

Early Intervention Guidance Document

Identification and Program Planning for Infants, Toddlers, and Young Children with Vision and/or Hearing Loss

Ohio Early Intervention and the Ohio Center for Deafblind Education (OCDBE) are committed to finding, identifying, and serving children with vision and hearing loss. To that end, Ohio Early Intervention and OCDBE have collaborated to create this document to provide professionals (e.g., service coordinators, county family and children's first council coordinators) and families in early intervention with guidance in the identification and program planning for children birth to 3 years with vision and/or hearing loss.

Purpose

The purpose of this document is to provide quick guidance about red flags for possible vision and/or hearing loss and the steps to follow when an infant, toddler, or young child has or is suspected of having one or more sensory impairments. This guidance document is not intended to be used in isolation. It was created for professionals and family members to use in combination with other resources about sensory impairments to assist in making decisions about the early identification of and service delivery for children with vision loss, hearing loss, or combined vision and hearing loss (deafblindness).

Importance of Early Identification

Infants and toddlers learn about their world and develop their knowledge and skills largely through their vision and hearing. Much of this learning occurs incidentally as children scan their environment with these two senses. When an impairment in a child's vision and/or hearing is found at a young age, the child and family can receive supports and services earlier, which can enhance the child's development.

The signs and symptoms of vision and hearing loss look different for each child. A child's vision and/or hearing loss may reflect damage or malfunction to eyes and ears, as well as damage or malfunction of brain centers and neurological pathways, such as diagnoses of Cortical (cerebral) Visual Impairment (CVI) and Central Auditory Processing Disorder (CAPD). Sometimes children with CVI and CAPD pass traditional vision and hearing screenings, and other times, children may have a combination of sensory organ impairments and CVI and/or CAPD. These differences make the identification of a sensory impairment difficult and highlight the importance of a comprehensive evaluation by professionals trained in the areas of vision and hearing when a child is suspected of having a vision and/or hearing loss.

It may be challenging to identify a child with combined vision and hearing loss (i.e., deafblindness), yet this early identification is important to ensure the child's needs are met. Deafblindness does not mean that a child is completely deaf or totally blind. Rather,

deafblindness means that a child has some degree of both visual and hearing impairment. The degree, type, and severity of vision and hearing loss should not impede a diagnosis of deafblindness. Early identification of a child with deafblindness enables professionals to better understand and meet the child’s dual vision and hearing needs.

Red Flags for Vision and/or Hearing Loss

Infants, toddlers, and children may show a variety of signs, symptoms, and behaviors that place them at risk for possible vision and/or hearing loss. We call these attributes red flags, because they are a symbol that we should stop, learn more about the child, and regularly monitor the child’s vision and hearing for possible loss. Children benefit when families and professionals consider this information in clinical and functional evaluations of the child’s vision and hearing. The figure below shows some common red flags.

Family Factors	Prenatal Risks	Birthing Factors	Childhood Risks
<ul style="list-style-type: none"> Family history of vision and/or hearing loss Family history of hereditary vision and/or hearing loss 	<ul style="list-style-type: none"> Maternal infection during pregnancy (e.g., cytomegalovirus [CMV], neonatal herpes symplex [HSV], rubella, syphilis, toxoplasmosis) Prenatal exposure to alcohol and/or drugs Rh incompatibility Structural malformations of the head, ears, eyes, neck, nose, or throat Congenital conditions (e.g., hydrocephaly, microcephaly) 	<ul style="list-style-type: none"> Prematurity Low birthweigh (less than 3.3 pounds) Apgar score of 0-4 at one minute or 0-6 at 5 minutes Need for oxygen in the hospital Need for a ventilator for five days or longer Elevated bilirubin requiring a transfusion 	<ul style="list-style-type: none"> Direct trauma to the eyes or ears Severe head trauma with loss of consciousness and/or skull fracture Trauma to the brain (e.g., shaken baby syndrome, tumors, optic radiation damage, chemical-related complications or exposures) Having a syndrome, disease, disorder, or condition known to include vision and/or hearing loss (see list on page 3) Having a neurological disorder or condition (e.g., seizure, stroke, neurodegenerative disorders) Infections (e.g., bacterial meningitis, encephalitis, frequent ear infections, measles, mumps) Discharge from the ears Having an extremely high fever for a prolonged time Suffocation that leads to deprived oxygen and/or unconsciousness

Additional Factors for Consideration

A further complication can occur when a child has one or more syndromes, diseases, or conditions. In these cases, the child may be at greater risk for vision and/or hearing loss, because some conditions may affect the functioning of the eyes, ears, or neurological pathways communicating with the child's brain. In addition to the red flags listed in the figure on page 2 of this guide, the list below includes disorders known to include vision and/or hearing loss that should be considered during a child's clinical and functional evaluations:

- Aicardi
- Alport
- Alstrom
- Apert (Acrocephalosyndactyly, Type 1)
- Bardet-Biedl (Laurence Moon-Biedl)
- Batten Disease
- Cerebral Palsy
- CHARGE
- Chromosome 18, Ring 18
- Cockayne
- Cogan
- Cornelia de Lange
- Cri du Chat (Chromosome 5p syndi)
- Crigler-Najjar
- Crouzon
- Dandy Walker
- Down (Trisomy 21)
- Fetal Alcohol Spectrum Disorder
- Goldenhar
- Hallgren
- Hand-Schuller-Christian (Histiocytosis X)
- Herpes-Zoster (Hunt)
- Hunter (MPS II)
- Hurler (MPS I-H)
- Kabuki
- Kearns-Sayre
- Klippel-Feil Sequence
- Klippel-Trenaunay-Weber
- Kniest Dysplasia
- Leber Congenital Amaurosis
- Leigh Disease
- Marfan
- Marshall
- Maroteaux-Lamy (MPX VI)
- Moebius
- Monosomy 10p
- Morquio
- NF1 - Neurofibromatosis (von Recklinghausen dis)
- NF2 – Bilateral Acoustic Neurofibromatosis
- Norrie
- Optico-Cochleo-Dentate Degeneration
- Pfeiffer
- Prader-Willi
- Pierre-Robin
- Refsum
- Scheie (MPS I-S)
- Smith-Lemli-Opitz (SLO)
- Stickler
- Sturge-Weber
- Treacher-Collins
- Trisomy 13 (Trisomy 13-15, Patua)
- Trisomy 18 (Edwards)
- Turner
- Usher I, II, & III
- Vogt-Koyanagi-Harada
- Waardenburg
- Wildervanck
- Wolf-Hirschhorn (Trisomy 4p)

Identification and Program Planning for Children with Vision and/or Hearing Loss

To support professionals and family members in identifying children with vision and/or hearing loss and planning services and supports for them, OCDBE has created three flowcharts to assist in the process. These flowcharts provide guidance in understanding the nuances of vision and hearing impairments as it relates to identification and service delivery. Access to these flowcharts is available on the OCDBE website: <https://ohiodeafblind.com/>.

Definitions

Below are definitions of common terms that are useful for understanding the early identification of a child with vision and/or hearing loss.

- **Central auditory processing disorder (CAPD):** a disorder in which the brain and ears do not communicate effectively, making it difficult for someone to interpret the sounds that make up speech.
- **Cortical/cerebral visual impairment (CVI):** a visual impairment that occurs because of an injury to the brain, traumatic brain injury, or a neurological vision loss.
- **Deafblind:** a concomitant visual and hearing impairment wherein a child requires services and supports to address the combined impact of vision and hearing loss.
- **Deafness:** an impairment in a child's hearing that is so severe that the child cannot process sound through hearing.
- **Hearing impairment:** an impairment in a child's hearing (whether permanent or fluctuating) that negatively affects the child's ability to learn and develop
- **Visual impairment (including blindness):** an impairment in a child's vision that even with correction impacts the child's ability to learn and develop

About the Ohio Center for Deafblind Education

The Ohio Center for Deafblind Education (OCDBE) is a statewide technical assistance and dissemination project designed to support individuals with combined hearing and vision loss from birth through age 21. OCDBE provides training, distance education, networking, consultation, and virtual coaching to families, educators, service providers, and individuals with deafblindness. OCDBE's goal is to improve the quality of life for individuals with deafblindness in their natural environments by enhancing the capacity of Ohio's early intervention and school-age education systems to meet each child's needs. This goal is possible by supporting professionals, caregivers, and family members to extend each child's functioning and independence across home, school, and community settings. Each year, OCDBE collects information about children birth through age 21 through the statewide deafblind census, uses this information to design and deploy services, and reports this information to the U.S. Department of Education's Office of Special Education Programs. Any individual can register a child on the deafblind census at anytime; additional information is available on the OCDBE website.

OCDBE: <https://ohiodeafblind.com/>

About Ohio Early Intervention

Ohio Early Intervention is a statewide system that provides coordinated early intervention services to parents of children under the age of three with developmental delays or disabilities. Ohio Early Intervention is grounded in the philosophy that young children learn best from familiar people in familiar settings. It builds upon and provides supports and resources to assist parents and caregivers to enhance children's learning and development through everyday routines. Anyone can refer a child for early intervention services if they have a concern about their child's growth or development. Referrals can be made online or over the phone (1-800-755-4769).

Ohio Early Intervention: <https://ohioearlyintervention.org/>

Resources Used in the Creation of this Guidance Document

National Center on Deaf-Blindness. (2020). *Early identification and referral toolbox*. Retrieved from: <https://www.nationaldb.org/products/ei-toolbox/>

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Ohio Center for Deafblind Education. (nd). *Ensuring services for hearing loss and/or vision loss for children within early intervention programming: A checklist for early intervention providers*. Dublin, OH: Authors. Retrieved from: https://ohiodeafblind.com/images/pdfs/EI_vision_hearing_Checklist_11_21_14.pdf

Rowland, C. (2009). *Assessing communication and learning in young children who are deafblind or who have multiple disabilities*. Portland, OR: Oregon Health & Science University. Retrieved from: <https://www.designtolearn.com/uploaded/pdf/DeafBlindAssessmentGuide.pdf>

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Texas School for the Blind and Visually Impaired. (2001). *See/Hear: A quarterly newsletter about visual impairments and deafblindness for families and professionals*. Austin, TX: Authors. Retrieved from <https://www.tsbvi.edu/seehear/summer01/summer01.pdf>