**DRAFT Medical Coverage Policy |** Neuromuscular Electrical Stimulation (NMES)

**EFFECTIVE DATE:** 10|16|2007
**POLICY LAST UPDATED:** 06|05|2012

## OVERVIEW

This policy documents coverage guidelines for neuromuscular electrical stimulation (NMES) therapy used to replace stimuli from destroyed nerve pathways with the sequential electrical stimulation of muscles.

## PRIOR AUTHORIZATION

Prior authorization is required for BlueCHiP for Medicare.

## POLICY STATEMENT

BlueCHiP for Medicare

NMES/FES is covered for treatment of patients with muscle atrophy and with spinal cord injuries (SCI) to facilitate walking.

NMES/FES is not covered for other indications not listed above. ~~for walking will not be covered in SCI patients with any of the following:~~

- ~~Persons with cardiac pacemakers;~~
- ~~Severe scoliosis or severe osteoporosis;~~
- ~~Skin disease or cancer at area of stimulation;~~
- ~~Irreversible contracture; or~~
- ~~Autonomic dysreflexia.~~

**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).

Commercial products:

NMES is considered **not medically necessary** as a technique to restore function following nerve damage or nerve injury as there is a lack of peer-reviewed published reports of prospective clinical trials on the effectiveness of this service in improving clinical outcomes in the following situations:

- As a technique to provide ambulation in patients with spinal cord injury; or
- To provide upper extremity function in patients with nerve damage (e.g., spinal cord injury or post-stroke); or
- To improve ambulation in patients with foot drop caused by nerve damage (e.g., post-stroke or in those with multiple sclerosis).

## MEDICAL CRITERIA

BlueCHiP for Medicare

PTNS standard treatment regimen (30-minute weekly sessions for 12 weeks once per lifetime) will be covered for overactive bladder (OAB) symptoms for patients either refractory or intolerant to standard anticholinergic/antispasmodics drug therapy (i.e., failed treatment with two anticholenergic drugs, each taken for at least 4 weeks duration , prior to the PTNS therapy initiation).

Contraindications to PTNS include a cardiac pacemaker, an implantable defibrillator, whether the patient is prone to excessive bleeding, if the patient has nerve damage that could impact either percutaneous tibial nerve or pelvic floor function or whether the patient is pregnant or planning to become pregnant during the duration of PTNS treatment.

## BACKGROUND

Neuromuscular electrical stimulation (NMES) attempts to replace stimuli from destroyed nerve pathways with sequential electrical stimulation of muscles.

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 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).

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 FES devices to achieve walking, not to reverse or retard muscle atrophy.

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

- Have intact lower motor unit (L1 and below); (both muscle and peripheral nerve);
- 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;
- Demonstrate brisk muscle contraction to NMES and have sensory perception electrical stimulation sufficient for muscle contraction;
- Possess high motivation, commitment, and cognitive ability to use such devices for walking;
- Transfer independently and can demonstrate independent standing tolerance for at least three minutes;
- Demonstrate hand and finger function to manipulate controls;
- Have at least six-month post recovery spinal cord injury and restorative surgery;
- Do not have hip and knee degenerative disease and no history of long bone fracture secondary to osteoporosis; and
- 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.

## 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 benefits.

## CODING

The following HCPCS Codes are covered for BlueCHiP for Medicare members only and not medically necessary for commercial 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 (this is specific to a functional neuromuscular stimulator, such as the ParaStep, to be used in spinal cord injury patients as an aid in ambulation) |
| E0770 | Functional electrical stimulator, transcutaneous stimulation of nerve and/or muscle groups, any type, complete system, not otherwise specified ( this is meant to be used for neuromuscular stimulation devices such as the BionessNE) |

There are no specific CPT codes for these devices and associated services.

## RELATED POLICIES

None

## PUBLISHED

| | |
|---|---|
| Provider Update | 2013 |
| Provider Update | Aug 2012 |
| Provider Update | Feb 2012 |
| Provider Update | Nov 2010 |
| Provider Update | Oct 2009 |
| Provider Update | Sept 2008 |
| Policy Update | May 2001 |

## REFERENCES

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.

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