

Hearing Assessment in Infants and Children

- 1) What are the differences between conductive and sensorineural hearing loss?
 - Conductive hearing loss-soundwaves are not transmitted to the middle ear, an interference of the mechanical transmission of sound. Common acquired cause is middle ear fluid. Other causes include cerumen, perforation, canal stenosis, OME, cholesteatoma
 - Sensorineural hearing loss-Sound is not transduced into neural activity. Hair cell damage, cochlea damage, ototoxic drugs, nerve palsy. Various etiologies include infections (congenital and acquired), toxins and genetic syndromes

- 2) List the risk indicators associated with neonatal hearing loss.
 - Admission into NICU(stay >48 hours)
 - Intrauterine infections-CMV, herpes, toxo, rubella
 - Craniofacial abnormalities
 - Family history of permanent childhood SN hearing loss
 - Features/findings associated with a syndrome known to have hearing loss

- 3) List the risk indicators associated with progressive/delayed-onset hearing loss.
 - Parental concern (hearing, speech, language or developmental delay)
 - FH
 - In utero and Postnatal infections (meningitis)
 - Neonatal indicators-hyperbilirubinemia requiring exchange transfusion, mechanical ventilation
 - Syndromes (neurofibromatosis, osteopetrosis, usher syndrome)
 - Neurodegenerative disorders-Hunters or sensor motor neuropathies (Friedrich ataxia)
 - Head trauma
 - Recurrent or persistent otitis media with effusion for at least 3 months

- 4) What are the various diagnostic tests available for hearing screening and how does each work?
 - See attached Table 3

- 5) What are the recommendations for screening the newborn and after infancy?
 - Newborn-OAE first followed by ABR or start with ABR and repeat if failed
 - Infants-follow up evaluations if failure-goal is to be in services by 3-6 months of age
 - Children-Per AAP preventive pediatric healthcare guidelines
 - Start age 4, continue yearly to age 10, then at 12 and 15 years of age

Resources

<http://aappolicy.aappublications.org/cgi/content/full/pediatrics;101/4/723>