CYTOMEGALOVIRUS (CMV) TOOLKIT FOR BIRTH CENTERS AND HEALTH CARE PROVIDERS

Commonwealth of Kentucky

Cabinet for Health and Family Services (CHFS)

Office for Children with Special Health Care Needs (OCSHCN)

Early Hearing Detection and Intervention (EHDI) Program

2025

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OVERVIEW

The Kentucky Early Hearing Detection and Intervention (EHDI) program housed within the Office for Children with Special Health Care Needs (OCSHCN) was established in 2000 to oversee the state's newborn hearing screening program (KRS Chapter 13A, KRS 211.645-KRS 211.647, KRS 216.2970, 911 KAR 1:085). Birthing facilities with 40 or more live births each year are required to have a newborn hearing screening program and report findings and risk factors to the EHDI program.

Congenital cytomegalovirus (cCMV) infection is a significant risk factor for the development of hearing loss. In July 2022, the Bella Dawn Streeval Law (KRS 214.565-571) regarding cCMV education and testing became effective. The requirements of this law are listed below. See the "Provider Resources" section in this toolkit for the links to the full legislation.

1. Kentucky Department for Public Health (KDPH) will make available on its website educational resources regarding the incidence of cCMV, including resources that address:
    a. Transmission of CMV before and during pregnancy
    b. Birth defects caused by cCMV
    c. Methods of diagnosing cCMV
    d. Available preventative measures
    e. Resources available to the family of an infant born with cCMV infection
2. KDPH has the option to partner with medical or community organizations to promote awareness of cCMV and to disseminate educational resources.
3. Health facilities or physicians who provide obstetric and/or prenatal services must provide pregnant women or women who may become pregnant with information regarding the incidence of cCMV as listed in #1 above or the link to the resources on the KDPH website.
4. Infants who fail their initial 2 auditory screenings or who have other clinical findings suggestive of cCMV must be tested for CMV infection within the first 21 days of life by the birth facility or the infant's health care provider. Parents may opt out of testing.

In response to this law, EHDI partnered with the Divisions of Pediatric Infectious Diseases from the University of Louisville and the University of Kentucky and Audiology from Norton Healthcare to create this toolkit on cCMV infection for hospitals and primary care providers. The toolkit includes information regarding cCMV, guidance for testing and follow-up, as well as resources for providers and families.

The information in the toolkit is based on the consensus of state experts and best available evidence. It is not intended as a substitute for clinical judgment. If you have questions about cCMV, please contact a pediatric infectious disease specialist at the numbers provided in this toolkit. *For questions about audiological surveillance, contact EHDI at* EHDI@ky.gov *or (800) 232-1160.*

CYTOMEGALOVIRUS/CONGENITAL CYTOMEGALOVIRUS

Cytomegalovirus (CMV) is pervasive. According to the Centers for Disease Control (CDC), over half of adults in the United States have been infected with CMV by the age of 40 years and nearly 1 in 3 children is already infected with it by age 5 years. Congenital CMV (cCMV) is the most common intrauterine infection with about 1 out of every 200 babies being born with it each year, according to the CDC. The difference between infection (where the virus exists within the body with or without symptoms) and disease (where the virus has manifested symptoms/complications from the infection) is an important distinction to make when considering prevalence of CMV. Where infection does not guarantee the incidence of disease, in utero transmission of CMV may occur with a primary maternal CMV infection, reactivation of the virus in a previously infected pregnant person, or acquisition of a new strain in a previously infected pregnant person. The risk of CMV transmission to the fetus and subsequent disease is greater with maternal primary infections, however, per the American Academy of Pediatrics Red Book, it is estimated that more than 75% of infants with congenital CMV in the United States are born to a person with nonprimary infection. Most babies with cCMV infection are asymptomatic at birth, but when signs and symptoms are present, they could include:

- Petechiae or purpura rash
- Seizures
- Microcephaly
- Brain abnormalities
- Sensorineural hearing loss (SNHL)
- Chorioretinitis
- Hepatosplenomegaly
- Transaminitis or Direct hyperbilirubinemia
- Thrombocytopenia
- Intrauterine growth restriction (IUGR) and/or small for gestational age

Some infants with cCMV will have only isolated SNHL.

