

MEDICAL POLICY

POLICY TITLE	THRESHOLD ELECTRICAL STIMULATION AS A TREATMENT OF MOTOR DISORDERS
POLICY NUMBER	MP 6.046
CLINICAL BENEFIT	<input 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:	1/1/2025

[POLICY](#)
[RATIONALE](#)
[DISCLAIMER](#)
[POLICY HISTORY](#)

[PRODUCT VARIATIONS](#)
[DEFINITIONS](#)
[CODING INFORMATION](#)

[DESCRIPTION/BACKGROUND](#)
[BENEFIT VARIATIONS](#)
[REFERENCES](#)

I. POLICY

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

II. PRODUCT VARIATIONS

[Top](#)

This policy is only applicable to certain programs and products administered by Capital Blue Cross and subject to benefit variations as discussed in Section VI. 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>

III. DESCRIPTION/BACKGROUND

[Top](#)

Threshold electrical stimulation (TES), also known as therapeutic electrical stimulation, is distinct from neuromuscular electrical stimulation (NMES). TES is a low-level, subcontraction electrical

MEDICAL POLICY

POLICY TITLE	THRESHOLD ELECTRICAL STIMULATION AS A TREATMENT OF MOTOR DISORDERS
POLICY NUMBER	MP 6.046

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.

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.”

IV. RATIONALE

[Top](#)

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; therefore, the treatment is considered not medically necessary.

V. DEFINITIONS

[Top](#)

N/A

VI. BENEFIT VARIATIONS

[Top](#)

The existence of this medical policy does not mean that this service is a covered benefit under the member's health benefit plan. Benefit determinations should be based in all cases on the applicable health benefit plan language. Medical policies do not constitute a description of benefits. A member's health benefit plan governs which services are covered, which are excluded, which are subject to benefit limits, and which require preauthorization. There are different benefit plan designs in each product administered by Capital Blue Cross. Members and providers should consult the member's health benefit plan for information or contact Capital Blue Cross for benefit information.

MEDICAL POLICY

POLICY TITLE	THRESHOLD ELECTRICAL STIMULATION AS A TREATMENT OF MOTOR DISORDERS
POLICY NUMBER	MP 6.046

VII. DISCLAIMER

[Top](#)

Capital Blue Cross' medical policies are developed to assist in administering a member's benefits, do not constitute medical advice and are subject to change. Treating providers are solely responsible for medical advice and treatment of members. Members should discuss any medical policy related to their coverage or condition with their provider and consult their benefit information to determine if the service is covered. If there is a discrepancy between this medical policy and a member's benefit information, the benefit information will govern. If a provider or a member has a question concerning the application of this medical policy to a specific member's plan of benefits, please contact Capital Blue Cross' Provider Services or Member Services. Capital Blue Cross considers the information contained in this medical policy to be proprietary and it may only be disseminated as permitted by law.

VIII. CODING INFORMATION

[Top](#)

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 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							

IX. REFERENCES

[Top](#)

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.

MEDICAL POLICY

POLICY TITLE	THRESHOLD ELECTRICAL STIMULATION AS A TREATMENT OF MOTOR DISORDERS
POLICY NUMBER	MP 6.046

5. Ozer K, Chesher SP, Schecker 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. Last modified Mar 2020.
9. Barkoudah E, Whitaker A. Cerebral palsy: Treatment of spasticity, dystonia, and associated orthopedic issues. In: UpToDate Online Journal [serial online]. Waltham, MA: UpToDate; updated September 5, 2023. Literature review current through August 2023.
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
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
13. Blue Cross Blue Shield Association Medical Policy Reference Manual. 1.01.19. Threshold Electrical Stimulation as a Treatment of Motor Disorders. Archived November 2013.

X. POLICY HISTORY

[Top](#)

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.
	6/22/2022 Consensus Review. FEP, background and references updated. No changes to coding.
	9/26/2023 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.

[Top](#)

Health care benefit programs issued or administered by Capital Blue Cross and/or its subsidiaries, Capital Advantage Insurance Company®, Capital Advantage Assurance

MEDICAL POLICY

POLICY TITLE	THRESHOLD ELECTRICAL STIMULATION AS A TREATMENT OF MOTOR DISORDERS
POLICY NUMBER	MP 6.046

Company® and Keystone Health Plan® Central. Independent licensees of the Blue Cross BlueShield Association. Communications issued by Capital Blue Cross in its capacity as administrator of programs and provider relations for all companies.