

TRAINING VISION SCREENERS CURRICULUM

Section I: Introduction to Vision Screening

Sensory Program

- Training and technical assistance provided for Sensory screenings.
- Utilize a scripted training protocol to cover core areas for vision and hearing screenings.
- Certification provided through ADHS and valid for 5 years

Arizona Revised Statute (A.R.S.) 36-899.10
Vision Screening for Children
SB 1456 effective 8/17/2019

Vision Screening in Arizona

- Vision screening is statutorily mandated by Arizona law effective 8/17/19.
- Can link families to low or no cost resources for addressing vision concerns.

Introduction to Vision Learning Objectives

- Gain a basic understanding of the anatomy and physiology of the eye.
- Understand the typical development of vision and its impact on learning.
- Understand the purpose of screening.
- Identify the signs of vision loss.
- Know the types of vision loss in children.
- Recall ways to prevent vision loss in children.
- Become familiar with the ADHS Sensory Program.

Vision Screening in Arizona

- Vision screening may identify children who require further evaluation of their eyesight.
- Is most often conducted at schools/educational settings and at well-child visits.
- May also be conducted in community setting such as health fairs and screening events.

Why screen children's vision?

- A child's sense of sight develops over a period of years.
- A child's vision is most sensitive to correction during the first seven years of life.
- Many vision problems are undetected by parents, teachers and the children themselves without a formal vision assessment.
- If a problem is detected, families will be notified and referred for further evaluation and treatment if necessary.

Vision Impacts Learning

- Learning is a visual process
- Formal education settings rely heavily on vision for instruction.

What is the importance of vision screening?

- Children are unaware of how they should see and often do not complain.
- Screening can result in more effective and less costly treatment by identifying potential problems early.
- Untreated vision problems can lead to permanent loss of vision, academic challenges, and delayed sensory and social-emotional development.
- May have a direct impact on a child's academic performance.

What is children's vision screening?

- Systematic approach to identifying children with potential vision concerns.
- Focuses on detecting conditions that commonly occur and can easily be corrected.
- Assesses distance vision for both eyes and one eye at a time.
- May also assess near vision and color vision.
- Does NOT take the place of a complete or comprehensive eye exam by an eye care professional.

What is the difference between vision screening and a comprehensive eye exam?

- **Screening**
 - Identifies children at risk for visual problems or in need of professional exam through risk assessment and vision screening.
 - May detect signs of disorders in early, treatable stages.
 - Provides parents and teachers with valuable information and education about eye care.
 - May result in a referral to an eye care professional or primary care physician.
- **Comprehensive Eye Exam**
 - Examines children for eye disorders and diseases
 - Diagnoses eye disorders and diseases
 - Prescribes and monitors treatment

Arizona's Recommended Vision Screening Guidelines for Children

- Are based on American Academy of Pediatric Ophthalmology and Strabismus(AAPOS), American Academy of Ophthalmology (AAO) and the American Academy of Pediatrics (AAP).
- Were developed in 2010 by AZDHS Vision Screening Task force and are currently being revised.

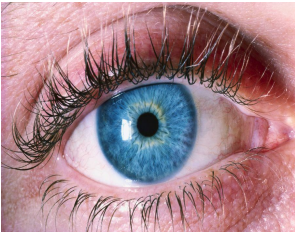
Components of an Effective Vision Screening Program

- Periodic scheduled screenings
- Re-screening, as necessary
- Notification of results to parents or guardians and others
- Referrals to appropriate professionals
- Follow-up of referral outcomes
- Continual program evaluation

Vision Screening Training

- The purpose is to promote quality, reliable and effective vision screening throughout Arizona.
- Certificate of completion includes passing written and practical exams
- Administered through the AZ Dept. of Health Services-Bureau of Women's and Children's Health (AZDHS-BWCH).
- Curriculum is based on Vision Screening Guidelines for children.

How the human eye works



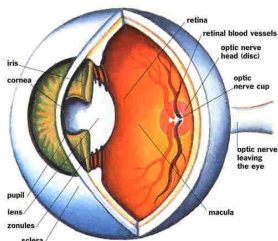
The human eye is comprised of many layers and internal structures that each has a very distinct role. The process must occur involving structures within both the eye and the brain. Problems with any part of the visual system affect the ability to "see".

The Basics of Vision

- Video of how the human eye functions
<https://www.youtube.com/watch?v=gvozcv8pS3c>
- An introduction to anatomy
- Review parts of the eye

Anatomy of the Eye

1. Iris
2. Cornea
3. Pupil
4. Lens
5. Zonules
6. Sclera
7. Retina
-Blood vessels
8. Optic Nerve
-Cup
-Head
9. Macula



Common Vision Disorders in Children

- Amblyopia
- Strabismus
- Abnormal refractive errors
 - Myopia**-Nearsighted vision
 - Hyperopia**-Farsighted vision
 - Astigmatism**-blurred and distorted vision
 - Anisometropia**-difference in both eyes

See Handout

What is Amblyopia?

