

Minnesota Vision Screening Guidelines for Children Post Newborn through 20 Years of Age



Introduction

This document provides recommended guidelines to those who perform vision screening of children in the post newborn period through 20 years of age. Vision screening during this period often occurs in both community (e.g., schools, [Early Childhood Screening](#) (www.education.state.mn.us), Early Head Start, Head Start), and primary care and Child and Teen Checkups (C&TC) clinic settings. Additional resources are available from the Minnesota Department of Health (MDH) [Vision Screening website](#) (www.health.state.mn.us) to assist vision screeners with specific issues of program development and management such as training, supervision, equipment options, and quality assurance.

Screeners and program managers should be aware that while this document provides best practice guidelines for screening children between the post newborn period through 20 years of age, vision screening does not constitute a complete eye

examination. Therefore, children already identified with vision loss or who show risk factors for vision loss should be under the supervision of an ophthalmologist, optometrist, or health care provider.

Background

Vision screening is a procedure performed by properly trained persons for the purpose of early identification of asymptomatic children who may have vision problems and referral to appropriate medical professionals for further evaluation.

Impaired vision in children can contribute to the development of learning problems which may be prevented or alleviated through early identification and intervention.¹ Children with impaired vision often are unaware of their impairment; therefore, they do not complain or seek help. If they have always seen things in a blurred or distorted way, they accept the imperfect image without question. It is up to adults responsible for children's health care and education to assure that children

have their vision screened on a regular basis.

Personnel

In general childhood vision screening personnel should be comfortable working with children. After completion of MDH or equivalent training, all screening procedures in this document can be performed by health care personnel including:

- Nurses, including public health and school nurses.
- Ophthalmic or optometric staff.
- Other trained medical personnel.

Designated procedures in this document can be performed by lay screeners identified as:

- Adults with a minimum of high school-level literacy skills who have completed recommended MDH or equivalent training.

Training

Training qualified screeners is an ongoing process. Training typically includes three phases: initial training and demonstration of skills, ongoing quality assurance, and refresher training. Resources for training may include [MDH vision screening trainings \(www.health.state.mn.gov\)](http://www.health.state.mn.gov), trained program managers, and trained school nurses or public health nurses. Screening programs benefit from direct access to consultation with eye care professionals to assist in staff training, implementation, and evaluation of

the screening program. Further training recommendations for specific age groups are described in each of the following sections on Equipment and Procedures.

Vision Screening Occlusion Equipment

Occlusion equipment temporarily obstructs vision in the eye not being screened during vision screening. It is **never** recommended at any age to use a hand to cover the eye. **Kids peek.** Peeking can be a factor for children who PASS when they can't see, known as a false negative. The ability of a child to peek is impressive, even with constant vigilance.

- **Specially constructed occluder glasses**, one for the right eye and one for the left eye, are recommended for visual acuity screening for children younger than 10 years of age.
 - Occluder glasses can be purchased online.
 - An alternate cost-effective way to make occluder glasses is to use inexpensive child-sized wraparound sunglasses.
 - Pop the right lens out and occlude the left lens with duct tape or a large sticker making sure there are no gaps left open.
 - Do the same with the other pair, but pop the left lens out and occlude the right lens.

- Because children come in all shapes and sizes, it is recommended that you purchase various sizes of children's sunglasses to ensure a proper fit.
- **Plastic occluders** with lips and spectacle occluders can be purchased online.
 - Plastic occluders are to be used are to be used during the Unilateral Cover Test.
 - They can be used for screening children 10 years of age and older.
 - Plastic occluders can also be used to cover an eye for other tests where a child is unable to wear occluder glasses (e.g., already wearing glasses, refuses to wear them, etc.). Be sure the child is not peeking around the occluder and that it is held in the proper position. The small raised area should be positioned to the inside of the child's eye and aligned with the bridge of the nose and under prescription glasses. It may be helpful in these situations to have one person hold the occluder over the eye and monitor the child for peeking and ability to tolerate the occluder, while another person administers the test. **Kids peek.**
- **Adhesive temporary occlusion eye patches or 2 inch micro-pore paper tape** can be helpful for children who will not wear occluder glasses. They can be used in cases where other forms of occlusion are not effective. These patches and

tape may be purchased online or at medical supply stores.

