Mild and Unilateral Hearing Loss in Children

Hearing loss is the most common congenital condition, affecting 1 to 3 per 1,000 live births.[1,2] When left undetected, hearing loss of any degree, including mild bilateral and unilateral, has been shown to adversely affect speech, language, and academic and psychosocial development.[3–16] A standard definition of mild bilateral and unilateral hearing loss has not been established. However, several definitions of mild bilateral hearing loss can be summarized by pure tone averages (PTA) between 20 and 40 decibels (dB) in the better ear. The definition of unilateral hearing loss can be summarized by a PTA in one ear of any degree above 20 dB. Permanent conductive, sensorineural, and mixed losses are included for the purpose of this discussion.

The estimated incidences in newborns for mild bilateral hearing loss range from 0.36 to 1.30 (per 1,000) and from 0.8 to 2.7 (per 1,000) for unilateral hearing loss.[17–20] Prevalence estimates in school-aged children range from 10 to 15 (per 1,000) for mild bilateral hearing loss and 30 to 56 (per 1,000) for unilateral hearing loss.[3, 21]

Several studies have suggested that 1 out of every 2 to 3 school-aged children with mild degrees of bilateral hearing loss or unilateral hearing loss have academic, social, and behavioral difficulties.[3-13, 15] At least some infants and preschoolers with these types of hearing loss already experience delays in language development.[22] Some evidence suggests that children with any type and degree of hearing loss are at increased risk for developmental delays, particularly when the hearing loss is identified and treated after approximately 6 months of age.[14, 16]

It is currently estimated that 90% of infants born in the United States are being screened for hearing loss, with the majority tested before discharge from the hospital.[17] However, for the most part, only infants with a PTA of greater than 35–40 dB HL are being identified in the newborn period. Based on existing school-aged children prevalence estimates, a substantial number of newborns with these lesser degrees of hearing loss are not being identified than would be expected. .[3,17–21,23]

Because a subset of children with mild bilateral or unilateral hearing loss exhibit academic, social, and behavioral difficulties,[3-13, 15] it is particularly important that all infants and children who are identified with, or who have risk factors for such losses be monitored for speech and language delays, behavioral problems, and academic failure. Health care providers can offer important support for children and their families by encouraging parents to have their children's hearing, speech, language, behavior, and academic progress carefully monitored. Providers can also direct families with children identified with mild bilateral or unilateral hearing loss to support services in their areas and offer them information on this topic. Some Web resources for families are provided below.

Where to find an Audiologist and/or Speech-Language Pathologist:
http://www.asha.org/proserv/
http://www.audiology.org/consumer/find/

Centers for Disease Control web page on mild and unilateral hearing loss in children
www.cdc.gov/ncbddd/ehdi/unilateralhi.htm.

Unilateral Hearing Loss in Children
http://www.boystownhospital.org/Hearing/info/unilateral.asp
http://www.raisingdeafkids.org/hearingloss/types/unilateral.jsp
http://www.csdb.org/chip/par_unilateral_loss.html

Hard of Hearing Children:
http://clerccenter.gallaudet.edu/odyssey/Winter2003/hoh-overlooked.pdf

"Minimal Hearing Loss" in Children
http://www.handsandvoices.org/articles/tech/minimal.html

Simulated Hearing Loss:
http://holmessafety.org/hlsim/ (free download)
http://www.acoustics.org/press/133rd/2paaa2.html

Hearing Aids and Assistive Listening Devices
http://www.nidcd.nih.gov/health/hearing/thebasics_hearingaid.asp
http://www.babyhearing.org/HearingAmplification/AidChoices/evaluated.asp
http://clerccenter.gallaudet.edu/SupportServices/series/5003.html
http://www.asha.org/public/hearing/treatment/assist_tech.htm
http://www.asha.org/public/hearing/treatment/digital_aid.htm
http://www.audiology.org/consumer/guides/hafaq.php
http://www.netac.rit.edu/publication/tipsheet/alds.html

Eligibility for Services
http://www.handsandvoices.org/articles/early_intervention/pc_idea.html

Classroom Acoustics:
http://www.quietclassrooms.org/ada/adahandout1.htm
http://www.quietclassrooms.org/ada/adahandout4.htm
http://www.asha.org/about/publications/leader-online/archives/2001/classroom_acoustics.htm
http://www.nonoise.org/quietnet/qc/booklet.htm
http://www.hearingloss.org/html/nixonmj02.HTM
http://edfacilities.org/rl/acoustics.cfm

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