

Digging Deeper into the Kansas Vision Screening Requirements and Guidelines, 6th Edition

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For personal viewing only to review and refresh knowledge.

Not to be used as a stand-alone training or certification tool.

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Introduction and Disclaimer



- ▶ 18 years in vision screening field
- ▶ *Former Director/Lead Trainer – Vision Initiative for Children – West Virginia University Eye Institute – focus on Head Start, school nurses, pediatric primary care practices*
- ▶ Member –Advisory Committee to the National Center for Children's Vision and Eye Health at Prevent Blindness
- ▶ *Consultant – Vision Screening Committee, American Association for Pediatric Ophthalmology and Strabismus*
- ▶ Current Director – Vision and Eye Health Initiatives at Good-Lite and School Health Corporation
- ▶ *Current Education and Outreach Coordinator for the National Center for Children's Vision and Eye Health at Prevent Blindness*
- ▶ My focus is to encourage age-appropriate and evidence-based vision screening – based on national guidelines and best practices – as part of a 12-component Strong Vision Health System of Care.

Presenters



- ▶ Cindy Galemore, MEd, BSN, RN, NCSN, FNASN
 - Consultant to KDHE, Bureau of Health Promotion, Healthy Kansas Schools Grant
 - Professional Standards Chair, Kansas School Nurses Organization
 - Member of Kansas Vision Coalition
 - Editor *NASN School Nurse*
 - Champion of school nurses, especially school nursing in Kansas!

Objectives

Note: This breakout session does *not* count as training and certification.

- ▶ Differentiate vision screening tools as recommended in the Kansas Vision Screening Requirements and Guidelines, 6th edition, by:
 - Age appropriateness,
 - Screening equipment and setup,
 - Screening procedures,
 - Referral criteria, and
 - Mandated versus recommended and optional tools.

Resources in Addition to Kansas Vision Screening Requirements and Guidelines, 6th Addition

Check for updates

Screening/Referral

Screening/Referral

An Eye on Vision

20 Questions About Vision Screening and Eye Health

P. Kay Nottingham Chaplin, EdD
Kira Baldonado, BA
Geoffrey E. Bradford, MS, MD
Susan Cotter, OD, MS, FAAO
Bruce Moore, OD

Current evidence-based and best practice vision screening and eye health approaches, tools, and procedures are the result of revised national guidelines in the past 3 years and advances in research during the last 15 years. To help the busy school nurse with little time to keep up with changes in children's vision practices and a growing body

of answers to 20 questions, the National Center for Children's Vision and Eye Health used published, peer-reviewed research, vision screening and eye health national guidelines, and consensus-based best practices from eye care professionals and public health experts. The answers may differ from your state or district vision screening recommendations and mandates.

indicating where the student should stand, the student stands with the arches of each foot on the line so that the end of the screening distance from the chart is in alignment with the student's eyes.

Exclusions

A. None should exclude any be excluded

Nottingham Chaplin, P. K., Baldonado, K., Bradford, G. E., Cotter, S., & Moore, B. (2018). An eye on vision: 20 questions about vision screening and eye health. *NASN School Nurse*, 33(2), 87-92.

An Eye on Vision

Five Questions About Vision Screening and Eye Health

P. Kay Nottingham Chaplin, EdD
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of screenings at different ages in different states. What are the recommended ages for school-based vision screening?

ANSWER: While vision screening guidelines exist for many (but not all) states, they can vary widely.

critical for identifying vision disorders where treatment windows are short (e.g., amblyopia), as well as identifying vision disorders that may emerge in late childhood and adolescence (e.g., myopia). Early and ongoing vision screening can also help to detect untreated vision

Nottingham Chaplin, P. K., Baldonado, K., Bradford, G. E., Cotter, S., & Moore, B. (2018). An eye on vision: Five questions about vision screening and eye health. *NASN School Nurse*, 33(3), 146-149.

Screening/Referral

An Eye on Vision

Five Questions About Vision Screening and Eye Health—Part 2

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advances in research during the last 18 years. In providing answers to the five questions in this article, the National Center for Children's Vision and Eye Health at Prevent Blindness used published peer-reviewed research, vision screening and eye health national guidelines, and consensus-based best practices from eye care professionals and public health experts. The answers may

ANSWER: We use the term "Snellen fraction" in our answer to represent Herman Snellen's creation of the fraction of 20/XX in 1862 (Uwings, 1920). Snellen fraction is the 20/XX visual acuity measurement used on eye charts. The use of "Snellen" in Snellen fraction should not be confused with Snellen charts. The preferred optotype-based chart for vision screening

Nottingham Chaplin, P. K., Baldonado, K., Cotter, S., Moore, B., & Bradford, G. E. (2018). An eye on vision: Five questions about vision screening and eye health-Part 2. *NASN School Nurse*, 33(4), 210-213.

Screening/Referral

An Eye on Vision

Five Questions About Vision Screening and Eye Health—Part 3

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Nottingham Chaplin, Baldonado, Bradford, Cotter, & Moore, 2018) that instrument-based vision screening should not be used with children older than age 6 years unless those children could not participate in optotype-based screening. We have consistently vision screening and want to use instrument-based screening with students of all ages. I appreciate the assistance from community volunteers, but what do I say to those volunteers when they want to use an instrument with children ages 6 years and older?