- For information on cleaning occlusion equipment go to [infection control considerations for vision screening \(www.health.state.mn.us\)](http://www.health.state.mn.us).

Procedures for screeners

Vision History and Risk Assessment

Ages

Post newborn through five 5 years, or at any age if family history is unknown. Continue to update ocular history at each subsequent well child visit.

Purpose

Identify a child/family history of any medical conditions that may be associated with eye disorders.

Description

Elicit information of selected medical conditions and syndromes from the parents that may indicate the need for referral even if other screening procedures are passed.

Include a review of the following risk factors for potential vision conditions recognized by the American Academy of Pediatrics and the [National Center for Children's Vision and Eye Health \(www.nationalcenter.preventblindness.org\)](http://www.nationalcenter.preventblindness.org)

- Prematurity < 32 weeks.
- Family history of:
 - Congenital cataracts
 - Retinoblastoma
 - Metabolic or genetic diseases
 - Amblyopia

- Wearing glasses before 6 years of age.
- Significant developmental delay.
- Neurological difficulties such as seizure disorders
- Systemic diseases associated with eye abnormalities

Additionally, the parent/caregiver is asked to identify any complaints or unusual visual behavior their child may exhibited.

Forms

[Teacher and Child Vision Pre-Screening Worksheet](#), and/or, [Child Vision History Questionnaire for Parent/Caregiver \(www.state.mn.us\)](#).

Screener qualifications

Can be performed by screeners who have completed the recommended training by MDH or equivalent.

Procedure

Parent/caregiver is given the forms to complete. Their answers are reviewed and flagged if there is a significant history of conditions, syndromes, risk factors for vision conditions, or concerning behaviors reported.

If parent/caregiver has questions regarding the form, a contact number for referral/follow-up should be given.

PASS

No child or family history of associated conditions, syndromes or vision behaviors is identified.

REFER

Child or family history of associated conditions or syndromes or concerns is reported.

External Inspection and Observation

Ages

Post newborn through 20 years of age.

Purpose

To check for signs of external eye disease or abnormalities.

Description

A systematic inspection of observable parts of the eye and surrounding tissue.

Equipment

None

Screener qualifications

Can be performed by screeners who have completed the recommended training by MDH or equivalent.

Facilities

A well-lit room, free of distractions.

Procedure

1. If the child is wearing glasses, the glasses may be removed in order to give the screener an unobstructed view of the area around the eyes.
2. The area around the eyes should be checked for swelling and/or discoloration, also excessive tearing or discharge.
3. Observe the child's eyes to see if one eye appears to turn in, out, up, or down in relation to the other.

The eyes should hold steady, without excessive movement (nystagmus), while gazing straight ahead. The position of a persistent head tilt should also be noted.

4. The eyes should be checked in the order suggested by the acronym "WIPL."

Whites: The sclera should be a shade of white. There should be no new discoloration or growths.

Iris: The iris should be a complete circle. Both should be the same color.

Pupils: The pupils should be clear and dark. There should be no cloudiness or white discoloration. The pupils should be of equal size and circular shape.

Lids and lashes: The lids in their natural, open position should give a full view of the pupil. The lids should be free of lumps (chalazia). There should not be redness or signs of discharge along the margin. The margin of the lid should be flush against the surface of the eye. The child should show normal blinking during observation period. Lashes should be present on the top and bottom lids of both eyes. Lashes should not turn in causing them to come in contact with the eye.

PASS

Normal appearance of all parts of the eye.

