

Emisje otoakustyczne produktu zniekształceń nieliniowych (DPOAE) przed i po okresie rocznego narażenia na hałas impulsowy

Distortion product otoacoustic emissions before and after one year exposure to impulse noise

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Summary

Introduction. Firearms are a common source of impulse noise that may be very harmful to the auditory organ. Impulse noise from weapons and explosions continually produces hearing damage among military personnel. The discovery of otoacoustic emission (OAE) has given a new possibility of early diagnosis of noise induced hearing loss. The transiently evoked otoacoustic emission (TEOAE) and distortion product otoacoustic emission (DPOAE) are non-invasive, objective and frequency specific audiometric tests for evaluating outer hair cell function. The aim of the study was to assess the effects of exposure to impulse noise on DPOAE after one year of the obligatory military service. **Material and methods.** The study comprised 92 (184 ears) soldiers, subjected to impulse noise during military service. The examine group was divided according total noise exposure. The control group consisted of secondary school students not exposed to noise. DPOAE was recorded before and after one year of military service. **Results.** After military service significant deterioration of DPOAE level was observed at frequencies of 1, 3, and 4 kHz on the right ear and 2, 5 and 6 kHz left one. **Conclusions:** 1. Reduction of DPOAE amplitude connected all frequencies. 2. We did not notice significant differences between groups connected total noise exposure.