Abstract

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Cochlear implantation in children under two: safety studies at the University of Melbourne

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Cochlear implantation has an established role in the management of profound deafness in children of two years of age and above. The potential benefits of stimulating the auditory system in a young, deaf child, at as early an age as possible, have lead to the development of interest in implanting children under two.

Before such a strategy can be adopted the safety of implantation and stimulation in these young patients must be clearly established.

Safety studies conducted at the University of Melbourne over five years have examined four specific areas:

1. The effect of chronic electrical stimulation on the maturing auditory system
2. The risk of intracochlear spread of otitis media and strategies to prevent such spread
3. The effect of implantation on skull growth and vice versa
4. The design of a removable/replaceable device

This paper provides an overview of each of these areas of study. The results obtained show that whilst implantation in this age group appears to be safe, several important issues relating to the design of future implants remain to be addressed.

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