

Early Intervention Guidelines for Infants and Toddlers with Visual Impairment in Washington State

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I. Introduction

The Washington State Infant Toddler Early Intervention Program (ITEIP), in implementing the Individuals with Disabilities Education Act (IDEA), Part C, is committed to providing quality early intervention services to infants and toddlers, ages birth to three, with disabilities and/or delays, including those with visual impairment.

Toward that goal, and using the position paper of the Division of Visual Impairments, Council for Exceptional Children¹, titled: “Family-Centered Practices for Infants and Young Children with Visual Impairments” (2003) as a basis, we recommend the following guidelines:

- 1. Early intervention service providers have ongoing professional development to prepare them to screen for and identify risk factors or behavioral indicators of potential visual impairments.**
- 2. When a visual impairment has been identified and diagnosed by a medical professional, appropriate services—direct and/or consultative—are identified and provided on an Individualized Family Service Plan (IFSP) to each eligible child, according to Part C requirements.**
- 3. Equally important, these services are delivered by, or with input from, qualified personnel, including a certified Teacher of the Visually Impaired (TVI).**
- 4. Each local lead agency has a consulting relationship with a TVI who participates on the IFSP team to: assist with appropriate evaluations and assessments, develop appropriate IFSP outcome statements pertaining to the child’s visual impairment, provide direct or consultative services, and provide ongoing training and technical assistance for families and program staff.**

Because vision impairment can affect all areas of development, the family must learn ways to enhance the child’s ability to interact with the environment. **The desired outcome is that secondary delays will be prevented or minimized.**

Delivering quality early intervention services to infants and toddlers with “low incidence disabilities” such as vision impairment can be a challenge. Early intervention programs do not routinely have specialists on staff with the expertise to serve these children. Qualified professionals in the area of vision impairment are often scarce, and funding consultative services can be difficult.

¹The position paper can be found in Appendix A of this document or on the following website: www.cecdvi.org/positionpapers.html

These guidelines are designed to assist families, local lead agencies, and early intervention service providers in Washington State in providing services to infants and toddlers with vision impairment. They describe children who qualify for vision services, describe evaluations and assessments that are appropriate for infants and toddlers with visual impairment, define what vision services are and who can deliver them, and assist early intervention teams in accessing those services.

Infants and toddlers with visual impairment have unique developmental needs. The following principles are infused throughout these guidelines for services that address these unique needs, and recognize that “vision services” must follow ITEIP/Part C state definitions, policies, and procedures. (See www1.dshs.wa.gov/ITEIP)

Table 1
Principles of Early Intervention
for Infants and Toddlers with Vision Impairment

1. Early identification and diagnosis of vision impairment are essential.
2. Qualified professionals conduct ongoing vision evaluation, functional vision assessments, orientation and mobility evaluation, and early intervention.
3. Infants and toddlers with vision impairments and their families receive specialized early intervention services integrated into a program that promotes independence for the child within the context of family-centered, community-based activities.
4. The IFSP team assists the family in learning about the nature of their child’s vision impairment and its potential impact on their child’s development.
5. Early intervention services require a team approach, with the family as an important member of the team.
6. Parents/caregivers learn to understand and manage assistive technology and other equipment for their child.
7. Parents are knowledgeable about their child’s developmental needs and advocate effectively for their child. Parents understand their rights under the Individuals with Disabilities Education Act (IDEA), Part C/ITEIP.

II. Who Are Children with Visual Impairment?

The Washington State Department of Health reported 86,845 births in 2006.² Based on the national prevalence of visual impairment (1.5 per 1,000 live births), the estimated number of infants with visual impairment born in Washington in the year 2006 alone is 130. We can assume, then, that at any point in time our state has approximately 375 infants and toddlers who are blind or visually impaired between the ages of birth and three. This number should be fairly reliable, since the number of infants and toddlers reported with visual impairment in Washington ranged from 257 to 353 on annual surveys conducted between 1992 and 2003.³

In Washington State, a child with a developmental delay or a physical or mental condition that has a high probability of resulting in a developmental delay (e.g., Down syndrome) is eligible for early intervention services under Part C of the Individuals with Disabilities Education Act (IDEA). Two sections of the Infant Toddler Early Intervention Program's (ITEIP) federal application describe eligibility criteria pertaining to children with visual impairment⁴:

1. Developmental Delay: A child is eligible if he or she demonstrates a delay of 1.5 standard deviation or 25% of chronological age delay in one or more of the following developmental areas as measured by appropriate evaluation tests or procedures, and administered by qualified personnel. **In the case of hearing and vision, the criteria listed within hearing impairment and vision impairment applies:**

a. Cognitive;

b. Physical (**vision**, hearing, fine or gross motor);

1) Hearing Impairment that adversely affects the child's development. . .

2) Vision Impairment

a) A vision impairment that adversely affects the child's development even with correction. Eligibility is dependent on documentation of a visual impairment, including one or more of the following conditions:

Legal blindness or visual handicap as they are customarily defined, either in terms of qualifying reduction in visual acuity and/or a qualified reduction in visual fields;

i. A visual impairment, which is progressive in nature and can be expected to lead to blindness within a reasonable period of time;

b) If a visual acuity or field cannot be determined:

² Source: <http://www.doh.wa.gov/>

³ Based on 11 annual surveys of programs serving birth-to-three year olds in the state conducted by Washington Sensory Disabilities Services between 1992-2003.

⁴ From the ITEIP website (1/3/08): http://www1.dshs.wa.gov/ITEIP/Services_Elig.htm

Qualified personnel must identify a diagnosis or medical history, which indicates a high probability of visual loss that may adversely affect the child's development;

- i. Functional vision evaluation by a qualified professional is necessary to determine eligibility.

2. Or a diagnosed physical or mental condition: A child is eligible if he or she has a diagnosed physical or mental condition that has a high probability of resulting in a developmental delay, including but not limited to:

c) Deaf, blind or deaf-blind;

If a child meets the eligibility criteria listed above, he or she is eligible for early intervention services in our state. There are multiple funding sources for services, however (e.g., Division of Developmental Disabilities), and these may require that a child meet other eligibility criteria.

While some children are born with vision impairment as their only developmental concern, the majority has at least one other area of delay or disability⁵. Identifying a vision concern when a child has other developmental delays can be difficult. It is important to do so, however, because vision impairment of any kind can have a profound impact on a child's development.

It is also important to note that not all visual conditions qualify a child for early intervention (EI) services from a teacher of the visually impaired (TVI). For example, eye muscle disorders such as strabismus, near-sightedness or far-sightedness that can be corrected by glasses, or a vision impairment in one eye with normal vision in the other, do not in themselves require TVI services. Table 2 (page 5) describes several visual problems that are often dealt with by medical procedures or therapies rather than through TVI services.

Table 3 (page 6) lists the most common visual disorders that generally qualify an infant or toddler for EI services that may include consultation or direct vision services from a Teacher of the Visually Impaired (TVI). This is not an exhaustive list. Children's needs for vision services must be assessed on an individualized and ongoing basis. (See Section V of this document for a description of "vision services.")

For more information on children eligible under ITEIP/IDEA, Part C, refer to the ITEIP application found on the ITEIP website:

http://www1.dshs.wa.gov/iteip/Services_Elig.htm

⁵ Poggrund, R., & Fazzi, D. (Eds.) (2002). *Early focus: Working with young children who are blind or visually impaired and their families* (2nd Ed.). NY: AFB Press, p. 14.

Table 2
Visual Problems Treated Medically

Note: These visual problems alone will not qualify an infant or toddler for early intervention services. However, EI service providers should be alert for these types of visual issues in infants and toddlers who are enrolled in early intervention for other developmental concerns.

