



# **Educating Early Childhood Providers on the Impact of Congenital CMV (cCMV): A Learning Module Approach**

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## **With Special Thanks to Members of the MA cCMV Coalition and Our Parent Leaders – Lisa Saunders & Vanessa Colleran**



Lisa Saunders is a leading national advocate for Congenital CMV awareness and Screening. She has taught us about the power of hope, perseverance, collaboration, and supporting each other.

Lisa's daughter, Elizabeth, was born with Congenital CMV and was diagnosed with significant multiple disabilities. She passed away at the age of 16 in 2006.



Vanessa Colleran is the Vice President of the MA cCMV Coalition and has been instrumental in the advocacy and legislative efforts in Massachusetts.

Vanessa's son, Logan, was born with cCMV and passed away at the age of 4 months. She is a tireless advocate for cCMV prevention and awareness.







## Session Objectives

- Describe the importance of early identification and referral to appropriate agencies and services for babies with cCMV and neurological sequelae.
- Identify the potential neurodevelopmental effects of congenital CMV (cCMV) and risk factors for brain-based visual and hearing conditions.
- Explore the Early Childhood CMV Training Module as a tool to build awareness and support training in cCMV for providers.

# NEC Grant Overview



- **Funding Source:** Federal Technical Assistance and Dissemination project from the Office of Special Education Programs (OSEP).
- **Population:** Infants through age 21 years, children with combined vision and hearing conditions
- **Purpose:** To help states improve educational results and functional outcomes for children and youth who are deafblind or at risk (Connecticut, Maine, Massachusetts, New Hampshire, Vermont)
- **Including children with congenital CMV (cCMV)**
- **Services:** Consultation, training and information to families and educational teams

# The Range of Sensory Conditions in Deafblind Learners

The Range of Sensory Abilities & Conditions		Classification of Vision					
		Normal 20/12-20/40	Near Normal 20/40-20/60	Low Vision 20/70- 20/160 or field loss <20 degrees	Legally Blind 20/200 or less or field loss <20 degrees	Light Perception or No LP	*Cortical or Cerebral Vision Impairment (CVI)
Classification of Hearing	Normal -10 to 15 dB						
	Slight 16 to 25 dB						
	Mild 26 to 40 dB						*
	Moderate-Severe 41 to 70 dB						*
	Severe 71 to 90 dB						*
	Profound 91 dB or greater						*
	**Auditory Neuropathy		*	*	*	*	*
	***Central Auditory Processing Disorder		*	*	*	*	*

\*Condition Impacting the Perception and Understanding of Visual Information

\*\*Condition Impacting the Transmission of Auditory Information to the Brain

\*\*\*Condition Impacting the Processing of Auditory Information

Corn, A. & Erin, J. (Eds.) (2010). Foundations of Low Vision: Clinical and Functional Perspectives, 2nd Edition. American Foundation for the Blind Press. Retrieved from <http://www.cdc.gov/ncbddd/hearingloss/ehdi-data2012.html>



# Collaborative Efforts – Our Journey



## New England Consortium on Deafblindness

Federally funded grant through OSEP

- Technical assistance and training for providers serving children (B-21) with combined vision and hearing needs (deafblind)
- Increasing knowledge of the educational support needs of Deafblind Learners

### Shared Journey Shared Goals

- Early Identification and Referral for At-Risk Infants
- Education for Early Intervention and Early Childhood Providers to Improve Outcomes
- Family Information & Support
- Legislative Efforts for CMV Screening



## MA cCMV Coalition

Coalition of Massachusetts Parents, Healthcare Providers, and Educators

- Educate Providers about cCMV
- Prevent cCMV through infection protocols
- Screen all newborns for cCMV infection
- Care for affected children and families with evidence-based practices
- Champions for screening and legislation

# Why Early Intervention and Early Childhood Providers Need to Understand cCMV

- 1) Understand Precautions to Minimize CMV Transmission
- 2) Identify Neurodevelopmental Effects of Congenital CMV (cCMV) and Associated Sensory Conditions
- 3) Recognize Risk Factors and Facilitate Appropriate Monitoring and Referrals.
- 4) Encourage Regular Hearing And Vision Screenings
- 5) Deliver Timely, Targeted Services to Support Communication, Mobility, And Learning.
- 6) Collaborate With Audiologist, Ophthalmologists, Early Childhood Educators, And Medical Professionals for Comprehensive Support.



Early Intervention: What do providers need to know about congenital cytomegalovirus (CMV)?

## Know your risk when working with infants and toddlers

Most children born with congenital CMV will shed, or pass on, the virus in their body fluids throughout their toddler and preschool years. However, CMV is also a very common childhood virus, affecting 70 percent of healthy children between 1 and 3 years of age.

Daycares, preschools, schools, therapists, churches, and community members should not require a child to be tested for CMV shedding. According to the Centers for Disease Control and Prevention (CDC), screening of children for CMV infection is not recommended, and infected children should not be excluded from school or other settings.

You are four times as likely to come into contact with CMV through a child without a congenital CMV diagnosis. Children born with congenital CMV pose no threat to their peers and no more of a threat to those at risk for CMV infection (ie. pregnant women) than would any other child.

## Know how to serve children with CMV

You likely have served or do serve children with CMV. Each CMV child will have unique needs. CMV causes a wide range of permanent medical conditions and disabilities. CMV can also result in deafness, blindness, cerebral palsy, mental and physical disabilities, seizures, and death.

