Clinical Policy: Ambulatory Electroencephalography

Reference Number: PA.CP.MP.96
Effective Date: 05/18
Last Review Date: 11/2019

Coding Implications
Revision Log

Description
Ambulatory electroencephalogram (EEG) testing in the outpatient setting (*e.g.*, at home) is a diagnostic test used to evaluate an individual in whom a seizure disorder is suspected but not conclusively confirmed by the person's medical history, physical examination, and a previous routine or standard (awake and asleep) EEG.

Policy/Criteria

I. It is the policy of PA Health & Wellness that ambulatory EEG is **medically necessary** following an inconclusive or nondiagnostic standard (awake and asleep) EEG for any of the following indications:
- **A.** To investigate episodic events where epilepsy is suspected but the history, examination, and routine EEG do not resolve the diagnostic uncertainties;
- **B.** To confirm epilepsy in those individuals experiencing suspected nonepileptic events;
- **C.** To differentiate between neurological and cardiac related episodes, such as syncope;
- **D.** To characterize seizure type, such as focal versus generalized seizures, and frequency;
- **E.** To localize seizure focus for enhanced patient management;
- **F.** To evaluate seizures precipitated by naturally occurring cyclic events or environmental stimuli that are not reproducible in the hospital or clinic setting.

II. It is the policy of PA Health & Wellness that ambulatory EEG is considered **not medically necessary** for studies of unattended, non-cooperative patients.

Ambulatory EEG (CPT code 95950 or 95953) should always be preceded by an awake and drowsy/sleep EEG (CPT code 95816, 95819, 95822 or 95827).

Background
In most instances, a standard EEG performed at a clinic or outpatient epilepsy facility can identify brain activity specific to seizures; however, when routine EEG is inconclusive and the clinical history strongly suggests seizure activity, an ambulatory EEG may be indicated. An ambulatory EEG may increase the chance of detecting an epileptiform abnormality in these individuals and significantly impact clinical management. An estimated 12% to 25% of individuals who previously had a normal or non-diagnostic routine EEG have epileptiform activity on ambulatory EEG. [3]

Ambulatory EEG recordings can be utilized in the evaluation and differential diagnosis of other conditions, that includes syncope, if these episodes are not diagnosed by conventional studies. It may also allow an estimate of seizure frequency, which may at times help to evaluate the effectiveness of a drug and determine its appropriate dosage.

CLINICAL POLICY
Ambulatory EEG

Ambulatory EEG testing provides a continuous recording of the brain's electrical activity that can range from several hours to several days (typically 48 hours to 72 hours). In the outpatient setting (physician office, clinic), a set of electrodes with leads is secured to the person's scalp and a digital recording unit is attached to the waist or a shoulder harness. Currently, portable recordings of up to 32 channels can record computer-assisted spike and seizure detection rates over several days. Event detection computer software is designed to increase the chance of recording an ictal event during a seizure or interictal epileptiform discharges occurring between seizures, during the person's routine daily activities and sleep. The person being tested and observers (family members, caregiver) have the opportunity to "tag" portions of the recording during clinical events using a push button device to signal when an observable event occurs.

The gold standard for evaluating the large amount of data collected by a computer-assisted system is visual analysis at the end of the testing period by a highly trained individual.[3] Digital analysis of an EEG can used to diagnose neurological conditions when routine EEG outcomes and neurological imaging are inconclusive to confirm suspicious but nondiagnostic symptoms. Digital analysis of an EEG requires the analysis of an EEG using quantitative analytical techniques such as data selection, quantitative software processing, and dipole source analysis.

Coding Implications

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CPT® Codes	Description
95700	Electroencephalogram (EEG) continuous recording, with video when performed, setup, patient education, and takedown when performed, administered in person by EEG technologist, minimum of 8 channels
95705	Electroencephalogram (EEG), without video, review of data, technical description by EEG technologist, 2-12 hours; unmonitored
95708	Electroencephalogram (EEG), without video, review of data, technical description by EEG technologist, each increment of 12-26 hours; unmonitored
95717	Electroencephalogram (EEG), continuous recording, physician or other qualified health care professional review of recorded events, analysis of spike and seizure detection, interpretation and report, 2-12 hours of EEG recording; without video
95719	Electroencephalogram (EEG), continuous recording, physician or other qualified health care professional review of recorded events, analysis of spike and seizure detection, each increment of greater than 12 hours, up to 26 hours of EEG recording, interpretation and report after each 24-hour period; without video

CLINICAL POLICY
Ambulatory EEG

CPT® Codes	Description
95721	Electroencephalogram (EEG), continuous recording, physician or other qualified health care professional review of recorded events, analysis of spike and seizure detection, interpretation, and summary report, complete study; greater than 36 hours, up to 60 hours of EEG recording, without video
95723	Electroencephalogram (EEG), continuous recording, physician or other qualified health care professional review of recorded events, analysis of spike and seizure detection, interpretation, and summary report, complete study; greater than 60 hours, up to 84 hours of EEG recording, without video
95725	Electroencephalogram (EEG), continuous recording, physician or other qualified health care professional review of recorded events, analysis of spike and seizure detection, interpretation, and summary report, complete study; greater than 84 hours of EEG recording, without video

ICD-10-CM Diagnosis Codes that Support Coverage Criteria

ICD-10-CM Code	Description
F44.5	Conversion disorder with seizures or convulsions
G40.001- G40.919	Epilepsy and recurrent seizures
R25.0 – R25.8	Abnormal involuntary movements
R40.4	Transient alteration of awareness
R55	Syncope and collapse
R56.1	Post-traumatic seizures
R56.9	Unspecified convulsions

Reviews, Revisions, and Approvals	Date	Approval Date
Policy developed	06/18	
References reviewed and updated	08/18	
References reviewed and updated with three added. Coding reviewed. Specialty review completed. Reviewed by neurologist. Added last sentence, "Ambulatory EEG monitoring…." to the description. Within criteria, removed "for classification of seizure type" from "B." and updated "D." with "To characterize seizure type…..", also removing "To adjust antiepileptic medication levels". Removed "F. To identify and medicate absence seizures." Removed "G. To differentiate between epileptic and sleep disorder related episodes." Removed paragraph in Background section on psychogenic nonepileptic spells and the paragraph on analysis.	11/19	1/10/2020
Removed CPT codes 95950, 95953-codes deleted 1/1/2020. Added the following 2020 CPT codes: 95700, 95705, 95708, 95717, 95719, 95721, 95723, and 95725. Removed CPT codes from criteria note specifying which CPT codes should precede which ambulatory EEG codes. Added the following ICD-10 codes: R40.4, R55	2/26/2021	

Reviews, Revisions, and Approvals	Date	Approval Date
Annual review completed. References reviewed and updated. Specialist review completed.		

References

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