



Habilitation Outreach for
Professionals in Education



HOPE Note

The Newly Implanted Infant/Toddler

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Children may now receive a cochlear implant as early as 12 months of age. Implantation at this early age affords a child an excellent opportunity for developing spoken language abilities comparable to same-age peers, but requires that habilitation begins early as well. The following HOPE Note addresses considerations for designing a comprehensive intervention plan for newly implanted infants and toddlers.

Of the many variables affecting anticipated performance with a cochlear implant, length of deafness can be considered one of the most influential. When a child receives an implant at 12 months of age, this period of deafness is minimized, giving the recipient excellent potential for developing spoken language. Often, infants and toddlers that receive cochlear implants begin to exhibit spoken language development that allows them to catch up to their hearing peers within one to two years. This rate of progress depends, however, on the implementation of a comprehensive parent-centered habilitation plan.

Parents as Teachers

Best practices models of early intervention services have called for parent-centered services for many years. In no circumstance is this more critical than with the newly implanted child. Professionals serving these children must assist families in maximizing the benefits of the cochlear implant by

modeling appropriate techniques to stimulate auditory and language skill development. More importantly, allowing families opportunities to practice these skills immediately will best serve to insure carry-over. Professionals should take care to demonstrate specific strategies for achieving auditory and language goals so that parents have clear guidelines for home practice between visits. Ultimately, it is the time that parents spend with their children that will have the most effect on a child's auditory and language skill development.

Normal Development Model

When developing intervention strategies for young children with cochlear implants, the professional can feel confident that his or her knowledge of normal language development is the best reference for setting auditory and spoken language goals. Children that receive implants at a young age have been found to acquire speech and spoken language benchmarks in much the same sequence as children with normal hearing. Babbling and vocal play are noted as children become auditorily aware of their voices, jabbering is observed as children identify rhythms and intonation of conversation, and words develop as children match labels and phrases with experiences and objects. By using a



developmental model as a guide, the educational professional can easily pair auditory stimuli with developmentally appropriate toys and activities to achieve spoken language goals.

A Naturalistic Approach

Above all, cochlear implant habilitation for very young children must utilize a naturalistic approach to be most effective. Children, and their parents, will find habilitation activities more meaningful and easier to duplicate when real-life situations are used as models and familiar household routines and artifacts are used as stimuli. The right games will set the stage for developmentally appropriate imitation and turn-taking skills, vocabulary, and babble. A naturalistic approach also builds on routine activities and recurring events so that children can anticipate language and auditory stimuli. Such an approach discourages the didactic introduction of auditory goals one by one, but rather encourages the professional to highlight various auditory and language targets simultaneously. For example spilling juice on the table can incorporate vocal inflection, patterned phrases, and concepts all at once: "Uh - Oh! What a mess! So dirty! Let's wash, wash, wash the table." It is the power of the cochlear implant, providing access to all spoken language, which allows for this naturalistic approach. While auditory function will develop from the most basic skill (detecting) to the most advanced (comprehending), input for children at young ages should be varied to include all linguistic elements (sounds to conversation and conversation to sound) to be most effective.

Related Resources

Brooks, B.M. (2002). *My Baby and Me - A Book About Teaching Your Child to Talk*. Moog Center for Deaf Education. St. Louis.

Cochlear Americas. (2005). *Getting Started—For Pediatrics* featuring Nancy Caleffe-Schenck (FUK 054) (CD-Rom, Free). To order, call Cochlear Americas 800.523.5798 and ask for Customer Service.

Cochlear Ltd. (2003). *Jacob's Journey*. Australia. To order, visit the HOPE Education and Rehab section of the Cochlear Online Store: www.cochlear.com/shop.

Cochlear Ltd. (2003). *Listen Learn and Talk*. Australia. To order, visit the HOPE Education and Rehab section of the Cochlear Online Store: www.cochlear.com/shop.

Cole, E. (1992). *Listening and Talking: A Guide to Promoting Spoken Language in Young Hearing-impaired Children*. Washington, DC: AG Bell Publications.

Pollack, D., Goldberg, D., & Caleffe-Schenck, N. (1997). *Educational Audiology for the Limited Hearing Infant and Preschooler: An Auditory-Verbal Program* (3rd ed.). Springfield, IL: Charles C. Thomas.

Robbins, A.M. (2003). *Communication Intervention for Infants and Toddlers with Cochlear Implants*. *Topics in Language Disorders*, 23, 16-33.

Yoshinaga-Itano, C. (2001). *Development of Audition and Speech: Implications for Early Intervention with Infants Who are Deaf or Hard of Hearing*. *Volta Review*, 100, 213-234.

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