Recommendations for Vision Screening in Young Children Ages 36 Months to Younger than 72 Months

Arizona Expert Committee
Based on National Expert Panel Recommendations
to the National Center for Children's Vision and Eye Health

REFERENCE – Cotter SA et al. Vision Screening for Children Aged 36 to Younger than 72 months: Recommended Practices. Optometry and Vision Science. Vol 92(1); pp 6-16.

KEY BACKGROUND

These recommendations address vision screening for young children aged 36 to younger than 72 months.
The primary audience for this summary is primary health care settings.
Other organizations provide vision screening in young children, and are urged to follow the new National Expert Panel Recommendations, including:

- Screening methodologies and training
- Referral criteria
- Population who should be directly referred (and not screened)
- Screening results and/or referral information should be shared with the child's primary health care provider.

VISION SCREENING IN YOUNG CHILDREN - CONSIDERATIONS

Objective vision screening for children aged 36 to younger than 72 months, should be performed annually, as best practice, and at least once during this age range. Annual objective vision screening is part of the Bright Futures guidelines for well child care within the same age range.

- Screening in young children is targeted primarily at detection of amblyopia, strabismus, significant refractive error, and associated amblyogenic risk factors.
- Early identification and treatment of these vision disorders can generally prevent vision loss in the affected eye. The best outcomes are usually reached if treatment can be initiated before the age of 5 years.
- Tests of recognition visual acuity ("eye chart" optotype-based screening) is a valid practice in young children, but is often difficult to accomplish reliably in young children, particularly those under 4 years old.
- Instrument-based visual screening is more easily accomplished in young children, but the equipment represents a significant capital expenditure.
- The primary health care setting is an essential location for vision screening in young children. Additional screening locations include public health settings, preschool, Head Start programs, and community health initiatives. The primary focus for vision screening in young children is in the primary health care setting.

With certain exceptions, **all young children should be screened** at least once between 3 years and 6 years of age; optimally the screening should occur annually.

Use Caution in Screening Children Younger than 36 Months

At the present time, there is insufficient scientific evidence to support the benefit of screening children less than 36 months of age with instrument-based methods. Instrument-based screening of children younger than 36 months is performed at the discretion of the provider, as evidence-based guidelines for spectacle intervention in this age group have not yet been established.

WHO *NOT* TO SCREEN

Screening should not be performed for children who have a known risk for vision disorders, including children with:

- Neurodevelopmental disorders
- Readily-recognized eye abnormalities such as strabismus or ptosis
- Systemic conditions that have associated ocular abnormalities
- Medications known to cause eye disorders
- First-degree relatives with strabismus or amblyopia
- A history of prematurity (less than 32 weeks gestation)
- Parents who believe their child has a vision problem

These children should be referred directly for evaluation. A screening test is designed to identify children at risk for a disorder. Children with a known risk do not need to be screened. Inappropriate screening can result in delayed diagnosis and intervention.

Children who have received an eye examination from an eye care professional within the prior 12 months **do not need to be screened**, but should be referred back if follow up is needed.

SCREENING METHODS

Recognition Visual Acuity (Optotype-based "Eye Chart" Screening)
To ensure valid screening results, tools that are reliable in older children or adults are not acceptable methods for screening in young children. Please refer to the following table for adequate screening tools.

Instrument-Based Vision Screening
Instrument-based vision screening, includes autorefraction and photorefraction, identifies the presence and magnitude of refractive error. It does not measure visual acuity. It requires minimal cooperation from the child, so is generally quicker and easier to use in young children.

	BEST PRACTICE	Acceptable Practice	Unacceptable
Optotype	Single surrounded HOTV letters or LEA Symbols	Rectangular crowding bar surrounding a single line of HOTV letters or LEA Symbols on an eye chart or flip book style presentation	Snellen, Allen figures, Tumbling E, Landolt C, Lighthouse, Kindergarten Eye Chart Machines simulating distance
Occlusion	Adhesive patch or opaque paper tape	Specialized occluder glasses	Hand, tissue, paper cup, cover paddle
Test distance	5 ft	10 ft	20 ft Near card Any distance < 5 ft
Excerpted from Table 2, Cotter SA et al, 2015			

Acceptable instruments (as of January 2015)

- Retinomax (Right Mfg. Co Ltd. – Tokyo Japan)
- SureSight Vision Screener (Welch-Allyn, Inc., Software version 2.25 or higher)
- Plusoptix Photoscreener (Plusoptix, Nuremberg, Germany)
- Welch Allyn Spot VS100 (Welch-Allyn, Inc., Skaneateles Falls, NY)[1]

INSTRUMENT-BASED VISION SCREENING DEVICES DO NOT MEASURE VISUAL ACUITY. OPTOTYPE-BASED "EYE CHART" SCREENING SHOULD BE UNDERTAKEN TO TEST VISUAL ACUITY WHEN THE CHILD CAN COOPERATE READILY.

