Preparing Children for School [1]

Education & Awareness [2]

Vision problems can prevent kids from learning

It’s back-to-school time again and parents everywhere are checking off items on must-have lists of books and backpacks, highlighters, high tops and hoodies. But all the school supplies and study aids at the mall won’t help children learn if they can’t see.
An estimated 30 million children in the United States have undetected vision problems. Nine out of 10 kids who need glasses don’t have them, even though a quarter of them have eye problems serious enough to impede learning. And since most classroom learning is visual, this means that many youngsters starting or returning to school days from now are at an academic disadvantage.\(^1\)

August is Children’s Eye Health and Safety Month, the perfect time for parents to put down their shopping lists and pick up the phone to schedule comprehensive eye exams for their kids. Children should have eye exams at the ages of six months, three and six years, and every two years thereafter until they reach age 18, according to the American Optometric Association.\(^2\)

Still, only 14 percent of children in the U.S. have eye exams by the age of six, when most start school.\(^3\) Detecting vision problems as early as possible is important, because children may be more responsive to treatment.

“So many parents don’t understand the importance of vision checks for their kids,” said Rick Weisbarth, an optometrist for more than 35 years and Alcon’s Vice President and Head of Professional Affairs for U.S. Vision Care. “They expect that there will be signs and symptoms of a vision problem, but there’s often no sign or symptom that a parent can see.”

Rick’s personal story is an example. His parents never wore glasses and naturally assumed that their firstborn inherited their “perfect vision.”

“But as I became mobile, I bumped into things a lot and missed steps,” he related. A pediatrician performed an eye exam and “sure enough, I had significant nearsightedness and astigmatism.”

As it turned out, two of his three brothers were also nearsighted. Nearsightedness or myopia is a common condition in which the eyes can focus better on near objects.\(^4\) Astigmatism causes vision to be distorted or blurry at all distances.\(^5\)

“You can’t blame the child who thinks everyone sees like he does,” Rick noted. “Kids who get their first pair of glasses often say ‘the tree has leaves on it’ or ‘I’ve never seen Grandma’s face.’”

Aside from nearsightedness and astigmatism, children can have other common eye conditions that require early treatment.

**Strabismus: “Crossed Eyes” or “Wall Eyes”**

About 4 percent of children in the U.S. have strabismus, a problem in which the eyes are not aligned properly and point in different directions. Strabismus usually develops in children by age 3, but older kids can also develop the condition.\(^7,\ 8\)

In strabismus, one eye may look straight ahead, while the other eye turns inward, outward, upward or downward. When the eyes are turned inward, the condition is known as “crossed eyes”; when the eyes turn outward, it’s called “wall eyes.”\(^7,\ 8\)

“If the eye turn is bad, a parent can notice it, but often the amount of turn is smaller than the
parent can detect,” Rick said.

Strabismus develops when the six muscles that control the movement of each eye are misaligned, failing to coordinate and focus both eyes on a single target. The eye turn may be consistent or come and go; the eye that’s straight and the eye that’s misaligned may also switch or alternate.\(^7\), \(^8\)

Proper eye alignment is necessary to avoid seeing double, to have depth perception and to prevent the development of poor vision in the turned eye. When the eyes are misaligned, the brain receives two different images, initially causing confusion and double vision. Over time, however, the brain adjusts by ignoring the image from the turned eye. Left untreated, this can lead to permanently reduced vision in that eye, a condition known as amblyopia.\(^8\)

Strabismus may be treated with eyeglasses, eye patches, exercises and surgery.\(^7\) Although the condition can be surgically corrected in adulthood, vision impairment is permanent.

“Strabismus can be corrected as an adult, but it will impact appearance, not function,” Rick explained.

Untreated strabismus can also lead to social and employment issues. Children with strabismus often become teenagers and adults who are self-conscious about their appearance. Impaired sight may also prevent these individuals from pursuing employment and recreational opportunities that people with normal vision take for granted, such as joining the military and participating in some sports.

**Amblyopia or “Lazy Eye”**

Amblyopia, another cause of visual impairment among children, affects two to three out of every 100 children.\(^9\), \(^10\) Amblyopia is poor vision in an eye that did not develop normal sight during early childhood, hence the expression “lazy eye.”\(^11\)

“One eye sees better than the other,” Rick explained. “There’s often no sign or symptom a parent can see.”

