

Noise Exposure

This OSACH Fast Fact is intended to help workers, managers, employers and JHSC members understand recent changes to noise exposure requirements in Ontario.

What is Noise?

Noise is any unpleasant or unwanted sound, and sound is what we hear. The effects of noise exposure are dependent on the level of noise, the frequency and the length of time that a person is exposed. Noise-induced hearing loss (NIHL) is a permanent hearing impairment resulting from prolonged exposure to high levels of noise.

According to the Workplace Safety and Insurance Board (WSIB), hearing loss is the most pervasive of all occupational health problems, and the most preventable. WSIB data indicates that hearing loss resulted in an estimated \$100 million in compensation cost being paid between 1995 and 2004 (WSIB 2003).

Effects of Noise Exposure

- Temporary hearing loss can occur when a worker is exposed to noise and experiences a dullness in their hearing ability. After time spent in a quiet environment, hearing usually returns.
- Permanent hearing loss can occur with ongoing and prolonged exposure to noise, or can be caused by one-time exposure to an intense sound.
- Noise can affect daily task performance by increasing fatigue, causing irritability and decreasing productivity.
- Noise can produce communication interference by making it more difficult to hear and be heard.
- Noise affects not only hearing but also other systems in the body. For further information in non-auditory health effects visit http://www.ccohs.ca/oshanswers/phys_agents/non_auditory.html

Legislation

Amendments to the noise requirements under the Regulation for Industrial Establishment, O. Reg. 565/05 came into effect on July 1, 2007. Healthcare and community care organizations are held accountable to the regulation if noise is a hazard, through the general duty clause of the Occupational Health and Safety Act, which states that the employer and supervisor must "take every precaution reasonable in the circumstances for the protection of a worker." (Sections 25(2)(h) and 27(2))

The amended regulation (851) contains three main requirements which may be summarized as follows:

- Employers must take appropriate measures in order to protect workers if sound levels exceed Lex, 8 exposure limit of 85 dBA.
- Employers are required to implement measures to decrease workers' exposure if sound levels exceed limits prescribed by the regulation.
- Employers must post clearly visible warning signs in areas where the sound levels exceed 85 dBA regularly.

Recognize, Assess and Control Noise Exposure

- Recognize areas in the workplace where the noise level may pose a hazard. Raising your voice to be heard, the inability to hear a person speaking who is one metre away and/or pain or ringing in the ears after noise exposure are examples of situations where noise may be a hazard. In these areas, noise monitoring is prudent. The Canadian Standards Association's Standard Z107.56 (CSA 2006) provides guidance in appropriate equipment choice, specifications and/or procedures for the measurement and calculation of the Lex, 8 and Leq. Information can also be found online by visiting the Ministry of Labour MOL website at http://www.labour.gov.on.ca/english/hs/guidelines/noise/gl_noise_appa.html
- Assess the risk by comparing noise exposure level to legal requirements. If previous noise surveys have been conducted and noise levels at that time were close to 85 dBA, the employer may need to retest these areas. Setting an organizational action level of 80 dBA will further minimize negative health effects.
- Controls are required where noise exposure is a hazard. The employer should consider all three types of controls (engineering, administrative and personal protective equipment) when attempting to decrease noise exposure within the workplace. Engineering controls at the source are preferred methods. Controls at the worker should be a last resort. The following are some examples of how noise can be reduced or eliminated:
- Engineering controls such as replacing noisy equipment with quieter equipment, isolating workers from noisy areas by having them work in an enclosed room, isolating noisy areas with sound barriers, or isolating noisy equipment in an enclosed room
- Administrative controls including job rotation or preventive maintenance programs for equipment
- Personal protective equipment (PPE) should be considered a last resort to protect workers against noise exposure. The employer must ensure that PPE is appropriate and effective. For further information about PPE selection visit http://www.labour.gov.on.ca/english/hs/guidelines/noise/gl_noise_appd.html

Reference List:

Canadian Centre for Occupational Health and Safety 2007, "Noise – non-auditory effects", viewed 15 May 2008, <http://www.ccohs.ca/oshanswers/phys_agents/non_auditory.html>.

Canadian Standards Association 2002, *Hearing Protection Devices –Performance, Selection, Care and Use*, CSA Z94.2.

Canadian Standards Association 2006, *Procedures for Measurement of Occupational Noise Exposure*, CSA Z107.56.

Ministry of Labour 2007, *Amendments to Noise Requirements, in the Regulation for Industrial Establishments & Oil and Gas-Offshore*, viewed 15 May 2008, <<http://www.labour.gov.on.ca/english/hs/guidelines/noise/index.html>>.

WSIB 2003, *Hearing for Life: A Guide to Noise Control and Hearing Conservation*, viewed 01 June 2008, <[http://www.wsib.on.ca/wsib/wsibsite.nsf/LookupFiles/DownloadableFileNCHCGuide/\\$File/NCHCGuide.pdf](http://www.wsib.on.ca/wsib/wsibsite.nsf/LookupFiles/DownloadableFileNCHCGuide/$File/NCHCGuide.pdf)>.



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