Nottingham Chaplin, P. K., Baldonado, K., Cotter, S., Moore, B., & Bradford, G. E. (2018). An eye on vision: Five questions about vision screening and eye health-Part 3. *NASN School Nurse*, 33(5), 279-283.

Screening/Referral

An Eye on Vision

Seven Questions About Vision Screening and Eye Health—Part 4

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Cast of Characters for National Guidelines

NCCVEH (ages 3, 4, and 5 years):

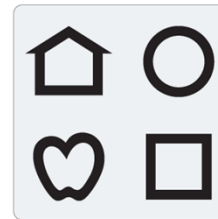
- National Center for Children's Vision and Eye Health at Prevent Blindness *for public health settings, primary care providers, early childhood agencies and educators, community organizations, and school nurses*
 - Optometry
 - Ophthalmology
 - Family Advocates
 - Nurses
 - Public Health Professionals
 - Educators


AAP or AAP/AAPOS/AAO/AACO *for pediatricians* (all ages):

- American Academy of Pediatrics
- American Association for Pediatric Ophthalmology and Strabismus
- American Academy of Ophthalmology
- American Association of Certified Orthoptists

Required in Kansas – Ages 3, 4, and 5 Years

- ▶ Distance visual acuity screening
 - LEA SYMBOLS® or HOTV optotypes
 - Critical line or full threshold formats
- ▶ Approved instruments instead of eye charts permissible

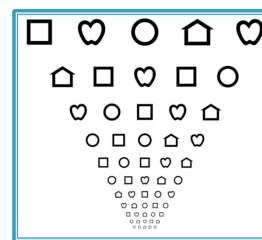




- ▶ Card with 4 optotypes – use as matching game
- ▶ Individual cards may be placed on floor in front of child – ask child to step on card matching optotype to identify

Threshold & Critical Line Screening

- Threshold screening
 - Move down chart until child cannot correctly identify majority of optotypes
- Critical line screening
 - Use only line child needs to pass according to child's age



From Q&A Papers

- ▶ If a student fails a critical line vision screening, do I follow up with full threshold screening?
 - No.
 - Failing a vision screening using the critical line pass/refer approach warrants a referral for further assessment from an eye care professional without the need for further screening with a full threshold charts to identify why the student did not pass the screening.
 - Critical line screening is just as effective as threshold screening (and perhaps more so) in identifying students with abnormal visual acuity in at least one eye (AAP/AAPOS/AAO/AACO).

Nottingham Chaplin, P. K., Baldonado, K., Cotter, S., Moore, B., & Bradford, G. E. (2018). An eye on vision: Seven questions about vision screening and eye health-Part 4. *NASN School Nurse*, 33(6), 351-354.

Required in Kansas – Ages 6 Years and Older

- ▶ Distance visual acuity screening
 - Sloan Letters
 - Critical line or full threshold formats
- ▶ Instruments **are not** permissible



From Q&A Papers

- ▶ . . . We have community volunteers who conduct our vision screening and want to use instrument-based screening with students of all ages. I appreciate the assistance from community volunteers, but what do I say to these volunteers when they want to use an instrument with children ages 6 years and older?
- Whether you conduct vision screening yourself or community partners conduct vision screening for you, you want to ensure that evidence-based vision screening tools and procedures are used to achieve the best screening results possible to reduce both over- and under-referrals.
- . . . Sufficient high-quality, peer-reviewed, published research is currently unavailable to recommend instrument-based vision screening for children ages 6 years and older as an evidence-based screening procedure.

Nottingham Chaplin, P. K., Baldonado, K., Cotter, S., Moore, B., & Bradford, G. E. (2018). An eye on vision: Five questions about vision screening and eye health-Part 3. *NASN School Nurse*, 33(5), 279-283.

Arranging the Environment

- ▶ Eye charts (threshold and critical line)
 - Clutter-free background
 - Measure distance between chart and child's eyes
 - Child stands with arches of feet on line, not heels or toes
 - Child sits with back to back of chair



Q&A from Papers

- ▶ At what height do I hang the threshold chart (chart with at least 10 lines of letters, numbers, or symbols [optotypes] decreasing in size)?
 - Lines 20/50, 20/40, and 20/32 should be at the student's eye level.

Nottingham Chaplin, P. K., Baldonado, K., Bradford, G. E., Cotter, S., & Moore, B. (2018). An eye on vision: 20 questions about vision screening and eye health. *NASN School Nurse*, 33(2), 87-92.

Occluders – 3 Years to <10 Years



Unacceptable Occluders Ages 3, 4, and 5 Years

- Hand



- Tissue



- Paper or plastic cup



- Cover paddle



- Why unacceptable?

- *Children can easily peek*



Cotter, S. A., Cyert, L. A., Miller, J. M., & Quinn, G. E. for the National Expert Panel to the National Center for Children's Vision and Eye Health. (2015). Vision screening for children 36 to <72 months: Recommended practices. *Optometry and Vision Science*, 92(1), 6-16. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4274336/pdf/oxp-92-06.pdf>

Occluders – Aged 10 Years and Older



"Lollypop" occluders



"Mardi Gras Mask" occluder

Prevent Blindness. (2015). *Prevent Blindness position statement on school-aged vision screening and eye health programs*. Retrieved from <https://www.preventblindness.org/sites/default/files/national/positions/Prevent%20Blindness%20Statements%20on%20School-aged%20Vision%20Screening%20%20Approved%208-2015.pdf>

From Q&A Papers

- ▶ Is it okay if an adult helping me screen vision covers the child's eye or holds the occluder?
 - No, it is not a good practice for an adult to cover the child's eyes or hold the occluder over the child's eyes.
 - The child can peek with these occlusion approaches if the adult stands behind the student or inaccurately holds the occluder.

