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Preschool Vision Screening: Where we have been and where we are going?

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Purpose

To discuss the evolution of instrument-based screening to detect amblyopia and its risk factors, and to summarize the importance of preschool vision screening.

Design

Expert commentary.

Methods

Author experiences were supplemented by a review and interpretation of pertinent medical literature.

Results

Amblyopia remains a public health problem as it is a common cause of monocular visual impairment. As a disease, amblyopia detection is best obtained by appropriate vision screening rather than by yearly mandated comprehensive eye examinations for all children; the US Preventative Services Task Force recently reaffirmed their recommendations for vision screening in pre-school children. Vision screening devices have evolved over the past four decades from photoscreeners that use instantaneously developing film, to autorefractors that detect amblyopia risk factors, to nerve fiber layer scanners that detect the microtropia that nearly always accompanies amblyopia. When detected early, effective treatment for amblyopia can be initiated.

Conclusions

Amblyopia is a reversible cause of vision loss in children. Vision screening devices and screening programs have been extensively studied—experts and literature agree: vision screening devices and programs are cost-effective, efficient, and are effective methods for amblyopia detection. The authors support the regular use of instrument-based vision screening in the medical home for all children until they reach a developmental stage where they can participate reliably in optotype-based vision screening.