Clinical Policy: EEG in the Evaluation of Headache

Reference Number: LA.CP.MP.155 Coding Implications
Date of Last Revision: ~~2~~/10/22 Revision Log

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

Description
An electroencephalogram (EEG) is a non-invasive 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 Louisiana Healthcare Connections that there is insufficient evidence in the published peer-review 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 be 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
- Seizures

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
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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

CPT® Codes	Description
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-G43.919	Migraine
G44.001-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
Converted corporate to local policy.	08/15/2020	
Added code 95822 to Table 1. Revised ICD-10 code from R51 to R51.0 and added R51.9 to Table 2. "Exprimental/investigational" verbiage replaced in policy statement with descriptive language. 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." Added "and may not support medical necessity" to coding implications. Reviewed by specialist.	2/22	4/14/22
Annual review. References reviewed and updated. Reviewed by specialist.	10/22	

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Important Reminder

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