

Local Coverage Determination (LCD): Visual Electrophysiology Testing (L36831)

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Contractor Information

| CONTRACTOR NAME | CONTRACT TYPE | CONTRACT NUMBER | JURISDICTION | STATE(S) |
|------------------------------------|------------------------|-----------------|--------------|-------------------------|
| National Government Services, Inc. | MAC - Part A | 06101 - MAC A | J - 06 | Illinois |
| National Government Services, Inc. | MAC - Part B | 06102 - MAC B | J - 06 | Illinois |
| National Government Services, Inc. | MAC - Part A | 06201 - MAC A | J - 06 | Minnesota |
| National Government Services, Inc. | MAC - Part B | 06202 - MAC B | J - 06 | Minnesota |
| National Government Services, Inc. | MAC - Part A | 06301 - MAC A | J - 06 | Wisconsin |
| National Government Services, Inc. | MAC - Part B | 06302 - MAC B | J - 06 | Wisconsin |
| National Government Services, Inc. | A and B and HHH MAC | 13101 - MAC A | J - K | Connecticut |
| National Government Services, Inc. | A and B and HHH MAC | 13102 - MAC B | J - K | Connecticut |
| National Government Services, Inc. | A and B and HHH MAC | 13201 - MAC A | J - K | New York - Entire State |
| National Government Services, Inc. | A and B and HHH MAC | 13202 - MAC B | J - K | New York - Downstate |
| National Government Services, Inc. | A and B and HHH MAC | 13282 - MAC B | J - K | New York - Upstate |
| National Government Services, Inc. | A and B and HHH MAC | 13292 - MAC B | J - K | New York - Queens |
| National Government Services, Inc. | A and B and HHH MAC | 14111 - MAC A | J - K | Maine |
| National Government Services, Inc. | A and B and HHH MAC | 14112 - MAC B | J - K | Maine |
| National Government Services, Inc. | A and B and HHH MAC | 14211 - MAC A | J - K | Massachusetts |
| National Government Services, Inc. | A and B and HHH MAC | 14212 - MAC B | J - K | Massachusetts |

| CONTRACTOR NAME | CONTRACT TYPE | CONTRACT NUMBER | JURISDICTION | STATE(S) |
|------------------------------------|------------------------|-----------------|--------------|---------------|
| Inc. | MAC | | | |
| National Government Services, Inc. | A and B and HHH MAC | 14311 - MAC A | J - K | New Hampshire |
| National Government Services, Inc. | A and B and HHH MAC | 14312 - MAC B | J - K | New Hampshire |
| National Government Services, Inc. | A and B and HHH MAC | 14411 - MAC A | J - K | Rhode Island |
| National Government Services, Inc. | A and B and HHH MAC | 14412 - MAC B | J - K | Rhode Island |
| National Government Services, Inc. | A and B and HHH MAC | 14511 - MAC A | J - K | Vermont |
| National Government Services, Inc. | A and B and HHH MAC | 14512 - MAC B | J - K | Vermont |

LCD Information

Document Information

LCD ID

L36831

Original Effective Date

For services performed on or after 03/16/2017

LCD Title

Visual Electrophysiology Testing

Revision Effective Date

For services performed on or after 10/17/2019

Proposed LCD in Comment Period

N/A

Revision Ending Date

N/A

Source Proposed LCD

DL36831

Retirement Date

N/A

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CMS National Coverage Policy

Language quoted from Centers for Medicare and Medicaid Services (CMS), National Coverage Determinations (NCDs) and coverage provisions in interpretive manuals is italicized throughout the policy. NCDs and coverage provisions in interpretive manuals are not subject to the Local Coverage Determination (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:

Title XVIII of the Social Security Act (SSA):

Section 1862(a)(1)(A) excludes expenses incurred for items or services which are not reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member.

Section 1833(e) prohibits Medicare payment for any claim which lacks the necessary information to process the claim.

Code of Federal Regulations:

42 CFR Section 410.32 indicates that diagnostic tests may only be ordered by the treating physician (or other treating practitioner acting within the scope of his or her license and Medicare requirements who furnishes a consultation or treats a beneficiary for a specific medical problem and who uses the results in the management of the beneficiary's specific medical problem. Tests not ordered by the physician (or other qualified non-physician provider) who is treating the beneficiary are not reasonable and necessary (see Sec. 411.15(k)(1) of this chapter).

Coverage Guidance

Coverage Indications, Limitations, and/or Medical Necessity

Abstract

VEP/VER - The visual evoked response (VER) and visual evoked potential (VEP) evaluate the visual nervous system pathways from the eyes to the occipital cortex of the brain. By measuring the function of the entire visual pathway, it helps to separate eye disease from central nervous system defects. VER/VEP involves stimulation of the retina and optic nerve with a shifting checkerboard pattern or flash method. This external visual stimulus causes measurable electrical activity in neurons within the visual pathways. The VER is recorded by electroencephalography electrodes located over the occiput producing a characteristic waveform. Abnormalities may be seen in a variety of pathologic processes involving the optic nerve and its radiations. Pattern-shift VER is a highly sensitive means of documenting lesions in the visual system.

