

Do You See What I See?

Early Childhood Vision Screening and Examinations - Beyond the Eye Chart



By Melanie G. Snyder

What if you didn't know what the colors in a rainbow or the letters in the alphabet or your friends' faces were supposed to look like - because you had never seen the world any differently than you do right now? What if you saw the world one way, and were confused about what others described - because you never saw things the way they did? This may be an everyday experience for a child with vision disorders.

"Children do not know how they should see, and vision disorders don't hurt. So vision disorders in children may not be obvious," says Dr. Paulette P. Schmidt, O.D., M.S., of The Ohio State University College of Optometry. Schmidt is the chair of a major, multi-phase research initiative for the National Eye Institute (NEI) to determine the most effective approaches to early identification of vision disorders in young children.

"Early detection of treatable eye disease in infancy and childhood can have far reaching implications for vision and, in some cases, for general health," advises the American Academy of Ophthalmology (AAO). In fact, vision disorders, if not treated, can affect a child's overall development.

When to Screen

The American Academy of Pediatrics (AAP) recommends that examinations of the eyes be performed starting when babies are born.

Newborns should be given a general eye checkup, including a "red reflex test", where a bright light is shone into the eye to examine the red reflections from the back of the eye for possible signs of disease (using the same "red eye" phenomenon that occurs in flash photographs). If there is a family history of glaucoma, childhood cataracts, retinoblastoma, retinal dystrophy or other systemic diseases associated with eye problems or if an infant has been diagnosed with neuro-developmental delays, the infant should be examined by an ophthalmologist. Additional checks of the eyes and vision should take place at all well-baby visits with your child's pediatrician.

While most parents are familiar with the common "eye chart", other testing methods are used for infants, very young children or children with special needs, depending on the child's comprehension, communication or other necessary skills. The NEI research identified a set of objective testing methods that don't rely on the communication

skills of the child. The tests they found most reliable in detecting vision disorders are Noncycloplegic retinoscopy, Retinomax autorefractometry, and SureSight Vision Screener.

Schmidt advises parents to ask about the vision screenings that are administered by their child's pediatrician, school or other entities. The NEI study found that serious eye conditions are often missed by some of the most widely used vision screening tests.

Red Flags

"Unfortunately, many parents are unaware that their child has an eye problem," Schmidt observes. If a child has a drooping eyelid that covers the pupil, persistent eye redness or tearing, jerky eye movements or if the eyes don't move together, these are important indicators that further examination should be done.

Parents should look for key visual development milestones as a child grows. The College of Optometrists in Vision Development (COVD) recommends seeking professional help if you see a delay in any of these milestones:

- By 5 weeks of age: Baby should follow an object with his or her eyes.
- By 8 weeks: Baby should bring his or her hands together.
- By 3 months: Baby should hold and sustain direct eye contact with you.
- By 4 months: Baby should turn eyes together to locate nearby objects.
- By 5 months: Baby should make the sounds p, t, d and m.
- By 7 months: Baby should roll over independently.
- By 8 months: Baby should sit without support.
- By 9 months: Baby should creep and crawl.

Vision screening, however, is not a substitute for a comprehensive eye exam, which should include a diagnostic assessment of visual acuity (the clarity of vision in each eye), depth perception (stereoacuity), and integrity of the visual pathway from the eye to the brain. Because vision disorders are more common in children with other special needs, Schmidt advises that all children with special needs be given comprehensive eye and vision exams. Comprehensive eye exams should be conducted by a licensed eye care professional, preferably an ophthalmologist.

Finding a Professional

Ophthalmologists are medical doctors who receive extensive education in prevention, diagnosis, and medical and surgical treatment of eye conditions and diseases. Look for an ophthalmologist who has been certified by the American Board of Ophthalmology. An ophthalmologist can carry out comprehensive eye examinations, make a diagnosis, and prescribe and carry out treatment, which may include glasses, therapy, medications, or surgery. You can search for an ophthalmologist near you through the American Academy of Ophthalmology's online directory at: www.aao.org/aao/find_eyemd.cfm.

Common Vision Disorders

The most common vision disorders among children are lazy eye (amblyopia), eye misalignment (strabismus), poor vision that can be corrected with glasses or contact lenses (refractive errors) and poor vision not associated with any obvious disorder.

According to the American Academy of Pediatrics, early identification of conditions that interfere with vision is critical, because "normal visual development requires the brain to receive equally clear, focused images from both eyes simultaneously for visual pathways to develop properly."

Schmidt and the NEI researchers estimate that up to 15 percent of preschool children between the ages of 3 and 5 have an eye or vision condition that, if not corrected, can result in reduced vision. Children with special needs are at

even higher risk than their peers for amblyopia, strabismus, and significant refractive error along with some forms of ocular disease according to Schmidt.

Treatment

"Glasses are a critical first step for treatment of vision disorders," says Schmidt. Glasses are used to treat lazy eye (amblyopia) to put a clear image on the retina of the amblyopic eye and to protect the good eye from injury until vision improves in the other eye. Other treatments for lazy eye include eye drops and/or the use of eye patches.

Schmidt observes that children with amblyopia are at sixteen times the risk for losing vision in the good eye compared to children without amblyopia.

If strabismus develops in children between the ages of 2 and 5, glasses can help improve the misalignment of the eyes. Strabismus may also be treated with drops and injections. Sometimes surgery may be required.

The key is to have your child tested and, if necessary, treated for these conditions as early as possible. Early detection of childhood eye disease increases the likelihood of successful treatment, which can ensure your child will see the world as a beautiful place. ■

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Ten Tips for Fostering Your Child's Visual Development

1. When holding or feeding your baby, alternate sides to help your baby's eyes to work together.

2. Play games where you move both of your baby's hands or both legs at the same time.

3. Move around the room while talking to your baby so his or her eyes follow you.

4. Put a nightlight in the nursery so your baby can look around the room while awake in the crib. Move objects in the room to different places from time to time.

5. Hang mobiles above the crib and off to the side of the crib (brightly colored or with black and white geometric shapes). Move the mobiles periodically.

6. Provide plenty of safe, colorful objects with different shapes, textures and sizes for your baby to look at (8-12 inches from eyes), touch and hold. A rattle is great for both visual and auditory stimulation. If you're holding an object, move it around so your child's eyes follow the object.

7. Play "pattycake", and "peek-a-boo", hide your face, your whole body or small toys or other objects, then bring them back out where your baby can see them.

8. When your child is in a high chair, provide small unbreakable objects that your child can push off the high chair tray; then retrieve them for your child.

9. When your baby is old enough, encourage crawling, as this helps in visual development and eye-hand coordination.

10. As your child grows, provide safe colorful toys that promote development of eye-hand coordination and are visually stimulating. Some possibilities include building blocks, interlocking blocks or puzzles, and large beads that can be strung on yarn (caution: ensure beads are large enough so they won't present a choking hazard). Older children should have plenty of opportunities to do finger painting, drawing, coloring and playing with modeling clay.