Visual Problem	Description	Treatment/Comments
Strabismus	<p>Eyes turn inward, outward, or cross as a result of lack of muscle coordination or imbalance.</p> <p>If left untreated the weaker eye may develop suppression in order to avoid double vision, and amblyopia may result.</p>	<p>Treatment may involve patching, eyeglasses, or surgery. In some cases optometric vision therapy may be an option.</p> <p>For infants and toddlers enrolled in EI for other concerns, the role of the early interventionist is to use good observation skills to alert parents of the need for evaluation and possible medical intervention.</p>
Refractive Errors: <ul style="list-style-type: none"> • Myopia • Hyperopia • Astigmatism 	<ul style="list-style-type: none"> - Near sightedness - Far sightedness - Blurred vision is caused by an irregular curvature of the surface of the cornea or the internal focusing structures. 	<p>Treatment is provided optically (with glasses).</p> <p>Again, for infants and toddlers enrolled in EI for other concerns, the role of the EI provider is to observe for possible refractive problems and alert the parents of the need for an eye evaluation.</p>
Eye Infections	Eyes appear red, matted, and/or “gooey.”	Symptoms may indicate infection or clogged tear duct and must be treated medically. Good hygiene is necessary to prevent spread of infection to other children. This is a short-term time-limited condition.
Ptosis	Eyelid droops.	The child must be evaluated by an ophthalmologist. If the eyelid droops below the pupil, the child’s vision will be at least partially occluded. Ptosis may be a sign of more significant cranial nerve issues.

Table 3
Common Visual Disorders that Generally
Qualify an Infant or Toddler for Vision Services

Note: These conditions often result in a visual impairment of a degree that will qualify an infant or toddler for “vision services” of a consultative or direct nature. EI service providers should be alert for these terms in a child’s medical history or during interviews with parents and caregivers. (See the glossary in Appendix A for definitions.)

Conditions that May Qualify a Child for Vision Services:	Conditions that May Qualify a Child a VI Consultation:
<ul style="list-style-type: none"> • Visual acuity of 20/70 or worse in the better eye • Visual field loss reducing combined visual fields to 20° or less • Albinism • Aniridia • Anophthalmia • Aphakia • Cataracts • Cortical Vision Impairment (CVI) • Familial Exudative Vitreo-retinopathy (FEVR) • Glaucoma • Leber’s amaurosis • Microphthalmia • Optic atrophy • Optic nerve hypoplasia • Papilledema • Persistent Hyperplastic Primary Vitreous (PHPV) • Phthisis bulbi • Retinal detachment • Retinopathy of prematurity (ROP), Grade 4 or 5 • Septo-optic dysplasia 	<ul style="list-style-type: none"> • CHARGE association (when accompanied by significant colobomas) • Cytomegalovirus (CMV), if it results in vision loss • Coloboma • Delayed development of vision • DeMorsier’s syndrome • Down syndrome (with high myopia) • Duane’s syndrome • Nystagmus • Ptosis • Retinoblastoma • Retinopathy of prematurity (ROP), Grade 3

If you have questions about whether a particular infant or toddler qualifies for vision services, ensure that referral is made to the county lead Family Resources Coordinator. See www1.dshs.wa.gov/ITEIP/CountyOrgLinks.html (or) call 1-800-322-2588 (Family Health Hotline).

III. What Are Appropriate Evaluations and Assessments for Infants and Toddlers with Visual Impairment?

Infants and toddlers with visual impairment who have been referred to early intervention services need a comprehensive approach to evaluating and assessing their developmental needs, with input from qualified vision professionals. This approach must ensure that:

- A. Each developmental area is evaluated, i.e., cognition, physical (including vision, hearing, fine or gross motor), social-emotional, adaptive, and communication/ language, **with appropriate adaptations made for specific items on the assessment tools that require vision to perform**; and,
- B. **A complete picture of the child's visual status is gained** in order to provide the information needed for development of the Individualized Family Service Plan (IFSP) and program planning.

A complete evaluation or assessment for an infant or toddler with visual impairment will address both of the above. It should include results of a functional vision assessment (FVA) and orientation and mobility evaluation, if appropriate, as well as the results of the medical/ophthalmologic evaluation that preceded them. The information from each of these areas is critical but different in the goals addressed.

Below are brief descriptions of seven different procedures that are typically carried out with infants and toddlers prior to and following diagnosis of a visual impairment. These are: 1) vision screening, 2) medical ophthalmologic evaluation, 3) pediatric optometric evaluation, 4) functional vision assessment, 5) learning media assessment, 6) orientation and mobility evaluation, and 7) developmental evaluation and assessment.

1. Screening Infants and Toddlers for Vision Concerns

The American Academy of Ophthalmology and the American Association for Pediatric Ophthalmology and Strabismus recommend timely screening for the early detection and treatment of eye and vision problems in children. According to their recommendations, a pediatrician, family physician, nurse practitioner, or physician assistant should examine a newborn's eyes for general eye health including a red reflex test in the hospital nursery. An ophthalmologist should be asked to examine all high-risk infants.

Early intervention (EI) service providers and family members play a crucial role in identifying vision issues in infants whose visual disorders were not identified at birth. Parents are often the first to voice a concern about their baby's lack of eye contact or inability to track a moving object. They may describe the way their baby uses his or her vision as being "not quite right." EI service providers are in the unique position of helping to identify children who are participating in EI services but whose

visual concerns have not yet been addressed and evaluated. They may do so by listening to parents, observing carefully, and supporting the family in getting further information from medical professionals when necessary.

Early intervention service providers must ensure that infants and toddlers are screened for vision (and hearing) concerns within 45 days of referral to the ITEIP program. While screening tools such as the Early Periodic Screening, Diagnosis, and Treatment (EPSDT) contain items that address vision development, other approaches are necessary for young children at risk for developmental delay.⁶ Below are three approaches available in Washington State to address possible concerns about an infant's or toddler's vision.

- a. **InfantSEE®.** This is a public health program designed to ensure that “eye and vision care becomes an integral part of infant wellness care to improve a child’s quality of life”⁷. Under this program, member optometrists provide a comprehensive infant eye assessment within the first year of life (preferably between six and twelve months of age) as a no cost public health service. For more information, visit their website: www.infantsee.org or call their toll-free number: (888) 396-3937. To find a provider in your area, use the “Locator” icon on the home page, or call the toll-free number.

- b. **Three-Pronged Approach.** Washington Sensory Disabilities Services (WSDS), using professionally recognized criteria, developed this approach for EI service providers to identify concerns about infants’ and toddlers’ hearing and vision status. While not a “screening” per se, it incorporates information gained via observation, parent interview, and medical history to document parent concerns, observable infant behaviors, and risk factors and signs that may indicate high risk for vision impairment. The purpose of gathering this information is to determine the need for further diagnostic evaluation of a child’s vision status, reduce over-referral to primary care physicians and ophthalmologists, and to document that this area has been addressed as required in IDEA, Part C.

Users can download the “Three Pronged Approach” tool from the WSDS website: www.wsdsonline.org or call WSDS for a paper copy (available in English and Spanish). For information on staff training on using this approach, contact WSDS at: 1-800-572-7000 or (425) 917-7827, or email: wsdsonline@psed.org

- c. **Photoscreeners.** We neither recommend nor discourage use of photoscreeners. Because this equipment and film become obsolete quickly and require a great deal of training and professional support from a community optometrist or ophthalmologist to use reliably and with validity, we urge

⁶ American Public Health Association resolution; from InfantSEE® website (January 8, 2008). www.infantsee.org/x3637.xml

⁷ From the InfantSEE® website, January 8, 2008.

caution. Some programs, however, have obtained sufficient training and support to use a photoscreener effectively and find it works well for screening vision concerns of young children. For that reason we will describe it here.

