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Neural response thresholds in the Nucleus Contour cochlear implant before and after stylet removal.

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Abstract

CONCLUSION: The study shows that there are differences in the measurement of the action potentials with and without the stylet in the Nucleus Freedom Contour Advance that are higher in the apex than in the base of the cochlea.

OBJECTIVES: To determine if there are differences in the intraoperative impedances and in the neural response telemetry threshold values in the Nucleus Freedom Contour Advance before and after stylet removal.

SUBJECTS AND METHODS: This was a prospective clinical study. Intraoperative impedances and neural response telemetry in users of the Freedom Contour Advance Cochlear Implant were measured before and after stylet removal.

RESULTS: There was a significant reduction in the impedance values of an average $1.5 \text{ k}\Omega \pm 2.3$ in common ground mode and $1.3 \text{ k}\Omega \pm 2.3$ for all monopolar modes after the stylet removal ($p < 0.001$). When analyzing the apical, medium, and basal electrodes, there was a statistically significant reduction in the neural response thresholds after stylet removal only in the apical electrodes ($p = 0.001$).