MEDICAL POLICY

POLICY TITLE	EVOKED POTENTIAL STUDIES
POLICY NUMBER	MP 4.029

CLINICAL BENEFIT	☐ MINIMIZE SAFETY RISK OR CONCERN. ☒ MINIMIZE HARMFUL OR INEFFECTIVE INTERVENTIONS. ☐ ASSURE APPROPRIATE LEVEL OF CARE. ☐ ASSURE APPROPRIATE DURATION OF SERVICE FOR INTERVENTIONS. ☐ ASSURE THAT RECOMMENDED MEDICAL PREREQUISITES HAVE BEEN MET. ☐ ASSURE APPROPRIATE SITE OF TREATMENT OR SERVICE.
Effective Date:	**3/1/2024**

Note: For intraoperative monitoring refer to MP 2.030 Intraoperative Neurophysiologic Monitoring (Sensory-Evoked Potentials, Motor-Evoked Potentials, EEG Monitoring)

I. POLICY

Somatosensory Evoked Potentials may be considered **medically necessary** for the following indications:

- Evaluation of spinal cord lesions secondary to trauma, demyelinating disease, infection, or tumor;
- To localize the cause of a central nervous deficit documented on exam, but not explained by MRI or CT; or
- To evaluate persons with suspected brain death.

Visual Evoked Potentials may be considered **medically necessary** for the following indications:

- To aid in the diagnosis and monitoring of multiple sclerosis (MS). Recordings made in the acute phase of MS disclose the presence of active, demyelinating plaques. Recordings made in the chronic phase of MS indicate the presence of subclinical plaques; or
- To localize the basis for visual field defects occurring in the absence of structural lesions, acquired metabolic disease, or infectious disease.

The use of visual evoked potentials are considered **investigational** for all other indications not listed in the policy, including evaluation for glaucoma. There is insufficient evidence to support a general conclusion concerning the health outcomes or benefits associated with these procedures.

POLICY TITLE	EVOKED POTENTIAL STUDIES
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The nonoperative use of somatosensory-evoked potentials are considered **investigational** for all other indications not listed in the policy. There is insufficient evidence to support a general conclusion concerning the health outcomes or benefits associated with these procedures.

Cross-reference:

MP 2.030 Intraoperative Neurophysiologic Monitoring (Sensory-Evoked Potentials, Motor-Evoked Potentials, EEG Monitoring)

II. PRODUCT VARIATIONS

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This policy is only applicable to certain programs and products administered by Capital Blue Cross please see additional information below, and subject to benefit variations as discussed in Section VI below.

FEP PPO- Refer to FEP Medical Policy Manual. The FEP Medical Policy manual can be found at:
https://www.fepblue.org/benefit-plans/medical-policies-and-utilization-management-guidelines/medical-policies

III. DESCRIPTION/BACKGROUND

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Evoked potential studies are tests that measure electrical activity or conduction velocities in the central nervous system in response to stimulation of sight, sound, or touch using computerized averaging techniques. These tests are useful in providing information to assist in diagnosing a pathological process and to identify neurological compromise during operative procedures. Three types of evoked potentials include somatosensory evoked potentials (SSEPs), visual evoked potentials (VEP), and brainstem auditory evoked potentials (BAEPs). These tests can be performed as outpatient diagnostic testing or inpatient for intraoperative monitoring.

Somatosensory evoked potentials (SSEPs) test is useful for diagnosing problems with the spinal cord as well as numbness and weakness of the extremities. During this test, electrodes are attached to the wrist, the back of the knee, or other locations, and a mild electrical stimulus is applied through the electrodes. Scalp electrodes then determine the amount of time it takes for the current to travel along the nerve to the brain.

Visual evoked potentials (VEP) test is used to diagnose problems with delays in the conduction of visual pathways, which may result from the demyelization effects of multiple sclerosis. During this test, electrodes are placed along the scalp, a checkerboard pattern flashes for several minutes on a screen, and electrical responses in the brain are recorded.

