|  |  |  |  |
| --- | --- | --- | --- |
|  | **Risk Factor Classification** | **Recommended Diagnostic Follow-up** | **Monitoring Frequency** |
|  | **Perinatal** |  |  |
| 1 | Family history of early, progressive, or delayed onset permanent childhood hearing loss | By 9 months | Based on etiology of family hearing loss and caregiver concern |
| 2 | NICU stay of more than 5 days | By 9 months | As per concerns of on-going surveillance of hearing skills and speech milestones |
| 3 | Hyperbilirubinemia with exchange transfusion regardless of length of stay | By 9 months |
| 4  | Aminoglycoside administration for more than 5 days\*\* | By 9 months |
| 5 | Asphyxia or Hypoxic Ischemic Encephalopathy | By 9 months |
| 6 | Extracorporeal membrane oxygenation (ECMO)\* | No later than 3 months after occurrence | Every 12 months to school age or at shorter intervals based on concerns of parent or provider |
| 7 | In utero infections, such as herpes, rubella, syphilis, and toxoplasmosis | By 9 months | As per concerns of on-going surveillance |
|  | In utero infection with cytomegalovirus (CMV)\* | No later than 3 months after occurrence | Every 12 months to age 3 or at shorter intervals based on parent/provider concern |
|  | Mother + Zika and infant with *no* laboratory evidence & no clinical findings | Standard | As per AAP (2017) Periodicity schedule |
|  | Mother + Zika and infant with laboratory evidence of Zika + clinical findingsMother + Zika and infant with laboratory evidence of Zika – clinical findings | AABR by 1 monthAABR by 1 month | ABR by 4-6 months or VRA by 9 monthsABR by 4-6 monthsMonitor as per AAP (2017) Periodicity schedule (Adebanjo et al., 2017) |
| 8 | Certain birth conditions or findings:* Craniofacial malformations including microtia/atresia, ear dysplasia, oral facial clefting, white forelock, and microphthalmia
* Congenital microcephaly, congenital or acquired hydrocephalus
* Temporal bone abnormalities
 | By 9 months | As per concerns of on-going surveillance of hearing skills and speech milestones |
| 9 | Over 400 syndromes have been identified with atypical hearing thresholds\*\*\*. For more information, visit the Hereditary Hearing Loss website (Van Camp & Smith, 2016) | By 9 months | According to natural history of syndrome or concerns |
|  | **Perinatal or Postnatal** |  |  |
| 10 | 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 |
| 11 | Events associated with hearing loss:* Significant head trauma especially basal skull/temporal bone fractures
* Chemotherapy
 | No later than 3 months after occurrence | According to finding and or continued concerns |
| 12 | Caregiver concern\*\*\*\* regarding hearing, speech, language, developmental delay and or developmental regression | Immediate referral | According to findings and or continued concern |

**Risk Factors for Early Childhood Hearing Loss:**

**Guidelines for Infants who Pass the Newborn Hearing Screen**

**Notes.** AAP (American Academy of Pediatrics); ABR (auditory brainstem response); AABR (automated auditory brainstem response; VRA (visual reinforcement audiometry).

\*Infants at increased risk of delayed onset or progressive hearing loss

\*\*Infants with toxic levels or with a known genetic susceptibility remain at risk

\*\*\*Syndromes (Van Camp & Smith, 2016)

\*\*\*\*Parental/caregiver concern should always prompt further evaluation

**Source:** Year 2019 Joint Committee on Infant Hearing (JCIH) Position Statement, Table 1 <https://digitalcommons.usu.edu/jehdi/vol4/iss2/1/> **NC EHDI Program – November 2020**