

Spoken word recognition in cochlear implant children: a five-year study on speakers of a tonal language

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ABSTRACT

Objectives: To study the effects of age at implantation and duration of implant use on the performance of spoken word recognition of paediatric cochlear implantees in a tonal language setting over a period of five years.

Study Design: 64 children, implanted between the ages 1;01 and 14;09 (yr;mo) were divided into three age groups. They were tested on open-set word recognition ability at seven time intervals from before surgery to five-years post-surgery. ANOVAs with repeated measurements were employed to examine the effect of their age at implantation and the duration of implant use.

Results: Duration of implant experience was significant in spoken word recognition across the three age groups ($p < .01$). Children implanted below the age of three caught up with the performance of the older children at 12 months following implantation. The difference in score reached statistical significance at two and at three years after surgery ($p = .03, p = .00$).

Conclusions: The performance of Cantonese-speaking children was similar to that of English-speaking children, in that better outcomes were associated with longer implant experience as well as when implantation occurred at a younger age. The children implanted before the age of three and who had an implant experience of more than two years outperformed the children who were implanted after the age of six, and also sustained these higher scores throughout five years of post-implant testing.

Keywords: Cantonese; spoken word recognition; age at implantation; long-term outcome; implant experience; cochlear implant.