

RECOMMENDED NEWBORN HEARING SCREENING (NBHS) PROTOCOL

PURPOSE: Identification of newborns who are deaf or hard of hearing falls under the responsibility of the attending midwife.

- 1) **SCREENING BEFORE DISCHARGE** – Early identification of newborns who are deaf or hard of hearing.
 - a) Ideally, the initial/1st newborn hearing screening will be screened at the same time as the completion of CCHD screening (24-48 hrs after birth)
 - b) For newborns who failed their 1st screening, complete 2nd screening before 7-10 days of age.

- 2) **FAILURE OF 1ST SCREEN** (you should screen no more than twice in one screening session, i.e. don't keep repeating the screening to get a pass)
 - a) Complete 2nd screening before 7-10 days of age - always **on BOTH ears** no matter the results of the 1st screening
 - b) Infants with aural atresia or visible pinna/ear canal deformity (microtia) should not be screened and should **complete CMV testing** and be **referred directly for a diagnostic hearing evaluation** with a pediatric audiologist.

- 3) **FAILURE OF 2ND SCREENING**: If the infant fails their 2nd newborn hearing screening (only screen the baby twice in the appointment before referring for a diagnostic evaluation; i.e. don't keep repeating the screening to get a pass):
 - i) Provide family with hard copy of results
 - ii) **Schedule diagnostic ABR** evaluation before family leaves appointment
 - iii) Assist family in obtaining CMV testing. Provide family with **Cytomegalovirus & Auditory Brainstem Response (ABR) Testing Order** from the Utah Department of Health
 - iv) Notify Primary Care Provider (PCP) of failed screening and if CMV testing has been ordered.

- 4) **PASSING OF 2ND SCREENING**: If the infant passes their 2nd hearing screening:
 - i) Notify the PCP of the results
 - ii) Provide parents a hard copy of results and speech-language-hearing milestones.

NBHS Cytomegalovirus (CMV) Testing Process:

- 1) Which babies should be tested for CMV?
 - a) According to the CMV Mandate, a baby is eligible for CMV testing when:
 - i) **They have failed two separate sessions of newborn hearing screening.** The INITIAL screen (24-48 hrs) and the 2nd screen (7-10 days) failed.
OR
 - ii) **The first failed hearing screen is after 14 days of life.**

- 2) Why this timeframe?
 - a) A congenital CMV infection can only be determined within the first 21 days of life. After 21 days of age, a positive test result cannot differentiate between congenital and acquired infection.

- 3) Specimen collection types:
 - a) Urine **OR**
 - b) Saliva swab (Note: if the baby is breastfed, wait at least two hours after the baby is fed to collect the specimen)

Hearing Screening Reporting:

“All institutions or persons in attendance at births shall submit information to the Department about the newborn hearing screening procedures being used, the results of the screening, and other information necessary to ensure timely referral where necessary. This information shall be provided to the Department at least weekly.” (R398-2)

There are multiple ways to report newborn hearing screening results to EHDl.

1.) Reporting in the Birth Certificate Worksheet (Preferred Method):

- a.) 1st Screening results should be reported in the birth certificate worksheet within the 10-day time frame of filing the birth certificate.
 - i.) If the birth certificate is filed prior to hearing screening completion, screening can be reported by:
 - (1) Revising the birth certificate once screening is done and completing the hearing screening section **OR**
 - (2) Completing one of the Utah EHDl hearing screening reporting forms and:
 - (a) Fax to 801-536-0492
 - (b) Email to ehdi@utah.gov
 - (c) Text Message to the EHDl Follow-Up Coordinator at 385-479-0994.
- b.) 2nd Screening results should be reported within 7 days and can also be entered into the child’s birth certificate worksheet:
 - i.) Go back into the birth certificate and fill in the hearing screen 2 section.

2.) Reporting by the “Utah Newborn Hearing Screening & CCHD **Weekly** Reporting Form” or the “Newborn Hearing Screening Results” Form:

- a.) Completed forms should be sent to the EHDl program within 7 days of screening.

