

## Documents

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**Investigating the Effects of Level-Specific CE-Chirp on Auditory Brainstem Response Waves in Normal Hearing Infants**

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**Abstract**

Background: Auditory brainstem response (ABR) to the level-specific (LS) CE-Chirp has been reported to provide optimum neural synchrony along cochlear partitions, theoretically improving ABR waveform resolution. Despite this promising finding, limited studies have been conducted to contrast the results between LS CE-Chirp and Click stimuli. The current study aimed to compare the results of ABR between the two stimuli (Click and LS CE-Chirp). Method: Sixty-seven normal-hearing infants, both with and without risk factors, aged less than 7 months old, participated in this study. The ABR test was conducted at 70 dBnHL using 33.3 stimulus repetition rates with both Click and LS CE-Chirp stimuli. The signal averaging was stopped at a maximum fixed signal average of 2,500 sweeps. Data were statistically compared between the two stimuli using the Wilcoxon signed-rank test. Results: The waves I and V ABRs elicited by LS CE-Chirp exhibited significantly larger amplitudes than the Click stimulus. However, the amplitude of wave III and absolute latencies were similar in both stimuli at a supra-threshold level. Conclusion: LS CE-Chirp has the advantage of larger amplitudes than the ABR from Click at the supra-threshold level (70 dBnHL) in normal-hearing infants. © Penerbit Universiti Sains Malaysia, 2024.

**Author Keywords**

auditory brainstem response; brain stem; evoked potential; infants; LS CE-Chirp

**Index Keywords**

article, brain stem, cochlea, event related potential, evoked brain stem response, evoked response, female, hearing, human, human experiment, infant, latent period, mass screening, normal human, risk factor, waveform, Wilcoxon signed ranks test

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