

Vision In Preschoolers (VIP) Executive Committee

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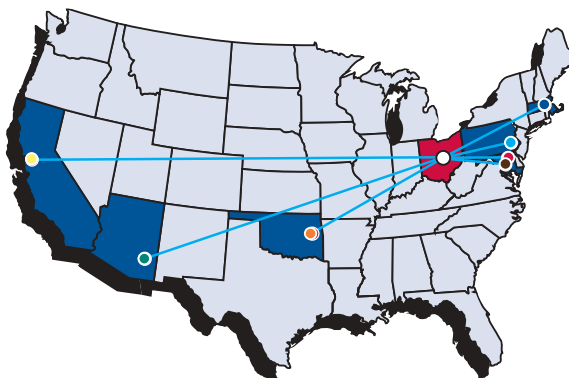
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Vision In Preschoolers (VIP) Study Sites



For more information about the VIP Study, please contact:

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Phases I & II In Review



Vision In Preschoolers Study

The primary goal of the VIP Study is to determine whether vision screening tests can accurately identify those preschool-aged children who would benefit from a comprehensive eye examination because of signs of amblyopia, strabismus, and/or significant refractive error.

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What is the VIP Study?

The VIP Study is a prospective, multi-center, multi-year, multi-phased, multi-disciplinary, clinical study to establish the accuracy of tests used to screen for significant and prevalent vision disorders among 3-, 4-, and 5-year-old preschoolers.

What are amblyopia, strabismus, and refractive error?

- **Amblyopia** is reduced visual acuity in one or both eyes, not improved solely with refractive correction, and not attributable to other obvious ocular anomalies.
- **Strabismus** is an "eye misalignment" or inability to direct the two eyes in the same direction simultaneously.
- **Refractive Error** occurs when light entering the eye is not precisely focused on the retina, causing blurred vision.

Catagories of refractive error:

- ◆ **Anisometropia** is an unequal spherical or cylindrical refractive error between the two eyes.
- ◆ **Astigmatism** is an unequal amount of refractive error in the principle meridians within an eye.
- ◆ **Hyperopia** occurs when light enters the eye and the point of focus is behind the retina which results in blurred vision.
- ◆ **Myopia** occurs when light enters the eye and the point of focus is in front of the retina which results in blurred vision.

What were the results of Phases I & II?

Phase I of the VIP Study indicated that screening tests vary widely in performance, even when used by licensed eye care professionals. The four best tests, Non-cycloplegic Retinoscopy, Retinomax Autorefractor, SureSight Vision Screener, and Lea Symbols Visual Acuity Test, performed similarly and detected two-thirds of children having targeted conditions (nearly 90% of children with the most severe conditions) when the over referral rate was set at 10%. Two static photoscreeners were less accurate than the 3 tests that assess refractive error in other ways.

Phase II indicated that trained nurses and lay people were able to correctly identify up to 68 percent of children with at least one of the most prevalent vision disorders of childhood: amblyopia, strabismus, refractive errors or reduced visual acuity not associated with any obvious disorder. These results demonstrated that trained lay people and nurses can achieve similar results when using specific tests to screen preschool children for vision disorders. Further, the results demonstrated that trained nurses and lay screeners achieved similar accuracy rates administering the two automated refractors. Nurses correctly identified up to 68 percent of children with vision disorders while lay screeners correctly identified up to 62 percent of these children.



Using these hand-held instruments, nurses and lay screeners correctly identified more than 80 percent of children with conditions considered most severe. Using Lea Symbols visual acuity charts displaying several symbols at one time at a distance of 10 feet, nurses and lay screeners were not able to correctly identify as many children with vision disorders. However, when lay screeners administered a simpler version of the symbols visual acuity test at a distance of five feet, they correctly identified 61 percent of children with vision problems. Nurses and lay screeners identified about the same percentage of children with vision problems (45 percent versus 40 percent) using the test of depth perception (Stereo Smile Test II).

Planning for **Phase III** is ongoing.

How can you tell whether a screening test is accurate?

The following tests are used by licensed eye care professionals in the Gold Standard eye examination of preschoolers:

- Lensometry
- Visual Acuity
- Cover Test
- Noncycloplegic Retinoscopy
- Versions & Ductions
- Stereoacuity
- Anterior Segment Assessment
- Cycloplegic Drops
- Cycloplegic Retinoscopy
- Ophthalmoscopy

The results of the screening are compared with the results of the Gold Standard eye examination to determine the accuracy of each screening test.