- SNHL is the most common sequela of cCMV. cCMV is also the most common cause of non-genetic hearing loss in children, comprising 25% of all cases.
- Though some infants with SNHL may be identified in the neonatal period, others may develop SNHL later in infancy or childhood. In addition, infants and children with SNHL due to cCMV may have progression of hearing loss over time.
- There is no test to predict which children with cCMV will develop hearing loss or experience progression of a hearing loss.

Targeted screening for CMV infection is recommended in Kentucky for babies with clinical signs and/or symptoms of cCMV.

SCREENING & TESTING

- CMV testing should be completed **by 21 days of age** on infants who fail both their initial and repeat newborn hearing screenings (NBHS) or exhibit other signs or symptoms consistent with cCMV infection.
- cCMV is diagnosed by detecting CMV DNA by polymerase chain reaction (PCR) testing in either a saliva or urine sample obtained within the first 21 days after birth.
- CMV DNA PCR testing may be performed on saliva obtained via oral swab; when a saliva test is positive, a urine CMV DNA PCR test is necessary to confirm a diagnosis of cCMV.
    - Saliva CMV tests can be falsely positive
    - Some false positive tests are related to maternal CMV shedding into breast milk
    - Saliva test should be obtained 1-2 hours after an infant feeding
- Urine CMV PCR testing is highly sensitive and specific. A positive urine test in the first 21 days of life confirms the presence of cCMV infection.
- While urine CMV DNA PCR testing is preferred, saliva testing may be chosen when urine collection is not available or feasible.
- CMV immunoglobulin detection in bodily fluids, including blood, is non-diagnostic when cCMV is suspected and is, therefore, not clinically useful and not recommended.
- Congenital CMV infection cannot be reliably diagnosed using samples collected more than 21 days after birth since the likelihood of postnatally acquired CMV increases dramatically, and testing cannot distinguish between congenital infection and postnatally acquired infection.

LABORATORY TESTING

Please check specimen requirements for your hospital's contracted laboratory service prior to obtaining urine or saliva specimens. CMV testing should be completed by 21 days of age on infants who fail the newborn hearing screening (NBHS) or exhibit other signs or symptoms consistent with cCMV infection.

Urine CMV DNA PCR Testing:

- Specimen may be obtained by bag collection method. Collection of urine by catheterization is NOT required.
- Thoroughly wash the area around the urethra.
- Place the urine collection bag
    - For males, place the entire penis in the bag and attach the adhesive to the skin.
    - For females, place the bag over both labia.
- Place a diaper over the bag.
- Once the infant has urinated, check required urine specimen volume for your lab.
    - If the specimen is of insufficient volume, repeat the steps above to place a new bag to collect additional urine.

- Empty the bag urine specimen into a sterile container without preservatives.
- Label the container per your facility's standards.
- Specimen must be frozen (-20˚C) within 8 hours of collection.

Saliva CMV DNA PCR Testing:

- Insert a sterile cotton or polyester swab into the infant's mouth between the gum and cheek and swirl for several seconds
- Collect a saliva specimen more than 1 hour after breastfeeding.
- Insert a sterile cotton or polyester swab into the infant's mouth between the gum and cheek and swirl for several seconds.
- Remove the swab and place into a tube with buffer formulated for PCR diagnostic testing (check with your facility's lab for proper collection tube).
- Label the collection container per your facility's standards.

REPORTING

A diagnosis of cCMV is a significant risk factor for hearing loss and should be reported to the EHDI program.

- The facility or provider that completed the testing and received the positive result should report the diagnosis to the EHDI program as soon as possible, within 24 hours is recommended, so the infant's caretaker may be informed of the recommended hearing follow-up.
- It is also recommended that the infant's primary care provider report a confirmed diagnosis to the EHDI program to ensure documentation reaches the program.

Results should be reported through completion of the Hearing Screen Report Update Form (see appendix) and sent by secure fax or email to the EHDI program (502-429-7160; EHDI@ky.gov).