REFER

Any noted abnormality:

If a white pupil (leukocoria) is noted, an immediate referral to an ophthalmologist or optometrist is necessary.

If one eye appears to turn in (eyes cross), out, up, or down in relation to the other, there is excessive movement (nystagmus), or a persistent abnormal head position the child should be referred to an ophthalmologist or optometrist.

Signs of excessive redness and/or discharge indicate the screening should be stopped and the child referred to their primary health care provider, ophthalmologist or optometrist to reduce the risk of spreading a possible infection and/or falsely failing the screening. Screening should be rescheduled for the next available time.

Binocular Fix and Follow

Ages

Four months through 3 years or until visual acuity can be measured.

Purpose

To check for the movement of both eyes while following a continuously moving target.

Description

Target is moved horizontally then vertically in relation to a center point on a visual axis of each eye. Make sure the child's head does not move; the parent can help steady the child.

Equipment

Penlight or interesting target.

Screener qualifications

Can be performed by screeners who have completed the recommended training by MDH or equivalent.

 Facilities

A well-lit room, free of distractions.

 Procedure

Go to [Binocular Fix and Follow \(www.health.state.mn.gov\)](http://www.health.state.mn.gov).

 Corneal Light Reflex **Ages**

Post newborn through 20 years of age.

 Purpose

To check for milder degrees of constant strabismus. To differentiate pseudo-strabismus of children with large epicanthal folds.

 Description

By noting the position of light being reflected in the pupils, the observer is able to check for a constant strabismus.

 Equipment

Penlight and target object.

 Screener qualifications

Can be performed by screeners who have completed the recommended training by MDH or equivalent.

 Facilities

Normal or lower light level. Minimize, if possible, the number of light sources (i.e., windows, overhead lights, etc.).

 Procedure

Go to [Corneal light reflex \(www.health.state.mn.gov\)](http://www.health.state.mn.gov).

 Unilateral Cover Test - At Near **Ages**

6 months through 20 years.

 Purpose

To assess ocular alignment in primary gaze.

 Description

Observing the uncovered eye for movement while child fixates on a target.

 Equipment

Handheld occlude and small single handheld target (i.e., a sticker on a tongue depressor or Popsicle stick, not a penlight).

 Screener qualifications

Can be performed by screeners who have completed the recommended training by MDH or equivalent.

 Facility

A well-lit room, free of distractions.

 Procedure

1. Have the child seated in front of examiner, while the examiner holds a fixation target 15 inches in front of child; ensure the child acquires fixation.
2. Cover the child's right eye with the occluder, watch the uncovered eye (left eye) for movement.
3. Uncover both eyes and have child reacquire fixation.

4. Cover the child's left eye with the occluder, watch the uncovered eye (right eye) for movement.

This procedure should be repeated 2 or 3 times.

PASS

No detection of movement in the uncovered eye.

REFER

Repeatable movement of uncovered eye or resistance to occlusion by child for one eye but not the other.

Unilateral Cover Test - At Distance^{5,6}

Ages

3 years through 20 years.

Purpose

To assess ocular alignment in primary gaze.

Description

Observing the uncovered eye for movement while child fixates on target.

Equipment

Handheld occlude and small single target at 10 feet (i.e. visual acuity chart).

Screener qualifications

Can be performed by screeners who have completed the recommended training by MDH or equivalent.

Facilities

A well-lit room, free of distractions.

Procedure

1. Have child seated in front of examiner and fixate on the target 10 feet away.
2. Cover the child's right eye with the occluder, watch the uncovered (left eye) for movement.
3. Uncover both eyes and have child reacquire fixation.
4. Cover the child's left eye with the occluder, watch the uncovered eye (right eye) for movement.

This procedure should be repeated 2 or 3 times.

PASS

No detection of movement in the uncovered eye.

REFER

Repeatable movement of uncovered eye or resistance to occlusion by child for one eye but not the other.

