Clinical Policy: Neuromuscular and Peroneal Nerve Electrical Stimulation (NMES)

Reference Number: LA.CP.MP.48
Date of Last Revision: 091/22

Coding Implications
Revision Log

See Important Reminder at the end of this policy for important regulatory and legal information.

Description
This policy describes the medical necessity requirements for the use of neuromuscular electrical stimulation (NMES) and functional electrical stimulation (FES).

Policy/Criteria

I. It is the policy of Louisiana HealthCare Connections that neuromuscular electrical stimulation is **medically necessary** when used as one component of a comprehensive rehab program for the treatment of disuse atrophy when the nerve supply to the atrophied muscle is intact and has any of the following atrophy indications:
   A. Contractures due to burn scarring;
   B. Previous casting or splinting of a limb;
   C. Major knee surgery with failure to respond to physical therapy;
   D. Recent hip replacement until physical therapy begins.

II. It is the policy of Louisiana HealthCare Connections that functional neuromuscular stimulation is **medically necessary** for spinal cord injury (SCI) when all of the following criteria are met:
   A. Intact lower motor units (L1 and below, including both muscle and peripheral nerve);
   B. Muscle and joint stability adequate for weight bearing at upper and lower extremities and can demonstrate balance and control to maintain an upright support posture independently;
   C. Brisk muscle contraction to stimulation and sensory perception of electrical stimulation sufficient for muscle contraction;
   D. Transfers independently and demonstrates independent standing tolerance for at least three minutes;
   E. Demonstrates hand and finger function to manipulate controls;
   F. At least six months post recovery from spinal cord injury and restorative surgery;
   G. No hip and knee degenerative disease and no history of long bone fracture secondary to osteoporosis;
   H. Highly motivated, committed, and the cognitive ability to use such devices for walking;
   I. Successfully completed a training program consisting of at least 32 physical therapy sessions with the device over a 3-month period;
   J. Demonstrates a willingness to use the device long-term;
   K. None of the following contraindications:
      1. Cardiac pacemaker;
      2. Severe scoliosis or severe osteoporosis;
      3. Skin disease or cancer at area of stimulation;
      4. Irreversible contracture;

5. Autonomic dysflexia.

III. It is the policy of Louisiana HealthCare Connections that peroneal nerve stimulators (e.g., NESS L300, NESS L300 Plus, L300 Go System, WalkAide, ODFS Dropped Foot Stimulator) are medically necessary for incomplete spinal cord injury.

IV. It is the policy of Louisiana HealthCare Connections that peroneal nerve stimulators (e.g., NESS L300, NESS L300 Plus, L300 Go System, WalkAide, ODFS Dropped Foot Stimulator) have not been proven safe and effective for any indication other than incomplete spinal cord injury, including, but not limited to: foot drop in cerebral palsy, multiple sclerosis, traumatic brain injury, or stroke~~, as not proven safe and effective for these indications~~.

V. It is the policy of Louisiana HealthCare Connections that neuromuscular electrical stimulation for any other indication (e.g., idiopathic scoliosis, heart failure) is not proven safe and effective.

Background

~~NMES~~Neuromuscular electrical stimulation (NMES) involves the use of a device which transmits an electrical impulse to the skin over selected muscle groups by way of electrodes.[1,5] There are two broad categories of NMES. One type of device stimulates the muscle when the patient is in a resting state to treat muscle atrophy.[1] The second type, ~~also~~ known as functional electrical stimulation (FES~~,~~), is used to enhance functional activity of neurologically impaired patients.[2~~1~~] NMES can be performed at low, medium, or high intensity to elicit mild, moderate, or strong muscle contractions. When used at very low intensity to stimulate barely perceptible contractions, this technique is referred to as threshold NMES or threshold electrical stimulation (TES). ~~To avoid muscle strain, patients undergo high-intensity NMES for only 30 to 60 minutes per day; low-intensity and threshold NMES can be applied for much longer periods, such as all night while the patient is sleeping.[1,2~~ [1,4] Regardless of the intensity of NMES, patients are encouraged to exercise the affected muscles voluntarily to maintain and improve their strength and function. For chronic disorders, this exercise may be in the form of regular participation in sports activities. For acute conditions, such as rehabilitation shortly after surgery or a stroke, patients must often undergo intensive physical and occupational therapy. ~~Electrical~~[1,4]

