

Clinical Policy: Neuromuscular and Peroneal Nerve Electrical Stimulation (NMES)

Reference Number: CP.MP.48

Date of Last Revision: 04/26

[Coding Implications](#)

[Revision Log](#)

See [Important Reminder](#) at the end of this policy for important regulatory and legal information.

Description

This policy describes the medical necessity requirements for the use of neuromuscular electrical stimulation (NMES) and functional electrical stimulation (FES).

Policy/Criteria

- I. It is the policy of health plans affiliated with Centene Corporation[®] that neuromuscular electrical stimulation (NMES) is **medically necessary** when used as one component of a comprehensive rehab program for the treatment of disuse atrophy when the nerve supply to the atrophied muscle is intact and has any of the following atrophy indications:
 - A. Contractures due to scarring of soft tissue (e.g., burn lesions);
 - B. Previous casting or splinting of a limb;
 - C. Major knee surgery with failure to respond to physical therapy;
 - D. Recent hip replacement and NMES will be used until physical therapy begins.

- II. It is the policy of health plans affiliated with Centene Corporation that functional electrical stimulation (FES) is **medically necessary** for spinal cord injury (SCI) when all of the following criteria are met:
 - A. The member/enrollee has brisk muscle contraction to stimulation and sensory perception of electrical stimulation sufficient for muscle contraction;
 - B. At least six months have passed since recovery from spinal cord injury and restorative surgery;
 - C. Member/enrollee is highly motivated, committed, and has the cognitive ability to use FES devices for walking;
 - D. Successful completion of a training program consisting of at least 32 physical therapy sessions with the device over a three-month period;
 - E. Member/enrollee demonstrates a willingness to use the device long-term;
 - F. None of the following contraindications are present:
 1. Cardiac pacemaker;
 2. Severe scoliosis or severe osteoporosis;
 3. Skin disease or cancer at area of stimulation;
 4. Irreversible contracture;
 5. Autonomic dysreflexia;
 - G. If lower extremity FES is requested, all of the following:
 1. Intact lower motor units (L1 and below, including both muscle and peripheral nerve);
 2. Muscle and joint stability adequate for weight bearing at upper and lower extremities and can demonstrate balance and control to maintain an upright support posture independently;
 3. Transfers independently and demonstrates independent standing tolerance for at least three minutes;

CLINICAL POLICY

Neuromuscular Electrical Stimulation (NMES)

4. Demonstrates hand and finger function to manipulate controls;
5. No hip and knee degenerative disease and no history of long bone fracture secondary to osteoporosis.

III. It is the policy of health plans affiliated with Centene Corporation that peroneal nerve stimulators (e.g., NESS L300, NESS L300 Plus, L300 Go System, WalkAide, Odstock [ODFS[®]] Dropped Foot Stimulator) are **medically necessary** for incomplete spinal cord injury.

IV. It is the policy of health plans affiliated with Centene Corporation that peroneal nerve stimulators (e.g., NESS L300, NESS L300 Plus, L300 Go System, WalkAide, Odstock [ODFS[®]] Dropped Foot Stimulator) have not been proven safe and effective for any indication other than incomplete spinal cord injury, including, but not limited to: foot drop in cerebral palsy, multiple sclerosis, traumatic brain injury, or stroke.

V. It is the policy of health plans affiliated with Centene Corporation that neuromuscular electrical stimulation for any other indication (e.g., idiopathic scoliosis, heart failure) is not proven safe and effective.

Background

Neuromuscular electrical stimulation (NMES) involves the use of a device which transmits an electrical impulse to the skin over selected muscle groups by way of electrodes.^{1,2} There are two broad categories of NMES. The first type of device stimulates the muscle when the patient is in a resting state to treat muscle atrophy.¹ The second type, known as functional electrical stimulation (FES), is used to enhance functional activity of neurologically impaired patients.¹

NMES can be performed at low, medium, or high intensity to elicit mild, moderate, or strong muscle contractions. NMES can be performed on upper or lower limbs. When used at very low intensity to stimulate barely perceptible contractions, this technique is referred to as threshold NMES or threshold electrical stimulation (TES).^{1,3,16} Regardless of the intensity of NMES, patients are encouraged to exercise the affected muscles voluntarily to maintain and improve strength and function. For chronic disorders, this exercise may be in the form of regular participation in sports activities. For acute conditions, such as rehabilitation shortly after surgery or a stroke, patients must often undergo intensive physical and occupational therapy.^{1,3}

