Medical Policy

Neuromuscular Electrical Stimulation (NMES) Devices

Description

Neuromuscular Electrical Stimulation (NMES) is the transcutaneous application of electrical currents to activate muscle contractions using surface electrodes attached to the neuromuscular stimulator device. The goal of NMES is to stimulate the muscle when the member is in a resting state to increase muscle strength, prevent or retard disuse atrophy, relax muscle spasms, increase joint mobility and promote voluntary control of muscles in members who have lost muscle function due to surgery, neurological injury or a disabling condition.

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. The second type is used to enhance functional activity of neurologically impaired patients.

Neuromuscular electrical stimulation (NMES) is **reasonable and necessary** for Members meeting coverage criteria.

Policy Guidelines

Treatment of Muscle Atrophy

Coverage Criteria:

1. Must be ordered by the Member's treating physician.
2. NMES devices may be considered medically necessary for the treatment of disuse atrophy when the nerve supply to the muscle is intact and the member has a non-neurological etiology for disuse atrophy that include but are not limited to:
    a. Prolonged (greater than 12 weeks) casting or splinting of joint
    b. Contractures due to scarring of soft tissue by burns
    c. Following hip replacement surgery prior to orthotic training

Use for Walking in Patients with Spinal Cord Injury (SCI)

The type of NMES that is used to enhance the ability to walk of SCI patients is commonly referred to as functional electrical stimulation (FES). These devices are surface units that use electrical impulses to activate paralyzed or weak muscles in precise sequence. Coverage for the use of NMES/FES is limited to SCI patients for walking, who have completed a training program which consists of at least 32 physical therapy sessions with the device over a period of three months. The trial period of physical therapy will

enable the physician treating the patient for his or her spinal cord injury to properly evaluate the person's ability to use these devices frequently and for the long term. Physical therapy necessary to perform this training must be directly performed by the physical therapist as part of a one-on-one training program.
The goal of physical therapy must be to train SCI patients on the use of NMES/FES devices to achieve walking, not to reverse or retard muscle atrophy.

Coverage for NMES/FES for walking will be covered in SCI patients with all of the following characteristics:

1. Persons with intact lower motor units (L1 and below) (both muscle and peripheral nerve);
2. Persons with muscle and joint stability for weight bearing at upper and lower extremities that can demonstrate balance and control to maintain an upright support posture independently;
3. Persons that demonstrate brisk muscle contraction to NMES and have sensory perception electrical stimulation sufficient for muscle contraction;
4. Persons that possess high motivation, commitment and cognitive ability to use such devices for walking;
5. Persons that can transfer independently and can demonstrate independent standing tolerance for at least 3 minutes;
6. Persons that can demonstrate hand and finger function to manipulate controls;
7. Persons with at least 6-month post recovery spinal cord injury and restorative surgery;
8. Persons without hip and knee degenerative disease and no history of long bone fracture secondary to osteoporosis; and
9. Persons who have demonstrated a willingness to use the device long-term.

NMES/FES for walking will not be covered in SCI patient with any of the following:

1. Persons with cardiac pacemakers;
2. Severe scoliosis or severe osteoporosis;
3. Skin disease or cancer at area of stimulation;
4. Irreversible contracture; or
5. Autonomic dysflexia.

The only settings where therapists with the sufficient skills to provide these services are employed, are inpatient hospitals; outpatient hospitals; comprehensive outpatient rehabilitation facilities; and outpatient rehabilitation facilities. The physical therapy necessary to perform this training must be part of a one-on-one training program. Additional therapy after the purchase of the DME would be limited by our general policies in converge of skilled physical therapy.