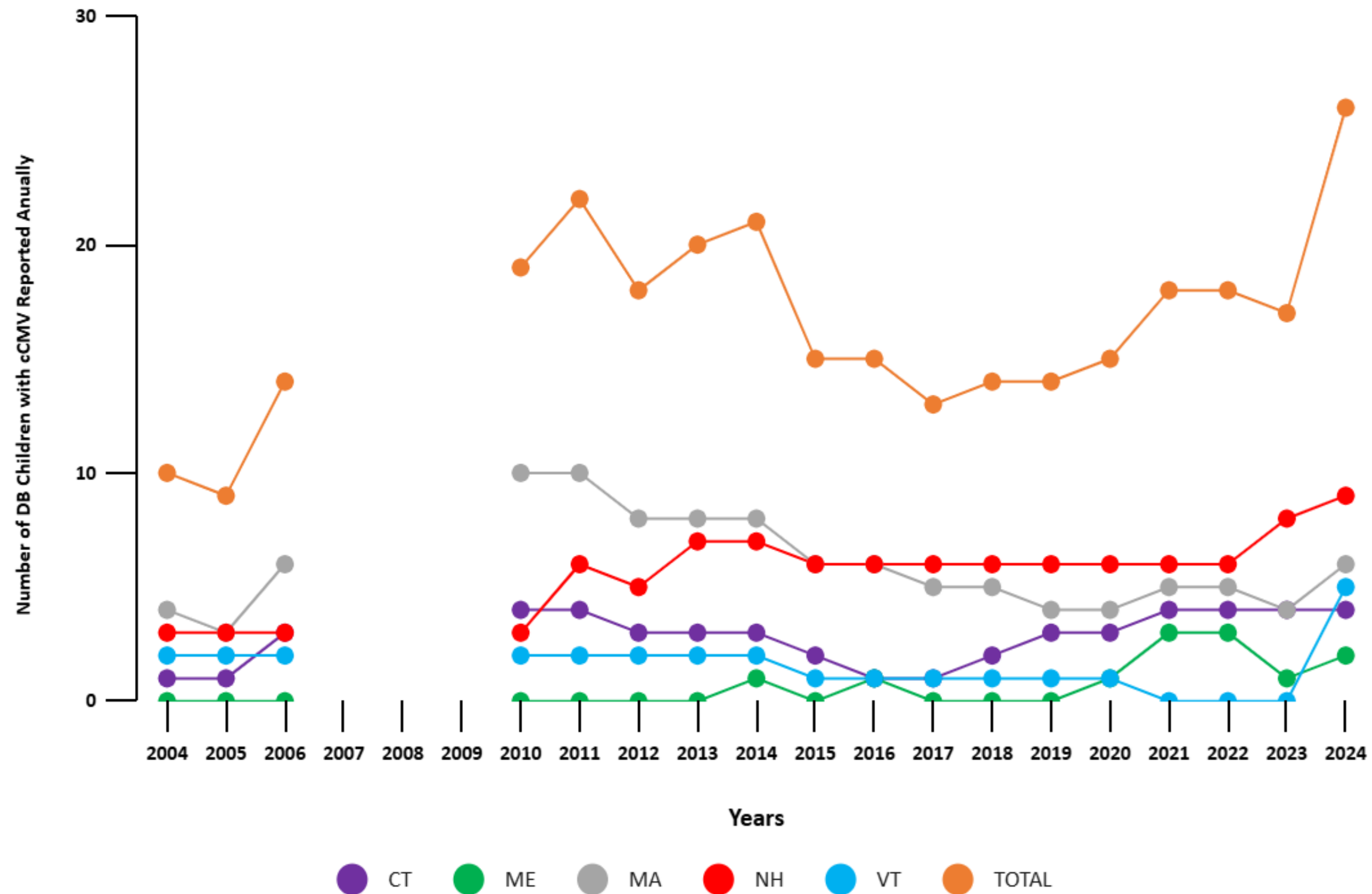
If a child you work with has hearing loss and does not know the cause, recommend testing for CMV as early as possible. Congenital CMV is diagnosed if the virus is found in an infant's urine, saliva, blood, or other body tissues during the first three weeks of life. After three weeks, blood spot cards can be used for diagnosis but may not be entirely conclusive.

A definitive diagnosis of CMV may provide the family an opportunity for antiviral therapy, early intervention services, and focused surveillance hearing testing since these children are typically at-risk for further hearing loss. A general recommendation for babies diagnosed with congenital CMV is to have a hearing assessment every three months in the first three years of life, and then every six months through six years of age. EI providers can be instrumental in facilitating these appointments.

Learn more at [www.NationalCMV.org](http://www.NationalCMV.org)



# Children Identified w/cCMV and DB CT, MA, ME, NH & VT





# Our Targeted Outcomes:

## Increased CMV Awareness & Training, Informed Practices, Changes in Policy (MA Legislation Efforts)



### Referral to Early Intervention & State Deafblind Project /Consortium



### Referral to Additional Programs

Referral of infants with symptomatic cCMV to programs/providers for children who are visually impaired, deaf/hard of hearing or deafblind should be done promptly after diagnosis (with consideration for Communication Access, Followup, and Intervention)



### Sensory & Neurodevelopmental Follow Up

Children impacted by cCMV benefit from sensory and neurodevelopmental follow-up, speech and language programs, and educational accommodations to optimize their potential (Demmler-Harrison, 2016)

**Deaf/HH:** Be aware of the importance of early diagnosis and potential for progressive hearing loss in infants who present with HL and neurological sequelae

**Vision:** Recognize the frequency and impact of ocular and brain-based visual impairment in infants born with cCMV and the need for ongoing assessment and monitoring of visual development

**Deafblindness:** Monitor both vision and hearing in children born with neurological sequelae and who don't respond consistently to visual and/or auditory input in familiar and unfamiliar settings.



### Assessment

Trained and experienced service providers are critical for accurate assessment and intervention for children with cCMV.

# **NEC Early Childhood Training Module**

New England Consortium on  
Deafblindness

# NEC Early Childhood CMV Training Module

2025





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*2025 New England Consortium on Deafblindness (NEC)*



# Acknowledgements – Members of the Massachusetts cCMV Coalition

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Brenda Allair  
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Lisa Saunders



# Module Purpose

To educate Early Childhood Providers, including Early Interventionists and Early Childhood educators and related providers, about congenital CMV and its impact on development, including vision, hearing, and neurological impacts, as well as strategies for supporting families through the assessment and intervention process.



# The Missing Link: Need for Early Intervention/Early Childhood Provider Training

The *Early Childhood CMV Training Module* is a tool for ensuring that all Early Childhood personnel are aware of cCMV and have concise information about identification, assessment, and intervention for cCMV babies.

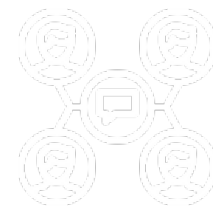


**Target Audience**  
Increase awareness of cCMV for Early Intervention & Early Childhood staff, including: Developmental Specialists, Early Childhood Educators, TVI, TOD, SLP, PT, OT

