Local Coverage Determination (LCD): Special EEG Tests (L34521)

Contractor Information

<table>
<thead>
<tr>
<th>Contractor Name</th>
<th>Contract Type</th>
<th>Contract Number</th>
<th>Jurisdiction</th>
<th>State(s)</th>
</tr>
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<tbody>
<tr>
<td>First Coast Service Options, Inc.</td>
<td>A and B MAC</td>
<td>09101 - MAC A</td>
<td>J - N</td>
<td>Florida</td>
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<td>Puerto Rico Virgin Islands</td>
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<td>A and B MAC</td>
<td>09302 - MAC B</td>
<td>J - N</td>
<td>Virgin Islands</td>
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LCD Information

Document Information

Original LCD ID
L34521

Original ICD-9 LCD ID
L33699

LCD Title
Special EEG Tests

Proposed LCD in Comment Period
N/A

Source Proposed LCD
N/A

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CMS National Coverage Policy

Language quoted from CMS National Coverage Determination (NCDs) and coverage provisions in interpretive manuals are italicized throughout the Local Coverage Determination (LCD). NCDs and coverage provisions in interpretive manuals are not subject to the LCD Review Process (42 CFR 405.860[b] and 42 CFR 426 [Subpart D]). In addition, an administrative law judge may not review an NCD. See §1869(f)(1)(A)(i) of the Social Security Act.

Unless otherwise specified, italicized text represents quotation from one or more of the following CMS sources:

CMS Online Manual System, Publication 100-03, Medicare National Coverage Determinations Manual, Chapter 1, Part 2, Section 160.22.

CMS Online Manual System, Publication 100-08, Medicare Program Integrity Manual, Chapter 13, Section 13.5.1.


Title XVIII of the Social Security Act, §1833(e) Incomplete Claim.


Title XVIII of the Social Security Act, §1862(a)(7) Screening (Routine Physical Checkups).

Coverage Guidance

Coverage Indications, Limitations, and/or Medical Necessity

An electroencephalogram (EEG) is a diagnostic test that measures the electrical activity of the brain (brainwaves) using highly sensitive recording equipment attached to the scalp by fine electrodes. It is used to diagnose neurological conditions.

EEGs can be recorded by 24-hour ambulatory cassette. Twenty-four hour ambulatory cassette-recorded EEGs offer the ability to record the EEG on a long-term, outpatient basis. Ambulatory or 24-hour electroencephalographic (EEG) monitoring is accomplished by a cassette recorder that continuously records brain wave patterns during 24 hours of a patient's routine daily activities and sleep. The monitoring equipment consists of an electrode set, preamplifiers, and a cassette recorder. The electrodes attach to the scalp, and their leads are connected to a recorder, usually worn on a belt.

Ambulatory EEG monitoring is a diagnostic procedure for patients in whom a seizure diathesis is suspected but not defined by history, physical or resting EEG. Ambulatory EEG can be utilized in the differential diagnosis of syncope and transient ischemic attacks if not elucidated by conventional studies. Ambulatory EEG should always be preceded by a resting EEG. (NCD 160.22)

Ambulatory monitoring is not necessary to evaluate most seizures which are usually readily diagnosed by routine EEG studies, patient examination and history. Monitoring for identification and lateralization of cerebral seizure foci by ambulatory or continuous 24-hour Electroencephalogram (EEG) may be necessary in
patients where epilepsy is suspected but not confirmed by clinical manifestations or resting EEG. Ambulatory EEG (95950 or 95953) should always be preceded by an awake and sleep study (95816, 95819, 95822 or 95827). The combination of electroencephalographic and video monitoring (95951) of a patient is useful and medically necessary in the initial diagnosis of epilepsy, particularly where previous attempts to define or characterize the seizure activity have proven inconclusive. Beyond the initial diagnosis of epilepsy the combination is useful in uncharacterized events, confirmation and/or differentiation between epileptic and non-epileptic.