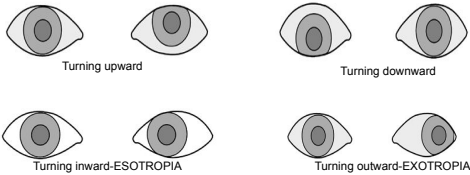
say this: am-blee-oh-pee-ah

- Commonly known as "lazy eye"
- Occurs when the eyes are not working together and the brain cannot fuse the images from each eye into one clear image. If the images from each eye are very different, vision in one eye will be suppressed to avoid double vision. The problem starts when the pathways of vision in the brain don't develop, or grow strong enough.
- Normal vision will not develop in that eye.
- If not detected/treated before age 7, it can lead to permanent vision loss.
- Earlier detection and treatment will lead to best chance of success.

What is Strabismus?

- Commonly known as “crossed eyes”
- Is caused by a misalignment of the eyes that prevents them from looking at the same object together.
- Is one of the primary causes of amblyopia.
- Loss of vision in the affected eye can be avoided if treatment is received early.

Strabismus



Color Deficiency

- Cannot identify certain colors due to a defect in the cone cells on the retina
- Not sight-threatening/no correction available
- Practical learning issues from color deficiency make it important for parents, teachers, and others be informed if a child has this condition.
- May impact career choice.
- Reasonable accommodations under Section 504 of the American Disabilities Act can be requested.
- No longer referred to as *Color Blindness*, this is incorrect term.

Visual Development

- Primarily begins at birth
- Affects a child's overall health as well as their ability to learn.
- Impacts the child's learning processes.
- Indirectly impact's child's motor, language, cognitive, social and adaptive development.

Effects on Overall Development

- Vision problems in infancy and toddlerhood may cause a child to see in ways that are different than typical children.
- May need help learning simple skills (such as eating, naming objects, playing)
- Without intervention, may not be able to catch up later.

Windows of Opportunity

- The critical first three years
- Pre-K
- K-9 years old
- 10 years and older

First Three Years

- Children under three do not know how they should see
- They cannot tell you how or what they see
- Vision problems are not always obvious
- Early identification through vision screening is crucial
- There should be appropriate referrals for further evaluation, correction, and/or intervention services when concerns are present.

Risk Factors

- Oxygen for over 24 hours
- Premature birth of less than 36 weeks and/or birth weight below 3 pounds
- Neurological problems or seizures
- Meningitis or encephalitis
- Significant prenatal alcohol and/or drug exposure
- History of head trauma
- Developmental / genetic disorders
- Family history of vision problems other than glasses or age- related cataracts
- Diabetes
- Parent, grandparent, teacher, guardian or primary caregiver concerned about vision

Visual Milestones

Preschool through Elementary

Pre-K

- Ages 3-5 are crucial pre-academic development years.
- Vision problems may interfere with cognitive, motor, behavioral, and social development.
- Surgical correction for "lazy eye" is more successful the earlier it is detected.

Visual Milestones: 36-38 months

- Can trace shapes
- Distance vision is not at the 20/20 level, they are approaching 20/30
- Able to name their colors

Vision Milestones: 48 to 72 months

- Recognizes and recites the alphabet
- Demonstrates pre-literacy skills
- Has complete depth perception
- Uses scissors to cut a pattern
- Can recognize and/or name coins and paper money

Signs of Visual Impairment Preschool Age

- Does not respond to faces
- Difficulty seeing dropped objects or insects
- Holding hands or toys close to face
- Staring at bright lights frequently
- Does not notice people or objects in certain areas
- Overreaching or under-reaching

Elementary School Age

- Primary years are crucial to academic success building
- Uncorrected visual problems may contribute to academic problems
- Some vision problems may lead to amblyopia if uncorrected
- Vision continues to be crucial to success.

Signs of Visual Impairment: School Age

- Academic problems
- Frequent headaches
- Rubbing eyes, complaining that eyes hurt after book or board work
- Tilting head
- Squinting
- Watery or tearing eyes

Additional Warning Signs

- Doesn't see objects unless they are close
- Turns to preferred side to look at objects
- Has redness, swelling, or discharge
- Eyelids droop
- Cloudy iris of one or both eyes
- Tearing, light sensitivity, blinking
- Rubbing eyes frequently
- Sustains an eye injury

Prevent Visual Impairments in Children

- Regular vision screenings
- Protect eyes from sharp objects, the sun, eyestrain from electronic devices (tablet, phone, TV).
- Other environmental hazards

Summary

- AZDHS recommends annual vision screenings as best practice.
- We are all responsible for preventing vision loss in children!
- Promote the wearing of protective eye covering while doing dangerous activities.
