Sentara Health Plans

Medicaid

Neuromuscular Electrical Stimulator, DME 17

Table of Content

Effective Date	06/2002
Next Review Date	09/2025
Coverage Policy	DME 17
Version	10

All requests for authorization for the services described by this medical policy will be reviewed per Early and Periodic Screening, Diagnostic and Treatment (EPSDT) guidelines. These services may be authorized under individual consideration for Medicaid members under the age of 21-years if the services are judged to be medically necessary to correct or ameliorate the member's condition. Department of Medical Assistance Services (DMAS), Supplement B - EPSDT (Early and Periodic Screening, Diagnosis and Treatment) Manual.*.

Purpose:

This policy addresses Neuromuscular Electrical Stimulator.

Description & Definitions:

Neuromuscular electrical stimulation (NMES) is a device that sends electrical through electrodes placed on the skin, to aid in muscles contraction.

NMES is used to treat disuse atrophy due to a condition such as limb casting or hip replacement surgery, where the nerve supply to the muscle is intact. The NMES device includes a portable stimulator with electrodes that are placed on the skin over targeted muscle or muscle group.

The current passes through the electrodes into the body, and the motor nerves are stimulated, causing a muscle contraction. The intensity and frequency of stimulation can vary based on the level of muscular function and response to treatment. NMES targets the muscle itself, specifically through the motor nerves. This allows the NMES machine to create a muscle contraction to recruit more muscle fibers when training, warming up or recovering. The use of NMES for the treatment of disuse atrophy is considered effective therapy when the cause of the muscle disuse is not permanent and there is no nervous system involvement.

The type of NMES that is used to enhance the ability to walk 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. FES has been used in the setting of spinal cord injury (SCI), foot drop, and cerebral palsy. There is inconclusive evidence to support the superiority of FES over ankle-foot orthosis for the treatment of foot drop.

Criteria:

Electrical stimulation, functional and neuromuscular devices are considered medically necessary for **one or more of the following:**

- For **disuse atrophy** in an individual with intact nerve supply to the muscle (including the brain, spinal cord, and peripheral nerves) with **1 or more of the following:**
  - Previous casting or splinting of a limb when unable to participate in physical therapy.
  - Contractures due to scarring of soft tissue (e.g. burn scarring).
  - Hip replacement prior to initiation of physical therapy.
  - Major knee surgery (e.g., total knee replacement) when there is failure to respond to physical therapy.
- For spinal cord injury where restoration of walking is the goal, and the individual has the ALL of following characteristics:
  - Intact lower motor units (L1 and below) (both muscle and peripheral nerve).
  - 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.
  - Brisk muscle contraction to NMES and sensory perception of electrical stimulation sufficient for muscle contraction.
  - High motivation, commitment and cognitive ability to use such devices for walking.
  - Ability to transfer independently and independent standing tolerance for at least 3 minutes.
  - Hand and finger function to manipulate controls.
  - At least 6-month post recovery spinal cord injury and restorative surgery.
  - No evidence of hip and knee degenerative disease and no history of long bone fracture secondary to osteoporosis.
  - Willingness to use the device long-term.
- Hemiplegia or hemiparesis with foot drop after chronic stroke, as indicated by **ALL** of the following (1)(61)(62)(63):
  - Ankle range of motion within limits required for normal gait
  - Cognitively able to understand and comply with rehabilitation protocol
  - Stroke onset greater than 3 months prior
- Peripheral Neuromuscular Stimulator is considered medically necessary for **ALL** of the following:
  - Chronic intractable pain, lasting at least 6 months
  - Individual has failed conservative, braces, local injections, TENS, psychological therapy, attempts to cure the underlying condition causing the pain for at least six months
  - Individual does not have contraindications to the procedure including but not limited to local infections, surgical/medical/psychological conditions that can adversely impact the procedure
  - Individual does not have any substance abuse issues
  - Individual has been educated and psychologically prepared following discussion of risks and benefits by the treating physician
  - Individual had undergone a successful stimulation trial with greater than or equal to 50% reduction in pain intensity before implantation
  - Device is FDA approved
  - Patient has undergone careful screening, evaluation, and diagnosis by multidisciplinary team prior to implantation, including psychological as well as physical evaluation.

