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**Celebrating and Thanking YOU  
for the Great Vision Screening Work YOU Do!!!!!!**

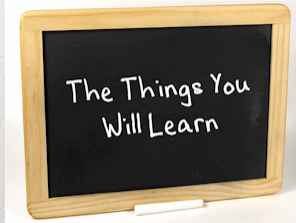
Dr. P. Kay Nottingham Chaplin, EdD

- 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*
- Provided 178 vision screening training workshops
- *Lectured, trained, and consulted at more than 200 international, national, state, district, and local venues, including national webinar panels, and annual conferences*
- 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.

## Talking Points

Vision screening as 1 of 12 components of a strong vision health system of care

Resources



Academic and behavioral challenges that YOU help resolve

Study showing student success after vision screening, follow-up eye exam, and treatment

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

Up to 1 in 17 preschool-aged children and 1 in 4 school-aged children in the USA has a vision problem that requires treatment.<sup>1,2</sup>

- Children's vision problems may lead to **permanent** vision loss if not treated and
- Cause problems socially, academically, and developmentally.
- Almost all (94%) of these vision problems can be found early.
- In order to find these vision problems, children who do not pass vision screening must:<sup>3</sup>
  - See an eye doctor;
  - Receive treatment, if necessary; and
  - Follow the eye doctor's suggestions to improve vision.



- Only 41% of children ages 5 years and younger are screened for vision problems.<sup>4</sup>

<sup>1</sup>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/>

<sup>2</sup>Kemper, A. R., Bruckman, D., & Freed, G. L. (2004). Prevalence and distribution of corrective lenses among school-aged children. *Optometry and Vision Science*, 81(1), 7-10.

<sup>3</sup>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.

<sup>4</sup>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.

## Impact of Vision Health on Development, Behavior, and Learning Readiness

- Research shows a link between health and a child's ability to perform optimally in school.
- "Health Barriers to Learning" include vision deficits.
- Left undetected and untreated, "Health Barriers to Learning" can affect a child's ability to:
  - Pay attention in class
  - Be motivated to learn
  - Maintain consistent attendance
  - Perform well academically
  - Graduate high school



Gracy, D., Fabian, A., Basch, C. H., Scigliano, M., MacLean, S. A., MacKenzie, R. K., & Redlener, I. E. (2018). Missed opportunities: Do states require screening of children for health conditions that interfere with learning? *PLoS ONE* 13(1): Retrieved from <http://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0190254&type=printable>

Ruderman, Marjory. 2016. Children's Vision and Eye Health: A Snapshot of Current National Issues (1st ed.). Chicago, IL: National Center for Children's Vision and Eye Health at Prevent Blindness. Retrieved from [https://nationalcenter.preventblindness.org/sites/default/files/national/documents/Childrens\\_Vision\\_Chartbook\\_F.pdf](https://nationalcenter.preventblindness.org/sites/default/files/national/documents/Childrens_Vision_Chartbook_F.pdf)



## 7 Behaviors

1. Talking in class
2. Notably quiet in class
3. “Spacy” 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.

**“Spacy” 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](http://www.nytimes.com/2015/05/15/opinion/kids-who-cant-see-cant-learn.html?_r=0)

Screener and parent stories.


**Frustrated with “academic work”** –  
Before glasses, “things looked dusty”.  
Different child, happier, less frustrated.

**Squinting during class activities** –  
“Mommy! There are numbers on that  
circle on the wall!”

**Clumsiness until receiving glasses** –  
“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](http://www.nytimes.com/2015/05/15/opinion/kids-who-cant-see-cant-learn.html?_r=0) Screener and parent stories.

## Multistate Level

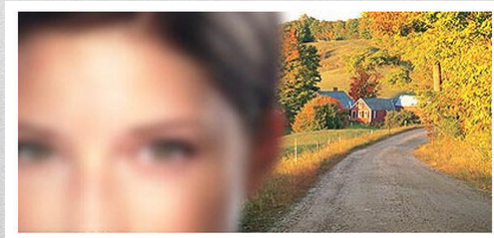


- 2015 Vision in Preschoolers – Hyperopia in Preschoolers Study (VIP-HIP) found:
  - Children ages 4 and 5 years with uncorrected hyperopia (farsightedness  $\geq 4.0$  D) scored *significantly* worse on a test of early literacy than children with normal vision.
  - $\leq 4.0$  D also had lower scores, but difference not statistically significant
- Performance most affected:
  - Print knowledge subtest,
  - Measuring 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.

