BlueCross BlueShield of Alabama

Name of Blue Advantage Policy:

Ocular Photoscreening in the Primary Care Physician's Office as a Screening Tool to Detect Amblyogenic Factors

Policy #: 175
Category: Medicine

Latest Review Date: March 2021
Policy Grade: **Effective 12/26/2012 - Active policy but no longer scheduled for regular literature reviews and update.**

BACKGROUND:

Blue Advantage *medical policy does not conflict with Local Coverage Determinations (LCDs), Local Medical Review Policies (LMRPs) or National Coverage Determinations (NCDs) or with coverage provisions in Medicare manuals, instructions or operational policy letters. In order to be covered by Blue Advantage the service shall be reasonable and necessary under Title XVIII of the Social Security Act, Section 1862(a)(1)(A). The service is considered reasonable and necessary if it is determined that the service is:*

1. *Safe and effective;*
2. *Not experimental or investigational*;*
3. *Appropriate, including 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.*

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 by Medicare. Providers should bill* ***Original Medicare* *for covered services that are related to* ***clinical trials*** *that meet Medicare requirements (Refer to Medicare National Coverage Determinations Manual, Chapter 1, Section 310 and Medicare Claims Processing Manual Chapter 32, Sections 69.0-69.11).*

POLICY:

Blue Advantage will treat **ocular photoscreening in the primary care physician's office as a screening tool to detect amblyogenic factors** as a **non-covered** benefit and as **investigational**.

Blue Advantage does not approve or deny procedures, services, testing, or equipment for our members. Our decisions concern coverage only. The decision of whether or not to have a certain test, treatment or procedure is one made between the physician and his/her patient. Blue Advantage administers benefits based on the members' contract and medical policies. Physicians should always exercise their best medical judgment in providing the care they feel is most appropriate for their patients. Needed care should not be delayed or refused because of a coverage determination.

DESCRIPTION OF PROCEDURE OF SERVICE:

Ocular photoscreening is based on the principle of photorefraction in which the refractive state of the eye is assessed via the pattern of light reflected through the pupil. The images can then be analyzed based on the position of the corneal light reflex as well as the overall reflection of light from the fundus, which provides information on the child's fixation pattern and the presence or absence of strabismus. Patients are photographed in a darkened room while looking at the camera. The photographs can be sent to a central laboratory for analysis, either by ophthalmologists or specifically trained personnel. Results are typically graded as pass, fail or repeat photoscreening.

Ocular photoscreening has been investigated as an alternative screening method to detect risk factors for amblyopia, which include strabismus, high refractive errors, anisometropia, and media opacities. Many children permanently lose vision each year as a result of these treatable ocular disease processes. Early diagnosis and treatment of these conditions has been shown to yield better visual outcomes.

Amblyopia is the most common cause of visual impairment among children. Unless it is successfully treated in early childhood, amblyopia usually persists into adulthood. It is also the most common cause of monocular (one eye) visual impairment among young and middle-aged adults.

An advantage of ocular photoscreening over standard methods of testing visual acuity is that photoscreening requires little cooperation from the child, other than having to fixate on the appropriate target long enough for photoscreening. Thus, photoscreening has the potential to improve vision screening rates in preverbal children and those with developmental delays who are the most difficult to screen. Many of the children that are most difficult to screen using conventional methods are also at highest risk of amblyopia (e.g., premature infants, children with developmental delays).

Ocular photoscreening can be performed in several settings. For example, photoscreening can be performed in public health setting or as part of school screening programs. In addition, photoscreening may be performed by ophthalmologists as an adjunct to an ophthalmologic exam. This policy only addresses the use of photoscreening in the setting of the primary care physician's office, where it is performed as an adjunct or alternative to the standard visual exam.

It is anticipated that the results of photoscreening would be used by the primary care physician to determine whether the patient required referral to a pediatric ophthalmologist for further evaluation.

Aside from assessment of visual acuity using Snellen charts, letters, or other techniques, primary care physicians typically assess fixation and following movements and perform the red reflex test. Specifically, the red reflex test can detect visual opacities in the visual axis and abnormalities of the back of the eye, such as retinoblastoma or retinal detachment. When the red reflex is assessed simultaneously, potentially amblyopic conditions, such as asymmetric refractive errors and strabismus, can also be identified. The test is performed in a darkened room, with the direct ophthalmoscope focused on each pupil individually and then both eyes simultaneously. The family and clinical history may also identify a child at higher risk of amblyopia. For example, high-risk children include those with a family history of strabismus, amblyopia, high refractive errors, or childhood eye disorders. Children born prematurely, or those with neurologic and developmental conditions, are also at higher risk.

