

Special Populations

Often in the clinical setting, audiologists evaluate infants and children who may not appear to be clear-cut candidates for conventional hearing instruments or traditional arrangements of assistive device technology. These children require special consideration as types and arrangements of technologies, ages of fitting, or the option of not fitting a hearing instrument are deliberated. This section examines several groups of infants and children with hearing loss that challenge audiologists in determining what is the most optimal approach for facilitating their aural abilities.

Adrian Davis and his colleagues address a critical question as newborn hearing screening is initiated in Great Britain and around the world. Should the target population for screening include the identification of infants with mild and unilateral hearing loss? There is currently little empirical evidence to support the early fitting of personal hearing instruments or the provision of direct intervention services to children with 'minimal' degrees of permanent hearing loss. In their chapter "Children with Mild and Unilateral Hearing Impairment," Davis and co-workers describe the results from parents of children with unilateral hearing loss and parents of children with bilateral mild sensorineural hearing loss on a survey of Quality of Family Life. The information presented in this chapter is important in determining whether or not there is a need for audiologists to actively pursue management and intervention for these two groups of children.

On the opposite end of the hearing loss continuum are children with severe and profound hearing impairments. In her chapter, Yvonne Sininger describes the "Changing Considerations for Cochlear Implant Candidacy: Age, Hearing Level and Auditory Neuropathy." As cochlear implant technology undergoes rapid change, so do the traditional candidacy criteria for implanting children with the device. Notably, age of implantation has declined rapidly and children with less-than-profound hearing loss are deriving significantly more benefit from use of a cochlear implant than a traditional hearing instrument. Dr. Sininger also describes encouraging results from the use of cochlear implants with children who have been diagnosed as having auditory neuropathy. Children with this disorder frequently do not derive benefit from conventional amplification and rely on some form of visual communication. An increasing number of these children have received a cochlear implant and are making great strides in developing communication through aural input.

Teresa Ching and colleagues pose the question "Should Children Who Wear a Cochlear Implant in One Ear Use a Hearing Aid in the Opposite Ear?" Although some children with cochlear implants use such an arrangement, the efficacy of the combination of technologies has been questioned by clinicians. Some suggested that the two different inputs might be confusing and detract from a child's speech perception abilities in quiet and noise. The studies of Ching and colleagues suggest that children who have received cochlear implants and use a conventional hearing aid on the opposite ear experience no negative effects with such an arrangement.

Finally, Anne Marie Tharpe and her colleagues address a group of children who have received little attention in the literature. Deaf-blind children present numerous challenges to the pediatric audiologist who desires to fit them with amplification technology that will enhance their activities of daily living as well as their speech understanding. In their chapter,

“Optimization of Amplification for Deaf-Blind Children” Dr. Tharpe and co-workers report on a study of children and adults who were deaf-blind using several measures in and outside the laboratory setting. These included sound localization ability, mobility and speech perception in noise. This chapter provides empirical evidence of the usefulness of various hearing aid options (such as directional microphones), as well as practical suggestions for audiologists working with children with this multiple disability.

Collectively, this series of reports addresses some of the challenges brought by children who have special needs because of their degree of hearing loss or their having a disability in addition to hearing loss. Readers should find practical information that will help them in achieving a sound foundation for communication for all infants and children regardless of the type or degree of their auditory impairment.

This article was previously published in the Proceedings of the Second International Conference "A Sound Foundation Through Early Amplification" Sponsored by Phonak edited by Richard Seewald, Ph.D. and Judith Gravel, Ph.D. This article is reprinted here with permission from the author(s) and Phonak for educational purposes.

The Proceedings of the Second International Conference "A Sound Foundation Through Early Amplification" was originally produced by Immediate Proceedings, Ltd.

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