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From Q&A Papers

- ▶ . . . Should I also conduct a full distance visual acuity screening with both of the child's eye uncovered? . . .
 - Screening distance visual acuity should always be done monocularly (i.e., one eye at a time with the other eye covered).
 - It is not done with both eyes open (binocularly) because the better-seeing eye typically determines the level of visual acuity found with both eyes open.

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From Q&A Papers

- Thus, if one eye has a visual acuity deficit and the other eye has normal visual acuity, you will measure normal visual acuity and miss the decreased vision of the affected eye.
- However, it is perfectly acceptable to have both of the child's eyes open for demonstration or training purposes before screening monocular visual acuity.

Nottingham Chaplin, P. K., Baldonado, K., Cotter, S., Moore, B., & Bradford, G. E. (2018). An eye on vision: Five questions about vision screening and eye health-Part 3. *NASN School Nurse*, 33(5), 279-283.

To Point or Not to Point . . . ?

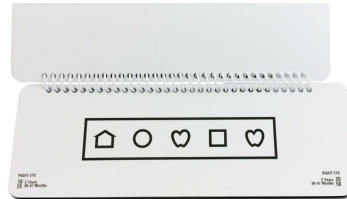
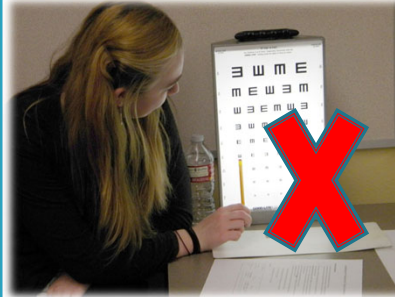
- ▶ Pointing to each optotype to help children know where they are on the chart is permissible.
 - ☐ True or False?
 - ✓
- ▶ 1.8 "Line-by-line isolation or pointing may be used, **but not letter by letter.**"



World Health Organization (2003). *Consultation on development of standards for characterization of vision loss and visual functioning*. Geneva: Switzerland. Retrieved from http://apps.who.int/iris/bitstream/10665/68601/1/WHO_PBL_03.91.pdf

No Pointing at Optotypes

- Holding pointer at optotype makes optotype easier to identify.
- *Instead . . . briefly point under or over top of optotype and quickly remove pointer.*
- If line has a box around optotypes, stay outside the box with pointer.



Referral Criteria Depending on Tool

NCCVEH

- Age 3 years:
 - Majority of optotypes on 20/50 line
- Ages 4 and 5 years:
 - Majority of optotypes on 20/40 line
- Ages 6 years and older:
 - Majority of optotypes on 20/32 line

AAP

- Age 3 years:
 - Majority of optotypes on 20/50 line
- Ages 4 years:
 - Majority of optotypes on 20/40 line
- Ages 5 years and older:
 - Majority of optotypes on 20/32 line
 - Or 2-line difference even in passing lines (e.g., 20/20 and 20/32)

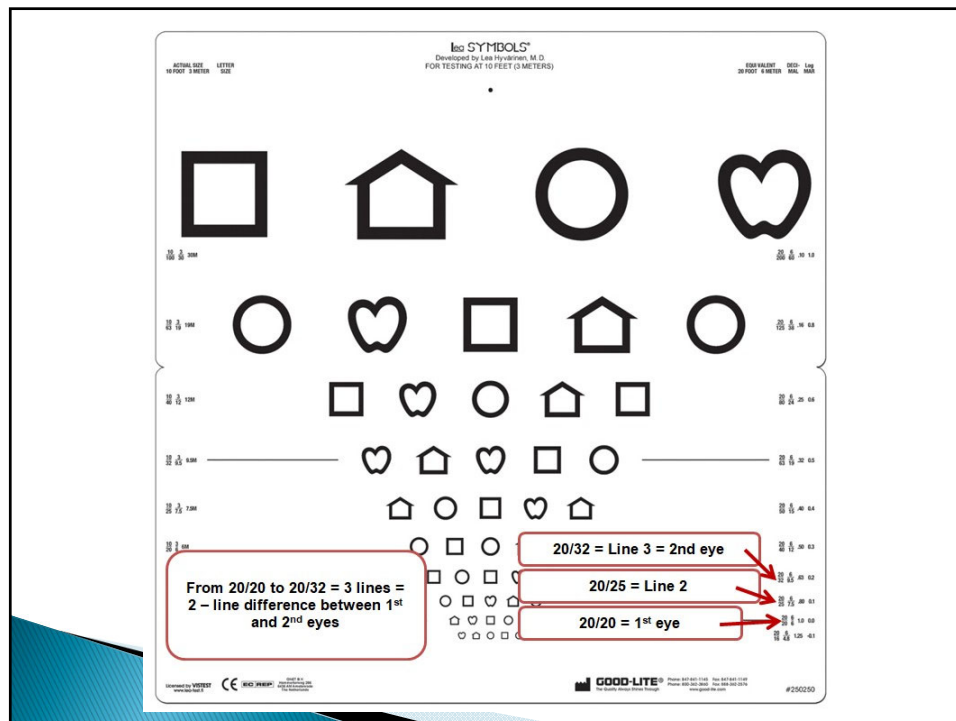
Cotter, S. A., Cyert, L. A., Miller, J. M., & Quinn, G. E. for the National Expert Panel to the National Center for Children's Vision and Eye Health. (2015). Vision screening for children 36 to <72 months: Recommended practices. *Optometry and Vision Science*, 92(1), 6-16. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4274336/pdf/opx-92-06.pdf>