## 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 2<sup>nd</sup> and 3<sup>rd</sup> 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](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.

## Individual Child Level

- 5<sup>th</sup> grade student
- Consistent, unruly disruption in classes
- Grades: C's and D's
- Thinking about switching him to program for emotionally disturbed students
- Vision screening + eye exam + glasses
- Almost immediately his disruptive behaviors calmed
- 3 months after vision screening + eye exam + glasses:
  - Grades improved to B's and working on A's
- Student's aunt told Lions: "You saved my nephew."

True story from Charles Short – Indiana Lions District 25C – West Lafayette, IN

## Early Identification & Treatment Make a Difference

- First grade reading ability found to be predictive of 11<sup>th</sup> grade reading outcomes, including:

- Reading comprehension,
- Vocabulary, and
- General knowledge.

Children who lag in 1<sup>st</sup> grade but catch up by 3<sup>rd</sup> or 5<sup>th</sup> 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.

## Academic Considerations for Vision

- Improved GPA (reading and math) - more likely for hyperopes than myopes
- Increased satisfaction with school
- Reduced stress
- Improved cognition, attention span, and focus
- Improved test scores
- Less task avoidance and need for discipline
- Less labeling- ADD or ADHD
- Earlier identification leads to improved outcomes

Academic Performance of Oyster School Students after Receiving Spectacle Correction. Thesis by Kimberly L. Renner; Graduate Program in Vision Science; The Ohio State University, 2017

Healthier Students Are Better Learners: A Missing Link in School Reforms to Close the Achievement Gap. Basch, CE. EQUITY MATTERS: Research Review No. 6 Columbia University; March 2010.

<https://sparkpe.org/wp-content/uploads/BaschReport.pdf>





## Vision Screening is . . .

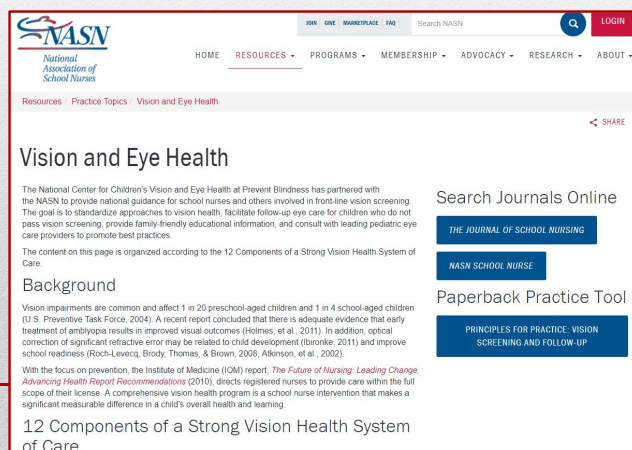
- Part of a process...not a single event.
- 1 of 12 components of a strong vision health system of care.



