



EYEGLASSES

Birth to 3 Years Old

Parents' Guidebook from NMSBVI & Dr. Linda Lawrence

It has been our great privilege to collaborate with Dr. Linda Lawrence and other pediatric ophthalmologists to provide vision services for children. We appreciate the opportunity to work as partners to combine medical expertise with early intervention and education to meet the needs of children and families. Dr. Lawrence explains very clearly in the brochure why glasses are so important for young children and their development. NMSBVI is very proud to be a part of this project to explain the importance of glasses for children birth to three and we look forward to continuing to partner with the medical community in both New Mexico and nationally.

~ *Cindy Faris, MA, ECSE/L, TVI/L*

NMSBVI Program Coordinator, Birth to Three Program

Dr. Linda Lawrence

Linda Lawrence, MD established in 1986 a solo, private practice in comprehensive ophthalmology with pediatric emphasis in Salina, Kansas, USA.

Since 1992, she has performed functional vision assessments in the early intervention, Part C program, at Salina Regional Health Center, Kansas, and has documented the high rate of undiagnosed ocular pathology in infants and toddlers with developmental disabilities, and advocated for earlier detection and interventions. She performs outreach services with the Kansas State School for the Blind and is a volunteer consultant for Centro Ann Sullivan del Peru (CASP) in Lima, Peru, an educational NGO for students with neuro-developmental disabilities.



Eyeglasses for Birth to 3: Why and How?

Linda Lawrence, MD, Ophthalmologist

*Infant Child Program, Salina Regional Health Center, Salina, Kansas;
and Consultant with Kansas State School for the Blind*

Basic Principles of Eyeglass Wear

- Each child is unique.
- The visual pathways are the sensory channel responsible for much of the information the infant/toddler receives.
- Glasses are prescribed for a variety of optical, medical, & functional reasons.
- Proper fitting of glasses enhances wear.
- The reasons for the glasses prescription and wearing should be understood by parents, educators, and therapists to help facilitate their proper use and enhance development of vision as well as overall development.

Common Questions: Infant/Toddler Glasses

- What are the glasses for?
- Do the glasses promote social, motor, communication, or adaptive skill development?
- What is the expected outcome and who accesses the outcome? (What can the child do better while wearing the glasses, that they could not do before?)
- When are the glasses to be worn, and do the parents & team understand?
- What are the hardships for the family & child, and how do we overcome them?

Why Are Glasses Prescribed?

Rarely is vision considered as a contributing factor when developmental delay is suspected. Currently, there is little consensus as to the best method of assessing vision in young children with Neurological delays of disabilities and the prescribing of eyeglasses.

However, it has been demonstrated again and again that refractive correction can vastly improve function in children with developmental delay. A skilled ophthalmologist can determine a lens prescription to best address the specific needs of your child.

Eyeglasses may be prescribed for children aged birth-to-three to address a variety of visual issues:

- Significant refractive error, with evaluation not only according to published consensus standards for typically developing babies, but for the individual baby's needs. Myopia (nearsighted), Hyperopia (farsighted), anisometropia (different prescriptions in each eye) and astigmatism are common eye conditions that require glasses to help with prevention of amblyopia, and proper development of the visual system, which will enhance the overall development of the child. Aphakia may occur after the removal of congenital cataracts in a baby, and require specialized glasses.
- Prevent amblyopia from optical errors in eyes (very high myopia, high hyperopia, astigmatism that is significant or amblyogenic anisometropia (eyes are different prescriptions.)
- Lack of accommodation (focusing) measured by dynamic retinoscopy; the difficulty with accommodation may occur because of inadequate neurological direction, lack of motivation or attention to near target by child, seizure medication or medication used to decrease salivation (drooling) can paralyze the pupils and affect accommodation. This means that hyperopia which is typical in a child may not be compensated for: no focusing at near, no compensation for hyperopia, there will be a blurred or poor quality image.
- Correction of strabismus (eye turning). Typically would be accommodative esotropia, may occur earlier in children with neurodevelopmental disabilities, these are typically hyperopic children (plus prescription, or "farsighted.")