Ambulatory EEG may also be medically necessary in the differentiation of psychogenic seizures from epilepsy and in the localization of a seizure focus prior to a surgical intervention for intractable epilepsy. It is anticipated that clinical examination and routine electroencephalographic studies be utilized before employing electroencephalographic and video monitoring, and that this study be essential to the establishment of an appropriate treatment regimen. Additionally, the study may be used in pediatric beneficiaries where history and clinical descriptions of seizure activity are difficult to obtain. It is anticipated that many of these outpatient studies will not provide the diagnosis within the first 24 hours, but expects that 72 hours of monitoring will be diagnostic in most circumstances. Occasionally patients may require more extensive monitoring, and medical necessity must be documented for review in these circumstances. This 72-hour limitation does not apply to the inpatient setting where patients are frequently withdrawn from their anti-epileptic regimens, and where precise presurgical localization of epileptic foci is often conducted.

It is anticipated that once the diagnosis has been established, this study will not be repeated, nor will it be used in the monitoring of a therapeutic regimen. Again, this expectation will not be applied to patients readmitted for inpatient care of their seizure disorder.

Additionally, ambulatory EEG monitoring may facilitate the differential diagnosis between seizures and syncopal attacks, sleep apnea, cardiac arrhythmias or hysterical episodes. The test may also allow the investigator to identify the epileptic nature of some episodic periods of disturbed consciousness, mild confusion, or peculiar behavior, where resting EEG is not conclusive. 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.

Digital analysis of an electroencephalogram (EEG) is used to diagnose neurological conditions when routine EEG outcomes and neurological imaging are inconclusive to confirm diagnostic symptoms. Digital analysis of an electroencephalogram (EEG) requires the analysis of an EEG using quantitative analytical techniques such as data selection, quantitative software processing, and dipole source analysis.

**Training and qualifications:**

The CMS Manual System, Pub. 100-8, Program Integrity Manual, Chapter 13, Section 5.1 outlines that "reasonable and necessary" services are "ordered and/or furnished by qualified personnel." Services will be considered medically reasonable and necessary only if performed by appropriately trained providers.

A qualified physician for this service/procedure is defined as follows: A) Physician properly enrolled in Medicare.

B) Training and expertise must have been acquired within the framework of an accredited residency and/or fellowship program in the applicable specialty/subspecialty in the United States or must reflect equivalent education, training, and expertise endorsed by an academic institution in the United States and/or by the applicable specialty/subspecialty society in the United States.

The accuracy of non-invasive diagnostic studies depends on the knowledge, skill and experience of the technologist and the physician performing the supervision and/or interpretation of the study. Consequently, the technologist and the physician must maintain proof of training and experience. All non-invasive diagnostic studies must be: (1) performed by a qualified physician, or (2) performed under the general supervision of a qualified physician in the office setting. For EEG studies performed in a IDTF setting, the supervising physician must be a Board Certified (ABMS) Neurologist, and the technician qualification must include credentialing by ABRET and R. EEG T. (refer to LCD titled Independent Diagnostic Testing Facility (IDTF) coding guidelines).

**Indications for Coverage for CPT Codes 95950, 95951, 95953, and 95956:**

- Inconclusive EEGs;
- Experiencing episodic events where you suspect epilepsy but the history, examination, and routine EEG do not resolve the diagnosis uncertainties;
- Patients with confirmed epilepsy who are experiencing suspected non-epileptic events or for
classification of seizure type (only ictal recordings can reliably be used to classify seizure type [or types] which is important in selecting appropriate anti-epileptic drug therapy);

- Differentiating between neurological and cardiac related problems;
- Adjusting anti-epileptic medication levels;
- Localizing seizure focus for enhanced patient management;
- Identifying and medicating absence seizures;
- For suspected seizures of sleep disturbances;
- Seizures which are precipitated by naturally occurring cyclic events or environmental stimuli which are not reproducible in the hospital or clinic setting.