ERG - The full field electroretinogram (ERG) is used to detect loss of retinal function or distinguish between retinal and optic nerve lesions. ERG measures the electrical activity generated by neural and non-neuronal cells in the retina in response to a light stimulus. ERGs are usually obtained using electrodes embedded in a corneal contact lens, or a thin wire inside the lower eyelid, which measure a summation of retinal electrical activity at the corneal surface. The International Society for Clinical Electrophysiology of Vision (ISCEV) introduced minimum standards for the ERG in 1989. The ERG helps to distinguish retinal degeneration and dystrophies. Multi-focal electroretinography (mfERG) is a higher resolution form of ERG, enabling assessment of ERG activity in small areas of the retina. Pattern ERG (PERG) to assess retinal ganglion cell (RGC) function in glaucoma is being investigated.

Indications of Coverage

Visual Evoked Potentials or Responses (VEPs/VERs)

1. Confirm diagnosis of multiple sclerosis when clinical criteria are inconclusive
2. Evaluate diseases of the optic nerve, such as:
 - a. Optic neuritis
 - b. Ischemic optic neuropathy
 - c. Toxic amblyopias
 - d. Nutritional amblyopias
 - e. Neoplasms compressing the anterior visual pathways
 - f. Optic nerve injury or atrophy
 - g. Malingering/functional vision loss (to rule out)
3. Monitor the visual system during optic nerve (or related) surgery (monitoring of short-latency evoked potential studies).

Electroretinography (ERG)

1. To diagnose loss of retinal function or distinguish between retinal lesions and optic nerve lesions:
 - a. Toxic retinopathies, including those caused by intraocular metallic foreign bodies and Vigabatrin
 - b. Diabetic retinopathy
 - c. Ischemic retinopathies including central retinal vein occlusion (CRVO), branch vein occlusion (BVO), and sickle cell retinopathy
 - d. Autoimmune retinopathies such as Cancer Associated Retinopathy (CAR), Melanoma Associated Retinopathy (MAR), and Acute Zonal Occult Outer Retinopathy (AZOOR)
 - e. Retinal detachment
 - f. Assessment of retinal function after trauma, especially in vitreous hemorrhage, dense cataracts, and other conditions where the fundus cannot be visualized photoreceptors; absent b-wave indicates

abnormality in the bipolar cell region.

- g. Retinitis pigmentosa and related hereditary degenerations
- h. Retinitis punctata albescens
- i. Leber's congenital amaurosis
- j. Choroideremia
- k. Gyrate atrophy of the retina and choroid
- l. Goldman-Favre syndrome
- m. Congenital stationary night blindness
- n. X-linked juvenile retinoschisis
- o. Achromatopsia
- p. Cone dystrophy
- q. Disorders mimicking retinitis pigmentosa
- r. Usher Syndrome

2. To detect chloroquine (Aralen) and hydroxychloroquine (Plaquenil) toxicity (mfERG) per AAO guidelines (10).

VEP/ERG in Glaucoma

A 2011 report by the AAO on "Assessment of Visual Function in Glaucoma" noted that while VEP and ERG, as objective measures of visual function, provided testing free of patient input, issues prevent their adoption for glaucoma management (1). It concluded that advances in technology have yet to produce definitive guidance on the diagnosis of glaucoma or its progression over time and that further research on an objective measure of visual function is needed.

Since then several studies (2-5) have investigated the use of VEP and ERG technology to differentiate between normal healthy eyes and eyes with early to advanced visual field loss resulting from glaucoma. The authors indicated that VEP and ERG may allow earlier diagnosis of glaucoma. However, NGS has determined that without larger studies, AAO's 2011 conclusion, that these technologies have yet to produce definitive guidance on the diagnosis of glaucoma or its progression over time, remains. This was also the conclusion of a 2013 study which prospectively monitored progressive changes of RGC function in early glaucoma using PERG (6). The authors concluded that further follow-up is required to determine whether PERG losses are predictors of future visual field loss.

Neither of the 2015 AAO Preferred Practice Guidelines, "Primary Open-Angle Glaucoma Suspect" or "Primary Open-Angle Glaucoma," mention VEP or ERG as diagnostic tools (7,8). Also, the UpToDate review on "Open-angle glaucoma: Epidemiology, clinical presentation, and diagnosis," likewise omits reference to either test (9).

There remain no verified guidelines for normal vs abnormal that would be easily applicable to an individual patient. NGS, therefore, considers the use of VEP or ERG for either glaucoma diagnosis or management investigational.

Limitations

Testing shall be performed by physicians who have evidence of knowledge, training, and expertise to perform and interpret these tests. This training and expertise must have been acquired within the framework of an accredited school, residency or fellowship program.

