

POLICY STATEMENT

Hearing Screening in Schools

A hearing loss is not only a frequent occurrence in school children, but can have more severe consequences than are generally realized. As reported in the Journal of the American Medical Association, the incidence of unilateral or bilateral hearing loss among children from 6 to 19 years of age was found to be almost 15 percent using a criterion of 16 dB or more in either the high or the low frequencies (Niskar et al., 1998). Depending upon the nature and extent of the hearing loss, it may be responsible for deficient or delayed speech and language skills, poorer academic accomplishments, and more problematical psychosocial adjustment.

These effects not only occur with children who have moderate, severe, or profound hearing loss, but may also be present in children with unilateral, minimal, and fluctuating conductive problems as well. Because individual children with lesser degrees of hearing losses may not overtly display any apparent communication or academic problems (that is, they apparently hear and respond appropriately in face-to-face situations), the academic and linguistic "risk" status of such children tends to be overlooked. It is only when group performance is considered, or when a detailed evaluation is conducted on a specific child, that deficiencies in a number of areas become apparent.

This is clearly shown in a study conducted by Bess, Dodd-Murphy, & Parker (1998). The primary focus of the study was the academic achievement and functional status of children with minimal sensorineural hearing loss (MSHL); secondarily, the overall incidence of hearing loss in a public school setting was also determined. The investigators took great pains to ensure a representative sample of children in their study and it is likely that their results would be applicable to school systems throughout the country.

The overall prevalence rate of a hearing loss in their study population was 11.3 percent, of which 5.4 percent of the children exhibited MSHL. The other children had conductive and mixed hearing losses. Three categories of children with MSHL were identified: (1) unilateral hearing loss (one ear normal); (2) bilateral losses averaging between 20 and 40 dB; and (3) a hearing loss of 25 dB or more in either ear at frequencies above 2000 Hz (high frequency hearing loss). When they compared the academic and functional status of the MSHL children to their hearing peers, they found that 37 percent of them failed at least one grade, compared to a two percent failure rate by their normally hearing peers.

Other academic achievement problems were noted as well, particularly for the children in the lower grades. For the MSHL children in the higher grades, functional comparisons revealed poorer ratings for stress, self-esteem and social support than those observed with the normally hearing children. It is important to stress that these results are not unique. There are many

POLICY STATEMENT

other studies that show the negative impact of unilateral and mild hearing losses upon school-age children (the Bess study contains extensive references to them).

These findings should send an unequivocal signal that a hearing loss, of whatever degree, is not an inconsequential event. They demonstrate the crucial role that audition plays in learning. Hearing is the key avenue with which children become acculturated into our society and learn its language. Moreover, it is through this auditory-based language that children can most effectively approach the reading process. It is important to emphasize this latter point: children normally learn how to read by associating the language learned through audition with the written word. Reading skills, in other words, are initially and most efficiently grounded in the sense of hearing. It is because congenitally and profoundly deaf children do not possess an auditory-based linguistic system that they have such difficulty reading at grade level.

Children in regular schools, and this applies to normally hearing children as well as to those with minimal hearing losses, must hear in order to learn, and the more they hear, the more they are likely to learn. They must be able to hear the teacher as he/she moves around the room, faces the blackboard, and during the noise of normal classroom activities. They must be able to hear the comments and questions of the other children in the class. Since even a 10 dB reduction from normal thresholds will reduce the subjective loudness sensation of a speech signal by half, no degree of hearing loss can be considered "acceptable." Hearing the teacher at half or quarter (a 20 dB hearing loss) of the loudness sensation enjoyed by other children may permit comprehension of most of the teacher's message most of the time, but at a cost of increased fatigue, "tuning out" or "acting out," and an uncertain grasp of many of the grammatical features of speech (particularly those conveyed by weak final consonants). Children have enough hurdles to overcome during the learning process without the added problem of an undetected and untreated hearing loss.

The need to identify children with hearing loss in schools was recognized more than 70 years ago (Roush, 1992). Many states now mandate some sort of hearing screening program, but others make no such provision. In some states, the authority for the hearing screening program rests with the state department of health, while in others the department of education takes on this responsibility. When a state does not require a hearing screening program, the local school authorities may or may not fill the gap. Some states mandate that kindergarten children entering school have their hearing examined, and then follow through with a hearing screening program at later times.

For other children, however, this kindergarten "certification" may be the last time in their school career that the status of their hearing is examined. In some locales, newly enrolled children, those with special needs, or children with known hearing losses are examined every

POLICY STATEMENT

year, while other jurisdictions have different or no such provisions at all. Some states and districts provide guidelines that incorporate specific testing procedures, including tympanometry and otoscopic examination, as well as required follow-up procedures, while others leave the details to the local authorities. When a state or district does offer a hearing screening program for the children, rarely are children in private or parochial schools included. In short, the national status of hearing screening programs for school-age children is a disorganized mess, varying from non-existent or incomplete, to excellent in a few places.

The Hearing Loss Association of America believes that the hearing of school children is too important to be left to chance. We believe that it is essential that all school-age children in all our schools have their hearing screened at regular intervals. Moreover, it is our recommendation that the hearing screening activity itself be integrated with, and a component of, an overall hearing conservation program in which the implications of each child's hearing loss are explicitly addressed. Our experiences over the past number of years have shown that it is not reasonable to expect each state independently to conduct an effective hearing screening program in schools. HLAA, therefore, recommends that the U.S. Department of Education develop and enforce specific guidelines for a nationwide hearing screening program. We recommend that these guidelines be established by a task force composed of representatives from state and national health and education agencies, as well as those from the medical and audiological professions.

Furthermore, HLAA believes that, at a minimum, the following elements must be included in the guidelines:

- All children in the lower grades and some of the upper grades in all schools in our country (public and private) should have their hearing screened.
- Tympanometry should be a routine part of the program for the children at the lower elementary levels.
- Only specially trained personnel should conduct the program, under the general supervision of a certified audiologist.
- If a child does not pass the entire screening process, parents must be notified and encouraged to have their children's ears examined by a physician.
- All children who do not pass the screening must be carefully followed up, both with the parents (to ensure compliance) and in the school (to ensure appropriate educational management).
- Children with permanent hearing loss and conductive hearing losses not responsive to medical/surgical treatment should receive comprehensive audiological, speech and language, educational and psychosocial evaluations.

POLICY STATEMENT

Private and parochial schools, as well as public schools, should be included in a nationally mandated hearing screening program. Given the inclusion of these elements in a hearing screening (conservation) program, it should be possible to minimize the potential impact of a hearing loss upon the academic achievement and psychosocial adjustment of school children. Moreover, the very fact that such a national program is implemented can, in itself, send a message to all segments of our society regarding the crucial importance of hearing to learning. It will help remove hearing loss from society's "back-burner" and truly make it an "issue of national concern."

Hearing Loss, May-June, 1999

References:

Bess, F. H., Dodd-Murphy, J. and Parker, R. A. (1998). Children with Minimal Sensorineural Hearing Loss: Prevalence, Educational Performance, and Functional Status. *Ear and Hearing*, 19(5), 339-354.

Niskar, A. S., Kieszak, S. M., Holmes, A., Esteban, E., Rubin, C., & Brody, D. B. (1998). Prevalence of Hearing Loss Among Children 6 to 19 Years of Age. *Journal of the American Medical Association*, 279(14), 1071-1075.

Roush, J. (1992). Screening the School-age Child. In *Screening Children for Auditory Function* (F. Bess and J. Hall, Eds), Nashville, TN: Bill Wilkerson Center Press.