FOCUS ON CHILDREN'S EYE HEALTH IN CULTURALLY DIVERSE POPULATIONS

Risk for vision problems can differ between cultural populations. Learn the best ways to keep your child's eyes healthy for life!

The story of Olivia and her vision shows us just how important attention to vision and eye health can be.

Five year old Olivia likes to swim, do math, draw and play with her sister and brother. But Olivia was having trouble seeing her math work and her drawings and nobody knew. A vision screening conducted at her preschool identified a possible problem, and Olivia was referred to an eye doctor for a full exam. The eye doctor determined Olivia had amblyopia. (Amblyopia, or lazy eye, is a sight threatening condition that can be treated if detected early enough). According to Olivia's mom, she showed no signs of a vision problem. Her eyes appeared normal, her activity was normal and she was reading well for her age. Olivia's mom feels that had she not had a vision screening and eye exam, Olivia could have permanently lost some vision in one eye. She is now wearing an eye patch for several hours a day over her good eye to strengthen her weak eye and she is wearing glasses. Thanks to the early detection of her vision problem, Olivia will have a better chance to succeed at math and create beautiful drawings!

Find out which eye problems your child could be at risk for and where to look for help!

Screenings and Exams – What's the Difference?

A **vision screening** can detect the presence of a general eye disorder in an early, treatable stage. It cannot, however, diagnose the exact problem. A screening typically takes place in a community, school-based or primary care setting.

An **eye examination** is an exam performed by an eye doctor – typically an optometrist or ophthalmologist. A full examination can diagnose specific eye disorders and determine an appropriate treatment plan. Working together, screenings and exams can play a role in early detection of potential vision problems.

Prevent Blindness America®
Our Vision Is Vision®

National Center for Children's Vision & Eye Health
At Prevent Blindness America

Transitions® Healthy Sight for Life Fund

References

1 Ottar WL, Scott WK, Holgado SI (1995). Photoscreening for amblyogenic factors. J Pediatr Ophthalmol Strabismus, 32, p289-295

2 Centers for Disease Control and Prevention (2005). Visual impairment and use of eye-care services and protective eyewear among children. MMWR, 54(17), p425-429

Focus on Children's Eye Health: Risk Factors

Childhood is a crucial time in the care of good sight, since it's when healthy eye habits are established, and because vision problems can lead to delays in social, physical and educational development.[1]

8 out of 10 Americans do not know that their ethnicity could be putting them at higher risk for different vision problems.[8]

While it may appear that parents are appropriately aware of the importance of their children's eye health (2 out of 3 worry about their child developing eye health or vision issues), kids aren't getting eye exams as frequently as they should (1 in 4 parents has never taken his or her children to an eye doctor).[8]

Lack of awareness about the importance of vision in childhood and the need for policies that encourage healthy eye habits, also extends to other key influencers (such as teachers, child care providers, coaches and camp counselors.) Even some general medical professionals can benefit from further information about recommended eye health guidelines.

A special message for parents: children born early, those with delays in their growth or with neurological conditions, are at *greater* risk for vision problems. These children should visit an eye doctor for a full eye exam.

References

1 Research published in the Journal of Behavioral Optometry by Roger Johnson, Ph.D.
2 Roberts JE. Ocular phototoxicity. J Photochem Photobiol B. 2001;64(2-3):136-43.
3 Truham AP. Sun Protection in childhood. Clin Pediatr. 1991;30:676-681.
4 Harrison, A., & Telander, D.G. (2002). Eye Injuries in the youth athlete: a case-based approach. Sports Medicine, 31(1), 33-40.
5 Centers for Disease Control and Prevention. 2011 National Diabetes Fact Sheet.
6 National Registry of Drug-Induced Ocular Side Effects.
7 The Ocular Nutrition Society "Eye on Nutrition" report.
8 Survey conducted on behalf of Transitions Optical, Inc. in February, 2013 by Wakefield Research.

In addition to these concerns, there are physiological and environmental factors that put children's eyes at increased risk.

