Molina Clinical Policy
Ambulatory and Video EEG Monitoring Outpatient Setting: Policy No. 133

Last Approval: 2/8/2023
Next Review Due By: February 2024

DISCLAIMER

This Molina Clinical Policy (MCP) is intended to facilitate the Utilization Management process. Policies are not a supplementation or recommendation for treatment; Providers are solely responsible for the diagnosis, treatment and clinical recommendations for the Member. It expresses Molina's determination as to whether certain services or supplies are medically necessary, experimental, investigational, or cosmetic for purposes of determining appropriateness of payment. The conclusion that a particular service or supply is medically necessary does not constitute a representation or warranty that this service or supply is covered (e.g., will be paid for by Molina) for a particular Member. The Member's benefit plan determines coverage – each benefit plan defines which services are covered, which are excluded, and which are subject to dollar caps or other limits. Members and their Providers will need to consult the Member's benefit plan to determine if there are any exclusion(s) or other benefit limitations applicable to this service or supply. If there is a discrepancy between this policy and a Member's plan of benefits, the benefits plan will govern. In addition, coverage may be mandated by applicable legal requirements of a State, the Federal government or CMS for Medicare and Medicaid Members. CMS's Coverage Database can be found on the CMS website. The coverage directive(s) and criteria from an existing National Coverage Determination (NCD) or Local Coverage Determination (LCD) will supersede the contents of this MCP and provide the directive for all Medicare members. References included were accurate at the time of policy approval and publication.

OVERVIEW

Electroencephalography (EEG) is the recording of the brain's spontaneous electrical activity over a short period of time (20–40 minutes), as recorded from multiple electrodes placed on the scalp. A routine EEG is not always sufficient, particularly when it is necessary to record a patient while they are having a seizure.

Ambulatory electroencephalography (AEEG) monitoring allows prolonged electroencephalographic recording in the home setting via a device approximately the size of a portable cassette player. The device continuously records brain wave patterns during 24 hours of a patient's routine including daily activities and sleep. The device can record up to 72 hours, increasing the chance of recording a seizure (e.g., ictal event or the time between seizures [the interictal period]). The interictal period is often used by neurologists when diagnosing epilepsy as an EEG trace will often show small interictal spiking and other abnormalities (e.g., subclinical seizures). The monitoring equipment consists of an electrode set that attach to the scalp (leads are connected to a recorder typically attached to a belt, preamplifiers, and a cassette recorder. (Moeller et al., 2022 & 2021).

Video electroencephalography (VEEG) monitoring is the synchronous recording and display of EEG patterns and video-recorded clinical behavior. Short recordings of several hours can be performed in an outpatient setting (an EEG laboratory) while recordings of 24-hours or more are generally done in an inpatient hospital setting. Since seizure medicine is often reduced or stopped in order to provoke a seizure, the hospital setting is preferable to ensure patient safety undergoing a seizure. The average hospital length of stay for VEEG monitoring ranges from three to four days. VEEG monitoring is conducted for two main reasons. First, it is useful for diagnostic monitoring when it is not clear from the clinical evaluation and routine EEG whether the patient has epileptic seizures or non-epileptic (psychiatric) events. Second, video EEG helps identify the area of the brain where seizures arise, especially for patients whose seizures are not controlled with antiepileptic medications and for whom surgery for epilepsy is being considered. (Hayes, 2021; Moeller et al., 2022 & 2021).

A prolonged 24-hour ambulatory EEG (or long-term VEEG monitoring) in the outpatient or home setting may be used to differentiate between the presence of epileptic, non-epileptic and psychogenic seizure disorders. Documenting electrical seizure activity accompanied by physical manifestations aids in the diagnosis and treatment of seizure disorders. Occasionally EEGs are offered to patients in their home; this allows for long-term monitoring in the patient's home environment which may be more conducive to seizure occurrence. A major disadvantage of routine ambulatory EEG is the difficulty to differentiate between recording artifact and true epileptic activity in the absence of visual observation. Thus, valid synchronous documentation of the physical activity that accompanies any electrical seizure may not be valid. To meet these questions, adding a home video component to the ambulatory EEG is proposed. (Moeller et al., 2022 & 2021).