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Limitations:

1. Due to the short-term nature of the treatment, the authorization of NMES unit will be limited to rental only.
2. Supplies are included in the rental of the NMES unit and cannot be billed separately (e.g., A4556, A4557, A4558, A4595, A4620, E0731)

The following electrical stimulation devices are considered experimental and investigational and include but are not limited to:

- **Galvanic** - (or High Voltage Galvanic Stimulation (HVG), The application of high voltage, pulsed stimulation using surface electrodes attached to the galvanic stimulator that is used primarily for the reduction of local edema. This treatment is proposed to reduce edema by displacing charged proteins away from the edematous site.
- **H-wave** - The application of electrical H-wave stimulation using surface electrodes attached to the H-wave stimulator. H-waves are used to stimulate muscles and nerves to promote circulation and relieve pain and have been used to treat diabetic neuropathy, muscle sprains, temporomandibular joint dysfunctions, reflex sympathetic dystrophy, and diabetic ulcers. H-wave is classified as a powerful muscle stimulator that produces rhythmic muscle contractions that increase local circulation and lymphatic drainage.
- **Interferential/sequential -** Also known as sequential stimulation, this type of stimulation is the application of small electrical currents to the affected region of the body using surface electrodes attached to the interferential stimulator device. Sequential Stimulation first uses interferential current to relieve deep chronic pain and simultaneously applies muscle stimulation to treat underlying muscle conditions.
- **MENS** - Micro current Electrical Nerve Stimulation is the application of micro current (very small micro amp electrical charges that are 1/1000 of milliamp current) using surface electrodes attached to the MENS device. MENS is proposed to aid in the healing process and relieve pain by working on a more cellular level and acting on the naturally occurring electrical impulses. Because the current is so small, the member barely feels the stimulation.
- **PNT -** Percutaneous Neuromodulation Therapy is a variant of PENS where up to ten fine filament electrodes are temporarily placed at specific areas of the back for the relief of chronic intractable pain or as an adjunct treatment in the management of post-surgical or post traumatic pain. In PNT, the electrical stimulation is applied by a physician through needles inserted 2cm to 4 cm into the tissues

surrounding the spine. Electrical currents applied through the needles are thought to stimulate peripheral nerves. These nerves in turn may alter the activity of the spinal nerves transmitting the pain signal, resulting in reduced pain.

- **PENS -** Percutaneous Electrical Nerve Stimulation is the application of electrical current through the insertion of a needle under the skin that is attached to the PENS device. The needle insertion is adjacent to a nerve. PENS is generally reserved for members who fail to obtain relief from TENS units.
- **Sympathetic -** The application of electrical stimulation to peripheral nerves using surface electrodes in an effort to "normalize" the autonomic nervous system and alleviate chronic pain. Sympathetic therapy is designed to induce a systemic effect on sympathetically induced pain and does not treat local pain.
- **TEJS -** Transcutaneous Electrical Joint Stimulation or Pulsed Electrical Stimulation is the application of electrical current using surface electrodes to the joint tissue for the treatment of osteoarthritis symptoms of the knee. The electrode patches are worn for 6 – 10 hours daily while the member is sleeping.
- **TES -** Threshold Electric Stimulation is the application of low intensity electrical stimulation as a treatment for motor disorders used to target spastic muscles during sleep.

HCPCS Level II Codes and Description

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.
E1399	Durable medical equipment, miscellaneous (use for sequential/inferential stimulator)

NONCOVERED HCPCS CODES (Considered experimental and investigational)

K1018	External upper limb tremor stimulator of the peripheral nerves of the wrist
K1019	Monthly supplies for use of device coded at K1018

Documentation Requirements:

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Items in this policy may be subject to the Affordable Care Act (ACA) 6407 requirements.

The Affordable Care Act (ACA) 6407 requires that the treating physician conduct a face-to-face examination during the six-month period preceding the written order. The documentation must be received by the provider prior to delivery for certain DME items. The documentation must describe a medical condition for which the DME is being prescribed.

Important Note:

Northwood's Medical Policies are developed to assist Northwood in administering plan benefits and determining whether a particular DMEPOS product or service is reasonable and necessary. Equipment that is used primarily and customarily for a non-medical purpose is not considered durable medical equipment.

Coverage determinations are made on a case-by-case basis and are subject to all of the terms, conditions, limitations, and exclusions of the member's contract including medical necessity requirements.