The “photoscreener” is a camera-like piece of equipment that takes Polaroid photos of a child’s eyes. Trained program staff then carefully examine the photos for indications of visual disorders such as refractive errors (nearsightedness, farsightedness, astigmatism), strabismus, or cataracts. Photos that show cause for concern get a second review by a community optometrist or ophthalmologist, and if warranted, the family is referred to a pediatric ophthalmologist.

The use of photoscreeners is controversial. The American Academy of Ophthalmology and the American Association for Pediatric Ophthalmology and Strabismus note, however, “some evidence currently exists to suggest that photoscreening may be a valuable adjunct to the traditional screening process, particularly in pre-literate children”⁸. Advantages include its ease of use with young children and its reliability in identifying possible visual concerns— provided the equipment operator has been well trained and has support for interpreting the photos.

Limitations of photoscreening include: (a) the need for intensive training to use the equipment effectively, (b) the need for an ongoing relationship with a cooperating optometrist or ophthalmologist to help interpret the photos, (c) the cost per child (approximately \$1.00 per child per screening), and (d) the possibility that the equipment will become obsolete or that people trained to use it leave the program. Also, it does not identify all possible visual concerns, so over-reliance on it could cause some significant vision impairments (e.g., cortical vision impairment) to be overlooked.

2. Medical Ophthalmologic Evaluation

The goal of the ophthalmologic evaluation is to diagnose and determine a treatment plan to preserve and enhance vision. This examination takes place in the ophthalmologist’s office and may take from 15 to 60 minutes.

In its 2001 Policy Statement, the American Academy of Ophthalmology and the American Association for Pediatric Ophthalmology and Strabismus recommend an ophthalmological examination be performed whenever questions arise about the health of the visual system of a child of any age. They recommend that infants and toddlers be screened for visual problems as follows, and any child who does not pass these screening tests have an ophthalmologic examination:

⁸ American Academy of Ophthalmology Policy Statement: Vision Screening for Infants and Children (2001) is available from www.aao.org (Search for: Vision Screening for Infants and Young Children.) Full text of this Policy Statement is in Appendix B of this document.

- a. A pediatrician, family physician, nurse practitioner, or physician assistant should examine a newborn's eyes for general eye health including a red reflex test in the nursery. An ophthalmologist should be asked to examine all high risk infants, i.e., those at risk to develop retinopathy of prematurity (ROP), those with a family history of retinoblastoma, glaucoma, or cataracts in childhood, retinal dystrophy/ degeneration or systemic diseases associated with eye problems, or when any opacity of the ocular media or nystagmus (purposeless rhythmic movement of the eyes) is seen. Infants with neuro-developmental delay also should be examined by an ophthalmologist.
- b. All infants by six months to one year of age should be screened for ocular health including a red reflex test by a properly trained health care provider such as an ophthalmologist, pediatrician, family physician, nurse, or physician assistant during routine well-baby follow-up visits.

Important: Because of a higher incidence of vision impairments in children who are deaf or hard of hearing, infants and toddlers who have been diagnosed with a hearing loss should have a vision evaluation. (See Appendix C for sample ophthalmologic evaluation reports.)

3. Pediatric Optometric Evaluation

A pediatric optometric evaluation refers to the examination of children's eyes by optometrists who are trained in evaluating and treating visual disorders in children. The vision examination by the pediatric optometrist includes evaluation of the child's eye muscle movements, focusing skills, eye tracking and fixation skills, the ability of the eyes to aim, move and work together, visual behavior, and dilation of the eyes. The dilation of the eye allows the doctor to determine if there is a need for glasses even if the child is nonverbal. The dilation also allows the doctor to view the structures inside the eye to look for abnormalities of the retina or optic nerve.

4. Functional Vision Assessment

Once an infant or toddler has been diagnosed with a visual impairment, completion of a functional vision assessment (FVA) is one of the primary roles of the teacher of the visually impaired (TVI). The goal of the functional vision assessment, done in collaboration with the IFSP team, is to determine what and how the child sees, and what can be done to best facilitate learning through the visual sense. This assessment is accomplished in the child's home, childcare facility, and/or other community setting and typically requires several visits over a period of time. During the child's first years, functional vision assessments need to be reviewed several times.

The information that is gathered from a FVA often is quite different from what is gathered from a clinical vision evaluation at a doctor's office, in that it is not diagnosis or treatment oriented. The goal of a FVA is to determine the child's visual

strengths and needs, and to develop strategies for optimizing and/or promoting the use of visual and non-visual information in the broader developmental sense.

The TVI relies on the eye doctor's findings to help determine adaptations that are indicated based on a child's diagnosis. *Appropriate team recommendations for early intervention services cannot be made without the information derived from the functional vision assessment.* (See Appendix C for two sample functional vision assessment reports.)

5. Learning Media Assessment

Formal learning media assessments typically are not done during the birth-to-three years; however, the process begins via observation of the infant/toddler's preferred sensory mode (i.e., auditory, visual, tactual) and developing visual skills. By the time a child enters preschool, the team usually has a fair idea of how to support a child's developing literacy.

The following describes prerequisite skills for emergent Braille literacy in infants and toddlers with visual impairment⁹. A similar skill area description exists for emergent print literacy skills for infants and toddlers who will read using large print or other accommodations.

“Supporting early literacy development in early childhood settings such as the home and childcare; teaching early literacy skills and modeling techniques for fostering development of those skills in the home and childcare, such as reading aloud to the child, developing book concepts, encouraging early reading and writing skills (e.g., pretend reading, scribbling); working with parents and others to expand child's experiential base and general concepts; developing hand/finger skills; helping parents and others acquire books, labels, and other materials in accessible media; helping parents acquire knowledge of Braille and resources for learning the Braille code; assuring models of proficient Braille readers; bridging emergent literacy to early formal Braille literacy.”

Project SLATE (2003)

For children with visual impairment age three years and older, the decision on whether they will read print, Braille, or both is based on a systematic assessment process called a “learning media assessment” and is required by the Individuals with Disabilities Education Act (IDEA)¹⁰. It assumes that educational teams will provide for instruction in Braille literacy skills for a child who is blind or visually impaired *unless* a learning media assessment shows that Braille is not appropriate for the child.

⁹ From Project SLATE Research (2003). For further information on this study, contact Cay Holbrook at The University of British Columbia, Scarfe 2311, Faculty of Education, 2125 Main Mall, Vancouver, B.C., CANADA V6T 1Z4, cay.holbrook@ubc.ca, 604-822-2235.

¹⁰For more information, see WAC 28A.155.115 Braille instruction – Assessment – Provision in student's curriculum.

6. Orientation and Mobility Evaluation

This evaluation is done by a certified orientation and mobility specialist (see Section IV). For infants and toddlers, the concept of **orientation** represents a developmental process of becoming aware of oneself as a separate being, where one is and wants to move in space, and how to get to that place. **Mobility** refers to general gross motor development, including the normal integration of reflexes, acquisition of motor milestones, refinement of quality-of-movement skills, and purposeful, self-initiated movement. For this age group, orientation and mobility is also a gradual process through which the basic concepts and skills of safe movement develop.

An orientation and mobility evaluation is performed by interviewing the parents, collaborating with the team's physical and occupational therapists, and directly observing and interacting with the child. In addition to overall developmental information, the O&M specialist is concerned with the child's level of functional vision, hearing, tactile skills, and specific mobility skills. He or she also considers the natural learning opportunities presented to the child within the conditions of the assessment and their possible influence on the child's observed performance¹¹.

The scenario below describes how an orientation and mobility specialist might work with an early intervention team.

