

cEEG  
Continuous EEG  
Ambulatory EEG  
Routine EEG / Clinical EEG  
Long-Term Monitoring  
Long-Duration EEG Monitoring  
LTM

# EEG

## Definitions Guide



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# Routine EEG/Clinical EEG

## Definition

EEG recordings less than two hours in duration, often without video. These studies generally include activation procedures such as hyperventilation, photic stimulation, or sleep deprivation when appropriate. Typical recordings are 20-40 minutes but are also grouped in recordings 41 to 60 minutes, and 61 to 119 minutes, for CPT coding purposes.

## Patient Population

A Routine EEG/Clinical EEG is generally the first step to diagnose a seizure disorder. If abnormalities are found, patients often receive further testing to confirm or rule out epilepsy.

## Test Location

Most often performed in a hospital EEG/Neurodiagnostic Lab or in a physician's office, but can be performed anywhere.

## CPT Codes

Any EEG recording less than two hours in duration is not impacted by the 2020 CPT code changes.

*Note that you cannot bill the 95700 setup code for the shorter recordings.*

Routine EEG/Clinical EEG codes often CANNOT be reported in conjunction with the new Long Duration codes. Most payors expect these codes to be used on a different date of service, and in many cases are required prior to the use of a Long Duration procedure. Those codes include:

- 95812** - Electroencephalogram (EEG) extended monitoring; 41-60 minutes
- 95813** - Electroencephalogram (EEG) extended monitoring; greater than 1 hour (up to 2 hrs)
- 95816** - Electroencephalogram (EEG); including recording awake and drowsy; 20-40 minutes
- 95819** - Electroencephalogram (EEG); including recording awake and asleep; 20-40 minutes
- 95822** - Electroencephalogram (EEG); recording in coma or sleep only; 20-40 minutes



# Long-Term EEG Monitoring/ Long-Term Continuous Recording EEG

## Definition

Any EEG recording that exceeds two hours in duration, and is intermittently or continuously monitored, most commonly from 24 - 72 hours. This long-duration monitored EEG recordings performed outside the hospital are on occasion erroneously called Ambulatory EEG. From a technical perspective, they are analogous to equivalent hospital-based recording. Significant enhancements in technology and connectivity provide the flexibility to perform these studies in locations that are more preferable to patients.

## Patient Population

Patients are commonly referred for:

- Epilepsy diagnosis
- Localization and classification of seizure type
- Loss of or change in consciousness
- Diagnosis of episodes or spells other than epilepsy/seizures

## Test Location

Long-Term EEG Monitoring can take place in a patient's home or an inpatient setting.

## CPT Codes

Long-term continuous recording EEG services is the exact term used in the CPT 2020 codes to describe the new technical and professional codes for any EEG recording that exceeds 2 hours in duration. These codes are broken down into 23 codes that describe different levels of monitoring, setup, reporting etc. 13 of these codes are technical codes, 10 of them are professional services codes.

For a full analysis of EEG CPT 2020 coding impact, download our free guide [here](#)



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# LTM or Long-Term Monitoring/ Long-Duration EEG Monitoring

(Subset of Long-Term EEG/Long-Term Continuous Recording EEG)

## Definition

LTM or Long-Term Monitoring/Long-Duration EEG Monitoring is used regularly to describe the activity that takes place in an EMU (Epilepsy Monitoring Unit) or an outpatient setting such as a home or monitoring clinic. These terms are used interchangeably.

## Patient Population

Patients being evaluated for epilepsy and other seizure disorders that require longer monitoring.