Assessing Vision in Young Children

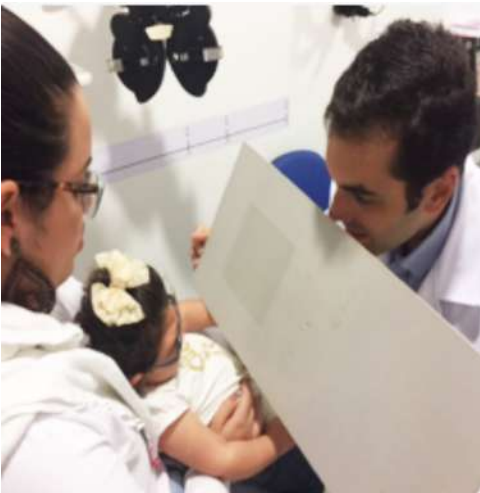
A vision exam may include a number of assessment methods....



LEA Gratings



Cycloplegic Refraction



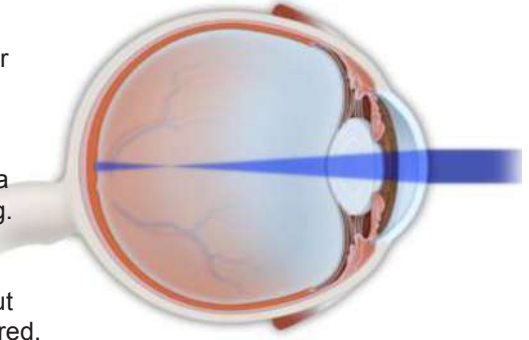
Teller Cards for Acuity



Trial Lenses

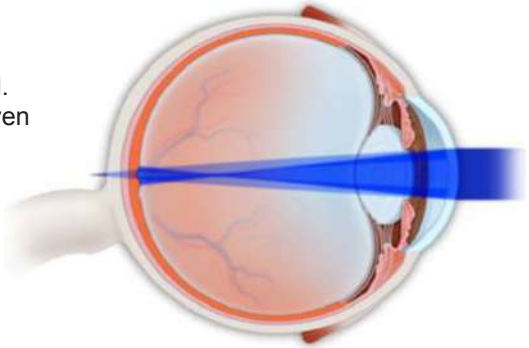
Refractive Errors: Myopia

- In myopia (nearsightedness), there is too much optical power in the eye.
- The distance between the cornea and the retina may be too long or the power of the cornea and the lens may be too strong.
- Light rays focus in front of the retina instead of on it.
- Close objects will look clear, but distant objects will appear blurred.



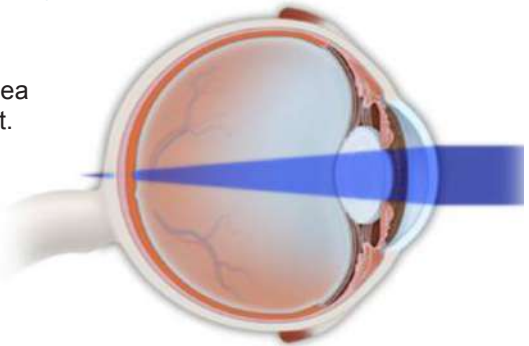
Refractive Errors: Astigmatism

- In astigmatism, the cornea is curved unevenly, shaped more like a football than a basketball.
- Light passing through the uneven cornea is focused in two or more locations.
- Distant and close objects may appear blurry.



Refractive Errors: Hyperopia

- In hyperopia (farsightedness), there is too little optical power.
- The distance between the cornea and the retina may be too short.
- Light rays are focused behind the retina instead of on it.
- In adults (but not necessarily children), distant objects will look clear, but close objects will appear blurred.



Examples of Eyeglasses to Help Improve Children's Vision

A toddler with myopia. Glasses are full-time wear in this particular situation. (Notice that the curvature of the lens minimizes her face.)



Poor focusing in baby with microcephaly in Africa. Using overplussed lenses for supervised near tasks, in this case a +5.00 in each eye.



A baby with congenital Zika virus syndrome in Brazil with microcephaly displays much-improved eye contact with overplussed glasses. Worn for near, supervised tasks.



An example of hyperopic glasses for strabismus with bifocal. Full-time wear. (Notice how the lens curvature magnifies the face.)

