



JCIH 2019 Position Statement Frequently Asked Questions

◀ Medical Considerations ▶

Q: I noticed that specifying ear tags and pits as a risk factor for follow-up was eliminated from the 2019 statement. Do you have any additional insight on this, specifically if the committee still recommends follow-up for these babies when they pass the NHS and what that timeline should be?

A: Isolated ear pits and tags have no higher reported incidence of hearing loss than other children (without ear pits and tags). The committee based their recommendations off papers such as [“Isolated preauricular pits and tags: is it necessary to investigate renal abnormalities and hearing impairment” \(2008\)](#). The main finding was that the prevalence of hearing loss and renal problems were similar to a control group without tags or other pinna anomalies. There is a similar recommendation from a 2017 paper, [“Is routine audiometric testing necessary for children with isolated preauricular lesions \(2017\)”](#).

The committee recognizes that programs may institute guidelines that are stricter than what is recommended in the current statement. There remains a lack of conclusive evidence that children with isolated external ear anomalies require additional care beyond universal newborn hearing screening.

- Firat, Y., Şireci, Ş., Yakıncı, C. *et al.* Isolated preauricular pits and tags: is it necessary to investigate renal abnormalities and hearing impairment?. *Eur Arch Otorhinolaryngol* **265**, 1057–1060 (2008). <https://doi.org/10.1007/s00405-008-0595-y>
- Grace T. Wu, Conor Devine, Allen Xu, Katie Geelan-Hansen, Samantha Anne. Is routine audiometric testing necessary for children with isolated preauricular lesions?, *International Journal of Pediatric Otorhinolaryngology*, Volume 93, 2017, Pages 68-70, ISSN 0165-5876, <https://doi.org/10.1016/j.ijporl.2016.12.032>.

Q: What about assisted ventilation? Is this still considered a risk factor for possible delayed HL? If so, what type(s) of devices are considered assisted ventilation?

A: The literature has supported the association of assisted ventilation to be an independent risk factor on hearing status (Hille et al 2007). The literature does not specifically describe the type of assisted ventilation.

Q: What is considered a ‘prolonged stay in the NICU’ and how are recommendations different for babies in a Special Care Nursery versus a NICU?

A: The definition of prolonged stay in the NICU is greater than 5 days (Table 1, risk factor 2). The rationale for including a prolonged stay in the NICU is related to literature findings that those who have been in the NICU has a higher rate of hearing loss as compared to the general population among populations of NICU graduates (Hille et al 2007, Coenraad et al 2010, Kraft 2014). Additionally, some authors have tried to tease apart the multiple potential risk factors associated with hearing loss (such as ECMO and needing ventilation) {Kraft 2014}.

It is most likely a compilation of multiple risk factors within NICU babies that prompt this high rate of hearing loss. Using the risk factor of NICU stay provides a readily identifiable event to ensure clinicians and public health systems can identify and monitor a specific child for late onset hearing loss. Considerations for babies in the special care nursery should be individualized for the infant based on specific risk factors.

- Hille ET, Van Straaten HI, and Verkerk PH. Prevalence and independent risk factors for hearing loss in NICU infants. *Acta Paediatr.* 2007;96, 1155-1158.
- Kraft CT, Malhotra S, Boerst A, and Thorne MC. Risk indicators for congenital and delayed-onset hearing loss. *Otol Neurotol.* 2014;35, 1839-1843.
- Coenraad S, Goedegebure A, Van Goudoever JB, and Hoeve LJ. Risk factors for sensorineural hearing loss in NICU infants compared to normal hearing NICU controls. *Int J Pediatr Otorhinolaryngol.* 2010;74, 999-1002.

Q: Should we be performing our AABR screenings on infants with nasogastric (NG) tubes?

A: AABR is the recommended screening technology for all infants receiving care in an NICU. Treatment with an NG tube is not a contraindication to hearing screening in general or hearing screening using AABR.

Q: Is there more guidance around hospital readmissions in the first month of life and rescreen? One example is hyperbilirubinemia, is it all babies with hyperbilirubinemia OR only those who have hyperbilirubinemia and require an exchange transfusion?

A: Hearing re-screening for infants readmitted in the first month of age would be guided by the same principals as at-risk conditions in NICU infants. These would include hyperbilirubinemia requiring an exchange transfusion, culture positive sepsis, meningitis, later recognized congenital in-utero infections (such as CMV) and conditions warranting mechanical ventilation and/or ECMO.

