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Titel des Beitrags: Normative findings of electrically evoked compound action potential measurements using the neural response telemetry of the Nucleus CI24M cochlear implant system.

Abstract: One hundred and forty-seven adult recipients of the Nucleus 24 cochlear implant system, from 13 different European countries, were tested using neural response telemetry to measure the electrically evoked compound action potential (ECAP), according to a standardised postoperative measurement procedure. Recordings were obtained in 96% of these subjects with this standardised procedure. The group results are presented in terms of peak amplitude and latency, slope of the amplitude growth function and ECAP threshold. The effects of aetiological factors and the duration of deafness on the ECAP were also studied. While large intersubject variability and intrasubject variability (across electrodes) were found, results fell within a consistent pattern and a normative range of peak amplitudes and latencies was established. The aetiological factors had little effect on the ECAP characteristics. However, age affected ECAP amplitude and slope of the amplitude growth function significantly; i.e., the amplitude is higher in the lowest age category (15-30 years).
Principal component analysis of the ECAP thresholds shows that the thresholds across 5 electrodes can be described by two factors accounting for 92% of the total variance. The two factors represent the overall level of the threshold profiles ('shift') and their slopes across the electrode array ('tilt'). Correlation between these two factors and the same factors describing the T- and C-levels appeared to be moderate, in the range of 0.5-0.6.