Distance Visual Acuity

LEA SYMBOLS[®] or HOTV letters

Ages

Three to 6 years of age.

Purpose

To screen for clarity of vision when looking in the distance; to detect myopia, amblyopia, astigmatism, and or/anisometropia.

Description

Visual acuity is checked using a standardized LEA SYMBOLS[®] or HOTV wall

chart with 50% spaced rectangle boxes around each line. Or for children who do not know the alphabet or have difficulty with the LEA SYMBOLS® or HOTV wall chart, the Massachusetts Visual Acuity Flip Chart with age-appropriate optotypes (letters or symbols) and a response card. The child can point to an optotype on the response card matching the one the screener is indicating on the flip chart.

Equipment

- LEA SYMBOLS® or 10-foot HOTV vision chart (with 50% spaced rectangle). OR
- LEA SYMOLS® Massachusetts Visual Acuity Flip Chart.
- Student response card and individual cards.
- Occluder glasses for right and left eyes.
- Table and chairs (optional)

Screener qualifications

Can be performed by screeners who have completed the recommended training by MDH or equivalent.

Facilities

Room at least 12 feet long or greater, well-lit, and without glare and distractions.

Procedure

Go to [Distance Visual Acuity Screening with LEA SYMBOLS® or HOTV Wall Charts](#) and [Distance Visual Acuity Screening with LEA SYMBOLS®/ HOTV Flip Chart](#) (www.health.state.mn.us).

PASS

Must be able to correctly identify any 4 out of the 5 optotypes on the critical passing

ling for age or better without a difference of two lines or more between the eyes in the PASS range.

Age 3 years

10/25 (20/50) or better in each eye without a difference of two lines or more between the eyes.

Age 4 years

10/20 (20/40) or better in each eye without a difference of two lines or more between the eyes.

Age 5 years

10/16 (20/32) or better in each eye without a difference of two lines or more between the eyes.

REFER/rescreen criteria

The majority of children who do not meet passing criteria will be referred.

Some children may need rescreening.

Rescreening should be performed if a child was unable to follow instructions, was overly distracted during the testing or was unable to complete the initial screening. Rescreening should occur as soon as possible but in no case later than 6 months from the initial screening date.

For more information on rescreening criteria, go to the section on “rescreening untestable children” on page 10 of this document. Please note: children who resist having their eye covered during the screening phase should be suspected of having vision loss in the **uncovered** eye, rather than being uncooperative, and should be referred.

REFER

Age 3 years

10/32 (20/60) or worse in either eye or a difference of two lines or more between the eyes in the PASS range.

Age 4 years

10/25 (20/50) or worse in either eye or a difference of two lines or more between the eyes in the PASS range.

Age 5 years

10/20 (20/40) or worse in either eye or a difference of two lines or more between the eyes in the PASS range.

Considerations for screening special populations:

The matching of the LEA SYMBOLS[®] or HOTV symbols may be practiced before the screening. A practice sheet that can be duplicated is in the Addendum of the [Vision Screening Procedures For Infancy, Childhood and School Age Children \(www.health.state.mn.us\)](#). For some children with special needs, it may be useful to reproduce the response card, cut and space them so that larger movements can be used when indicating the matching symbol.

Tips: **Kids Peek.** It is important to place properly sized occluder glasses on the child to ensure there is no peeking around or above the glasses. Watch for memorization. Watch for head tilt.

Children unable to perform the screening with the HOTV chart or flip chart should be

screened with the LEA SYMBOLS[®] or LEA SYMBOLS[®] Flip Chart.

Sloan letters**Ages**

6 years and older.

Purpose

Screen for clarity of vision when looking in the distance; to detect myopia, amblyopia, astigmatism, and/or anisometropia.

Description

Visual acuity is checked using a standardized Sloan Letters wall chart, proportionally spaced (LogMAR design).

Equipment

- Sloan Letters Chart (10 Foot); positioned at the child's eye level
- Age appropriate occluders

Screener qualifications

Can be performed by screeners who have completed the recommended training by MDH or equivalent.

