

LIMITATION OF EXPOSURE TO AIRBORNE ULTRASOUND

D. Harder
Institut für Medizinische Physik und Biophysik
Universität Göttingen
Gosslerstraße 10 - 34
3400 Göttingen
F. R. Germany

Ultrasonic equipment used e.g. for cleaning, drilling and emulsification has caused workers to complain from symptoms like nausea, headache and fatigue, and high noise levels of audible subharmonic components may result from ultrasonic cavitation. Consumer devices such as ultrasound intrusion controls, door openers and guidance aids for blind people can cause nervous reactions.

Based on a thorough review of the physics, the bioeffects and the possible hazards from ultrasound, the International Non-Ionizing Radiation Committee of IRPA has formulated guidelines for the setting of exposure limits to airborne ultrasound. For the ultrasonic frequencies, third-octave band acoustic pressure levels of 110 dB for workers and 100 dB for the general public are the proposed limits. The rationale for setting these limits and practical methods of protection including pressure level measurement will be discussed.