NEUROMUSCULAR ELECTRICAL STIMULATION

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Overview

Neuromuscular electrical stimulation (NMES) is used to strengthen healthy muscle or to maintain muscle mass during or following periods of enforced inactivity, maintain or gain range of motion, facilitate voluntary motor control and temporarily reduce spasticity when the nerve supply to the muscle is intact. Neuromuscular stimulation is achieved by sending small electrical impulses through the skin to the underlying nerves and muscles to create an involuntary muscle contraction. Because the stimulation of nerves and muscles may be accomplished by electrical pulses this modality can help prevent disuse atrophy. Accordingly, incapacitated patients can receive therapeutic treatment to create involuntary muscle contractions thereby improving and maintaining muscle tone without actual physical activity.

Functional electrical stimulation (FES) is a type of NMES that is used to enhance the ability to walk in patients with spinal cord injuries or stroke. FES attempts to replace stimuli from destroyed nerve pathways with computer-controlled sequential electrical stimulation of muscles.

Covered Services

Neuromuscular electrical stimulation (NMES)
FCHP covers NMES and NMES equipment for home use for commercial and Fallon Senior Plan™ members for the treatment of disuse atrophy when the following criteria are met:

1. The nerve supply to the muscle is intact, including brain, spinal cord and peripheral nerves, AND
2. The patient has a non-neurological reason for disuse atrophy, such as:
   - Previous casting or splinting of a limb
   - Contracture due to scarring of soft tissue as in burn lesions
   - Hip replacement surgery until physical therapy begins.

NMES should be used as an adjunct to physical therapy and not in place of physical therapy. More than two hours of NMES per day is not medically necessary, and is not covered. Benefit limits, such as for physical therapy and durable medical equipment apply.

NMES is ordinarily delivered through the use of electrodes, adhesive tape and lead wires. There may be times, however, where it might be medically necessary for certain patients receiving NMES treatment to use -- as an alternative to conventional electrodes, adhesive tapes and lead wires -- a form-fitting conductive garment. A form-fitting conductive garment and medically necessary related supplies may be covered only when:

1. The form-fitting conductive garment is approved for marketing by the U.S. Food and Drug Administration, and
2. The garment has been prescribed by a physician for use in delivering NMES treatment for one of the following medical indications:
   - The patient cannot manage without the conductive garment because there is such large area or so many sites to be stimulated and the stimulation would have to be delivered so

frequently that it is not feasible to use conventional electrodes, adhesive tapes and lead wires;
- The patient has a documented medical condition such as skin problems that preclude the application of conventional electrodes, adhesive tapes and lead wires;
- The patient requires electrical stimulation beneath a cast to treat disuse atrophy, where the nerve supply to the muscle is intact
- The patient has a medical need for rehabilitation strengthening following an injury where the nerve supply to the muscle is intact.

Functional electrical stimulation (FES)
FES and FES equipment for home use are not covered for commercial plan members because FCHP considers FES experimental/investigational. In accordance with Centers for Medicare and Medicaid Services (CMS) guidelines, **FES and FES equipment for home use are covered for a spinal cord injured Fallon Senior Plan™ member who:**

1. Has completed a training program which consists of at least 32 physical therapy sessions with the FES equipment over a period of three months to enhance functional activity, i.e., walking (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 the equipment. Physical therapy necessary to perform this training must be performed by a physical therapist as part of a one-to-one training program. The goal of the physical therapy must be to train the spinal cord injured patient on the use of the FES equipment to achieve walking and not to reverse or retard muscle atrophy.), AND
2. Has intact lower motor units (L1 and below) (both muscle and peripheral nerve), AND
3. Has 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, AND
4. Has brisk muscle contraction to NMES and sensory perception electrical stimulation sufficient for muscle contraction, AND
5. Has high motivation, commitment and cognitive ability to use such devices for walking, AND
6. Can transfer independently and can demonstrate independent standing tolerance for at least 3 minutes, AND
7. Can demonstrate hand and finger function to manipulate controls, AND
8. Has at least a 6-month recovery period following spinal cord injury and restorative surgery, AND
9. Can demonstrate a willingness to use the device long-term.