Neuromuscular stimulator devices are NOT COVERED for ANY of the following:

- Autonomic dysreflexia
- Bell's palsy
- Cardiac conditioning
- Cerebral palsy
- Chronic Obstructive Pulmonary Disease

- Congestive Heart Failure
- Dysphagia as a result of physiological dysfunction
- Erectile dysfunction
- General muscle strengthening in healthy individuals.
- High-voltage galvanic stimulator (HVG)
- Improving ambulatory function and muscle strength for progressive diseases (e.g., cancer, chronic heart failure, chronic obstructive pulmonary disease, multiple sclerosis) in persons without spinal cord injury
- Individuals with cardiac pacemakers
- InterX 1000 neurostimulator
- Irreversible contracture
- Masseter muscle oral dysfunction after stroke
- Muscle atrophy after stroke
- Pain caused by necrosis of the femoral head.
- Nexwave by Zynex
- Percutaneous Implantation of a neurostimulator electrode array
- Persons with cardiac pacemakers
- Severe scoliosis or severe osteoporosis (for spinal cord injury)
- Skin disease or cancer at area of stimulation
- Threshold/Therapeutic Electrical stimulation (TES)
- Treatment of denervated muscles
- Treatment of knee osteoarthritis
- Upper extremity hemiplegia

Coding:

Medically necessary with criteria:

Coding	Description
64555	Percutaneous implantation of neurostimulator electrode array; peripheral nerve (excludes sacral nerve)
64580	Open implantation of neurostimulator electrode array; neuromuscular A4556 Electrodes (e.g., apnea monitor), per pair A4557 Lead wires (e.g., apnea monitor), per pair
A4558	Conductive gel or paste, for use with electrical device (e.g., TENS, NMES), per oz. A4595 Electrical stimulator supplies, 2 lead, per month, (e.g. TENS, NMES)
E0731	Form - fitting conductive garment for delivery of TENS or NMES (with conductive fibers separated from the patient's skin by layers of fabric)
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
E0770	Functional electrical stimulator, transcutaneous stimulation of nerve and / or muscle groups, any type, complete system, not otherwise specified

Considered Not Medically Necessary:

Coding	Description
	None

Document History:

Revised Dates:

- 2024: September – criteria update and references updated
- 2024: February
- 2021: November

- 2020: November
- 2019: October, November
- 2016: April, May
- 2013: October
- 2012: June
- 2011: February
- 2010: November
- 2008: February, March
- 2007: October
- 2005: November
- 2003: July, November

Reviewed Dates:

- 2023: September
- 2022: September
- 2018: December
- 2017: November
- 2015: May
- 2014: May
- 2012: November
- 2011: November
- 2010: December
- 2009: January, December
- 2008: January
- 2006: October
- 2004: June, July
- 2003: June

Effective Date:

- June 2002

References:

Including but not limited to: Specialty Association Guidelines; Government Regulations; Winifred S. Hayes, Inc; UpToDate; Literature Review; Specialty Advisors; National Coverage Determination (NCD); Local Coverage Determination (LCD).

(2023, Sep 21). Retrieved Mar 13, 2024, from MCG: https://careweb.careguidelines.com/ed27/index.html

(2024). Retrieved Mar 13, 2024, from Centers for Medicare and Medicaid Services: https://www.cms.gov/medicare-coverage-database/search-results.aspx?keyword=electrical%20stimulation&keywordType=starts&areaId=s53&docType=NCA,CAL,NCD,MEDCAC,TA,MCD,6,3,5,1,F,P&contractOption=all&sortBy=relevance

(2024). Retrieved Mar 18, 2024, from Carelon Medical Benefits Management: https://guidelines.carelonmedicalbenefitsmanagement.com/?s=Neuromuscular+stimulation&et_pb_searchform_submit=et_search_proccess&et_pb_search_cat=11%2C1%2C96&et_pb_include_posts=yes

21 CFR Part 882 Subpart F. (2008, Jun 23). Retrieved Aug 19, 2024, from Code of Federal Regulations: https://www.ecfr.gov/current/title-21/part-882/subpart-F

Celli, B. (2024, Feb 05). Pulmonary rehabilitation. Retrieved Mar 18, 2024, from UpToDate: https://www.uptodate.com/contents/pulmonary-rehabilitation?search=Neuromuscular+electrical+stimulation&source=search_result&selectedTitle=4%7E17&usage_type=default&display_rank=4

Functional Electrical Stimulation for Foot Drop in Acute or Subacute Phases of Stroke Recovery. (2024, Jun 14). Retrieved Aug 19, 2024, from Hayes: https://evidence.hayesinc.com/report/hta.footdrop5254

Functional Electrical Stimulation for Foot Drop in Chronic Phase of Stroke Recovery. (2024, Jun 14). Retrieved Aug 14, 2024, from Hayes - a symplr company: https://evidence.hayesinc.com/report/hta.footdrop5228

Johnston, T., Keller, S., & Denzer-Weiler, C. (2021, Apr). A Clinical Practice Guideline for the Use of Ankle-Foot Orthoses and Functional Electrical Stimulation Post-Stroke. Retrieved Aug 19, 2024, from Academy of Neurologic Physical Therapy: https://journals.lww.com/jnpt/Fulltext/2021/04000/A_Clinical_Practice_Guideline_for_the_Use_of.6.aspx