Donahue, S. P., Baker, C. N., AAP Committee on Practice and Ambulatory Medicine, AAP Section on Ophthalmology, American Association of Certified Orthoptists, American Association for Pediatric Ophthalmology and Strabismus, American Academy of Ophthalmology (2016). Procedures for the evaluation of the visual system by pediatricians. *Pediatrics*, 137(1), e20153597. Retrieved from <http://pediatrics.aappublications.org/content/pediatrics/early/2015/12/07/peds.2015-3597.full.pdf>

From Q&A Papers

- ▶ Our vision screening guidelines recommend referring a child when a 2-line difference occurs between the eyes during distance threshold visual acuity screening with an eye chart. Please explain a 2-line difference?
- . . . (I)f you are required to perform threshold visual acuity screening and refer a child for a 2-line difference between the eyes, the joint guidelines (AAP/AAPOS/AACO/AAO) suggest that a referral be made even when a child passes visual acuity screening with each eye.

Nottingham Chaplin, P. K., Baldonado, K., Cotter, S., Moore, B., & Bradford, G. E. (2018). An eye on vision: Five questions about vision screening and eye health-Part 3. *NASN School Nurse*, 33(5), 279-283.



National Guidelines for Instrument-Based Screening

- ▶ Use beginning at age 12 months (AAP)
- ▶ Use for ages 1 and 2 years (AAP)
- ▶ Use instruments OR tests of visual acuity for children ages 3, 4, and 5 years (NCCVEH and AAP)
- ▶ Use instruments at any age for 6 years and older if child or young adult cannot do test of visual acuity (AAP)



Donahue, S. P., Baker, C. N., & AAP Committee on Practice and Ambulatory Medicine, AAP Section on Ophthalmology, American Association of Certified Orthoptists, American Association for Pediatric Ophthalmology and Strabismus, American Academy of Ophthalmology (2016). Procedures for the evaluation of the visual system by pediatricians. *Pediatrics*, 137(1), e20153597. Retrieved from <http://pediatrics.aappublications.org/content/pediatrics/early/2015/12/07/peds.2015-3597.full.pdf>

Cotter, S. A., Cyert, L. A., Miller, J. M., & Quinn, G. E. for the National Expert Panel to the National Center for Children's Vision and Eye Health. (2015). Vision screening for children 36 to <72 months: Recommended practices. *Optometry and Vision Science*, 92(1), 6-16. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4274336/pdf/oxp-92-06.pdf>

Instruments Vetted by NCCVEH Include:



Welch Allyn®
Spot™ Vision Screener



Plusoptix
S12C Vision Screener

From Q&A Papers

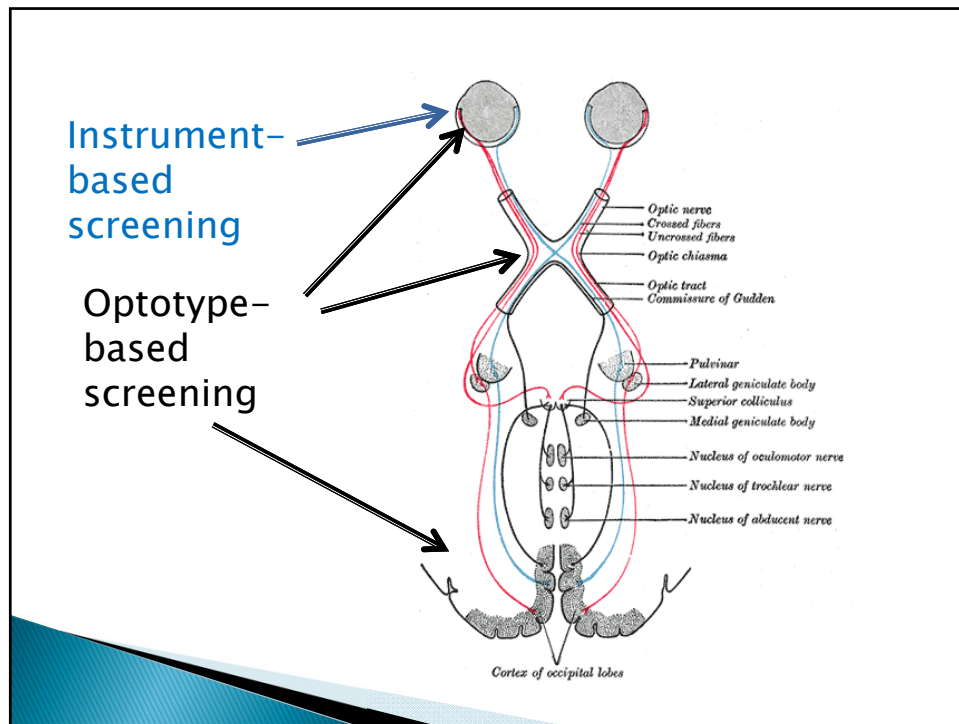
- ▶ How does screening with instruments differ from screening with eye charts?
 - Optotype-based vision screening (eye charts or computer software programs that display optotypes) measures visual acuity as interpreted by the brain.
 - Visual acuity is defined as the quantifiable measurement (e.g., 20/40) of the sharpness or clearness of vision when identifying black optotypes on a white background using specific optotype sizes at a standardized distance.