IV. RATIONALE

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Visual Evoked Potentials for Glaucoma

One small industry supported prospective study was carried out at the New York Eye and Ear Infirmary. Forty-five eyes of 35 patients with glaucomatous optic neuropathy and characteristic glaucomatous visual field (VF) defects were prospectively enrolled. Thirty healthy subjects with

normal VF and normal intraocular pressure (IOP < 22 mm Hg were enrolled. All patients underwent a complete ophthalmologic examination and had clear media, best corrected visual acuity (BCVA) ≥ 20/30, and pupil diameters > 3 mm and symmetric. Subjects with ocular diseases other than glaucoma, diabetes, or neurological disease were excluded. Glaucoma patients were recruited to be tested at their normally scheduled examination. The study indicated that the SD-tVEP fixed protocol's VEP responses to high- and low-contrast stimulus were able to detect retinal ganglion cells (RGC) function. In addition, the SD-tVEP P100's low-contrast latency and high-contrast amplitude response's sensitivity and specificity remained the same or increased with the progression of RGC damage. Since this study found strong discrimination between healthy and glaucomatous eyes, and since not all glaucoma patients or patients with other diseases of the optic nerve are under the care of a specialist, the fixed protocol was listed as a test which may be beneficial as a singular test in the early detection or diagnosis of such diseases. Further studies are warranted to determine if modifications to the present protocol could better isolate the M and P pathways VEP responses.

Practice Guidelines and Position Statements

The current National Institute for Health and Care Excellence (NICE) Guidance for the diagnosis and management of glaucoma issued November 2017 did not offer support for the use of visual evoked potential studies for the diagnostic evaluation for glaucoma.

The International Glaucoma Association does not make a recommendation on the use of VEP for the evaluation of glaucoma.

Summary

The absence of NICE guidance and other specialty society recommendations at this time is insufficient to support the use of visual evoked potential (VEP) studies for the evaluation of glaucoma. Therefore, the use of VEP in the evaluation of glaucoma is considered investigational.

V. DEFINITIONS Top

DEMYELINATE is to destroy or remove the myelin sheath of a nerve fiber as through disease.

VI. BENEFIT VARIATIONS Top

The existence of this medical policy does not mean that this service is a covered benefit under the member's health benefit plan. Benefit determinations should be based in all cases on the applicable health benefit plan language. Medical policies do not constitute a description of benefits. A member's health benefit plan governs which services are covered, which are excluded, which are subject to benefit limits and which require preauthorization. There are different benefit plan designs in each product administered by Capital Blue Cross. Members and providers should consult the member's health benefit plan for information or contact Capital Blue Cross for benefit information.

VII. DISCLAIMER

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Capital Blue Cross's medical policies are developed to assist in administering a member's benefits, do not constitute medical advice,e and are subject to change. Treating providers are solely responsible for medical advice and treatment of members. Members should discuss any medical policy related to their coverage or condition with their provider and consult their benefit information to determine if the service is covered. If there is a discrepancy between this medical policy and a member's benefit information, the benefit information will govern. If a provider or a member has a question concerning the application of this medical policy to a specific member's plan of benefits, please contact Capital Blue Cross' Provider Services or Member Services. Capital Blue Cross considers the information contained in this medical policy to be proprietary and it may only be disseminated as permitted by law.

VIII. CODING INFORMATION

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Note: This list of codes may not be all inclusive, and codes are subject to change at any time. The identification of a code in this section does not denote coverage as coverage is determined by the terms of member benefit information. In addition, not all covered services are eligible for separate reimbursement.