NCD: Electrical Nerve Stimulators (160.7). (1995, Aug 07). Retrieved Aug 19, 2024, from Centers for Medicare and Medicaid Services: https://www.cms.gov/medicare-coverage-database/view/ncd.aspx?ncdid=240&ncdver=1&keyword=nerve%20stimulator&keywordType=starts&areaId=s53&docType=NCA,CAL,NCD,MEDCAC,TA,MCD,6,3,5,1,F,P&contractOption=all&sortBy=relevance&bc=1

NCD: Neuromuscular Electrical Stimulation (NMES) (160.12). (2006, Oct 01). Retrieved Mar 14, 2024, from Centers for Medicare and Medicaid Services: https://www.cms.gov/medicare-coverage-database/view/ncd.aspx?ncdid=175&ncdver=2&

NCD: Supplies Used in the Delivery of Transcutaneous Electrical Nerve Stimulation (TENS) and Neuromuscular Electrical Stimulation (NMES) (160.13). (1988, Jul 14). Retrieved Mar 13, 2024, from Centers for Medicare and Medicaid Services: https://www.cms.gov/medicare-coverage-database/view/ncd.aspx?ncdid=151&ncdver=1&

Percutaneous Peripheral Nerve Stimulation for Treatment of Chronic Pain. (2024, May 08). Retrieved Aug 16, 2024, from Hayes: https://evidence.hayesinc.com/report/hta.pns5224

Provider Manual Title: Durable Medical Equipment - Chapter IV: Covered Services and Limitations. (2024, Jan 01). Retrieved Mar 18, 2024, from Department of Medical Assistance Services - MES Public Portal: https://vamedicaid.dmas.virginia.gov/sites/default/files/2024-01/DME%20Chapter%20IV%20%28updated%201.4.24%29_Final.pdf

Functional Electrical Stimulation (FES) for Treatment of Foot Drop in Multiple Sclerosis Patients. (2023, Nov 14). Retrieved Aug 18, 2024, from Hayes: https://evidence.hayesinc.com/report/htb.functional2112

Special Notes: *

This medical policy express Sentara Health Plan's determination of medically necessity of services, and they are based upon a review of currently available clinical information. These policies are used when no specific guidelines for coverage are provided by the Department of Medical Assistance Services of Virginia (DMAS). Medical Policies may be superseded by state Medicaid Plan guidelines. Medical policies are not a substitute for clinical judgment or for any prior authorization requirements of the health plan. These policies are not an explanation of benefits.

Medical policies can be highly technical and complex and are provided here for informational purposes. These medical policies are intended for use by health care professionals. The medical policies do not constitute medical advice or

medical care. Treating health care professionals are solely responsible for diagnosis, treatment and medical advice. Sentara Health Plan members should discuss the information in the medical policies with their treating health care professionals. Medical technology is constantly evolving and these medical policies are subject to change without notice, although Sentara Health Plan will notify providers as required in advance of changes that could have a negative impact on benefits.

The Early and Periodic Screening, Diagnostic and Treatment (EPSDT) covers services, products, or procedures for children, if those items are determined to be medically necessary to "correct or ameliorate" (make better) a defect, physical or mental illness, or condition (health problem) identified through routine medical screening or examination, regardless of whether coverage for the same service or support is an optional or limited service under the state plan. Children enrolled in the FAMIS Program are not eligible for all EPSDT treatment services. All requests for authorization for the services described by this medical policy will be reviewed per EPSDT guidelines. These services may be authorized under individual consideration for Medicaid members under the age of 21-years if the services are judged to by medically necessary to correct or ameliorate the member's condition. *Department of Medical Assistance Services (DMAS), Supplement B - EPSDT (Early and Periodic Screening, Diagnosis and Treatment) Manual.*

All medically necessary medical equipment and supplies under the Virginia Administrative Code (12VAC30-50-165) may be covered only if they are necessary to carry out a treatment prescribed by a practitioner. Only supplies, equipment, and appliances that are determined medically necessary may be covered for reimbursement by DMAS. (12VAC30-50-165) The following criteria must be satisfied through the submission of adequate and verifiable documentation satisfactory to DMAS, or its contractor. Medically necessary DME and supplies shall be:

- Ordered by the practitioner on the CMN/DMAS-352;
- A reasonable and medically necessary part of the individual's treatment plan;
- Consistent with the individual's diagnosis and medical condition, particularly the functional limitations and symptoms exhibited by the individual; • Not furnished for the safety or restraint of the individual, or solely for the convenience of the family, attending practitioner, or other practitioner or supplier;
- Consistent with generally accepted professional medical standards (i.e., not experimental or investigational);
- Furnished at a safe, effective, and cost-effective level; and
- Suitable for use, and consistent with 42 CFR 440.70(b)(3), that treats a diagnosed condition or assists the individual with functional limitations.

Keywords:

SHP Neuromuscular Electrical Stimulator, SHP DME 17, SHP Durable Medical Equipment 17, Dysphagia, atrophy, scarring, burns, NMES, therapeutic electrical stimulation, threshold electrical stimulation, TES, InterX 1000 neurostimulator, Nexwave by Zynex