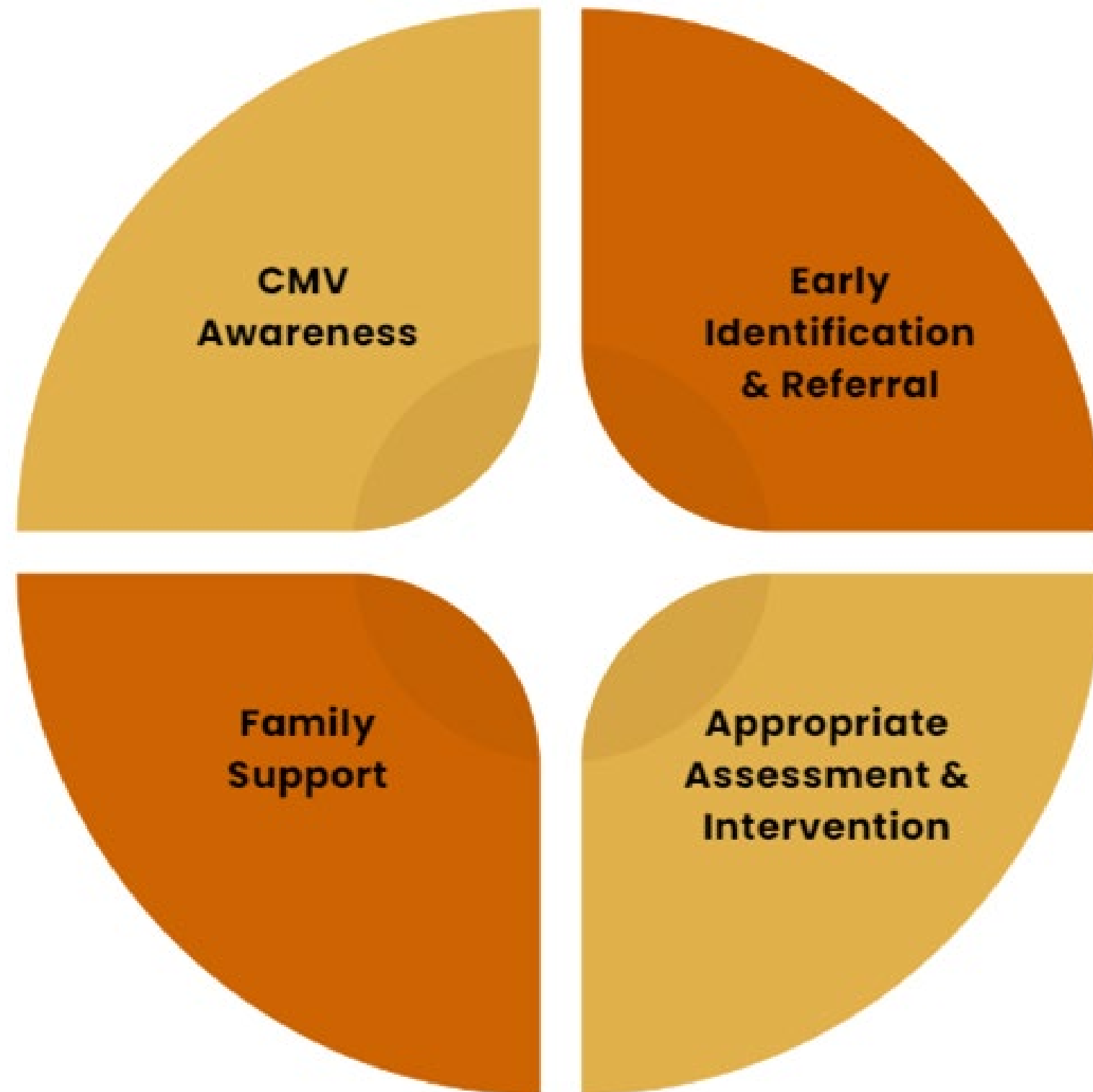
**Family Support**  
Ensure that Early Intervention and Early Childhood Providers have accurate, helpful information for families

**Simple & Concise**  
Effective training materials for personnel that are simple and concise and can be included in existing mandated trainings

**Neurodevelopmental Effects**  
Addresses the potential for neurological sequelae to cause vision loss, hearing loss, or deafblindness in affected children.





# Module Purpose & Components



## Key Components

- ❑ Pre/Post Knowledge Assessment
- ❑ Module PPT
- ❑ Checklist for Providers to Monitor Developmental Domains:
  - Auditory
  - Vision
  - Communication
  - Tactile
  - Cognition
  - Gross Motor
  - Fine Motor
  - Social/Emotional
  - Self-Help

# Module Participant Pre-Test



## Early Childhood CMV Training Module Participant Survey

Participant Information

Name: \_\_\_\_\_ Date: \_\_\_\_\_  
DAY MONTH YEAR

Early Intervention or Early Childhood Center  
\_\_\_\_\_

Instructions:

Please answer each question on the survey prior to beginning this training module.

Questions:	Response:
	True False Unsure
Cytomegalovirus (CMV) is a common member of the herpes virus family that is generally harmless to people with healthy immune systems.	<input type="radio"/> <input type="radio"/> <input type="radio"/>
When a baby is born with a CMV infection, it is called congenital CMV (cCMV).	<input type="radio"/> <input type="radio"/> <input type="radio"/>
Congenital CMV is the leading non-genetic cause of childhood hearing loss.	<input type="radio"/> <input type="radio"/> <input type="radio"/>
Congenital Cytomegalovirus (cCMV) is not PREVENTABLE.	<input type="radio"/> <input type="radio"/> <input type="radio"/>
About 1 out of every 200 babies is born with congenital CMV infection. Of these babies, around 1 in 5 will have long-term health problems such as: hearing loss, vision loss, cerebral palsy, seizures, and other developmental disabilities.	<input type="radio"/> <input type="radio"/> <input type="radio"/>
To prevent the spread of the CMV virus in early intervention and early childcare centers, it is important to clean toys, countertops, and other surfaces that come in contact with children's urine or saliva.	<input type="radio"/> <input type="radio"/> <input type="radio"/>
Childcare workers, early interventionists, and early childhood providers of childbearing age are at increased risk for cCMV.	<input type="radio"/> <input type="radio"/> <input type="radio"/>
Washing your hands often with soap and water for 15-20 seconds after changing a diaper or feeding a child will help prevent exposure to CMV.	<input type="radio"/> <input type="radio"/> <input type="radio"/>
All babies with congenital cytomegalovirus are identified at birth.	<input type="radio"/> <input type="radio"/> <input type="radio"/>
Babies born with hearing loss due to cCMV and neurological sequelae are at increased risk of visual impairment.	<input type="radio"/> <input type="radio"/> <input type="radio"/>



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# What is CMV?