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COVERAGE POLICY

Ambulatory and Video Electroencephalography EEG monitoring in the outpatient setting **may be considered medically necessary** when **ONE** of the following criteria are met (CMS, 2020 & 1984; MCG, 2022; NICE, 2021; AMR, 2021; ASET, 2016; Riviello et al., 2006; Hirtz et al. 2000):

1. Outpatient ambulatory electroencephalography (EEG) for up to 48 hours when **ALL** of the following are met:

   a. Routine (or resting) EEG, history and physical exam are inconclusive or non-diagnostic; **AND**
   b. Non-neurological causes of symptoms (e.g., syncope, cardiac arrhythmias) have been ruled out; **AND**
   c. EEG is being used to diagnose at least **ONE** of the following suspected conditions:
      - Seizures or seizure like activity occurring ≥ 3 times per week; **OR**
      - To differentiate epileptic from non-epileptic events (e.g., a pseudo-seizure such as a psychogenic non-epileptic event, syncope) when history, examination and routine EEG are inconclusive; **OR**
      - To characterize the frequency or location of seizures in a non-clinical setting; **OR**
      - To document epilepsy response to treatment or to medication adjustment; **OR**
      - To determine classification of seizure type in Members with confirmed epilepsy and experiencing suspected non-epileptic events; **OR**
      - To differentiate between neurological and cardiac related issues; **OR**
      - To adjust anti-epileptic medication levels; **OR**
      - To explain differential diagnosis of syncope or transient ischemic attacks when a cause is lacks evidence in the medical literature; **OR**
      - For localizing seizure focus for enhanced patient management; **OR**
      - For identifying and medicating absence seizures; **OR**
      - For suspected seizures of sleep disturbances; **OR**
      - Seizures which are precipitated by naturally occurring cyclic events or environmental stimuli which are not reproducible in hospital or clinic setting.

2. Outpatient video electroencephalography (EEG) monitoring when **ALL** of the following criteria are met:

   a. EEG is being used to diagnose **ONE** of the following suspected conditions:
      - Known seizure disorder as evidenced by **ALL** of the following:
        i. Recurrent refractory seizures despite treatment with ≥ 2 anticonvulsant medications; **AND**
        ii. No current seizure provoking medications.

      OR

      - Suspected non-epileptic seizure as evidenced by **ALL** of the following:
        i. Recurrent symptoms not classic for seizures; **AND**
        ii. History or lab results are non-diagnostic for seizure etiology; **AND**
        iii. Routine EEG non-specific; **AND**
        iv. No sudden cessation of heavy alcohol use within 48 hours of seizure activity; **AND**
        v. No intoxication due to abuse of drugs within 48 hours of seizure activity.

      OR

      - Prior to epilepsy surgery or intracranial electrode implantation and surgery to localize the seizure focus in members with documented medically refractory seizures.

      OR

      - In the home setting when used to differentiate between the presence of epileptic, non-epileptic or psychogenic seizure disorders when standard EEG and clinical assessment are non-diagnostic.

   AND

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b. If anticonvulsant medication withdrawal is deemed unsafe in the outpatient setting as evidenced by required documentation and **ALL** criteria above are met, then inpatient video EEG monitoring may be authorized*; **AND**

c. Outpatient video EEG length of stay is generally less than 48 hours and no longer than 72 hours for observation. If the event being monitored does not occur in this timeframe then inpatient video EEG monitoring may be authorized.

*NOTE: For inpatient video electroencephalography (EEG) monitoring please use appropriate criteria for inpatient reviews that may include but is not limited to MCG or other nationally recognized criteria.

Extension of Initial Authorization

The following indications are considered for continuation of therapy (MCG, 2022):

- To determine if events are epileptic or non-epileptic in nature.
- To determine the type of seizures that a Member is experiencing, including type of seizure and frequency (non-clinical setting).
- For Members with a known type of seizure and for the withdrawal of anticonvulsant medication as advised by the Provider.
- For Members with a suspected seizure, following a non-diagnostic and non-invasive EEG.