Q: In relation to the 2019 Position Statement, can you please explain which research articles were used to support the stance that there are no clinical indications to delay screening for eligible babies who have had aminoglycosides administered? I know of some physicians who insist that waiting to screen until after last dose is still necessary - how would you recommend responding to such a claim?

A: The discussion on aminoglycosides within the 2019 statement is located on Page 30 under Risk Factor 4. The two articles mentioned in that section: (Clark, Bloom, Spitzer, & Gerstmann, 2006) & (Ealy, Lynch, Meyer, & Smith, 2011; Johnson, Cohen, Guo, Schibler, & Greinwald, 2010) are as follows and can be located on pages 39 & 41:

Clark, R. H., Bloom, B. T., Spitzer, A. R., & Gerstmann, D. R. (2006). Reported medication use in the neonatal intensive care unit: Data from a large national data set. *Pediatrics*, 117(6), 1979–1987.

<https://doi.org/10.1542/peds.2005-1707>

Ealy, M., Lynch, K. A., Meyer, N. C., & Smith, R. J. H. (2011). The prevalence of mitochondrial mutations associated with aminoglycoside-induced sensorineural hearing loss in an NICU population.

Laryngoscope, 121(6), 1184–1186. <https://doi.org/10.1002/lary.21778>

One additional article on aminoglycosides was also located in the Reference list.

Johnson, R. F., Cohen, A. P., Guo, Y., Schibler, K., & Greinwald, J. H. (2010). Genetic mutations and aminoglycoside-induced ototoxicity in neonates. *Otolaryngology—Head & Neck Surgery*, 142 (5), 704–707. <https://doi.org/10.1016/j.otohns.2010.01.030>

Q: I am wondering if I could ask for clarification regarding the audiologic monitoring protocols of infants who have been diagnosed with congenital cytomegalovirus (cCMV). My question is how to address a question from the pediatric community in my state whose preference would be to follow the AAP Bright Futures Guidelines that recommend hearing testing at 4, 6, 9, 12, 15, 18, 24 and 30 months of age instead of the JCIH recommendations. The other question that was raised was to define the type of hearing testing to occur at these intervals (pediatrician indicating that these should be screenings vs. JCIH advocating for full audiological evaluations during monitoring visits). Can I ask for guidance on how best to respond to this protocol discrepancy and clarify if monitoring protocols should be full evaluations or screenings?

A: Bright Futures guideline is intended for use in primary care to guide pediatricians on hearing surveillance and screening at intervals aligned with well child visits. As this guidance is to support recognition of hearing differences in all children, screening is the methods supported in the AAP guidance.

JCIH guidelines differ from Bright Futures as the goal is to guide intervals for objective hearing assessment based on individual risk factors known to be highly associated with progressive and late onset hearing changes. Children with cCMV have a higher likelihood of hearing differences as compared to the general population, therefore they warrant a testing protocol rather than a screening protocol. Audiology evaluations are important to provide timely recognition of hearing differences and to avoid the risk of false negative screening results.

Q: There has been some inconsistencies in our nurseries with nurses/doctor requests on when and with what test to screen certain babies. Mainly in the special care nursery (NOT NICU) related to antibiotics use.

1. If a baby is on antibiotics for 5 days or less, is it required to be tested with AABR?

2. Do we need to wait until the antibiotics is finished before we test?

A: The JCIH guidance on antibiotics is specific to aminoglycosides, and not all antibiotics.

If a child is on antibiotics for 5 days or less, they do not require special screening considerations based on this characteristic alone. If a child is in the NICU, AABR is the recommended screening tool due to a host of factors experienced by children in the NICU.

Based on the JCIH guidance (page 30, risk factor 4), JCIH recommended to avoid delaying hearing screening in infants who have been on aminoglycosides (see quote below). This narrative supports hearing screening should occur when the infant is stable rather than waiting for a completion of a course of aminoglycosides.

“There are no clinical indications to delay screening for eligible infants who have had aminoglycosides administered, including those infants who received 5 days or less, infants who received more than 5 days, and infants who may continue on aminoglycosides at the time of discharge.”

It is recommended to monitor infants exposed to aminoglycosides for more than 5 days with a follow-up hearing evaluation at 9 months of age (Table 1, Risk factor 4) or sooner if caregiver concern about hearing status (Table 1, Risk factor 12).