

Clinical Policy: Digital EEG Spike Analysis

Reference Number: CP.MP.105

Date of Last Revision: 11/2025

[Coding Implications](#)

[Revision Log](#)

See [Important Reminder](#) at the end of this policy for important regulatory and legal information.

Description

Electroencephalography (EEG) is a significant component of epilepsy diagnosis, along with a thorough medical history and neurological workup.¹ Most EEGs today are performed on digital machines, which record data and automatically detect spikes that may indicate seizures.² For the purpose of this policy, digital EEG spike analysis, also known as 3D dipole localization or dipole source imaging, refers to additional analysis of digitally recorded EEG spikes by a technician and a physician.

Policy/Criteria

- I. It is the policy of health plans affiliated with Centene Corporation[®] that digital electroencephalography (EEG) spike analysis (CPT 95957), including topographic voltage and/or dipole analysis, is **medically necessary** for the pre-surgical evaluation of members/enrollees with intractable epilepsy, in conjunction with video EEG long-term monitoring.
- II. It is the policy of health plans affiliated with Centene Corporation that digital EEG spike analysis (CPT 95957) is **not medically necessary** for any other indication.

Background

According to the American Clinical Neurophysiology Society's (ACNS) Guidelines for Long Term Monitoring of Epilepsy, digital electroencephalography (EEG) is the industry standard. Ambulatory EEG, video EEG, and routine EEG all use digital technology and usually incorporate automatic spike detection.² However, these types of EEG analyses are not the same as digital EEG spike (3D dipole localization) analysis. Digital analysis of an EEG requires the analysis of an EEG using quantitative analytical techniques such as data selection, quantitative software processing, and dipole source analysis. Digital EEG spike analysis assessment and billing should not be used for cases when the EEG was only recorded on digital equipment. Digital EEG spike analysis assessment is reserved specifically for times when substantial additional digital analysis was medically necessary and was performed, such as 3D dipole localization, and is most commonly used at specialty centers.⁸

It is important to note that the ACNS specifically states that ambulatory EEG is not appropriate for detailed characterization of EEG features as is required in presurgical evaluation but may serve as useful triage function.² 3D spike dipole source analysis, or digital EEG spike analysis, has been shown to be concordant with other modes of presurgical evaluation of epilepsy, including a thorough neurological workup with video EEG, magnetic resonance imaging (MRI), and multiple other imaging and neuropsychological tests; electrocorticography; and magnetoencephalography.⁴ Studies have demonstrated "that dipole source models can be successfully employed to detect the epileptogenic foci of interictal epileptiform

discharges.”^{4(p320)} Therefore, digital EEG spike analysis is recommended for the presurgical evaluation of intractable epilepsy patients.⁴

Coding Implications

This clinical policy references Current Procedural Terminology (CPT®). CPT® is a registered trademark of the American Medical Association. All CPT codes and descriptions are copyrighted 2024, American Medical Association. All rights reserved. CPT codes and CPT descriptions are from the current manuals and those included herein are not intended to be all-inclusive and are included for informational purposes only. Inclusion or exclusion of any codes in this policy does not guarantee coverage. Providers should reference the most up-to-date sources of professional coding guidance prior to the submission of claims for reimbursement of covered services.

Table 1: Procedure codes that support medical necessity criteria when performed in conjunction with any of the following, and with a diagnosis in Table 2: 95718, 95720, 95722, 95724, 95726

CPT®* Codes	Description
95957	Digital analysis of electroencephalogram (EEG) (eg, for epileptic spike analysis)

Table 2: ICD-10-CM diagnosis codes that support medical necessity criteria

ICD-10-CM Code	Description
G40.011	Localization-related (focal) (partial) idiopathic epilepsy and epileptic syndromes with seizures of localized onset, intractable, with status epilepticus
G40.019	Localization-related (focal) (partial) idiopathic epilepsy and epileptic syndromes with seizures of localized onset, intractable, without status epilepticus
G40.111	Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with simple partial seizures, intractable, with status epilepticus
G40.119	Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with simple partial seizures, intractable, without status epilepticus
G40.211	Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures, intractable, with status epilepticus
G40.219	Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures, intractable, without status epilepticus
G40.311	Generalized idiopathic epilepsy and epileptic syndromes, intractable, with status epilepticus
G40.319	Generalized idiopathic epilepsy and epileptic syndromes, intractable, without status epilepticus
G40.411	Other generalized epilepsy and epileptic syndromes, intractable, with status epilepticus
G40.419	Other generalized epilepsy and epileptic syndromes, intractable. without status epilepticus

CLINICAL POLICY
Digital EEG Spike Analysis

ICD-10-CM Code	Description
G40.803	Other epilepsy, intractable, with status epilepticus
G40.804	Other epilepsy, intractable, without status epilepticus
G40.813	Lennox-Gastaut syndrome, intractable, with status epilepticus
G40.814	Lennox-Gastaut syndrome, intractable, without status epilepticus
G40.823	Epileptic spasms, intractable, with status epilepticus
G40.824	Epileptic spasms, intractable, without status epilepticus
G40.843	KCNQ2-related epilepsy, intractable, with status epilepticus
G40.844	KCNQ2-related epilepsy, intractable, without status epilepticus
G40.911	Epilepsy, unspecified, intractable, with status epilepticus
G40.919	Epilepsy, unspecified, intractable, without status epilepticus
G40.A11	Absence epileptic syndrome, intractable, with status epilepticus
G40.A19	Absence epileptic syndrome, intractable, without status epilepticus
G40.B11	Juvenile myoclonic epilepsy, intractable, with status epilepticus
G40.B19	Juvenile myoclonic epilepsy, intractable without status epilepticus
G40.C11	Lafora progressive myoclonus epilepsy, intractable, with status epilepticus
G40.C19	Lafora progressive myoclonus epilepsy, intractable, without status epilepticus