In addition, the following also apply:

- Outpatient ambulatory EEG may be used for 48 hours.
- Outpatient video EEG length of stay is generally less than 48 hours and no longer than 72 hours for observation however if the event being monitored does not occur in this time frame admission may be necessary for further monitoring or for preoperative localization of seizure foci.
- Once the cause of seizures and specific type of epilepsy has been established, continued video EEG monitoring is considered not medically necessary.

Alternatives

The following alternatives may be considered for Ambulatory EEG (MCG, 2022):

- Noninvasive (scalp) EEG
- Video EEG monitoring (inpatient)

Limitations and Exclusions

EEG (24-hour monitoring) **is non-covered** for **ANY** of the following (CMS, 2020):

- Study of neonate or unattended, non-cooperative patient.
- Localization of seizure focus/foci when seizure symptoms and/or other EEG recordings indicate presence of bilateral foci or rapid generalization.

DOCUMENTATION REQUIREMENTS. Molina Healthcare reserves the right to require that additional documentation be made available as part of its coverage determination; quality improvement; and fraud; waste and abuse prevention processes. Documentation required may include, but is not limited to, patient records, test results and credentials of the provider ordering or performing a drug or service. Molina Healthcare may deny reimbursement or take additional appropriate action if the documentation provided does not support the initial determination that the drugs or services were medically necessary, not investigational or experimental, and otherwise within the scope of benefits afforded to the member, and/or the documentation demonstrates a pattern of billing or other practice that is inappropriate or excessive.

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SUMMARY OF MEDICAL EVIDENCE

Klein et al. (2021) performed a retrospective review using an anonymized database of a national in-home EEG provider with ambulatory video EEG recordings (performed from March through September 2020). A total of 3644 unique, completed assessments that included analysis by neurologists of raw data. Studies were categorized into three age cohorts: pediatrics (n = 941), adult (n = 2020), and geriatric (n = 683). Additional characterization of the cohorts was broken down by assessment yield and time to first typical clinical event; subsequent typical events over the duration of recording were also included. Over 97% of first events were observed in 72 hours among all age cohorts; over 95% of the mean number of subsequent events were also observed. Among children, the time to first event was significantly earlier than those in the adult and geriatric cohorts – 98% of first events and 93% of the mean number of subsequent events were observed in 48 hours. The review demonstrated that among all age cohorts, extended recordings may increase the capturing of events. Ideal duration to capture events among children is 48 hours versus between 48-72 hours among adult and geriatric patients.

The International Federation of Clinical Neurophysiology (IFCN) developed a guideline to address gaps in assessment. In addition, the guideline summarizes the medical literature regarding the use of EEG for the diagnosis and monitoring of adults with epilepsy. Among patients with a first, unprovoked seizure, evidence suggests that an EEG with unequivocal interictal epileptiform discharges (IEDs) can determine an epilepsy diagnosis. Recordings should be a minimum of minutes; activation methods can increase the diagnostic yield. Additional types of EEG recordings can be used when standard EEG recordings are ambiguous in order to aid in determining a patient's diagnosis. Sleep EEG is recommended to increase the likelihood of recording an abnormality. (Tatum et al., 2018).

Long-term VEM can document the association between the paroxysmal semiology and the EEG; this includes synchronized signals from multiple generators (e.g., EEG, ECG, and EMG). VEM is beneficial to explain the differential diagnosis in patients with spells, to classify types of seizure and quantify frequency, and to characterize the electroclinical manifestations during a presurgical evaluation. Summary statements from the IFCN guideline include the following (Tatum et al., 2018):

- High risk of recurrence after initial seizure is evidenced by the presence of IEDs in a standard EEG. In addition, there is a high risk of seizure relapse following anti-seizure drugs (ASD) taper in patients with controlled epilepsy.
- When IEDs are present in a recording, EEG can help classify the seizure type (focal or generalized).
- A definitive diagnosis is provided with video-EEG monitoring when a seizure is recorded. Video-EEG is also beneficial for epilepsy surgery evaluation.
- Continuous EEG monitoring can be used in addition to diagnosing and quantifying seizures, particularly in patients who are critically ill.

