Wave Stimulation delivers electrical stimulation in the form of milliamperage. H-wave stimulation is intended to emulate the H waveform found in nerve signals (Hoffman Reflex) and therefore enables greater and deeper penetration of a low frequency current, while using significantly less power than other machines. This allegedly makes H-Wave stimulation much safer, less painful and more effective than other forms of electrotherapy to date. The H-wave signal is a bipolar, exponential decaying waveform that overcomes the disadvantages of other electrotherapy machines. It allows the therapist to apply two treatments at the same time: (i) low frequency muscle stimulation and (ii) high frequency deep analgesic pain control (a "TENS" effect). Note: H-wave stimulation must be distinguished from the H-waves that are a component of EMG.

Galvanic stimulation is characterized by high voltage, pulsed stimulation and is used primarily for local edema reduction through muscle pumping and polarity effect. Edema is comprised of negatively charged plasma proteins, which leak into the interstitial space. The theory of galvanic stimulation is that by placing a negative electrode over the edematous site and a positive electrode at a distant site, the monophasic high voltage

stimulus applies an electrical potential which disperses the negatively charged proteins away from the edematous site, thereby helping to reduce edema.

Gastric pacing was cleared by the FDA as a humanitarian use device. Thus, the manufacturer was not required to submit the level of evidence that would be required to support a premarket approval application (PMA). The data presented to the FDA documenting the "probable benefit" of gastric pacing (Gastric Electrical Stimulation (GES) System) was based on a multicenter double-blind cross-over study (FDA, 2000) which included 33 patients with intractable idiopathic or diabetic gastroparesis. In the initial phase of the study, all patients underwent implantation of the stimulator and were randomly assigned to stimulation ON or stimulation OFF for the first month, with cross-over to OFF and ON during the second month. The baseline vomiting frequency was 47 episodes per month, which significantly declined in both ON and OFF groups to 23 to 29 episodes, respectively. However, there were no significant differences in the number of vomiting episodes between the two groups, suggesting a placebo effect.

XX. REFERENCES

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MEDICAL NECESSITY REVIEW:

- Required Not Required Not Applicable

APPLICATION TO PRODUCTS:

Coverage is subject to member's specific benefits. Group specific policy will supersede this policy when applicable.

- ❖ **HMO/EPO:** *This policy applies to insured HMO/EPO plans.*
- ❖ **POS:** *This policy applies to insured POS plans.*
- ❖ **PPO:** *This policy applies to insured PPO plans.*
- ❖ **ASO:** *For self-funded plans, consult individual plan documents. If there is a conflict between this policy and a self-funded plan document, the provisions of the plan document will govern.*
- ❖ **INDIVIDUAL:** *For individual policies, consult the individual insurance policy. If there is a conflict between this medical policy and the individual insurance policy document, the provisions of the individual insurance policy will govern.*
- ❖ **MEDICARE:** *Coverage is determined by the Centers for Medicare and Medicaid Services (CMS).*
- ❖ **MEDICAID:** *Coverage is determined by the Michigan Medicaid Provider Manual and the Michigan Medicaid Fee Schedule at: http://www.michigan.gov/mdch/0,1607,7-132-2945_42542_42543_42546_42551-159815--,00.html.*
- ❖ **MICHILD:** *For MICHILD members, this policy will apply unless MICHILD certificate of coverage limits or extends coverage.*

CODING INFORMATION:

(No Auth) – no prior authorization required

I. Bone Growth Stimulator

ICD-9 Codes that may support medical necessity (See Interqual criteria):

- 721.0 Cervical Spondylosis Without Myelopathy
- 721.1 Cervical Spondylosis With Myelopathy
- 733.81 Malunion of Fracture



- 733.82 Nonunion of fracture
- 909.3 Late effect of complications of surgical and medical care
- 996.40 Unspecified mechanical complication of internal orthopedic device, implant, and graft
- 996.41 Mechanical loosening of prosthetic joint
- 996.42 Dislocation of prosthetic joint
- 996.43 Prosthetic joint implant failure
- 996.44 Peri-prosthetic fracture around prosthetic joint
- 996.45 Peri-prosthetic osteolysis
- 996.46 Articular bearing surface wear of prosthetic joint
- 996.47 Other mechanical complication of prosthetic joint implant
- 996.49 Other mechanical complication of other internal orthopedic device, implant, and graft
- 996.78 Other Complications Due to Other Internal Orthopedic Device, Implant, and Graft
- V45.4 Arthrodesis status

CPT/HCPCS Codes:

- E0747 Osteogenesis stimulator, electrical, noninvasive, other than spinal applications
- E0748 Osteogenesis stimulator, electrical, noninvasive, spinal applications
- E0749 Osteogenesis stimulator, electrical, surgically **implanted**
- E0760 Osteogenesis stimulator, low intensity ultrasound, noninvasive