Visual Evoked Potential screenings and testing for glaucoma is considered Investigational; therefore, not covered:

Procedure Codes							
0333T	0464T						

Covered when medically necessary Somatosensory Evoked Potentials:

Procedure Codes							
95925	95926	95927	95938				

ICD-10-CM Diagnosis Codes	Description
A52.13	Late syphilitic meningitis
A52.14	Late syphilitic encephalitis
A52.15	Late syphilitic neuropathy
A52.17	General paresis
A52.19	Other symptomatic neurosyphilis
A69.21	Meningitis due to Lyme disease
A69.22	Other neurologic disorders in Lyme disease
A69.23	Arthritis due to Lyme disease

POLICY TITLE	EVOKED POTENTIAL STUDIES
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ICD-10-CM Diagnosis Codes	Description
A69.29	Other conditions associated with Lyme disease
A83.0	Japanese encephalitis
A83.1	Western equine encephalitis
A83.2	Eastern equine encephalitis
A83.3	St Louis encephalitis
A83.4	Australian encephalitis
A83.5	California encephalitis
A83.6	Rocio virus disease
A83.8	Other mosquito-borne viral encephalitis
A84.0	Far Eastern tick-borne encephalitis [Russian spring-summer encephalitis]
A84.1	Central European tick-borne encephalitis
A84.81	Powassan virus disease
A84.89	Other tick-borne viral encephalitis
A84.9	Tick-borne viral encephalitis, unspecified
A85.2	Arthropod-borne viral encephalitis, unspecified
B00.4	Herpes viral encephalitis
B00.82	Herpes simplex myelitis
B02.24	Postherpetic myelitis
B05.0	Measles complicated by encephalitis
B06.01	Rubella encephalitis
C41.2	Malignant neoplasm of vertebral column
C70.0	Malignant neoplasm of cerebral meninges
C70.1	Malignant neoplasm of spinal meninges
C72.0	Malignant neoplasm of spinal cord
C72.1	Malignant neoplasm of cauda equina
C79.40	Secondary malignant neoplasm of unspecified part of nervous system
D32.1	Benign neoplasm of spinal meninges
D33.3	Benign neoplasm of cranial nerves
D33.4	Benign neoplasm of spinal cord
D42.1	Neoplasm of uncertain behavior of spinal meninges
D42.9	Neoplasm of uncertain behavior of meninges, unspecified
D43.9	Neoplasm of uncertain behavior of cranial nerves
G06.1	Intraspinal abscess and granuloma

POLICY TITLE	EVOKED POTENTIAL STUDIES
POLICY NUMBER	MP 4.029

ICD-10-CM Diagnosis Codes	Description
G11.0	Congenital nonprogressive ataxia
G11.1	Early-onset cerebellar ataxia
G11.10	Early-onset cerebellar ataxia, unspecified
G11.11	Friedreich ataxia
G11.19	Other early-onset cerebellar ataxia
G11.2	Late-onset cerebellar ataxia
G11.3	Cerebellar ataxia with defective DNA repair
G11.4	Hereditary spastic paraplegia
G11.6	Leukodystrophy with vanishing white matter disease
G11.8	Other hereditary ataxias
G13.0	Paraneoplastic neuromyopathy and neuropathy
G13.1	Other systemic atrophy primarily affecting central nervous system in neoplastic disease
G23.0	Hallervorden-Spatz disease
G23.1	Progressive supranuclear ophthalmoplegia [Steele-Richardson-Olszewski]
G23.2	Striatonigral degeneration
G23.3	Hypomyelination with atrophy of the basal ganglia and cerebellum
G23.8	Other specified degenerative diseases of basal ganglia
G25.3	Myoclonus
G31.80	Leukodystrophy, unspecified
G32.81	Cerebellar ataxia in diseases classified elsewhere
G35	Multiple sclerosis
G36.0	Neuromyelitis optica [Devic]
G36.1	Acute and subacute hemorrhagic leukoencephalitis [Hurst]
G36.8	Other specified acute disseminated demyelination
G37.0	Diffuse sclerosis of central nervous system
G37.1	Central demyelination of corpus callosum
G37.2	Central pontine myelinolysis
G37.3	Acute transverse myelitis in demyelinating disease of central nervous system
G37.4	Subacute necrotizing myelitis of central nervous system
G37.5	Concentric sclerosis [Balo] of central nervous system
G37.8	Other specified demyelinating diseases of central nervous system
G37.81	Myelin oligodendrocyte glycoprotein antibody disease
G37.89	Other specified demyelinating diseases of central nervous system
G62.9	Polyneuropathy, unspecified

