"Kids are NOT a line of vision" : Pediatric Low Vision

Primary Care

A child is assessed by pediatrician, or a family doctor who is responsible for care of the child. The American Academy of Ophthalmology (AAO) recommends vision screening by the primary care physician from birth onward (8).

Because of introduction of instrument-based screening tools community-based vision screening is usually available for school-aged children. This may be performed by local service organizations (e.g., Prevent Blindness, Lion’s International), school cooperatives, or available through a school’s local services, e.g., from a nurse employed by a school district.

A child with low vision is one who has impaired visual functioning even after treatment and/ or standard refractive correction, but who uses, or is potentially able to use, vision for the planning or execution of a task (1). The AAO includes in its PPP the following definition: “To promote the evaluation and education of a child with visual impairment, children are considered to have low vision if they cannot be corrected to 20/40, at both near and at distance, or have significant scotoma, visual field constriction, hemianopia, photophobia or other conditions interfering with vision.”

Ophthalmologist’s Role

From birth and through the school years, the ophthalmologist is responsible for the initial ophthalmic diagnoses and for the prescribing of medical and surgical interventions. Also, if the ophthalmologist does not have a specialty in low vision care, the AAO includes within its Preferred Patient Patterns (2013) guidelines for referral of a child with low vision to a clinical low vision specialist for an evaluation of the child’s visual functioning and whether optical and/or electronic devices will be beneficial for the child.

The ophthalmologist also refers the child/family to appropriate intervention or educational services in the community or primary setting. Eye examination information is communicated to the parents and (with parent permission) to the early intervention team (birth - 2 yrs.) or to the education team (3 - 21 yrs.). This information combined with other medical information enables the child’s team to plan and implement services designed to meet the child’s individualized needs for development and education. The interventions are delegated to professionals in the field of special education. This is applied for each child, regardless of the child’s abilities and disabilities. Also, with parent permission, the ophthalmologist may communicate with the educational team in areas of medical importance to the child’s functioning, e.g., restrictions for physical activities.

It is important that ophthalmologists ask whether a child is receiving appropriate
services with an Individualized Family Service Plan (IFSP) (birth through age 2) or a Individualized Education Program (IEP) (ages 3 through 21). If a child with low vision is not receiving either of these programs, the ophthalmologist may inquire if the child is on a 504 Plan. This refers to a rehabilitation law that provides for accommodations within a school program for children with health conditions and/or disabilities. A 504 Plan should be provided if a child does not qualify for special education services. For example, a child on a 504 Plan may be given extra time on a test or permitted to use a prescribed optical device during a school day. Further, ophthalmologists are encouraged to inquire about whether the child is receiving prescribed optical and/or electronic devices, and instruction in the use of the devices through the child’s school (AER Position Paper, Literacy Decisions for Students with Visual Impairments, 2013).

Educational Services

All states are participating in IDEA, the Individuals with Disabilities Education Act and must provide services to children who have an established disability. The child with visual impairment or blindness may also have additional disabilities that must be planned for when the individualized education and rehabilitation program is designed.

Early intervention and special education services for children with low vision or blindness include a certified teacher of students with visual impairments (TVI) and a certified orientation and mobility specialist (COMS). To become eligible for these services states and communities set their own parameters. In some states a report from the ophthalmologist or optometrist along with a Functional Vision Assessment (FVA) from a TVI must be completed to determine eligibility for vision services.

An educational team is developed that prepares the individualized programs for each child. Parents, educators, medical personnel, and therapists may be included in the team that meets at least annually to design the next year’s program. All programs must be based on the child’s assessed needs. At the annual meetings the results of educational and other assessments are reviewed along with the child’s progress. Following the development of the goals and objectives, a determination is made regarding the placement of the student in a school and school program.

There is a requirement in IDEA that a child receives various supports including but not limited to: instruction, assistive technologies, accommodations, and access to the general education curriculum. Further, TVIs and COMS will provide assessments and instruction in the Expanded Core Curriculum for Students with Visual Impairments (ECC). While the ECC is not required by IDEA, it is a requirement in select states, e.g., Texas.