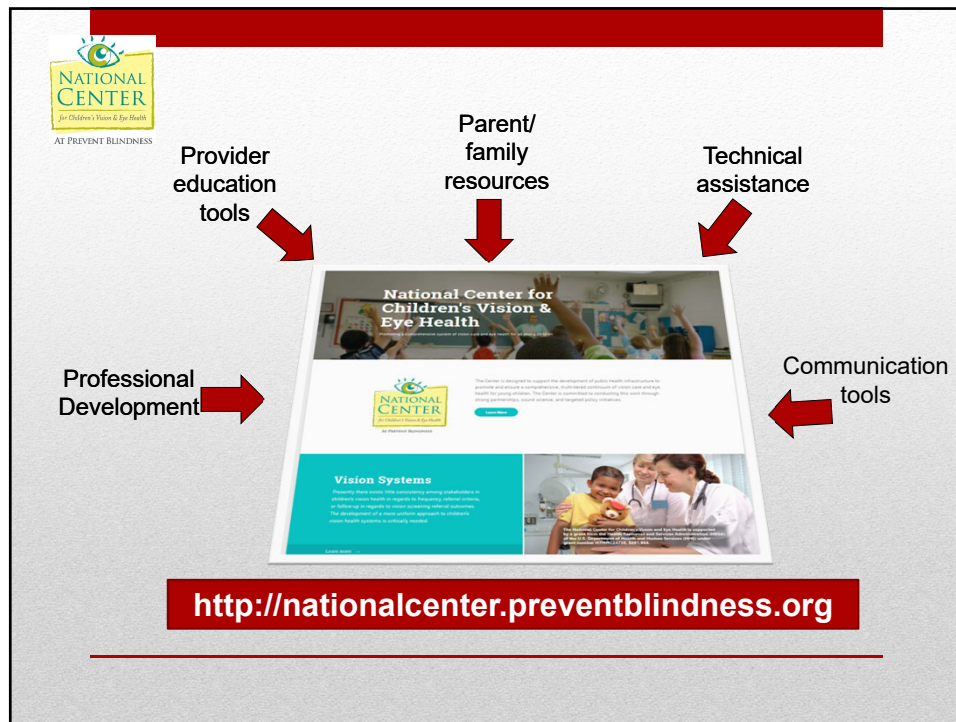
## NASN Vision and Eye Health Resource

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

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







## Resources to Support Families . . .

**Financial Assistance Information**

**Association of Schools and Colleges of Optometry**  
1110 Executive Boulevard, Suite 100  
Rockville, Maryland 20852  
Phone: (301) 221-5444  
Fax: (301) 775-1629  
www.asco.org

Many optometry schools offer financial aid to people willing to be treated by underserved students. They also provide their care to people who join research studies.

**Chronic Disease Fund**  
600 N. Dulles Parkway, Suite 200  
Pleasanton, CA 94566  
Phone: (925) 968-7033  
www.cdfund.org

Chronic Disease Fund® is an independent 501(c)(3) non-profit charitable organization helping patients with chronic disease care or the ability to obtain the appropriate medical care they need.

**Prevent Blindness®**  
Our Vision & Your®  
211 West Wacker Drive  
Suite 1700  
Chicago, Illinois 60606  
800.331.2009  
PreventBlindness.org

**Financial Assistance Programs**

**Tips for Wearing Eye Glasses**  
<https://www.preventblindness.org/your-childs-glasses>

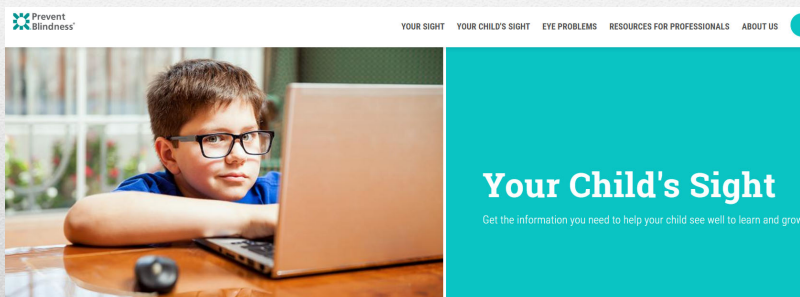
**Parent Education**

<http://nationalcenter.preventblindness.org/resources-2>



## Information about Your Child's Sight from Prevent Blindness

<https://www.preventblindness.org/your-childs-sight>



## Year of Children's Vision

- <http://nationalcenter.preventblindness.org/year-childrens-vision>
- *Archived vision screening webinars in 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
- » 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](http://childrensvisionmassachusetts.org) for more information.



<https://childrensvision.preventblindness.org/sites/default/files/THINK%20OF%20VISION%202011-8-18.pdf>



ABOUT US PROGRAMS AND RESOURCES [Donate to Prevent Blindness](#)



## Prevent Blindness Children's Vision Screening Certification Course

Prevent Blindness has the only national certification program for children's vision screening.

The Prevent Blindness Children's Vision Screening Certification course provides participants with a certification in the most current evidence-based vision screening and eye health best practices for school-aged and preschool-aged children.

Info for Prevent Blindness nationally recognized vision screening certification you can do online at your own pace

<http://nationalcenter.preventblindness.org/prevent-blindness-childrens-vision-screening-certification-course>

800-331-2020 [Nottingham@preventblindness.org](mailto:Nottingham@preventblindness.org)

## Call to Action

- ✓ Share resources with parents, school nurses, and others.
- ✓ Pat the back of someone sitting near you in appreciation of their volunteer efforts to help find children who will have better school experiences.
- ✓ Continue doing the great work you do!!

Thank You for Volunteering your TIME to  
Screen Vision

