> Objective of the study
To study the conservation of residual hearing in recipients of the Nucleus® 24 Contour Advance™ cochlear implant and the benefits of combined electrical and acoustic stimulation.

> Study design
Adult recipients with residual hearing were implanted using soft surgery technique. The soft surgery technique included a 1-1.2mm anterior-inferior cochleostomy with a 17mm insertion using the Advance Off-Stylet™ (AOS) technique. Hearing thresholds were measured before and after surgery. Patients with sufficient hearing post-operatively were fitted with an ITE hearing aid for electro-acoustic stimulation.

> Key findings in the paper include
This article is about the preservation of residual hearing in a large number of adults implanted with a full-length Contour Advance electrode with AOS technique, and benefit derived from the use of residual ipsilateral residual hearing amplified with an ITE hearing aid.

- Of a group of 27 subjects implanted with a full-length array 10 (the “El-Ac” group) retained enough hearing for an ipsilateral hearing aid to be of sufficient benefit (no greater than 80 dBHL at 125 and 250 Hz, and no greater than 90 dBHL at 500 Hz).
- Of a subset of 12 of the 27 subjects where there were no surgical deviations from a “soft surgical” approach 9 (75%) retained hearing sufficient to fit a hearing aid.
- Long term data was available for 9 patients. Hearing was stable for 5 of these 9 after 13 months.
- Of the subjects who had sufficient hearing to use electro-acoustic hearing, mean performance on words in quiet and sentences in noise statistically improved.
- Subjects in the El-Ac group had similar CI only (ie. Not using acoustic hearing) performance to subjects who had lost residual hearing (“CI-only users”).
- 78% of the electro-acoustic subjects preferred a program where the CI provided only higher frequencies compared to typical CI frequencies.