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Electrode Discrimination and the effect on Speech Perception for
Adults with Cochlear Implants

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Zwolan et al (1997) showed that electrode discrimination can have an effect on speech perception for adult cochlear implant users with the Nucleus Mini 22 multi-channel device. The purpose of this study was to evaluate electrode discrimination in subjects using different implant systems and speech processing strategies to observe the effect that switching off undiscriminable electrodes has on speech perception.

17 postlingually deafened adults were tested; they used either a Nucleus 24 device (either using SPEAK or ACE processing strategies) or an Advanced Bionics HiRes cochlear implant (either using HiRes or HiRes120 strategies). Only electrodes that were activated in the subjects' clinical maps were tested in the electrode discrimination task. Electrode discrimination was performed using standard clinical software at comfortable listening level and pairs of electrodes that scored less than 60% were deemed undiscriminable. One of the undiscriminable pair was switched off and the electrode selected was determined from the results of the other electrode pairs.

Performance was evaluated prior to and immediately after switch off and at a follow up appointment 1 month later.

Zwolan T, Collins L and Wakefield G (1997). *J. Acoust. Soc. Am.* 102(6). 3673-3685