CHAPTER 8: FUTURE DIRECTIONS

The study has shown the efficacy of performing multi-modal electrophysiological tests and their clinical application into a statistical method, for predicting unknown behavioural levels among various cohorts of comparable cochlear implantees. These cohorts comprised of non-syndromic profoundly hearing impaired children aged between 2 to 12 years, with normal cochlear anatomy, age appropriate milestones, normal mental status and no additional handicaps.

Results from the study help to infer that multi-modal electrophysiological testing by recording a minimum of three offset-based electrophysiological thresholds, may be helpful in predicting optimal most comfortable levels (when unknown) across the array in order to provide an initial MAP in difficult scenarios.

The future directions with regards to the present study, will be to analyze the clinical utility & efficacy of this method for optimal programming in a spectrum of complex, ‘Difficult to MAP’ situations, especially among very young children (<2 years), candidates with syndromes, inner ear / VIII nerve anomalies, multiple handicaps, mental retardation, autism, central auditory processing disorder, auditory neuropathy spectrum disorder, etc.
It would be interesting to analyze electrophysiological responses & their behaviour correlations among implantees with congenital inner ear anomalies like Incomplete Partitions, Mondini’s Dysplasia, Common Cavity, Large Vestibular Aqueduct Syndrome, Hypoplastic Auditory Nerves, Labyrinthitis Ossificans, Short & Rotated Cochlea etc.

The presence of such a wide and varied spectrum of conditions, which audiologists practically come across while programming cochlear implantees, opens up immense scope & potential for further research in this intriguing field of cochlear implant electrophysiology.