Ambulatory EEG Monitoring

Primiani et al. (2020) evaluated the yield of ambulatory EEG-video for the diagnosis of epilepsy. A retrospective review of the ambulatory EEG-video monitoring data from 200 consecutive and unselected patients aged 12 years and older was performed by a single company between January 2018 and May 2018. Studies were processed by two senior certified long-term monitoring EEG technologists and interpreted by neurologists. The review included 200 patients – 130 (65%) women with a mean age of 45 years. Mean duration of studies were 76.6 hours (range 23-175 hours). In addition, 110 studies (55%) included recorded events and 101 (92%) events were captured on video. Epileptic events accounted for 18 of 101 (18%) of the events captured and 18 (9%) of the total cohort of 200. Nonepileptic diagnosis accounted for 76 (38%) of the 200 patients in the study. In summary, the use of ambulatory EEG / video monitoring may be an alternative for admission to an inpatient epilepsy monitoring unit especially for cases of highly suspected non-epileptic events.

Chen et al. (2020) note that ambulatory video-EEG monitoring is a cost-effective alternative to inpatient video-EEG monitoring for diagnostic evaluation (non-surgical) when symptoms suggest epileptic seizures. A retrospective cohort study included seizure symptoms of 9,221 consecutive ambulatory video-EEG studies. This included patients in 35 states in one calendar year. Assessment was conducted of the incidence of epileptiform discharges for each symptom; this included symptoms that could be categorized (even if not included in the ILAE 2017 symptom list). Data were analyzed using Fisher's exact test and univariate logistic regression. Overall, the study supports the use of ILAE 2017 symptom categories to guide ambulatory video-EEG studies.

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Nagyova et al. (2019) conducted a retrospective review of data that included 199 consecutive referrals for a pediatric ambulatory EEG. Data included features of the referral process, characteristics of the patient and referral reason. Overall, ambulatory EEG was beneficial in 65% of cases. Half of the cases were referred for an EEG to record events however, the EEG was useful in only 43% of cases. The highest reason for unsuccessful investigation was the inability to capture events (56%). Suspected encephalopathy with status epilepticus during sleep also yielded a significant percentage of cases (39%); the study was beneficial 98% of cases. Less than 10% of unsuccessful studies were attributed to technical issues.

Video EEG Monitoring

Syed et al. (2019) performed a retrospective cohort study on the outcome of in-home diagnostic AVEM. Patients included a nationwide cohort that were studied during one calendar year. Results were compared with outcomes of inpatient adult and pediatric VEM performed at two academic epilepsy centers during the same timeframe. AVEM outcome data was obtained from an independent ambulatory-EEG testing facility; inpatient VEM data also included (a 4-bed adult epilepsy center and an 8-bed pediatric epilepsy center). Of the 9221 AVEM recordings in 28 states, 63% achieved primary outcome. In half of the recordings (54% for adults, 56% for children), one patient-activated pushbutton event was captured on video of AVEM recordings. Epileptiform activity was noted in 18% AVEM recordings; 89% only interictal, 0.5% only ictal, 11% both interictal and ictal). When equated to AVEM, inpatient VEM captured more confirmed representative events in both adult and pediatric samples. Overall, AVEM is beneficial for non-urgent diagnostic evaluation of events as well as for evaluating nonepileptic events.

Home Setting Video EEG

Carlson et al. (2018) performed a prospective study to compare home video telemetry (HVT) to inpatient video telemetry (IVT). Study participants included in 62 children ages 1-17 and had video telemetry with a duration of 24-72 hours; participants were excluded if anti-epileptic drug withdrawal was indicated. Participants were put in either the inpatient video telemetry group (n=29) or in the home video group (n=33). During the inpatient video telemetry, 62% of studies captured ictal events compared to 64% of studies that captured ictal events during the home video telemetry recordings. Half reported equipment difficulties that included camera placement and activation of the infrared camera capability. This resulted in a loss of diagnostic video information in 15% of the home video telemetry studies. Another limitation included a lack of randomization of study participants. In conclusion similarity in the quality and use of HVT and IVT was noted and high-quality diagnostic information can be useful. Overall, home video telemetry can be a good alternative to inpatient recordings.

The use of home VEEG to diagnose and manage epilepsy in adults lacks sufficient evidence. In addition, national clinical practice guidelines and related guidance show unclear support. (Hayes, 2021).

