

THE USE OF CLICK-ABR AND STEADY STATE EVOKED POTENTIALS FOR HEARING ASSESSMENT IN YOUNG COCHLEAR IMPLANT CANDIDATES

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The accurate assessment of hearing thresholds in prospective cochlear implant candidates is essential. As the minimum age of implantation has reduced, audiologists have been faced with the complicated task of obtaining precise audiometric information in children whose immaturity may severely restrict the assessment process. Clearly for these young candidates, there is a place for a reliable, objective measure of residual hearing in the pre-operative test battery. This paper examines the degree of accuracy with which the click-ABR and the steady-state evoked potential (SSEP) techniques can provide estimates of hearing level in subjects with severe/profound hearing loss. ABR and SSEP thresholds elicited from 105 such children, were compared with hearing levels obtained behaviourally. Results indicated that the click-ABR test with its broadband stimulus, and presentation level restrictions (≤ 100 dBnHL), could offer only limited insights into the hearing losses of these subjects. The SSEP technique, employing modulated tones at levels as high as 120 dBHL on the other hand, was able to provide precise threshold estimates for a range of frequencies in ears with little or no residual hearing. As such, the steady-state evoked potential test can offer an important safeguard in the paediatric selection process, potentially identifying children whose hearing might be better than suggested by behavioural test results.



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