Limitations of Coverage for CPT Codes 95950, 95951, 95953, and 95956:

The following indications are not covered as they are not considered medically reasonable and necessary:

- Study of neonates or unattended, non-cooperative patients;
- Localization of seizure focus/foci when the seizure symptoms and/or other EEG recordings indicate the presence of bilateral foci or rapid generalization; and
- Final evaluation of patients being considered as candidates for resective surgery.

Electroencephalographic (EEG) video monitoring is medically necessary when the diagnosis cannot be made by neurological examination, standard EEG studies, and ambulatory EEG monitoring, and non-neurological causes of symptoms (e.g., syncope, cardiac arrhythmias) have been ruled out.

Video recording with EEG is usually an inpatient procedure. Inpatient setting is required when stopping medications for pre-surgical planning.

Indications for Coverage for CPT Code 95957:

Digital analysis of an electroencephalogram (EEG) meets the definition of medical necessity when performed as an adjunct to traditional EEG for the following conditions:

- Epilepsy, when ANY of the following are met:
  - The long-term EEG is inconclusive and additional testing for possible epileptic spikes or seizures is needed;
  - For topographic voltage and dipole analysis in presurgical candidates with intractable epilepsy.

- Cerebral vascular disease:
  - When routine EEG outcomes and neurological imaging are inconclusive to confirm diagnostic symptoms.

Limitations of Coverage for CPT Code 95957:

The following indications are not covered as they are not considered medically reasonable and necessary:

- Anxiety
- Attention deficit disorder
- Attention-deficit hyperactivity disorder
- Autism spectrum disorders
- Depression
- Learning disorders
- Schizophrenia
- Substance abuse.

It is not routinely appropriate to perform and report digital analysis of EEG (95957) when there are no spikes to analyze (e.g., when the video –EEG monitoring is normal). If 95957 is reported for reasons other than three-dimensional spike analysis, the patient’s record must clearly reflect why the digital analysis was needed.

Code 95957 is reported when substantial additional digital analysis was medically necessary and was performed, such as 3D dipole localization.

Digital analysis would be more commonly used at specialty centers, e.g. epilepsy surgery programs. Note that the codes for "monitoring for identification and lateralization of cerebral seizure focus" already include
epileptic spike analysis.

Notice: This local coverage determination (LCD) imposes diagnosis limitations that support diagnosis to procedure code automated denials. However, services performed for any given diagnosis must meet all of the indications and limitations stated in this LCD, the general requirements for medical necessity as stated in the Centers for Medicare & Medicaid Services (CMS) payment policy manuals, any and all existing CMS national coverage determinations, and all Medicare payment rules.

As published in the CMS Online Manual System, Publication 100-08, Medicare Program Integrity Manual, Chapter 13, Section 13.5.1: In order to be covered under Medicare, a service shall be reasonable and necessary. When appropriate, contractors shall describe the circumstances under which the proposed LCD for the service is considered reasonable and necessary under 1862(a)(1)(A). Contractors shall consider a service to be reasonable and necessary if the contractor determines that the service is:

- Safe and effective;
- Not experimental or investigational (exception: routine costs of qualifying clinical trial services with dates of service on or after September 19, 2000 which meet the requirements of the Clinical Trials NCD are considered reasonable and necessary); and
- Appropriate, including the duration and frequency that is considered appropriate for the service, in terms of whether it is:
  - Furnished in accordance with accepted standards of medical practice for the diagnosis or treatment of the patient’s condition or to improve the function of a malformed body member;
  - Furnished in a setting appropriate to the patient's medical needs and condition;
  - Ordered and furnished by qualified personnel;
  - One that meets, but does not exceed, the patient's medical need; and
  - At least as beneficial as an existing and available medically appropriate alternative.

Notice: Limitation of liability and refund requirements apply when denials are anticipated, whether based on medical necessity or other coverage reasons. The provider/supplier must notify the beneficiary in writing, prior to rendering the service, if the provider/supplier is aware that the test, item or procedure may not be covered. The limitation of liability and refund requirements do not apply when the test, item or procedure is statutorily excluded, has no benefit category or is rendered for screening purposes.