Scenario: An Orientation & Mobility Specialist Helps Facilitate Independent Movement

When evaluated by the physical therapist, Jacob, a 12 month old diagnosed with blindness, demonstrated good static postures in sitting on the floor, standing holding on to furniture, bouncing in his play saucer, and sitting in his highchair. The therapist, concerned because Jacob did not move out into his environment or engage in any dynamic movement at home, requested consultation from an orientation and mobility (O&M) specialist. Together they made a visit to the home, where the O&M specialist observed Jacob's involvement with his mother, therapist, and environment in general. Following this visit, the early intervention team met to discuss what they thought Jacob was ready to do next, motorically.

The O&M specialist explained the following points: Children with severe visual impairments do not learn motor routines incidentally. It is critical that they not be lifted and moved through space to another area if it is possible for them to move on their own or with assistance. Transitional movements (e.g., from floor to standing, from standing to sitting, lying to sitting) are often missed in young children with visual impairments. When caregivers "do for" the child rather than "do with," the child has no opportunity to learn where he is or how he got from here to there. Jacob needs to be guided through these transitional movements, gradually decreasing assistance until he makes the sequence of movements independently. This is a critical skill for Jacob to accomplish before he will move out into his environment on his own. These suggestions were implemented by the family and early intervention specialists in their interactions with Jacob, with the result that he began exploring the environment on his own and learned to move from sitting to standing, standing to sitting, etc.

¹¹ Pogrud, R., & Fazzi, D. (Eds.) (2002). *Early focus: Working with young children who are blind or visually impaired and their families* (2nd Ed.). NY: AFB Press, p. 395.

7. Developmental Evaluation and Assessment

When an infant/toddler is referred for early intervention services, his development is assessed in five domains: cognition, physical (including vision, hearing, fine or gross motor), social-emotional, adaptive, and communication/ language. Collaboration between the early intervention service provider and the teacher of the visually impaired (TVI) is important throughout the evaluation and assessment process. The TVI can participate in two ways: (a) as a direct participant by assessing in his/her particular area of expertise, or (b) as a facilitator or consultant by observing testing to point out when the vision impairment affects the testing items or scoring, and to recommend modifications for the visual impairment (Anthony, 2004).

Evaluation and assessment tools usually are not designed for a child with a visual impairment. Children with visual impairments need special accommodations for assessment and evaluation. The use of standardized measures to determine a young child's present level of functioning does not result in valid scores for the infant or toddler with a visual impairment. Knowledge of the unique development of children with visual impairments is critical to accurately interpret assessment results; otherwise, the scores derived may grossly underestimate the child's ability. Parents need to understand how their child's vision impairment affects his development and the results of any developmental evaluation administered to their child.

Scenario: A Teacher of the Visually Impaired (TVI) Helps a Team Conduct a Developmental Evaluation

Chloe, a seven month old diagnosed with optic nerve hypoplasia, was referred for early intervention services. While the family was very interested in getting all the services they might need, they were most interested in understanding their daughter's vision impairment and how that would affect her development. The FRC contacted a TVI to assist with the developmental evaluation process and to help provide support and information for the family. The TVI made several home visits with the therapist and educator during the IFSP team's evaluation of Chloe.

Both the therapist and educator understood that results obtained from any standardized tool used to evaluate Chloe's development would be invalid because of her visual impairment. The TVI helped the team adapt items from a chosen criterion-referenced developmental evaluation tool in order to tease out Chloe's best performance in all areas. With the input of the TVI, the team was able to change Chloe's near environment to allow her to successfully see and act on objects, e.g., increasing contrast by using dark objects with a light yellow background and illuminating the area with appropriate lighting. These adaptations enabled Chloe to demonstrate that she had the ability to reach and grasp objects, activate toys, and locate dropped objects.

Had the visual accommodations not been made, Chloe would not have been able to complete certain test items and her current levels of performance in several areas would have been significantly underestimated. The IFSP team was able to develop meaningful outcomes and help the family learn strategies to help Chloe achieve them.

IV. Who Can Provide Vision Services?

Serving birth-to-three year olds with disabilities and their families often involves the collaboration of a number of disciplines. When a vision impairment has been diagnosed in an infant or toddler, two kinds of specialists with expertise in the area of vision impairment may be included on the team: (a) a certified teacher of children with visual impairments (Teacher of the Visually Impaired or TVI)¹², and (b) an orientation and mobility (O & M) specialist. Each of these specialists brings a unique perspective for supporting families with children with vision impairments.

Early intervention service providers must seek out these services and, at a minimum, establish consulting relationships with TVIs and O & M specialists in their communities or through state agencies, in order to complete individualized evaluations and assessments. The Individualized Family Service Plan (IFSP) must address each child's identified developmental needs and, in this case, the child's need for vision services. (See Section VI. of this document for examples of how to access vision services.)

Descriptions of specialized service providers for infants and toddlers with visual impairments, both educational/developmental and medical, are provided in Table 4 on the following page.

Note: *Some early intervention service providers have received additional training (e.g., Project SIT-UPS, VIISA) to better serve young children with vision impairment and families. They are not qualified, however, to provide direct vision services without consultation from a certified TVI to ensure quality services.*

¹² Ideally, the Teacher of the Visually Impaired (TVI) will have additional training and experience in working with families and birth-to-three year olds.

Table 4
Descriptions of Specialized Vision Service Providers

Teacher of the Visually Impaired (TVI) (or) Vision Teacher	A certified teacher of the visually impaired (TVI) provides “vision services” to children aged birth to twenty-two years of age. The training of TVIs is specific to children diagnosed with a vision impairment. TVIs provide early intervention vision services specific to the needs of infants and toddlers, i.e., functional vision assessments, pre-Braille, evaluating the need for adaptive equipment, and enhancing development of compensatory skills.
Orientation & Mobility Specialist	A certified orientation and mobility (O & M) specialist is a professional instructor who teaches a person with a visual impairment how to move safely and efficiently in a variety of environments. This specialist can help the family of an infant or toddler modify the environment and learn strategies to promote movement and safe exploration, for example.
Pediatric Ophthalmologist	A pediatric ophthalmologist is a physician specifically trained to diagnose and treat infants and toddlers with eye diseases. As a medical doctor, he/she is able to prescribe medication and perform surgery when necessary.
Optometrist	Optometrists may screen for common eye problems and prescribe corrective lenses when necessary.
Developmental Optometrist	Developmental optometrists may diagnose and/or prescribe vision therapy intervention for certain eye problems. <i>Vision therapy is a medical, not an educational, intervention service.</i>
Pediatric Optometrist	A pediatric optometrist has specialized training and experience to work with young children with eye problems in need of corrective lenses.
Low Vision Optometrist	These optometrists specialize in evaluating and prescribing special low vision devices for patients with vision impairments.
Optician	Opticians provide the aids (e.g., glasses) prescribed by ophthalmologists and optometrists.

V. What Are Vision Services?

A. Components of Early Intervention for Infants and Toddlers with Visual Impairment

“Vision services” are one of the seventeen Part C services that an eligible child and family may access in Washington State. Early intervention service providers, however, often express confusion about what exactly vision services are. The purpose of this section is to help clarify questions regarding vision services.

Infants and toddlers with visual impairment experience differences in all areas of development as a result of their lack of full access to the environment and different perceptions of the world. These differences must be considered and addressed as family concerns, priorities and resources are identified as part of developing the Individualized Family Service Plan (IFSP).

But what *specific activities or skills* should be included in early intervention services for infants and toddlers with visual impairment? The Position Statement, Division on Visual Impairment, Council for Exceptional Children (2003) (see Appendix A) recommends specific components of early intervention to integrate into IFSPs and services in order to promote optimal development and independence for each child (see Table 5, p. 17).

A certified teacher of the visually impaired (TVI) and orientation and mobility (O & M) specialist help to implement vision services on the IFSP. The TVI’s input guides the family and EI team in:

- Conducting an initial functional vision assessment (FVA),
- Evaluating the child’s overall developmental status by adapting assessment tools as appropriate and helping to interpret results,
- Developing IFSP outcomes, and
- Implementing outcomes and services on the IFSP.

