

## **SPEECH SYLLABLE PERCEPTION AMONG MANDARIN SPEAKING COCHLEAR IMPLANT CHILDREN**

Lim Bee Ying

This study was to compare speech perception among children with cochlear implant who use Mandarin as the main language with and without pre-processing strategy ADRO (*Adaptive Dynamic Range Optimization*) in quiet and in noise. The purpose of this study is also to investigate the correlation between the age of implantation and duration of implantation with the speech perception score by using speech syllable pattern perception test. In this study, speech syllable perception test was used to compare the speech performance of the cochlear implant children under four situations which were with pre-processing strategy ADRO (*Adaptive Dynamic Range Optimization*) in quiet, without pre-processing strategy ADRO in quiet, with pre-processing strategy ADRO in noise and without pre processing strategy in noise. Multitalker babble was used as the background noise in the noisy situation. Twenty-six subjects who had duration of implantation of three years and above were selected to participate in this study. Score of item response and syllable pattern response will be recorded. In general, result from this study shows that there was significant difference in speech perception under the four situation tested. Two way ANOVA revealed that there was a significant difference in speech perception in quiet and in noise [ $F(93,75) = 7.496, p < 0.05$ ]. However, there was no significant difference in noisy environment with and without the pre-processing strategy ADRO [ $F(3,75) = 7.496, p > 0.05$ ]. In addition, there was no significant correlation between the age of implantation and duration of implantation with the speech perception score. In conclusion, Mandarin speaking cochlear implant children can perceive different syllable pattern words well.

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