Cochlear Implants for Children with Combined Hearing and Vision Loss

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Information for Professionals

Cochlear Implants For Children:
Outcomes for Children Who Are Deaf/Hard Of Hearing And Have Vision Impairments

As the opportunity for cochlear implantation extends to children who have disabilities in addition to hearing impairment, there has been a marked increase in the number of children with combined hearing and vision impairment who receive cochlear implants. Unfortunately, research regarding selection criteria, outcomes, and habilitation strategies for this population is extremely limited.

Cochlear implant centers are invited to participate in a new project that is working to address this lack of evidence-based information. The project is studying children with hearing and vision impairment who are candidates for cochlear implantation or who have already received a cochlear implant. Implant centers can play a significant role in this research effort by identifying and referring potentially eligible children.

This project proposes to address a number of objectives to provide a sound foundation for evidence-based decision-making regarding cochlear implantation by families of children who have combined hearing and vision impairment.

The study will be conducted through a collaboration with state deaf-blind projects and cochlear implant centers. The state projects offer technical assistance, information, and resources to local public school districts and families of children with combined hearing and vision impairment. The collaborating states are:

- Arizona
- California
- Connecticut
- Deleware
- Florida
- Georgia
- Illinois
- Kansas
- Kentucky
- Maryland
- Massachusetts
- Minnesota
- Missouri
- Nebraska
- New Jersey
- New York
- North Carolina
- Ohio
- Oklahoma
- Oregon
- Pennsylvania
- Texas

Tell Me More...

WHO ARE THE CHILDREN WHO ARE THE FOCUS OF THIS RESEARCH?

The project will study children with combined hearing and vision impairment who are less than 13 years of age and fall into one of the following categories:

√ Children for whom a cochlear implant is being seriously considered.

√ Children who have had a cochlear implant for seven years or less.

Children who have disabilities in addition to hearing and vision impairment are eligible to participate.

WHAT RESULTS ARE EXPECTED?

The goal of the project is to gain a better understanding of the impact of cochlear implantation on the development of auditory skills, communication and language skills, speech, and social skills. It will include an evaluation of the influence of the following factors:

√ age at the time of implantation

√ severity of vision impairment

√ cognitive level

√ presence of other disabilities

√ communication level/skills prior to implantation

In addition, learning more about the type and intensity of habilitation and intervention techniques that contribute to positive outcomes is critical.

WHY IS THIS RESEARCH IMPORTANT?

In a recent survey, 70% of state deaf-blind projects reported an increase in the number of children with combined hearing and vision impairment who are receiving cochlear implants. Some states have seen an increase of more than 400%. Research to determine the effectiveness of cochlear implants for this population is limited. It consists primarily of single case studies (n = 10). The outcomes have been mixed, although some did report increased detection of environmental sounds and improved speech perception. More research with larger numbers of children is clearly needed, especially research that documents predictors of successful implantation to assist families in decision-making and to help professionals determine appropriate habilitation/intervention strategies.

HOW CAN COCHLEAR IMPLANT CENTERS PARTICIPATE?

√ Share this brochure with parents of children potentially eligible to participate.

√ Identify and refer potentially eligible children to the appropriate state deaf-blind project.

√ Increase awareness and identification of visual impairment in children who are deaf or hard-of-hearing.

√ Provide specialized intervention and habilitation for children who have combined hearing and vision impairments.

√ Share this brochure and information about this research project with children's hospitals and other facilities who work with children at risk for vision and hearing impairment.

Red flags indicating possible visual abnormality include any <u>one</u> of the following:

- Child's eyes appear physically different
- Child was extremely premature or had an extremely low birth weight
- Child has significant motor disability
- Child uses vision inconsistently
- Child does not shift gaze smoothly from side to side
- Child does not track horizontally
- Child demonstrates a lack of visual regard
- Child does not respond to visual consequences as reinforcing

WHAT IS REQUIRED OF PARTICIPATING COCHLEAR IMPLANT CENTERS?

Implant centers will receive brochures about the project to distribute to parents of children who are potentially eligible to participate. Centers can also help identify potential participants by sharing information about the project with community children's hospitals. In many cases, health care providers at children's hospitals are the first to identify combined hearing and vision impairment in a child.

Implant centers will <u>not</u> be asked to administer assessments for the purposes of this project. Communication, cognitive, and social skills assessments will be conducted by personnel from collaborating state deaf-blind projects at locations chosen by individual families. Implant centers will <u>not</u> be asked to provide space for these assessments.

Audiological information and the results of auditory perception assessments will be requested for participating children. Consent will be obtained from each child's parent/guardian through a signed HIPAA release.