

(Approved by the Board of Directors of the Educational Audiology Association September 2009)

Hearing Assistance Technology

Hearing assistance technology (HAT) continues to evolve and improve hearing accessibility for individuals with hearing and listening problems. As required by IDEA, audiologists must “determine the child’s need for individual amplification, including selecting, fitting, and dispensing of appropriate listening and vibrotactile devices, and evaluating the effectiveness of those devices” [34CFR300.34(c)(1)(vi)]. Therefore, to assure appropriate services, educational audiologists must have an active role in candidacy determination, device selection, fitting, validation, and management of appropriate hearing instruments for children/youth. Determination of individual signal-to-noise ratio requirements is necessary to select the appropriate hearing assistance technology option. Personal FM systems, whether fit directly or coupled to the child’s hearing aid or cochlear implant, require verification procedures to establish that appropriate gain and output are being delivered to the student (Eiten & Lewis, 2008). Focused and wide area sound field distribution systems also require consideration of individual listening needs and acoustical characteristics of the classroom (Eiten & Lewis, 2008, Flexer, 2004, ANSI, 2002). Validation procedures are required by IDEA [34CFR300.6(a)] and must be administered with the student to confirm that the recommended instruments are providing the expected benefit in the classroom and other settings where they are used (Eiten & Lewis, 2008). The student, as well as school staff and classroom personnel, must receive orientation and training on function, appropriate use, and limitations of HAT instruments to insure that maximum benefit from the technology is available to the child/youth (AAA, 2007). IDEA further requires routine checking of hearing aids and external components of surgically implanted medical devices (34CFR300.113). Consequently, educational audiologists must establish and manage monitoring plans for students wearing hearing aids, cochlear implants, and Bone Anchored Hearing Aids (BAHA) as well as hearing assistance technology.

Educational audiologists are typically the most knowledgeable school personnel to measure classroom acoustics and to determine appropriate classroom sound field distribution system options. Accordingly, they must be actively involved in the recommendation and subsequent installation process of appropriate sound field distribution systems in the classroom. Assessing excessive classroom noise levels and reverberation times may result in recommending acoustic modifications and may be necessary prior to installation of sound distribution systems for the control of background noise (ASHA, 2005). The determination of individual student signal-to-noise ratio needs is also necessary for the successful use of sound field distribution systems (Smaldino & Crandell 2000). As with personal FM systems, the educational audiologist must insure that verification of appropriate gain and output, as well as validation of benefit, has been completed with classroom systems.

References:

- American Academy of Audiology (2007). AAA Clinical Practice Guidelines: Remote Microphone Hearing Assistance Technologies for Children and Youth Birth-21 Years. www.audiology.org
- American National Standards Institute (2002). Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools [ANSI s12.60-2002]. New York: Acoustical Society of America.
- American Speech-Language-Hearing Association (2005). Acoustics in educational settings: Technical report. Available at <http://www.asha.org/members/deskref-journals/deskref/default>.
- Eiten, L. & Lewis, D. (2008). FM Verification for the 21st Century. *Perspectives on Hearing and Hearing Disorders in Childhood* 18, 4-9.
- Flexer, C. (2004). The Impact of Classroom Acoustics: Listening, Learning and Literacy. *Seminars in Hearing*, 25 (2), 131-140
- Smaldino, J. and Crandell, C. (2000). Classroom Amplification Technology: Theory and Practice. *Language, Speech and Hearing Services in Schools*, 31. 371-375.

This document is part of the School-Based Audiology Advocacy Series. Please see additional statements on School-based Audiology Services, Audiology Services Under 504, Auditory (Re)habilitation, Classroom Acoustics, Educational Audiology Services Under IDEA: Pertinent Regulations, Hearing Assistance Technology, Hearing Screening, Noise and Hearing Loss Prevention, Role in EHDI and On-Going Hearing Loss Surveillance in Young Children, and References and Resource Materials.