- 20974 Electrical stimulation to aid bone healing; noninvasive (nonoperative) *(No Auth)*
- 20975 Electrical stimulation to aid bone healing; invasive (operative)
- 20979 Low intensity ultrasound stimulation to aid bone healing, noninvasive (nonoperative) *(No Auth)*

II. Chronic Skin Ulcers**CPT/HCPCS Codes:***Medicare only --*

- G0281 Electrical stimulation, (unattended), to one or more areas, for chronic Stage III and Stage IV pressure ulcers, arterial ulcers, diabetic ulcers, and venous stasis ulcers not demonstrating measurable signs of healing after 30 days of conventional care, as part of a therapy plan of care *(No Auth)*
- G0329 Electromagnetic therapy, to one or more areas for chronic Stage III and Stage IV pressure ulcers, arterial ulcers, diabetic ulcers and venous stasis ulcers not demonstrating measurable signs of healing after 30 days of conventional care as part of a therapy plan of care *(No Auth)*

Not Covered

- G0282 Electrical stimulation, (unattended), to one or more areas, for wound care other than described in G0281
- G0295 Electromagnetic therapy, to one or more areas, for wound care other than described In G0329 or for other uses
- E0769 Electrical stimulation or electromagnetic wound treatment device, not otherwise classified

III. Deep Brain Stimulation**ICD-9 Codes that may support medical necessity:**

- 332.0 Paralysis agitans

- 333.1 Essential and other specified forms of tremor
- 333.6 Genetic torsion dystonia
- 333.79 Other acquired torsion dystonia
- 333.83 Spasmodic torticollis

CPT/HCPCS Codes:

- 61863 Twist drill, burr hole, craniotomy, or craniectomy with stereotactic implantation of neurostimulator electrode array in subcortical site (eg, thalamus, globus pallidus, subthalamic nucleus, periventricular, periaqueductal gray), without use of intraoperative microelectrode recording; first array
- 61864 Twist drill, burr hole, craniotomy, or craniectomy with stereotactic implantation of neurostimulator electrode array in subcortical site (eg, thalamus, globus pallidus, subthalamic nucleus, periventricular, periaqueductal gray), without use of intraoperative microelectrode recording; each additional array (List separately in addition to primary procedure)
- 61867 Twist drill, burr hole, craniotomy, or craniectomy with stereotactic implantation of neurostimulator electrode array in subcortical site (eg, thalamus, globus pallidus, subthalamic nucleus, periventricular, periaqueductal gray), with use of intraoperative microelectrode recording; first array
- 61868 Twist drill, burr hole, craniotomy, or craniectomy with stereotactic implantation of neurostimulator electrode array in subcortical site (eg, thalamus, globus pallidus, subthalamic nucleus, periventricular, periaqueductal gray), with use of intraoperative microelectrode recording; each additional array (List separately in addition to primary procedure)
- 61880 Revision or removal of intracranial neurostimulator electrodes (*No Auth*)
- 61885 Insertion or replacement of cranial neurostimulator pulse generator or receiver, direct or inductive coupling; with connection to a single electrode array
- 61886 Insertion or replacement of cranial neurostimulator pulse generator or receiver, direct or inductive coupling; with connection to two or more electrode arrays
- 61888 Revision or removal of cranial neurostimulator pulse generator or receiver (*No Auth*)

- L8680 Implantable neurostimulator electrode, each
- L8681 Patient programmer (external) for use with implantable programmable neurostimulator pulse generator
- L8686 Implantable neurostimulator pulse generator, single array, non-rechargeable, includes extension
- L8688 Implantable neurostimulator pulse generator, dual array, non-rechargeable, includes extension

- C1778 Lead, neurostimulator (implantable)
- C1767 Generator, neurostimulator (implantable), nonrechargeable
- C1883 Adapter/ extension, pacing lead or neurostimulator lead
- C1897 Lead, neurostimulator test kit (implantable)

IV. Diaphragmatic/Phrenic Pacing**ICD-9 Codes that may support medical necessity:**

- 344.01 Quadriplegia and quadriparesis, C1-C4, complete
- 344.02 Quadriplegia and quadriparesis, C1-C4, incomplete
- 786.09 Dyspnea and respiratory abnormalities, other
- 518.83 Chronic respiratory failure

**CPT/HCPCS Codes:**

- 64577 Incision for implantation of neurostimulator electrodes; autonomic nerve
- 64585 Revision or removal of peripheral neurostimulator electrodes (*No Auth*)
- 64590 Insertion or replacement of peripheral or gastric neurostimulator pulse generator or receiver, direct or inductive coupling
- 64595 Revision or removal of peripheral or gastric neurostimulator pulse generator or receiver (*No Auth*)