Courtesy of AAO.



Proper adjustment of eyeglasses' temple pieces can assist in attaining a proper fit for your child.



Incorrectly-adjusted eyeglasses can press against the eye; this is remedied by adjusting the fit.



A built-up bridge can customize glasses to help ensure a proper fit.



Parents and opticians can work together to optimize the fit of a child's glasses, taking into account the child's unique ear placement and head shape.

Other Uses for Glasses

- Protection for children with low vision/blindness
- Transition or tints for photophobia
- Magnification to assist with low vision
- “Blinder effect” may help decrease environmental overload in some children
- All children have unique needs!

Fitting Tips for Glasses

Eyeglass comfort for your child is just as important as basic corrective function of the lenses themselves. Adjustments made to temple pieces, bridge, etc. can make a world of difference in how well glasses fit! Skilled opticians can work with parents to help maximize glasses’ effectiveness for your child.



A baby with severe photophobia (CZS) benefits from wearing transition lenses.



Young children with vision impairments can benefit greatly from having just the right glasses, with just the right fit!

Booklet content adapted from an educational display by

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Additional booklet photos courtesy of New Mexico School for the Blind & Visually Impaired.

Birth-to-Three Program at NMSBVI

NMSBVI prides itself in offering a continuum of free services for children throughout each stage of growth and development. The NMSBVI Family Infant Toddler program serves children who are visually impaired and their families in their homes and communities as well as chil-



children considered to be at risk of possibly receiving a visual impairment diagnosis. In serving “at risk” children, NMSBVI is able to support families to confirm visual conditions and clarify diagnosis issues. Consequently, many of New Mexico’s visually impaired children are identified at a very young age so that services may be offered early in their development; thus helping children to maximize their potential.

Eligibility

NMSBVI Family Infant Toddler Program for children birth to three years old provides statewide services free to families of young children who have a diagnosed visual impairment; or who are considered to be at risk for visual impairment.

Referrals

Anyone can make a referral. Most referrals to the NMSBVI FIT program come from family members who are worried about their child; from early intervention agency providers with knowledge about a child who may need vision support services; and from the medical community. Referrals can be made for any child between the ages of birth and three years old:

- Who has been diagnosed with a visual impairment;
- Who has an established condition that places them at risk for a visual impairment. Established conditions can include but are not limited to prematurity, many different syndromes, a family history of visual impairment, or traumatic events such as oxygen deprivation, meningitis, or shaken baby syndrome;
- Whose family or team is concerned about some aspect of the child’s vision; or
- Whose results on the New Mexico Vision Screening Tool indicate the need for referral.

What to Expect After Making a Referral

Within 48 hours of receiving a referral, a developmental vision specialist from NMSBVI will contact the family. An initial evaluation will be completed and eligibility will be determined. In conjunction with the family and the

child's team, if recommended, services will be outlined on a child's IFSP (Individual Family Service Plan.)

Available Services

Services are available state-wide and are free to families with a child in need of services. Services for children before the age of three are unique. Family involvement is strongly encouraged, services are provided in the natural environment of the family home and/or community settings. NMSBVI's developmental vision specialists are trained as teachers of the visually impaired and/or as orientation and mobility specialists. NMSBVI's services do not replace, but supplement, other specialized services in the community. Services available to children before the age of three include:

- Functional Vision Evaluations to determine the need for services.
- Consultation/participation in developmental assessments with EI agencies.
- Learning Media Assessments to determine both the sensory channels a child prefers for learning and to establish the need for Braille instruction.
- Consultation with the family and/or community service providers, therapists, etc.
- Direct services to the child & family, including services from a developmental vision specialist and/or an orientation and mobility specialist.
- Developmental intervention strategies to support the development of visual/compensatory visual skills.
- Information about blindness / visual impairment.
- Referral & resource information for families.
- Participation in IFSP & other team meetings.
- Transition support from ages birth to three into preschool programs.
- Support for parents, including the support needed to find a pediatric ophthalmologist for a diagnosis.
- Training for child-specific teams, as well as for organizations seeking additional knowledge about vision and its impact on development.

For more information, please contact:

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