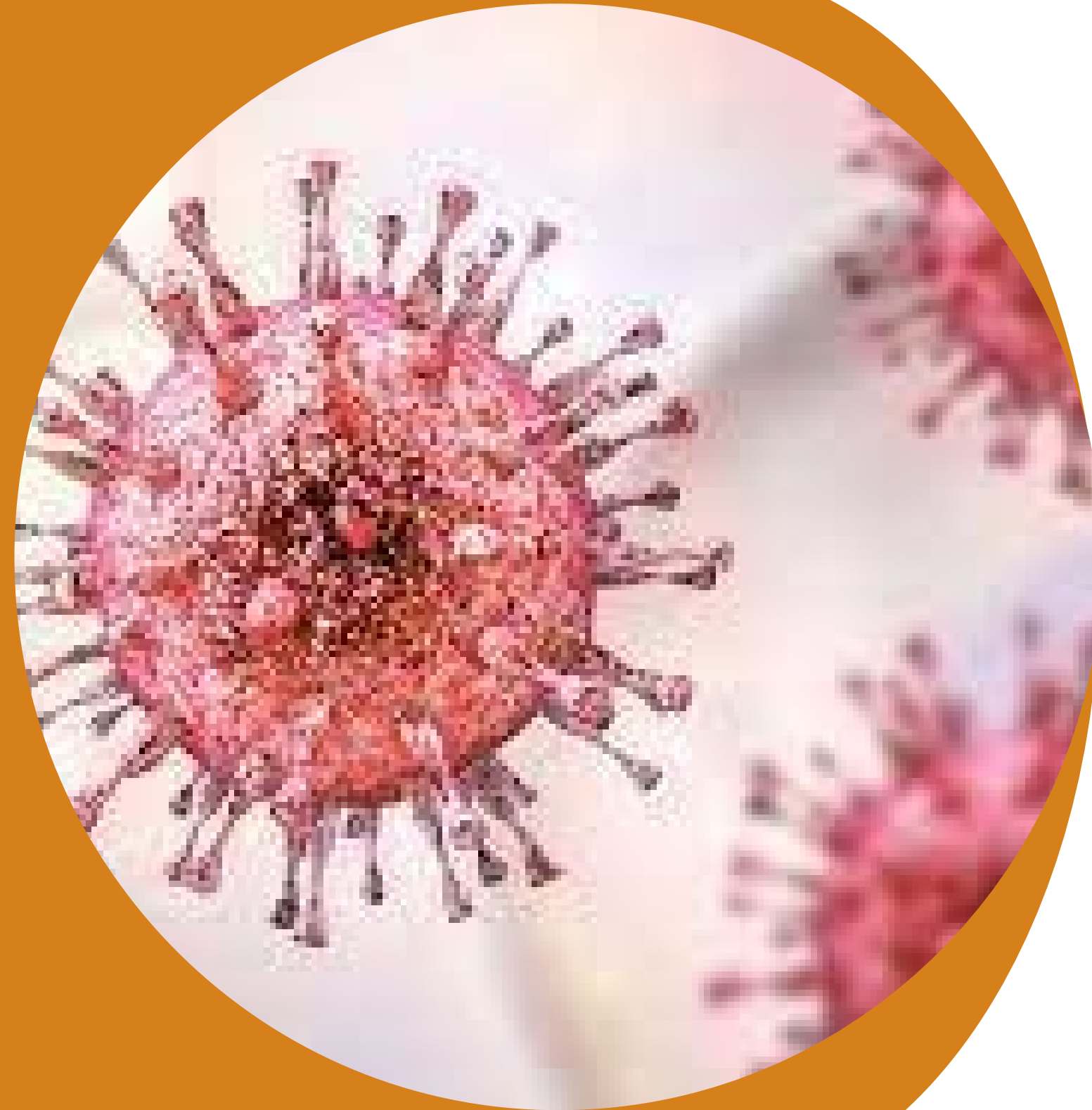
(sy·toe·MEG·a·low·vy·rus)

Cyto= cell megalos= big virus= poison

Cytomegalovirus or CMV, is a common member of the herpes virus family that is generally harmless to people with healthy immune systems.

“The most common virus most people have never heard of”

Once CMV is in a person's body, it stays there for life and can reactivate & a person can be re-infected with a different strain of the virus.



# What is the Difference between CMV and Congenital CMV (cCMV)?



# All Pregnant Individuals are At Risk for CMV



Those with Young  
Children at Home



Childcare Providers, Early  
Interventionists, Early  
Childhood & Classroom  
Personnel



Healthcare Providers



# Is There Screening for cCMV?

Screening protocols are inconsistent across states, and many states do not have a Universal Screening Protocol for cCMV.

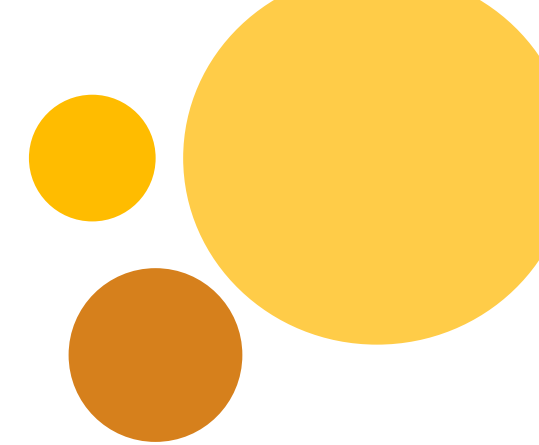
Prenatal Screening: Women who are considering pregnancy can be tested for CMV if they request that CMV IgM and IgG antibody lab tests be added to their routine labs. These tests are relatively inexpensive and are covered by most insurance plans.

Newborn Screening: The National CMV Foundation maintains a website with current information on states that have adopted or are working towards Newborn Screening for cCMV.

[Newborn Screening – National CMV Foundation](#)



# Why is Congenital CMV Such a Complex Issue?



## A Common Virus, a Complex Problem

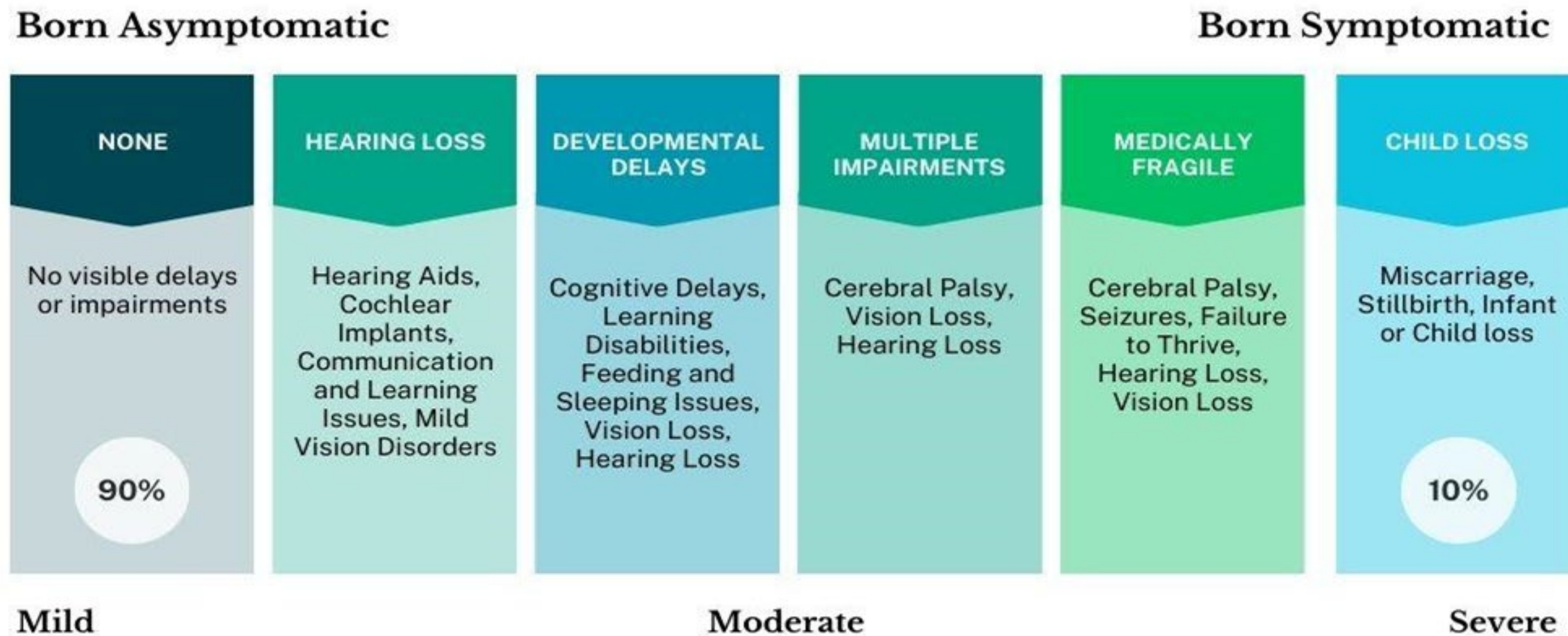


- It is a common virus, especially in young children, and can be easily spread.
- About 1 in 3 pregnant women who become infected with CMV will pass the virus to their baby.
- Most pregnant women are never told about preventative measures for CMV or about the potential risks to their developing babies.
- Many states do not screen for CMV at birth, and even asymptomatic infants may develop serious, long-term problems
- About 1 in 200 infants each year are born with congenital CMV and about 1 in 5 of those will become disabled.
- (1) child every hour is permanently disabled due to congenital CMV.
- CMV is COMMON, SERIOUS, and PREVENTABLE.
- Lack of state and national prevalence data
- Disagreement about the need for universal screening