MANAGEMENT OF cCMV (see appendix for visual guide)

A positive CMV test in an infant should prompt further evaluation for end organ damage and close auditory and developmental monitoring. The following tests and referrals should be completed before 30 days of age to evaluate further for evidence and extent of cCMV:

- Referral to Pediatric Infectious Diseases physician
- CBC with differential
- Liver function panel with total and direct bilirubin
- Head Ultrasound
- Pediatric Ophthalmology for dilated retinal exam within 3 weeks of life
- Otolaryngology

- Pediatric Audiology for diagnostic Auditory Brainstem Response (ABR) evaluation for those who did not pass their newborn hearing screen
- Early Intervention Services

Infants who pass their newborn hearing screen but have a confirmed diagnosis of cCMV, should have a diagnostic ABR evaluation as soon as possible after diagnosis and no later than 3 months of age. Due to the variability of the onset of permanent hearing loss and progression of hearing loss with cCMV, diagnostic hearing evaluations should be completed every 3-6 months for the first year of life, every 6 months until 3 years of age, and annually until 6 years of age for children who are confirmed to have cCMV infection.

Antiviral therapy may be considered by the pediatric infectious disease service. When given, treatment should be initiated within the first 13 weeks following birth. As noted in the American Academy of Pediatrics Red Book (see Resources & References):

- Neonates with moderately to severely symptomatic congenital CMV disease with or without central nervous system (CNS) involvement have improved audiologic and neurodevelopmental outcomes at 2 years of age when treated with oral valganciclovir for 6 **months**
- Neonates with isolated SNHL have improved audiologic outcomes when treated with oral valganciclovir for 6 **weeks**
- There are insufficient data to recommend routine treatment for patients with mildly symptomatic disease, but it may be considered on a case-by-case basis in consultation with a pediatric infectious disease specialist
- Treatment is not recommended for infants with asymptomatic cCMV

COMMUNICATING cCMV RESULTS TO FAMILIES

- Families should be made aware of the results of the cCMV screening/testing results. Birth hospitals/centers should have a process for tracking CMV results and communicating results to parents and primary care providers. Primary care providers who provide care for newborns should have a process for identifying infants who need CMV testing or who were tested for CMV before hospital discharge.
- Clearly explain that the results will be provided to their child's primary care physician (PCP) and next steps in medical management will include their PCP and any applicable specialists
- Refer to the *Resources and References* section to provide families with additional information
- For families whose infant tests positive for cCMV:
    - Referral to Pediatric Infectious Diseases (UK or Norton) for further evaluation and/or education:

    - Referral to any other applicable specialist as necessary (i.e. audiology if infant also failed the NBHS, or other specialists which treat associated conditions of cCMV which may be further determined by infectious disease and/or the PCP).
- Provide the document: "*What is CMV and What are my Baby's Results*" found in the appendix of this toolkit.

SUPPORTIVE SERVICES

Family Support:

If they would like to talk with another parent whose child received a positive screen/test for cCMV, please give them the EHDI contact information: 1-877-757-4327, email: EHDI@ky.gov which is also listed on the parent results document referenced above.

Early Intervention:

The referral may be completed with an outpatient provider, post discharge from birth hospital. However, if the opportunity to assist with referral is appropriate or the family may be provided with information proactively, the following resources would facilitate timely enrollment of essential early intervention services:

- To help with this follow-up process, one very helpful resource is the multi-disciplinary cCMV Clinic at Primary Children's Hospital, facilitated by Albert Park, MD.
    - Includes an expert team of specialists that provide consultation, evaluation, treatment as needed, follow-up and support to cCMV babies, families, and their providers.
    - cCMV Clinic phone number is 801-662-1705.
    - Note: It is important that babies that have tested positive for cCMV receive continual follow-up, as symptoms may develop over time.
- Update the EHDI program by sending the Hearing Screen Report Update Form (can be found in the Appendix of this document) through secure fax: **502-429-7160** or email: EHDI@ky.gov
- **Kentucky Early Intervention System - Cabinet for Health and Family Services**
    - https://www.chfs.ky.gov/agencies/dph/dmch/ecdb/Pages/keis.aspx

RESOURCES & REFERENCES

PROVIDERS:

- CMV Kentucky Revised Statutes (KRS)
  - 214.565 Definitions for KRS 214.565 to 214.571.
    - https://apps.legislature.ky.gov/law/statutes/statute.aspx?id=52715
  - 214.567 Educational resources regarding congenital cytomegalovirus.
    - https://apps.legislature.ky.gov/law/statutes/statute.aspx?id=52716
  - 214.569 Testing of infants with risk factors.
    - https://apps.legislature.ky.gov/law/statutes/statute.aspx?id=52717
  - 214.571 Administrative regulations.
    - https://apps.legislature.ky.gov/law/statutes/statute.aspx?id=52718
- EHDI/Newborn Hearing Screening Statute
  - 211.647 Duty of office on receipt of hearing risk certificate – Standards for audiological assessment and diagnostic centers.
    - https://apps.legislature.ky.gov/law/statutes/statute.aspx?id=42146
  - Title 911 Chapter 1 Regulation 085 • Kentucky Administrative Regulations • Legislative Research Commission
    - https://apps.legislature.ky.gov/law/kar/titles/911/001/085/
- Centers for Disease Control and Prevention CMV Factsheet for Health Care Providers
  - https://stacks.cdc.gov/view/cdc/137322
- Congenital CMV and Hearing Loss | CDC
  - https://www.cdc.gov/cytomegalovirus/congenital-infection/hearing-loss.html
- American Academy of Pediatrics – Congenital Cytomegalovirus (cCMV)
  - https://www.aap.org/en/patient-care/congenital-cytomegalovirus-ccmv/
- Red Book: 2024-2027 Report of the Committee on Infectious Diseases (33rd Edition), American Academy of Pediatrics
  - Chapter on Cytomegalovirus Infection
    - https://publications.aap.org/redbook/book/755/chapter-abstract/14076706/Cytomegalovirus-Infection
- American Academy of Audiology Position Statement on Early Identification of Cytomegalovirus in Newborns
  https://www.audiology.org/practice-guideline/american-academy-of-audiology-position-statement-on-early-identification-of-cytomegalovirus-in-newborns/
- Reporting Pathways
  - EHDI Newborn Hearing Screen UPDATE form – Please see appendix
  - Norton Children's Infectious Diseases
    - https://nortonchildrens.com/services/infectious-diseases/
  - University of Kentucky Pediatric Infectious Diseases
    - https://ukhealthcare.uky.edu/locations/pediatric-infectious-diseases-ky-clinic

FAMILIES:

- What is CMV?
    - https://www.chfs.ky.gov/agencies/ocshcn/Documents/What%20is%20CMV%20SNIPPET.pdf
- Cytomegalovirus (CMV) Prevention
    - https://www.chfs.ky.gov/agencies/ocshcn/Documents/CMV%20Prevention%20SNIPPET.pdf
- Congenital CMV and Newborn Hearing Screening
    - https://www.nationalcmv.org/getattachment/Resources/educational-downloads/downloads/CMV-Support-Flyer-(1)/CMV-Screening-Trifold.pdf.aspx?ext=.pdf
- CMV Symptoms, Signs, and Presentation | National CMV Foundation | National CMV Foundation
    - https://www.nationalcmv.org/overview/cmv-symptoms
- CMV Resource Center
    - https://www.nationalcmv.org/resources

APPENDICES

Appendix A: ***Clinical Assessment and Management of Congenital Cytomegalovirus (cCMV)***

Visual guide to facilitate individual cases of the screening/testing process

Appendix B: ***Newborn Hearing Screening UPDATE Form***

To report/communicate cCMV screening/testing results to family, the state EHDI program, PCP, infectious disease, audiology and any other necessary referral

Appendix C: ***What is CMV and What are My Baby's Results?***

To communicate cCMV screening/testing results and educational/support information to families

Clinical Assessment and Management

Congenital Cytomegalovirus (cCMV)

Infants that fail their newborn hearing screen or exhibit symptoms of cCMV (see below for list)

- **Follow standard procedure for reporting hearing screen to EHDI**
- **Follow standard procedure for referral for further hearing testing, if failed**
- **Obtain Saliva or Urine CMV PCR**