Coding Information

Bill Type Codes:

Contractors may specify Bill Types to help providers identify those Bill Types typically used to report this service. Absence of a Bill Type does not guarantee that the policy does not apply to that Bill Type. Complete absence of all Bill Types indicates that coverage is not influenced by Bill Type and the policy should be assumed to apply equally to all claims.

012x Hospital Inpatient (Medicare Part B only)
013x Hospital Outpatient
085x Critical Access Hospital

Revenue Codes:

Contractors may specify Revenue Codes to help providers identify those Revenue Codes typically used to report this service. In most instances Revenue Codes are purely advisory. Unless specified in the policy, services reported under other Revenue Codes are equally subject to this coverage determination. Complete absence of all Revenue Codes indicates that coverage is not influenced by Revenue Code and the policy should be assumed to apply equally to all Revenue Codes.

0740 EEG (Electroencephalogram) - General Classification

CPT/HCPCS Codes

Group 1 Paragraph:
**Group 1 Codes:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>95950</td>
<td>MONITORING FOR IDENTIFICATION AND LATERALIZATION OF CEREBRAL SEIZURE FOCUS,</td>
</tr>
<tr>
<td></td>
<td>ELECTROENCEPHALOGRAPHIC (EEG, 8 CHANNEL EEG) RECORDING AND INTERPRETATION,</td>
</tr>
<tr>
<td></td>
<td>EACH 24 HOURS</td>
</tr>
<tr>
<td>95951</td>
<td>MONITORING FOR LOCALIZATION OF CEREBRAL SEIZURE FOCUS BY CABLE OR RADIO, 16</td>
</tr>
<tr>
<td></td>
<td>OR MORE CHANNEL TELEMETRY, COMBINED ELECTROENCEPHALOGRAPHIC (EEG) AND VIDEO</td>
</tr>
<tr>
<td></td>
<td>RECORDING AND INTERPRETATION (EG, FOR PRESURGICAL LOCALIZATION), EACH 24 HOURS</td>
</tr>
<tr>
<td>95953</td>
<td>MONITORING FOR LOCALIZATION OF CEREBRAL SEIZURE FOCUS BY COMPUTERIZED</td>
</tr>
<tr>
<td></td>
<td>PORTABLE 16 OR MORE CHANNEL EEG, ELECTROENCEPHALOGRAPHIC (EEG) RECORDING</td>
</tr>
<tr>
<td></td>
<td>AND INTERPRETATION, EACH 24 HOURS, UNATTENDED</td>
</tr>
<tr>
<td>95956</td>
<td>MONITORING FOR LOCALIZATION OF CEREBRAL SEIZURE FOCUS BY CABLE OR RADIO, 16</td>
</tr>
<tr>
<td></td>
<td>OR MORE CHANNEL TELEMETRY, ELECTROENCEPHALOGRAPHIC (EEG) RECORDING AND</td>
</tr>
<tr>
<td></td>
<td>INTERPRETATION, EACH 24 HOURS, ATTENDED BY A TECHNOLOGIST OR NURSE</td>
</tr>
<tr>
<td>95957</td>
<td>DIGITAL ANALYSIS OF ELECTROENCEPHALOGRAPH (EEG) (EEG, FOR EPILEPTIC SPIKE ANALYSIS)</td>
</tr>
</tbody>
</table>

**ICD-10 Codes that Support Medical Necessity**

**Group 1 Paragraph: Note:** The CPT codes included in this LCD will be subjected to “procedure to diagnosis” editing. The following list includes only those diagnoses for which the identified CPT procedures are covered. If a covered diagnosis is not on the claim, the edit will automatically deny the service as not medically necessary.

