Vision Screening: Relationship Between Behavior and Classroom Challenges & Undetected and Uncorrected Vision Disorders

Elyse Fineman, MPH, MHA

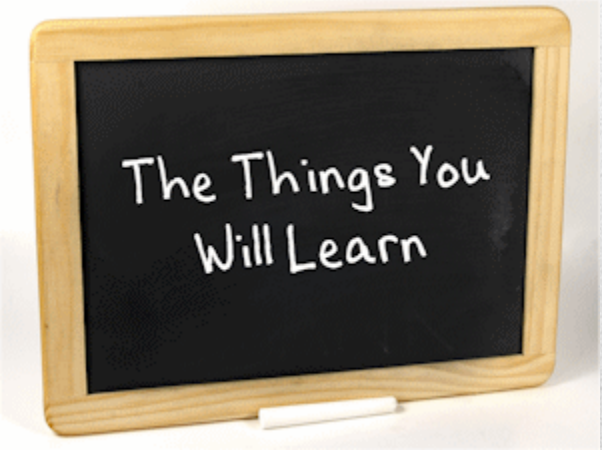
Created by

Dr. P. Kay Nottingham Chaplin, EdD

Info You Will Take Home …
4 Learning Objectives

List 1 website for finding resources to support your vision and eye health program.

Describe 2 evidence-based methods for screening vision.



Describe 3 common behaviors that may be related to poor vision.

Describe 3 positive outcomes in learning and behaviors after vision screening, eye examination, and prescription glasses.

Current State of Children's Vision in the U.S.

Vision disorders requiring treatment impact up to 1 in 17 of preschool-aged children in the United States.[a]

- Eye and vision disorders in children are a time-sensitive concern.
- If left undiagnosed and untreated, eye diseases and vision disorders in children can lead to permanent and irreversible vision loss and/or cause problems socially, academically, and developmentally.
- Nearly 94% of the vision problems leading to the impairment in preschool-aged children can be identified early during a vision screening resulting in earlier access to an eye care provider and improvement in vision.[b]
- Only 41% of children ages 5 years and younger are screened for vision problems.[c]

a. U.S. Preventive Services Task Force. (2017). *Vision screening in children ages 6 months to 5 years* (Evidence Synthesis No. 153). Rockville, MD: Agency for Healthcare Research and Quality, U.S. Department of Health and Human Services. Retrieved from https://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0098873/

b. Varma, R., Tarczy-Hornoch, K., & Jiang, X. (2017). Visual impairment in preschool children in the United States: Demographic and geographic variations from 2015 to 2060. *JAMA Ophthalmology, 135*(6), 610-616.

c. Block, S., & Baldonado, K. (2018). Staying Focused on Children's Vision: Leveraging Results from the 2016-2017 National Survey of Children's Health. Association of Maternal and Child Health Programs. Arlington, VA.

7 Classroom Behaviors that May be Related to Vision Disorders

Behaviors are not always related to vision.

A vision disorder is *something to consider* when the behaviors occur.

Conduct vision screening to rule out vision as a causal factor.

7 Classroom Behaviors

1. Talking in class
2. Notably quiet in class
3. “Spacey” children in their own world
4. Difficulty sitting still
5. Frustrated with academic work
6. Squinting during class activities
7. Clumsiness

Talking in class – Child said he talked because he was asking other students to help him read material on board.

Notably quiet in class – Child said she stopped looking at board . . . She couldn't see material on board.

"Spacey" and in own world – Interrupt story time to come forward to see book pictures. "I can see that now!"

Difficulty sitting still – Up and moving in circle time or watching TV with brother. Loner and bored. Now sits and participates in group activities.

Gallin, P. F. (2015, May 15). Kids who can't see can't learn. The New York Times. Retrieved from http://www.nytimes.com/2015/05/15/opinion/kids-who-cant-see-cant-learn.html?_r=0

Screener and parent stories.

<u>Frustrated with "academic work"</u> – Before glasses, "things looked dusty". Different child, happier, less frustrated.

<u>Squinting during class activities</u> – "Mommy! There are numbers on that circle on the wall!"

<u>Clumsiness until receiving glasses</u> – "I have realized through these screenings that vision can affect a child's behavior, balance, and academic performance."

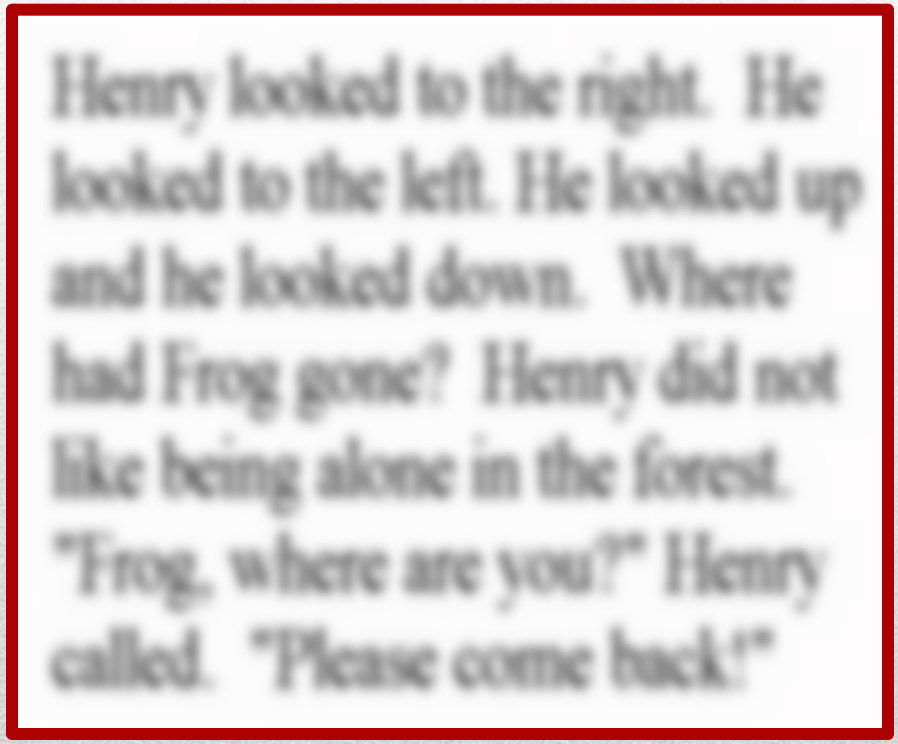
Gallin, P. F. (2015, May 15). Kids who can't see can't learn. The New York Times. Retrieved from http://www.nytimes.com/2015/05/15/opinion/kids-who-cant-see-cant-learn.html?_r=0

Screener and parent stories.

“Academic” Challenges

Relationship Between Vision and Learning

Henry looked to the right. He looked to the left. He looked up and he looked down. Where had Frog gone? Henry did not like being alone in the forest. “Frog, where are you?” Henry called. “Please come back!”