Positive Saliva PCR	Negative Saliva PCR	Positive Urine PCR	Negative Urine PCR
Obtain Urine PCR *(Hospital to complete if inpatient, Primary Care Provider if discharged)*	• **No further cCMV workup required** • **Report result to EHDI**	• **See below for recommended next steps** • **Report result to EHDI**	• **No further cCMV workup required** • **Report result to EHDI**

If Positive Urine CMV PCR:

HOSPITALS AND PRIMARY CARE PROVIDERS SHOULD COLLABORATE TO PERFORM ALL THE FOLLOWING TESTS AND REFERRALS BEFORE 30 DAYS OF AGE TO EVALUATE FURTHER FOR EVIDENCE OR EXTENT OF CCMV DISEASE:

- Referral to Pediatric Infectious Disease
- CBC with differential
- Liver function panel with total and direct bilirubin
- Head Ultrasound
- Referral to Pediatric Ophthalmology for dilated retinal exam within 3 weeks of life
- Referral to Otolaryngology
- Referral to Pediatric Audiology for Diagnostic Auditory Brainstem Response (ABR) evaluation

Symptomatic if one or more of the following:

- Thrombocytopenia
- Hepatomegaly
- Splenomegaly
- Intrauterine Growth Restriction (IUGR) or Small for Gestational Age (SGA)
- Microcephaly
- Abnormal Head Ultrasound
- Hepatitis
- Sensorineural Hearing Loss

Asymptomatic if all of the following:

- Normal ophthalmology exam
- Normal ABR
- Normal Head Ultrasound
- Normal platelet count
- No hepatosplenomegaly
- Normal liver function

Routine and Long Term Monitoring

- Routine vision screening
- Monitor speech, language, and other developmental milestones
- Engagement with Early Intervention
- Diagnostic Audiologic Evaluations:
  - Every 3-6 months until 1 year
  - Every 6 months until 3 years
  - Annually until 6 years

ALL RESULTS SHOULD BE COMMUNICATED TO AND MANAGEMENT DECISIONS MADE IN COLLABORATION WITH THE FAMILY.

TEAM KENTUCKY
CABINET FOR HEALTH AND FAMILY SERVICES

Office for Children with Special Health Care Needs

For more information visit
www.chfs.ky.gov/agencies/ocshcn/Pages/newbornscreening.aspx

Contact Us:
EHDI@ky.gov
877-757-4327

Reference: Park AH. Outcomes from an Expanded Targeted Early Cytomegalovirus Testing Program. J Ped Infectious Dis. (2020) 15(04): 189-194 DOI: 10.1055/s-0040-1709159
This form was adapted with permission from the Georgia Department of Public Health by the Kentucky Early Hearing Detection and Intervention (EHDI) Program.

Information on this form is required by KRS 211.647

Universal Newborn Hearing Screening Program
Early Hearing Detection and Intervention (EHDI)
Office for Children with Special Health Care Needs
310 Whittington Parkway, Suite 200
Louisville, KY 40222
502-429-4430 or 1-877-757-4327
Fax 502-429-7160 or Email: EHDI@ky.gov

Hearing Screen Report UPDATE Form

Please Print or Type Information

The purpose of this form is to capture any additional information following submission of the initial newborn hearing screening report form. CMV screening results, additional risk factors, previously unreported patient and family identifying information, primary care provider, etc. should be reported here and submitted to the EHDI program via fax or email.

Screen ID:

Baby's Name (Last, First, Middle)	DOB	Sex	Multiple ☐

Adoption: ☐ Yes ☐ No Placed in Foster Care: ☐ Yes ☐ No	Foster Parent Information (Name/Full Address/Telephone)

Mother/Parent/Legal Guardian's Name (Last, First, Maiden/Middle)	Mother/Parent/Legal Guardian SSN
Father/Parent/Legal Guardian's Name (Last, First, Middle)	Father/Parent/Legal Guardian SSN

Address (Full mailing address including lot, apt or PO Box information)	City	State	Zip

Telephone # Email:	Please indicate if spoken English is not the family's primary language. If not, please specify _____

The Universal Newborn Hearing Screening Program has been explained to me. I understand that I may receive information about follow-up testing for my child from the UNHS office and/or a family support organization, if applicable.