National and Specialty Organizations

The **American Academy of Neurology (AAN)** and the **Child Neurology Society (CNS)** reaffirmed the 2006 guideline on the *Diagnostic Assessment of the Child with Status Epilepticus (SE)* in 2022. Evidence is weak regarding the consideration of an EEG in children presenting with new onset SE to determine if abnormalities are focal or generalized which can impact diagnosis and treatment. In addition, evidence is weak if the diagnosis of pseudo SE is assumed. Evidence was insufficient to support use of EEG to determine diagnosis for children presenting with possible non-conclusive status epilepticus (NCSE). (Rivello et al., 2006).

Further recommendations include the need for additional studies to define what factors may indicate SE in children. This includes controlled prospective blinded studies to determine the setting and timing for EEG when evaluating children with SE. In addition, studies should determine if postictal and unexpected ictal EEG results yield prognosis and treatment implications. Studies are also needed regarding the occurrence of NCSE following the control of convulsive SE in children as well as any etiology and prognostic significance.

The Quality Standards Subcommittee of the **American Academy of Neurology, the Child Neurology Society, and the American Epilepsy Society** (Hirtz et al., 2000) published the *Practice Parameter: Evaluating a First Nonfebrile Seizure in Children*. The Practice Parameter recommends EEG testing as part of the neurodiagnostic evaluation of a child with a likely first unprovoked seizure.

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The **National Institute for Health and Clinical Excellence (NICE)** (2021) published the guideline *Epilepsies: The Diagnosis and Management of the Epilepsies in Adults and Children in Primary and Secondary Care*. Highlights of the guidance regarding the use of EEG is below:

- Children and adults requiring an EEG should have the test performed within 4 weeks it is requested.
- EEG is useful to determine the seizure type and epilepsy syndrome. EEG should be used only to confirm a diagnosis of epilepsy in adults when the clinical history suggests that the seizure is likely epileptic in origin. In children, EEG can be used to confirm a diagnosis of epilepsy. It should be performed following the second epileptic seizure; EEG can be considered after evaluation by a specialist after a first epileptic seizure.
- EEG is not indicated for the following:
  - In the case of probable syncope because of the possibility of a false-positive result.
  - To exclude an epilepsy diagnosis when presentation supports a diagnosis of a nonepileptic event.
  - In isolation to make a diagnosis of epilepsy.
- In those with a first unprovoked seizure, unequivocal epileptiform activity shown on EEG may be useful in the risk assessment of seizure recurrence.
- Repeated standard EEGs may be indicated when the epilepsy diagnosis or syndrome is unclear. Repeated EEGs are less likely to yield a benefit for those where a diagnosis is recognized.
- Sleep EEGs may be performed if a standard EEG is not useful to determine a diagnosis or classification.
- Long-term video or ambulatory EEG may be useful in the assessment of those presenting with diagnostic difficulties following clinical assessment and standard EEG.
- Photic stimulation and hyperventilation should be part of standard EEG assessment. The patient and their carer should be informed that such procedures may induce a seizure; they may refuse to have the EEG.

SUPPLEMENTAL INFORMATION

None.

CODING & BILLING INFORMATION

CPT Codes

CPT	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
95706	Electroencephalogram (EEG), without video, review of data, technical description by EEG technologist, 2-12 hours; with intermittent monitoring and maintenance
95707	Electroencephalogram (EEG), without video, review of data, technical description by EEG technologist, 2-12 hours; with continuous, real-time monitoring and maintenance
95708	Electroencephalogram (EEG), without video, review of data, technical description by EEG technologist, each increment of 12-26 hours; unmonitored
95709	Electroencephalogram (EEG), without video, review of data, technical description by EEG technologist, each increment of 12-26 hours; with intermittent monitoring and maintenance
95710	Electroencephalogram (EEG), without video, review of data, technical description by EEG technologist, each increment of 12-26 hours; with continuous, real-time monitoring and maintenance
95711	Electroencephalogram with video (VEEG), review of data, technical description by EEG technologist, 2-12 hours; unmonitored
95712	Electroencephalogram with video (VEEG), review of data, technical description by EEG technologist, 2-12 hours; with intermittent monitoring and maintenance
95713	Electroencephalogram with video (VEEG), review of data, technical description by EEG technologist, 2-12 hours; with continuous, real-time monitoring and maintenance
95714	Electroencephalogram with video (VEEG), review of data, technical description by EEG technologist, each increment of 12-26 hours; unmonitored