Multistate Level

- 2015 Vision in Preschoolers – Hyperopia in Preschoolers Study (VIP-HIP) found:
  - Children ages 4 and 5 years with uncorrected hyperopia (farsightedness ≥4.0 D) scored *significantly* worse on a test of early literacy than children with normal vision.
  - ≤ 4.0 D also had lower scores, but difference not statistically significant
- Test = TOPEL (Test of Preschool Early Literacy)
- Performance most affected:
  - Print knowledge subtest, which assesses the ability to identify letters and written words

VIP-HIP Study Group, Kulp, M. T., Ciner, E., Maguire, M., Moore, B., Pentimonti, J., Pistilli, M., Cyert, L., Candy, R., Quinn, G., & Ying, G. (2016). Uncorrected hyperopia and preschool early literacy: Results of the Vision In Preschoolers – Hyperopia In Preschoolers (VIP-HIP) Study. *Ophthalmology, 123*(4), 681-689.

Full vision - http://www.onedollarglasses.org/eye-test/full-vision.html

Vision defect of 4.0 D - http://www.onedollarglasses.org/eye-test/4-diopters.html

Diopter defined

- “Diopter” refers to the strength of a prescription lens required to give a child the clearest vision possible. The higher the number, the stronger the prescription lens.

- A child requiring 4 diopters of correction in prescription glasses, or contact lenses, would likely struggle with blurred vision, crossed eyes, or both, and would see much better with prescription glasses.

Multiple Inner City Schools Level

- 317 2nd and 3rd grade students in 12 high-poverty schools in Baltimore City School District in phase 1
- Poor baseline visual acuity and hyperopia associated with reduced reading achievement and worse baseline reading scores

Collins, M. E., Mudie, L., Slavin, R. E., Corcoran, R. P., Owoeye, J., Chang, D., Friedman, D. S., & Repka. M. X. (2016). Prevalence of eye disease and reading difficulty in an inner city elementary school population–preliminary results of the Baltimore Reading and Eye Disease Study (BREDS) [Abstract]. Journal of AAPOS, 20(4), e29-e30. Retrieved from http://www.jaapos.org/article/S1091-8531(16)30239-7/abstract

Single School District Level

2015 study of low-income children ages 3 through 5 years screened in South Carolina's Charleston County School District – *after diagnosis and treatment with prescription glasses* – found:

- Improvement in academic progress.
- Increase in focus during lessons.
- Increase in participation and classroom interaction.
- Improvement in confidence and behavior.

Peterseim, M. M., Papa, C. E., Parades, C., Davidson, J., Sturges, A., Oslin, C., Merritt, I., & Morrison, M. (2015). Combining automated vision screening with on-site examinations in 23 schools: ReFocus on Children Program 2012 to 2013. *Journal of Pediatric Ophthalmology & Strabismus, 52*(1), 20-24.

Early Identification &Treatment Make a Difference

- First grade reading ability found to be predictive of 11th grade reading outcomes, including:
  - Reading comprehension,
  - Vocabulary, and
  - General knowledge.

Children who lag in 1st grade but catch up by 3rd or 5th grade have good prognosis for future reading level.

Cunningham, A. E., & Stanovich, K. E. (1997). Early reading acquisition and its relation to reading experience and ability 10 years later. *Developmental Psychology, 33*(6), 934-945.

Relationship between Vision and Reading/Literacy Scores

Comment to “Vision problems can harm kids’ development grades” https://medicalxpress.com/news/2017-07-vision-problems-kids-grades.html

“I always thought I was just sitting too far from the blackboard to read the words and numbers the teachers were writing. It wasn’t until my 8th grade year (having repeated 6th grade) that I was vision tested. Geez, what a difference when I went back to school as a freshman in high school. I could read everything, and my learning was so much easier.”

What do previous slides tell you?

- Importance of:
  - Evidence-based vision screening,
  - Follow-up eye exams,
  - Receiving vision treatment plan and related devices/materials (i.e., glasses, patching); and
  - Following treatment plan for best vision now and in the future.

Four Steps to Simple Solution

Such a simple solution . . .

Cast of Characters

NCCVEH:

- National Center for Children's Vision and Eye Health at Prevent Blindness
  - Optometry
  - Ophthalmology
  - Family Advocates
  - Nurses
  - Public Health Professionals
  - Educators

AAP:

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

2 Approaches to Vision Screening

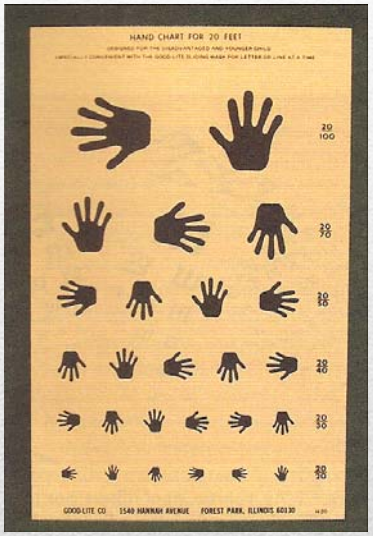
1. Optotype-based screening

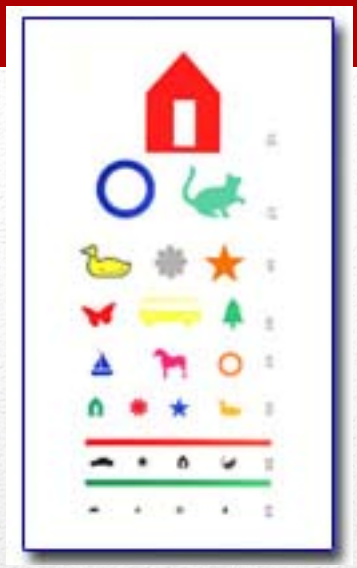
- Tests of visual acuity using optotypes to measure visual acuity as interpreted by the brain
  - *Quantifiable measurement of the sharpness or clearness of vision when identifying specific optotype sizes at a standardized distance*

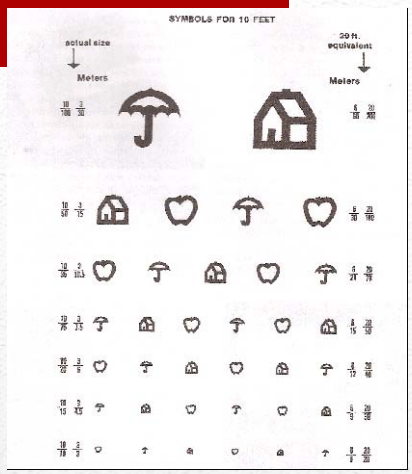
2. Instrument-based screening

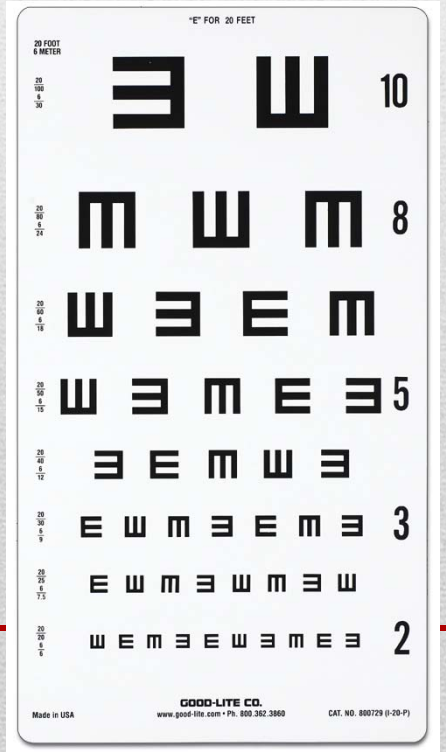
- Instruments do not measure visual acuity
- *Instruments use an automated image acquisition and analysis system of the eyes to provide information about amblyopia risk factors:*
  - Estimates of significant refractive error (hyperopia, myopia, astigmatism)
  - *Estimates of anisometropia*
  - Estimates of eye misalignment (some, not all)