Check One: ☐ Yes ☐ No *(Parent/Guardian Signature)* _____

Pediatrician's Name		Mailing Address	
City	State	Zip	Telephone #

Check if Infant History Includes: ☐ Birthweight < 2500 g ☐ Anoxia ☐ 5 Minute Apgar Score Less than or Equal to 3

THE FOLLOWING CRITERIA INDICATE A RISK FACTOR FOR LATE-ONSET AND/OR PROGRESSIVE HEARING LOSS. PLEASE CHECK AS APPROPRIATE.

☐ INFANT HAD BILIRUBIN LEVEL EQUAL TO OR GREATER THAN 18 MG (List highest level):

☐ OTHER SEVERE MEDICAL CONDITIONS (Specify):
- ☐ Persistent Newborn Pulmonary Hypertension (PPHN)
- ☐ Hydrocephalus ☐ Perinatal Asphyxia
- ☐ Hypoxic Ischemic Encephalopathy
- ☐ Other _____

☐ INFANT PLACED ON ECMO

☐ HEAD TRAUMA

☐ POSITIVE CYTOMEGALOVIRUS (CMV) SCREENING RESULT
☐ CONFIRMED INFANT DIAGNOSIS OF CYTOMEGALOVIRUS
☐ MOTHER PRE/PERINATAL DIAGNOSIS OF CYTOMEGALOVIRUS

☐ OTOTOXIC MEDICATIONS (including but not limited to aminoglycosides) USED FOR FIVE DAYS OR LONGER; AND/OR LOOP DIURETICS USED IN COMBINATION WITH AMINOGLYCOSIDES.

☐ INFANT DIAGNOSIS OF ZIKA

☐ FAMILY HISTORY OF PERMANENT CHILDHOOD HEARING LOSS (Excludes acquired hearing losses)

☐ NICU STAY GREATER THAN 5 DAYS FOR ANY REASON

☐ INFANT DIAGNOSIS OF OTHER IN-UTERO INFECTIONS (Confirmed Diagnosis of baby after birth including):
☐ Herpes ☐ Rubella ☐ Syphilis ☐ Toxoplasmosis

☐ CULTURE POSITIVE INFECTIONS ASSOCIATED WITH SENSORINEURAL HEARING LOSS:
☐ Herpes viruses ☐ Varicella ☐ Meningitis ☐ Encephalitis

☐ CRANIOFACIAL ANOMALY:
- ☐ Ear Dysplasia
- ☐ Oral cleft
- ☐ Atresia
- ☐ White Forelock
- ☐ Congenital or Acquired Hydrocephalus
- ☐ Congenital Microcephaly
- ☐ Microphthalmia
- ☐ Temporal Bone Abnormalities
- ☐ Anotia/Microtia
- ☐ Other

☐ INFANT DIAGNOSED WITH SYNDROMES ASSOCIATED WITH HEARING LOSS (confirmed or suspected)
Syndromic Hearing Loss - The American Academy of Audiology
Syndromic Hearing Loss | Hereditary Hearing Loss Homepage

- ☐ Down Syndrome ☐ Alport Syndrome ☐ Sticker Syndrome
- ☐ Branchio-Oto-Renal Syndrome ☐ Norrie Disease
- ☐ Usher Syndrome ☐ CHARGE Syndrome ☐ Pendred Syndrome
- ☐ Jervell & Lange-Nielson Syndrome ☐ Goldenhar Syndrome
- ☐ Perrault Syndrome ☐ Charcot-Marie-Tooth ☐ Waardenburg Syndrome
- ☐ Other

Information on this form is required by KRS 211.647

Universal Newborn Hearing Screening Program
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Fax 502-429-7160
Email: EHDI@ky.gov

Hearing Screen Report UPDATE Form

Please Print or Type Information

The purpose of this form is to capture any additional information following submission of the initial newborn hearing screening report form. CMV screening results, additional risk factors, previously unreported patient and family identifying information, primary care provider, etc. should be reported here and submitted to the EHDI program via fax or email.