L8680 Implantable neurostimulator electrode, each

L8681 Patient programmer (external) for use with implantable programmable neurostimulator pulse generator

L8683 Radiofrequency transmitter (external) for use with implantable neurostimulator radiofrequency receiver

L8686 Implantable neurostimulator pulse generator, single array, non-rechargeable, includes extension

L8688 Implantable neurostimulator pulse generator, dual array, non-rechargeable, includes extension

V. Dorsal column stimulators (DCS)**ICD-9 Codes that may support Medical Necessity**

- 338.0 Central pain syndrome
- 338.21 Chronic pain due to trauma
- 338.22 Chronic post-thoracotomy pain
- 338.28 Other chronic postoperative pain
- 338.29 Other chronic pain
- 338.4 Chronic pain syndrome
- 353.0 Brachial plexus lesions
- 353.1 Lumbosacral plexus lesions
- 353.6 Nerve root and plexus disorders; phantom limb (syndrome)
- 353.8 Other nerve root and plexus disorders
- 353.9 Unspecified nerve root and plexus disorder
- 354.4 Causalgia of upper limb
- 354.8 Other mononeuritis of upper limb
- 354.9 Mononeuritis of upper limb, unspecified
- 355.71 Causalgia of lower limb
- 355.79 Other mononeuritis of lower limb
- 355.8 Mononeuritis of lower limb, unspecified

- 413.0 Angina decubitus
- 413.1 Prinzmetal angina
- 413.9 Other and unspecified angina pectoris
- 440.22 Atherosclerosis of the extremities with rest pain
- 443.9 Peripheral vascular disease, unspecified

- 722.81 Postlaminectomy syndrome, cervical region
- 722.82 Postlaminectomy syndrome, thoracic region
- 722.83 Postlaminectomy syndrome, lumbar region
- 723.4 Brachial neuritis or radiculitis NOS
- 724.1 Pain in thoracic spine
- 724.2 Lumbago



- 724.3 Sciatica
- 724.4 Thoracic or lumbosacral neuritis or radiculitis, unspecified
- 724.5 Backache, unspecified
- 724.6 Disorders of sacrum
- 724.7 Disorders of coccyx
- 724.70 Unspecified disorder of coccyx
- 724.8 Other symptoms referable to back
- 724.9 Other unspecified back disorders
- 729.5 Pain in soft tissues of limb
- 781.99 Other symptoms involving nervous and musculoskeletal systems

CPT/HCPCS Codes:

- 63650 Percutaneous implantation of neurostimulator electrode array, epidural
- 63655 Laminectomy for implantation of neurostimulator electrodes, plate/paddle, epidural
- 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 (*No Auth*)

- C1816 Receiver and/or transmitter, neurostimulator (implantable)

- E0745 Neuromuscular stimulator, electronic shock unit

- L8680 Implantable neurostimulator electrode, each (code effective 01/01/
- L8681 Patient programmer (external) for use with implantable programmable neurostimulator pulse generator
- 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
- L8695 External recharging system for battery (external) for use with implantable neurostimulator, replacement only

VI. Electrical stimulation of Seizures /Vagal Nerve Stimulation

(See also Medical Policy #91524)

ICD-9 Codes that may support Medical Necessity

- 345.11 Generalized convulsive intractable epilepsy
- 345.3 Grand mal status epilepsy

- 345.40 Localization-related (focal) (partial) epilepsy and epileptic syndromes with complex partial seizures, without mention of intractable epilepsy
- 345.41 Localization-related (focal) (partial) epilepsy and epileptic syndromes with complex partial seizures, with intractable epilepsy
- 345.51 Partial intractable epilepsy without impairment of consciousness
- 345.91 Intractable epilepsy, unspecified form
- 780.39 Other convulsions

- 61885 Insertion or replacement of cranial neurostimulator pulse generator or receiver, direct or inductive coupling; with connection to a single electrode array
- 61886 Insertion or replacement of cranial neurostimulator pulse generator or receiver, direct or inductive coupling; with connection to two or more electrode arrays
- 61888 Revision or removal of cranial neurostimulator pulse generator or receiver

- 64553 Percutaneous implantation of neurostimulator electrodes; cranial nerve
- 64573 Incision for implantation of neurostimulator electrodes; cranial nerve
- 64590 Insertion or replacement of peripheral or gastric neurostimulator pulse generator or receiver, direct or inductive coupling