- Children's eyes are more susceptible to damage from ultraviolet (UV) rays (which can lead to serious eye health issues later in life).[2]
- Children are outside more than adults (and therefore exposed to more UV).[3]
- Glare (bright light) can be distracting, even dangerous, for kids.
- Children are more prone to sports related eye injuries.[4]
- Pediatric diabetes is on the rise[5] is on the rise (which causes increased risk of vision problems).
- Medications used for kids (like inhalers, anti-histamines, ADHD meds and antibiotics) are linked to adverse effects.[6]
- If kids have poor nutrition it can impact the eyes.[7]

Focus on Children's Eye Health: Eyewear Solutions

For kids who require prescription eyewear, there are options for vision correction that should be considered:

- Prescription sunglasses that block 100% of UVA and UVB (harmful rays emitted by the sun in the form of radiation). UVA and UVB rays affect the eye in different ways.
- Photochromic lenses (that block UV and change from clear to dark, which are helpful for everyday eyewear because kids forget/lose sunglasses)
- Prescription glasses with clip-on sunlenses
- Children whose vision does not require correction can benefit from UV protection, including:
  - Non-prescription sunglasses that block 100% of UVA and UVB
  - Wrap-around frames (protect skin around the eyes)
  - Wide-brimmed hats
  - Avoiding direct sunlight and/or peak hours for UV

References

1 Transitions Optical, Inc. Eye Didn't Know That! http://www.eyedidnt-knowthat.info.

2 Survey conducted on behalf of Transitions Optical, Inc. by ICR, Media, Pa.

3 Survey conducted on behalf of Transitions Optical, Inc. in April, 2011 by Wakefield Research

All kids' eyewear should block 100% of UVA and UVB rays, and be impact-resistant to help protect children from eye injuries.

Kids are twice as likely to wear sunscreen as sunglasses.[1]

1 in 3 parents are "very unlikely" to choose UV-blocking eyewear for kids (yet are more likely to have UV protection for themselves).[2]

Ethnic populations are less likely to understand the importance of year-round ultraviolet (UV) eye protection.[3]

Disclaimer: The information contained in this fact sheet is not intended nor implied to be a substitute for professional medical advice, it is provided for educational purposes only. You assume full responsibility for how you choose to use this information. Always seek the advice of your physician or other qualified healthcare provider before starting any new treatment or discontinuing an existing treatment. Talk with your child's healthcare provider about any questions you may have regarding a medical condition. Nothing contained in these topics is intended to be used for medical diagnosis or treatment.

Focus on Children's Eye Health:
AFRICAN-AMERICANS

African-Americans comprise the second-largest ethnic minority group in the United States, and are more likely to worry about serious vision problems for their children.

- African-American children are **6 times** more likely than whites to present with **astigmatism**.[1]
- African-American children are **more likely** than Hispanic children and children of other non-Hispanic races to have their vision screened by a healthcare provider.[2]
- African-Americans age 20+ are twice as likely to be diagnosed with **diabetes** which can have serious impact on vision health.[4]

Signs of Vision Problems in Children

- Holds reading materials very close to eyes
- Follows words with a finger while reading
- Poor attention or fatigue during schoolwork
- Frequent eye rubbing
- Frequent squinting
- Complains of headaches
- Turns or tilts the head, or uses only one eye
- Sensitivity to light

Astigmatism (*uh*-stig-m*uh*-tiz-*uh* m) ***means the eye cannot focus clearly at any distance because the cornea or lens (parts of the eye) are abnormally curved. Their shape should be round, like a basketball, but instead it looks more like a football.***[1]

References

1 Borchert, M et al. (2011). Risk factors for Hyperopia and Myopia in Preschool Children: The Multi-Ethnic Pediatric Eye Disease and Baltimore Pediatric Eye Disease Study. Ophthamology, 118(10), p1966-1973.