Nottingham Chaplin, P. K., Baldonado, K., Bradford, G. E., Cotter, S., & Moore, B. (2018). An eye on vision: 20 questions about vision screening and eye health. *NASN School Nurse*, 33(2), 87-92.

From Q&A Papers

- Instrument-based vision screening does **not** measure visual acuity, and instrument-based screening is **not** the same as vision screening machines addressed in Question 8.
 - (Answers from Question 8: “Machines” are similar to those found in motor vehicle testing facilities when you apply for a driver’s license.
 - Machines prevent the screener from observing a student’s face and eyes during screening . . .
 - Insufficient data exist to support machines as a preferred vision screening practice for school-aged children.)
- Instruments analyze digital images of the eyes to provide information about amblyopia risk factors, including
 - Estimates of significant refractive error (astigmatism, hyperopia, and myopia),
 - Estimates of anisometropia (difference of refraction between the eyes), and
 - Estimates of eye misalignment.

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From Q&A Papers

- You may be asking yourself if you should do both optotype- and instrument-based screening to measure different aspects of vision.
- In an ideal world, you would do both.
- However, limited time and resources often impact the practicality of such dual screening.

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From Q&A Papers

- ▶ If I cannot capture a reading with an instrument and I don't receive an error message – such as “pupils too small” – do I refer that student?
 - If you successfully captured readings on 10 or 15 students, the “wheel” on the instrument's results screen continues to spin on the 11th or 16th student, you receive no error message, and the device times out, refer the student.
 - Something about the eye may be preventing the instrument from receiving information from the eye.



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From Q&A Papers

- ▶ If a child does not pass instrument-based screening, should I conduct optotype-based screening before referring the student?
 - Absolutely not.
 - Instrument-based screening and optotype-based screening methods measure different aspects of the visual system.

Nottingham Chaplin, P. K., Baldonado, K., Cotter, S., Moore, B., & Bradford, G. E. (2018). An eye on vision: Seven questions about vision screening and eye health- Part 4. *NASN School Nurse*, 33(6), 351-354.

From Q&A Papers

- Instrument-based vision screening methods primarily provide an “estimate” of the type and amount of refractive error-hyperopia, myopia, astigmatism, and anisometropia.
- (Only an eye exam completed with cycloplegic eye drops determines a child’s true refractive error.)
- Optotype-based screening methods measure visual acuity (i.e., the sharpness of vision at a given distance).

Nottingham Chaplin, P. K., Baldonado, K., Cotter, S., Moore, B., & Bradford, G. E. (2018). An eye on vision: Seven questions about vision screening and eye health-Part 4. *NASN School Nurse*, 33(6), 351-354.

- Instruments typically will not capture readings on 100% of children (e.g., 97%).
- If doing instrument-based screening, still want optotype-based screening tool . . . just in case for other 3%.
- Example . . .

NCCVEH-vetted
instrument

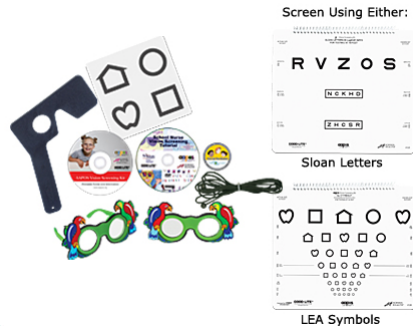


Sight Line Kit



Ages 3 Years – 21 Years

AAPOS Vision Screening Kit



American Association for Pediatric Ophthalmology and Strabismus

Includes:

- Distance
- Near
- Full threshold
- Critical line

Recommended in Kansas – Ages 3 years to 21 years

- ▶ ABCs
 - Appearance, Behaviors, Complaints
- ▶ Stereoacuity screening
 - If conducting optotype-based screening
- ▶ Stereoacuity screening
 - Not if conducting instrument-based

THINK OF VISION
Guide for Preschool Teachers

A young child does not know how they should see and cannot tell us about their vision. One or two children in every preschool classroom will have a vision disorder that, left unidentified and untreated, could interfere with their development and acquisition of early literacy skills. As a preschool teacher, you can support the vision of the children you teach.

If you repeatedly observe a preschooler exhibiting one or several of these signs, **THINK OF VISION**. Ask the parent, school nurse, or health manager for the child to receive a vision screening or comprehensive eye exam from an eye doctor.