FES is the application of electrical stimulation that can ~~also~~ be used to activate muscles of the upper or lower limbs to produce functional movement patterns, such as standing and walking, in patients with paraplegia. ~~This application of electrical stimulation is called functional electrical stimulation (~~[1,4] FES~~).~~ has been shown to strengthen muscles, improve circulation, heal tissue, slow muscle atrophy, and reduce pain and spasticity.[4] The only settings where skilled therapists ~~with the sufficient skills to~~ can provide ~~these~~NMES services are ~~employed are~~ inpatient hospitals~~;~~, outpatient hospitals~~;~~, comprehensive outpatient rehabilitation facilities~~;~~, and outpatient rehabilitation facilities. The physical therapy ~~necessary~~needed to perform ~~this training must~~these services requires that the patient be ~~part of~~in a one-on-one training program. ~~Additional therapy after the purchase of the DME would be limited by our general policies detailing skilled physical therapy.[1,2~~[1]

Coding Implications

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HCPCS ®* Codes	Description
E0745	Neuromuscular stimulator, electronic shock unit
E0764	Functional neuromuscular stimulation, transcutaneous stimulation of sequential muscle groups 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

HCPCS codes that do not support coverage criteria

HCPCS Codes	Description
E0744	Neuromuscular stimulator for scoliosis

ICD-10-CM Diagnosis Codes that Support Coverage Criteria

+ Indicates a code(s) requiring an additional character

ICD-10-CM Code	Description
M62.50 -through M62.59	Muscle wasting and atrophy, not elsewhere classified
S14.0xxA –through S14.0xxS	Concussion and edema of cervical spinal, cord
S14.101A -through S14.109S	Unspecified injury of cervical spinal cord
S24.101A -through S24.109S	Unspecified injury at unspecified level of thoracic spinal cord
S34.101A -through S34.109S	Unspecified injury to unspecified level to lumbar spinal cord
S34.131A –through S34.139S	Unspecified injury to sacral spinal cord

Reviews, Revisions, and Approvals	Revision Date	Approval Date
Rebranded from corporate policy Annual review completed. References reviewed and updated. Changed "review date" in the header to "date of last revision" and "date" in the revision log header to "revision date." Integrated NMES, FES, and peroneal stimulator criteria from CP.MP.107 DME and Legacy WellCare Neuromuscular Electrical Stimulation (NMES) CP.MP.48 policy. Renamed to "Neuromuscular and Peroneal Nerve Electrical Stimulation." Added section III and IV criteria. Added code E0744 to "HCPCS codes that do not support coverage criteria." Specialist reviewed.	01/2022	
Annual review. Criteria IV. verbiage updated for clarity. Background updated with no impact on criteria. References reviewed and updated. Specialist reviewed.	9/22	

References

~~1. Neuromuscular electrical stimulation for muscle rehabilitation. Hayes Directory website. http://www.hayesinc.com. Published December 27, 2010. (archived January 3, 2013). Accessed June 15, 2021.~~

~~2.~~1. National coverage determination. Neuromuscular electrical stimulation (NMES) (160.12). Centers for Medicare and Medicaid Services website. http://www.cms.hhs.gov/mcd/search.asp. Published October 1, 2006. Accessed ~~June 15, 2021.~~May 31, 2022.

~~3.~~2. Health Technology Assessment. Functional electrical stimulation for rehabilitation following spinal cord injury. Hayes ~~website~~. www.hayesinc.com. Published November 16, 2017~~. Reviewed April 5, 2021.~~ (annual review January 12, 2022). Accessed ~~June 15, 2021~~May 31, 2022.

3. Health Technology Assessment. Functional electrical stimulation (FES) for treatment of foot drop in multiple sclerosis patients. Hayes ~~website~~. www.hayesinc.com. Published ~~July 16, 2015. (archived August 16, 2018).~~ November 17, 2021. Accessed June ~~18, 2021.~~ 01, 2022.

4. Doucet BM, Lam A, Griffin L. Neuromuscular electrical stimulation for skeletal muscle function. *Yale J Biol Med*. 2012;85(2):201-215.

5. Health Technology Assessment. Functional electrical stimulation for foot drop in acute or subacute phases of stroke recovery. Hayes. www.hayesinc.com. Published June 01, 2022. Accessed June 03, 2022.

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Important Reminder

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. LHCC makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing

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