**DRAFT Medical Coverage Policy** | Remote Electrical Neuromodulation for Migraines



**EFFECTIVE DATE:** 12 | 01 | 2022 **POLICY LAST UPDATED:** 08 | 17 | 2022

#### **OVERVIEW**

Migraine attacks due to episodic or chronic migraine require acute management. Current first-line therapy for treatment of acute migraine involves use of various pharmacologic interventions. Regular use of pharmacologic interventions can result in medication overuse and increased risk of progression from episodic to chronic migraine. Nonpharmacologic remote electrical neuromodulation (REN) may offer an alternative to pharmacologic interventions for patients with migraine.

# **MEDICAL CRITERIA**

Not applicable

### **PRIOR AUTHORIZATION**

Not applicable

### **POLICY STATEMENT**

## Medicare Advantage Plans

Remote electrical neuromodulation for acute migraine is not covered as the evidence is insufficient to determine the effects of the technology on health outcomes.

### **Commercial Products**

Remote electrical neuromodulation for acute migraine is considered not medically necessary as the evidence is insufficient to determine the effects of the technology on health outcomes.

#### **COVERAGE**

Benefits may vary between groups and contracts. Please refer to the appropriate Benefit Booklet, Evidence of Coverage, or Subscriber Agreement for applicable not covered/not medically necessary benefits/coverage.

#### BACKGROUND

Migraine is a neurologic disease characterized by recurrent moderate to severe headaches with associated symptoms that can include aura, photophobia, nausea, and/or vomiting. Overall migraine prevalence in the United States is about 15% but varies according to population group. Prevalence is higher in women (21%), among American Indian/AlaskaNatives (22%), and among 18- to 44-year-olds (19%). Social determinants including low education level (18%), use of Medicaid (27%), high poverty level (23%), and being unemployed (22%) are also associated with higher rates of migraine.

Migraine is categorized as episodic or chronic depending on the frequency of attacks. Generally, episodic migraine is characterized by 14 or fewer headache days per month and chronic migraine is characterized by 15 or more headache days per month.

Remote electrical neuromodulation (REN) may offer an alternative to pharmacologic interventions for patients with acute migraine or it may decrease the use of abortive medications and the risk of medication overuse to treat acute migraines. The only currently available REN device (Nerivio<sup>TM</sup>) cleared for use by the Food and Drug Administration (FDA) is worn on the upper arm and stimulates the peripheral nerves to induce conditioned pain modulation (CPM). The conditioned pain in the arm induced by the Nerivio REN device is believed to reduce the perceived migraine pain intensity. Control of the REN device is accomplished through Bluetooth communication between the device and the patient's smartphone or tablet. At onset of migraine or aura and no later than within 1 hour of onset, the user initiates use of the device through their

mobile application. Patient-controlled stimulation intensity ranges from 0 to 100%, corresponding to 0 to 40milliamperes (mA) of electrical current. Patients are instructed to set the device to the strongest stimulation intensity that is just below their perceived pain level. The device provides stimulation for up to 45 minutes before turning off automatically. The Nerivio manufacturer indicates that the device can be used instead of or in addition to medication.

For individuals with acute migraine due to episodic or chronic migraine who receive REN, the evidence includes 2 randomized controlled trials (RCTs) and nonrandomized, uncontrolled studies. Relevant outcomes are symptoms, functional outcomes, quality of life, and treatment-related morbidity. Use of an active REN device resulted in more patients with improved pain and symptoms at 2-hour follow-up compared with a sham device based on 2 small (N=212) RCTs with numerous relevance limitations. Based on the existing evidence, it is unclear how Nerivio<sup>TM</sup> would fit into the current acute migraine management pathway. The specific intended use and associated empirically-documented recommended regimen(s) must be specified in order to adequately evaluate the net health benefit. Additionally, functional outcomes and quality of life must be evaluated in well-designed and conducted studies in defined populations using documented Nerivio regimens. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

# **Regulatory Status**

In May 2019, Nerivio Migra<sup>TM</sup> (Theranica Bio-Electronics Ltd.) was granted a de novo classification by the FDA (class II, special controls, product code: QGT). This new classification applied to this device and substantially equivalent devices of this generic type. Nerivio Migra was initially cleared for treatment of acute migraine in adults who do not have chronic migraine.