POLICY TITLE	EVOKED POTENTIAL STUDIES
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ICD-10-CM Diagnosis Codes	Description
G90.B	LMNB1-related autosomal dominant leukodystrophy
G92.8	Other toxic encephalopathy
G92.9	Unspecified toxic encephalopathy
G93.1	Anoxic brain damage, not elsewhere classified
G93.42	Megaloencephalic leukoencephalopathy with subcortical cysts
G93.43	Leukoencephalopathy with calcifications and cysts
G93.44	Adult-onset leukodystrophy with axonal spheroids
G93.82	Brain death
G95.0	Syringomyelia and syringobulbia
G95.11	Acute infarction of spinal cord (embolic) (nonembolic)
G95.19	Other vascular myelopathies
G95.81	Conus medullaris syndrome
G95.89	Other specified diseases of spinal cord
P91.63	Severe hypoxic ischemic encephalopathy [HIE]
R20.0	Anesthesia of skin
R20.2	Paresthesia of skin
R29.2	Abnormal reflex
R40.20	Unspecified coma

Covered when medically necessary Visual Evoked Potentials:

Procedure Codes							
95930							

ICD-10-CM Diagnosis Codes	Description
G35	Multiple sclerosis
H46.01	Optic papillitis, right eye
H46.02	Optic papillitis, left eye
H46.03	Optic papillitis, bilateral
H46.11	Retrobulbar neuritis, right eye
H46.12	Retrobulbar neuritis, left eye
H46.13	Retrobulbar neuritis, bilateral
H46.2	Nutritional optic neuropathy
H46.3	Toxic optic neuropathy

POLICY TITLE	EVOKED POTENTIAL STUDIES
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ICD-10-CM Diagnosis Codes	Description
H46.8	Other optic neuritis
H47.011	Ischemic optic neuropathy, right eye
H47.012	Ischemic optic neuropathy, left eye
H47.013	Ischemic optic neuropathy, bilateral
H47.021	Hemorrhage in optic nerve sheath, right eye
H47.022	Hemorrhage in optic nerve sheath, left eye
H47.023	Hemorrhage in optic nerve sheath, bilateral
H47.031	Optic nerve hypoplasia, right eye
H47.032	Optic nerve hypoplasia, left eye
H47.033	Optic nerve hypoplasia, bilateral
H47.091	Other disorders of optic nerve, not elsewhere classified, right eye
H47.092	Other disorders of optic nerve, not elsewhere classified, left eye
H47.093	Other disorders of optic nerve, not elsewhere classified, bilateral
H47.11	Papilledema associated with increased intracranial pressure
H47.12	Papilledema associated with decreased ocular pressure
H47.13	Papilledema associated with retinal disorder
H47.141	Foster-Kennedy syndrome, right eye
H47.142	Foster-Kennedy syndrome, left eye
H47.143	Foster-Kennedy syndrome, bilateral
H47.211	Primary optic atrophy, right eye
H47.212	Primary optic atrophy, left eye
H47.213	Primary optic atrophy, bilateral
H47.231	Glaucomatous optic atrophy, right eye
H47.232	Glaucomatous optic atrophy, left eye
H47.233	Glaucomatous optic atrophy, bilateral
H47.291	Other optic atrophy, right eye
H47.292	Other optic atrophy, left eye
H47.293	Other optic atrophy, bilateral
H47.311	Coloboma of optic disc, right eye
H47.312	Coloboma of optic disc, left eye
H47.313	Coloboma of optic disc, bilateral
H47.321	Drusen of optic disc, right eye
H47.322	Drusen of optic disc, left eye
H47.323	Drusen of optic disc, bilateral