[1] For an up-to-date list of devices reviewed by the National Expert Panel, visit http://visionsystems.preventblindness.org/screening/recommended-tools-and-tests.html

UNTESTABLE CHILDREN AND RESCREENING GUIDELINES

Children who are inattentive, are uncooperative, will not allow one eye to be covered for monocular visual acuity testing, or do not appear to understand the screening task are not considered to have failed, but instead are deemed ''untestable''. Untestable preschool children are about twice as likely to have a vision problem than those who successfully pass a screening.

If practical, untestable children should be rescreened the same day. When a same-day rescreening is not feasible, rescreening should be scheduled as soon as possible, but in no case later than 6 months. Untestable children with cognitive, physical, or behavioral issues that are likely to preclude successful rescreening, children who are unable to be rescreened within 6 months, and those who fail rescreening should be referred directly for a comprehensive eye examination by an optometrist or ophthalmologist.

REFERRAL CRITERIA

Children who fail screening should be referred for evaluation by an eye care professional. The primary care office should establish a process to ensure the referral has been completed.

Visual Acuity Testing		
AGE	**PASS**	**Example**
36-47 mo	Correctly identify > half of the 20/50 optotypes presented	3 of 3 OR 3 of 4 OR 3 of 5
48-71 mo	Correctly identify > half of the 20/40 optotypes presented	
Instrument-Based Testing		
All ages	Refer to pass/fail criteria on device	

TRAINING OF SCREENING PERSONNEL

Screening personnel may include lay screeners, nurses, or other personnel.

Screening personnel should be trained in use of the technology and components of a screening program, including:

- Use of equipment
- Who to screen/who NOT to screen/Rescreening guidelines
- Documentation of screening results
- Referral process

Competencies should be documented and reviewed periodically (every 3 to 5 years).

OFFICE POLICIES/PROCEDURES

Establishing an office policy and procedures on screening is a best practice and helps to create a reliable process that can be followed by a variety of staff, helping to avoid missed screening opportunities and streamline communications.
Considerations include:

- Documenting workflow
- Establishing a process for screening for children with insurance coverage that may deny coverage for vision screening
- Process for retesting a child who is untestable at the visit
- Referral generation and tracking - who is responsible for each step
- Closing the loop with families, particularly for a child at high risk
- Maintaining communication with specialists and the child's educational center (with permission)

Please refer to your professional associations for model policies and procedures, as well as sample work flow patterns that can be adapted for use in any individual office setting.

PAYMENT FOR VISION SCREENING

AHCCCS Policy (revised 11/06/14)
AHCCCS Policy allows payment for instrument-based pediatric vision screening (ocular photoscreening) for EPSDT members 3 to 5 years old. Payment is limited to one occurrence in lifetime. Screening must occur in conjunction with an EPSDT (well-child medical) visit.
Payment is set at $24.80
Code – 99174, EP modifier (in addition to the appropriate preventive care CPT code)

Commercial Insurance
Payment for vision screening, instrument-based or other, varies by company and by policy.

DATA TRACKING AND MEASURES

The Committee recommends that Arizona implements a data infrastructure that collects reporting information of children who have been screened.

Screening is the first of a series of steps that support early intervention into eye disorders. Optimally, the data infrastructure would also allow elements to allow measurement of screening, referral and treatment elements to demonstrate successful movement toward the outcome of early intervention/treatment for children for whom there is this need. Development of this type of data infrastructure is a goal of the Committee.

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The Arizona Expert Committee met over a period of three months to create this document, which draws from the National Expert Panel recommendations to the National Center for Children's Vision and Eye Health (http://nationalcenter.preventblindness.org). The document presented here is intended to accelerate the inclusion of these new recommendations into routine practice by highlighting key factors in the screening and referral process for young children.