FES is the application of electrical stimulation that can be used to activate muscles of the upper or lower limbs to produce functional movement patterns, such as standing and walking in patients with paraplegia.^{1,3} Although FES is used to treat the effects of upper motor neuron lesions, it is not normally suitable for patients with lower motor neuron lesions.⁴ FES can also be used therapeutically for cycling of the upper and/or lower limbs, with the goal of strengthening to produce functional movement patterns.⁵

FES has been shown to strengthen muscles, improve circulation, heal tissue, slow muscle atrophy, and reduce pain and spasticity.^{3,16, 19}

CLINICAL POLICY

Neuromuscular Electrical Stimulation (NMES)

There is evidence from preliminary studies that FES can improve gait in some patients; however, additional larger randomized trials are needed as well as larger trials comparing other therapies such as physiotherapy exercises and orthotic devices.^{2,6,7,16,17,18}

The only settings where skilled therapists can provide both types of NMES services are inpatient hospitals, outpatient hospitals, comprehensive outpatient rehabilitation facilities, and outpatient rehabilitation facilities. The physical therapy needed to perform these services requires that the patient be in a one-on-one training program.¹

Coding Implications

This clinical policy references Current Procedural Terminology (CPT®). CPT® is a registered trademark of the American Medical Association. All CPT codes and descriptions are copyrighted 2026, American Medical Association. All rights reserved. CPT codes and CPT descriptions are from the current manuals and those included herein are not intended to be all-inclusive and are included for informational purposes only. Codes referenced in this clinical policy are for informational purposes only. Inclusion or exclusion of any codes does not guarantee coverage. Providers should reference the most up-to-date sources of professional coding guidance prior to the submission of claims for reimbursement of covered services.

HCPCS®*	Description
E0745	Neuromuscular stimulator, electronic shock unit
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
E0770	Functional electrical stimulator, transcutaneous stimulation of nerve and/or muscle groups, any type, complete system, not otherwise specified

HCPCS codes that do not support coverage criteria

HCPCS Codes	Description
E0744	Neuromuscular stimulator for scoliosis

Reviews, Revisions, and Approvals	Revision Date	Approval Date
Original approval date 09/11. References reviewed and updated. Template update and approved 12/11. References reviewed and updated. Approved with no changes 9/12-9/14.	09/11	09/11
Annual review completed. References reviewed and updated. Changed “review date” in the header to “date of last revision” and “date” in the revision log header to “revision date.” Integrated NMES, FES, and peroneal stimulator criteria from CP.MP.107 DME and Legacy WellCare Neuromuscular Electrical Stimulation (NMES) CP.MP.48 policy. Renamed to “Neuromuscular and Peroneal Nerve Electrical Stimulation.” Added section III and IV criteria. Added code E0744 to	07/21	07/21

CLINICAL POLICY
Neuromuscular Electrical Stimulation (NMES)

Reviews, Revisions, and Approvals	Revision Date	Approval Date
“HCPCS codes that do not support coverage criteria.” Specialist reviewed.		
Annual review. Criteria IV. verbiage updated for clarity. Background updated with no impact on criteria. References reviewed and updated. Specialist reviewed.	07/22	07/22
Annual review completed. Combined criteria applicable to LE units into section II.G. Additional contraindications added to Section F. Minor rewording with no clinical significance. Background updated with no impact to criteria. ICD-10-CM Diagnosis Code table removed. References reviewed and updated. Internal specialist reviewed.	07/23	07/23
Annual review. Removed contraindications under II.F. including uncontrolled cardiac arrhythmias, unstable angina, joint replacement in a location targeted by FES and seizure disorder. Background updated with no impact on criteria. References reviewed and updated. Reviewed by external specialist.	06/24	06/24
Annual review. Updated language in Criteria I.A. for clarity. Coding and descriptions reviewed. References reviewed and updated. Reviewed by internal specialist.	05/25	05/25
Annual review. Updates made to background with no impact to criteria. Coding and descriptions reviewed. References reviewed and updated. Reviewed by external specialist.	04/26	05/26