B. Direct Versus Consultative Services

The Division on Visual Impairment, Council for Exceptional Children, takes the position that every infant and toddler with a visual impairment needs the services of a TVI, regardless of the severity of the impairment or the presence of additional disabling conditions. In some cases, the TVI may be the primary service provider, while in other cases the TVI will act as consultant to other EI service providers working with a family.

Table 5

Components of Early Intervention Vision Services for Infants & Toddlers¹³

The following vision service components should be considered in developing a child's IFSP.

1. Development of attachment and meaningful social relationships and communication skills (listening, turn-taking, personal expression, nonverbal communication, emergent literacy).
2. Assessment of sensory capabilities and preferences in order to facilitate the effective use of all senses, including the use of low vision devices if appropriate.
3. Adaptation of environments, toys, and learning materials to make them more accessible.
4. Use of compensatory skills to accommodate for vision loss (e.g., strategies for accomplishing tasks using touch rather than vision; learning to use all senses as effectively as possible).
5. Cognitive development opportunities that are experienced-based and designed to teach concepts that are acquired primarily through vision (basic concepts, problem-solving skills).
6. Facilitation of emergent literacy including pre-literacy for potential Braille and print readers through collaboration with families and other professionals.
7. Gross and fine motor development (as well as the development of physical control and stamina) with special attention to prerequisite skills required for age-appropriate orientation and mobility, and Braille, print reading and writing if appropriate.
8. Development of age-appropriate orientation and mobility instruction (self-directed, independent movement in the environment).
9. Instruction in daily living skills typically acquired through incidental visual learning that must be taught using hands-on, step-by-step procedures to infants and toddlers with visual impairments in order for them to function independently within natural environments (e.g., self-care skills, ability to do household chores).
10. Comprehensive family support that includes emotional support and access to information and resources that will help families become life-long advocates for their children.
11. Thorough understanding of medical and visual conditions and their implications for early intervention and education services.
12. Recreational opportunities that enhance creativity and enjoyment.

¹³ Note: This table is not intended to be a “menu of services” for infants and toddlers with visual impairment. Adapted from the 2003 Policy Statement of the Division of Visual Impairment, Council for Exceptional Children (Appendix A).

The provision of vision services to families of infants and toddlers with visual impairment may take a variety of forms. Frequency and type of vision services will depend on (a) the needs of the child and family as determined by evaluation and assessment and development of the IFSP, and (b) the availability of the vision specialists who provide the services. Scarcity of TVIs and/or funding constraints need not be insurmountable barriers. In this document we present several examples of how different counties have worked to ensure that appropriate vision expertise is available to families and teams in their area (see Section VI).

1. Direct Services

Direct vision services delivered by a TVI and/or O & M specialist may be required to ensure an appropriate learning environment and support for a child and family— especially when the vision impairment is the “primary” disability. Direct vision services offer the opportunity for hands-on instruction and demonstration, provision of materials and adaptations, provision of initial and ongoing assessment, and instruction of compensatory skills.

2. Consultative Services

The individual needs of the child and family may best be met by consultation to the IFSP team by qualified professionals. Consultation may take the form of periodic in-service training to early intervention (EI) professionals, providing recommendations for appropriate strategies and modifications, and coordinating with related agencies and other resources. Consultative support to the EI team helps ensure that questions are addressed and vision-related recommendations are appropriately implemented.

When an EI service provider has participated in advanced training in vision impairment (e.g., Project SIT-UPS, VIISA), she is better prepared to work more independently with periodic consultation with a TVI or O & M specialist.

C. Role and Function of Vision Professionals Consulting with Early Intervention Service Providers

Not all TVIs and orientation and mobility specialists have training or experience with infants and toddlers and families, and they may be uncertain about the nature of their role as consultants to early intervention service providers. The “roles and functions” summarized in Table 6 (p. 19) and described in two scenarios (p. 20) are intended to help clarify that role for both vision professionals and early intervention service providers.

For further information, TVIs are directed to: “Infant Teacher of the Visually Impaired: Roles and Responsibilities” on the Texas School for the Blind and Visually Impaired website: <http://www.tsbvi.edu/Education/early-childhood/vi-infant-teacher.htm>

Table 6
Roles and Functions for Vision Professionals on the IFSP Team¹⁴

1. Participate in the multidisciplinary evaluation and assessment of infants and toddlers with visual impairment:

- a. Perform functional vision assessments.
- b. Perform orientation and mobility assessments (O & M specialists).
- c. Obtain and interpret all ophthalmologic, optometric, and functional vision reports for families and other IFSP team members.
- d. Assist with comprehensive developmental evaluation/assessment of infant or toddler, providing input on adaptations of assessment tool items as necessary for visual impairment and assisting with interpretation of results.
- e. Assist with communication skill assessments in pre-reading and listening.
- f. Help to address the infant's or toddler's need for assistive technology.
- g. Recommend assessment by other vision specialists as needed (e.g., orientation and mobility).
- h. Assist families in assessing their concerns, priorities and resources regarding their infant's or toddler's visual development.

2. Participate in the development of the Individualized Family Service Plan:

- a. Contribute to the infant's or toddler's present levels of performance by discussing how performance is affected by the visual impairment and by providing information on the child's learning style, use of visual information, and other strengths unique to individual infants or toddlers.
- b. Identify outcomes related to the visual and orientation and mobility needs of the infant or toddler and their family.
- c. Identify frequency, intensity, method, location, and services for meeting IFSP outcomes.

3. Address development of pre-literacy skills and, by age three, recommend appropriate reading and writing media.

¹⁴ Content is adapted from Spungin, S.J., & Ferrell, K.A. (1999). The role and function of the teacher of students with visual handicaps. In G.S. Pugh & J. Erin (Eds.), *Blind and visually impaired students: Educational service guidelines* (National Association of State Directors of Special Education). Watertown, MA: Perkins School for the Blind.

Sample Scenarios:

Role of the Teacher of the Visually Impaired (TVI) on an Early Intervention Team

Scenario 1: Helping to Design a Communication System

A speech & language pathologist (SLP) on an early intervention team serving Angela, a two-year-old whose multiple disabilities included cortical visual impairment, wanted to introduce the *Picture Exchange Communication System (PECS)*. Before introducing Angela and her family to this communication system, the SLP requested input from their county's consulting Teacher of the Visually Impaired (TVI), who was familiar with Angela's diagnosis and functioning, to ensure appropriate selection of materials.

During the course of several home visits, the SLP and parents discussed with the TVI which pictures/concepts they wished to use to introduce the PECS, the number of pictures from which Angela would make a choice, etc. Based on the results of a functional vision assessment recently completed, the TVI was able to make specific recommendations for the PECS pictures tailored to Angela's visual needs. These included recommendations for: 1) line drawings, which would be easier for Angela to discriminate than photographs; (2) high contrast (e.g., black line drawing of object on yellow background); (3) pictures 3" x 3" in size; and (4) presenting pictures on a slant board at a distance of approximately 18".

By sharing expertise, the team did not waste valuable time in a trial-and-error effort to set up a communication system for Angela, and Angela did not experience frustration over a system she was cognitively capable of using but, because of her cortical visual impairment, could not "see."

Scenario 2: Helping to Develop a Feeding Plan

A teacher of the visually impaired (TVI) was asked to consult with an early intervention team to try to determine causes of the feeding problems being experienced by an 18-month-old boy with a diagnosis of blindness. The team consisted of a nurse, a speech and language pathologist, and an occupational therapist, as well as the parents. The little boy was showing resistance to receiving food by spoon and gagged when certain textures of food were presented. Feeding sessions often ended in a general "melt down" of the child and frustration on the part of the parents and therapists.

