



INLAND EMPIRE HEALTH PLAN

IEHP UM Subcommittee Approved Authorization Guidelines
Video Electroencephalogram (EEG)

I. Policy:

- A. Video EEG is to be used after routine EEG and ambulatory EEG testing have been completed and the diagnosis remains inconclusive (Medicare, 2015). Non-epileptic seizures secondary to other diagnoses (e.g. syncope, transient ischemic attacks, narcolepsy, etc.) should have been ruled out prior to video EEG testing (Apollo, 2017). IEHP considers the use of standard EEG testing with video monitoring as medically necessary for **all** of the following:
 - i. To diagnose epilepsy in cases where routine EEG and ambulatory EEG have been inconclusive
 - ii. To differentiate epileptic seizures from psychogenic non-epileptic seizures (PNES)
 - iii. For patients being considered for surgical management of epileptic to seizures, localize the foci of epileptiform activity
 - iv. To establish the type and pattern of epilepsy in order to guide treatment, especially in patients whose seizures are refractory to conventional treatment despite compliance with prescribed medication regimens
- B. Newborns with hypoxic-ischemic encephalopathy treated with hypothermia
- C. IEHP considers all other conditions to be investigational and/or not medically necessary.
- D. The initial goal length of stay for Video EEG would be 23-hour observation. However, the event being monitored may not occur in this timeframe. Admission may be necessary for further monitoring or for pre-operative location of seizure foci prior to resective epilepsy surgery. Authorization for additional length of stay is provided on a per day basis. The period of study varies – usually not to exceed seven (7) days. Based on clinical review, up to 4 days of inpatient stay may be authorized without physician review. (Medicare 2015, Anthem 2017)

II. Background:

- A. An Electroencephalogram (EEG) is the recording of electrical activity along the scalp immediately adjacent to the superficial area of the cerebral cortex. An EEG measures voltage fluctuations resulting from ionic current flows within the neurons of the brain. A video EEG is typically done in an inpatient setting with continuous EEG monitoring concurrent with video and sound recording of the patient. The purpose of this method of study is to capture the recorded physical movements from a stated seizure at the same time as brain wave patterns (electrical activity). This helps to determine if the physical movements correlate with brain wave patterns that are consistent with a diagnosis of epilepsy. It also helps to identify the type of seizure and specific area of the brain that is involved, based on where the spikes are in the EEG and which parts of the body are

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activated by the epileptic event.

- B. Inpatient video EEG is considered the gold standard for definitively diagnosing psychogenic non-epileptic seizures (PNES) (LaFrance 2013). In addition, video EEG monitoring is considering a necessary step in determining candidacy for epilepsy surgery (Mansouri 2012).
- C. Benefits of inpatient video EEG include:
 - i. Ability to use provocative measures (such as flashing lights, sleep deprivation, or hyperventilation) in a controlled setting in order to induce epileptic activity and capture epileptiform activity on EEG recording (Mansouri 2012)
 - ii. More accurately localize the seizure focus (epileptogenic zone) in patients who are being considered for surgical management (Benbadis 2004)
 - iii. Correctly diagnose the seizure type and epilepsy syndrome, including differentiating between epileptic and non-epileptic seizure activity (Benbadis 2004, Kumar-Pelayo 2013)

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