Amblyopia can result from any condition that prevents the eye from focusing clearly, including untreated strabismus. Another cause of amblyopia is the inability of one eye to focus as well as the other – if, for instance, one eye is more nearsighted, more farsighted or has more astigmatism. Farsightedness or hyperopia occurs when the eye focuses better on distant rather than near objects.\(^10\)

Treatment involves forcing the child to use the eye with weaker vision, often by placing an adhesive patch over the stronger eye for several hours a day for a period of weeks or months. This stimulates vision in the weaker eye and helps develop the parts of the brain involved in vision.\(^10\)

Eye drops may also be used to temporarily blur vision in the stronger eye, so the child uses the weaker eye. The advantage of eye drops is that they cannot be removed. Children frequently tear off eye patches.\(^10\)

It’s important to detect and treat amblyopia as early as possible in childhood. Unless it is successfully treated in early childhood, amblyopia usually persists into adulthood, becoming a
permanent visual defect and impairing depth perception. For these reasons, people with amblyopia may be limited in the kinds of jobs they can perform.9

**Alcon: Supporting Children’s Vision through Philanthropy**

Several organizations supported by The Alcon Foundation are dedicated to protecting the vision of children.

One is Prevent Blindness, the nation’s leading voluntary eye health and safety organization since 1908. Established at a time when eye infections were a major cause of blindness in children, the organization drove the practice of having doctors administer eye drops to newborns in order to prevent such infections. The practice continues today, having been credited with saving the sight of untold numbers of children.

The Chicago-based organization’s National Center for Children’s Vision and Eye Health (NCCVEH) continues its mission of preventing blindness and preserving sight through sound science, strong partnerships, and improved systems for children’s vision. The NCCVEH works in partnership with the U.S. Health Resources and Services Administration’s Maternal and Child Health Bureau to reduce the incidence of amblyopia and other significant childhood vision problems by focusing on the systems that exist to support childhood health and early development. This includes improved vision screening practices, reduction of barriers that prevent access to needed eye care, and improving vision health surveillance and accountability. The NCCVEH recently issued a report titled *Children’s Vision and Eye Health: A Snapshot of Current National Issues* which further outlines its goals.

Alcon supports the NCCVEH by providing funding for “At First Sight,” a professional education outreach program that helps primary care physicians and their staff understand common vision problems in children, the importance of quality vision screenings, and resources that providers can share with families to encourage vision health for children.

“Alcon has been providing resources and professional support for the Center and is a great partner for dissemination and understanding,” said Kira Baldonado, Director of the NCCVEH. “Alcon allows us to create resources we would not have the time or manpower to create otherwise and be more effective in reaching our target audiences.”

She emphasized that a child’s vision is “more important than just seeing well” because it impacts all aspects of his development, including the relationship with his parents.

“If a baby doesn’t see well, he may not be able to smile back at his parents, affecting the ability to form a strong parent-child bond,” she said.

At the Child Vision Center in Fort Worth, a dedicated team of eye specialists put their professional skills and personal resources to work on behalf of children. The Center is a “one-stop shop” where specialists team up to treat children with complicated eye disorders and injuries, regardless of their ability to pay, according to Alan Norman, an ophthalmologist who serves as Medical Director.

In addition to volunteering their services, the physicians who staff the Center provide much of the financial support needed to run it. Many have private practices and serve on the Ophthalmology staff of nearby Cook Children’s Medical Center. Patients frequently receive initial care at Cook and come to the Center for further treatment for corneal, retinal and other
Additional financial support comes from the community and other sources, including the Alcon Foundation, which funds the Center’s international Fellowship Program for pediatric ophthalmology.

“These are fellows who’ve received general ophthalmic training, but little or no pediatric ophthalmic training, and they have no way to get it,” Alan explained.

The fellows spend three months at the Center observing and learning alongside Center staff, which includes experts in every aspect of pediatric ophthalmology, before returning home to put what they learned into practice. Their fellowship experiences often make them the best-trained pediatric ophthalmologists in their respective countries, which so far include Jamaica, Kenya and Vietnam.

“The Fellowship Program allows us to help children from around the world,” Alan said.

**Meet Howard the Hedgehog**

Helping children see, look and feel well is why Alcon introduced Howard the Hedgehog, the adorable character in a free, downloadable, interactive children’s e-book titled *Howard and the Amazing Eye Exam*[^7].[^12]

“The book helps educate parents about the importance of eye exams for their children,” Rick explained, “and it helps prepare children for what happens in an eye exam to reduce their stress and anxiety.”

He said Alcon is promoting the book during back-to-school time, when parents are most likely to take their children for eye exams. The book is the product of an Alcon partnership with pediatric optometrist Catherine McDaniel of The Ohio State University College of Optometry, who co-authored *Howard*.

“Alcon wants to educate people through our partnerships about the importance of routine eye exams from an early age, not just when there are signs and symptoms of a problem,” Rick said.

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