APPEARANCE:

- Eyes are crusting, red, watery, inflamed or don't line up
- Eye turn, wandering eye, droopy eyelid

BEHAVIORS:

- Squints, frowns, rubs eyes or blinks frequently
- Body rigid, or droops head forward or backward when looking at distant objects
- Avoidance of eye contact
- Extreme shyness, poor social interaction
- Easily distractible/unable to focus or maintain attention
- Awful playing outside or joining in games
- Difficulty coordinating hand/eye movements (e.g., picking up objects)
- Clumsy, bumps into things

WHEN READING, WRITING OR DOING CLOSE-UP WORK:

- Poor letter or word recognition
- Difficulty completing a letter or symbol
- Reverses, skips lines, or loses place often
- Closes one eye when doing near work
- Tilt or turns head, or lays head on desk
- Falls asleep while reading
- Loses interest quickly
- Seems cranky when doing near tasks
- Holds books or objects close to face


ENROLLMENT IN PROGRAMS:

A comprehensive eye exam from an eye doctor should be part of the evaluation process if a child:

- Is enrolled in Early Intervention
- Is enrolled in a Special Education program
- Will receive an I.E.P. in school
- Has developmental delays

Most childhood vision disorders are treated by wearing prescription eyeglasses. To allow a preschooler the opportunity to enjoy play and learning, gain skills, and reach their fullest potential, the child needs to follow the eye doctor's treatment plan.

Teachers can help by understanding how the child's prescribed treatment should be applied in the classroom, and reinforcing and encouraging children and parents with adherence.


Visit childrensvisionmassachusetts.org for more information.

<https://childrensvision.preventblindness.org/sites/default/files/THINK%20OF%20VISION%2011-8-18.pdf>

ABCs Before Screening

Recommended

If a student passes all vision screening tools, but the screener has a concern from the ABCs checklist, the student is referred.

2. ABCs of Vision Checklist

Check all that apply (Prevent Blindness, 2015).

Appearance Signs

- ☐ Crossed eye or "wall" eye (eye turning in, out, up or down). Eye turn may be continuous or intermittent, particularly when the child is tired.
- ☐ Continually watering eyes.
- ☐ Red-rimmed, encrusted, or swollen eyelids.
- ☐ Cloudiness/haze.
- ☐ Unequal pupil size.
- ☐ Drooping eyelid(s). Ptosis, commonly called drooping eyelid, is observed as the sagging of an upper eyelid to touch or partially cover the pupil of the eye.
- ☐ Sties or infections on eyelids.
- ☐ Presence of white pupil. This can be associated with a rare but serious eye disease. The white pupil may be observed when looking directly at the individual's eyes, or in his or her photograph.
- ☐ Possible eye injury. Watch for eyes that are reddened, bloodshot, blackened, bruised or swollen, or show evidence of lacerations or abrasions.

Behavior Signs

- ☐ Body rigid when looking at distant objects.
- ☐ Clumsiness or decreased coordination.
- ☐ Thrusting head forward or backward while looking at distant objects.
- ☐ Tilting head to one side most of the time.
- ☐ Squinting or frowning when trying to focus.
- ☐ Excessive blinking.
- ☐ Closing or covering one eye while doing near work.

Complaint Signs

- ☐ Headaches, nausea, or dizziness.
- ☐ Blurred or double vision.
- ☐ Burning, scratchy, or itchy eyes.
- ☐ Sees blur when looking up after close work or when looking at whiteboard.
- ☐ Unusual sensitivity to light.

Stereoacuity Screening



PASS 2 Smile Test

Q&A From Papers



- ▶ . . . We are currently using Random Dot E as part of our vision screening. . . . Do you recommend it?
 - . . . (I) If you are required to conduct stereoacuity screening, the National Expert Panel to the National Center for Children's Vision and Eye Health . . . Recommends the Preschool Assessment of Stereopsis with a Smile (PASS 2 Smile) test.
 - This stereoacuity screening tool can be used with children of all ages.

Nottingham Chaplin, P. K., Baldonado, K., Cotter, S., Moore, B., & Bradford, G. E. (2018). An eye on vision: Five questions about vision screening and eye health-Part 3. *NASN School Nurse*, 33(5), 279-283.

Q&A From Papers

- When comparing results of the Random Dot E stereotest . . . with the Stereo Smile Test for Head Start children with ocular conditions in the Vision in Preschoolers Study, a greater number of children were found to be untestable compared with the Stereo Smile Test (the Stereo Smile Test is now called the PASS 2 Smile Test).
- Additionally, the Stereo Smile Test demonstrated higher sensitivity for identifying children with ocular conditions considered the most important to detect and treat early (Vision in Preschoolers Study Group, 2004, 2006).

Nottingham Chaplin, P. K., Baldonado, K., Cotter, S., Moore, B., & Bradford, G. E. (2018). An eye on vision: Five questions about vision screening and eye health-Part 3. *NASN School Nurse*, 33(5), 279-283.