POLICY TITLE	EVOKED POTENTIAL STUDIES
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ICD-10-CM Diagnosis Codes	Description
H47.331	Pseudopapilledema of optic disc, right eye
H47.332	Pseudopapilledema of optic disc, left eye
H47.333	Pseudopapilledema of optic disc, bilateral
H47.391	Other disorders of optic disc, right eye
H47.392	Other disorders of optic disc, left eye
H47.393	Other disorders of optic disc, bilateral
H47.41	Disorders of optic chiasm in (due to) inflammatory disorders
H47.42	Disorders of optic chiasm in (due to) neoplasm
H47.43	Disorders of optic chiasm in (due to) vascular disorders
H47.49	Disorders of optic chiasm in (due to) other disorders
H47.511	Disorders of visual pathways in (due to) inflammatory disorders, right side
H47.512	Disorders of visual pathways in (due to) inflammatory disorders, left side
H47.521	Disorders of visual pathways in (due to) neoplasm, right side
H47.522	Disorders of visual pathways in (due to) neoplasm, left side
H47.531	Disorders of visual pathways in (due to) vascular disorders, right side
H47.532	Disorders of visual pathways in (due to) vascular disorders, left side
H47.611	Cortical blindness, right side of brain
H47.612	Cortical blindness, left side of brain
H47.621	Disorders of visual cortex in (due to) inflammatory disorders, right side of brain
H47.622	Disorders of visual cortex in (due to) inflammatory disorders, left side of brain
H47.631	Disorders of visual cortex in (due to) neoplasm, right side of brain
H47.632	Disorders of visual cortex in (due to) neoplasm, left side of brain
H47.641	Disorders of visual cortex in (due to) vascular disorders, right side of brain
H47.642	Disorders of visual cortex in (due to) vascular disorders, left side of brain
H53.011	Deprivation amblyopia, right eye
H53.012	Deprivation amblyopia, left eye
H53.013	Deprivation amblyopia, bilateral
H53.021	Refractive amblyopia, right eye
H53.022	Refractive amblyopia, left eye
H53.023	Refractive amblyopia, bilateral
H53.031	Strabismic amblyopia, right eye
H53.032	Strabismic amblyopia, left eye
H53.033	Strabismic amblyopia, bilateral
H53.11	Day blindness

POLICY TITLE	EVOKED POTENTIAL STUDIES
POLICY NUMBER	MP 4.029

ICD-10-CM Diagnosis Codes	Description
H53.121	Transient visual loss, right eye
H53.122	Transient visual loss, left eye
H53.123	Transient visual loss, bilateral
H53.131	Sudden visual loss, right eye
H53.132	Sudden visual loss, left eye
H53.133	Sudden visual loss, bilateral
H53.141	Visual discomfort, right eye
H53.142	Visual discomfort, left eye
H53.143	Visual discomfort, bilateral
H53.15	Visual distortions of shape and size
H53.16	Psychophysical visual disturbances
H53.19	Other subjective visual disturbances
H53.2	Diplopia
H53.31	Abnormal retinal correspondence
H53.32	Fusion with defective stereopsis
H53.33	Simultaneous visual perception without fusion
H53.34	Suppression of binocular vision
H53.411	Scotoma involving central area, right eye
H53.412	Scotoma involving central area, left eye
H53.413	Scotoma involving central area, bilateral
H53.421	Scotoma of blind spot area, right eye
H53.422	Scotoma of blind spot area, left eye
H53.423	Scotoma of blind spot area, bilateral
H53.431	Sector or arcuate defects, right eye
H53.432	Sector or arcuate defects, left eye
H53.433	Sector or arcuate defects, bilateral
H53.451	Other localized visual field defect, right eye
H53.452	Other localized visual field defect, left eye
H53.453	Other localized visual field defect, bilateral
H53.461	Homonymous bilateral field defects, right side
H53.462	Homonymous bilateral field defects, left side
H53.47	Heteronymous bilateral field defects
H53.481	Generalized contraction of visual field, right eye
H53.482	Generalized contraction of visual field, left eye

