WEST VIRGINIA
Department of
Health & Human Resources
BUREAU FOR PUBLIC HEALTH
Office of Maternal, Child and Family Health
dhhr.wv.gov/bph
Toll Free: 1-800-642-8522

Newborn Hearing Screening Project

# Early Hearing Detection and Intervention (EHDI) Reporting Form Instructions

**Section 1**

Multiple identifiers are needed to match babies to their inpatient screening record. Complete all fields as thoroughly as possible. If the reason for testing/screening is not included in the check boxes or risk codes listed, please utilize the "Other" field.

**Risk Indicator Codes**: Listed below are Codes for the Risk Factors for Early Childhood Hearing Loss and the recommended time frames for diagnostic follow-up as detailed in the 2019 Joint Committee for Infant Hearing (JCIH) Position Statement. Enter the appropriate code(s), that apply, utilizing the *RISK FACTORS FOR EARLY CHILDHOOD HEARING LOSS*[1] chart provided on page 2.

**Section 2**

Enter the name and address of the outpatient screening or pediatric audiological evaluation site, the name and phone number of the evaluator, and the date of the screening or evaluation.

**Section 3 (Outpatient Screening)**

**Method and Results:** Select the ONE most appropriate box for each ear. Select "Did Not Screen" when screening was not completed on that ear for any other indication (uncooperative infant, etc.).

**Recommendations:** A "Pass" result must only be documented if the child has passed screening **for each ear.** Infants with aural atresia in one or both ears should be referred for diagnostic ABR studies with bone conduction by 3 months of age to determine the type and degree of hearing loss in the affected ear(s).

**Section 4 (Pediatric Audiological Evaluation)**

Exams must include ear-specific assessment and ALL criteria outlined in the 2019 JCIH Position Statement:

- Auditory brainstem response is the gold standard test for threshold estimation for infants and children who cannot complete behavioral audiologic assessment. ABR provides ear and frequency specific threshold estimates that are necessary for the diagnosis of the type, degree, and configuration of hearing loss and provision of amplification (Gorga et al., 2006).
- Measures of middle ear function should be completed as part of the diagnostic audiologic process for infants and young children. Either tympanometry or wideband reflectance can be used to characterize middle ear function (Hunter et al., 2013).
- Acoustic reflexes are an important test of middle ear function and the integrity of auditory brainstem pathways (de Lyra-Silva et al., 2015).
- Otoacoustic emissions provide important information about the integrity of the outer hair cells of the cochlea and provide critical information about the differential diagnosis of auditory neuropathy spectrum disorder and sensorineural hearing loss (Gorga et al., 2000).
- Behavioral assessment of hearing is the gold standard for estimation of hearing thresholds. Visual reinforcement audiometry (VRA; for infants 6–24 months; Widen et al., 2005) and condition play audiometry (CPA; for toddlers 24+ months; Norrix, 2015) are established methods based on conditioned responses to sound.

For children with certain hearing loss configurations (e.g., precipitously sloping, rising, etc.), terminology may be inadequate when attempting to select one category to describe the degree of loss measured. However, for purposes of Newborn Hearing Screening data collection, a "Degree of Hearing Loss" selection should be made based on the degree that best classifies the child's audiological profile.

If a permanent hearing loss is identified, the individual completing this reporting form must also document the completion of a referral to West Virginia Birth to Three: http://www.wvdhhr.org/birth23/rau_forms/General_WVBTT_Referral_Form.pdf.

**Distribution:** Mark to confirm a copy of the completed Newborn Hearing Screening Project Early Hearing Detection and Intervention (EHDI) Reporting Form has been provided to the family and the primary care provider.

To request additional forms email NHS@wv.gov or download copies at: https://www.wvdhhr.org/nhs/.

[1] The Journal of Early Hearing Detection and Intervention 2019; 4(2), pg. 12.

## Risk Factors for Early Childhood Hearing Loss: Guidelines for Infants who Pass the Newborn Hearing Screen[2]

| Code | Risk Factor Classification | Recommended Diagnostic Follow-Up | Monitoring Frequency |
|---|---|---|---|
| HX | Family history of permanent childhood hearing loss | By 9 months | Based on etiology of family hearing loss and caregiver concern |
| NI | Neonatal intensive care unit more than 5 days | By 9 months | As per concerns of on-going surveillance of hearing skills and speech milestones |
| HB | Hyperbilirubinemia with exchange transfusion regardless of length of stay | By 9 months | |
| OT | Aminoglycoside Administration for more than 5 days | By 9 months | |
| AH | Asphyxia or Hypoxic Encephalopathy | By 9 months | |
| EC | Extracorporeal membrane oxygenation (ECMO) | No later than 3 months after occurrence | Every 12 months to school age or at shorter intervals based on parent/ provider concerns |
| IU | In utero infections such as herpes, rubella, syphilis, and toxoplasmosis | By 9 months | As per concerns of on-going surveillance |
| CMV | In utero infection with cytomegalovirus (CMV) | No later than 3 months from occurrence | Every 12 months to age 3 or at shorter intervals based on parent/ provider concerns |
| MZ1 | Mother + Zika and infant with no laboratory or clinical evidence | Standard | As per AAP Periodicity Schedule |
| MZ2 | Mother + Zika and infant with laboratory + clinical evidence | AABR by 1 month | ABR by 4-6 months or VRA by 9 months<br>Monitor as per AAP Periodicity Schedule |
| MK3 | Mother + Zika and infant with laboratory - clinical evidence | AABR by 1 month | ABR by 4-6 months<br>Monitor as per AAP Periodicity Schedule |
| PF | Certain birth conditions or findings:<br>• Craniofacial malformations including microtia/atresia, ear dysplasia, oral facial clefting, white forelock and microphthalmia<br>• Congenital microcephaly, congenital or acquired hydrocephalus<br>• Temporal bone anomalies | By 9 months | As per concerns of on-going surveillance of hearing skills and speech milestones |
| SY | Over 400 syndromes have been identified with atypical hearing thresholds. For more information, visit the Hereditary Hearing Loss website https://hereditaryhearingloss.org/. | By 9 months | According to natural history of syndrome or concerns |
| PI | Culture-positive infections associated with sensorineural hearing loss, including confirmed bacterial and viral (especially herpes viruses and varicella) meningitis or encephalitis | No later than 3 months after occurrence | Every 12 months to school age or at shorter intervals, based on concerns of parent or provider |
| TR | Events associated with hearing loss:<br>• Significant head trauma especially basal skull/temporal bone fracture<br>• Chemotherapy | No later than 3 months after occurrence | According to findings and/or continued concerns |
| CO | Caregiver concern regarding hearing, speech, language, developmental delay and/or developmental regression | Immediate referral | According to findings and/or continued concerns |

[2] The Journal of Early Hearing Detection and Intervention 2019; 4(2), pg. 19.