The TVI observed a feeding session and then the team debriefed. They concluded that there were several issues going on with this child. His medical history, observation, and testing by the therapists suggested that he had an oral sensory problem. The TVI added another dimension, explaining why children who are blind often need to be moved through eating development a little more slowly than other children. She stressed the importance of allowing the child to retain power for himself during feeding, rather than being "acted upon" by the adults. Time and opportunities for exploration needed to be included in the plan as well. After the team discussion, the boy's feeding experiences were restructured and slowed down. He was given more time to finger feed and to explore food textures with his hands before being introduced to spoon feeding. Learning to feed himself took a little longer than for some other children, but was ultimately successful.

VI. Examples for Providing Vision Services in Washington

Best practices dictate that “vision services” are provided by certified teachers of the visually impaired (TVIs) and orientation and mobility (O & M) specialists who have received additional training and who have experience working with infants, toddlers and families. This is the standard proposed by the Division on Visual Impairments, Council for Exceptional Children (2003) (see Appendix A).

Service providers often describe the following challenges or barriers to providing vision services:

- We don't have any TVIs or O&M specialists in our part of the state.
- We can't find a TVI or O&M specialist who is willing or able to work with families in our program.
- We don't have the caseload to justify hiring a TVI.

Nearly every state is experiencing shortages of TVIs and O & M specialists, and funding is a universal concern. In order to address the developmental needs of infants and toddlers with visual impairment and their families, we have a responsibility to ensure that qualified personnel deliver services. The following state agencies can help in these efforts:

- Department of Services for the Blind (Child & Family Services)
(800) 552-7103 (or) (425) 836-0924 (Alan Garrels)
Email: Alagarrels@dsb.wa.gov
Website: www.dsb.wa.gov
- Washington Sensory Disabilities Services
(800) 572-7000 (or) (425) 917-7827
Email: wds@psed.org
Website: www.wsdsonline.org
- Washington State School for the Blind
(800) 562-0866 (or) (360) 696-6321
Email: Dee Amundsen at dee.amundsen@wssb.wa.gov
Website: www.wssb.org

Three main goals for Washington in addressing the need for vision services for infants and toddlers are:

1. Ensure that all children, including those with blindness or visual impairment, get comprehensive quality services.
2. Ensure that every local lead agency has a consulting relationship with one or more TVIs and O & M specialists for their community.

3. Ensure that infants and toddlers with blindness or vision impairment receive direct or consultative vision services.

As Washington State prepares for RCW 28A.155.065 (Early Intervention Services), with all school districts participating in birth-to-three services, the need to clarify the delivery of vision services is even more urgent.

Following are descriptions of several examples where counties in Washington State figured out how to provide vision services, despite challenges.

Community Challenges and Examples of Solutions

Example 1: Local Lead Agency Encourages School Districts That Serve Birth-to-Three Year Olds to Recruit Their TVIs to Serve the Infants and Toddlers with Visual Impairment in Their Districts

The Challenge: For many years one TVI served all infants and toddlers with vision impairment in this county through a contractual agreement between the local lead agency and the TVI's employing school district. Eventually, however, the TVI's caseload—and costs—grew to the point where this model was not feasible.

A Solution: The lead county FRC approached the special education directors of school districts in the county that served infants and toddlers *and* employed TVIs on their staff.¹⁵ She proposed that their TVIs serve the infants/toddlers within their school district. The TVI who had been providing the services for the county provided training and mentoring to the newly recruited TVIs. These TVIs also were encouraged to consult with early intervention (EI) programs in the county not associated with school districts.

In those school districts in the county that did *not* serve infants and toddlers, families continued to receive vision services on a consultative basis from the original TVI/ infant educator and others at a frequency of about one visit per month per child. This TVI also consulted on a regular basis with EI programs in the county, sometimes teaming with other TVIs who requested mentoring.

Example 2: Large Local Lead Agency Contracts with a Variety of TVIs

The Challenge: The school districts in this county employ more TVIs than any other county in the state. However, TVIs in the county have large caseloads, and many school districts in which they work do not serve birth-to-three year olds. As a result,

¹⁵ In Washington State, serving infants and toddlers by school districts is “permissive” until September 1, 2009, when all school districts will be required by law to participate in birth-to-three services. At this time, approximately 50% of school districts have opted to serve infants and toddlers.

many families in parts of this county find it difficult to access vision services—if they happen to live in a school district that has chosen not to serve infants and toddlers.

A Solution: The local lead agency developed contractual agreements with several TVIs in the county who were willing to provide direct and/or consultative vision services on their own time for infants and toddlers and the EI programs in which they were enrolled. WSDS provided additional training for the TVIs and purchased curricula and other resources for them to use.

Example 3: Local Lead Agency in Eastern Washington Contracts with TVI for Consultative Vision Services at a Distance

Challenge #1: For a period of time this rural county in Eastern Washington had many infants and toddlers diagnosed with vision impairments, and no TVIs.

Solution #1: After an initial consultation and in-service training session sponsored by WSDS, the EI program and local lead agency contracted with a TVI to travel to the county once a month and consult re: vision services for infants and toddlers with visual impairment. The TVI met the children, family members, and EI service providers in person during several consecutive trips to the county. Prior to each consultation visit, information was faxed to the TVI (e.g., ophthalmologic evaluations, IFSPs, EI teams' questions).

Challenge #2: With the onset of winter, travel became difficult.

Solution #2: All parties agreed to continue monthly vision consultations via K-20 interactive videoconferencing (IVC). Staff from the local lead agency/EI program and families drove to the IVC site at their Educational Service District. The TVI participated from her school district's IVC site. Between four and six vision consultations took place during each IVC session, with each family receiving a one-hour consultation plus a half-hour debrief with the EI team at the end of the IVC.

Comments: Families and their children benefited from vision services, while the EI staff gained knowledge and experience by consulting with the TVI. Teams had the advantage of interacting in person before communicating via IVC. The average cost (2005) was \$157 per child per consultation.

Example 4: Remote Rural School District Tries a “Low Tech” Approach to Distance Vision Services

The Challenge: This remote rural school district's birth-to-three program had three children with vision impairments and no TVI in the area. Two of the families did not wish to have an outside teacher of the visually impaired come to their homes, although WSDS was willing to fund an initial in-person consultation.

A Solution: With guidance from the TVI consultant, the special education teacher videotaped one of the children in several different community settings and a family interaction. She sent a copy of the videotape to the TVI, who tape recorded her observations and suggestions as she watched the videotape, and then mailed a copy of her audiotape to the teacher. The teacher, physical therapist, and family were then able to benefit from a TVI's input.

Comments: This solution was acceptable to the family, cost-effective, necessitated no travel for the consulting TVI, and provided some vision services. Another WSDS TVI later traveled to the area and consulted with all three families and school staff.

Videotaping has its shortcomings and does not easily allow observation of subtle behaviors of an infant or toddler, especially of visual behaviors. It also does not allow for interaction between the TVI and child, nor between the TVI and parent—e.g., for modeling of strategies, modifying visual aspects of the environment, etc.

Note: Another infant educator in a nearby remote rural district used a similar strategy with a medically fragile child who had both vision impairment and hearing loss. In this instance, she videotaped the child in the home and then viewed the video simultaneously with a deaf-blind consultant based in Eastern Washington, using the K-20 system. This approach also worked well.

Summary: What We Have Learned from the Local Lead Agencies

Getting vision services up and running in a coordinated system that minimizes delays in service delivery to families requires, in most cases, two crucial elements:

- (1) Leadership from the local lead agency and lead Family Resources Coordinator or other qualified professional; and
- (2) Assistance from a State agency that can help build capacity in a county.