- C1767 Generator, neurostimulator (implantable), nonrechargeable
- C1778 Lead, neurostimulator (implantable)
- C1816 Receiver and/or transmitter, neurostimulator (implantable)
- C1820 Generator, neurostimulator (implantable), with rechargeable battery and charging system
- C1883 Adapter/ extension, pacing lead or neurostimulator lead

- L8680 Implantable neurostimulator electrode, each
- L8681 Patient programmer (external) for use with implantable programmable neurostimulator pulse generator
- 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 implanted neurostimulator, replacement only

V11. Functional Electrical Stimulation (FES)

- 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)—(No Auth)
- 63685 Insertion or replacement of spinal neurostimulator pulse generator or receiver, direct or inductive coupling
- 64550 Application of surface (transcutaneous) neurostimulator (**NoAuth**)
- 64555 Percutaneous implantation of neurostimulator electrodes; peripheral nerve (excludes sacral nerve)



- 64575 Incision for implantation of neurostimulator electrodes; peripheral nerve (excludes sacral nerve)
- E0745 Neuromuscular stimulator, electronic shock unit
- E0762 Transcutaneous electrical joint stimulation device system, includes all accessories
- E0764 Functional neuromuscular stimulator, transcutaneous stimulation of muscles of ambulation with computer control, used for walking by spinal cord injured, entire system, after completion of training program
- E0770 Functional electrical stimulator, transcutaneous stimulation of nerve and/or muscle groups, any type, complete system, not otherwise specified
- L8680 Implantable neurostimulator electrode, each
- L8681 Patient programmer (external) for use with implantable programmable neurostimulator pulse generator
- 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

VIII. Galvanic Stimulators

Not Covered:

- E0745 Neuromuscular stimulator, electronic shock unit
- E0769 Electrical stimulation or electromagnetic wound treatment device, not otherwise classified

IX. High Voltage Pulsed Electrogalvanic stimulators (HVPC)

ICD-9 Codes that may support Medical Necessity:

- 564.6 Anal spasm
- 569.42 Anal or rectal pain

CPT/HCPCS Codes:

- 97014 Application of a modality to one or more areas; electrical stimulation (unattended) *(No Auth)*
- 97032 Application of a modality to one or more areas; electrical stimulation (manual), each 15 minutes *(No Auth)*
- E0745 Neuromuscular stimulator, electronic shock unit
- E0769 Electrical stimulation or electromagnetic wound treatment device, not otherwise classified

**X. Interferential stimulators****Not Covered:**

E0769 Electrical stimulation or electromagnetic wound treatment device, not otherwise classified

XI. Neuromuscular Electrical Stimulation**ICD-9 Codes that may support Medical Necessity**

728.2 Muscular wasting and disuse atrophy, not elsewhere classified

CPT/HCPCS Codes:

- 64550[#] Application of surface (transcutaneous) neurostimulator (*No Auth*)
- 64565 Percutaneous implantation of neurostimulator electrodes; neuromuscular
- 64580 Incision for implantation of neurostimulator electrodes; neuromuscular
- 97014 Application of a modality to one or more areas; electrical stimulation (unattended) (*No Auth*)
- 97032 Application of a modality to one or more areas; electrical stimulation (manual), each 15 minutes (*No Auth*)
- 97116 Therapeutic procedure, one or more areas, each 15 minutes; gait training (includes stair climbing) (*No Auth*)
- E0744[#] Neuromuscular stimulator for scoliosis
- E0745[#] Neuromuscular stimulator, electronic shock unit
- E0764[#] Functional neuromuscular stimulator, transcutaneous stimulation of muscles of ambulation with computer control, used for walking by spinal cord injured, entire system, after completion of training program
- L8680[#] Implantable neurostimulator electrode, each
- L8681[#] Patient programmer (external) for use with implantable programmable neurostimulator pulse generator
- 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

Not Covered for commercial or self-funded products

E0731 Form-fitting conductive garment for delivery of TENS or NMES (with conductive fibers separated from the patient's skin by layers of fabric)

X11. Percutaneous Electrical Nerve Stimulation (PENS) and Percutaneous Neuromodulation Therapy (PNT)**Not Covered:**

- 64560 Percutaneous implantation of neurostimulator electrodes; autonomic nerve
- 64565 Percutaneous implantation of neurostimulator electrodes; neuromuscular



- 64580 Incision for implantation of neurostimulator electrodes; neuromuscular
- 97813 Acupuncture, 1 or more needles; with electrical stimulation, initial 15 minutes of personal one-on-one contact with the patient
- 97814 Acupuncture, 1 or more needles; with electrical stimulation, each additional 15 minutes of personal one-on-one contact with the patient, with re-insertion of needle(s) (List separately in addition to code for primary procedure)

