



## PREPARING CHILDREN WITH COCHLEAR IMPLANTS FOR THE MAINSTREAM: PART I

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### Current Trends in Educational Placement for Children with Hearing Loss

The education of deaf children has been debated for decades by professionals in special education. The arguments include how a child with profound hearing loss should be educated, including method of communication (e.g., oral or manual communication) and where a deaf child should be educated (e.g., school for the deaf, separate classroom, or regular education).<sup>1</sup>

Once parents have made an informed choice regarding communication methodology, they must determine the educational setting they desire for their child. This feature on mainstreaming will primarily address the needs of children who receive cochlear implants and use spoken language.

The word mainstream in the verb form is defined by Webster as: "2. to place (handicapped students) in regular school classes." Many argue that hearing loss is not a handicap, yet for many years students with hearing loss in the United States have been placed in self-contained classrooms, separated from their counterparts with normal hearing.

Prior to the wide use of digital hearing aids and cochlear implants, this special education environment for hearing impaired students was appropriate due to the exceptional needs that a severe to profound hearing loss often creates. A self-contained classroom provides fewer students, appropriate acoustic needs, and specially trained teachers. Today, newborn

infant hearing screening, hearing technology, and earlier access to this technology have significantly improved, thus changing the educational needs for students with hearing loss. More children with hearing loss receive hearing aids soon after the hearing loss is identified and receive cochlear implants as early as 12 months of age. The use of spoken language has become a reality for many.

As a result of early identification and intervention of hearing loss, early cochlear implantation, and increased success with spoken language, there has been a notable increase in the number of students with cochlear implants in the mainstream.<sup>2</sup> Many children who are implanted early (prior to age 3), are entering the mainstream classroom within 3 or 4 years of implant use.<sup>3,4</sup>

Mainstreaming, as it is currently practiced, suggests that a child has sufficient language, literacy, and academic achievement to access the regular grade-level curriculum, with only minimal adaptations to the content.<sup>1</sup> While research suggests that children who receive cochlear implants and early intervention services at an early age can achieve speech, language and reading milestones commensurate with hearing peers,<sup>4,5,6</sup> the child with a hearing loss typically continues to require support services in the mainstream setting. With technological and educational support, many students with hearing loss can now receive appropriate services within their neighborhood schools.

*This feature newsletter includes:*

- *Current trends in mainstreaming as a result of technological advances*
- *Factors to consider when mainstreaming a student with hearing loss*

### Important Factors to Consider for Mainstreaming

When parents make the decision to place their child with hearing loss in a classroom with his or her peers with normal hearing, they are often doing so on the recommendation of the school professional or therapist working with their child. It is important that professionals who make these recommendations do so based on the child's current abilities as well as potential for achieving in the mainstream setting.

Many children who receive a cochlear implant before the age of 3 are entering mainstream preschool programs to prepare them for mainstream elementary school settings. It is apparent that a child in a preschool setting will have had less auditory skill experience than a child in elementary school implanted at the same age, thus the needs in each setting will be different.

Exposure to incidental learning and new vocabulary will be the goal in both situations, yet the elementary school setting will require much more of the child and the educational team in terms of academic and social skills. It is necessary that the therapist, teacher of the deaf, mainstream teacher, and parents be aware of the preparation required for each type of setting, as the needs and demands change.

When making recommendations regarding mainstreaming, it is also important to note, "The goal is not to place cochlear implant children in regular classrooms at all costs, but to choose that environment because the child has the skills to succeed there while expanding their cognitive and linguistic repertoire...Unless the language levels of deaf children are within 1 or 2 years of the levels of those in the regular class in which they are placed, they are virtually cut off from the entire verbal input process that is basic to educational experiences."<sup>7</sup>

#### Important Factors to Consider *Continued*

Understanding the need for children with hearing loss to have spoken language skills within 1 or 2 years of their peers with normal hearing is necessary for teachers and therapists when making recommendations to parents regarding mainstreaming. For example, if a child receives a cochlear implant at the age of 12 months, at the time he or she enters a mainstream preschool setting at the age of 3 years, his or her spoken language skills should be equivalent to those of a hearing child who is between 12 and 36 months of age.

It is important to keep in mind that children with normal hearing and hearing loss develop auditory and spoken language skills along a continuum, and so do children with hearing loss. Achieving spoken language to a level commensurate with hearing peers depends on the length of time with profound deafness, exact age at implantation, consistent use of cochlear implants (during all waking hours), type of early intervention, and the family dynamics, as well as the individual child.

Similarly, a child who receives a cochlear implant at the age of 4 or 5 years of age may begin school in a self-contained classroom but may transition to the mainstream classroom over time. To make such a transition, the children will need to make greater than 1 year of progress every year to obtain spoken language skills within 1 or 2 years of his or her peers with normal hearing. This transition to the mainstream is entirely possible with appropriate family and educational team support.

Speech and language evaluations are necessary at regular intervals to determine if a child is making appropriate progress. If his or language age is within 1 to 2 years of their peers with normal hearing, the goal of mainstreaming might be to boost the child's vocabulary through incidental learning with peers. If the language age discrepancy compared to chronological age is greater than 2 years, he or she may become frustrated in the mainstream environment due to lagging skills. While there is no perfect formula for all children with hearing loss to determine success in the mainstream setting, some considerations are listed below.

- To start Kindergarten in the mainstream, a minimum of a 4-year-old language level is desired. A child with this degree of language mastery is communicating effectively in sentences. Syntax and grammar need **not** be perfect.
- To be mainstreamed, a child needs to be able to make themselves understood most of the time. Intelligibility does not equal perfection.
- Seriously consider placing a child in the mainstream classroom when auditory development has reached at least a 3- to 4-year level, test performance shows trend towards closing of the gap between chronological age and performance age, and/or the child is outperforming peers in self-contained classroom; The child may not be challenged.

- A child who received a cochlear implant between 4 to 6 years of age may start school in a hearing-impaired program, but be able to transition to the mainstream over time.
- A child with a cochlear implant needs to have a **vocabulary plan**. Vocabulary need not be exactly at an age-appropriate level, but performance over time should reflect a closing of the gap between performance age and chronologic age for a child to be successful in the mainstream.

The option for children with hearing loss to attend a neighborhood school with their siblings and peers has created both opportunities and challenges for the students and for the mainstream educational team. An increase in responsibility exists both with students with hearing loss, their families, and for the mainstream education team to ensure the cochlear implants and/or hearing aids are in working order, and that the children are able to maintain academic skills at the same pace as classroom peers.

Because more children with cochlear implants are entering the mainstream setting either at the preschool level or at the early elementary school level, it is necessary for teachers, audiologists, and therapists to be aware of:

- Appropriate expectations for children with cochlear implants to achieve spoken language skills commensurate with hearing peers,
- Changing needs of the child at the preschool level versus higher education in terms of auditory skills, speech skills, and academic skills,
- Language age compared to chronological age (as determined by routine subjective and objective speech, language, and auditory skills testing at regular intervals),
- Social skills assessment (observation, age-appropriate checklists), and
- Speech perception and auditory skills abilities in quiet and in noise.

The *Fall 2007 Tools For Schools Newsletter* will address meeting specific needs of children in the mainstream setting and specific components of a support network within the mainstream education setting.

\*In preparing for this issue on Mainstreaming, we conducted several interviews with key educators across the country for their expertise on the topic of mainstreaming. For a summary of the interviews, visit our website at [www.BionicEar.com](http://www.BionicEar.com) and go to the Tools For Schools section. 

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