

## Transcranial Magnetic Stimulation-Single Pulse (e.g. eNeura SAVI Dual™)

**Policy MP-080**

**Origination Date:** 11/06/2023

**Reviewed/Revised Date:** 11/20/2024

**Next Review Date:** 11/20/2026

**Current Effective Date:** 11/20/2025

### **Disclaimer:**

1. Policies are subject to change in accordance with State and Federal notice requirements.
2. Policies outline coverage determinations for U of U Health Plans Commercial, CHIP, Healthy U (Medicaid) and Health Choice Utah (Medicaid) plans. Refer to the "Policy" section for more information.
3. Services requiring prior-authorization may not be covered, if prior-authorization is not obtained.
4. **This Medical Policy does not guarantee coverage or payment of the service. The service must be a benefit in the member's plan, and the member must be eligible for coverage at the time of service. Additional payment guidelines may be applied that are not included in this policy.**

### **Description:**

Migraine is the most prevalent neurological disease afflicting a large part of the population across the world and ranks the 2nd leading cause of years lived with disability especially in the young and middle-aged. Up to 1/3 of migraine patients experience aura; reversible transient focal neurological symptoms arising from the cortex or brainstem. Among patients with migraine with aura, 99% of patients report visual symptoms in at least some of their attacks, but symptoms may also include sensory, speech/language and motor symptoms and sometimes also higher cortical functions. Non-pharmacologic interventions, including single pulse transcranial magnetic stimulation, have been proposed in patients who are treatment resistant or intolerant to medications.

The eNeura SAVI Dual™ device is a single pulse transcranial magnetic stimulator, made up of a magnetic coil, power modules, software, and user interface, for the treatment of migraine headaches. This device delivers brief duration, rapidly alternating, or pulsed, magnetic fields that are externally directed at spatially discrete regions of the brain to induce electric currents for the treatment of migraine headache.

## Policy Statement and Criteria

### 1. Commercial Plans/CHIP

Transcranial Magnetic Stimulation–Single Pulse (sTMS), including devices such as the eNeura SAVI Dual™, is considered experimental and investigational by University of Utah Health Plans as clinical effectiveness has not been established.

### 2. Medicaid Plans

Coverage is determined by the State of Utah Medicaid program; if Utah State Medicaid has no published coverage position and InterQual criteria are not available, the U of U Health Plans Commercial criteria will apply. For the most up-to-date Medicaid policies and coverage, please visit their website at: <https://medicaid.utah.gov/utah-medicaid-official-publications/> or the [Utah Medicaid code Look-Up tool](#)  
CPT/HCPCS codes covered by Utah State Medicaid may still require further evaluation to determine medical necessity for coverage.

Healthy U and Health Choice Utah does NOT cover Transcranial Magnetic Stimulation–Single Pulse (sTMS), including devices such as the eNeura SAVI Dual™, is considered experimental and investigational for lack of clinical effectiveness.

## Clinical Rationale

An overview of 7 relevant SRs, of which 4 were of moderate quality and 3 were of low quality was completed according to AMSTAR 2 (a critical appraisal tool for systematic reviews). All SRs had low risk of bias in assessing relevance, synthesis and findings, and study eligibility criteria as evaluated by ROBIS. The identification and selection of studies, 4 SRs (57.1%) had low risk of bias. The PRISMA reporting standards were generally comprehensive, but some limitations were observed in the assessments, pooled results, evidence reliability, registration and protocols, and funding sources. The GRADE levels ranged from moderate to low, with 10 outcomes of moderate quality and 6 outcomes of low quality. The main reason for the low quality of evidence was the small sample size and high heterogeneity of the available studies. The authors concluded that transcranial magnetic stimulation (TMS) may improve migraine severity and frequency, but the current evidence is limited due to methodological flaws and heterogeneity. Therefore, future studies should standardize use, assess side effects, and compare with other treatments.

## Applicable Coding

### CPT Codes

64999 Unlisted procedure, nervous system

### HCPCS Codes

No applicable codes

## References:

1. Calabro, R. S., et al. (2022). "Applications of transcranial magnetic stimulation in migraine: evidence from a scoping review." *J Integr Neurosci* 21(4): 110.
2. Lan, L., et al. (2017). "The efficacy of transcranial magnetic stimulation on migraine: a meta-analysis of randomized controlled trials." *J Headache Pain* 18(1): 86.
3. Reuter, U., et al. (2019). "Non-invasive neuromodulation for migraine and cluster headache: a systematic review of clinical trials." *J Neurol Neurosurg Psychiatry* 90(7): 796-804.
4. Saltychev, Mikhail, and Juhani Juhola. "Effectiveness of high-frequency repetitive transcranial magnetic stimulation in migraine: a systematic review and meta-analysis." *American Journal of Physical Medicine & Rehabilitation* 101.11 (2022): 1001-1006
5. Shen M, Li C, Wei X, Zhang L, Li Y, Wu H, Zhang X, Dong Z, Gao S, Ma Y, Ma Y. Transcranial Magnetic Stimulation as a Therapy for Migraine: An Overview of Systematic Reviews. *J Pain Res.* 2023 Sep 13;16:3133-3144. doi: 10.2147/JPR.S416993. PMID: 37724171; PMCID: PMC10505396.
6. Stilling, J. M., et al. (2019). "Transcranial Magnetic and Direct Current Stimulation (TMS/tDCS) for the Treatment of Headache: A Systematic Review." *Headache* 59(3): 339-357.
7. Zhong, Jiugen, et al. "Efficacy of repetitive transcranial magnetic stimulation on chronic migraine: A meta-analysis." *Frontiers in Neurology* 13 (2022): 1050090.

## Disclaimer:

This document is for informational purposes only and should not be relied on in the diagnosis and care of individual patients. Medical and Coding/Reimbursement policies do not constitute medical advice, plan preauthorization, certification, an explanation of benefits, or a contract. Members should consult with appropriate health care providers to obtain needed medical advice, care, and treatment. Benefits and eligibility are determined before medical guidelines and payment guidelines are applied. Benefits are determined by the member's individual benefit plan that is in effect at the time services are rendered.

The codes for treatments and procedures applicable to this policy are included for informational purposes. Inclusion or exclusion of a procedure, diagnosis or device code(s) does not constitute or imply member coverage or provider reimbursement. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

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