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Cochlear Implants: Pre-Implant Evaluations

As part of the cochlear implant process, a pre-implant evaluation is necessary to determine if a child is a candidate for a cochlear implant. Assessments and procedures included in the evaluation should be conducted by a multidisciplinary team with experience in working with children who are deaf or hard of hearing.

- A typical pediatric implant team includes; Ear, Nose, & Throat (ENT) physician/surgeon, nurse, audiologist, and speech-language pathologist.
- The team may also involve other specialists such as; an early interventionist, educational specialist, psychologist/counselor, social worker, neuropsychologist, and developmental pediatrician.

Pre-Implant Evaluation Process

Step 1: Cochlear Implant Orientation:

The purpose of this is to orient a child and his or her family to the cochlear implant and the cochlear implantation process. Topics generally discussed with a family may include:

- What is a cochlear implant and how does it work?
- Surgery and post-surgery process
- Follow-up and intervention schedules
- Cost of implantation
- Realistic expectations of cochlear implant benefits
- Warranties and insurance

Step 2: Audiological Evaluation:

As part of the pre-implant evaluation, an audiologist will measure the child's hearing levels. Testing will also be completed to see if amplification with high-powered hearing aids can provide enough auditory information.

Step 3: Medical Evaluation:

An Ear, Nose, & Throat (ENT) surgeon determines if a child can safely undergo general anesthesia and reviews imaging such as a CT scan or an MRI to ensure that the cochlea are suitable for insertion of the electrode array. The physician will also look for any other medical conditions that would prevent the use of an implant.

Because children who have a cochlear implant are at a greater risk for contracting meningitis than children who do not have a cochlear implant, the physician will also ensure that the appropriate vaccinations for protection against pneumococcal bacteria have been ordered and completed.

The following links from the CDC.gov website may be helpful:

- Use of Vaccines to Prevent Meningitis in Persons with Cochlear Implants
- Pneumococcal Vaccination for Cochlear Implant Candidates and Recipients

Step 4: Speech-Language Evaluation:

A speech/language pathologist conducts an evaluation that looks at the child's overall communication abilities, including receptive and expressive language, functional auditory skills and speech production as well as the child's potential for growth in these areas.

- Parent questionnaires are usually used to gather information if the child is very young.
- Standardized tests administered in the child's primary mode of communication are used with older children.
- The results of this evaluation are used to determine the child's areas of strength, to identify ways to help the child further develop communication skills, and to serve as a baseline from which to compare subsequent performance.

Step 5: Expectations Discussion:

The purpose for discussing expectations is to determine if a family has an understanding of:

- The benefits and limitations of a cochlear implant device
- Realistic expectations for their child
- Factors that can influence ultimate outcomes and which ones might apply in their child's case so that they can make well-informed decisions regarding the implant

Step 6: Vestibular Evaluation:

Vestibular testing may be requested to determine;

- The health of a child's balance system and
- To measure a baseline function to which future test results can be compared

Step 7: Psychosocial Evaluation:

A psychosocial assessment looks at factors that can influence adjustment to or benefit from a cochlear implant. For instance, if family dynamics or behavioral problems present potential obstacles to success with a cochlear implant, appropriate intervention can be recommended or provided.

A psychosocial assessment might also be used:

- To address questions about reasonable expectations
- To ensure that a child and/or family are highly motivated and willing to participate in an extended rehabilitation program and
- To examine the potential candidate's cognitive abilities to rule out factors other than hearing loss, which may account for poor auditory and speech-language development.

Step 8: Neuropsychology Evaluation:

Cochlear implant candidates may be referred for a neuropsychological evaluation if there is some concern about cognitive impairment that could impact the ability to actively participate in post-implant processes.

Step 9: Social Worker's Services:

The social worker provides:

- Guidance and support to the child and the family
- Help with financial planning and exploring options for financial assistance, and
- Coordinates necessary appointments and services
- Counseling for families

Step 10: Cultural Viewpoint:

For more information on varying cultural views of cochlear implantation, please visit the following websites:

- National Association of the Deaf
- Laurent Clerc National Deaf Education Center
- Alexander Graham Bell Association