Facilities

Room at least 12 feet long, well-lit, and without glare or distractions.

Procedure

Go to [Distance Visual Acuity Screening - Sloan Letters \(www.health.state.mn.us\)](#).

PASS

10/16 (20/32) or better in each eye without a difference of two lines or more between the eyes in the PASS range.

REFER

10/20 (20/40) or worse in either eye or a difference of two lines or more between the eyes in the PASS range.

Considerations for screening special populations:

If a child does not know the alphabet or is developmentally unable to perform the Sloan Letters test of visual acuity, then screen with the HOTV or LEA SYMBOLS[®] chart instead. If the child is still unable to perform the screening go to the Rescreening Untestable Children section on the next page for more information.

Plus Lens Screening (near visual acuity screening)⁷

Once a child (who does not wear glasses) has passed the distance visual acuity screening, a plus lens screening is performed. Plus lens screening is a required component of a C&TC vision screening exam.

Ages

5 years and older.

Purpose

To check for hyperopia (farsightedness or near visual acuity problems).

Description

Near visual acuity is checked at the same 10-foot distance as for distance visual acuity.

Equipment

- A pair of +2.50 glasses

- Visual acuity chart

 Screener qualifications

Can be performed by screeners who have completed the recommended training by MDH or equivalent.

Facilities

Room at least 12 feet long or greater, well-lit, and without glare or distractions.

Procedure

Go to [Plus Lens Screening \(www.health.state.mn.us\)](http://www.health.state.mn.us).

PASS

Blurring of vision with the +2.50 lens glasses.

REFER

Clear vision with +2.50 glasses.

This indicates the child has a high amount of farsightedness and needs to be referred for evaluation.

Color Vision Deficiency Screening**Ages**

Kindergarten males.

Purpose

To check for color vision deficiency.

Description

Color vision deficiency is checked by having the child read numbers or follow lines on specially designed color plates.

Equipment

Ishihara Pseudo-Isochromatic Plates, Color Vision Testing Made Easy or Good-Lite Color

Check and fluorescent desk lamp, if enough natural daylight is unavailable.

Facilities

A well-lit room, free of glare.

Screener qualifications

Can be performed by screeners who have completed recommended training by MDH or equivalent.

Procedure

Go to [Color Vision](http://www.health.state.mn.us) (www.health.state.mn.us).

Rescreening, Referral, Follow-up, and Tracking

Rescreening untestable children

Rescreening is indicated for the child who did not PASS any part of the initial screening and did not have a condition requiring referral. Rescreening should be performed if a child was unable to follow instructions, was overly distracted during the testing, or was unable to complete the initial screening.

Refer

Children with the following should be referred directly for evaluation by an eye care professional:

- Family or personal history of associated conditions or syndromes or concerns about visual behaviors are reported.
- Observed eye abnormalities noted on the visual inspection, corneal light reflex, pupillary light response, or red reflex procedures.

- Abnormal eye movements noted on the binocular fix and follow or the unilateral uncover test.
- Children who resist having their eyes covered should always be suspected of having a visual deficit in the eye not being covered.

The purpose of a rescreen is to eliminate from referral those children who did not PASS the initial screening because of such factors as illness, anxiety, misunderstanding, etc.

For children who lack an understanding of visual acuity screening, spend a few moments conditioning them to match the letters or symbols used on the acuity chart.

For more information go to “Considerations for screening special populations” on page 9 of this document.

Rescreen at the following intervals:

- Ages 3 to 6 years of age, rescreen the same day if at all possible. If not, rescreen **within** 6 months.
- Rescreen children 6 years and older within 30 days. If still untestable after rescreening, REFER as soon as possible to be examined by an optometrist or ophthalmologist.

Rescreening procedures are the same as those followed for the initial screening.