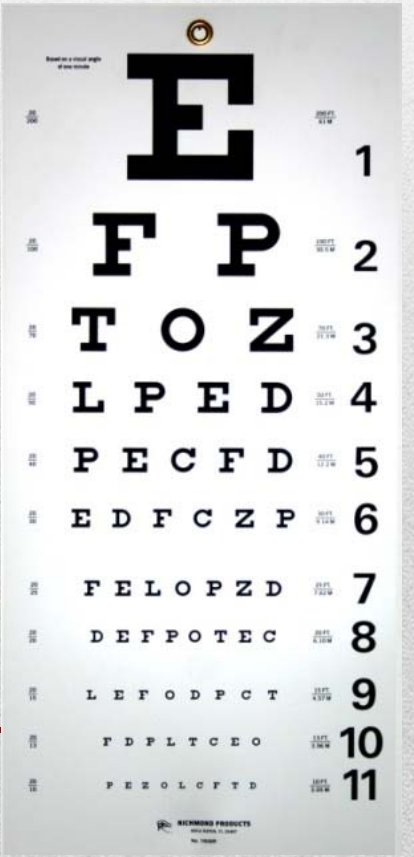
“Not so great” charts . . .





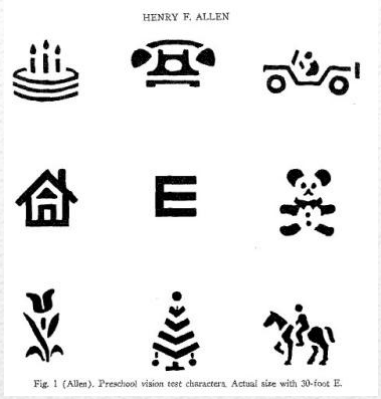




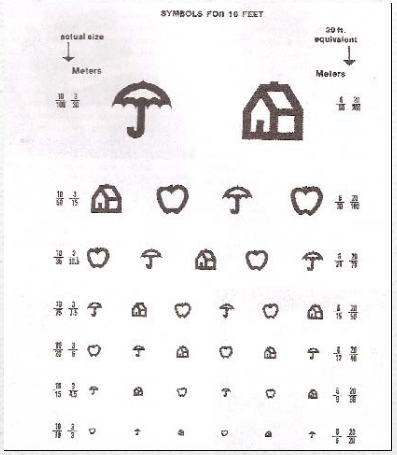


NOT Recommended by NCCVEH and/or AAP

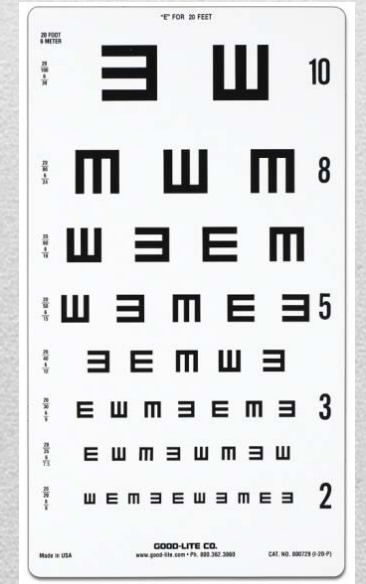
"Sailboat"



Allen Pictures

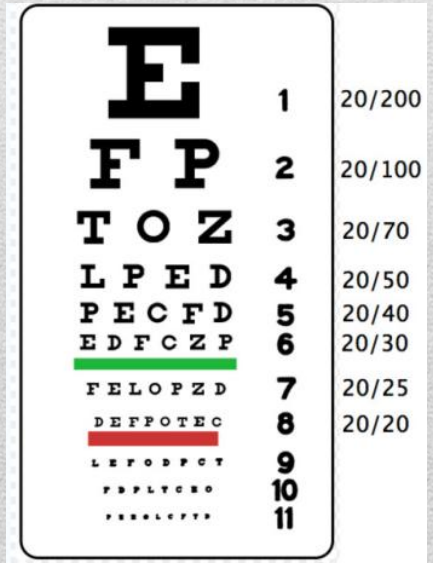


Lighthouse or "House, Apple, Umbrella"

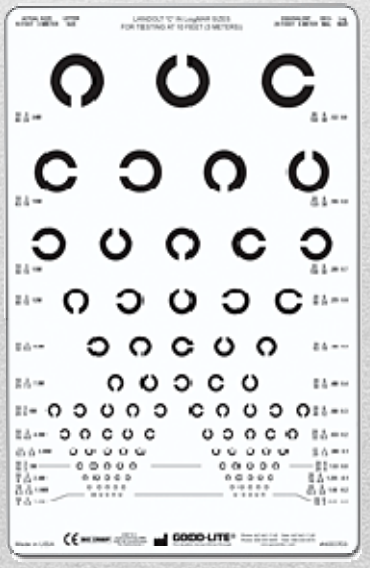


Tumbling E

Snellen



Landolt C



Why NOT Recommended?

- The use of validated and standardized optotypes and acuity charts is important for an accurate assessment of vision.
- Charts not standardized.
- Children may not know their letters.
- Requires discrimination of direction, which is not sufficiently developed in preschool-aged children.
- Not well validated in screening environment.

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

Importance of Appropriate Tools

- "Visual acuity scores can be significantly affected by the chart design." (p. 1248)
  - Bailey, I.L. (2012). Perspective: Visual acuity – Keeping it clear. *Optometry and Vision Science, 89*(9), 1247-1248.