Summary of Evidence

N/A

Analysis of Evidence
(Rationale for Determination)

N/A

General Information

Associated Information

N/A

Sources of Information

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Bibliography

N/A

Revision History Information

| REVISION HISTORY DATE | REVISION HISTORY NUMBER | REVISION HISTORY EXPLANATION | REASON(S) FOR CHANGE |
|-----------------------|-------------------------|---|---|
| 10/17/2019 | R7 | Consistent with Change Request 10901, all coding information, National coverage provisions, and Associated Information (Documentation Requirements, Utilization | <ul style="list-style-type: none"> Revisions Due To Code Removal |

| REVISION HISTORY DATE | REVISION HISTORY NUMBER | REVISION HISTORY EXPLANATION | REASON(S) FOR CHANGE |
|-----------------------|-------------------------|--|---|
| | | Guidelines) have been removed from the LCD and placed in the related Billing and Coding Article, A57060. There has been no change in coverage with this LCD revision. | |
| 01/01/2019 | R6 | Based on the 2019 annual CPT/HCPCS update, CPT code 92275 has been deleted and replaced with CPT codes 92273 and 92274 and they have been added to the "CPT/HCPCS Codes" section Group 1. CPT code 0509T has also been added to the "CPT/HCPCS Codes" section Group 1. CPT codes 92273, 92274 and 0509T have been added to the Group 2 code list in the "ICD-10 Codes that Support Medical Necessity" section of the LCD. | <ul style="list-style-type: none"> • Revisions Due To CPT/HCPCS Code Changes |
| 02/01/2018 | R5 | <p>Based on a reconsideration request to provide coverage of pattern electroretinogram (PERG) testing for glaucoma, references have been added to the LCD. No changes were made in coverage.</p> <p><i>DATE (02/01/2018): At this time 21st Century Cures Act will apply to new and revised LCDs that restrict coverage which requires comment and notice. This revision is not a restriction to the coverage determination; and, therefore not all the fields included on the LCD are applicable as noted in this policy.</i></p> | <ul style="list-style-type: none"> • Reconsideration Request |
| 01/01/2018 | R4 | <p>Based on the 2018 annual CPT/HCPC update, the description for CPT code 95930 has been revised.</p> <p><i>DATE (01/01/2018): At this time 21st Century Cures Act will apply to new and revised LCDs that restrict coverage which requires comment and notice. This revision is not a restriction to the coverage determination; and, therefore not all the fields included on the LCD are applicable as noted in this policy.</i></p> | <ul style="list-style-type: none"> • Revisions Due To CPT/HCPCS Code Changes |
| 10/01/2017 | R3 | Based on the annual ICD-10-CM update, the following ICD-10-CM codes have been deleted from Group 1: H54.0, H54.11, H54.12, H54.2, H54.41, H54.42, H54.51 and H54.52 and replaced with: H54.0X33, H54.0X34, H54.0X35, H54.0X43, H54.0X44, H54.0X45, H54.0X53, H54.0X54, H54.0X55, H54.1131, H54.1132, H54.1141, H54.1142, H54.1151, H54.1152, H54.1213, H54.1214, H54.1215, H54.1223, H54.1224, H54.1225, H54.2X11, H54.2X12, | <ul style="list-style-type: none"> • Revisions Due To ICD-10-CM Code Changes |

| REVISION HISTORY DATE | REVISION HISTORY NUMBER | REVISION HISTORY EXPLANATION | REASON(S) FOR CHANGE |
|-----------------------|-------------------------|--|---|
| | | <p>H54.2X21, H54.2X22, H54.413A, H54.414A, H54.415A, H54.42A3, H54.42A4, H54.42A5, H54.511A, H54.512A, H54.52A1 and H54.52A2. The descriptors for ICD-10-CM codes S04.31A-S04242S have been changed.</p> <p><i>DATE (10/01/2017): At this time, the 21st Century Cures Act will apply to new and revised LCDs that restrict coverage which requires comment and notice. This revision is not a restriction to the coverage determination; and, therefore not all the fields included on the LCD are applicable as noted in this policy.</i></p> | |
| 03/16/2017 | R2 | <p>Based on two reconsideration requests to provide coverage of electroretinogram (ERG) and pattern electroretinogram (PERG) testing for glaucoma – March 2017, references have been added to the LCD. No changes were made in coverage.</p> <p><i>DATE (08/01/2017): At this time 21st Century Cures Act will apply to new and revised LCDs that restrict coverage which requires comment and notice. This revision is not a restriction to the coverage determination; and, therefore not all the fields included on the LCD are applicable as noted in this policy.</i></p> | <ul style="list-style-type: none"> • Reconsideration Request |
| 03/16/2017 | R1 | <p>ICD-10-CM codes H47.521, H47.522, H53.011-H53.013, H53.021 – H53.023 and H53.031 – H53.033 have been added to the Group 1 code list for CPT code 95930.</p> | <ul style="list-style-type: none"> • Provider Education/Guidance |

Associated Documents

Attachments

N/A

Related Local Coverage Documents

Article(s)

A57060 - Billing and Coding: Visual Electrophysiology Testing

A55475 - Response to Comments: Visual Electrophysiology Testing

Related National Coverage Documents

N/A

Public Version(s)

Updated on 10/11/2019 with effective dates 10/17/2019 - N/A

Updated on 12/19/2018 with effective dates 01/01/2019 - 10/16/2019

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Keywords

N/A