The conclusion that a DMEPOS product or service is reasonable and necessary does not constitute coverage. The member's contract defines which DMEPOS product or service is covered, excluded or limited. The policies provide for clearly written, reasonable and current criteria that have been approved by Northwood's Medical Director.
The clinical criteria and medical policies provide guidelines for determining the medical necessity for specific DMEPOS products or services. In all cases, final benefit determinations are based on the applicable contract language. To the extent there are any conflicts between medical policy guidelines and applicable contract language, the contract language prevails. Medical policy is not intended to override the policy that defines the member's benefits, nor is it intended to dictate to providers how to direct care. Northwood Medical policies shall not be interpreted to limit the benefits afforded to Medicare or Medicaid members by law and regulation and Northwood will use the applicable state requirements to determine required quantity limit guidelines.

Northwood's policies do not constitute medical advice. Northwood does not provide or recommend treatment to members. Members should consult with their treating physician in connection with diagnosis and treatment decisions.

Northwood follows all CMS National Coverage Determinations (NCD) and Local Coverage Determinations (LCD), as applicable.

References

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16. Aetna Functional Electrical Stimulation and Neuromuscular Electrical Stimulation, Clinical Policy Bulletin 0677. *https://www.aetna.com/cpb/medical/data/600_699/0677.html#dummyLink2* Last accessed / reviewed December 12, 2024.

17. Cigna Electrical Stimulation Therapy and Home Devices, Medical Coverage Policy 0160; *https://static.cigna.com/assets/chcp/pdf/coveragePolicies/medical/mm_0160_coveragepositioncriteria_electrical_stimulators.pdf* Last accessed and reviewed December 12, 2024.

Change/Authorization History

Revision Number	Date	Description of Change	Prepared/Reviewed by	Approved by	Review Date:	Effective Date:
A	Nov.2006	Initial Release	Rosanne Brugnoni	Ken Fasse	n/a	
01		Annual Review / no revisions	Susan Glomb	Ken Fasse	Dec.2008	

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02	12-22-09	Annual Review/ no changes	Susan Glomb	Ken Fasse	Dec.2009	
03	12-03-10	Annual Review – No changes	Susan Glomb	Ken Fasse	Dec.2010	
04	02-18-11	Policy updated to reflect current practice	Susan Glomb	Ken Fasse		
05	07-20-11	Added Important Note to all Medical Policies	Susan Glomb	Dr. B. Almasri		
06	11-1-11	Added Supporting Documentation to policy for Experimental and Investigational.	Susan Glomb	Dr. B. Almasri		
07	11-14-11	Annual Review. Added References to Policy	Susan Glomb	Dr. B. Almasri	Nov. 2011	
08	11-29-12	Annual review. No changes.	Susan Glomb	Dr. B. Almasri	Nov. 2012	
09	12-18-13	Annual review. No changes	Susan Glomb	Dr. B. Almasri		
10	12-18-14	Annual Review. Added Affordable Care Act (ACA) 6407 requirements.	Susan Glomb	Dr. B. Almasri		
11	12-14-15	Annual Review. No changes	Susan Glomb	Dr. B. Almasri	12-14-15	
12	12-19-16	Annual Review. No Changes.	Lisa Wojno	Dr. B. Almasri	December 2016	
13	12-26-17	Annual review. Per Medicare NCD, FES coverage added.	Carol Dimech	Dr. C. Lerchin	December 2017	
14	12-5-18	Annual review. United Healthcare reference updated NCD 160.12.	Carol Dimech	Dr. C. Lerchin	December 2018	
15	12-13-19	Annual Review. No Changes.	Carol Dimech	Dr. C. Lerchin	December 2019	December 2019
16	12-11-20	Annual Review. No Changes.	Lisa Wojno	Dr. C. Lerchin	December 2020	December 2020

17	12-08-21	Annual Review. Added NCD/LCD verbiage to "Important Note".	Carol Dimech/Susan Glomb	Dr. C. Lerchin	December 8, 2021	
18	9-14-22	Added new HCPCS K1018, K1019 to noncovered code list – experimental and investigational. Added references.	Carol Dimech	Dr. C. Lerchin	9-14-22	4-1-21
19	12-15-22	Annual review. Updated references.	Lisa Wojno	Dr. C. Lerchin	December 15, 2022	December 2022
20	12-07-23	Annual review. No changes.	Carol Dimech/ Susan Glomb	Dr. C. Lerchin	December 7, 2023	December 2023
21	12-12-24	Annual review. No changes	Susan Glomb	Dr. C. Lerchin	December 12, 2024	December 12, 2024