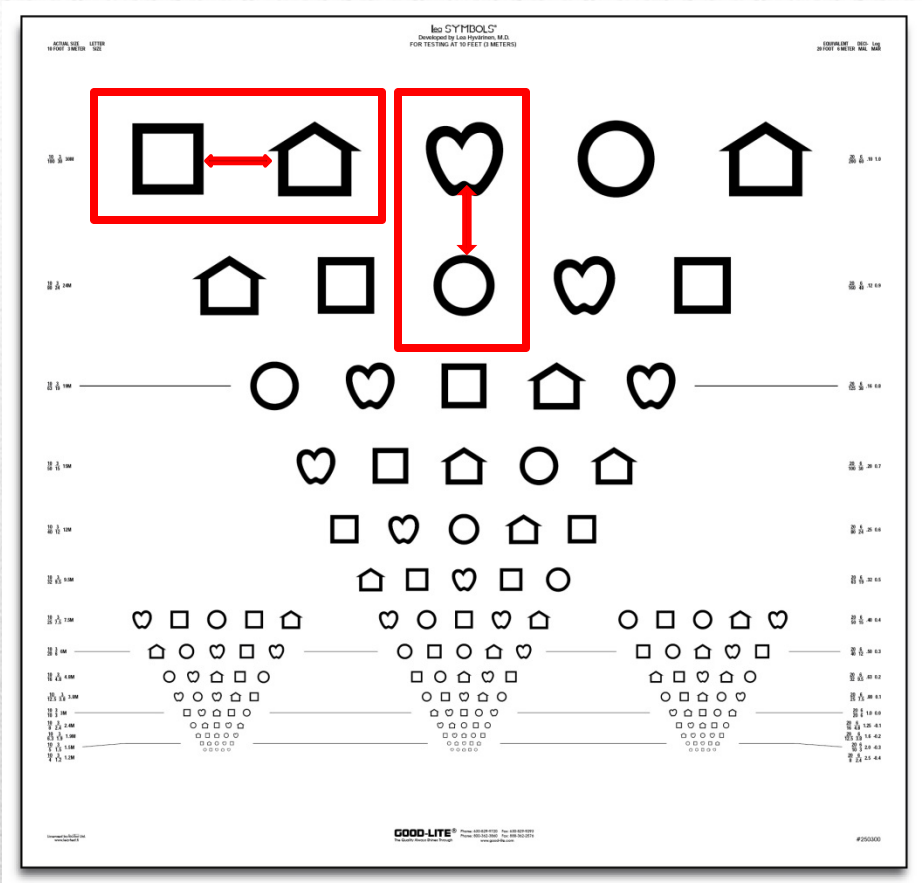
- Excluding optotype size, "each visual acuity level on a test chart should present an essentially equivalent task". (p. 740)
  - Bailey, I. L., & Lovie, J. E. (1976). New design principles for visual acuity letter charts. American Journal of Optometry & Physiological Optics, 53(11), 740-745.

National and international distance visual acuity eye chart design recommendations

- **1980 - National Academy of Sciences-National Research Council (NAS-NRC)**
  - Committee on Vision. (1980). Recommended standard procedures for the clinical measurement and specification of visual acuity. Report of working group 39. Assembly of Behavioral and Social Sciences, National Research Council, National Academy of Sciences, Washington, DC. *Advances in Ophthalmology, 41*:103–148.
- **1984 - International Council of Ophthalmology (ICO)**
  - www.icoph.org/dynamic/attachments/resources/icovisualacuity1984.pdf
- **2003 - World Health Organization Prevention of Blindness & Deafness (WHO)**
  - Prevention of blindness and deafness. Consultation on development of standards for characterization of vision loss and visual functioning. Geneva: WHO;2003 (WHO/PBL/03.91).
- **2010 – American National Standards Institute, Inc.**
  - ANSI Z80.21-1992 (R2004) Approved May 27, 2010

- **Optotypes approximately equal in legibility**
- **Horizontal between-optotype spacing = 1 optotype width**
- **Vertical between-line spacing = height of next line down**
- **Geometric progression of optotype sizes of 0.1 log units (logMAR, ETDRS)**
- **5 optotypes per line**
- **Optotypes black on white background with luminance between 80 cd/m^2 and 160 cd/m^2**

Similar recommendations across guidelines

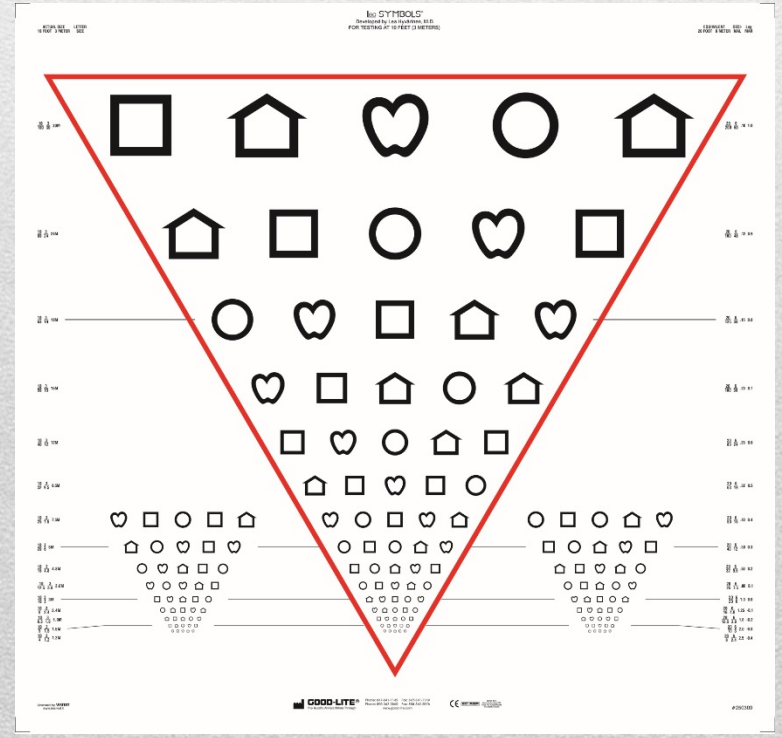


Design guidelines = “ETDRS” or “logMAR” chart

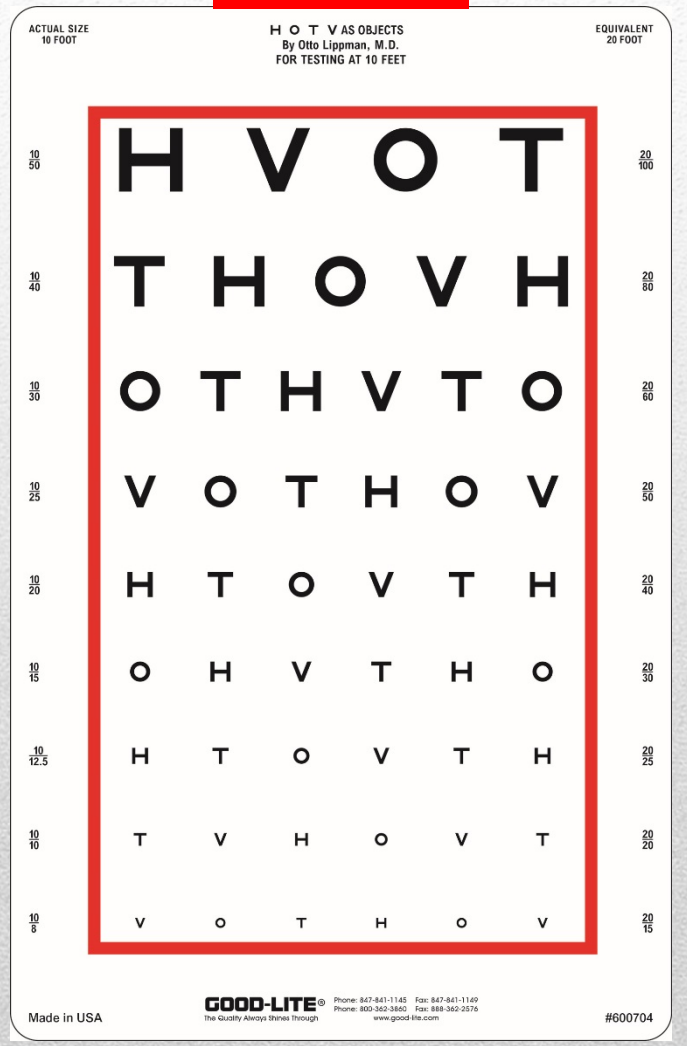
Tips:

- Line outside optotypes
- 20/32 vs. 20/30
- 10 feet vs. 20 feet

YES



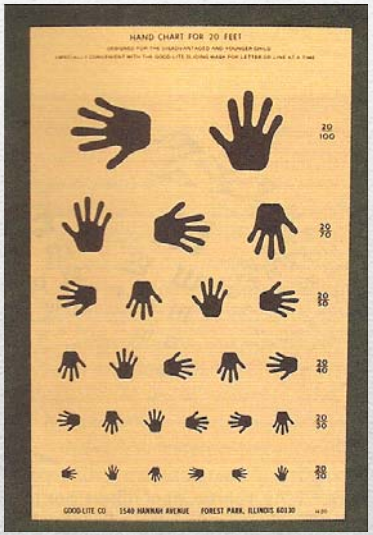
NO

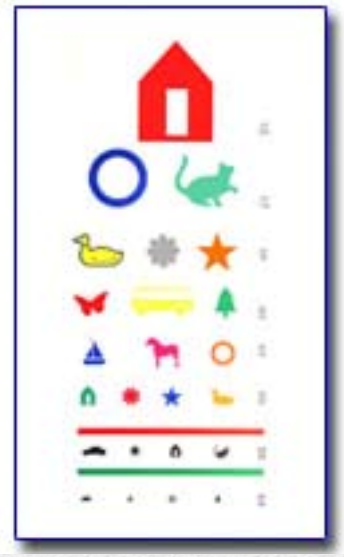


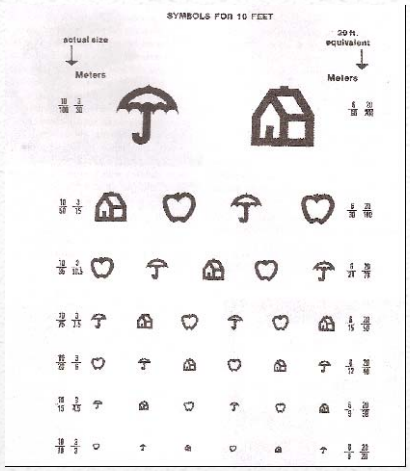
Do the following eye charts fit national/international eye chart design guidelines?

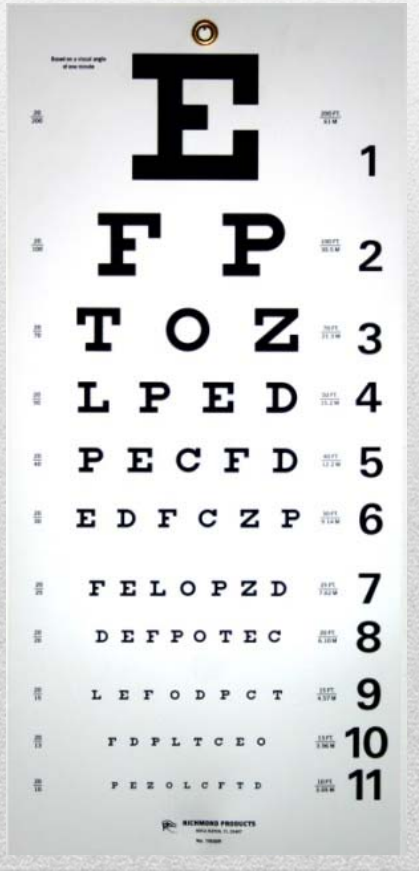
Yes or **No**?

✓NO



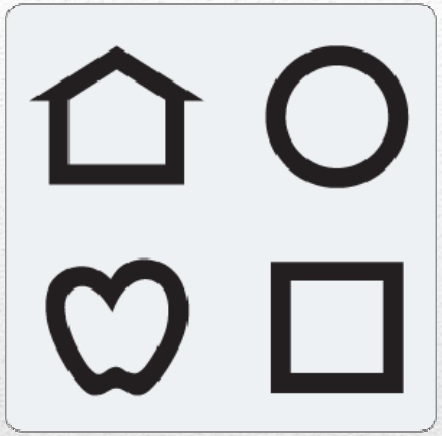






Preferred Optotypes for Ages 3 to 6 Years

- NCCVEH
- AAP



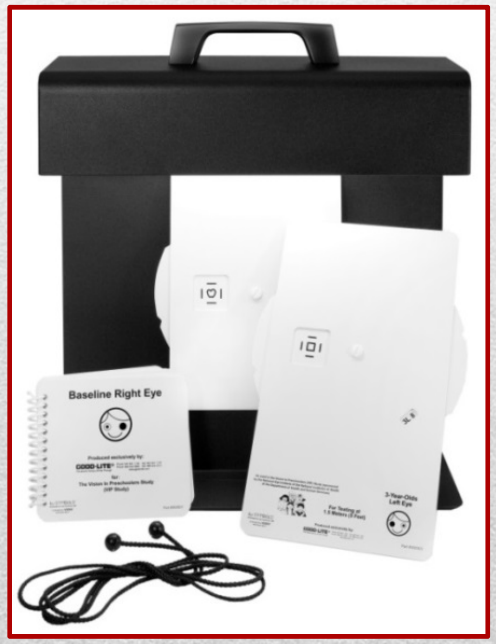
- Recommend LEA SYMBOLS® and HOTV letters as optotypes