XIII. Peripherally Implanted Nerve Stimulator

ICD-9 Codes that may support Medical Necessity

- 337.1 Peripheral autonomic neuropathy in disorders classified elsewhere
- 337.2 Reflex sympathetic dystrophy
- 337.20 Reflex sympathetic dystrophy, unspecified
- 337.21 Reflex sympathetic dystrophy of the upper limb
- 337.22 Reflex sympathetic dystrophy of the lower limb
- 337.29 Reflex sympathetic dystrophy of other specified site
- 338.0 Central pain syndrome
- 338.11 Acute pain due to trauma
- 338.12 Acute post-thoracotomy pain
- 338.18 Other acute postoperative pain
- 338.19 Other acute pain
- 338.21 Chronic pain due to trauma
- 338.22 Chronic post-thoracotomy pain
- 338.28 Other chronic postoperative pain
- 338.29 Other chronic pain
- 338.4 Chronic pain syndrome
- 353.8 Other nerve root and plexus disorders
- 353.9 Unspecified nerve root and plexus disorder
- 354.4 Causalgia of upper limb
- 354.5 Mononeuritis multiplex
- 354.8 Other mononeuritis of upper limb
- 355.71 Causalgia of lower limb
- 355.79 Other mononeuritis of lower limb
- 355.8 Mononeuritis of lower limb, unspecified
- 355.9 Mononeuritis of unspecified site
- 353.6 Phantom limb (syndrome)
- 724.2 Lumbago
- 724.5 Backache, unspecified
- 724.9 Other unspecified back disorders

CPT/HCPCS Codes:

- 63650 Percutaneous implantation of neurostimulator electrode array, epidural
- 63655 Laminectomy for implantation of neurostimulator electrodes, plate/paddle, epidural
- 63685 Insertion or replacement of spinal neurostimulator pulse generator or receiver, direct or inductive coupling
- 64565 Percutaneous implantation of neurostimulator electrodes; neuromuscular
- 64575 Incision for implantation of neurostimulator electrodes; peripheral nerve (excludes sacral nerve)
- 64590 Insertion or replacement of peripheral or gastric neurostimulator pulse generator or receiver, direct or inductive coupling



- C1767 Generator, neurostimulator (implantable), nonrechargeable
- C1778 Lead, neurostimulator (implantable)
- C1816 Receiver and/or transmitter, neurostimulator (implantable)
- C1820 Generator, neurostimulator (implantable), with rechargeable battery and charging system
- C1883 Adapter/ extension, pacing lead or neurostimulator lead
- C1894 Introducer/sheath, other than guiding, other than intracardiac electrophysiological, nonlaser
- C1897 Lead, neurostimulator test kit (implantable)

- L8680[#] Implantable neurostimulator electrode, each
- L8681[#] Patient programmer (external) for use with implantable programmable neurostimulator pulse generator
- 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

XIV. Pulsed Electrical Stimulation for treatment of osteoarthritis of the knee (BioniCare®)

Not Covered:

- E0762 Transcutaneous electrical joint stimulation device system, includes all accessories

XV. Surface Electrical Muscle Stimulation

ICD-9 Codes that may support Medical Necessity

- 737.0 Adolescent postural kyphosis
- 737.30 Scoliosis [and kyphoscoliosis], idiopathic
- 737.32 Progressive infantile idiopathic scoliosis
- 737.39 Kyphoscoliosis and scoliosis, other
- 737.43 Scoliosis
- 737.8 Other curvatures of spine
- 737.9 Unspecified curvature of spine

CPT/HCPCS Codes:

- E0744[#] Neuromuscular stimulator for scoliosis

XVI. Transcutaneous Electrical Stimulator (TENS)

ICD-9 Codes that may support Medical Necessity

- ♦ *No prior auth required for this indication*
- 053.13 Postherpetic polyneuropathy
- 053.19 Herpes zoster; with other nervous system complications Other