Referral, Follow-Up and Tracking

For Head Start, Early Childhood Screening, or school screening go to [Rescreening, referral, follow up, and program evaluation](#).

Internal tracking for clinics and health programs

Careful internal tracking is highly recommended for clinics or health care programs who do not already have a set schedule to evaluate this. Per the [National Center for Children’s Vision and Eye Health \(www.preventblindness.org\)](http://www.preventblindness.org), the national average for initial referral is 5%. Referral rates typically are higher for children of low-income families, and those who require a rescreening. Therefore, attention must be paid if the initial referral rates for a clinic or health care program are below 5%, as this may indicate an issue in how the screening guidelines are implemented.

Optional Vision Screening

Stereo Acuity Screening

Stereopsis measurement should be performed before the eyes are dissociated by tests such as the cover test.

Ages

3 through 8 years of age (C&TC) or third grade (Early Childhood Screening and school screenings).

Purpose

To check for problems with stereoacuity or depth perception.

Description

Stereoacuity is checked by noting if the child is able to see the raised the raised E or butterfly while wearing polarized glasses.

Equipment

Random Dot E stereo card, blank stereo card, model E card, and polarized glasses.

Screeener qualifications

Can be performed by screeners who have completed the recommended training by MDH or equivalent.

Facilities

A well-lit room, free of glare and distractions.

Random Dot E procedure

Go to the [Random Dot E Procedure \(www.health.state.mn.us\)](http://www.health.state.mn.us).

Butterfly procedure

Go to [Butterfly Procedure \(www.health.state.mn.us\)](http://www.health.state.mn.us).

Vision Screening Procedures for Health Care Personnel

Pupillary Light Response

Ages

Post newborn through 20 years.

Purpose

To check for the pupils' reaction to changes in illumination.

Description

Pupillary light response is checked as a light is briefly flashed into the eye.

Equipment

- Penlight.
- Visual acuity chart at 10 feet from the child’s eyes.

Note

This test should be performed AFTER the visual acuity test, as the bright light creates dark afterimages that may have a negative impact on the acuity test.

Facilities

Room at least 12 feet long with low light.

 Screener qualifications

This test should be performed only by trained health care personnel, such as ophthalmic or optometric staff or nurses.

Procedure

1. Dim the room lights.
2. Instruct the child to look at the largest figure on the eye chart across the room or another large target that keeps the attention of the child away from the light.
3. Observe the size and shape of the pupils (they should be round and equal in size).
4. Turn on the penlight and shine it directly into the child's right eye at a distance of approximately 3 inches from the eye.
5. Observe the pupil size quickly decrease (constrict) in both eyes.
6. Move the penlight away from the eyes.
7. Observe the increased size of both pupils (dilate) after the penlight is moved away.
8. Direct the penlight to the left eye and shine it directly into the child's eye at a distance of approximately 3 inches from the eye.

9. Observe the pupil size quickly decrease (constrict) in both eyes.
10. Direct the penlight (still on) to the right eye and observe the pupil size (it should stay small).
11. In a smooth motion, swing the penlight (still on) to the left eye and observe the pupil size (it should stay small).
12. Repeat the swinging penlight motion between the two eyes.

PASS

- Pupils dilate (get larger) when room light is dimmed.
- Pupils are round and equal in size, both in bright and dim light.
- Pupils quickly and symmetrically constrict to a bright light directed into either of the eyes, and when the bright light swings between the two eyes.

REFER

- Unequal or sluggish response to light.
- Pupils unequal in size or not round.

Retinal (red light) Reflex**Ages**

Post newborn through 20 years.

Purpose

To check for abnormalities that block light flow within the eye by observing the reflected light from the retina which is red in color.

Description

Check for symmetrical and equal intensity

reflexes from the retina with an ophthalmoscope light.

Equipment

Ophthalmoscope

Screener qualifications

This test should be performed only by trained health care personnel, such as ophthalmic or optometric staff or nurses.

