Medical Coverage Policy

Neuromuscular Electrical Stimulation (NMES)

☒ Device/Equipment ☐ Drug ☐ Medical ☐ Surgery ☐ Test ☒ Other

Effective Date:	10/16/2007	Policy Last Updated:	12/6/2011

☐ **Prospective review is recommended/required. Please check the member agreement for preauthorization guidelines.**

☒ **Prospective review is not required.**

Description:
Neuromuscular electrical stimulation (NMES) attempts to replace stimuli from destroyed nerve pathways with sequential electrical stimulation of muscles. This enables patients with spinal cord injury to stand or walk independently, or maintain healthy muscle tone and strength.

There are two broad categories of NMES for therapeutic and functional purposes. 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, and is normally referred to as functional electrical stimulation (FES). This type of NMES/FES is used to increase the ability to walk for spinal cord injury (SCI) patients.

The Centers for Medicare and Medicaid Services (CMS) state that NMES, to treat **muscle atrophy,** is limited to the treatment of disuse atrophy where nerve supply to the muscle is intact, including brain, spinal cord, and peripheral nerves. It is also used for other non-neurological reasons for disuse atrophy. Some examples would be casting or splinting of a limb, contracture due to scarring of soft tissue (as in burn lesions), and hip replacement surgery (until orthotic training begins).

NMES/FES is limited to SCI patients for walking, who have completed a training program consisting of at least 32 physical therapy sessions with the device over a period of three months. The physical therapy trial period is necessary for the treating physician to accurately assess the patient's ability to use the devices frequently and over a long period of time. 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.

NMES/FES for walking is generally used for spinal cord injury patients who:

I. Have intact lower motor unit (L1 and below); (both muscle and peripheral nerve);
II. Have 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;
III. Demonstrate brisk muscle contraction to NMES and have sensory perception electrical stimulation sufficient for muscle contraction;

IV. Possess high motivation, commitment, and cognitive ability to use such devices for walking;
V. Transfer independently and can demonstrate independent standing tolerance for at least three minutes;
VI. Demonstrate hand and finger function to manipulate controls;
VII. Have at least six-month post recovery spinal cord injury and restorative surgery;
VIII. Do not have hip and knee degenerative disease and no history of long bone fracture secondary to osteoporosis; and
IX. Have demonstrated a willingness to use the device long-term.

Therapists with sufficient support skills are only allowed to provide these services in the following settings: inpatient hospitals, outpatient hospitals, comprehensive outpatient rehabilitation facilities, and outpatient rehabilitation facilities.

Medical Criteria:
NMES is **covered for BlueCHiP for Medicare members only** for treating patients with muscle atrophy and for spinal cord injury patients to facilitate walking and **is considered not medically necessary** for all other conditions. NMES is considered not medically necessary for all other BCBSRI product members as there is a lack of peer-reviewed published reports of prospective clinical trials of the effectiveness of this service in improving clinical outcomes.

> **NOTE:** Medicare policy is developed separately from BCBSRI policy. Medicare policy incorporates scientific evidence with local expert opinion, and consideration of governmental regulations from CMS (Centers for Medicare and Medicaid Services), such as national coverage determinations or local coverage determinations and the US Congress. BCBSRI policy is based upon peer-reviewed, scientifically controlled studies in the literature which demonstrate the superior health outcome of a service or treatment. In addition to benefit differences, CMS may reach different conclusions regarding the scientific evidence than does BCBSRI. BCBSRI and Medicare policies may differ; however, our BlueCHiP for Medicare members must be offered, at least, the same services as Medicare offers. (In some, but not all instances, BCBSRI offers more benefits than does Medicare).

NMES/FES for walking for a spinal cord injury patient for any of the following conditions/situations is **not** covered for **all** BCBSRI products:
- Persons with cardiac pacemakers;
- Severe scoliosis or severe osteoporosis;
- Skin disease or cancer at area of stimulation;
- Irreversible contracture; or
- Autonomic dysreflexia.

Policy:
NMES/FES is **covered for BlueCHiP for Medicare members only** and **is considered not medically necessary** for all other BCBSRI products because it has not been proven to be effective.

Coverage:
Benefits may vary between groups/contracts. Please refer to the appropriate Evidence of Coverage or Subscriber Agreement for applicable durable medical equipment or not medically necessary coverage/benefits.

Coding:
The following HCPCS Code is covered for **BlueCHiP for Medicare members only and not medically necessary** for all other BCBSRI products**:**
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

Also known as:
Therapeutic or Threshold Electrical Stimulation
Functional Electrical Stimulation

Related topics:
Not applicable

Published
Policy Update, May 2001
Provider Update, Sept 2008
Provider Update, Oct 2009
Provider Update, November 2010
Provider Update, February 2012

Reference:

Blue Cross and Blue Shield Association: Medical Reference Manual. Policy 8.03.01 Functional Neuromuscular Electrical Stimulation. Accessed 11/16/11

Centers for Medicare and Medicaid Services: National Coverage Determination for NEUROMUSCULAR ELECTRICAL Stimulaton (NMES) (160.12) Accessed 11/16/11
http://www.cms.gov/mcd/viewncd.asp?ncd_id=160.12&ncd_version=2&basket=ncd%3A160%2E12%3A2%3ANeuromuscular+Electrical+Stimulaton+%28NMES%29

Triolo, R. PhD, et al (2001). Selectivity of intramuscular stimulating electrodes in the lower limbs[Electronic version]. Journal of Rehabilitation Research & Development, v38,5, Sept/Oct.