The following list of diagnoses has been established as limited coverage for CPT codes 95950, 95951, 95953, 95956 and 95957:

**Group 1 Codes:**

<table>
<thead>
<tr>
<th>ICD-10 Codes:</th>
<th>Description</th>
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<tbody>
<tr>
<td>F44.4 - F44.7</td>
<td>Conversion disorder with motor symptom or deficit - Conversion disorder with mixed symptom presentation</td>
</tr>
<tr>
<td>G40.001 - G40.319</td>
<td>Localization-related (focal) (partial) idiopathic epilepsy and epileptic syndromes with seizures of localized onset, not intractable, with status epilepticus - Generalized idiopathic epilepsy and epileptic syndromes, intractable, without</td>
</tr>
<tr>
<td>G40.A01 - G40.B19</td>
<td>Absence epileptic syndrome, not intractable, with status epilepticus - Juvenile myoclonic epilepsy, intractable, without status epilepticus</td>
</tr>
<tr>
<td>G40.501 - G40.919</td>
<td>Epileptic seizures related to external causes, not intractable, with status epilepticus - Epilepsy, unspecified, intractable, without status epilepticus</td>
</tr>
<tr>
<td>I45.9</td>
<td>Conduction disorder, unspecified</td>
</tr>
<tr>
<td>I67.9</td>
<td>Cerebrovascular disease, unspecified</td>
</tr>
<tr>
<td>R55</td>
<td>Syncope and collapse</td>
</tr>
<tr>
<td>R56.1</td>
<td>Post traumatic seizures</td>
</tr>
<tr>
<td>R56.9</td>
<td>Unspecified convulsions</td>
</tr>
</tbody>
</table>

**ICD-10 Codes that DO NOT Support Medical Necessity**

**Additional ICD-10 Information**

**General Information**

**Associated Information**

**Documentation**

**Requirements**
The patient's medical record must contain documentation that supports medical necessity for the service(s) as indicated in this LCD under the section for “Indications and Limitations of Coverage and/or Medical Necessity.” This documentation includes, but is not limited to, relevant medical history, physical examination, and results of pertinent diagnostic tests or procedures.

Documentation supporting the medical necessity of the service(s), such as ICD-10-CM diagnosis code(s), must be submitted with each claim. Claims submitted without such evidence will be denied as being not medically necessary.

Documentation supporting medical necessity should be legible, maintained in the patient’s medical record, and must be made available upon request.

Monitoring beyond 72 hours must be supported by written documentation for each additional 24 hours of monitoring and be made available upon request.

When performing digital analysis in absence of spikes on EEG, the patient’s record must clearly reflect why the digital analysis was needed and address how it assisted with the reading of the data. Digital analysis requires that the neurologist or technician conduct the analysis using quantitative analytical techniques such as data selection, quantitative software processing, and dipole source analysis. Evidence of such analysis should be evident in the medical record (typically, three-dimensional spike localization).

Per CFR Title 42 §410.32, all diagnostic tests must be ordered by the physician/nonphysician practitioner who is treating the patient, that is, the physician/nonphysician practitioner who furnishes a consultation or treats a patient for a specific medical problem and who uses the results in the management of the patient's specific medical problem. Tests not ordered by the physician/nonphysician practitioner who is treating the patient are not reasonable and necessary.

**Utilization Guidelines**

It would not be expected to see more than three services (three of one or three of any combination of services) billed in most circumstances within a one-year period. It is anticipated that once the diagnosis has been established, this study will not be repeated, nor will it be used in the monitoring of a therapeutic regimen (this expectation will not be applied to patients readmitted for inpatient care of their seizure disorder or characterization of seizure changes in any setting).

The following items represent the number of 24-hour segments of recordings for testing:

- For diagnostic testing: 2-3 days is usually sufficient when looking for seizures or interictal activity.
- For pre-surgical evaluation: 7-10 days to capture at least 3 or 4 seizures may be required in order to be sure of seizure onset location reliability. For follow-up, 2-3 days is usually sufficient.

**Sources of Information and Basis for Decision**


Revision History Information

N/A

Associated Documents

Attachments
N/A

Related Local Coverage Documents
N/A

Related National Coverage Documents
N/A

Keywords

N/A