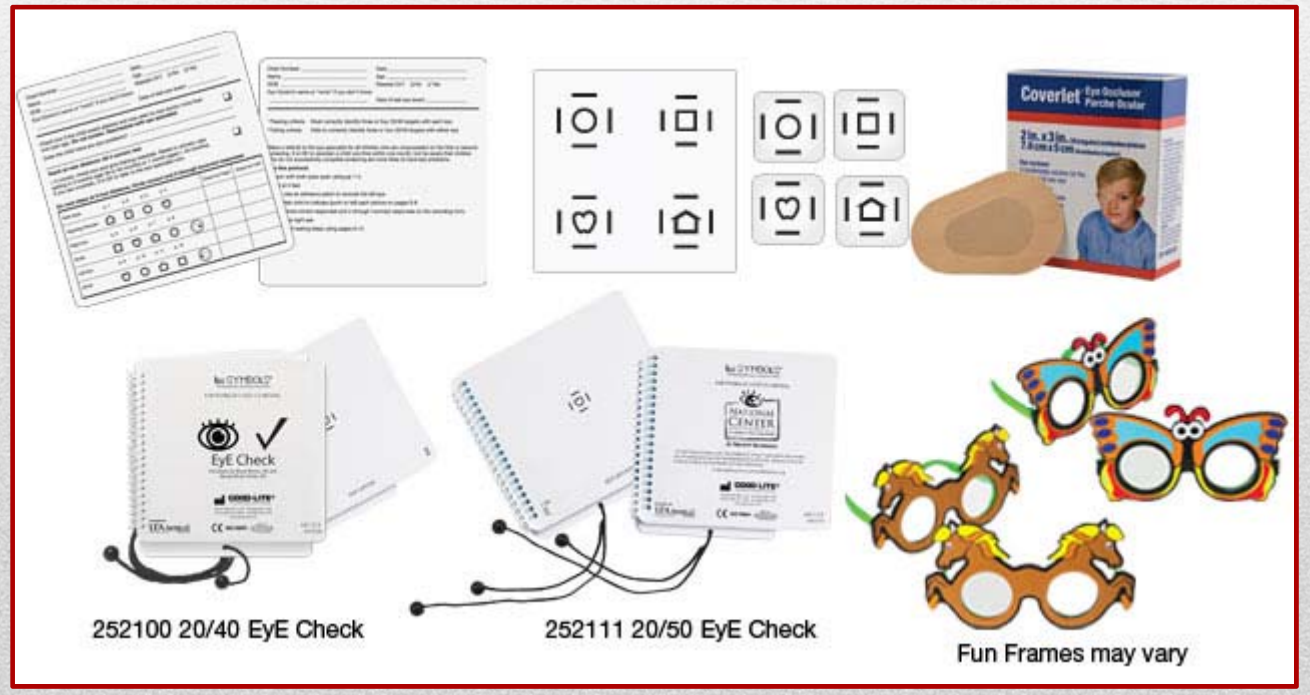
Cotter, S. A., Cyert, L. A., Miller, J. M., & Quinn, G. E. for the National Expert Panel to the National Center for Children's Vision and Eye Health. (2015). Vision screening for children 36 to <72 months: Recommended practices. *Optometry and Vision Science, 92*(1), 6-16. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4274336/pdf/opx-92-06.pdf

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

Preferred Optotype Format

NCCVEH national guidelines call for using single, LEA SYMBOLS® or HOTV letter optotypes surrounded with crowding bars for children ages 3, 4, and 5 years <u>at 5 feet</u>

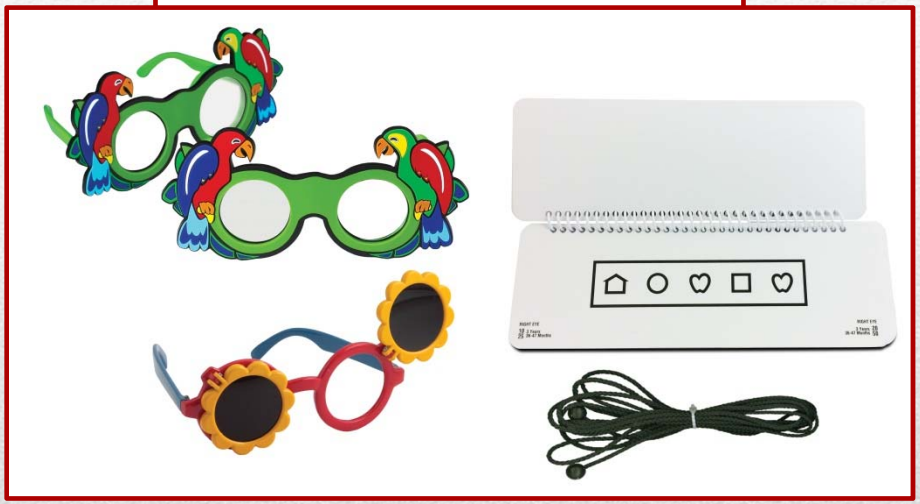




Cotter, S. A., Cyert, L. A., Miller, J. M., & Quinn, G. E. for the National Expert Panel to the National Center for Children's Vision and Eye Health. (2015). Vision screening for children 36 to <72 months: Recommended practices. *Optometry and Vision Science, 92*(1), 6-16. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4274336/pdf/opx-92-06.pdf

Options: Critical Line Screening at 10 feet

Sight Line Kit



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

Also acceptable . . .

EyeSpy 20/20™

Visual Acuity • Depth Perception • Color Vision • Data Management

https://www.schoolhealth.com/eyespy-20-20-vision-screener

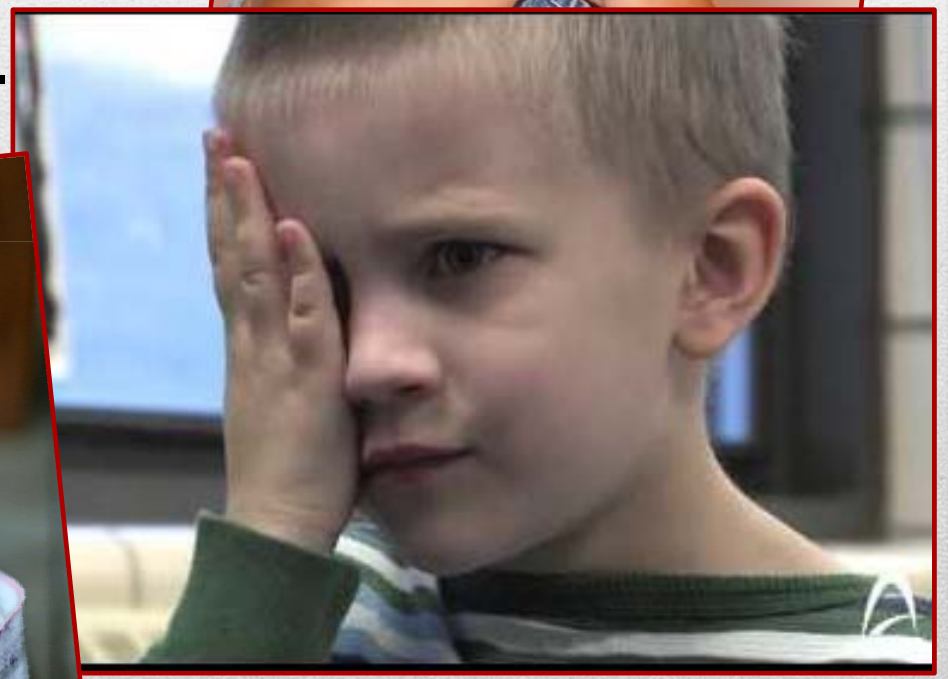
Using HOTV letters – NOT Landolt C

Screening Distance

- 10 feet from chart to child's eyes
- *New, standardized distance charts will be at 10 feet for children and adults*
- 10/xx on left side of chart with 20/xx on right side – report 20/xx

Occlusion:

Children likely to peek when given responsibility for covering their eyes during vision screening.



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/opx-92-06.pdf

Occluders – Younger Children <10 Years

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?
  - ✓ 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.