At various times, the Department of Services for the Blind (Child and Family Services), Washington Sensory Disabilities Services, and Washington State School for the Blind have all taken this role. They help build capacity by:

- Locating TVIs with available time, interest, and appropriate skills and experience;
- Providing TVIs with additional training and resources (e.g., birth-to-three curricula and parent materials); and
- Providing ongoing technical assistance to TVIs, EI service providers, and local lead agencies.

Through teamwork by these key players, families of infants and toddlers with visual impairment can benefit from vision services that will help their children reach their potential.

VII. What Do We Do Next? Resources in Washington State

If your infant or toddler, or a child in your early intervention program, has a diagnosed visual impairment, check the following steps to make sure you have connected with all potential resources in the state. Remember that the family always must be referred to their lead county Family Resources Coordinator.

1. Is the family connected to early intervention (EI) services?

If not, contact the county lead Family Resources Coordinator (FRC).
To locate the lead county FRC, call 1-800-322-2588 (Family Health Hotline) or see www1.dshs.wa.gov/iteip/CountyOrgLinks.html.

2. Has the child had a vision consultation including a functional vision assessment from a certified teacher of the visually impaired (TVI)?

If not, contact the local (county) lead agency or FRC. Washington Sensory Disabilities Services may be able to help locate a professional to fulfill this role: 1-800-572-7000 (or) wds@psed.org

3. Has the family and/or EI service provider contacted the Department of Services for the Blind (DSB), Child & Family Program, to help familiarize the family with local, state, and national resources?

If not, contact DSB at: (800) 552-7103 or (425) 836-0924 (Alan Garrels)
(or) alagarrels@dsb.wa.gov

4. Is the infant or toddler registered with the Instructional Resource Center (IRC) at Washington State School for the Blind (WSSB) so that EI service providers can borrow resources?

If not, contact the IRC for an application to become an “account holder” at: www.wssb.wa.gov/irc.asp and choose the link to the IRC. For questions, call: (800) 562-4176 x5.

5. Has the infant or toddler been screened for hearing loss?

If not, the child’s hearing should be screened using otoacoustic emissions (OAE) or Auditory Brainstem Response (ABR) screening techniques. Children with visual impairment are at increased risk for hearing loss. For guidance, contact the county lead agency, the lead FRC, or WSDS. (See contact information in #2 above.)

6. If the infant or toddler has a known or suspected hearing loss in addition to visual impairment, has contact been made with WSDS’s services for children with combined visual impairment and hearing loss?

If not, contact WSDS (see #2 above).

Parent Networking:

Would the family like to connect with other families of children who are blind or visually impaired?

- Contact Department of Services for the Blind or WSSB (see information below).
- NAPVI (National Association for Parents of Children with Visual Impairments) maintains a Parent Directory, sponsors conferences, and has publications, and suggests useful links on its website: www.spedex.com/napvi/
- Also, check the Washington Parent-to-Parent network: http://www.arcwa.org/parent_to_parent.htm (or) contact Susan Atkins at: (800) 821-5927 or statep2p@earthlink.net

Would the family like to subscribe to a free e-mail listserv for parents of young children with visual impairments?

- E-mail request to: carolc@cwu.edu with “subscribe POVI” in the message box.

A Sample of Other Resources for Families and Service Providers:

Department of Services for the Blind: Child & Family Program

Contact: Alan Garrels
Phone: 800/552-7103 (or) 425/836-0924
Web site: www.dsb.wa.gov
E-mail: alagarrels@dsb.wa.gov

Home visits for families of infants, toddlers, and school-aged children with visual impairment
Annual vision conference for families and service providers

Washington Sensory Disabilities Services (WSDS)

Contact: Nancy Hatfield
Phone: 800/572-7000, x4 (or) 425/917-7828
Web site: www.wsdsonline.org (or) wsds@psed.org
E-mail: nhatfield@psed.org (or) territ@ncesd.org

VI services referral and VI consultation
Lending library of books and videos
Website with resources for parents and service providers
Selection of free parent brochures
Training for parents, educators, and EI staff

Washington State School for the Blind (WSSB)

Phone: 800/562-4176 (or) 360/696-6321
Web site: www.wssb.wa.gov
Address: 2120 E. 13th St.
Vancouver, WA 98661

Preschool for VI children
Resources and events for children with VI and their families
Training for parents and educators
See WSSB web site for links to other resources

Washington Talking Book & Braille Library

Contact: Kathryn Pierce
Phone: 800/542-0866 (or) 206/615-0400
Web site: www.wtbbl.org
E-mail: wtbbl@wtbbl.org
Address: 2021 9th Ave.
Seattle, WA 98121

An accessible children's room offers print-Braille infant/toddler books and toys
Video and print parent/teacher resources
Children's books and magazines in Braille, large print, and on cassette (can be checked out by mail)
Summer reading program
Outreach presentations available upon request

American Foundation for the Blind (New York, New York)

Phone: 800/232-5463
Web Site: www.afb.org
Email: afbinfo@afb.net

Browse their pull-down menu of topics relevant to infants and families.

Blind Babies Foundation

Phone: 510/446-2229
Web Site: www.blindbabies.org
Email: bbfinfo@blindbabies.org
Address: 1814 Franklin Street, 11th Floor
Oakland, CA 94612

Assorted informational brochures and fact sheets for parents and service providers

Blind Children’s Center (Los Angeles, CA)

Phone: 323/664-2153
Web Site: www.blindchildrenscenter.org

Education and support via a variety of publications.

Hadley School for the Blind: Parent/Child Program

Contact: Ask for a parent/child instructor
Phone: 800/323-4238
Web site: www.hadley-school.org
Address: 700 Elm Street
Winnetka, IL 60093

Free distance education courses for parents and grandparents of blind children

Hilton/Perkins Program (Perkins School for the Blind) (Watertown, MA)

Phone: 617/972-7220
Web site: www.perkins.org
Email: HiltonPerkins@Perkins.org

Training on blindness with multiple disabilities, including deaf-blindness.

National Braille Press

Phone: 888/965-8965
Contact: Amy Ruell of ReadBooks!
Web site: www.nbp.org/ic/nbp/readbooks

Free packet of Braille books for birth-to-five year olds.

Texas School for the Blind and Visually Impaired

Web site: www.tsbvi.edu/Education

See Early Childhood Instruction (ECI) – Infants & Toddlers with Visual Impairments.

VIII. GLOSSARY

This section contains words or terms commonly used in the identification, evaluation, assessment, and service provision of children with significant vision loss or blindness.

ACCOMMODATION - The ability to change focus from a distance point to a near point and vice versa.

ACUITY LOSS - The loss of the ability to discriminate detail and, thereby, the experience of blurred vision.

ALBINISM - Full or partial lack of pigment; may affect eyes only or entire body; may cause abnormal visual development depending on the severity of the condition because of abnormal development of the macula of the eye.

AMBLYOPIA - Reduction in acuity, especially that in which there is no apparent pathologic condition of the eye. Amblyopia is often associated with strabismus.

ANIRIDIA - Congenital, traumatic, or surgical total or partial absence of the iris.

ANOPHTHALMIA - Absence of one or both eye globes.

APHAKIA - Absence of the crystalline lens in the eye, most commonly due to surgery.

ASTIGMATISM - A refractive error where blurred vision is caused by an irregular curvature of the surface of the cornea or the internal focusing structures.

BINOCULAR VISION - Coordinated use of the eyes to focus and align on one object and to fuse the two separate images into one visual image.

BLINK REFLEX - Spontaneous eyelid blinking which occurs approximately every 5 - 10 seconds or is induced by sudden sounds or approaching objects.

CATARACTS - A condition in which the lens of the eye becomes cloudy, resulting in a loss of acuity.

CENTRAL SCOTOMA - Loss of perception of objects directly in the line of sight.