# cCMV (Congenital CMV) is SERIOUS

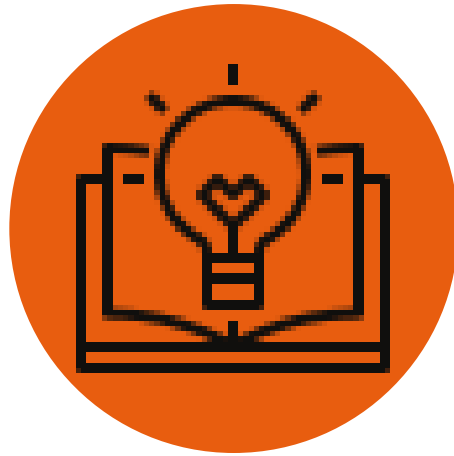
20% of babies born with CMV will have disabilities including hearing loss, cerebral palsy, seizures and other developmental disabilities



Source: Congenital CMV outcomes.. National CMV Foundation – Cytomegalovirus (CMV) | National CMV Foundation.  
<https://www.nationalcmv.org/overview/outcomes>



# Early Childhood Providers Can Be Part of the Solution



## Educate

- KNOW what CMV is and how it can be spread
- UNDERSTAND who is at risk and what preventative measures are available
- RECOGNIZE the impact of congenital CMV on developing babies, toddlers and young children



## Prevent

- Wash hands often with soap and water for 15-20 seconds
- Do not share food, drinks, or eating utensils with young children
- Do not put a child's pacifier in your mouth
- Avoid contact with saliva by kissing a young child on the forehead instead of the lips
- Clean toys, countertops and other surfaces that come in contact with children's urine or saliva



## Screen

- Several states have begun implementing universal newborn screening for congenital CMV infection.
- You can learn more about CMV screening at: <https://www.nationalcmv.org/overview/newborn-screening>



## Care

- SUPPORT families to get appropriate medical and developmental follow-ups
- REFER families to specialty services for vision, hearing, or combined sensory loss
- SHARE information about resources and supports with families impacted by cCMV.



# Three Simple Precautions to Help Prevent cCMV



## Wash with Care

- Wash hands after all diaper changes and after wiping runny nose/drool
- Clean changing areas and toys regularly with soap and water



## Kiss with Care

- Kiss babies or toddlers on the forehead and not the mouth to avoid saliva



## Don't Share

- Do not share any of the following with young children:
  - food
  - drink
  - pacifiers
  - toothbrushes



# Early Indicators for cCMV in Newborns



## Hearing & Vision Concerns

- Sensorineural Hearing Loss
- Optic Nerve Atrophy
- Chorioretinitis
- Macular scarring



## Systemic Issues

- Intrauterine Growth Restriction
- Jaundice
- Fever
- Rash
- Hepatosplenomegaly



## Neurological Findings

- Seizures
- Microcephaly
- Abnormal Brain Imaging

# Diagnosing cCMV



- Congenital CMV infection can be diagnosed by testing a newborn baby's saliva, urine or blood.
- Specimens must be collected for testing within two to three weeks after the baby is born in order to confirm a diagnosis of congenital CMV infection.
- Newborn screening protocols are inconsistent across states, and many states do not have a Universal Screening Protocol for cCMV.

# Additional Challenges Can Impact Children and Families Over Time

Some infants born with cCMV may not initially have significant problems, but health and developmental concerns can emerge over time, including:

- Visual Impairment/Blindness
- Hearing Loss/Deafness
- Deafblindness
- Seizures
- Developmental and Motor Delays

Families may experience feelings of fear, grief, and frustration as new diagnoses emerge.





