

## Payment Policy | Digital Electroencephalography (DEEG)



**EFFECTIVE DATE:** 12|01|2014  
**POLICY LAST UPDATED:** 09|07|2022

### OVERVIEW

Ambulatory electroencephalography (AEEG) monitoring allows a prolonged electroencephalographic recording of the electrical current potential or brain activity through the skull. EEG is generally used to show brain activity of patients who suffer from epilepsy during a seizure event and between seizure events. Digital electroencephalography (DEEG) is the paperless acquisition, recording, and analysis of the EEG via computer-based instrumentation, with waveform storage in a digital format on electronic media, and waveform display on an electronic monitor or other computer output device.

### MEDICAL CRITERIA

Not applicable

### PRIOR AUTHORIZATION

Not applicable

### POLICY STATEMENT

#### Medicare Advantage Plans and Commercial Products

Digital analysis of electroencephalogram is a covered service but is not separately reimbursed.

### COVERAGE

Benefits may vary between groups/contracts. Please refer to the appropriate Benefit Booklet, Evidence of Coverage, or Subscriber Agreement for limitations of benefits/coverage for diagnostic testing.

### BACKGROUND

The procedure for an electroencephalogram (EEG) involves placing a series of electrodes, with at least four recording channels, on the patient. A very low electrical current is sent through the electrodes and the baseline brain energy is recorded on a diagnostic machine. Electrical activity is recorded and analyzed. Patients are then exposed to a variety of external stimuli, including bright or flashing light, noise or certain drugs, or asked to open and close their eyes, or to change breathing patterns. The electrodes transmit the resulting changes in brain wave patterns. Variations in wave characteristics correlate with neurological conditions and are used to diagnose specific medical conditions. Virtually all contemporary EEG recordings use digital recording methods, which involves the use of a digital EEG recorder (machine), but still involves visual analysis of the wave forms.

Digital analysis requires the use of quantitative analytical techniques. Data selection, quantitative software processing, and dipole source analysis are some of the techniques utilized. Ideally, DEEG creates a recording on a digital medium without the loss of anything except the paper itself. DEEG allows for simple but extremely useful digital utilities such as post hoc changes in filters, horizontal and vertical display scale, and montage reformatting that allow greater flexibility in reading the EEG. These tools allow for better visual reading of the record that can be achieved with an analog paper record.

DEEG is significantly more comprehensive than just a digital recording of the EEG. DEEG represents an EEG with extensive digital analysis over a traditional EEG or digital recording. The analysis of the digital data may include data that expands more than 24 hours of continual monitoring. In general, this would entail

an extra hour's work by the technician to process the data from the EEG, and an extra 20-30 minutes of physician time to review the technician's work and review the data produced.

Currently, EEGs are primarily performed on digital machines instead of older analog machines. Automated spike and seizure detectors are usually built into digital routine EEG, ambulatory EEG, or video-EEG monitoring. Because of this enhancement, substantial additional analysis is typically not necessary.

## **CODING**

### **Medicare Advantage Plans and Commercial Products**

The following code is not separately reimbursed:

**95957** Digital analysis of electroencephalogram (EEG) (eg, for epileptic spike analysis)

## **RELATED POLICIES**

Non Reimbursable Health Service Codes

## **PUBLISHED**

Provider Update, November 2022

Provider Update, January 2020

Provider Update, June 2017

Provider Update, May 2016

Provider Update, October 2015

Provider Update, October 2014

## **REFERENCES**

1. American Clinical Neurophysiology Society. Guideline Twelve: Guidelines for long term monitoring for epilepsy (2008).
2. Faulkner H. et al. The utility of prolonged outpatient ambulatory EEG. *Seizure* (September 2012); 21(7):491-5.
3. Long Term Monitoring for Epilepsy. *Electroencephalography and Clinical Neurophysiology* (1993) 87: 437-458.
4. Nuwer M. Assessment of digital EEG, quantitative EE and EEG brain mapping: Report of the American Academy of Neurology and the American Clinical Neurophysiology Society. *Neurology* 1997; 49:277-292.
5. Nayak DS, Sajeesh P. Technical standards for digital electroencephalogram recording in epilepsy practice. *Ann Indian Accad Neurol* 2007;10:121-7.
6. Van Cott A, Brenner RP. Technical advantages of digital EEG. *J Clin Neurophys* 1998;15(6):464-75.
7. American Academy of Neurology. <https://www.aan.com/practice/coding-faqs><sup>i</sup>

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