

Vision Screening Assessments

Assessment	Procedures
Family History and Parent Observations	Ask about family history of eye disorders such as strabismus, amblyopia, cataracts, refractive error, as well as eye surgery and use of glasses during childhood in parents or siblings. Ask parents for any observations or concerns about their child's vision.
External Exam	Using a penlight, examine the eyelids, conjunctiva, sclera, cornea, and iris. Refer to a pediatric eye care specialist if abnormalities are present, such as ptosis, non-resolving conjunctivitis, or presence of cloudy or enlarged corneas and/or photophobia.
Red Reflex	Perform in a darkened room to maximize pupil dilation. It is not necessary to use eye drops for further pupil dilation. Set direct ophthalmoscope to "0" and while viewing through it at an arm's length distance from the child, evaluate both pupils simultaneously as child looks at the light. The screener can move closer to the child to assess each eye individually. The observed red reflexes should be light orange-yellow in color in lightly pigmented eyes or a dark red in darkly pigmented brown eyes. The two red reflexes should be identical in color, brightness, and size. Bright white or yellow reflex, or a dull or absent red reflex can be a sign of significant abnormality and necessitates a referral.
Pupil Exam	Pupils should be equal, round and equally reactive to light. Unequal pupil shape or differences in diameter greater than 1mm are often due to an eye injury, disease or neurological disorder. A difference of less than 1mm in pupil size can occur normally and are generally benign unless presenting along with ptosis or an ocular motility deficit.
Corneal Light Reflex	Using a penlight directed at the child's face from arm's length away, check for symmetry of the white pinpoint light reflexes while the child gazes at the light. Normally these reflexes fall symmetrically in or near the center of the pupils. Asymmetry of the reflexes is typically a sign of strabismus.
Cover test	Have the child look at a small object, such as a small toy or sticker on a tongue depressor. As the child fixates on the target, cover each eye alternately. A shift in an eye's alignment as it fixates on the target may indicate possible strabismus.
Ophthalmoscopy	For older, cooperative children, the direct ophthalmoscope can be used to visualize structures in the back of the eye, such as the optic nerve, retinal blood vessels, and central retina. While child is looking into the distance at a target, use the ophthalmoscope to (starting at +10 lens) gradually move as close to the eye as possible while dialing less lens power until retinal vessels come

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	<p>into focus. Follow these vessels to view the optic nerve. A normal optic nerve is yellow-pink and generally flat. To view the foveal reflex, ask the child to look directly at the ophthalmoscope light. A normal foveal reflex should appear bright and sharp. Retinal hemorrhages can be present after a vaginal delivery but may also be a sign of severe child abuse. A swollen optic nerve may be a sign of increased intracranial pressure.</p>
<p>Fix and Follow Response</p>	<p>Evaluate the child's ability to fixate on and follow an object or toy held before the child. Perform with both eyes open first, and then repeat with each eye alternately covered. Determine if each eye can fixate on the object, maintain fixation for a short time, and then follow the object as it is moved in various directions.</p> <p>If the child demonstrates poor fixation and follow response when screened binocularly after 3 months of age, or demonstrates asymmetrical responses between the 2 eyes at any age, a referral is necessary for further evaluation.</p>
<p>Visual acuity</p>	<p>Visual acuity screening should be done in a well-lit room, free of visual and auditory distractions. The eyes chart should be at the child's eye level. Each eye should be screened separately (monocularly), ensuring child does not peek with other eye. Use adhesive patches or 2-inch wide hypoallergenic paper tape for effective occlusion. Either critical line or threshold screening may be used.</p> <p>Screen children ages 3-5 years using standardized LEA symbols or HOTV letters and charts. LEA symbols and HOTV letters charts are standardized and have validated optotypes that provide the most accurate vision assessment. Matching/response cards can be used with LEA symbols and HOTV symbols charts for children who may be timid or non-verbal. Screening distance is 10 feet. This short distance will enhance interaction between the child and the screener without decreasing the accuracy of screening results.</p> <p>Screen children who comfortable know their letters using Sloan letters or Snellen letters chart. Sloan letter charts are standardized and therefore preferable to Snellen letters. A screening distance of 10 feet is recommended.</p> <p>Children who are unable to recognize letters should be screened using a standardized LEA symbols or HOTV letters chart.</p>