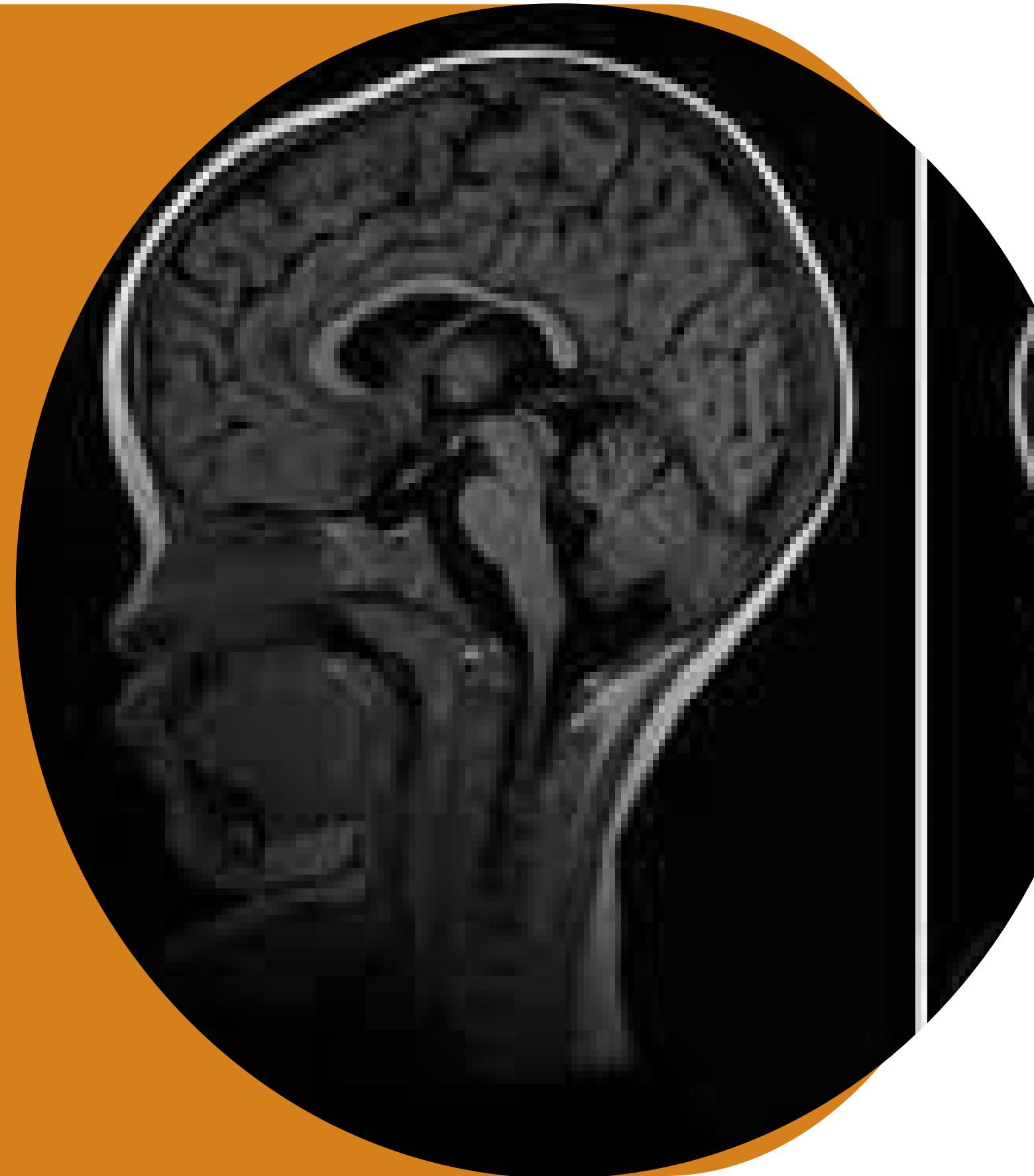
# Neurological Impact of cCMV

Neurological Sequelae associated with congenital CMV may include:

- Microcephaly
- Seizures
- Periventricular Calcification
- Cerebral Atrophy
- Malformations of The Brain
- White Matter Signal Changes and Cysts
- Motor Conditions – Similar to Cerebral Palsy, Demyelinating Disorders
- Calcified Leukoencephalopathies

These diagnoses are frequently associated with:

- Complex Health Care Needs
- Brain-Based Auditory And Visual Conditions



# The Role of Vision and Hearing in Early Development



## Communication

- Access to spoken or signed language
- Recognizing non-verbal communication



## Movement

- Motivation to explore the environment beyond their reach
- Access to visual and auditory cues in the environment for safety/movement



## Social Emotional Development

- Access to visual and auditory information about emotions and feelings
- Ability to effectively communicate wants, needs, and interests with others



## Cognition

- Developing abstract concepts
- Understanding and building on early learning concepts such as size, shape, color, sound

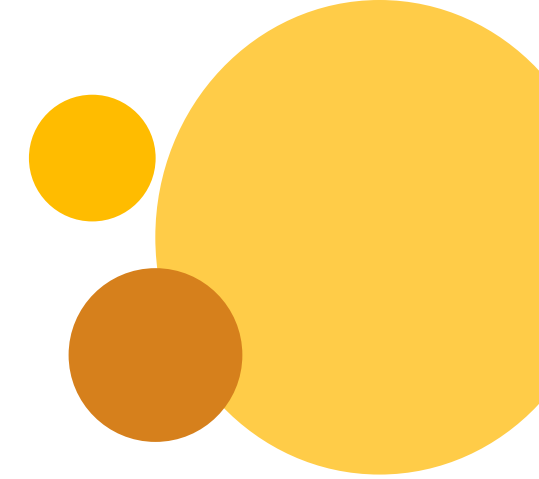


## Self-Help and Self-Determination

- Access to visual information about feeding, dressing, toileting
- Understanding relationships between self and others



# Hearing Conditions & cCMV



## Leading Non-Genetic Cause of Hearing Conditions

- Congenital CMV is the leading non-genetic cause of childhood hearing conditions.
- CMV accounts for approximately 25% of Sensorineural Hearing Loss (SNHL) diagnosed in children, including an estimated 15-20% of bilateral moderate to profound SNHL diagnoses.

## Can Develop Over Time

- 15% of infants diagnosed with cCMV will NOT have symptoms at birth (asymptomatic newborns) but will later develop hearing issues
- The AAP recommends hearing tests at least every 6 months



# Hearing Conditions & cCMV



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# Hearing Risks for cCMV

The most common disability associated with cCMV is deafness/hard of hearing. It is progressive (worsens over time) for around half of children infected. Children with cCMV are at risk for different types of hearing conditions, including:

**Conductive with Middle Ear Effusion**

**Sensorineural (SNH)**

**Progressive**

**Unilateral or Bilateral**

**Congenital or Later Onset**



# Hearing Signs & Symptoms in Early Childhood



## Infants

- Does not startle at loud noises.
- Does not turn to the source of a sound after 6 months of age.
- Does not say single words, such as “dada” or “mama” by 1 year of age.
- Turns head when he or she sees you but not if you only call out his or her name.
- Seems to hear some sounds but not others.



## Children

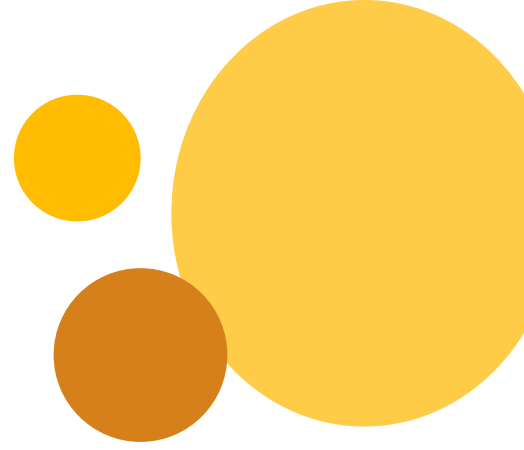
- Speech is delayed.
- Speech is not clear.
- Does not follow directions. This sometimes is mistaken for not paying attention or just ignoring, but could be the result of a partial or complete hearing issue.
- Often says, “Huh?”
- Turns the TV volume up too high

# Providers for Children Who Are Deaf/Hard of Hearing





# Vision Conditions & cCMV



## Ocular Visual Conditions

- May or may not be present at birth
- Strabismus
- Nystagmus
- Optic Nerve Atrophy
- Chorioretinitis

## Brain-Based Visual Impairment

- Children with neurological sequelae are at increased risk of brain-based visual impairments
- Major risk factors for severe visual impairment in children with cCMV include symptomatic status at birth, optic nerve atrophy, chorioretinitis, cortical/cerebral visual impairment and sensorineural hearing loss.





# Congenital CMV & Brain-Based Visual Impairment

- Children with neurological sequelae due to cCMV are at increased risk of brain-based visual impairment (CVI).



