

An evaluation of the impact of age at cochlear implantation on language development: a professional and parental perspective.

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May 2009

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This dissertation is submitted in partial fulfilment of the requirements governing the award of  
Master of Science in Educational Audiology

## ABSTRACT

The neonatal hearing screening programme allows infants with hearing loss to be identified at birth and for confirmation of the exact nature of their hearing loss very early in infancy. This promotes the early identification of profoundly deaf infants, who may be candidates for cochlear implantation. The available literature appears to recommend early implantation to facilitate overall language development (e.g. Anderson et al. 2004; Tomblin et al. 2005). However, this presents a challenge for practitioners supporting the families of newly diagnosed profoundly deaf infants, because it is important that parents are enabled to make a truly informed decision about cochlear implantation.

There is a need for more information to enable families and professionals to gain a greater insight into the impact of age at cochlear implantation on subsequent language development. There is also a need for the views of parents, who have been through the process of diagnosis and cochlear implantation, to be recorded and used to inform other parents in their decisions.

This small scale longitudinal research study monitors the language outcomes of seven cochlear implanted children, aged between 2 years 5 months and 13 years 2 months, in order to analyse both retrospective and current data related to language acquisition. The mothers of these children were also interviewed to obtain qualitative data, which could be thematically analysed.

The results indicate that the most successful language outcomes following cochlear implantation were found in the children implanted under the age of four. The subjects achieving the highest Non-looking Vocal Turns and Meaningful Auditory Integration Scale scores at 12 months post implant, were also those with the highest scores for the Test of Reception of Grammar and Pre-School Language Scales. Scores achieved in phonological ability were also strongly linked to all other positive language outcomes in the group of older children. Consistent use of the speech processor during the first twelve months following implantation was also predictive of later positive outcomes.

The mothers interviewed recognised the need for early implantation, but expressed anxiety related to surgery in very young infants. They also highlighted the value of obtaining information from other families with experience of the cochlear implantation process. This suggests that the information gained from other families is equally as important as professional advice, in enabling parents to make an informed decision about cochlear implantation.