3.) Reporting by email or text

- a.) When reporting hearing screening results outside of the birth certificate or the Newborn Hearing Screening forms, the following information is required:
 - i.) Baby’s last name
 - ii.) Sex of the baby
 - iii.) Date of birth
 - iv.) Mother’s full name, phone number, address
 - v.) Midwife's name
 - vi.) Date of hearing screening and/or rescreening
 - vii.) Hearing screening result for each ear
 - viii.) If CMV was ordered in the case of 2nd failed screen
- b.) Send results by:
 - i.) Fax to 801-536-0492
 - ii.) Email to ehdi@utah.gov
 - iii.) Text Message to the EHDl Follow-Up Coordinator at 385-479-0994

Utah EHDI Newborn Hearing Screening Timeline

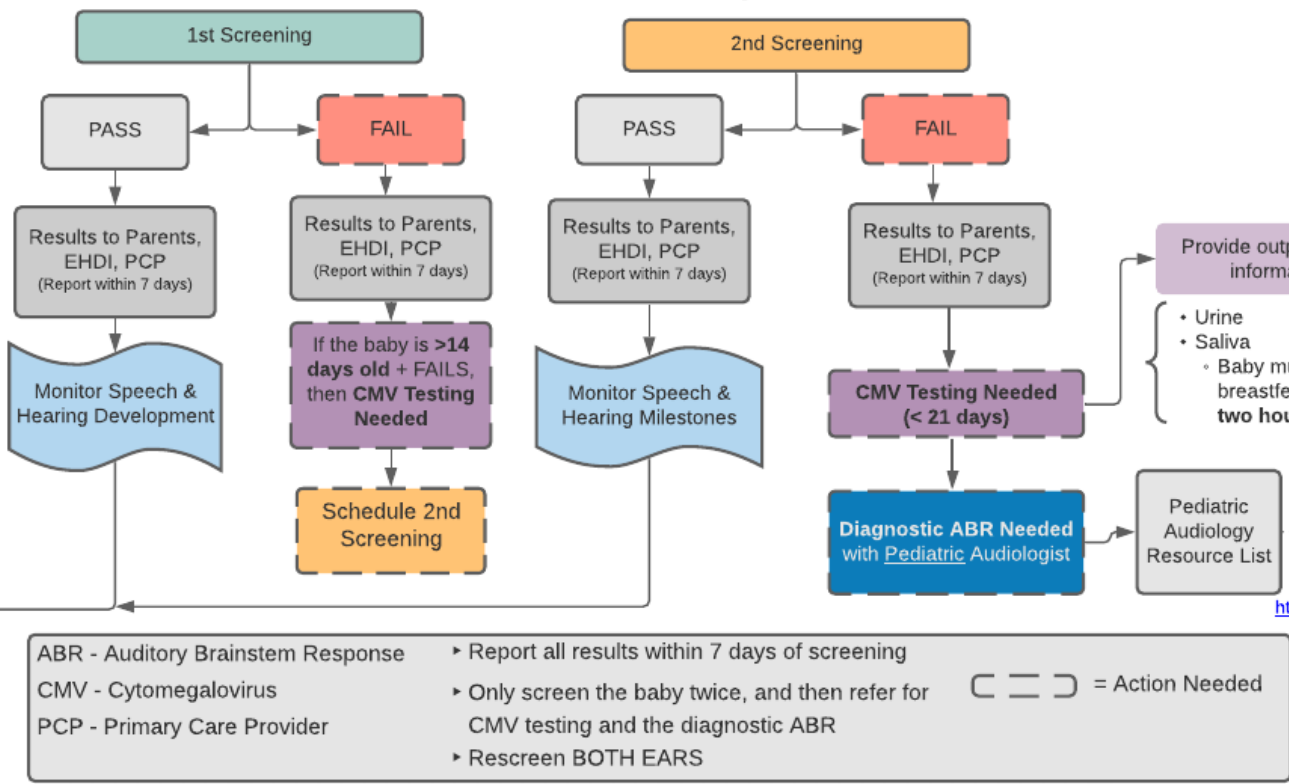
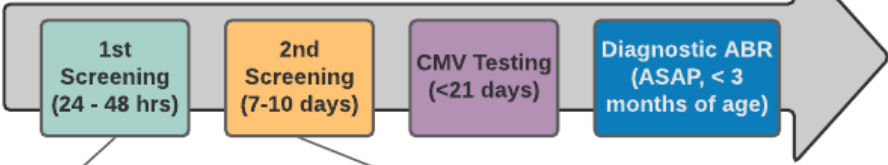


