

MEDICAL POLICY

POLICY TITLE	THRESHOLD ELECTRICAL STIMULATION AS A TREATMENT OF MOTOR DISORDERS
POLICY NUMBER	MP 6.046
CLINICAL BENEFIT	<input checked="" type="checkbox"/> MINIMIZE SAFETY RISK OR CONCERN. <input checked="" type="checkbox"/> MINIMIZE HARMFUL OR INEFFECTIVE INTERVENTIONS. <input type="checkbox"/> ASSURE APPROPRIATE LEVEL OF CARE. <input type="checkbox"/> ASSURE APPROPRIATE DURATION OF SERVICE FOR INTERVENTIONS. <input type="checkbox"/> ASSURE THAT RECOMMENDED MEDICAL PREREQUISITES HAVE BEEN MET. <input type="checkbox"/> ASSURE APPROPRIATE SITE OF TREATMENT OR SERVICE.
Effective Date:	2/1/2026

POLICY

Threshold electrical stimulation as a treatment of motor disorders, including but not limited to cerebral palsy, is considered **investigational**. There is insufficient evidence to support a general conclusion concerning the health outcomes or benefits associated with this procedure.

Cross-references:

MP 6.020 Transcutaneous Electrical Nerve Stimulation
MP 6.047 Interferential Current Stimulation
MP 6.049 H-Wave Electrical Stimulation
MP 6.050 Percutaneous Electrical Nerve Stimulation (PENS) and Percutaneous Neuromodulation Therapy (PNT)
MP 6.051 Neuromuscular and Functional Neuromuscular Electrical Stimulation

PRODUCT VARIATIONS

This policy is only applicable to certain programs and products administered by Capital Blue Cross and subject to benefit variations. Please see additional information below.

FEP PPO - Refer to FEP Medical Policy Manual. The FEP Medical Policy manual can be found at <https://www.fepblue.org/benefit-plans/medical-policies-and-utilization-management-guidelines/medical-policies>

DESCRIPTION/BACKGROUND

Threshold electrical stimulation (TES), also known as therapeutic electrical stimulation, is distinct from neuromuscular electrical stimulation (NMES). TES is a low-level, subcontraction electrical stimulus that is typically applied at home during sleep. It is proposed that increased blood flow during a time of heightened hormone secretion (during sleep) results in increased muscle bulk.

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.

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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.”

RATIONALE

Summary

The studies published to date demonstrate that threshold electrical stimulation is not effective for treatment of spasticity, muscle weakness, reduced joint mobility, or motor function. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

DEFINITIONS

N/A

DISCLAIMER

Capital Blue Cross’ medical policies are used to determine coverage for specific medical technologies, procedures, equipment, and services. These medical policies do not constitute medical advice and are subject to change as required by law or applicable clinical evidence from independent treatment guidelines. Treating providers are solely responsible for medical advice and treatment of members. These policies are not a guarantee of coverage or payment. Payment of claims is subject to a determination regarding the member’s benefit program and eligibility on the date of service, and a determination that the services are medically necessary and appropriate. Final processing of a claim is based upon the terms of contract that applies to the members’ benefit program, including benefit limitations and exclusions. If a provider or a member has a question concerning this medical policy, please contact Capital Blue Cross’ Provider Services or Member Services

CODING INFORMATION

Note: This list of codes may not be all-inclusive, and codes are subject to change at any time. The identification of a code in this section does not denote coverage as coverage is determined

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by the terms of member benefit information. In addition, not all covered services are eligible for separate reimbursement.

Not medically necessary; therefore, not covered for threshold electrical stimulation as a treatment of motor disorders:

Procedure Codes							
E0745							

REFERENCES

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.
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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. AACPD 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.
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10. Merrill DR. Review of electrical stimulation in cerebral palsy and recommendations for future directions. Article first published online: 3 SEP 2009 DOI: 10.1111/j.1469-8749.2009.03420.x© 2009 The Author Journal compilation © 2009 Mac Keith Press
11. Walker JL, Ryan SW, Coburn TR. Does threshold nighttime electrical stimulation benefit children with spina bifida? A pilot study. *Clin Orthop Relat Res*. 2011;469(5):1297-1301. doi:10.1007/s11999-010-1596-x

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12. Cauraugh JH, Naik SK, Hsu WH, Coombes SA, Holt KG. Children with cerebral palsy: a systematic review and meta-analysis on gait and electrical stimulation. *Clin Rehabil.* 2010;24(11):963-978. doi:10.1177/0269215510371431

POLICY HISTORY

MP 6.046	02/14/2020 Consensus Review. No change to policy statements. Coding reviewed.
	03/03/2021 Consensus Review. No change to policy statements. References updates. Removed policy guidelines.
	06/22/2022 Consensus Review. FEP, background and references updated. No changes to coding.
	09/26/2023 Consensus Review. Updated references. No changes to coding.
	10/01/2024 Consensus Review. Added standard “insufficient evidence” language, no change to intent. Updated cross-references and references. No changes to coding.
	08/01/2025 Consensus Review. Updated NMN to INV; no change to intent. Updated rationale and references. No changes to coding.

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