2 Agency for Healthcare Research and Quality. National Healthcare Disparities Report, April 2012

3 Signs of vision problems: Eye Didn't Know That. Transitions Optical, Inc. Retrieved from: http://www.eyedidntknowthat.info

4 Centers for Disease Control and Prevention. 2011 National Diabetes Fact Sheet.

Disclaimer: The information contained in this fact sheet is not intended nor implied to be a substitute for professional medical advice, it is provided for educational purposes only. You assume full responsibility for how you choose to use this information. Always seek the advice of your physician or other qualified healthcare provider before starting any new treatment or discontinuing an existing treatment. Talk with your child's healthcare provider about any questions you may have regarding a medical condition. Nothing contained in these topics is intended to be used for medical diagnosis or treatment.

Focus on Children's Eye Health:
ASIAN-AMERICANS

Asian-Americans make up the fastest-growing minority group in the United States and, as such, represent an important focus for eye health education.

- Asian-American children are prone to **refractive errors** of the eye.[1] The two most common refractive errors are **astigmatism** (described on page 4) and **myopia**.
- **Nearsightedness**, or trouble seeing far away, affects up to 80 percent of Asian-Americans.
- Asian-American children have the lowest rates of **hyperopia**.[2]

Healthy Eye Tips for All Kids!

1. Use sunglasses that block 100% of UVA and UVB rays and are shatterproof.
2. If your child wears prescription eye glasses, ask the eye doctor to fit him or her for prescription eye guards for sports and other activities.
3. Look for bubbles, distortions or scratches on the lenses of glasses. These flaws could strain a child's eyes.
4. Remove contact lenses before swimming or other water activities.
5. Make sure to always clean contact lenses thoroughly and store them in a clean container.
6. Do not apply skin creams or moisturizers too close to the eyes.
7. Avoid toys that have sharp edges or flying parts.
8. Do not allow children to run with pointy objects such as forks, knives, combs, or toothbrushes.
9. Keep clothes hangers and other pointed objects out of the reach of children.

Myopia, *(*mahy-**oh**-pee-*uh)* ***or near sightedness, means that a person can see objects that are close-up, but not far away.*** [3]

Hyperopia, *(*hahy-per-**oh**-pee-*uh)* ***or far-sightedness, means that a person can see distant objects clearly but has difficulty seeing close objects. Children may grow out of this once they are teenagers.***[3]

References

1 Lu, Q et al. (2009). A population-based study of visual impairment among pre-school children in Beijing: the Beijing study of visual impairment in children. American Journal of Ophthamology, 147(6), p1075-1081

2 Kleinstein, R.N. et al. (2003). Refractive error and ethnicity in children. Archives of Ophthalmology, 121(8), p1141-1147

3 Refractive Errors, MedlinePlus, 2013. NIH

Disclaimer: The information contained in this fact sheet is not intended nor implied to be a substitute for professional medical advice, it is provided for educational purposes only. You assume full responsibility for how you choose to use this information. Always seek the advice of your physician or other qualified healthcare provider before starting any new treatment or discontinuing an existing treatment. Talk with your child's healthcare provider about any questions you may have regarding a medical condition. Nothing contained in these topics is intended to be used for medical diagnosis or treatment.

Focus on Children's Eye Health:
HISPANICS

Hispanics are the largest ethnic minority group in the United States, making up more than 16% of the population. This number will grow to about 30% by 2050.[1]

- Hispanic pre-school children are more than **twice as likely** as non-Hispanic whites to have **amblyopia**.[2]
- Hispanic children ages 6 months – 6 years are more likely to present with **astigmatism** (described on page 4) than African-American children (33.6% vs. 24.8% of youth, respectively)[4] and over 3 times more likely to present with astigmatism than Caucasian children.[2]
- Hispanic children are less likely than African-American or Caucasian children to ever receive a vision screening from a health care provider.[5]
- Hispanics are at a higher risk for diabetes, a chronic disease that can lead to serious vision problems.

Wondering where to find an eye doctor near you?

