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PHAKHAWAN SRIJAN: THE AUDITORY BRAINSTEM RESPONSE TO  
BONE- CONDUCTED CLICKS IN NORMAL HEARING ADULTS. THESIS  
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The purpose of this research was to study the Auditory Brainstem Response to bone-conducted clicks and to compare them to air-conducted clicks. The study was conducted on fifteen male and fifteen female adults with normal hearing, aged 20-40 years. The instrumentation used in this study was the IHS model SMART EP with an insert earphone (ER-3A) and a bone vibrator (B-71). The click stimuli were presented at the rate of 7.1 per second with alternating polarity. The intensity was attenuated at 50, 40, and 30 dBnHL and down to ABR threshold. The filter settings in BC-ABR and AC-ABR were 30-3000 and 100-3000 Hz, respectively. In BC-ABR, if there was no clear wave I, contralateral air-conducted broadband noise masking at 50 dB SPL was employed via the insert earphone.

The results of this study showed that the morphology of BC- ABR was similar to that of AC-ABR. The mean BC-ABR threshold was 18.50 ( $\pm 5.89$ ) dBnHL and showed no significant difference between gender and two stimulus deliveries (AC- and BC-ABR). The mean latencies of wave I to bone-conducted clicks at 30, 40, and 50 dBnHL were 4.059 ( $\pm 0.571$ ), 3.396 ( $\pm 0.348$ ), and 2.842 ( $\pm 0.328$ ) msec, respectively. The mean latencies of wave V to bone-conducted clicks at 30, 40, and 50 dBnHL were 7.789 ( $\pm 0.386$ ), 7.191 ( $\pm 0.310$ ), and 6.621 ( $\pm 0.380$ ) msec, respectively. There were statistically significant differences in wave I and wave V latencies between two stimulus deliveries at 30, 40, and 50 dBnHL. In addition, the BC-ABR wave V latencies were significantly different between male and female subjects at 30, 40, and 50 dBnHL. Also, in BC-ABR wave I latencies, there were significant differences between gender at 30, 40 dBnHL. However, there were no significant differences in the BC-ABR wave I at 50 dBnHL.

The findings of this study could also be used to estimate cochlear reserve and differential diagnosis between conductive and sensorineural hearing loss in infants, children and adults with aural deformities or for whom conventional psychometric test methods may not be possible.