



Habilitation Outreach for
Professionals in Education

HOPE Note

Spoken Language Development

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The benchmarks for spoken language development with the cochlear implant are of particular interest to speech language pathologists and teachers of deaf children. The following HOPE Note outlines general expectations for language development in light of cochlear implantation.

For children with hearing in the normal range, spoken language development begins in earnest on the first day of life. That is when they are first introduced to their parents' voices and the sounds and words all around them. As their auditory skills, vocal skills and cognitive skills develop, they are able to attach meaning to the sounds that they are hearing and then reproduce those sounds to convey meaning on their own. The child with hearing loss, however, does not have access to all of the sounds of spoken language and is less able then, to connect the objects and actions that are seen to the spoken words that represent them. Because hearing aids often do not provide all of the acoustic features necessary to distinguish one sound or word from another, even the child that wears hearing aids receives inconsistent and/or incomplete messages.

Factors the Influence Spoken Language Development

Almost immediately upon activation, the cochlear implant affords the user access to all of the sounds of speech. Progress in spoken language development is therefore dependent on a number of factors. These may include:

- Age at implantation/duration of deafness - The younger the child when he receives a cochlear implant, the greater his potential for developing normal spoken language skills.
- Aided benefit prior to implantation - The greater the benefit of hearing aids prior to cochlear implantation, the greater the child's potential for developing normal spoken language skills.
- Co-occurrence of other developmental issues (e.g. developmental delay, motor impairments) - Children with hearing loss may have other challenges, in addition to or aside from their hearing loss, which will compromise their progress with spoken language development.
- Level of family involvement and expertise of educational professionals in maximizing the cochlear implant's potential - Spoken language will develop most rapidly when it is facilitated through a focus on the development of auditory skills.

Normal Development as a Reference

When the end goal for a child with an implant is the development of age appropriate spoken language, an approach that pairs auditory stimuli (sounds and words) with related objects and actions will allow the child to assign meaning to sound in the same way that a hearing child would.





Parents and professionals must have patience through the early stages of auditory awareness in which children primarily take in sounds rather than producing them. By recognizing that this normal developmental sequence of auditory growth and language development applies equally to children that have recently received implants, parents and early interventionists may be more committed to provide input even when there is no immediate expressive response to their efforts.

Milestones of Development.

In general child with a cochlear implant may be expected to display the following stages of spoken language development:

- An initial period marked by decreased vocalizations while taking in new auditory stimuli.
- A babbling stage in which the child plays with his voice and articulators.
- Understanding and use of sound/object associations and inflected utterances (e.g. “meow” for cat, or “uh-oh”) where suprasegmentals and early vowel/consonants are highlighted.
- A period of using single words and jargon (single words embedded into babble sounds that mimic conversational speech inflections) along with some learned phrases.
- The combination of known words into novel phrases.

The ultimate goal for children with hearing loss is that they will begin to learn spoken language at the same rate as their hearing peers. This typical rate of growth is judged to be “one year’s progress in one year’s time” Children that receive cochlear implants at a young age have the potential to achieve this rate of language growth and may, in fact, catch up to their hearing peers so that they have comparable spoken language skills. Spoken language competence sets the stage for continued social, emotional, and educational growth.

Related Resources

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

Estabrooks, W. (1998). *Cochlear Implants for Kids*. Washington D.C.: AG Bell Publications.

Madell, J. (2006). *Maximizing Listening and Learning*. HOPE Online Library. Available at www.cochlear.com/HOPE.

Moog, J., et al. (2004). *Teaching Activities for Children who are Deaf and Hard of Hearing: A Practical Guide for Teachers*. St. Louis: Moog Center. Available through publications@moogcenter.org.

Owens, R. (1996). *Language Development: An Introduction* (4th ed). Needham, MA: Allyn & Bacon.

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 Publisher Ltd.

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