- "Untestable" is not a failed vision screening.
- Keep track of "untestable" children.
- *Untestable children in VIP study were 2x as likely to have vision problems than those who passed vision screening.*
- If possible, rescreen untestable children same day.
- If you have reason to believe that the child may perform better on another day, consider rescreening the child no later than 6 months.

Vision in Preschoolers Study Group. (2007). Children unable to perform screening tests in Vision in Preschoolers Study: Proportion with ocular conditions and impact on measure of test accuracy. *Investigative Ophthalmology & Visual Science, 48*(1), 83-87.

American Academy of Ophthalmology Pediatric Ophthalmology/Strabismus Panel. (2012). Preferred Practice Pattern® Guidelines. Amblyopia. San Francisco, CA: American Academy of Ophthalmology. Retrieved from https://www.aao.org/preferred-practice-pattern/amblyopia-ppp--september-2012

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

Referral Criteria

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*

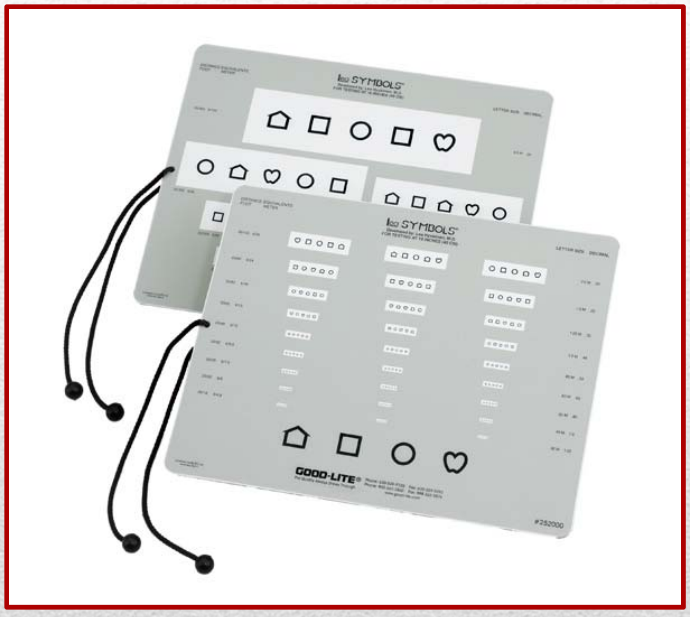
AAP

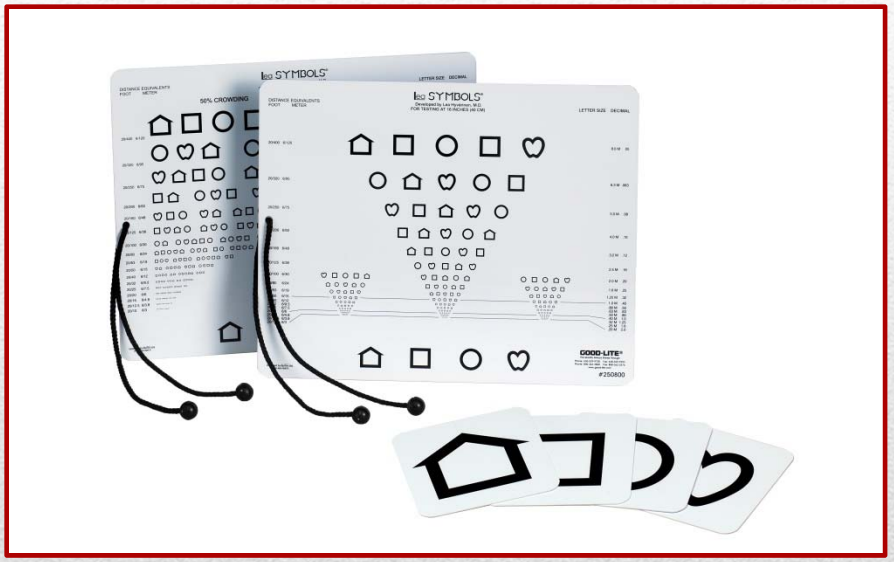
- Age 3 years:
  - *Majority of optotypes on 20/50 line*
- Ages 4 years:
  - *Majority of optotypes on 20/40 line*
- Ages 5 years and older:
  - *Majority of optotypes on 20/32 (or 20/30) line*
  - *Or 2-line difference even in passing lines (i.e., 20/20 and 20/32)*

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

Choices for Near Vision Screening



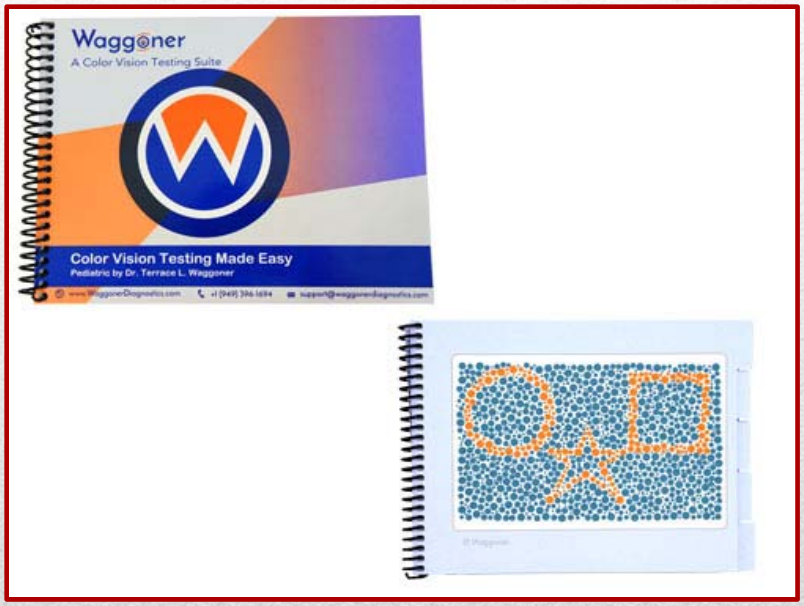


Can do critical line only with both eyes open or one eye at a time.

Stereoacuity Screening if NOT using Spot

PASS 2 Smile Test

If Doing Color Vision Deficiency Screening . . .



2 Approaches to Vision Screening

1. Optotype-based screening

- Tests of visual acuity using optotypes to measure visual acuity as interpreted by the brain
  - *Quantifiable measurement of the sharpness or clearness of vision when identifying specific optotype sizes at a standardized distance*

2. Instrument-based screening

- Instruments do not measure visual acuity
- *Instruments use an automated image acquisition and analysis system of the eyes to provide information about amblyopia risk factors:*
  - Estimates of significant refractive error (hyperopia, myopia, astigmatism)
  - *Estimates of anisometropia*
  - Estimates of eye misalignment

Instrument-Based Screening

- Use beginning at 12 months (AAP)
- Use instruments OR tests of visual acuity for children ages 3, 4, and 5 years (NCCVEH and 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/opx-92-06.pdf

Instruments Vetted by NCCVEH

Welch Allyn®
Spot™ Vision Screener

Welch Allyn®
SureSight™
Vision Screener

Retinomax
(Right Mfg. Co Ltd.-
Tokyo, Japan)

Plusoptix
S12C Vision Screener

Vision Screening is . . .