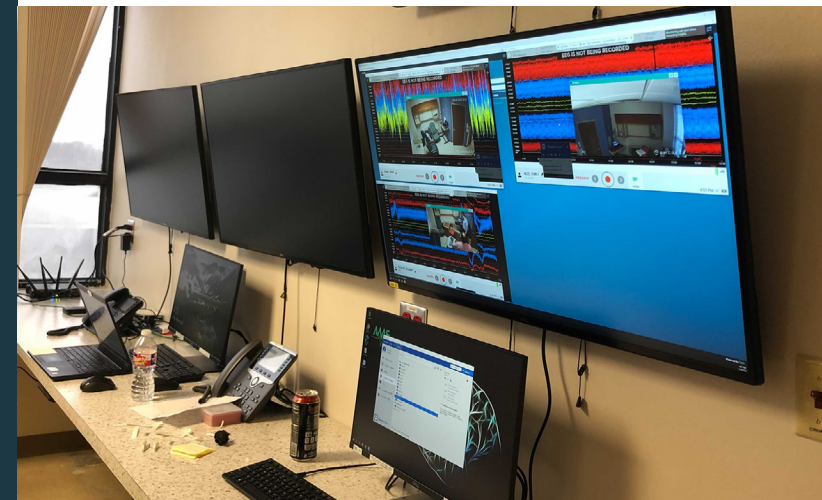
## Test Location

The EMU is the recording location of choice when the patient is being subjected to the potential risk of induced seizure, when they are being removed from medication, or if significant changes in their seizure medications are being made. In addition, if the long duration EEG is being performed as part of presurgical workup using depth and other intracranial electrodes, then recording in an EMU is indicated.

For patients who do not require medication titration or adjustments, outpatient settings such as a monitoring clinic or a patient's home are alternatives. Usually, the EMU is the place for diagnostic and treatment services for people with hard to diagnose or treat seizures or epilepsy. EMUs are primarily at larger urban and academic medical centers.

## CPT Codes

The same Long-Term EEG codes as in any other location are used, however, most EMUs are considered inpatient and so while a record may be kept of the CPT codes used, the reimbursement to the hospital would typically be as a result of DRG.



# Ambulatory EEG (AEEG)

(Subset of Long-Term EEG/Long-Term Continuous Recording EEG)

## Definition

An unmonitored patient-worn EEG, with or without video, lasting from 24 - 72 hours. AEEG must not be used as a term for monitored studies.

## Patient Population

AEEG studies are an excellent way to collect a long duration EEG, including sleep for a patient that prefers to be flexible and not so restricted in movement. Video can often be impractical and places an increased burden on the patient that has to remain in view of the camera.

## Test Location

Ambulatory EEG can be performed in a patient's home or another convenient environment such as a hotel.

## CPT Codes

Any EEG recording less than two hours in duration is not impacted by the 2020 CPT code changes.  
*Note that you cannot bill the 95700 setup code for the shorter recordings.*

There is a reimbursement sweet spot for ambulatory EEG that has been created by the hospital-based Ambulatory Payment Classification (used for payments to hospitals where the procedures are carried out as out-patient by hospital-based staff). When we compare the published APC rate for unmonitored ambulatory EEG, it is approximately double the projected reimbursements from CPT. But, it should also be noted that the APC reimbursement for unmonitored non-video ambulatory studies is exactly the same as the reimbursement for intermittently monitored video EEG.



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# cEEG or Continuous EEG

(Subset of Long-Term EEG/Long-Term Continuous Recording EEG)

## Definition

A long-duration EEG performed primarily in an ICU setting. It can include some level of processed EEG trending such as aEEG (Amplitude Integrated EEG). aEEG is the trended EEG process most used by neonatologists in the NICU. Monitoring generally lasts for 24 hours, or up to 96 if comatose.

## Patient Population

Common Indications for cEEG are:

- Detection of non-convulsive seizures
- To determine the depth of sedation
- Patients with seizures
- Patients with coma
- Intracranial hemorrhage
- Subarachnoid hemorrhage

## Test Location

cEEG monitoring is most often conducted in an ICU – neonatal, pediatric, and adult. And cEEG plays an important role in monitoring brain function by allowing uninterrupted assessment of cerebral cortical activity to quickly detect non-convulsive seizures and other clinically important changes in the EEG as they are occurring.

## CPT Codes

Same Long-Term EEG codes as in any other location, however, most ICUs are considered in-patient and so while a record may be kept of the CPT codes used, the reimbursement to the hospital would typically be as a result of DRG.

### Why do our customers use CPT codes in an in-patient DRG reimbursement scenario?

The procedure codes are the only mechanism that can be used to keep track of the actual work that is performed with a given patient. Frequently a department's budget will be tracked and approved based on the work performed. Hospitals also report CPT codes used to CMS. In time this impacts the DRG reimbursement that the hospital receives when CMS evaluates that actual cost of care for a given DRG.



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The information in this guides is provided as an educational resource, with information taken from the AMA's CPT 2020 Professional Edition. Please refer to the original source for validation and further information, which can be purchased [here](#).

[sales@lifelinesneuro.com](mailto:sales@lifelinesneuro.com)

866-889-6505

[lifelinesneuro.com](http://lifelinesneuro.com)



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