The TVI and COMS should ensure that the child receives appropriate assessments and instruction. Among the assessments that are conducted with regard to the
child’s vision are the functional vision assessment (FVA) which looks at how well a child is using his vision in various environments and for various tasks, the literacy media assessment (LMA) which determines which learning media a child will benefit from print, Braille, or dual media (Braille and print), and the orientation and mobility assessment (O&M) which looks at the child’s use of distance vision along with her ability to orient in various environments and to travel in familiar and unfamiliar environments. In addition the assessments that are given to students in general or special education programs are also given to the child with a visual impairment or blindness. The TVI and COMS will consult with the general and special educators to review how in-class and state assessment tests will be administered to each child. The TVI and COMS will also work with the general educators so that their instruction is accessible to the child and so they learn the best ways in which to include the child in all curricular and extracurricular areas.

Medical Statistics

The latest statistics from Babies Count (Hatton 2013)(2) the national registry for children with visual impairment, birth to 3 years, shows out of 5,931 children in the registry, 24.9% had cortical (cerebral) visual impairment (CVI) as the main reason for visual disability, and 11.8% had retinopathy of prematurity (ROP), 11.4% with optic nerve hypoplasia (ONH). In infants and toddlers with CVI, ROP, and ONH, the most common causes of visual impairment in the USA, developmental disabilities including motor (such as cerebral palsy), intellectual disability, seizure disorders, and significant medical complications are common. It then is obvious that interventions require a multidisciplinary and/or trans-disciplinary team.

Specialized Schools for Children Who are Blind or Visually Impaired

Specialized schools for students who are blind and visually impaired continue to have a valuable role. Enrollment, at no charge to the family, may be recommended by the IEP team with involvement from the child’s local school district, the family, and the specialized school’s evaluation team. Placement may be time-limited, and designed to return the student to their own local education agency (local school district) as soon as the IEP team determines the student is ready to become academically and socially successful at the local level. The specialized schools provide highly individualized curricula on a 24 hour/day basis.

In recent years specialized schools have expanded their offerings to include outreach to local school districts, and short-term programs, as well as other arrangements for children who have their primary enrollment at a local education agency. They may also provide continuing education for teachers throughout their state and provisions for parents to receive support and instruction through such endeavors as distance learning and conferences.
Clinical Low Vision Evaluations

Visual function does not necessarily correlate with visual acuity. Visual acuity measures the function of the eye; functional assessment measures the use of vision. The clinical low vision evaluation is different than the assessment of pathology. Diagnosis, prognosis, and visual acuity may not reflect how the child’s uses of her vision in the environment within activities of daily life. Visual acuity, refraction, motility, binocular visual acuity, contrast, color vision, visual fields, and examination of ocular structures are all important to evaluate and record as part of the clinical low vision evaluation.

Clinical low vision evaluations should begin by 3 years of age and earlier if the child is ready. The clinician will benefit from receiving a copy of the ophthalmology exam, the assessments of the TVI and COMS, and any other assessment that may have bearing on his evaluation. At times of school transition, e.g., from preschool to graded classes, or from elementary to middle school, clinical low vision evaluations should be available. Should there be a change in a child’s visual functioning and/or a change in the visual demands of her classroom, a clinical low vision evaluation may be needed. In addition, as TVIs or COMS work with the child with prescribed devices, including those for light or glare control, the child may be referred back to the clinical low vision specialist for a more advanced device or one that may better meet the child’s educational needs.

Authored by Linda Lawrence, MD and Anne Corn PhD
with contributions from Kelli Lusk, PhD, Karen Wolffe, PhD, Amanda Lueck, PhD, Bill Daugherty, COMS, Terry Schwartz, MD and A. Melinda Rainey, MD.

Bibliography
8. Pediatric Eye Exam; AAO Preferred Practice Patterns at www.aao.org