



Gentamicin and other Aminoglycosides as a Risk Factor for Hearing Loss

Aminoglycosides can damage hair cells in the cochlea resulting in sensorineural hearing loss. Commonly used medications include streptomycin, neomycin, kanamycin, amikacin, viomycin, vancomycin, gentamicin, and tobramycin. The most used aminoglycoside is gentamicin.

Aminoglycoside exposure in neonates has been extensively studied. Dosage levels, dosage intervals, duration of exposure and serum concentration levels contribute to the ototoxic impact on hearing. Some infants may be more susceptible to these effects. Toxicity can cause immediate hearing loss or create a risk factor for late onset hearing loss. Per the Joint Commission on Infant Hearing (2019), there is no reason to delay hearing screening for infants who receive aminoglycosides, including infants who received the medication five days or less, more than five days, and/or infants who may continue on aminoglycosides at the time of discharge.

Recommended Guidelines

All infants should receive a hearing screen and be reported as mandated by Indiana law.

Infants should have the hearing screen as close to discharge as possible.

If the infant passes the hearing screening, provide parents with developmental milestones and encourage them to monitor their infant's speech, language and hearing development. Indiana EHDI has developmental milestones that can be requested to provide to parents. Learn more at [Indiana EHDI Developmental Milestones](#).

Best practices suggest that all infants in the NICU for more than five days and/or who have received aminoglycoside for more than five days should be referred by their primary care physician for follow-up audiology testing at 9-12 months of age.

Hospitals are not required to report gentamicin exposure to the Indiana EHDI program as a risk factor in the monthly report. However, the infant's parents and primary care physician should be notified of the infant's exposure to aminoglycosides, potential risk factor for hearing loss and need for follow-up.

This document is supplementary to hospital specific policies and protocols.