COLOBOMA - Incomplete closure in development of certain parts of the lower eye such as the retina or iris with frequent optic nerve involvement.

CONGENITAL - Present at birth.

CONJUNCTIVITIS - Inflammation of the membrane lining the eyelids and portions of the globe.

CONVERGENCE - When the eyes turn inward to maintain the line of sight on a near object/word.

CORTICAL VISUAL IMPAIRMENT (CVI) - Inability of the brain to understand and process visual information regardless of eye health status (Also known as cerebral visual impairment).

DEPTH PERCEPTION - The ability to perceive the relative positions of objects in space.

DETACHED RETINA - Separation of retina from the layers of the eye to which it is normally attached.

DIAGNOSTIC VISION EVALUATION - Vision evaluation given by an ophthalmologist or an optometrist to treat or diagnose the visual status of the patient.

DIPLOPIA - Double vision.

EARLY INTERVENTION SERVICES – See www1.dshs.wa.gov/iteip for a description of special supports for eligible infants and toddlers with special needs.

ESOTROPIA - Condition when one or both eyes turn in.

EXOTROPIA - Condition when one or both of the eyes turn out.

EYE TEAMING - Both eyes working together properly.

FARSIGHTEDNESS - See hyperopia.

FIELD LOSS - Inability to see in certain directions relative to the central line of sight.

FIELD OF VISION - The area that can be seen while looking straight ahead.

FIXATION - To direct a gaze and hold an object in view.

FOVEA - Small depression in the macula of the retina; area of sharpest vision.

FUNCTIONAL VISION EVALUATION - A vision evaluation administered by a vision teacher (TVI). The purpose of the evaluation is to determine how the individual being tested is able to use his/her vision. This helps to show what the individual can see in the everyday environment.

GAZE SHIFT - Process of looking from one object to another.

GLAUCOMA - increased internal eye pressure with possible nerve damage and vision loss.

HYPEROPIA - (farsightedness) A refractive error that is usually caused by the eyeball being too short front to back or focusing power is too weak. With this condition, one can see objects at a distance using accommodation. Close objects require even more accommodation.

HYPERTROPIA - Turning upward of one or both of the eyes.

LEBER'S CONGENITAL AMAUROSIS - Genetic disease that causes a progressive loss of vision.

LEBER'S OPTIC ATROPHY - Genetic rare disease resulting in progressive difficulty for the optic nerve to send messages to the brain. Usually only in males and onset late in childhood.

LEGAL BLINDNESS - Central visual acuity of 20/200 or less in the better seeing eye with corrective lenses or a peripheral field loss in which the widest diameter of the field in the better eye is no greater than 20 degrees (14" diameter at 1 meter).

LIGHT PERCEPTION - Ability to distinguish a light stimulus.

LOW VISION - Vision that cannot be corrected to normal with conventional lenses, but is functional. People with low vision can be prescribed low vision aids (optical and non-optical devices) to help maximize their visual skills.

MACULA - The central area of the retina that surrounds the fovea and with the fovea comprises the area of most acute vision.

MICROPTHALMIA - Abnormally small eyeball, usually congenital.

MYOPIA - (nearsightedness) A refractive error caused by the eyeball being too long or focusing power being too strong. With this condition, one can see close objects, but objects at a distance appear out of focus.

NEARSIGHTEDNESS - See myopia.

NYSTAGMUS - A condition that involves small involuntary rapid movements of the eyes from side to side, in a circular, jerky, or pendular motion, or in a combination of these. It may be secondary to poor visual acuity or due to abnormality in brain function.

OPHTHALMOLOGIST - A physician who specializes in the diagnosis and treatment of the eye, performs surgery, and prescribes glasses, medicine or therapy.

OPTIC ATROPHY - Reduced ability of the optic nerve to send nerve impulses from the retina to the brain.

OPTIC NERVE - The cranial nerve that is responsible for carrying nerve impulses from the retina to the brain.

OPTIC NERVE HYPOPLASIA (ONH) - Congenital underdevelopment of the optic nerve.

OPTICIAN - An individual who specializes in fitting, adjusting and dispensing glasses and other optical devices prescribed by the ophthalmologist or optometrist.

OPTOMETRIST - An individual who specializes in the diagnosis and treatment of the eyes and related structures, and prescribes glasses, medicine, prisms, low vision-devices and therapy.

ORIENTATION AND MOBILITY (O&M) - A sequential process in which people with visual impairments are taught to utilize their remaining senses to determine their position within the environment and to negotiate safe movement from one place to another.

ORIENTATION AND MOBILITY SPECIALIST (COMS) - A certified professional trained to teach orientation and mobility skills to people with visual impairment.

ORTHOPTIC TRAINING - Series of eye exercises for developing or restoring binocular vision.

PEDIATRIC OPHTHALMOLOGIST - A ophthalmologist with fellowship training in pediatric ophthalmology specializing in the diagnosis and treatment of the ocular problems in children, performs surgery, and prescribes glasses, medicine or therapy.

PEDIATRIC OPTOMETRIST - An individual who works with the pediatric population and specializes in the diagnosis and treatment of the eyes and related structures, and prescribes glasses, prisms, low vision devices and therapy. This is an optometrist who has completed additional training in order to work with the pediatric population.

PERIPHERAL FIELD - Vision allowing the perception of objects and movement outside of the direct line of sight.

PHOTOPHOBIA - Abnormal sensitivity to light.

PROSTHESIS - A substitute for a missing body part such as the eye.

PTOSIS - A drooping of an eyelid.

PUPILLARY RESPONSES - Contractions or dilations of the pupil due to various changes in brightness.

REFRACTION - The measurement of the eye to determine refractive errors and the need for prescriptive lenses.

REFRACTIVE ERROR - A focusing error in the eye that prevents light rays from focusing accurately on the retina.

REHABILITATION TEACHER - Teachers trained to instruct persons with visual impairments in the use of compensatory skills and assistive technology that will enable an individual to live a safe, productive, and independent life.

RETINA - Innermost layer of the eye, formed of light sensitive receptors and nerves that connect the retina through the optic nerve to visual centers in the brain.

RETINITIS PIGMENTOSA (RP) – A hereditary progressive degeneration, often hereditary, of the retina which leads to peripheral and eventually central field loss.

RETINOBLASTOMA - The most common malignant intraocular tumor of childhood occurring prior to the age of 5 years.

RETINOPATHY OF PREMATURITY (ROP) - Condition resulting from complications of oxygen administration after low birth weight which may lead to reduced visual acuity, visual impairment or total blindness.

SCANNING -the ability to accurately change fixation from one object in space to another by use of eye and head movements.

SCATTERED SCOTOMAS - Patches of vision loss in visual field.

STRABISMUS - Eye muscle imbalance, e.g., esotropia (eye turning in), exotropia (eye turning out), or hyper/hypotropia (eye turning up or down).

TEACHER OF THE VISUALLY IMPAIRED (TVI) - An individual who has completed a four-year teaching degree (or a Master's degree) in the special education field specific to visual impairments.

TRACKING - The ability to visually follow moving objects horizontally, vertically, or in an oblique plane.

VISUAL ACUITY - Ability of the eye to perceive detail; sharpness of vision.

VISUAL DISCRIMINATION - The ability to accurately compare and contrast visual images.

VISION SPECIALISTS – A generic term that includes certified teachers of children with visual impairments, orientation and mobility specialists, and Rehabilitation Teachers. Teachers of the visually impaired (TVIs) typically have special education certification to teach children.

VISION THERAPY – A treatment regimen to correct or improve specific dysfunctions of the visual system identified by standardized diagnostic criteria. This type of therapy must be prescribed and administered by an optometrist. It is a medical therapy rather than a developmental or educational treatment.

VISUAL EFFICIENCY - Degree to which a child can use vision; a skill that needs to be developed with visually impaired students.