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95715	Electroencephalogram with video (VEEG), review of data, technical description by EEG technologist, each increment of 12-26 hours; with intermittent monitoring and maintenance
95716	Electroencephalogram with video (VEEG), review of data, technical description by EEG technologist, each increment of 12-26 hours; with continuous, real-time monitoring and maintenance
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
95718	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; with video (VEEG)
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
95720	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; with video (VEEG)
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
95722	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, with video (VEEG)
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
95724	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, with video (VEEG)
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
95726	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, with video (VEEG)

HCPCS Codes – N/A

CODING DISCLAIMER. Codes listed in this policy are for reference purposes only and may not be all-inclusive. Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement. Listing of a service or device code in this policy does not guarantee coverage. Coverage is determined by the benefit document. Molina adheres to Current Procedural Terminology (CPT®), a registered trademark of the American Medical Association (AMA). All CPT codes and descriptions are copyrighted by the AMA; this information is included for informational purposes only. Providers and facilities are expected to utilize industry standard coding practices for all submissions. When improper billing and coding is not followed, Molina has the right to reject/deny the claim and recover claim payment(s). Due to changing industry practices, Molina reserves the right to revise this policy as needed.

APPROVAL HISTORY

2/8/2023	Policy reviewed, no changes to criteria.
2/9/2022	Policy reviewed, added 8 indications from CMS LCD (2020) and Continuation of Therapy items (MCG, 2021); updated Summary of Medical Evidence section and references.
2/8/2021	Policy reviewed, criteria changed to allow video EEG as necessary in the home setting; updated guidelines and references.
9/16/2020	Policy reviewed, no changes to clinical criteria; updated references.
9/18/2019	Policy reviewed, no changes to clinical criteria; updated references.
7/10/2018	Policy reviewed, clinical criteria changed according to AMR review – under Ambulatory EEG criteria, removed item for outpatient sleep study with EEG monitoring; defined “non-epileptic events”.
3/8/2018	Policy reviewed, no changes to clinical criteria.

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6/22/2017	Policy reviewed, no changes to clinical criteria.
9/19/2016	Policy reviewed, changed video EEG criteria to require treatment with > 2 anticonvulsant medications (vs. requiring therapeutic levels of anticonvulsant medications) and changed outpatient video EEG length of stay to up to 72 hours (vs. 48 hours).
5/3/2016	Policy reviewed, added statement under Exclusions section regarding outpatient video EEG monitoring (NOT medically necessary in the home setting due to insufficient evidence).
3/1/2016	Policy reviewed, updated criteria for ambulatory and video EEG – routine EEG, history and physical exam, and outpatient sleep study with EEG monitoring are inconclusive or non-diagnostic (see criteria for ambulatory EEG criteria) and MRI for video EEG required in cases of a suspected non-epileptic seizure when history and lab results are either normal or non-diagnostic for etiology of symptoms or findings (MRI not required prior to epilepsy surgery or in a case of known seizure disorder).

REFERENCES

Government Agency

1. Centers for Medicare and Medicaid Services (CMS). Medicare coverage database. National coverage determination (NCD) – Ambulatory EEG monitoring (160.22). Available from CMS. Effective June 12, 1984. Accessed January 24, 2023.
2. Centers for Medicare and Medicaid Services (CMS). Medicare coverage database. Local coverage determination (LCD) – EEG ambulatory monitoring (L33399). Available from CMS. Effective October 1, 2015. Updated January 1, 2020. Accessed January 24, 2023.

