



BIAP recommendation n° 07/4 – 25/5 : Bilateral Cochlear Implantation in Children

Introduction

The goals of bilateral cochlear implantation, simultaneous or sequential, are mainly to improve the binaural function: improve discrimination under unfavorable acoustic conditions, increase in loudness, elimination of a head masking effect, spatial localization. Despite all of these potential benefits, the child remains a deaf child, however, his or her auditory education and global care remain indispensable. Bilateral vestibular privation can lead to psychomotor disorders that justify a specific treatment.

Procedures

Simultaneous bilateral cochlear implantation is a surgical procedure and justified only if clinical and audiometric criteria are met.

Sequential cochlear implantation is the implementation of a second implantation at a different time, as justified by the evolution of clinical, audiometric, prosthetic criteria or the family's approval. The interval between the two *procedures* must be as shorter as possible due to the critical neuroplasticity period.

Bilateral implantation criteria (indications)

Non discussed indications are recent meningitis (emergency) and Usher syndrome type 1.

In other cases, the audiometric criteria are: profound bilateral deafness and/or the absence of prosthetic improvement permitting comprehension of speech (phonetic discrimination tests possible before the age of 12 months). The BIAP emphasizes the importance of a precise audiophonological evaluation as well as the necessity for a sufficiently long follow up of the young child.

If the functional results obtained following the first implantation are unsatisfactory, a new diagnostic evaluation is necessary.

Parental guidance and information

In cases of bilateral cochlear implantation, the BIAP recommends adaptive parental guidance.

Guidance must begin as soon as implantation is decided and continue throughout the post-implantation period.

Regardless of whether or not the parents are deaf, parental guidance for simultaneous or sequential double cochlear implantation will be different.

For a simultaneous cochlear implantation, parental guidance must be determined in terms of the family's experience with regard to two factors:

- The medical diagnosis' effect on the family at the time deafness was determined,
- The level of difficulty in making rapid, important decisions regarding the recommended therapeutic solution.

The impact of the surgical procedure on the desire for reparation must be considered.

The emotional context requires specific guidance implemented directly by an audiophonological team in its psychosocial dimension (expression of feelings, managing emotions).

In the case of a sequential cochlear implantation, parental guidance must be determined in terms of:

- Revisiting the emotional effect due to a second surgery
- Having to once again expend a great deal of energy, the fear of having to return to basic auditory training
- Psychological exhaustion
- The impact of the surgical act on the resurgence of the desire for reparation

For each child

Whether the implantation is simultaneous or sequential, it is essential that parents grapple early on with the reality of deafness, the importance of visual communication, and respecting the deaf child's identity process. Parents will also determine the advantages and limits of a second cochlear implant in the functional result.

Athens, 1st may 2011

This recommendation is based upon a multidisciplinary collaboration.

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