Check out these quick links to eye care:

American Academy of Ophthalmology
www.aao.org/find_eyemd.cfm

American Optometric Association
www.aoa.org

All About Vision
www.allaboutvision.com/eye-doctor

American Association for Pediatric Ophthalmology and Strabismus:
www.aapos.org

Centers for Medicare and Medicaid Services
www.medicare.gov/physiciancompare

College of Optometrists in Vision Development
www.covd.org

Amblyopia (am-blee-**oh**-pee-*uh*) ***is Partial or complete loss of vision in one or both eyes caused by conditions that affect the normal development of vision. These conditions most commonly include strabismus, and a major difference in refractive error between the two eyes from nearsightedness, farsightedness or astigmatism***[3]

References

1 United States Census Bureau Quick Facts, 2013

2 Borchert, M et al. (2011). Risk factors for Hyperopia and Myopia in Preschool Children: The Multi-Ethnic Pediatric Eye Disease and Baltimore Pediatric Eye Disease Study. Ophthamology, 118(10), p1966-1973.

3 Prevent Blindness America. Our Vision for Children's Vision, 2010

4 Kleinstein, R.N. et al. (2003). Refractive error and ethnicity in children. Archives of Ophthalmology, 121(8), p1141-1147

5 Kemper, A.R et al. (2011). Preschool vision testing by health providers in the United States: Findings from the 2006-2007 Medical Expenditure Panel Survey, JAAPOS, 15(5), p480-483

6 Centers for Disease Control and Prevention. 2011 National Diabetes Fact Sheet

Disclaimer: The information contained in this fact sheet is not intended nor implied to be a substitute for professional medical advice, it is provided for educational purposes only. You assume full responsibility for how you choose to use this information. Always seek the advice of your physician or other qualified healthcare provider before starting any new treatment or discontinuing an existing treatment. Talk with your child's healthcare provider about any questions you may have regarding a medical condition. Nothing contained in these topics is intended to be used for medical diagnosis or treatment.

Focus on Children's Eye Health:
CAUCASIANS

Caucasians constitute about 63% of the population, making them the largest ethnic group in the nation.[1]

- Caucasian children have a higher rate of **hyperopia** (described on page 5) (19.3%) compared with the overall population (12.8%).[2]

Recommendations for Primary Health Care Providers

- Newborn infants should have their eyes examined before leaving the hospital for general vision and eye health. This should include a *red reflex test*. This can detect some eye problems present since birth.
- During routine well-baby exams from birth to age 2, pediatricians should use family history, observation and vision evaluation to detect vision problems. From ages 3-10, vision screenings should also include visual acuity and ocular alignment.
- If a child fails a vision screening or if the parent has a concern about the child's vision, he or she should be referred for a comprehensive eye examination.

The National Center for Children's Vision and Eye Health is funded, in part, by the U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau (Grant # H7MMC24738)

Check out our website for more vision and eye health resources for healthcare providers:
nationalcenter.preventblindness.org

References

1 United States Census Bureau Quick Facts, 2013

2 Kleinstein, R.N. et al. (2003). Refractive error and ethnicity in children. Archives of Ophthalmology, 121(8), p1141-1147

Recommendations for Providers: Prevent Blindness America. Our Vision for Children's Vision, 2010.

Disclaimer: The information contained in this fact sheet is not intended nor implied to be a substitute for professional medical advice, it is provided for educational purposes only. You assume full responsibility for how you choose to use this information. Always seek the advice of your physician or other qualified healthcare provider before starting any new treatment or discontinuing an existing treatment. Talk with your child's healthcare provider about any questions you may have regarding a medical condition. Nothing contained in these topics is intended to be used for medical diagnosis or treatment.

Follow Prevent Blindness America on
Facebook and Twitter for more info!

Prevent Blindness America®
Our Vision Is Vision®

211 West Wacker Drive
Suite 1700
Chicago, Illinois 60606

800.331.2020
www.PreventBlindness.org

National Center for Children's Vision & Eye Health
At Prevent Blindness America

Transitions® Healthy Sight for Life Fund

Special thanks to Lindsay Mahoney, Dr. Laura Anderko and the 2013 Capstone class from Georgetown University for their assistance in the development of this information.

Development of this information was supported by a grant from the U.S. Department of Health and Human Services, Health Resources and Services Administration Grant #H7MMC24738. The views and opinions expressed in the document are those of the author and are not intended to reflect the views of HRSA.