- Part of a process…not a single event.
- 1 of 12 components of a strong vision health system of care.

Evaluating *Your* Vision Health Program

Annual Vision Health Program Evaluation Checklist

Evaluation Date: _____ Completed By: _____

Instructions: Review each component described below. Select the "Yes", "No", or other response that best describes your vision health program as it currently operates. Please note comments in the area indicated. Once you have responded to the questions in each of the components proceed to the "Vision Health System Action Plan" located on page 7 to identify areas for attention or improvement in your program.

1. Our program ensures that all parents/caregivers receive educational material, which respects cultural and literacy needs, about the importance of:
   a. Good vision for their child now and in the future.
   b. Scheduling and attending an eye exam when their child does not pass vision screening.
   c. Increased risk for vision problems in defined high-risk populations.

Check Yes or No	Point of evaluation
Yes No	We have vision health information in all native languages of the families that we serve.
Yes No	We discuss the importance of healthy vision as a part of proper child development in the general health information provided by our program.
Yes No	We provide parents with easy-to-understand* information on the visual milestones for children at all stages of life. **Information is written at an appropriate reading level, provides graphics as well as descriptions, and has been tested for ease of understanding.*
Yes No N/A	Our parent/and or health advisory committee(s) have reviewed our vision health information for, content, clarity of instruction, cultural literacy, and reading level (4th to 6th grade level.)
Yes No	We provide health information to parents of children with special healthcare needs that describe their increased risk for vision problems.
Yes No	We have active Parent and Health Advisory Committees

12-Components of a Strong Vision Health System of Care

Our Children's Vision Health System Action Plan

Directions: Review your responses from the program evaluation form and the notes written for each item. In all areas where "no" was the response selected, or your notes indicate a need for improvement, establish the next steps your program will take to improve efforts in that area. Once all responses have been accounted for, establish your top three priorities out of your needed actions, a date to review progress, and a completion date.

Needed actions: _____

Priority #1: _____

Priority #2: _____

Priority #3: _____

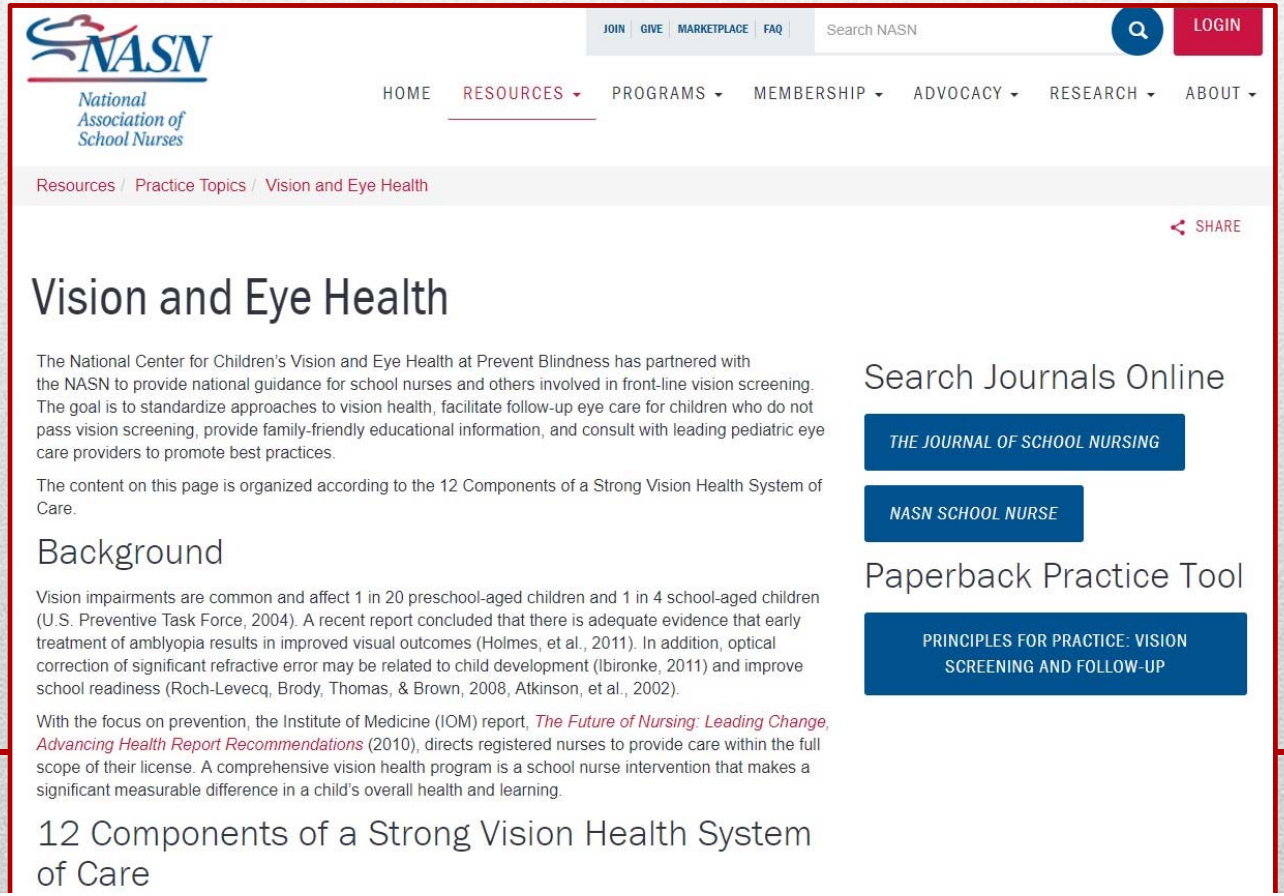
Visit http://nationalcenter.preventblindness.org/year-childrens-vision for information and resources that will help you improve your vision health program.

https://www.nasn.org/nasn-resources/practice-topics/vision-health

NASN Vision and Eye Health Resource

(National Center for Children's Vision and Eye Health and NASN partnership)

https://www.nasn.org/nasn-resources/practice-topics/vision-health



Resources . . .

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 crusty, 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 thrusts 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
- Avoids 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
- Rereads, skips lines, or loses place often
- Closes one eye when doing near work
- Tilts 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.

Children's Vision Massachusetts

Open Eyes. Open Doors.

Visit childrensvisionmassachusetts.org for more information.

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

Helpful info and statistics for grant proposal writing . . .

http://www.preventblindness.org/sites/default/files/national/documents/Children%27s_Vision_Chartbook.pdf

Call to Action

- Screen vision when you see behavior and “academic” challenges.
- Evaluate your vision and eye health program.
- Help ensure follow-up to eye care when children do not pass vision screening.

Raise your hand if:

- You learned something new today.
- You found this presentation helpful.
- You will make at least 1 change in your vision health program.

Thank you for your TIME and ATTENTION. . .

Elyse Fineman, MPH, MHA

efineman@preventblindness.org

312.363.6029

P. Kay Nottingham Chaplin, Ed.D.

Nottingham@preventblindness.org

304.906.2204