Exclusions
1. FES for individuals with hip and knee degenerative disease or a history of long bone fracture secondary to osteoporosis.
2. FES for individuals with a cardiac pacemaker, severe scoliosis or severe osteoporosis, skin disease or cancer at the site of stimulation, irreversible contracture or autonomic dysflexia.
3. NMES for general muscle strengthening, cardiac conditioning or reconditioning, or the treatment of denervated muscles.
4. NMES for the treatment of dysphagia, such as VitalStim® Therapy.

Codes
The neuromuscular stimulator is considered durable medical equipment and subject to the durable medical equipment benefit limit for commercial plan members.

Codes	Number	Description
CPT	64550	Application of surface (transcutaneous) neurostimulator
	97112	Therapeutic procedure, one or more areas, each 15 minutes;

Codes	Number	Description
		neuromuscular reeducation of movement, balance, coordination, kinesthetic sense, posture, and/or proprioception for sitting and/or standing activities
HCPCS	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

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Products to which this policy applies

- ☑ FCHP Direct & Select Care
- ☑ Fallon Preferred Care (PPO)
- ☑ FHLAC Major Medical
- ☑ MassHealth
- ☑ Non-Group: FCHP Independent Care, Direct Enrollment, & Bill-at-Home
- ☑ Fallon Senior Plan™

References

1. Centers for Medicare & Medicaid Services (CMS) National Coverage Determination for Neuromuscular Electrical Stimulation (NMES) (160.12).
2. Centers for Medicare & Medicaid Services (CMS) National Coverage Determination for Supplies Used in the Delivery of Transcutaneous Electricl Nerve Stimulation (TENS) and Neuromuscular Electrical Stimulation (NMES) (160.13).
3. Centers for Medicare & Medicaid Services (CMS) Local Coverage Determination for VitalStim Therapy (L19841).
4. Leelamanit, et al. Synchronized Electrical Stimulation in Treating Pharyngeal Dysphagia. Laryngoscope. 2002 Dec;112(12):2204:10.
5. Freed et al. Electrical Stimulation for Wallowing Disorders Caused by Stroke. Respiratory Care. 2001 May;46(5):466-74.
6. Park C, et al. A Pilot Exploratory Study of Oral Electrical Stimulation on Swallow Function Following Stroke: An Innovative Technique. Dysphagia. 1997;12:161-66.

Committee review dates

Technology Assessment Committee: 11/1/2000, 12/2000, 06/01/2006
Utilization Management Committee: 06/2003
Technology Assessment Subcommittee: 02/28/2006

Approved by:	*Signature on file*	06/01/2006
	Dennis A. Batey, MD – Chief Medical Officer	Date

IMPORTANT NOTE

Not all services are covered for all products or employer groups. This medical policy expresses FCHP's determination of whether certain services or supplies are medically necessary, experimental or investigational or cosmetic. FCHP has reached these conclusions based upon the regulatory status of the technology and a review of clinical studies published in peer-reviewed medical literature. Even though this policy may indicate that a particular service or supply is considered covered, this conclusion is not based upon the terms of your particular benefit plan. Each benefit plan contains its own specific provisions for coverage and exclusions. Not all benefits that are determined to be medically necessary will be covered benefits under the terms of your benefit plan. Members and their providers need to consult the Evidence of Coverage to determine if there are any exclusions or other benefit limitations applicable to this service or supply. If there is a discrepancy between this policy and the plan of benefits, the provisions of the benefits plan will govern. However, applicable state mandates will take precedence with respect to fully insured plans and self-funded non-ERISA (e.g., government, school boards, church) plans. Unless otherwise specifically excluded, Federal mandates will apply to all plans. With respect to Medicare and Medicaid members, this policy will apply unless Medicare and Medicaid policies extend coverage beyond this medical policy. Medicare and Medicaid policies will only apply to benefits paid for under Medicare or Medicaid rules, and not to any other health benefit plan benefits. CMS's Coverage Issues Manual can be found on the following website: http://cms.hhs.gov/manuals/pub06pdf/pub06pdf.asp