Clinical Policy: EEG in the Evaluation of Headache

Reference Number: CP.MP.155
Date of Last Revision: 09/24
Effective Date: 01/01/2025

Coding Implications
Revision Log

See Important Reminder at the end of this policy for important regulatory and legal information.

Description

An electroencephalogram (EEG) is a noninvasive method for assessing neurophysiological function. EEG measures the electrical activity that is recorded from many different standard sites on the scalp according to the international (10 to 20) electrode placement system. It is a useful diagnostic test in evaluating epilepsy. This policy addresses the use of EEG in the diagnostic evaluation of headache.

Policy/Criteria

I. It is the policy of health plans affiliated with Centene Corporation® that there is insufficient evidence in the published peer-reviewed literature to support the use of EEG in the routine evaluation of headache**.** EEG has not been convincingly shown to identify headache subtypes, nor has it been shown to be an effective screening tool for structural causes of headache.

Background

An EEG is an important diagnostic test in the evaluation of a patient with possible epilepsy, providing evidence that helps confirm or refute the diagnosis, as well as guide management. An EEG may also be performed for other indications, including but not limited to, states of altered consciousness, cerebral infections, and various other encephalopathies.

Headache is a common disorder with many potential causes. The primary headaches, which include migraine, tension-type headache and cluster headache, are benign and account for the majority of headaches. They are usually recurrent and have no organic disease as their cause. Secondary headaches are less common and caused by underlying organic diseases ranging from sinusitis to subarachnoid hemorrhage.[3] In most instances, the physician can accurately diagnose a patient's headache and determine whether additional laboratory testing or neuroimaging is indicated by considering the various headache types in each category (primary or secondary), obtaining a thorough headache history and performing a focused clinical examination.[4]

The presence of warning signs of a possible disorder, other than primary headache, that should prompt further investigation (e.g. limited laboratory testing, neuroimaging, lumbar puncture) include, but are not limited to:

- Subacute and/or progressive headaches that worsen over time (months)
- A new or different headache
- Any headache of maximum severity at onset
- Headache of new onset after age 50
- Persistent headache precipitated by a Valsalva maneuver
- Evidence such as fever, hypertension, myalgias, weight loss or scalp tenderness suggesting a systemic disorder

- Presence of neurological signs that may suggest a secondary cause
- Altered mental status or seizures
- Headache associated with exertion (eg, exercise, sexual intercourse)
- Visual disturbances
- New onset of severe headache in pregnancy or postpartum

Studies designed to determine whether headache patients have an increased prevalence of EEG abnormalities report conflicting results. The American Academy of Neurology reports that EEG has no advantage over clinical evaluation in diagnosing headache, does not improve outcomes, and increases costs. A literature review of 40 articles describing EEG findings in headache patients reported that studies did not show that the EEG is an effective screening tool for structural causes of headache, nor does the EEG effectively identify headache subgroups with different prognoses.[5]

American Academy of Neurology (AAN)
AAN reports that no study has consistently demonstrated that the EEG improves diagnostic accuracy for the headache sufferer. The AAN makes the following recommendations:

- The EEG is not useful in the routine evaluation of patients with headache (guideline). This does not exclude the use of EEG to evaluate headache patients with associated symptoms suggesting a seizure disorder, such as atypical migrainous aura or episodic loss of consciousness. Assuming head imaging capabilities are readily available, EEG is not recommended to exclude a structural cause for headache (option).[1]
- EEG is not recommended in the routine evaluation of a child with recurrent headaches, as it is unlikely to provide an etiology, improve diagnostic yield, or distinguish migraine from other types of headaches (Level C; class II and class III evidence).[2]
- Although the risk for future seizures is negligible in children with recurrent headache and paroxysmal EEG, future investigations for epilepsy should be determined by clinical follow up (Level C; class II and class III evidence).[2]

International Headache Society
The EEG is not included in the diagnostic criteria of the International Headache Society for migraine or any other major headache categories.

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 2023, 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.

Table 1: CPT codes not medically necessary when billed with a corresponding ICD-10-CM code in Table 2

CPT® Codes	Description
95812	Electroencephalogram (EEG) extended monitoring; 41 to 60 minutes
95813	Electroencephalogram (EEG) extended monitoring; 61 to 119 minutes
95816	Electroencephalogram (EEG); including recording awake and drowsy
95819	Electroencephalogram (EEG); including recording awake and asleep
95822	Electroencephalogram (EEG); recording in coma or sleep only

Table 2: ICD-10-CM codes not medically necessary when billed with a corresponding CPT code in Table 1.

ICD-10-CM Code	Description
G43.001 to G43.E19	Migraine
G44.001 to G44.89	Other headache syndromes
R51.0	Headache with orthostatic component, not elsewhere classified
R51.9	Headache, unspecified

Reviews, Revisions, and Approvals	Revision Date	Approval Date
Policy developed	12/17	12/17
References reviewed and updated. Specialist review.	11/19	12/19
Revised CPT 95813 description	04/20	
Replaced all instances of "member" with "member/enrollee." References reviewed and updated.	10/20	10/20
Added code 95822 to Table 1, and G43.A0 and G43.A1 to Table 2. "Experimental/investigational" verbiage replaced in policy statement with descriptive language.	04/21	
Removed codes G43.A0 and G43.A1 from table 2, as they are already included in range G43.001 to G43.919. Updated references.	05/21	
Revised ICD-10 code from R51 to R51.0 and added R51.9 to Table 2	06/21	
Annual review complete. Coding reviewed. References reviewed, updated, and reformatted. Changed "review date" in the header to "date of last revision" and "date" in the revision log header to "revision date." Reviewed by specialist.	10/21	10/21
Annual review. References reviewed and updated. Reviewed by specialist.	09/22	09/22
Annual review. Edits to policy name in header. Background updated with no clinical significance. References reviewed and updated.	09/23	09/23
Revised ICD-10 code range from G43.001 to G43.919 to G43.001 to G43.E19 for Table 2.	02/24	
Annual review. Background updated with no impact to criteria. References reviewed and updated. Reviewed by external specialist.	09/24	09/24

References

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Important Reminder

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

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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.

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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.