Risk Indicators Associated with Permanent Congenital, Delayed-onset, or Progressive Hearing Loss in Childhood

2014

***Risk indicators marked with a "*" are of greater concern for delayed-onset hearing loss. References for the risk indicators are available in the JCIH 2007 Position Statement.**

Risk Indicator	Explanation of Risk Indicator
Caregiver concern* regarding hearing, speech, language, or developmental delay.	Most parents are reliable reporters of their child's development. More than half of deaf and hard of hearing children are identified because of parental concern.
Family history* of permanent childhood hearing loss.	This is aimed at identifying hereditary (genetic) hearing loss. However, a family history of hearing loss is not necessary for the cause of the hearing loss to be genetic. The type of loss which is inherited is typically present at a very young age.
Neonatal intensive care for greater than 5 days, including any of the following: ECMO*, assisted ventilation, exposure to ototoxic medications (gentamicin and tobramycin) or loop diuretics (furosemide/Lasix). In addition, regardless of length of stay: hyperbilirubinemia requiring exchange transfusion.	Infants admitted to the NICU are at greater risk for hearing loss. For example, infants with very low birth weight are at increased risk for both sensorineural and conductive hearing loss.
In utero infections, such as CMV*, herpes, rubella, syphilis, and toxoplasmosis.	An infection contracted by the mother during pregnancy may cross the placental barier and invade fetal tissue. Severe infections, especially those occurring in the first trimester, can be related to hearing loss since this is when the auditory system develops.
Craniofacial anomalies, including those that involve the pinna, ear canal, ear tags, ear pits, and temporal bone anomalies.	These abnormalities may be indicative of a genetic syndrome. Examples include Branchio-Oto-Renal (BOR) syndrome or CHARGE syndrome.
Physical findings, such as a white forelock seen in indivduals with Waardenburg syndrome, that are associated with a syndrome known to include a sensorineural or permanent conductive hearing loss.	Certain physical findings may be indicative of a genetic syndrome that is known to have hearing loss as one of its features.
Syndromes associated with hearing loss or progressive or late-onset hearing loss*, such as neurofibromatosis, osteopetrosis, and Usher syndrome; other frequently identified syndromes include Alport, Pendred, and Jervell and Lange-Nielson.	These syndromes are known to be associated with hearing loss.
Neurodegenerative disorders*, such as Hunter syndrome, or sensory motor neuropathies, such as Friedreich Ataxia and Charcot-Marie-Tooth syndrome.	These disorders are known to be associated with hearing loss.
Culture-positive postnatal infections associated with sensorineural hearing loss*, including confirmed bacterial and viral (especially herpes viruses and varicella) meningitis.	Type B, Hemophilus Influenza, carries the greatest incidence of hearing loss. Bacterial meningitis is the leading cause of acquired deafness in infants and children, ranging in incidence from 5-30%.
Head trauma, especially basal skull/temporal bone fracture* that requires hospitalization.	This type of trauma may cause damage to either the cochlea or middle ear, resulting in sensorineural or conductive hearing loss.
Chemotherapy*.	"Chemotherapy" refers to a number of drugs, which can be ototoxic and result in hearing loss.

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