

Establishing the test-retest reliability of Contralateral Auditory Suppression of Transiently Evoked Oto Acoustic Emissions.

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In this study, the reliability of measures of the contralateral suppression of transiently evoked otoacoustic emissions (CASTEAOE) will be examined. To assess the reliability of the CASTEAOE measure, it will be applied to a cohort of 30 normal individuals (15 males and 15 females) on two separate occasions separated by 14 days. CASTEAOE will be performed in two steps by using two contralateral suppression parameters for the purpose of stimulating two efferent auditory neuronal pathways; medial olivocochlear and acoustic reflex. Transiently evoked otoacoustic emissions (TEOAEs) will be obtained bilaterally by presenting 60 dbSPL non-linear click stimuli to the testing ear with and without a broadband noise suppressor at the contralateral ear. The contralateral suppression will be achieved by presenting 60dbspl and 80dbspl on two occasions to stimulate contralateral medial olivocochlear reflex and acoustic reflex respectively. The resultant absolute TEOAE suppression magnitude will be calculated for each octave band.(1000Hz, 1414Hz, 2000Hz, 2828Hz, 4000Hz) on both (with 60dbspl & with 80spl) occasions. Through this study, It is hoped to examine a consistent pattern and a normal range for the contralateral suppression magnitudes of transiently evoked otoacoustic emissions.

A test-retest research design will be used to establish the statistical stability of the measures of the CASTEAOE test. Demonstrating a statistically acceptable degree of repeatability of this test provides a stable platform to utilize the procedure confidently in clinical and research studies. If this measure is shown to be statistically stable, then it is expected that the outcomes of this study will help to inform future work and determine the clinical utility of this test in evaluating brain pathologies in the future.