- 250.60 Diabetes with neurological manifestations, type II or unspecified type, not stated as uncontrolled
- 250.61 Diabetes with neurological manifestations, type I [juvenile type], not stated as uncontrolled
- 250.62 Diabetes with neurological manifestations, type II or unspecified type, uncontrolled
- 250.63 Diabetes with neurological manifestations, type I [juvenile type], uncontrolled
- 337.1 Peripheral autonomic neuropathy in disorders classified elsewhere
- 337.2 Reflex sympathetic dystrophy
- 337.20 Reflex symp athetic dystrophy, unspecified
- 337.21 Reflex sympathetic dystrophy of the upper limb
- 337.22 Reflex sympathetic dystrophy of the lower limb
- 337.29 Reflex sympathetic dystrophy of other specified site
- 338.0 Central pain syndrome
- 338.11 Acute pain due to trauma
- 338.12 Acute post-thoracotomy pain
- 338.18 Other acute postoperative pain
- 338.19 Other acute pain
- 338.21 Chronic pain due to trauma
- 338.22 Chronic post-thoracotomy pain
- 338.28 Other chronic postoperative pain
- 338.29 Other chronic pain
- 338.4 Chronic pain syndrome
- 353.8 Other nerve root and plexus disorders
- 357.2 Polyneuropathy in diabetes
- 355.71 Causalgia of lower limb
- 355.79 Other mononeuritis of lower limb
- 355.8 Mononeuritis of lower limb, unspecified
- 355.9 Mononeuritis of unspecified site
- 353.6 Phantom limb (syndrome)
- 722.52♦Degeneration of lumbar or lumbosacral intervertebral disc
- 724.2♦Lumbago
- 724.5♦ Backache, unspecified
- 724.6♦ Disorders of sacrum
- 724.9 Other unspecified back disorders

CPT/HCPCS Codes:

- 64550 Application of surface (transcutaneous) neurostimulator
- 97014 Application of a modality to one or more areas; electrical stimulation (unattended) *(No Auth)*
- G0283*Electrical stimulation (unattended), to one or more areas for indication(s) other than wound care, as part of a therapy plan of care
- A4595 Electrical stimulator supplies, 2 lead, per month, (e.g. TENS, NMES)
- E0720 Transcutaneous electrical nerve stimulation (TENS) device, two lead, localized stimulation
- E0730 Transcutaneous electrical nerve stimulation (TENS) device, four or more leads, for multiple nerve stimulation

Not Covered for commercial and self-funded products

- E0731 Form-fitting conductive garment for delivery of TENS or NMES (with conductive fibers separated from the patient's skin by layers of fabric)

XVII. Urinary Incontinence Stimulators**Electrical Muscle Stimulators** (*Pelvic floor stimulator, e.g. Innova™*)**ICD-9 Codes that may support Medical Necessity:**

- 625.6 Stress incontinence, female
- 788.30 Urinary incontinence, unspecified
- 788.31 Urge incontinence
- 788.33 Mixed incontinence, (male) (female) `

CPT/HCPCS Codes:

- 64550(**NoAuth**) Application of surface (transcutaneous) neurostimulator
- E0740 Incontinence treatment system, pelvic floor stimulator, monitor, sensor and/or trainer

Sacral Nerve Stimulator**ICD-9 Codes that may support Medical Necessity:**

- 625.6 Stress incontinence, female
- 596.55 Detrusor sphincter dyssynergia
- 788.20 Retention of urine, unspecified
- 788.29 Other specified retention of urine
- 788.31 Urge incontinence
- 788.33 Mixed incontinence, (male) (female)
- 788.41 Urinary frequency

CPT/HCPCS Codes:

- 64561 Percutaneous implantation of neurostimulator electrodes; sacral nerve. (transforaminal placement).
- 64581 Incision for implantation of neurostimulator electrodes; sacral nerve; (transforaminal placement).
- 64585 (**NoAuth**) Revision or removal of peripheral neurostimulator electrodes
- 64590 Incision and subcutaneous placement of peripheral neurostimulator pulse generator or receiver, direct or inductive coupling
- 64595 (**NoAuth**) Revision or removal of peripheral neurostimulator pulse generator or receiver
- 97032 Application of a modality to one or more areas; electrical stimulation (manual), each 15 minutes

- A4290 (**NoAuth**) Sacral nerve stimulation test lead, each

- C1767 Generator, neurostimulator (implantable), nonrechargeable
- C1778 Lead, neurostimulator (implantable)
- C1816 Receiver and/or transmitter, neurostimulator (implantable)
- C1820 Generator, neurostimulator (implantable), with rechargeable battery and charging system
- C1883 Adapter/ extension, pacing lead or neurostimulator lead
- C1894 Introducer/sheath, other than guiding, other than intracardiac electrophysiological, nonlaser
- C1897 Lead, neurostimulator test kit (implantable)

- L8684 Radiofrequency transmitter (external) for use with implantable sacral root neurostimulator receiver for bowel and bladder management, replacement

**Percutaneous Tibial Nerve Stimulation (PTNS)****ICD-9 Codes that support Medical Necessity:**

- 625.6 Stress incontinence, female
- 596.51 Hypertonicity of bladder
- 788.30 Urinary incontinence, unspecified
- 788.31 Urge incontinence
- 788.33 Mixed incontinence, (male) (female)
- 788.39 Other urinary incontinence
- 788.41 Urinary frequency
- 788.63 Urgency of urination

CPT/HCPCS Codes:

- 64999 Unlisted procedure, nervous system (*Explanatory notes must accompany claim*)

XVIII. Non-Covered Electrical Stimulation Therapies

1. Cranial electrical stimulation

CPT/HCPCS Codes:

- 61863 Twist drill, burr hole, craniotomy, or craniectomy with stereotactic implantation of neurostimulator electrode array in subcortical site (eg, thalamus, globus pallidus, subthalamic nucleus, periventricular, periaqueductal gray), without use of intraoperative microelectrode recording; first array
- 61864 Twist drill, burr hole, craniotomy, or craniectomy with stereotactic implantation of neurostimulator electrode array in subcortical site (eg, thalamus, globus pallidus, subthalamic nucleus, periventricular, periaqueductal gray), without use of intraoperative microelectrode recording; each additional array (List separately in addition to primary procedure)
- 61867 Twist drill, burr hole, craniotomy, or craniectomy with stereotactic implantation of neurostimulator electrode array in subcortical site (eg, thalamus, globus pallidus, subthalamic nucleus, periventricular, periaqueductal gray), with use of intraoperative microelectrode recording; first array
- 61868 Twist drill, burr hole, craniotomy, or craniectomy with stereotactic implantation of neurostimulator electrode array in subcortical site (eg, thalamus, globus pallidus, subthalamic nucleus, periventricular, periaqueductal gray), with use of intraoperative microelectrode recording; each additional array (List separately in addition to primary procedure)
- 61875 Craniectomy for implantation of neurostimulator electrodes, cerebellar; subcortical
- 61885 Insertion or replacement of cranial neurostimulator pulse generator or receiver, direct or inductive coupling; with connection to a single electrode array
- 61886 Insertion or replacement of cranial neurostimulator pulse generator or receiver, direct or inductive coupling; with connection to two or more electrode arrays
- L8680 Implantable neurostimulator electrode, each
- L8681 Patient programmer (external) for use with implantable programmable neurostimulator pulse generator
- 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 implanted neurostimulator, replacement only
- C1778 Lead, neurostimulator (implantable)
- C1767 Generator, neurostimulator (implantable), nonrechargeable
- C1816 Receiver and/or transmitter, neurostimulator (implantable)
- C1883 Adapter/ extension, pacing lead or neurostimulator lead

2. Electric reflex salivary stimulation

CPT/HCPCS Codes:

- E0755 Electronic salivary reflex stimulator (intraoral/noninvasive)

3. Gastric pacing to improve sluggish gastric emptying (gastroparesis)

CPT/HCPCS Codes:

- 43647 Laparoscopy, surgical; implantation or replacement of gastric neurostimulator electrodes, antrum
- 43648 Laparoscopy, surgical; revision or removal of gastric neurostimulator electrodes, antrum
- 43881 Implantation or replacement of gastric neurostimulator electrodes, antrum, open
- 43882 Revision or removal of gastric neurostimulator electrodes, antrum, open
- 64590 Insertion or replacement of peripheral or gastric neurostimulator pulse generator or receiver, direct or inductive coupling
- 95980 Electronic analysis of implanted neurostimulator pulse generator system (eg, rate, pulse amplitude and duration, configuration of wave form, battery status, electrode selectability, output modulation, cycling, impedance, and patient measurements) gastric
- 95981 Electronic analysis of implanted neurostimulator pulse generator system (eg, rate, pulse amplitude and duration, configuration of wave form, battery status, electrode selectability, output modulation, cycling, impedance, and patient measurements) gastric
- 95982 Electronic analysis of implanted neurostimulator pulse generator system (eg, rate, pulse amplitude and duration, configuration of wave form, battery status, electrode selectability, output modulation, cycling, impedance, and patient measurements) gastric
- E0765 FDA approved nerve stimulator, with replaceable batteries, for treatment of nausea and vomiting

4. Neuromuscular electrical stimulation for ANY of the following conditions:

- a. Spinal cord injury
- b. Stroke (CVA)
- c. Cerebral palsy
- d. Other upper motor neuron disorders
- e. For general muscle strengthening in healthy individuals



- f. For cardiac conditioning
 - g. For the treatment of denervated muscles
See section XI
5. Transurethral electrical stimulation for the management of neurogenic bladder dysfunction
CPT/HCPCS Codes:
53899 Unlisted procedure, urinary system
6. High frequency pulsed electromagnetic fields (i.e., Diapulse and sofPulse device) for the treatment of wounds in the home setting or acute postoperative pain and edema
CPT/HCPCS Codes:
G0295 Electromagnetic therapy, to one or more areas, for wound care other than described in G0329 or for other uses
E0761 Nonthermal pulsed high frequency radiowaves, high peak power electromagnetic energy treatment device
7. Interferential current therapy
See section X.
8. Electrical stimulation for the treatment of Bell's palsy
ICD9 Diagnosis Code – not covered
351.0 Bell's palsy
CPT/HCPCS Codes:
97032 Application of a modality to one or more areas; electrical stimulation (manual), each 15 minutes
9. Stellate ganglion blockade using TENS
CPT/HCPCS Codes:
64550 Application of surface (transcutaneous) neurostimulator
97014 Application of a modality to one or more areas; electrical stimulation (unattended)

