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The effects of polarity of click stimulation on auditory brainstem responses (ABR) in patients with cochlear and retro-cochlear disorders in Amiralam and Resalat Hospitals 1995-97

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### Abstract:

Background: Auditory brainstem response (A.B.R) is one of the most important electrophysiological tests in evaluating of auditory system, especially for diagnosing of auditory nerve and brainstem disorders. It is a non-invasive test and has reliability and validity characteristic. There is no contra-indication for this test. One of the most important of stimulation parameters of A.B.R is click polarity (rarefaction, condensation and alternative). Some of the investigators believed that different polarities have no effects on A.B.R are affected by different polarities. Materials and Methods: In this study, the results of ABR of 148 patients (296 ears) were compared with three different polarities of rarefaction, condensation and alternative half click stimuli. The cases were categorized in three groups of normal (60 cases), cochlear (62 cases) and retro-cochlear (17 cases). This classification were done according to the hearing level in pure tone audiometry results in three frequencies of 1000, 2000, 4000 Hz and to the site of the their disorders. The mean absolute latencies of waves I, III and V were obtained for each polarity. Inter-peak latency (I.P.L) of wave also measured in three groups (normal, cochlear and retro-cochlear). Results: The results were showed a significant difference between absolute latency of wave I among different polarities on three above mentioned groups ( $P < 0.05$ ). There were no significant discrepancy for other waves of III and V and Inter-peak latency (I.P.L) of wave I to ( $P > 0.05$ ). Conclusion: It was concluded that rarefaction polarity has better and more stable results of ABR tests.

### Keywords:

[Auditory brainstem response \(ABR\)](#) , [Polarity](#) , [Latency](#) , [Cochlear](#) , [Retro-cochlear](#)

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