
Medical Policy



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***Current Policy Effective Date: 5/1/22**
(See policy history boxes for previous effective dates)

Title: Automated Visual Evoked Potentials for Routine Vision Screening in Pediatrics

Description/Background

The United States Preventive Service Task Force (USPSTF) recommends vision screening for all children at least once between the ages of 3 and 5 years, to detect the presence of amblyopia or its risk factors. Current evidence is insufficient to assess the balance of benefits and harms of vision screening for children under the age of 3 years. A conventional method of visual acuity screening includes the use of eye charts with letters or symbols. For individuals who cannot see the largest letter or picture on the eye chart, acuity can be assessed by having the individual count fingers, distinguish horizontal from vertical hand motions, or tell if a bright light is shined into the eye.

Visual evoked potential (VEP) testing has been proposed as a means to estimate visual acuity or to determine the difference in visual acuity between two eyes. The test is performed by placing electrodes on the scalp in the occipital region. Electrical stimulation in the visual cortex is recorded in response to visual stimuli, typically a checkerboard pattern. The electrodes detect the signals and display them for interpretation by the physician. Automated VEP devices provide computerized visual acuity screening with an instrument-based algorithm that provides a pass/fail result. VEP testing can be used in preverbal children, infants, and patients unable to communicate as the test requires no verbal response from the patient.

Regulatory Status

The United States Food and Drug Administration (FDA) has approved devices utilizing automated visual evoked potentials for visual acuity screening. An example of such a device is the Enfant® Pediatric VEP (Diopsys Corp., Metuchen, NJ), “a non-invasive medical device to screen, without dilation or sedation, for visual disorders in infants and pre-school children. The system uses Visual Evoked potentials to provide information about the visual pathway function and about optical or neural abnormalities related to vision.”

Medical Policy Statement

The use of automated visual evoked potentials (VEPs) for routine vision screening in pediatrics is experimental/ investigational. There is insufficient evidence that this method improves health outcomes over conventional methods of vision screening.

Inclusionary and Exclusionary Guidelines (Clinically based guidelines that may support individual consideration and pre-authorization decisions)

N/A

CPT/HCPCS Level II Codes *(Note: The inclusion of a code in this list is not a guarantee of coverage. Please refer to the medical policy statement to determine the status of a given procedure.)*

Established codes:

N/A

Other codes (investigational, not medically necessary, etc.):

0333T

Note: Individual policy criteria determine the coverage status of the CPT/HCPCS code(s) on this policy. Codes listed in this policy may have different coverage positions (such as established or experimental/investigational) in other medical policies.

Rationale

There is a paucity of literature on the use of automated visual evoked potentials for visual acuity screening. Studies that determine how the use of automated visual evoked potentials improves health outcomes over conventional methods of vision screening are lacking.

There are no clinical practice guidelines recommending automated visual evoked potentials screening in infants.

US Preventative Services Task Force

Vision in Children Aged 6 Months to 5 Years: Screening, Recommendation Statement, 2017

“The USPSTF recommends vision screening at least once in all children aged 3 to 5 years to detect amblyopia or its risk factors. (B recommendation) The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of vision screening in children younger than 3 years. (I statement)”

B - The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.

I Statement - The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.

Government Regulations

National:

There is no national coverage determination on this topic.

Local:

There is no local coverage determination on this topic.

(The above Medicare information is current as of the review date for this policy. However, the coverage issues and policies maintained by the Centers for Medicare & Medicare Services [CMS, formerly HCFA] are updated and/or revised periodically. Therefore, the most current CMS information may not be contained in this document. For the most current information, the reader should contact an official Medicare source.)

Related Policies

Vision Services (BCN only)

References

1. American Academy of Ophthalmology. Pediatric Vision Screening. March 21, 2018. (Update pending)
http://eyewiki.org/Pediatric_Vision_Screening#Visual_Invoked_Potential.2FResponse_.28V_EP.2FVER.29 Accessed 12/29/21.
2. American Association for Pediatric Ophthalmology and Strabismus. Vision Screening Recommendations. (no date noted) <https://aapos.org/patients/patient-resources/vision-screening-patients> Accessed 12/29/21.
3. American Optometric Association. Comprehensive Pediatric Eye and Vision Examination. Evidence-Based Clinical Practice Guideline, 2017.
https://www.aoa.org/AOA/Documents/Practice%20Management/Clinical%20Guidelines/EB_O%20Guidelines/Comprehensive%20Pediatric%20Eye%20and%20Vision%20Exam.pdf Accessed 12/29/21.
4. Simon, JW et al. A new visual evoked potential system for vision screening in infants and young children. J AAPOS, 2004, Vol. 8, pp. 549–554.

5. Tello C et al. Repeatability of short-duration transient visual evoked potentials in normal subjects. Doc Ophthalmol, 29 January 2010, DOI 10.1007/s10633-010-9216-3.
6. United States Food and Drug Administration, Summary of Safety and Effectiveness 510(k), K043491, Enfant® Pediatric VEP (Diopsys Corp., Metuchen, NJ).
7. United States Food and Drug Administration, Summary of Safety and Effectiveness 510(k), K101763, Diopsys™ NOVA VEP Vision Testing System (Diopsys Corp., Metuchen, NJ).
8. United States Preventive Service Task Force. Vision in Children Ages 6 Months to 5 Years: Screening. September 05, 2017.
<https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/vision-in-children-ages-6-months-to-5-years-screening> Accessed 12/29/21.

The articles reviewed in this research include those obtained in an Internet based literature search for relevant medical references through 12/29/21, the date the research was completed.

Joint BCBSM/BCN Medical Policy History

Policy Effective Date	BCBSM Signature Date	BCN Signature Date	Comments
7/1/15	4/21/15	5/8/15	Joint policy established
7/1/16	4/19/16	4/19/16	Routine maintenance
5/1/17	2/21/17	2/21/17	Routine maintenance
5/1/18	2/20/18	2/20/18	Routine maintenance Added "in pediatrics" to policy title and policy statement
5/1/19	2/19/19		Routine maintenance
5/1/20	2/18/20		Routine maintenance
5/1/21	2/16/21		Routine maintenance
5/1/22	2/15/22		Routine maintenance

Next Review Date: 1st Qtr, 2023

BLUE CARE NETWORK BENEFIT COVERAGE
POLICY: AUTOMATED VISUAL EVOKED POTENTIALS FOR ROUTINE VISION SCREENING
IN PEDIATRICS

I. Coverage Determination:

Commercial HMO (includes Self-Funded groups unless otherwise specified)	Not covered
BCNA (Medicare Advantage)	Refer to Government Regulations section.
BCN65 (Medicare Complementary)	Coinsurance covered if primary Medicare covers the service.

II. Administrative Guidelines:

- The member's contract must be active at the time the service is rendered.
- Coverage is based on each member's certificate and is not guaranteed. Please consult the individual member's certificate for details. Additional information regarding coverage or benefits may also be obtained through customer or provider inquiry services at BCN.
- The service must be authorized by the member's PCP except for Self-Referral Option (SRO) members seeking Tier 2 coverage.
- Services must be performed by a BCN-contracted provider, if available, except for Self-Referral Option (SRO) members seeking Tier 2 coverage.
- Payment is based on BCN payment rules, individual certificate and certificate riders.
- Appropriate copayments will apply. Refer to certificate and applicable riders for detailed information.
- CPT - HCPCS codes are used for descriptive purposes only and are not a guarantee of coverage.