In October, 2020, Nerivio was cleared for marketing by the FDA through the 510(k) process (K201824). FDA determined that this device was substantially equivalent to Nerivio Migra for use in adults. The device name changed to just" Nerivio" and the exclusion of chronic migraine patients was removed. The Nerivio device can provide more treatments than the predicate Nerivio Migra (12 treatments vs. 8 treatments) and has a longer shelf life (24 months vs. 9 months). In January, 2021, the Nerivio device was cleared for use in patients aged 12 to 17 years.

### CODING

The following code(s) is not covered for Medicare Advantage Plans and not medically necessary for Commercial Products when filed with the following ICD-10-CM codes:

HCPCS Code: K1023 Distal transcutaneous electrical nerve stimulator, stimulates peripheral nerves of the upper arm

ICD-10-CM Codes G43.001 to G43.719 G43.801 to G43.919

### **RELATED POLICIES**

Not applicable

**PUBLISHED** Provider Update, October 2022

### REFERENCES

- VanderPluym JH, Halker Singh RB, Urtecho M, et al. Acute Treatments for Episodic Migraine in Adults: ASystematic Review and Meta-analysis. JAMA. Jun 15 2021; 325(23): 2357-2369. PMID 34128998
- 2. Burch R, Rizzoli P, Loder E. The prevalence and impact of migraine and severe headache in the United States:Updated age, sex, and socioeconomic-specific estimates from government health surveys. Headache. Jan 2021;61(1): 60-68. PMID 33349955