G0283*Electrical stimulation (unattended), to one or more areas for indication(s) other than wound care, as part of a therapy plan of care
A4595 Electrical stimulator supplies, 2 lead, per month, (e.g. TENS, NMES)
E0720 Transcutaneous electrical nerve stimulation (TENS) device, two lead, localized stimulation
E0730 Transcutaneous electrical nerve stimulation (TENS) device, four or more leads, for multiple nerve stimulation
10. Dorsal column stimulation for the management of chronic malignant pain
See section V.
11. H-WAVE ® type stimulators for ANY of the following indications:
a. To reduce pain
b. To reduce edema
c. To accelerate healing
d. For treatment of chronic pain due to ischemia

**CPT/HCPCS Codes:**

64999 Unlisted procedure, nervous system

12. Functional electrical stimulation for electrical stimulation of muscles in patients with spinal cord injuries and other neuromuscular conditions

CPT/HCPCS Codes:

E0764 Functional neuromuscular stimulator, transcutaneous stimulation of muscles of ambulation with computer control, used for walking by spinal cord injured, entire system, after completion of training program

13. Intramuscular stimulation (IMS) for the management of soft-tissue or neuropathic pain.

CPT/HCPCS Codes:

97032 Application of a modality to one or more areas; electrical stimulation (manual), each 15 minutes

64550 Application of surface (transcutaneous) neurostimulator

64555 Percutaneous implantation of neurostimulator electrodes; peripheral nerve (excludes sacral nerve)

14. Galvanic stimulation therapy

CPT/HCPCS Codes:

E0745 Neuromuscular stimulator, electronic shock unit

15. Electrical stimulation for wound healing or skin ulcers in the home setting
See section II

16. Percutaneous Electrical Stimulation (PENS)
See section XII

17. Percutaneous Neuromodulation Therapy (PNT)
See section XII

18. Transcend® Implantable Gastric Stimulator for treatment of obesity

CPT/HCPCS Codes:

0155T Laparoscopy, surgical; implantation or replacement of gastric stimulation electrodes, lesser curvature (i.e., morbid obesity)

0156T Laparoscopy, surgical; revision or removal of gastric stimulation electrodes, lesser curvature (i.e., morbid obesity)

0157T Laparotomy, implantation or replacement of gastric stimulation electrodes, lesser curvature (i.e., morbid obesity)

0162T Electronic analysis and programming, reprogramming of gastric neurostimulator (i.e., morbid obesity)

19. Synergy® Neurostimulator (Medtronic) for intractable migraine pain (Occipital nerve stimulation)

CPT/HCPCS Codes:

64555 Percutaneous implantation of neurostimulator electrodes; peripheral nerve (excludes sacral nerve)

64575 Incision for implantation of neurostimulator electrodes; peripheral nerve (excludes sacral nerve)

- 64590 Insertion or replacement of peripheral or gastric neurostimulator pulse generator or receiver, direct or inductive coupling
 - L8680 Implantable neurostimulator electrode, each
 - L8681 Patient programmer (external) for use with implantable programmable neurostimulator pulse generator
 - L8682 Implantable neurostimulator radiofrequency receiver
 - L8683 Radiofrequency transmitter (external) for use with implantable neurostimulator radiofrequency receiver
 - L8684 Radiofrequency transmitter (external) for use with implantable sacral root neurostimulator receiver for bowel and bladder management, replacement
 - 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
20. Vagal nerve stimulators for other indications. See Section VI.
See Medical policy #91524
21. Transcranial Magnetic Stimulation for depression and all other diagnoses.
CPT/HCPCS Codes:
0160T Therapeutic repetitive transcranial magnetic stimulation treatment planning
0161T Therapeutic repetitive transcranial magnetic stimulation treatment delivery and management, per session
E0761 Nonthermal pulsed high frequency radiowaves, high peak power electromagnetic energy treatment device
22. Microcurrent electrical nerve stimulation (MENS), including frequency-specific microcurrent (FSM).
CPT/HCPCS Codes:
97799 Unlisted physical medicine rehab service or procedure
64999 Unlisted procedure, nervous system.
E1399 Unlisted Durable Medical Equipment

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