

Accuracy of Behavioural Threshold Prediction Using Steady-State Evoked Potentials

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This paper examines the confidence with which predictions of hearing level can be made using the steady-state evoked potential (SSEP) technique. Steady-state evoked potentials are scalp potentials that can be elicited in response to sinusoidally amplitude and/or frequency modulated tones in sleeping or awake subjects. SSEP thresholds were obtained using frequency specific stimuli at octave frequencies between 250Hz and 4000Hz in 25 children and 35 adults with varying degrees of sensori-neural hearing loss. These levels, determined automatically by a computerised detection system, were then compared with thresholds obtained behaviourally. Linear regression analyses of this data have shown that the SSEP procedure allows objective estimates of hearing level to be made for a range of carrier frequencies to within 10dB accuracy on 96% of occasions.



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