What is CVI?	Common Causes	Impact on Vision
<ul style="list-style-type: none"><li>• Cortical/Cerebral Visual Impairment (CVI) is the most common cause of visual impairment in the United States</li></ul>	<ul style="list-style-type: none"><li>• Brain malformation</li><li>• Hypoxia/ischemia</li><li>• Prematurity</li><li>• Trauma</li><li>• Infection</li><li>• Certain neurological diseases</li></ul>	<ul style="list-style-type: none"><li>• Reduced Visual Attention</li><li>• Difficulty with Visual Localization</li><li>• Poor Visual Tracking</li><li>• Difficulty with Depth Perception</li><li>• Visual Field Deficits</li><li>• Color and Contrast Sensitivity</li><li>• Visual Habituation Issues</li><li>• Reduced Visual Discrimination</li><li>• Difficulty Recognizing Faces</li><li>• Inconsistent Visual Responses</li></ul>
<ul style="list-style-type: none"><li>• CVI is characterized by visual impairment due to damage to the central nervous system (CNS) not involving the ocular structures.</li></ul>		



# Vision Conditions & Symptoms in Early Childhood



## Infants

- Difficulty visually tracking
- Difficulty viewing people or objects
- Little/no visual regard of faces
- Difficulty with bright lights or increased attention to lights
- Nystagmus (random eye movements)

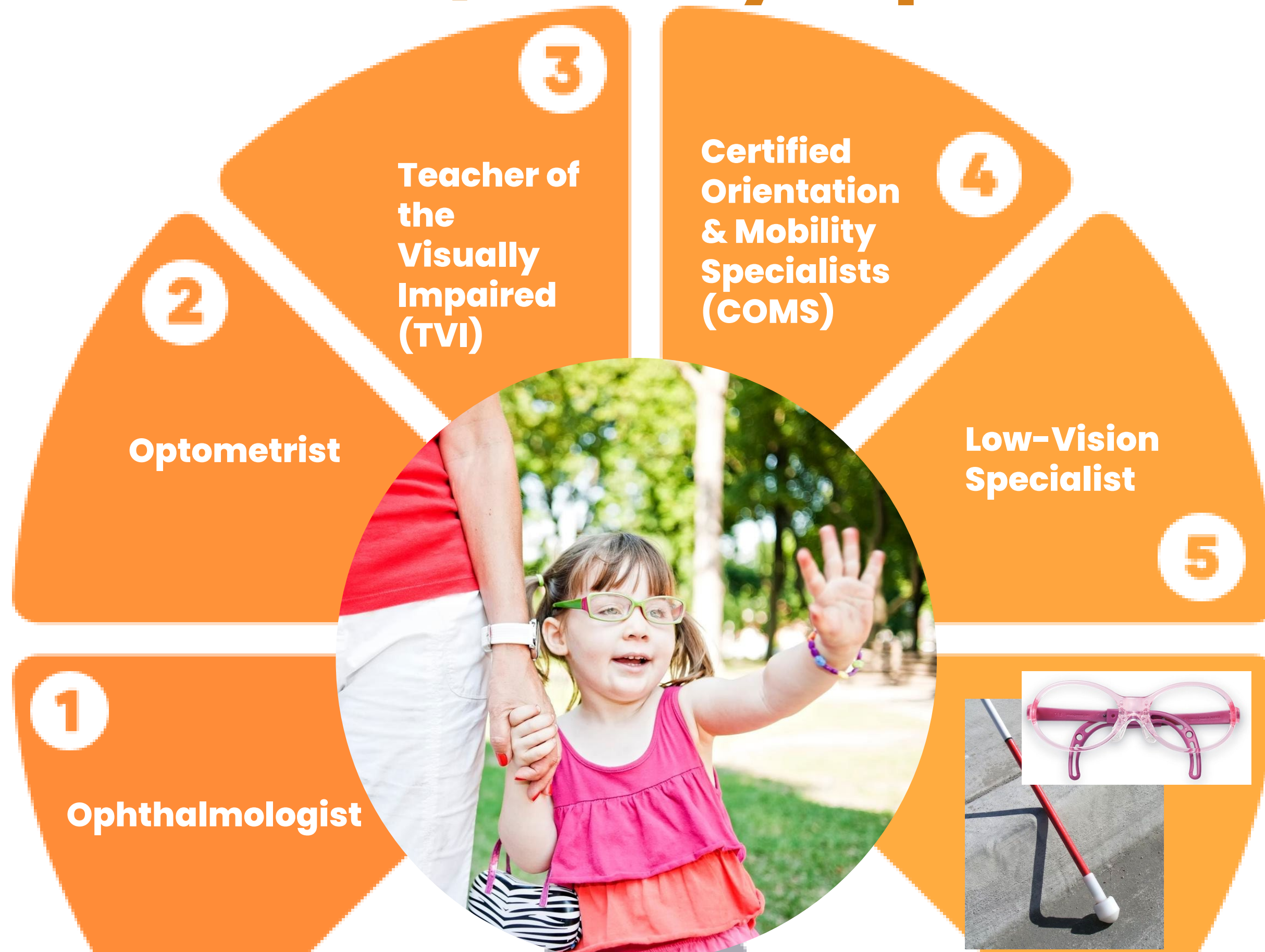


## Toddlers

- Mobility concerns (tripping, falling) that are not accounted for by gross motor delays
- Squinting or covering eyes
- Moving closer to see objects
- Signs of visual fatigue (pushing objects out of view, looking away frequently, easily overwhelmed by visual stimuli)



# Providers for Children who Blind/Visually Impaired





# Hearing and Vision in Babies and Toddlers with cCMV



## Hearing

The American Academy of Pediatrics general recommendation for all babies with congenital CMV (regardless of their newborn hearing screening results):

- Hearing re-assessment every 3 months in the first three years of life
- Repeat every six months through age six years
- Assessment may need to be more frequent or altered based on antiviral therapy, rehabilitation needs, pediatric audiologist guidance, or parent concerns.
- CMV-associated congenital hearing loss may be progressive in nature



## Vision

The American Academy of Pediatrics recommends that all babies with cCMV have an ophthalmology exam within the first year of life.

Babies with neurological sequelae including:

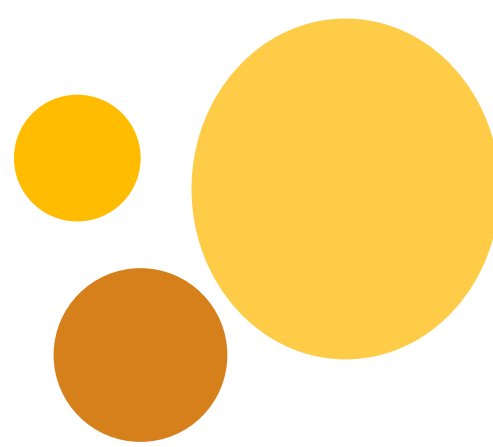
- microcephaly
  - seizure disorder
  - malformations or calcifications in the brain
- should also be followed for concerns regarding cortical/cerebral visual impairment

## Combined Vision & Hearing Differences (Deafblindness)

- A sensory loss in one area (vision or hearing) should prompt an assessment for the other sense
- Neurological sequelae are risk factors for brain-based vision and auditory impairments



# Family Support



## Accessible, Clear & Concise Information

- Accurate family-friendly information about the effects of cCMV
- Education about their child's developmental and sensory abilities
- Strategies for supporting their child's learning and growth

## Support Along the Way

- Opportunities for connecting to other parents and caregivers
- Information about agencies and organizations that may provide additional education, support, or resources



# Family Stories

Family stories are important and powerful. They can help Early Childhood Professionals learn more about the impact of cCMV and how to support children and families.