- 3. Singh RBH, VanderPluym JH, Morrow AS, et al. Acute Treatments for Episodic Migraine. Rockville (MD): Agencyfor Healthcare Research and Quality (US); December 2020. Accessed April 5, 2022.
- Ailani J, Burch RC, Robbins MS. The American Headache Society Consensus Statement: Update on integratingnew migraine treatments into clinical practice. Headache. Jul 2021; 61(7): 1021-1039. PMID 34160823
- Burch RC, Loder S, Loder E, et al. The prevalence and burden of migraine and severe headache in the UnitedStates: updated statistics from government health surveillance studies. Headache. Jan 2015; 55(1): 21-34. PMID25600719
- 6. Nierenburg H, Stark-Inbar A. Nerivio (R) remote electrical neuromodulation for acute treatment of chronic migraine.Pain Manag. Apr 2022; 12(3): 267-281. PMID 34538078
- 7. U.S. Food and Drug Administration. De Novo Classification Request for Nerivio Migra. Accessed March 7, 2022.
- 8. U.S. Food and Drug Administration. 501(k) Summary: Theranica Bio-Electronics LTDs Nerivio. Accessed March31, 2022.
- 9. U.S. Food and Drug Administration. 510(k) Summary: Nerivio Approval in Adolescents. Accessed March 8, 2022.
- Tassorelli C, Diener HC, Silberstein SD, et al. Guidelines of the International Headache Society for clinical trialswith neuromodulation devices for the treatment of migraine. Cephalalgia. Oct 2021; 41(11-12): 1135-1151. PMID33990161
- Diener HC, Tassorelli C, Dodick DW, et al. Guidelines of the International Headache Society for controlled trials ofacute treatment of migraine attacks in adults: Fourth edition. Cephalalgia. May 2019; 39(6): 687-710. PMID30806518
- 12. Yarnitsky D, Volokh L, Ironi A, et al. Nonpainful remote electrical stimulation alleviates episodic migraine pain.Neurology. Mar 28 2017; 88(13): 1250-1255. PMID 28251920
- Yarnitsky D, Dodick DW, Grosberg BM, et al. Remote Electrical Neuromodulation (REN) Relieves Acute Migraine: A Randomized, Double-Blind, Placebo-Controlled, Multicenter Trial. Headache. Sep 2019; 59(8): 1240-1252. PMID31074005
- Marmura MJ, Lin T, Harris D, et al. Incorporating Remote Electrical Neuromodulation (REN) Into Usual CareReduces Acute Migraine Medication Use: An Open-Label Extension Study. Front Neurol. 2020; 11: 226. PMID32318014
- Rapoport AM, Bonner JH, Lin T, et al. Remote electrical neuromodulation (REN) in the acute treatment of migraine: a comparison with usual care and acute migraine medications. J Headache Pain. Jul 22 2019; 20(1): 83. PMID31331265
- 16. Ailani J, Rabany L, Tamir S, et al. Real-World Analysis of Remote Electrical Neuromodulation (REN) for the AcuteTreatment of Migraine. Front Pain Res (Lausanne). 2021; 2: 753736. PMID 35295483
- 17. Hershey AD, Irwin S, Rabany L, et al. Comparison of Remote Electrical Neuromodulation and Standard-CareMedications for Acute Treatment of Migraine in Adolescents: A Post Hoc Analysis. Pain Med. Apr 08 2022; 23(4):815-820. PMID 34185084
- 18. Hershey AD, Lin T, Gruper Y, et al. Remote electrical neuromodulation for acute treatment of migraine inadolescents. Headache. Feb 2021; 61(2): 310-317. PMID 33349920
- Nierenburg H, Vieira JR, Lev N, et al. Remote Electrical Neuromodulation for the Acute Treatment of Migraine inPatients with Chronic Migraine: An Open-Label Pilot Study. Pain Ther. Dec 2020; 9(2): 531-543. PMID 32648205
- 20. Tepper SJ, Lin T, Montal T, et al. Real-world Experience with Remote Electrical Neuromodulation in the AcuteTreatment of Migraine. Pain Med. Dec 25 2020; 21(12): 3522-3529. PMID 32935848
- Grosberg B, Rabany L, Lin T, et al. Safety and efficacy of remote electrical neuromodulation for the acute treatmentof chronic migraine: an open-label study. Pain Rep. Nov-Dec 2021; 6(4): e966. PMID 34667919
- Nierenburg H, Rabany L, Lin T, et al. Remote Electrical Neuromodulation (REN) for the Acute Treatment of Menstrual Migraine: a Retrospective Survey Study of Effectiveness and Tolerability. Pain Ther. Dec 2021; 10(2):1245-1253. PMID 34138449
- 23. Oskoui M, Pringsheim T, Holler-Managan Y, et al. Practice guideline update summary: Acute treatment of migrainein children and adolescents: Report of the Guideline Development, Dissemination, and

ImplementationSubcommittee of the American Academy of Neurology and the American Headache Society. Headache. Sep 2019;59(8): 1158-1173. PMID 31529481

#### ----- CLICK THE ENVELOPE ICON BELOW TO SUBMIT COMMENTS

This medical policy is made available to you for informational purposes only. It is not a guarantee of payment or a substitute for your medical judgment in the treatment of your patients. Benefits and eligibility are determined by the member's subscriber agreement or member certificate and/or the employer agreement, and those documents will supersede the provisions of this medical policy. For information on member-specific benefits, call the provider call center. If you provide services to a member which are determined to not be medically necessary (or in some cases medically necessary services which are non-covered benefits), you may not charge the member for the services unless you have informed the member and they have agreed in writing in advance to continue with the treatment at their own expense. Please refer to your participation agreement(s) for the applicable provisions. This policy is current at the time of publication; however, medical practices, technology, and knowledge are constantly of Rhode Island is an independent licensee of the Blue Cross and Blue Shield Association.

