

Ocena wpływu hałasu silników odrzutowych na TEOAE u techników obsługi samolotów

Jet engine noise influence on TEOAE in jet engine servicing personnel

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Summary

Introduction. Jet engine noise may be very harmful to the auditory organ. Transient evoked otoacoustic emission (TEOAE) seem to be non-invasive, objective and frequency specific audiometric test for evaluating hair cell damage caused by noise and other etiological factors. Sounds of high intensity often cause damage to the organ of Corti. It is well known that the outer hair cells often get damaged first. There are data that OAEs in humans and in animals become weaker after short exposures to noise and OAE measurements appear to be a sensitive method of monitoring the early cochlear changes after noise-induced trauma. The aim was to assess the effects of exposure to jet engine noise on TEOAE and in comparison to PTA in jet engine servicing personnel before and after one year. **Material and methods.** The study comprised of 40 men exposed to jet engine noise and 20 professional soldiers additionally exposed to impulse noise. Comparative group consisted of 40 men not exposed to noise with normal hearing. TEOAE and PTA were recorded in both group. **Results.** Reductions of TEOAE amplitude were noticed for the both group exposed to noise mainly for the frequencies of 1414 Hz ($p < 0.05$). The control group did not show any significant audiometric changes neither TEOAE during the time of experiment. **Conclusion.** The reduction of TEOAE in individuals exposed to jet engine noise was incommensurably greater than the changes in PTA. The technical personnel participating in jet engine tests (even in the case of a single exposure) are exposed to noise which greatly exceeds permissible and safe levels.