Focus on Subspecialties, Ear, Nose & Throat Disorders

Focus on Subspecialties: Ongoing screening ensures hearing loss is not missed
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With the development of universal newborn hearing screening, the identification of hearing loss has come a long way. Unfortunately, this screening still can miss mild, late-onset and progressive hearing loss, making it imperative for pediatricians to continue screening for hearing loss throughout childhood.

Hearing impairment can have devastating consequences, including speech delay, social isolation and learning difficulties. For this reason, the Bright Futures guidelines recommend that all children receive hearing screenings at routine well-child visits at 4, 5, 6, 8 and 10 years of age. They also should be tested at any age if parents have concerns about their child's hearing and/or speech.

Increasing prevalence

The incidence of hearing loss in children is increasing. Studies have shown the prevalence of permanent hearing loss in infants is three in every 1,000 live births, increasing to at least nine per 1,000 children in the schoolage population.

Permanent and transient hearing loss in one or both ears affects more than 14% of schoolage children, according to the Centers for Disease Control and Prevention (CDC). These numbers are likely to grow due to noise-induced hearing loss and other causes, including viral infections.

The frequent use of portable music players and loud electronic devices has been associated with noise-induced hearing loss in children and teenagers. Discussing the correct use of portable music players and earbuds with patients and families is crucial for good hearing hygiene. This includes the 60/60 rule, where these devices are used less than 60 minutes at a time at a volume less than 60% of the maximal output.

Regarding viral infections, congenital cytomegalovirus (CMV) is a well-known cause of sensorineural hearing loss. Children who have congenital CMV sometimes can pass newborn hearing screening and develop progressive and late-onset hearing loss. Some states have instituted screening for CMV for infants who fail a newborn hearing test. CMV screening is still controversial, however, because evidence does not yet support treatment of newborns who test positive for the virus but are otherwise asymptomatic (see AAP News article "Chapters respond to state bills seeking mandatory CMV screening," http://bit.ly/1Qnwka1).

There also is the potential for delayed hearing loss in infants with Zika virus, according to the CDC (http://1.usa.gov/1UBzMAF).

Screening options
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Hearing screening in the office is simple and can be accomplished through pure-tone screening (which is considered the gold standard per the American Academy of Audiology guidelines) or otoacoustic emissions (OAE) screening.

OAEs should be used only for preschool and school-age children for whom pure-tone screening is not developmentally appropriate (ability levels less than 3 years). OAEs usually are absent in most types of hearing impairment, but they can be present in patients with auditory neuropathy spectrum disorder (ANSD), a type of hearing loss caused by dysfunction of the auditory nerve or between the cochlea and auditory nerve. One of the key signs of ANSD is the presence of OAEs with a significant degree of hearing loss. If a child passes an OAE screening but has delays in development and/or speech and language, he or she should be referred for a full audiometric evaluation.

Office staff should be trained to perform pure-tone hearing screenings, as they must be done accurately. Conditioned play audiometry, in which a child is taught to perform an activity each time a sound is heard, can be a great option for younger children. It is best utilized for typically developing 3- to 6-year-old patients.

Hearing testing is non-invasive, and no child is too young or old to test. A child should be referred for a formal audioligic evaluation if staff is not able to obtain an accurate screening, if there are risk factors for hearing loss, or if there are speech delays or parental concerns regarding hearing loss.

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