Click the links below to learn more.

[Massachusetts CCMV Coalition – Parent Stories](#)

[National CMV Foundation – Parent Stories](#)

[Instagram Parent Stories](#)





# Referrals & Resources

Families of children impacted by congenital CMV (cCMV) need information, resources, and support. Early Intervention and Early Childhood providers can work to ensure that all families have access to appropriate supports and services. While each state may have different agencies or organizations, a list of programs to consider is listed below.



## Family Resources

- [National CMV Foundation](#)
- [PTI \(Parent Training and Information Centers\)](#)
- [Hands and Voices](#)
- [National Family Association for Deafblind \(NFADB\)](#)



## Programs for D/HH

- EHDI
- Early Intervention Programs for Deaf/Hard of Hearing Infants and Toddlers
- ASL Programs
- Family Support Groups
- State Agencies for D/HH



## Programs for Blind/VI

- Early Intervention Programs for Blind/Visually Impaired Infants and Toddlers
- Family Support Groups
- State Agencies for Blind/VI




## Your State Deafblind Project


- [New England Consortium on Deafblindness \(NEC \(CT, ME, MA, NH, VT\)\)](#)
- [List of State Deafblind Projects \(NCDB\)](#)



# NEC Early Intervention Checklist: Important Assessment Information for Babies Born with Congenital CMV



## NEC Early Intervention Checklist for Babies Born with Congenital CMV or At Risk



### Assessment Domains to Consider

Children who have been diagnosed with congenital CMV and have any neurological sequelae such as microcephaly and seizures are at increased risk of hearing and vision concerns, including brain-based auditory and visual conditions. *The INSITE Developmental Checklist: A Comprehensive Developmental Checklist for Young Children with Sensory Impairments and Additional Disabilities* can be used as a framework to assess the child's skills and need for further evaluation, referral, and intervention. (SKI-HI 2021). The *Communication Matrix* should also be considered to assess communication and plan intervention.

#### AUDITORY (HEARING)

- ☐ Awareness, Attention, Recognition, Discrimination
- ☐ Localization/Movement to Sound with Sight
- ☐ Localization/Movement to Sound without Sight
- ☐ Memory, Sequencing, etc.
- ☐ Playing with Sound (voice, toys)
- ☐ Consider if/how child uses assistive listening devices (hearing aids, cochlear implants, BAHA)

#### VISION


- ☐ Stimulus Preferences
- ☐ Stimulus Discrimination
- ☐ Looking Behaviors
- ☐ Early Eye-Hand Coordination
- ☐ Visual Fields (Central, Peripheral, Upper & Lower)

#### COMMUNICATION


- ☐ Communication: Receptive
- ☐ Communication: Expressive
- ☐ Changes in Biobehavioral States
- ☐ Gestures
- ☐ Use of Tangible Symbols: Objects, Photos, Drawings
- ☐ Signing: Visual Signs
- ☐ Coactive Signs
- ☐ Hand-Under-Hand Signs
- ☐ Sign within Visual Field
- ☐ Rate of Signs
- ☐ Environmental Controls for Noise
- ☐ Repeated Hands-On Experiences: Objects, Actions & Events
- ☐ AAC: Visual, Auditory & Motor Demands
- ☐ Consider rate of presentation & additional wait time

#### TACTILE

- ☐ Responds to Touch
- ☐ Exploratory Strategies and Manipulation
- ☐ Recognition, Discrimination
- ☐ Early Braille Readiness



## NEC Early Intervention Checklist for Babies Born with Congenital CMV or At Risk



#### COGNITION

- ☐ Object Permanence: Memory for Objects, Events, People & Places
- ☐ Object Exploration & Schemes: Play with Toys
- ☐ Means/End: Problem-Solving
- ☐ Causality: Control
- ☐ Spatial Relations: Body to Object, Object to Object
- ☐ Time: Anticipation
- ☐ Classification: Group
- ☐ Match
- ☐ Sort
- ☐ Classify
- ☐ Play Materials and Dramatic Play
- ☐ Patterning & Number Concepts

#### GROSS MOTOR

- ☐ General Posture: Movement on stomach and back
- ☐ Head Control
- ☐ Rolling
- ☐ Sitting
- ☐ Crawling & Creeping
- ☐ Standing and Walking
- ☐ Climbing
- ☐ Jumping & Hopping
- ☐ Ball Play
- ☐ Orientation & Mobility

#### FINE MOTOR

- ☐ Reach, Grasp and Release
- ☐ Manipulation and Coordination: Part to Whole
- ☐ Reproducing Designs, Sequences, and Spatial Relationships with Objects
- ☐ Skills for Arts & Crafts
- ☐ Scribbling, Drawing and Printing

#### SOCIAL & EMOTIONAL

- ☐ Interactions with People
- ☐ Interactions with Environment
- ☐ Social Play
- ☐ Reciprocal Interactions
- ☐ Repetitive Behaviors
- ☐ Sensory Processing Styles
- ☐ Temperamental Styles

#### SELF-HELP


- ☐ Meal Time
- ☐ Dressing & Undressing
- ☐ Toileting
- ☐ Personal Hygiene
- ☐ Sleep Patterns
- ☐ Helping Out & Safety


For additional information and support, please contact:  
New England Consortium on Deafblindness  
(NEC (CT, ME, MA, NH, VT))  
or  
Find your state's Deafblind Project at  
National Center on Deafblindness List of State Deafblind Projects





# Module Participant Post-Test



**Early Childhood CMV  
Training Module Participant Survey**


Participant Information

Name:
Date:

DAY

MONTH

YEAR

Early Intervention or Early Childhood Center

Instructions:

Please answer each question on the survey prior to beginning this training module.

Questions:	Response:		
	True	False	Unsure
Cytomegalovirus (CMV) is a common member of the herpes virus family that is generally harmless to people with healthy immune systems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When a baby is born with a CMV infection, it is called congenital CMV (cCMV).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Congenital CMV is the leading non-genetic cause of childhood hearing loss.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Congenital Cytomegalovirus (cCMV) is not PREVENTABLE.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
About 1 out of every 200 babies is born with congenital CMV infection. Of these babies, around 1 in 5 will have long-term health problems such as: hearing loss, vision loss, cerebral palsy, seizures, and other developmental disabilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To prevent the spread of the CMV virus in early intervention and early childcare centers, it is important to clean toys, countertops, and other surfaces that come in contact with children's urine or saliva.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Childcare workers, early interventionists, and early childhood providers of childbearing age are at increased risk for cCMV.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Washing your hands often with soap and water for 15-20 seconds after changing a diaper or feeding a child will help prevent exposure to CMV.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All babies with congenital cytomegalovirus are identified at birth.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Babies born with hearing loss due to cCMV and neurological sequelae are at increased risk of visual impairment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



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NOTE – ALL PHOTOS RETRIEVED FROM THE INTERNET



**Thank You**

**Module End**





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**Contact Us**

# Thank You!

For more information about  
The NEC Early Childhood CMV Training Module and Resources:



Visit our website:  
[New England Consortium on Deafblindness](#)

