GUIDELINES
This policy does not certify benefits or authorization of benefits, which is designated by each individual policyholder contract. Paramount applies coding edits to all medical claims through coding logic software to evaluate the accuracy and adherence to accepted national standards. This guideline is solely for explaining correct procedure reporting and does not imply coverage and reimbursement.

DESCRIPTION
Neuromuscular electrical stimulation (NMES) (64565, E0744, E0745) involves the use of transcutaneous application of electrical currents to cause muscle contractions. The goal of NMES is to promote reinnervation, to prevent or retard disuse atrophy, to relax muscle spasms, and to promote voluntary control of muscles in patients who have lost muscle function due to surgery, neurological injury, or disabling condition.

Functional electrical stimulation (FES) (E0764, E0770) is the direct application of electric current to intact nerve fibers in a coordinated fashion to cause involuntary but purposeful muscle contraction. FES bypasses the central nervous system and targets motor neurons innervating either skeletal muscle or other organ systems. When used for rehabilitation of patients with spinal cord injury, FES is used to improve general health and fitness through exercise and to enable functional use of partially or completely paralyzed limbs.

Therapeutic/threshold electrical stimulation (TES) (E0745) is a small battery powered unit with two electrodes that are attached to the skin over weakened muscles. Small electrical stimuli are delivered to the "weakened" muscles (usually muscles opposite the spastic muscles). It is described as the delivery of low intensity electrical stimulation to target spastic muscles during sleep. The stimulation is not intended to cause muscle contraction. Although the mechanism of action is not understood, it is thought that low intensity stimulation may increase muscle strength and joint mobility, leading to improved voluntary motor function. The technique has been used most extensively in children with spastic diplegia related to cerebral palsy, but also in those with other motor disorders, such as spina bifida.

POLICY

<table>
<thead>
<tr>
<th>Neuromuscular, functional, &amp; therapeutic electrical stimulation therapy is non-covered for HMO, PPO, Individual Marketplace, &amp; Advantage.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code E0770 does not require prior authorization for Advantage. Limits may apply.</td>
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<tr>
<td>Neuromuscular, functional, &amp; therapeutic electrical stimulation therapy requires prior authorization for Elite.</td>
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</tbody>
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HMO, PPO, Individual Marketplace, Advantage
Neuromuscular, functional, & therapeutic electrical stimulation therapy is considered investigational and not medically necessary for all indications.

Elite
While there is insufficient evidence in the published medical literature to demonstrate the safety, efficacy and long-term outcomes of neuromuscular, functional, & therapeutic electrical stimulation therapy, they may be covered with a prior authorization per CMS guidelines for Elite members.

Coverage for NMES/FES for walking will be covered in spinal cord injury patients with ALL of the following characteristics:

1. Persons with intact lower motor units (L1 and below) (both muscle and peripheral nerve)
2. Persons with 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
3. Persons that demonstrate brisk muscle contraction to NMES and have sensory perception electrical stimulation sufficient for muscle contraction
4. Persons that possess high motivation, commitment and cognitive ability to use such devices for walking
5. Persons that can transfer independently and can demonstrate independent standing tolerance for at least 3 minutes
6. Persons that can demonstrate hand and finger function to manipulate controls
7. Persons with at least 6-month post recovery spinal cord injury and restorative surgery
8. Persons without hip and knee degenerative disease and no history of long bone fracture secondary to osteoporosis
9. Persons who have demonstrated a willingness to use the device long-term

NMES/FES for walking will not be covered in spinal cord injury patients with ANY of the following:

1. Persons with cardiac pacemakers
2. Severe scoliosis or severe osteoporosis
3. Skin disease or cancer at area of stimulation
4. Irreversible contracture
5. Autonomic dysflexia

The only settings where therapists with the sufficient skills to provide these services are employed are inpatient hospitals; outpatient hospitals; comprehensive outpatient rehabilitation facilities; and outpatient rehabilitation facilities. The physical therapy necessary to perform this training must be part of a one-on-one training program.

CODING/BILLING INFORMATION
The appearance of a code in this section does not necessarily indicate coverage. Codes that are covered may have selection criteria that must be met. Payment for supplies may be included in payment for other services rendered.

<table>
<thead>
<tr>
<th>CPT CODES</th>
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<tbody>
<tr>
<td>64565 Percutaneous implantation of neuromuscular electrodes</td>
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<tr>
<td>64580 Incision for implantation of neurostimulator electrode array; neuromuscular</td>
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<tr>
<th>HCPCS CODES</th>
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<tr>
<td>E0731 Form-fitting conductive garment for delivery of TENS or NMES with conductive fibers separated from the patient's skin by layers of fabric</td>
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<tr>
<td>E0744 Neuromuscular stimulator for scoliosis</td>
</tr>
<tr>
<td>E0745 Neuromuscular stimulator, electronic shock unit</td>
</tr>
<tr>
<td>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</td>
</tr>
<tr>
<td>E0770 Functional electrical stimulator, transcutaneous stimulation of nerve and/or muscle groups, any type, complete system, not otherwise specified</td>
</tr>
</tbody>
</table>

TAWG REVIEW DATES: 08/22/2014, 10/22/2015, 10/28/2016, 10/27/2017, 10/25/2018

REVISION HISTORY EXPLANATION
07/01/11: No changes
08/22/14: Policy reviewed and updated to reflect most current clinical evidence per The Technology Assessment Working Group (TAWG).
10/22/15: Policy reviewed and updated to reflect most current clinical evidence per The Technology Assessment Working Group (TAWG).
10/28/16: Policy reviewed and updated to reflect most current clinical evidence per The Technology Assessment Working Group (TAWG).
10/27/17: Changed title from “Electrical Stimulation Therapy” to “Neuromuscular, Functional, & Therapeutic Electrical Stimulation Therapy.” Policy reviewed and updated to reflect most current clinical evidence per The Technology Assessment Working Group (TAWG).
10/25/18: Effective 7/16/18 code E0770 is now covered without prior authorization for Advantage per ODM guidelines. Limits may apply. Policy reviewed and updated to reflect most current clinical evidence per The Technology Assessment Working Group (TAWG).

REFERENCES/RESOURCES
Centers for Medicare and Medicaid Services, CMS Manual System and other CMS publications and services
Ohio Department of Medicaid http://jfs.ohio.gov/
American Medical Association, Current Procedural Terminology (CPT®) and associated publications and services
Centers for Medicare and Medicaid Services, Healthcare Common Procedure Coding System, HCPCS Release and Code Sets
Industry Standard Review
Hayes, Inc.