ICD-10-CM Diagnosis Codes	Description
H53.483	Generalized contraction of visual field, bilateral
H53.51	Achromatopsia
H53.52	Acquired color vision deficiency
H53.53	Deuteranomaly
H53.54	Protanomaly
H53.55	Tritanomaly
H53.59	Other color vision deficiencies
H53.61	Abnormal dark adaptation curve
H53.62	Acquired night blindness
H53.63	Congenital night blindness
H53.69	Other night blindness
H53.71	Glare sensitivity
H53.72	Impaired contrast sensitivity
H53.8	Other visual disturbances

IX. REFERENCES

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2. *American Clinical Neurophysiological Society (ACNS). Guideline 9B: Guidelines on Visual Evoked Potentials. February 2008 2015.*
3. *American Clinical Neurophysiological Society (ACNS). Guideline 9C: Guidelines on Short-Latency Auditory Evoked Potentials. 2008.*
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11. American Association of Neuromuscular & Electrodiagnostic Medicine. Somatosensory Evoked Potentials: Clinical Uses.

X. POLICY HISTORY

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MP 4.029	**CAC 1/25/2005**
	CAC 2/28/2006
	CAC 11/28/2006
	CAC 11/27/2007
	CAC 11/25/2008
	CAC 11/24/2009 Consensus review.
	CAC 11/30/2010 Consensus review. No change in policy statements. References updated.
	8/9/2011 Administrative update. Removed Cross-reference to Medical Policy MP-4.020 – Evaluation and Treatment of Hearing Loss, as that policy has been retired.
	CAC 11/22/2011 Consensus review.
	05/20/2013 Administrative code review.
	CAC 9/24/2013 Consensus review. References updated but no changes to the policy statements.
	CAC 7/22/2014 Minor review. Added statement indicating VEP is investigational for evaluation for glaucoma**.** References updated. Rationale section added for VEP for evaluation of glaucoma.
	CAC 7/21/2015 Consensus review. No changes to the policy statements. References updated. Codes reviewed.
	4/7/16 Administrative update. Added Medicare variation to reference LCD L34975. Coding reviewed and updated, diagnosis added.
	CAC 7/26/2016 Consensus review. References updated. Rationale reviewed. Coding updated**.**
	1/1/2017 Administrative update. Product variation section reformatted. Added new code 0464T, effective 1/1/17.
	CAC 11/29/2016 Minor review. Added note at the beginning of the policy to refer to MP 2.030 for intraoperative monitoring. Added statement indicating the nonoperative use of somatosensory-evoked potentials and brainstem auditory-evoked potentials are considered investigational for all other indications not listed in the policy. Coding Reviewed.
	CAC 12/19/2017 Consensus review. No changes to the policy statements. References updated**.** Coding Reviewed.
	10/26/2018 Consensus review. No changes to the policy statements. References reviewed.
	07/17/2020 Consensus review. No changes to the policy statements. References reviewed.

	6/17/2020 Consensus review. No change to policy statements. References updated. Rationale updated to include the updated NICE guidelines.
	5/19/2021 Consensus review. No change to policy statements. References updated. Coding updated 92585 and 92586 were deleted and replaced with 92650-92653. Dx coding updated
	9/7/2021 Administrative update. New codes G44.86 and G92.9 added. Effective 10/1/2021
	3/18/2022 Minor review. Deleted MN criteria and codes on brainstem auditory testing. Updated FEP, background, ICD-10 table, and references.
	08/03/2023 Consensus review. No changes to policy language or intent.
	1/19/2024 Administrative update. Clinical benefit added.

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