SUMMARY

ECAP measurement can provide information about integrity of the child auditory system, the functionality of the implanted device and the location of cochlear implant electrode array. The most well documented effect of cochlear implantation is a marked increase in children’s ability to comprehend speech. Telemetry evoked compound action potentials (TECAP) were incorporated in three major manufacturers’ (Cochlear, Advanced Bionics and MED-EL) CI programming and testing software.

The purpose of this study was to find an association between intraoperative neural telemetry responses and postoperative language acquisition of cochlear implanted children in order to use neural telemetry threshold as an objective predictor of performance of CI.

In the current work the studied group included 60 prelingual profoundly deaf children, their mean age at operation was 48-66 months, they were implanted at the cochlear implant unit of Wadi El Neel hospital, they were selected according to the criteria of selection of CI which was described early in the methodology section they were implanted as follows:

- 20 children received Nucleus Freedom.
- 20 children received Opus 2.
- 20 children received AB Harmony.

Mean values of Intraoperative NRT for Nucleus Freedom, NRI for Advanced Bionics and ART for MED-EL Sonata were collected from all of the study groups it was [3.4-7.7] charge per phase, After one year of
Summary

Continuous use of CI all children enrolled in language assessment which is measured by (El Sady et al) Language test which includes calculation of receptive, expressive and language ages with respect to postoperative performance, results from this study demonstrated that intraoperative ECAP threshold can be used to reliably predict future language acquisition abilities for children one year after implantation.

The study suggested that there was a negative correlation between age at implantation and each of expressive, receptive and different language ages, which means that children have been implanted at younger age acquiring language better than older children.

There was strong correlation between parent cooperation and children language acquisition.