Screen ID:

CHILD NAME: _____ **DOB:** _____

HEARING SCREEN RESULTS

Date of screen: _____ **LEFT EAR:** _____ **RIGHT EAR:** _____

_____
Screener's Initials
(voluntary)

If not screened, please explain why: _____

PARENT'S (OR LEGAL GUARDIAN) COUNTY OF RESIDENCE: _____

BIRTH HOSPITAL: _____

DISCHARGE HOSPITAL: _____

DATE OF INFANT'S DISCHARGE: _____ CHECK IF PLACED IN NICU: ☐ CHECK IF HOMEBIRTH: ☐

INFANT WAS (check one): ☐ SENT HOME ☐ TRANSFERRED ☐ EXPIRED

IF TRANSFERRED, PLEASE GIVE HOSPITAL: _____

Signature of UNHS Staff

(I recognize risk factors have been reviewed)

What is CMV and What are My Baby's Results?

Your infant was: ☐ **TESTED** (urine) Date: ☐ **SCREENED** (saliva) Date: ☐ **BOTH** (urine & saliva)

for congenital Cytomegalovirus (cCMV)

Results Were:

☐ **POSITIVE** (urine) ☐ **NEGATIVE** (urine) ☐ **POSITIVE** (saliva) ☐ **NEGATIVE** (saliva)

☐ **PENDING** (urine)

☐ **PENDING** (saliva)

☐ **INCONCLUSIVE**

Note: If only saliva screening was completed, the results will need to be confirmed by urine testing

**Results were sent to your primary care provider and the Newborn Hearing Screening (EHDI) Program.*

**You will be contacted about next steps if results were positive but please talk with your child's doctor as soon as you are able.*

**Please call/email the Newborn Hearing Screening (EHDI) program at: 1-877-757-4327 or EHDI@ky.gov if you would like further information or would like us to connect you with a support parent.*

Bella's Law (https://apps.legislature.ky.gov/record/22RS/sb105.html)

National CMV Foundation (Cytomegalovirus (CMV) | (https://www.nationalcmv.org/)

About Cytomegalovirus (CMV) and Congenital CMV Infection (https://www.cdc.gov/cytomegalovirus/about/index.html)

Congenital CMV and Hearing Loss | CDC (https://www.cdc.gov/cytomegalovirus/congenital-infection/hearing-loss.html)

About Cytomegalovirus (CMV)

- Cytomegalovirus (sy·toe·MEG·a·low·vy·rus), or CMV, is a member of the herpes virus family. Coming into contact with the CMV virus is a common occurrence and is typically harmless to the general population.
- CMV is a common, serious, and preventable virus, yet 91% of women have never heard of CMV.
- CMV is spread from one person to another through contact with bodily fluids, including saliva and urine.
- The Centers for Disease Control and Prevention (CDC) reports that between 50 and 80% of people in the United States have had a CMV infection by the time they are 40 years old.
- Once the CMV virus is in a person's body, it stays there for life.
- 1 out of 3 children have already been infected with CMV before the age of 5 years. CMV is not generally harmful to these children, and most do not exhibit signs or symptoms of infection.
- If you are pregnant and have CMV, the virus in your blood can cross through your placenta and infect your developing baby. About one out of every 200 babies is born with congenital CMV, or cCMV, infection.
- CMV can cause severe disease in babies who were infected with CMV while in the womb.
- Approximately 90% of all infants who are infected with CMV prior to delivery are born without symptoms of the virus; however, the remaining 10% will have varying degrees of abnormalities that range from mild to severe.
- About one in five babies with cCMV infection will have long-term health problems.
- Progressive hearing loss is common in babies who have cCMV, even those without symptoms at birth. Babies with cCMV may have hearing loss in one ear and may later develop hearing loss in the other ear. Progression may occur through childhood.
- Diagnosing, treating, and monitoring children with cCMV can help improve their health outcomes.
- CMV infection can also have a severe effect on people who have a low immune system, such as those who have received an organ transplant or who have certain health conditions.

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This form was created by the Kentucky Early Hearing Detection and Intervention (EHDI) program for use by your child's birth provider to inform you about CMV and any screening/testing results completed at the hospital/birth center.
The EHDI program was not responsible for any screening/testing or reporting of CMV for your child.
For more information about the EHDI program, please visit:
https://www.chfs.ky.gov/agencies/ocshcn/Pages/newbornscreening.aspx ---------->