References

1. National coverage determination. Neuromuscular electrical stimulation (NMES) (160.12). Centers for Medicare and Medicaid Services website. <http://www.cms.hhs.gov/mcd/search.asp>. Published October 01, 2006. Accessed March 16, 2026.
2. Health Technology Assessment. Functional electrical stimulation for foot drop in acute or subacute phases of stroke recovery. Hayes. www.hayesinc.com. Published June 01, 2022 (annual review July 14, 2025). Accessed March 16, 2026.
3. Doucet BM, Lam A, Griffin L. Neuromuscular electrical stimulation for skeletal muscle function. *Yale J Biol Med*. 2012;85(2):201 to 215.
4. National Institute for Health and Care Excellence (NICE). Functional electrical stimulation for drop foot of central neurological origin [IPG278]. <https://www.nice.org.uk/guidance/ipg278/chapter/2-The-procedure>. Published January 28, 2009. Accessed March 16, 2026.
5. Sansare A, Harrington AT, Wright H, et al. Aerobic Responses to FES-Assisted and Volitional Cycling in Children with Cerebral Palsy. *Sensors (Basel)*. 2021;21(22):7590. Published 2021 Nov 15. doi:10.3390/s21227590
6. Health Technology Assessment. Functional electrical stimulation (FES) for treatment of foot drop in multiple sclerosis patients. Hayes. www.hayesinc.com. Published November 17, 2021 (annual review November 26, 2024). Accessed March 16, 2026.

CLINICAL POLICY**Neuromuscular Electrical Stimulation (NMES)**

7. Olek MJ, Narayan RN, Frohman EM, Frohman TC. Symptom management of multiple sclerosis in adults. UpToDate. www.uptodate.com. Updated January 22, 2026. Accessed March 16, 2026.
8. Jones S, Man WD, Gao W, Higginson IJ, Wilcock A, Maddocks M. Neuromuscular electrical stimulation for muscle weakness in adults with advanced disease. *Cochrane Database Syst Rev*. 2016;10(10):CD009419. Published 2016 Oct 17. doi:10.1002/14651858.CD009419.pub3
9. Celli BR. Pulmonary rehabilitation. UpToDate. www.uptodate.com. Updated November 05, 2025. Accessed March 16, 2026.
10. de Freitas GR, Szpoganicz C, Ilha J. Does Neuromuscular Electrical Stimulation Therapy Increase Voluntary Muscle Strength After Spinal Cord Injury? A Systematic Review. *Top Spinal Cord Inj Rehabil*. 2018;24(1):6 to 17. doi:10.1310/sci16-00048
11. Bistolfi A, Zanovello J, Ferracini R, et al. Evaluation of the Effectiveness of Neuromuscular Electrical Stimulation After Total Knee Arthroplasty: A Meta-Analysis. *Am J Phys Med Rehabil*. 2018;97(2):123-130. doi:10.1097/PHM.0000000000000847
12. de Oliveira Melo M, Aragão FA, Vaz MA. Neuromuscular electrical stimulation for muscle strengthening in elderly with knee osteoarthritis - a systematic review. *Complement Ther Clin Pract*. 2013;19(1):27-31. doi:10.1016/j.ctcp.2012.09.002
13. Logerstedt DS, Scalzitti D, Risberg MA, et al. Knee Stability and Movement Coordination Impairments: Knee Ligament Sprain Revision 2017. *J Orthop Sports Phys Ther*. 2017;47(11):A1-A47. doi:10.2519/jospt.2017.0303
14. Wellauer V, Item JF, Bizzini M, Maffiuletti NA. Home-Based Nonoperative-Side Quadriceps Neuromuscular Electrical Stimulation Prevents Muscle Weakness Following Anterior Cruciate Ligament Reconstruction. *J Clin Med*. 2022;11(2):466. Published 2022 Jan 17. doi:10.3390/jcm11020466
15. Hamlet A. Understanding the Contraindications of Functional Electrical Stimulation (FES). <https://myolyn.com/understanding-the-contraindications-of-functional-electrical-stimulation-fes/>. Published August 08, 2025. Accessed March 16, 2026.
16. Latif U, Moghim R, Valimahomed A, et al. Consensus Guidelines for the Use of Peripheral Nerve Stimulation in the Treatment of Chronic Pain and Neurological Diseases: A Neuron Project from the American Society of Pain and Neuroscience. *J Pain Res*. 2025;18:5949-5990. Published 2025 Nov 7. doi:10.2147/JPR.S537222. Accessed March 17, 2026.
17. Bethoux F, Rogers HL, Nolan KJ, et al. The Effects of Peroneal Nerve Functional Electrical Stimulation Versus Ankle-Foot Orthosis in Patients With Chronic Stroke. *Neurorehabilitation and Neural Repair*. 2014;28(7):688-697. doi:10.1177/1545968314521007
18. He W, Yaning L, Shaohong Y. Effect of electrical stimulation in the treatment on patients with foot drop after stroke: a systematic review and network meta-analysis. *Journal of Stroke and Cerebrovascular Diseases*. 2025;34(5):108279. doi:10.1016/j.jstrokecerebrovasdis.2025.108279
19. Street T, Singleton C. Five-Year Follow-up of a Longitudinal Cohort Study of the Effectiveness of Functional Electrical Stimulation for People with Multiple Sclerosis. *Int J MS Care*. 2018;20(5):224-230. doi:10.7224/1537-2073.2016-094

