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PA.042.MPC Neuromuscular Electrical Stimulators

Maryland Physicians Care considers **Neuromuscular Electrical Stimulators (NMES)** medically necessary for the following indications:

Muscle Atrophy [1-5]
NMES can be used to prevent muscle atrophy resulting from disuse when both:

- Nerve supply to the muscle is intact, including brain, spinal cord and peripheral nerves
- Treatment is focused on maintaining muscle mass for activities of daily living, rather than improving athletic performance

Conditions that can benefit from NMES include, but are not limited to:

- Prolonged immobilization is known or likely due to chronic illness or hospitalization
  - NMES is useful for preventing atrophy early on in hospitalization or bed rest, especially when the patient is not capable of engaging in resistance training
- Isolated range of motion limitations due to cast or tissue scarring
- As part of a rehabilitation protocol following joint arthroplasty

Spinal Cord Injury (SCI)
General criteria for NMES/FES for Spinal Cord Injury [6-8]:

- Muscle and joint stability for weight bearing at relevant extremities that can demonstrate balance and control necessary to participate in therapy
- Brisk muscle contraction to NMES, and sensory perception electrical stimulation sufficient for muscle contraction
- Intact relevant motor neurons
  At least six-month post recovery SCI and restorative surgery
- A willingness to participate in at least 8 weeks of therapy

Upper Limb Criteria [7,8]:

- A cervical level SCI that impedes normal hand function
- A reasonable expectation that treatment will reduce the need for assistance from caretakers or adaptive devices
- FES and NMES are paired with biofeedback, hand training, functional task training, or arm ergometry exercises

Lower Limb Criteria [7]:

- A thoracic or lumbar level SCI that impedes normal walking, standing, and/or sitting functions
- Ability to transfer independently and demonstrate independent standing tolerance for at least three minutes
- No hip and knee degenerative disease and no history of long bone fracture secondary to osteoporosis
- FES and NMES are paired with gait training

Limitations of NMES/FES Used for Walking in Patients with SCI

- The training program must be conducted in an inpatient hospital, outpatient hospital, or comprehensive outpatient rehabilitation facility.
- NMES/FES devices for walking will not be covered in SCI members with any of the following:
  - Persons with cardiac pacemakers;
  - Severe scoliosis or severe osteoporosis;
  - Skin disease or cancer at area of stimulation;
  - Irreversible contracture
  - Autonomic dysflexia

Stroke

NMES can improve upper and lower limb function in patients with the following criteria[9,10]:

- Chronic stroke phase
- Persistent hemiplegia when motor learning strategies have been exhausted
- A need to improve muscle function for completion of activities of daily living without the need for assistance from caretakers or adaptive devices
- As part of goal-oriented repetitive movement therapy

Codes

CPT Codes / HCPCS Codes / ICD-10 Codes	
Code	Description
E0745	Neuromuscular stimulator, electronic shock unit
E0764	Functional neuromuscular stimulator, 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
E0770	Functional electrical stimulator, transcutaneous stimulation of nerve and/or muscle groups, any type, complete system, not otherwise specified

64575	Open implantation of neurostimulator electrode array; peripheral nerve (excludes sacral nerve)

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