Hearing Health Risk Factors

- Newborn Hearing Screening Results
- Congenital CMV
- NICU > 5 days
- Down Syndrome
- Family History of Childhood Hearing Loss
- Craniofacial Anomalies; Aural Atresia; Cleft Palate
- Caregiver Concern or Speech Delays
- Middle Ear Fluid



ASHA How Does Your Child Hear and Talk 0-5 yrs



Provide outpatient lab information

- Urine
- Saliva
- Baby must wait to be breastfed for at least two hours

Pediatric Audiology Resource List



<https://arcg.is/n4HmC>

ABR - Auditory Brainstem Response ▶ Report all results within 7 days of screening

CMV - Cytomegalovirus ▶ Only screen the baby twice, and then refer for CMV testing and the diagnostic ABR

PCP - Primary Care Provider ▶ Rescreen BOTH EARS

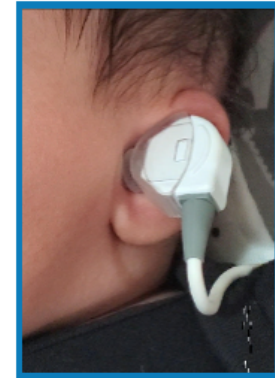
☐ = Action Needed



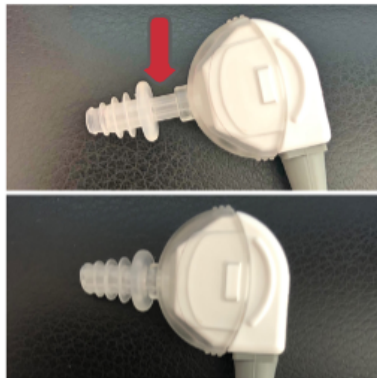
ehdi@utah.gov
cmv@utah.gov
801-273-6600

Most Important Factors to Successful Screening:

- ▶ **Patient state** (i.e., sleeping or at least still & quiet). You won't get a quality screening if a baby is crying or moving a lot. Swaddling can help this.
- ▶ **Background noise.** Use a quiet room with no talking during screening.
- ▶ **Probe tip size and fit is critical!** The tip should fit snugly in the ear (see baby's ear). This will help to minimize background noise.
- ▶ **Do not touch or hold the hearing screening probe tip** while the test is running. You can either 1) use the clip to secure the probe cord next to baby (on mom's clothing or car seat), or 2) Support the probe cord across the baby's head (see picture below).



Suggestions for Successful Screening



The ear tip should be placed on the probe tip so there is no gap

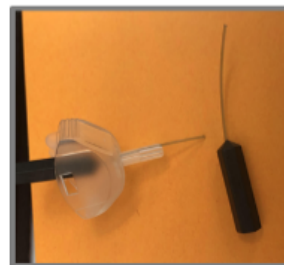
Placement of the probe



If there are any gaps in the ear canal, the OAE may pick up the background noise or display an error message, "Incomplete test. Large ear cavity volume detected". **Select ear tip that is slightly larger than the ear canal.** The clear "tree tip" can be used for multiple ear canal sizes.



Pediatric vs adult probe tip.



If the probe tip gets debris in it, you can use the cleaning wire to clear the channels. Be sure to wipe the debris off before pulling the wire through again.



Sometimes, the weight of the probe cord (Right) or movement of infant can cause the probe to fall out or not maintain a seal. Stabilize it by supporting the cord across the head (Left).