Reviews, Revisions, and Approvals	Date	Approval Date
Policy created.	04/18	09/18
References reviewed and updated.	02/19	03/19
References reviewed and updated. Updated description. Removed Quantitative EEG from criteria I and reworded the statement. Removed CPT codes 95830, 95950, 95951, 95953, 95954, 95955, 95956 and 95958. Added CPT: 95718, 95720, 95722, 95724, 95726 (new codes for 2020.)		
Replaced “members” with “members/enrollees” in all instances. References reviewed and updated. Added Section I “Individual consideration on a case by case basis when the long-term EEG is inconclusive and additional testing for possible epileptic spikes or seizures is needed.”	6/3/2021	
Changed “review date” in the header to “date of last revision” and “date” in the revision log header to “revision date.” References reviewed, updated and reformatted. Reviewed by specialist.	07/26/2022	
Annual review. Minor rewording in Criteria I. Background updated with no impact on criteria. References reviewed and updated. Reviewed by external specialist.	11/2023	01/2024
Annual Review complete. Added new for 2024 ICD-10 codes G40.C11 and G40.C19 to ICD-10 coding table. In the coding description for 95957, added a note that was previously removed in error stating that it is performed in conjunction with any of the	06/2024	09/2024

Reviews, Revisions, and Approvals	Date	Approval Date
CPT codes below it. References reviewed and updated. Reviewed by external specialist.		
Annual review. Aligned with Corporate review schedule; Background updated with no impact on criteria. References reviewed and updated. Reviewed by external specialist.	10/2024	01/2025
Aligned for CHIP Readiness	09/2025	
Annual review. Noted in criteria statements I and II that code in question is 95957. Numbered coding tables. Removed video EEG codes from Table 1 and added them to the label for Table 1, specifying that 95957 is medically necessary when billed in conjunction with a video EEG code and a diagnosis code in table 2. Reworded label for Table 2. Background updated with no clinical significance. Coding reviewed and updated. Added the following codes to Table 2: G40.843, and G40.844. References reviewed and updated. Reviewed by an external specialist.	11/2025	5/7/2026

References

1. Moeller J, Haider HA, Hirsch LJ. Electroencephalography (EEG) in the diagnosis of seizures and epilepsy. UpToDate. www.uptodate.com. Published July 22, 2024. Updated April 29, 2025. Accessed August 5, 2025.
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4. Bencizky S, Rosenzweig I, Scherq M, et al. Ictal EEG source imaging in presurgical evaluation: High agreement between analysis methods. *Seizure*. 2016;43:1 to 5. doi: 10.1016/j.seizure.2016.09.017
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8. Local coverage determination: special EEG tests (L34521). Centers for Medicare and Medicaid Services Web site. <http://www.cms.hhs.gov/mcd/search.asp>. Published October 1, 2015 (revised January 8, 2019). Accessed August 6, 2025.

Important reminder

CLINICAL POLICY

Digital EEG Spike Analysis

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. The Health Plan makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved. “Health Plan” means a health plan that has adopted this clinical policy and that is operated or administered, in whole or in part, by Centene Management Company, LLC, or any of such health plan’s affiliates, as applicable.

The purpose of this clinical policy is to provide a guide to medical necessity, which is a component of the guidelines used to assist in making coverage decisions and administering benefits. It does not constitute a contract or guarantee regarding payment or results. Coverage decisions and the administration of benefits are subject to all terms, conditions, exclusions and limitations of the coverage documents (e.g., evidence of coverage, certificate of coverage, policy, contract of insurance, etc.), as well as to state and federal requirements and applicable Health Plan-level administrative policies and procedures.

This clinical policy is effective as of the date determined by the Health Plan. The date of posting may not be the effective date of this clinical policy. This clinical policy may be subject to applicable legal and regulatory requirements relating to provider notification. If there is a discrepancy between the effective date of this clinical policy and any applicable legal or regulatory requirement, the requirements of law and regulation shall govern. The Health Plan retains the right to change, amend or withdraw this clinical policy, and additional clinical policies may be developed and adopted as needed, at any time.

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CLINICAL POLICY

Digital EEG Spike Analysis

Note: For Medicaid members/enrollees, when state Medicaid coverage provisions conflict with the coverage provisions in this clinical policy, state Medicaid coverage provisions take precedence. Please refer to the state Medicaid manual for any coverage provisions pertaining to this clinical policy.

Note: For Medicare members/enrollees, to ensure consistency with the Medicare National Coverage Determinations (NCD) and Local Coverage Determinations (LCD), all applicable NCDs, LCDs, and Medicare Coverage Articles should be reviewed prior to applying the criteria set forth in this clinical policy. Refer to the CMS website at <http://www.cms.gov> for additional information.

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