Facilities

Lower light level with a minimum number of light sources (windows, etc.).

Procedure

Go to [Retinal \(Red Light\) Reflex \(www.health.state.mn.us\)](http://www.health.state.mn.us) procedure.

Instrument-Based Vision Screening

Overview and Recommendations

Instrument-based vision screening using automated devices include photoscreeners and autorefractors. Photoscreening uses the eye's red reflex to estimate a refractive error as well as identify other factors that put a child at risk for developing amblyopia, such as media opacity, ocular alignment, and ptosis. Autorefraction uses automated technology to estimate the refractive error of each eye.^{8,9} Most auto-refractors measure one eye at time and, therefore, are limited in their ability to detect strabismus when the refractive error is normal. However, there are other autorefractors that can measure both eyes at the same time. While vision screening devices test for eye conditions or risk

factors that may cause decreased vision or amblyopia, they do not test for visual acuity.¹⁰

Photoscreening and screening with handheld autorefractors may be electively performed on children as young as 6 months, allowing earlier detection of conditions that may lead to amblyopia.⁸ They can be used with children who are unable or unwilling to cooperate with routine visual acuity screening. Photoscreening and handheld autorefraction are recommended as an alternative to visual acuity screening with vision charts from 3 through 5 years of age. Currently instrument-based vision screening is not recommended for children older than 6 years of age who can be screened with visual acuity charts. Automated photoscreening devices and handheld autorefractors have undergone extensive validation studies in pediatric ophthalmology offices^{11, 12, 13, 14, 15} and in field settings.^{16, 17, 18, 19, 20, 21} The magnitude of refractive error and other risk factors for amblyopia development that should be detected using automated preschool vision screening devices has recently been updated and published.²⁰

These recommendations are made with the expectation that vision screening will occur several times during a child's formative years and reflect a desire for high specificity in the youngest children and high sensitivity in older children. Screening with these devices must be combined with a unilateral cover test or stereo test to

ensure the most reliable detection of amblyopia risk factors.^{22, 23}

Considerations

Autorefractors and photoscreeners have software and settings that are pre-installed. The software version appears on the startup screen when the device is turned on. The referral criteria settings should take into consideration:⁹

- The child's age - younger children have higher passing thresholds.
- Sensitivity - higher detection and referral rates.
- Specificity - fewer false positives but higher chance of missing at risk children.

Screening instrument settings vary from the AAPOS refractive risk factor target numbers used by ophthalmologists to detect refractive errors in the eye care provider office setting.

Many photoscreeners permit the user to select age-specific referral criteria AFTER consulting with a local eye care professional. The settings and software should be kept up to date, and can be updated with assistance for a nominal fee, per the manufacturer.

MDH does not make brand/equipment specific recommendations. This technology is rapidly evolving and programs need to make careful decisions including staying up to date on current evidence before purchasing equipment.

There are no recommendations to determine which method is better for mass

screenings. Visual acuity screening with a chart should still be a priority as it may catch conditions not assessed by an automated device. It is ideal to screen for visual acuity as young as possible. It should be performed as soon as a child is able to be screened using a visual acuity chart, or at least by 5 to 6 years of age, in order to optimize treatment for amblyopia. Visual acuity screening should also be made available upon parent or teacher request or if the child is new to a location that employs instrument-based vision screening.

Information on MDH Vision Screening

For more information on MDH vision screening procedures and recommendations, please go to the [MDH Vision Screening \(www.health.state.mn.us\)](http://www.health.state.mn.us) home page.

For further information, contact:
[Minnesota Department of Health,](http://www.health.state.mn.us)
[Community and Family Health Section](http://www.health.state.mn.us)
651-201-3760
www.health.state.mn.us
health.childteencheckups@state.mn.us

References

General References

Unless otherwise indicated these vision screening guidelines were developed using the following professional recommendations and guidelines:

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Unilateral Cover Test References

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