Important Reminder

CLINICAL POLICY

Neuromuscular Electrical Stimulation (NMES)

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. The Health Plan makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved. “Health Plan” means a health plan that has adopted this clinical policy and that is operated or administered, in whole or in part, by Centene Management Company, LLC, or any of such health plan’s affiliates, as applicable.

The purpose of this clinical policy is to provide a guide to medical necessity, which is a component of the guidelines used to assist in making coverage decisions and administering benefits. It does not constitute a contract or guarantee regarding payment or results. Coverage decisions and the administration of benefits are subject to all terms, conditions, exclusions and limitations of the coverage documents (e.g., evidence of coverage, certificate of coverage, policy, contract of insurance, etc.), as well as to state and federal requirements and applicable Health Plan-level administrative policies and procedures.

This clinical policy is effective as of the date determined by the Health Plan. The date of posting may not be the effective date of this clinical policy. This clinical policy may be subject to applicable legal and regulatory requirements relating to provider notification. If there is a discrepancy between the effective date of this clinical policy and any applicable legal or regulatory requirement, the requirements of law and regulation shall govern. The Health Plan retains the right to change, amend or withdraw this clinical policy, and additional clinical policies may be developed and adopted as needed, at any time.

This clinical policy does not constitute medical advice, medical treatment or medical care. It is not intended to dictate to providers how to practice medicine. Providers are expected to exercise professional medical judgment in providing the most appropriate care, and are solely responsible for the medical advice and treatment of members/enrollees. This clinical policy is not intended to recommend treatment for members/enrollees. Members/enrollees should consult with their treating physician in connection with diagnosis and treatment decisions.

Providers referred to in this clinical policy are independent contractors who exercise independent judgment and over whom the Health Plan has no control or right of control. Providers are not agents or employees of the Health Plan.

This clinical policy is the property of the Health Plan. Unauthorized copying, use, and distribution of this clinical policy or any information contained herein are strictly prohibited. Providers, members/enrollees and their representatives are bound to the terms and conditions expressed herein through the terms of their contracts. Where no such contract exists, providers, members/enrollees and their representatives agree to be bound by such terms and conditions by providing services to members/enrollees and/or submitting claims for payment for such services.

CLINICAL POLICY

Neuromuscular Electrical Stimulation (NMES)

Note: For Medicaid members/enrollees, when state Medicaid coverage provisions conflict with the coverage provisions in this clinical policy, state Medicaid coverage provisions take precedence. Please refer to the state Medicaid manual for any coverage provisions pertaining to this clinical policy.

Note: For Medicare members/enrollees, to ensure consistency with the Medicare National Coverage Determinations (NCD) and Local Coverage Determinations (LCD), all applicable NCDs, LCDs, and Medicare Coverage Articles should be reviewed prior to applying the criteria set forth in this clinical policy. Refer to the CMS website at <http://www.cms.gov> for additional information.

©2018 Centene Corporation. All rights reserved. All materials are exclusively owned by Centene Corporation and are protected by United States copyright law and international copyright law. No part of this publication may be reproduced, copied, modified, distributed, displayed, stored in a retrieval system, transmitted in any form or by any means, or otherwise published without the prior written permission of Centene Corporation. You may not alter or remove any trademark, copyright or other notice contained herein. Centene® and Centene Corporation® are registered trademarks exclusively owned by Centene Corporation.