- ▶ The Vision in Preschoolers (VIP) Study Group. (2004). Comparison of preschool vision screening tests as administered by licensed eye care professionals in the Vision in Preschoolers study. *Ophthalmology*, 111(4), 637–650.
- ▶ Vision in Preschoolers (VIP) Study Group. (2006). Random Dot E stereotest: Testability and reliability in 3- to 5-year-old children. *Journal of AAPOS*, 10(6), 507–514. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1884952/>

Q&A From Papers

- ▶ I have had some school nurses tells me that the photostcreening camera will check stereopsis. . . . Can you clarify?
 - Stereopsis, also known as binocular depth perception, is defined as the blending of similar images from both eyes into one image.
 - Instruments provide information about eye misalignment, but do not measure stereopsis specifically.
 - Whether stereopsis is impacted depends on the severity and type of eye misalignment.

Nottingham Chaplin, P. K., Baldonado, K., Cotter, S., Moore, B., & Bradford, G. E. (2018). An eye on vision: Seven questions about vision screening and eye health-Part 4. *NASN School Nurse*, 33(6), 351-354.

Q&A From Papers

- A child with misaligned eyes is likely to have decreased stereopsis, but an instrument will not provide this information.
- A stereoacuity screening tool (e.g., PASS 2 Smile Test) will determine whether or not stereopsis is normal.

Nottingham Chaplin, P. K., Baldonado, K., Cotter, S., Moore, B., & Bradford, G. E. (2018). An eye on vision: Seven questions about vision screening and eye health-Part 4. *NASN School Nurse*, 33(6), 351-354.

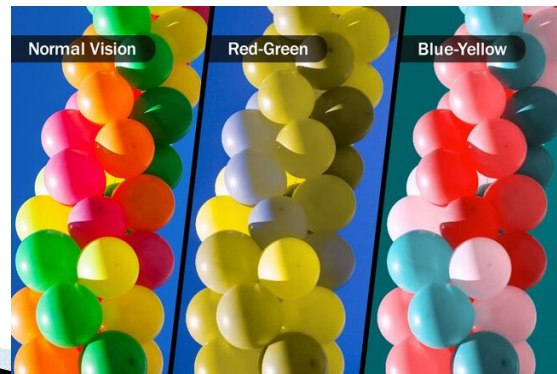
Q&A From Papers

- If you do instrument-based screening you do not need to also do stereoacuity screening.
- If a student did not pass instrument-based vision screening because results reported eye misalignment, the eye care professional would conduct stereoacuity screening to determine whether stereopsis is normal.

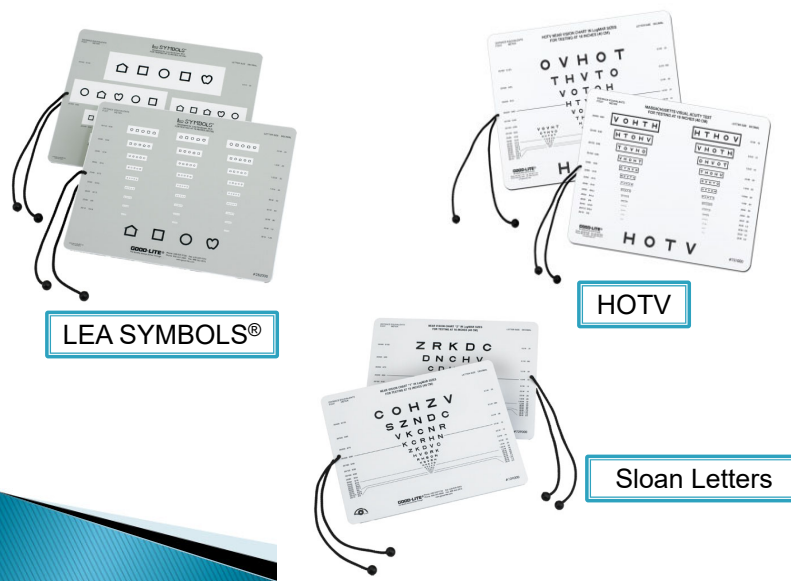
Nottingham Chaplin, P. K., Baldonado, K., Cotter, S., Moore, B., & Bradford, G. E. (2018). An eye on vision: Seven questions about vision screening and eye health-Part 4. *NASN School Nurse*, 33(6), 351-354.

Optional in Kansas – Ages 3 Years to 21 Years

- ▶ Near visual acuity screening
- ▶ Color Vision Deficiency Screening



Near Visual Acuity Screening



From Q&A Papers

- ▶ . . . (Y)ou provided two options for doing near vision screening (one eye at a time or both eyes simultaneously). If I screen one eye at a time, do I also need to screen with both eyes open?
- . . . (W)e said that no national guidelines exist that specifically recommend near vision screening or describe how near vision screening should be conducted.
- ~~We provided two options for individuals who are~~

Nottingham Chaplin, P. K., Baldonado, K., Cotter, S., Moore, B., & Bradford, G. E. (2018). An eye on vision: Five questions about vision screening and eye health-Part 2. *NASN School Nurse*, 33(4), 210-213.

From Q&A Papers

- Screen monocularly – or one eye at a time, as you would do when conducting distance visual acuity screening.
- Screen binocularly – that is, with both eyes open and by identifying the optotypes on only the line that the child should pass according to the child's age (e.g., a 7-year-old would identify the optotypes on the 20/32 line only).
- ~~Choose monocular or binocular screening and use that approach; you do not need to do both.~~

Nottingham Chaplin, P. K., Baldonado, K., Cotter, S., Moore, B., & Bradford, G. E. (2018). An eye on vision: Five questions about vision screening and eye health-Part 2. *NASN School Nurse*, 33(4), 210-213.

