

Flip chart Visual Acuity Screening for Amblyopia Risk Factors Compared to the PlusoptiX A09 Photoscreener, Tests Performed by a Lay Screener.

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Abstract

IMPORTANCE: The gold standard of vision **screening** is considered **acuity** testing, this article will compare the gold standard against new technology to provide more choices for pediatric vision **screening** programs.

OBJECTIVE: To determine the reliability of recognition **visual acuity screening** performed by a lay screener **compared** to the **plusoptiX** A09 photoscreener for the detection of **amblyopia risk factors**.

DESIGN: One lay screener received basic training in how to test monocular **visual acuity** using the 10 foot Patti Pics single crowded **chart** and the **plusoptiX** A09 photoscreener. All children underwent a complete pediatric ophthalmology examination and cycloplegic refraction after **screening** and this examination was the standard against which the **screening** method was **compared**. Each patient received a pass or refer grade after either **screening**. For the Patti Pics **screening**, children were referred if they failed to reach threshold **visual acuity** of twenty forty in either eye; the **plusoptiX** determines if the child is a pass or refer based on pre-set referral criteria.

SETTING: Pediatric ophthalmology clinic.

PARTICIPANTS: **Screening** was performed on children ages 3 to 10 years.

RESULTS: Seventy-one children were screened. **Flip chart-screening** was found to have a sensitivity of 83%, specificity of 44%, false positive rate of 56% and false negative rate of 17%. Those same metrics for the **plusoptiX** A09 were 94%, 89%, 11% and 6%, respectively.

CONCLUSION: The **plusoptiX** photoscreener was more sensitive and specific in making appropriate referrals for further care than **flip chart-screening** in this cohort of children age 3-10. The **plusoptiX** A09 photoscreener operated by a lay screener is a reliable method to screen for **amblyopia risk factors**. These finding have important implications for community based vision **screening**, and **screening** in the medical home.

PMID: 24372416

[Indexed for MEDLINE]



MeSH terms

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