

The Newly Implanted School-Age Child

Children may enter the implant process at any time after 12 months of age. Those implant candidates who present during the “school-age years”, between approximately five and 12 years old, will need habilitation that takes into account their auditory and language experiences prior to implantation. The following article addresses the need for individualization in designing intervention for newly implanted, school-age children.

The positive effects of early intervention for children with hearing loss have been well documented. When a child receives an implant after age five, he/she is beyond the early intervention window but still has the potential to receive material benefit from the device. Before designing an auditory habilitation plan for that child, a number of questions must be answered. These include:

- At what age was the hearing loss identified?
- Was the child's hearing loss progressive?
- What were the child's auditory experiences prior to implantation?
- How does the child's Language Age compare to Chronological Age?

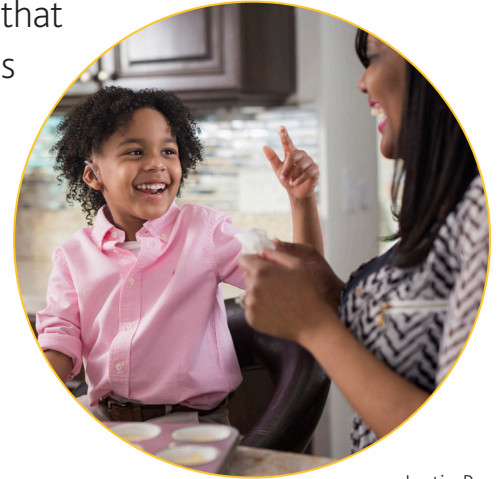
Some school-age implant recipients may have had more visual than auditory access to the world and used this as a way to catalogue previous experience and learning. Thus, the task of speech and hearing professional is two fold: developing listening skills for accruing new information auditorily and creating links to information stored previously as visual input (e.g speech-reading).

Developing Auditory Skills

It is generally recommended that young children who receive cochlear implants have the opportunity to develop listening skills in naturalistic exchanges in a manner that follows auditory development in hearing youngsters. Older children, however, already have percepts and experiences that can contribute to a more systematic development of listening skills. Because detection of speech and environmental sounds is one of the immediate outcomes of implantation, there is no need to “train” this rudimentary skill. The interventionist will want to make links between new auditory perceptions and the child's knowledge base. For example, if a child alerts to a sound, it should be identified... “People are walking in the hall and you can hear them talking.” Sound awareness is reinforced,

but not specifically targeted. Pattern perception is an auditory ability that allows a child to distinguish between sounds, words, and sentences based on suprasegmental cues such as duration, syllable number or sentence length. This is a skill that develops quickly after implantation; the speech and hearing professional can use a child's existing vocabulary and language base to develop it.

Age appropriate listening games and activities are recommended for pattern perception especially when content or theme-based classroom materials are incorporated.



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Nucleus recipient

The auditory skill of segmental identification requires that the child hear more than patterns of sounds. It is often the powerful vowel sounds that a child begins to attend to in order to differentiate between the words “backpack” and “lunchbox.” Familiar vocabulary usage is particularly “friendly” when introducing and practicing this skill with the newly implanted school-aged child. Children at the level of segmental identification may spend some time working within these two levels of auditory skill, especially as language complexity and familiarity is manipulated within a skill level.

The highest level of auditory skill, auditory comprehension, requires that the child process and respond to information presented through listening only. Children, who respond to auditory input once access is provided by the implant, should be encouraged to use listening for comprehension. This may first be expected in routine situations in which the context and form of the language are known to the child. Encouragement for functional listening at all levels of auditory skill development will serve to reinforce the utility of listening in gaining information about the world.

Creating Links to Information Acquired Prior to Implantation

The school-based professional will not want to overlook the store of world and language knowledge that the child acquired before implantation. While it is not recommended that systematic transfer of visual language and world knowledge to an auditory representation be undertaken, there is utility in helping create listening links to previously acquired speech, language and world knowledge. This may be best accomplished in one-on-one intervention settings; new auditory skills can be developed and practiced in the context of familiar vocabulary, language and content. Conversely, acquired auditory skills may be practiced when introducing new themes. As the child becomes successful, generalizations to information gathering through audition may be facilitated.

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Related Resources

- Chute, P., & Nevins, M.E. (2006). School Professionals Working with Children with Cochlear Implants. San Diego: Plural Publications.
- Tiger Speech's Angel Sounds. Download for free from: <http://angelsound.tigerspeech.com/>
- DeConde Johnson, C., Benson, P., & Seaton, J. (1997). Educational Audiology Handbook. Florence KY: Thomson Delmar Learning.
- Nevins, M.E., & Chute, P.C. (1996). Children with Cochlear Implants in Educational Settings. San Diego: Delmar.
- Robbins, A.M. (2000). “Rehabilitation after Cochlear Implantation,” in J.K. Niparko (Ed.) Cochlear Implants: Principles and Practices. (pp. 323-362). Philadelphia. Lippincott, Williams & Wilkins.

High, but Realistic, Expectations

The single most important goal for the school-based professional working with a newly implanted school-age child is to foster feelings of success with the device. Since early accomplishment begets later success, it is incumbent upon the interventionist to design activities and tasks that will allow the child to realize auditory benefit from the implant at any of the skill levels at which the journey begins. The knowledgeable professional should set realistic expectations, but at the same time, be open to reaching greater levels of performance for a child in light of the new auditory access afforded by cochlear implant technology.