From Q&A Papers

- We recommend that you compare the outcomes of your near visual acuity screening results with comprehensive eye examination reports as a part of your annual vision screening system evaluation to determine if your approach identified a majority of correct referrals or resulted in over-referrals.
- Adjust your screening approach if needed.

Nottingham Chaplin, P. K., Baldonado, K., Cotter, S., Moore, B., & Bradford, G. E. (2018). An eye on vision: Five questions about vision screening and eye health-Part 2. *NASN School Nurse*, 33(4), 210-213.

From Q&A Papers

- ▶ My state vision screening guidelines call for conducting plus-lens testing for near visual acuity screening. What are your thoughts about plus-lens testing?
 - Plus-lens testing (e.g., using +2.50 hyperopia glasses and the 20/32 line of a distance chart) is not a near vision screening test and lacks high quality evidence to support its use.
 - The Prevent Blindness Position Statement on School-Aged Vision Screening and Eye Health Programs states that lens testing is not an evidence-based approach for detecting children with significant refractive error and is an unacceptable vision screening technique.

Nottingham Chaplin, P. K., Baldonado, K., Bradford, G. E., Cotter, S., & Moore, B. (2018). An eye on vision: 20 questions about vision screening and eye health. *NASN School Nurse*, 33(2), 87-92.

Prevent Blindness Position Statement on School-Aged Vision Screening and Eye Health Programs

<https://nationalcenter.preventblindness.org/star-pupils-childrens-program>

Position Statement on Vision Screening School-Aged Children (6 and Older)

The goal of school-age vision screening (children ages 6 and older) is to identify children with as yet undiagnosed amblyopia or other early childhood vision disorders that may still respond to treatment. Screeners will also look for other vision changes that may begin in third, fourth, or fifth grade during growth spurts.

View and download Prevent Blindness' position statement on vision screening school-aged children [here](#).

Color Vision Deficiency Screening



Good-Lite ColorCheck
Complete Vision
Screener



HRR Standard
Pseudoisochromatic Test,
4th Edition

From Q&A Papers

- ▶ . . . (I) f I am required to do color vision screening and a child passes the other parts of vision screening and fails only color vision screening, do I refer the child for an eye examination?
 - Yes
 - The eye care professional will confirm whether a color vision deficiency exists.

Nottingham Chaplin, P. K., Baldonado, K., Cotter, S., Moore, B., & Bradford, G. E. (2018). An eye on vision: Five questions about vision screening and eye health-Part 2. *NASN School Nurse*, 33(4), 210-213.

From Q&A Papers

- If a color vision deficiency exists, the eye care professional will also identify the type and severity (mild, moderate, or severe).
- The eye care professional will also consult with the parents/caregivers regarding how the type and severity of the color vision deficit may affect the child's learning, life, and career choices.
- Ask the parents/caregivers to obtain a copy of the results from the eye care professional and to share those results with you because classroom and/or learning activities may require accommodations when color deficiencies are present.

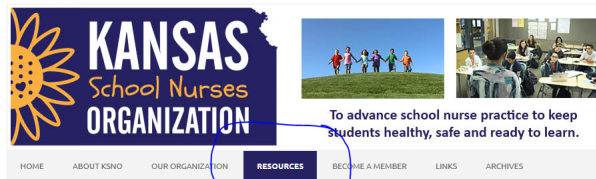
Nottingham Chaplin, P. K., Baldonado, K., Cotter, S., Moore, B., & Bradford, G. E. (2018). An eye on vision: Five questions about vision screening and eye health-Part 2. *NASN School Nurse*, 33(4), 210-213.

Appendix D Documents

Appendix D – Letters/Forms

1. Kansas *tiny-k* Vision Screen Form – Birth to Age 3 Years
2. ABCs of Vision Checklist
3. Recording Form-EyE Check Screener with LEA SYMBOLS® -20/50 Flipbook for 3 year olds
4. Recording Form-EyE Check Screener with LEA SYMBOLS® -20/40 Flipbook for 4 and 5 year olds
5. Vision Screening Parent Information Letter
6. School Vision Screening Referral Letter
7. Vision Screening Referral & Eye Care Professional Report
8. School Color Vision Screening Results Letter
9. Eye Care Professional Referral Follow Up

How to Access



- ▶ www.ksno.org School Nurses Resources
 - Resources tab
 - Hearing and Vision Screening Manuals
 - <http://www.ksno.org/hearing-and-vision-screening-manuals/>

The Kansas School Nurses O
PO Box 12534
Wichita, KS 67276

Ask yourself as we review:

- ▶ Which documents apply to my practice (age of students I am screening or screening tools I am using)?
- ▶ Why are some forms provided in PDF version and some in Microsoft Word version?
- ▶ Which form might best be placed in my school's electronic newsletter?
- ▶ Which two forms should be used together?
- ▶ Which forms reflect a change in practice based on the newly revised and updated 6th edition?
- ▶ What other languages should my school consider for translation of forms?

Call to Action

- ✓ Conduct evidence-based screening no later than August 2020.
- ✓ Help ensure follow-up to eye care when children do not pass vision screening.
- ✓ Help ensure children follow their treatment plans at school.

Thank you for your TIME and ATTENTION. . .

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