KEY POINTS:

This policy has been updated with review of literature performed through March 19, 2021.

Summary of Evidence

Overall, no studies have been identified that evaluate whether the results of ocular photoscreening leads to higher referral rates to ophthalmologists, earlier diagnosis and treatment, or a decrease in vision-impairing amblyopia, compared to a standard visual assessment. The evidence is insufficient to determine whether ocular photoscreening in the primary care physician's office improves the net health outcome.

Practice Guidelines and Position Statements

American Academy of Ophthalmology

The American Academy of Ophthalmology (AAO) Preferred Practice Patterns for Pediatric Eye Evaluations (2017) state that vision screening should be performed at an early age and at regular intervals throughout childhood. The elements of vision screening vary depending on the age and level of cooperation of the child. Subjective visual acuity testing is preferred to instrument-based screening in children who are able to participate reliably. Instrument-based screening is useful for some young children and those with developmental delays. Instrument-based screening techniques, such as photoscreening and autorefraction, are useful for assessing amblyopia and reduced-vision risk factors for children ages one to five years, as this is a critical time for visual development. Instrument-based screening can occur for children at age six years and older when children cannot participate in optotype-based screening.

American Academy of Ophthalmology/ American Association for Pediatric Ophthalmology and Strabismus / American Association of Certified Orthoptists

The American Academy of Ophthalmology, the American Association for Pediatric Ophthalmology and Strabismus, and the American Association of Certified Orthoptists coauthored a policy statement regarding the use of instrument-based screening devices. These devices are available commercially and have had extensive validation, both in field studies as well as in the pediatrician's offices. Screening instruments detect amblyopia, high refractive

error, and strabismus, which are the most common conditions producing visual impairment in children. If available, they can be used at any age but have better success after 18 months of age. Instrument-based screening can be repeated at each annual preventive medicine encounter through five years of age or until visual acuity can be assessed reliably using optotypes. Using these techniques in children younger than six years can enhance detection of conditions that may lead to amblyopia and/or strabismus compared with traditional methods of assessment (Donahue and Baker, 2016).

U.S. Preventive Services Task Force Recommendations:
The U.S. Preventive Services Task Force (USPSTF, 2017) recommended vision screening for amblyopia and its risk factors in children aged three to five years. Evidence was insufficient to assess the benefits and harms of vision screening in children younger than three years. Various screening tests are used in primary care to identify visual impairment among children, including visual acuity tests, stereoacuity tests, the cover-uncover test, and the Hirschberg light reflex test (for ocular alignment/strabismus). Photoscreeners (instruments that detect amblyogenic risk factors and refractive errors) may also be used.

KEY WORDS:
Ocular photoscreening, MTI PhotoScreener, photoscreening, ocular, iScreen, iScreen Vision Screener

APPROVED BY GOVERNING BODIES:
Examples of FDA approved photoscreeners include (but are not limited to) the following: the MTI Photoscreener (Medical Technology and Innovations Inc.; Cedar Falls, IA) was cleared for marketing by the U.S. Food and Drug Administration (FDA) through the 510(k) process in April 1994. The FDA determined that this device was substantially equivalent to existing devices for use as an ophthalmic camera. In January 2001, the iScreen Vision Screener was cleared for marketing by the FDA through the 510(k) process. The FDA determined that this device was substantially equivalent to existing devices for use in screening vision problems. Other vision screeners noted in studies include Plusoptix, Spot vision screener, the 2WIN binocular refractometer and photoscreener, and iScreen Vision Screen 3000.

BENEFIT APPLICATION:
Coverage is subject to member's specific benefits. Group specific policy will supersede this policy when applicable.

CURRENT CODING:
CPT Codes:

99174	Instrument based ocular screening (e.g., photoscreening, automated-refraction), bilateral; with remote analysis.
99177	; with on-site analysis

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POLICY HISTORY:

Medical Policy Group, June 2004
Available for comment September 7-October 21, 2004
Medical Policy Group, June 2006
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Medical Policy Group, December 2010
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