

# Protocol

## Threshold Electrical Stimulation as a Treatment of Motor Disorders

(10119)

<b>Medical Benefit</b>	<b>Effective Date:</b> 04/01/12	<b>Next Review Date:</b> 01/15
<b>Preatuthorization</b>	No	<b>Review Dates:</b> 02/07, 03/08, 01/09, 01/10, 01/11, 01/12, 01/13, 01/14

*The following Protocol contains medical necessity criteria that apply for this service. It is applicable to Medicare Advantage products unless separate Medicare Advantage criteria are indicated. If the criteria are not met, reimbursement will be denied and the patient cannot be billed. Preatuthorization is not required but is recommended if, despite this Protocol position, you feel this service is medically necessary; supporting documentation must be submitted to Utilization Management. Please note that payment for covered services is subject to eligibility and the limitations noted in the patient's contract at the time the services are rendered.*

### Description

Threshold electrical stimulation is provided by a small electrical generator, lead wires, and surface electrodes that are placed over the targeted muscles. The intensity of the stimulation is set at the sensory threshold and does not cause a muscle contraction.

### Background

Threshold electrical stimulation is described as the delivery of low-intensity electrical stimulation to target spastic muscles during sleep at home. 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.

Devices used for threshold electrical stimulation are classified as “powered muscle stimulators.” As a class, the U.S. Food and Drug Administration (FDA) describes these devices as “an electronically powered device intended for medical purposes that repeatedly contracts muscles by passing electrical currents through electrodes contacting the affected body area.”

### Related Protocol

Functional Neuromuscular Electrical Stimulation

### Policy (Formerly Corporate Medical Guideline)

Threshold electrical stimulation as a treatment of motor disorders, including but not limited to cerebral palsy, is considered **not medically necessary**.

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Services that are the subject of a clinical trial do not meet our Technology Assessment Protocol criteria and are considered investigational. *For explanation of experimental and investigational, please refer to the Technology Assessment Protocol.*

It is expected that only appropriate and medically necessary services will be rendered. We reserve the right to conduct prepayment and postpayment reviews to assess the medical appropriateness of the above-referenced procedures. **Some of this Protocol may not pertain to the patients you provide care to, as it may relate to products that are not available in your geographic area.**

## References

We are not responsible for the continuing viability of web site addresses that may be listed in any references below.

1. Steinbok P, Reiner A, Kestle JR. Therapeutic electrical stimulation (Thresholdes) following selective posterior rhizotomy in children with spastic diplegic cerebral palsy: a randomized clinical trial. *Dev Med Child Neurol* 1997; 39(8):515-20.
2. Dali C, Hansen FJ, Pedersen SA et al. Threshold electrical stimulation (TES) in ambulant children with CP: a randomized double-blind placebo-controlled clinical trial. *Dev Med Child Neurol* 2002; 44(6):364-9.
3. van der Linden ML, Hazlewood ME, Aitchison AM et al. Electrical stimulation of gluteus maximus in children with cerebral palsy: effects on gait characteristics and muscle strength. *Dev Med Child Neurol* 2003; 45(6):385-90.
4. Fehlings DL, Kirsch S, McComas A et al. Evaluation of therapeutic electrical stimulation to improve muscle strength and function in children with types II/III spinal muscular atrophy. *Dev Med Child Neurol* 2002; 44(11):741-4.
5. Ozer K, Chesher SP, Scheker LR. Neuromuscular electrical stimulation dynamic, bracing for the management of upper-extremity spasticity in children with cerebral palsy. *Dev Med Child Neurol* 2006; 48(7):559-63.
6. Kerr C, McDowell B, Cosgrove A et al. Electrical stimulation in cerebral palsy: a randomized controlled trial. *Dev Med Child Neurol* 2006; 48(11):870-6.
7. Lannin N, Scheinberg A, Clark K. AACPDM systematic review of the effectiveness of therapy for children with cerebral palsy after botulinum toxin A injections. *Dev Med Child Neurol* 2006; 48(6):533-9.
8. The National Institute of Neurological Disorders and Stroke. Cerebral Palsy: Hope through research. Available online at: [http://www.ninds.nih.gov/disorders/cerebral\\_palsy/detail\\_cerebral\\_palsy.htm#179393104](http://www.ninds.nih.gov/disorders/cerebral_palsy/detail_cerebral_palsy.htm#179393104). Last accessed September, 2011.