

WIDEBAND ENERGY REFLECTANCE IN ADULTS WITH NORMAL MIDDLE EAR FUNCTION

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This study aimed to investigate the effect of age and gender on the wideband energy reflectance (WBR) test in adults with normal middle ear function. This cross-sectional study involved 101 adults from three different age groups; young adults (n =40), middle-aged (n =31) and elderly (n =30). In this particular study, WBR test using ReFlwin software over a frequency range of 280-8000 Hz was used to measure energy reflectance (ER) and ER pattern from each subject. In general, results showed that significant difference on mean ER values was found between three age groups at low and high frequencies. Specifically, mean ER values at low frequencies (i.e. between 280-560 Hz) were the highest in young adult group, whereas at high frequencies (i.e. between 2240-4490 Hz), the mean ER values obtained from this group were the lowest when compared to the other two age groups. Besides, statistical analysis tests also showed that gender has no significant effect on ER value as well as no significant interaction was observed between age and gender in each group studied. This study also showed that three WBR patterns which are W symmetry shape, asymmetrical W shape, and U shape were recorded from each age group. Additionally, two new ER patterns were also identified in this study. In conclusion, the findings of this study helps in understanding the aging process in the middle ear of adults' population. Hence, age specific WBR normative data is needed for the adult's groups.

Cheng, L.Y. 2011. Wideband Energy Reflectance in Adults with Normal Middle Ear Function. Bachelor of Audiology Thesis. Universiti Kebangsaan Malaysia.