National and Specialty Organizations

1. Hirtz D, Ashwal S, Berg A, Bettis D, Camfield C, Camfield P, et al. Practice parameter: Evaluating a first nonfebrile seizure in children – report of the Quality Standards Subcommittee of the American Academy of Neurology, the Child Neurology Society, and the American Epilepsy Society. Neurology. 2000 Sep 12;55(5):616-23. doi: 10.1212/wnl.55.5.616. PMID: 10980722.
2. National Institute for Health and Clinical Excellence (NICE). Epilepsies: Diagnosis and management [CG137]. Available at NICE. Published January 11, 2012. Updated May 12, 2021. Accessed January 24, 2023.
3. Riviello JJ, Ashwal S, Hirtz D, Glauser T, American Academy of Neurology Subcommittee, Practice Committee of the Child Neurology Society, et al. Practice parameter: Diagnostic assessment of the child with status epilepticus (an evidence-based review) – report of the Quality Standards Subcommittee of the American Academy of Neurology and the Practice Committee of the Child Neurology Society. Neurology. 2006 Nov 14;67(9):1542-50. doi: 10.1212/01.wnl.0000243197.05519.3d. PMID: 17101884.

Evidence Based Reviews and Publications

1. AMR Peer Review. Policy reviewed on December 15, 2021 by an Advanced Medical Reviews (AMR) practicing, board-certified physician in the areas of Neurology and Sleep Medicine.
2. Hayes. Home video electroencephalogram (VEEG) for diagnosis and management of epilepsy and seizures in adults. Available from Hayes. Published May 5, 2021. Archived May 5, 2022. Accessed January 24, 2023. Registration and login required.
3. MCG. EEG, continuous ambulatory monitoring (A-0137) 26th ed. Available from MCG. Updated August 31, 2022. Accessed January 24, 2023. Registration and login required.
4. Moeller J, Haider HA, Hirsch LJ. Video and ambulatory EEG monitoring in the diagnosis of seizures and epilepsy. Available from UpToDate. Updated February 23, 2021. Accessed January 24, 2023. Registration and login required.
5. Moeller J, Haider HA, Hirsch LJ. Electroencephalography (EEG) in the diagnosis of seizures and epilepsy. Available from UpToDate. Updated February 23, 2022. Accessed January 24, 2023. Registration and login required.

Peer Reviewed Publications

1. Carlson S, Kandler RH, Moorhouse D, Ponnusamy A, Mordekar SR, Alix JJP. Home video telemetry in children: A comparison to inpatient video telemetry. Seizure. 2018 Oct;61:209-213. doi: 10.1016/j.seizure.2018.08.028. PMID: 30218807.
2. Chen H, Koubeissi M, Aziz S, Slater JD, Al Bunni H, Khan MT. Seizure symptoms and ambulatory EEG findings: Incidence of epileptiform discharges. Epileptic Disord. 2020 Dec 1;22(6):752-758. doi: 10.1684/epd.2020.1220. PMID: 33331277.
3. Klein H, Pang T, Slater J, Ramsay RE. How much time is enough? Establishing an optimal duration of recording for ambulatory video EEG. Epilepsia Open. 2021 Sep;6(3):569-578. doi: 10.1002/epi4.12517. PMID: 34197695. PMCID: PMC8408602.
4. Nagyova R, Horsburgh G, Robertson A, Zuberi SM. The clinical utility of ambulatory EEG in childhood. Seizure 2019;64:45-49. doi: 10.1016/j.seizure.2018.11.020. PMID: 30554130.
5. Primiani CT, Rivera-Cruz A, Trudeau P, Sullivan L, MacIver S, Benbadis SR. The yield of ambulatory EEG-video monitoring. Clinical EEG and neuroscience. Clin EEG Neurosci. 2021 Jul;52(4):274-279. doi: 10.1177/1550059420949768. PMID: 32808544.
6. Syed TU, LaFrance WC, Jr., Loddenkemper T, et al. Outcome of ambulatory video-EEG monitoring in a ˜10,000 patient nationwide cohort. Seizure. 2019 Mar;66:104-111. doi: 10.1016/j.seizure.2019.01.018. PMID: 30910235.
7. Tatum WO, Rubboli G, Kaplan PW, Mirsatari SM, Radhakrishnan K, Gloss D, et al. Clinical utility of EEG in diagnosing and monitoring epilepsy in adults. Clinical Neurophysiology 2018;129(5):1056-1082. doi: 10.1016/j.clinph.2018.01.019. PMID: 29483017.

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