THE CANADIAN HEARING SOCIETY
LA SOCIÉTÉ CANADIENNE DE L'OUÏE

The Canadian Hearing Society Position Paper on Noise Pollution

As noise pollution has a negative impact on hearing health, CHS strongly supports initiatives pertaining to hearing conservation and noise control.

The Issue

Noise pollution is a pervasive problem in today's society and we are constantly inundated with unwanted human-created sound that affects us on multiple levels. The word noise comes from the Latin word nausea, meaning seasickness and is often defined as unwanted or harmful sound. Although we may be exposed to a barrage of unwanted sounds, such as busy workplaces, crowded public transportation, the din of the city or the annoying hum of a neighbor's lawn mover, we often expose ourselves voluntarily to a variety of other noisy activities that we may enjoy such as: loud concerts, loud movie theatres, high volume settings on personal listening devices, fitness classes with loud music, recreational hunting and sporting events.

Exposure to noise affects our human condition in many serious ways including causing:

- temporary and/or permanent hearing loss
- tinnitus and/or ear fullness
- communication difficulties
- stress
- annoyance
- reduction in performance
- sleep disturbance, fatigue
- increase in blood pressure/hypertension
- gastrointestinal changes
- issues with learning and education

The Canadian Hearing Society (CHS) Position on the Issue:

As noise pollution has a negative impact on hearing health, CHS strongly supports initiatives pertaining to hearing conservation and noise control. CHS's position is in accordance with the component of our mission statement that promotes the advancement of hearing health.

Although noise-induced hearing loss is preventable, noise is one of the leading causes of hearing loss and statistics suggest a trend that the incidence of hearing loss is occurring at younger and younger ages. It is easy to take the sense of hearing for granted and ignore symptoms of hearing loss since they are generally not associated with pain. Noise-induced hearing loss occurs gradually over time and goes virtually unnoticed until it's too late.

Strategies for Noise Control: Remove – Reduce – Rest

The first line of defense against noise pollution is to remove as much noise as possible from the environment, and reduce the amount of noise that enters into the listening space. Following exposure to loud noise, auditory rest is key for allowing the hearing system an opportunity to recover.

General Strategies for Reducing Noise

- Reduce exposure to noisy situations whenever possible.
- Keep television and music set at a reasonable volume. Set the levels in a quiet atmosphere and don't raise volumes to drown out background noise.
- Wear hearing protection whenever you are using noisy equipment such as lawnmowers or leaf blowers, and when you are in noisy environments.
- Have your hearing tested every two years by an audiologist, especially if you experience ringing in your ears, muffling of sounds and/or difficulty understanding speech.

Specific Strategies for Household Noise

- Ensure that you and any nearby children wear hearing protection when using lawn mowers, power tools, chain saws, leaf or snow blowers.
- Keep televisions and music down to a reasonable volume.
- Buy appliances that are not as noisy (check for lower decibel levels).
- Avoid creating noise that will affect your community

Specific Strategies for Personal Listening Devices

- Look for a personal stereo system with an "Automatic Volume Limiter", which limits the output of the system to safe levels.
- Set your system at a comfortable level in a quiet room. Do not turn it up when you are in a noisy setting to "block out" the noise. This will only add to the noise and increase the risk to your hearing.
- Limit the amount of time you use the personal stereo system with headphones.
- Remember that the smaller earbuds of headphones do generate significantly more output than the larger (not in-the-ear) type of earphones.
- Stop using your personal stereo system if you notice any ringing in your ears, or that speech sounds are muffled after wearing it, and have your hearing checked by an audiologist.

Specific Strategies for Occupational Noise

- Reduce at source. Here, noise is reduced at the machinery sound source, and wherever possible machines are isolated or insulating materials are installed to muffle sound and damp vibration. In addition, the purchase of quieter machinery can greatly reduce the noise within a plant. This is the most effective method but not always possible.
- Reduce transmission. Barriers of acoustic materials, machine enclosures, equipment mounts, exhaust silencers and mufflers all help to reduce noise. Sound-absorbing coatings may be applied to machines, and plastic gears substituted for metal ones.
- Reduce exposure time. Workers should be rotated to less noisy areas regularly.
- Provide personal hearing protection. Either muffs worn over the ears or properly fitted inserts may be satisfactory. Both types are available at many sport stores and safety supply companies. A variety of hearing protection should be made easily accessible to the employee within the work area. In addition, employees should receive instruction on the proper fit and care of hearing protectors and their use should be encouraged at all times. An employee has a responsibility to comply with company policies regarding the use of hearing protectors. If protection is not available for a noisy work area, the employee should request it. Be aware that in some noise situations, no hearing protection will be satisfactory.

Specific Strategies for Noise in the Classroom

- Lobby provincial and territorial governments to develop standards for classroom construction to enhance acoustics in classrooms.
- Educate the public on how to improve acoustics in classrooms to attain an optimum learning environment for children.

Warning Signs of Noise-Induced Hearing Loss

- A ringing or buzzing in the ears immediately following exposure to noise
- A slight muffling of sounds making it difficult to understand people once you leave a noisy area.
- Difficulty understanding speech. You can hear the words but not understand all of them.

The Prevalence of Hearing Loss

Almost 25% of adult Canadians report having some hearing loss (CHS Awareness Survey 2002), although closer to 10% of people actually identify themselves as culturally Deaf, oral deaf, deafened, or hard of hearing.

The average age in Canada is 39 years; by 2030 it will be 45 years. In 2030, Canadians 65 years and older will represent 25% of the total population, nearly double their current 13% (Statistics Canada).

Hearing loss is the third most prevalent chronic condition in older adults and the most widespread disability (Fook 2000; Yueh 2003). Its prevalence rises with age. Reports indicate that more than 80% of patients over 85 have a hearing loss (Yueh 2003). Further, 46% of people aged 45-87 have hearing loss (Dalton 2003).

Couple these statistics with the fact that aging is the #1 cause of hearing loss, and the conclusion is clear that the incidence of hearing loss is poised to climb dramatically.

Terms Key to Understanding the Issue

Noise: Most often defined as the presence of unwanted sound.

Noise-Induced Hearing Loss (NIHL): Hearing loss caused by exposure to harmful sounds, either very loud impulse sound(s) or repeated exposure to sounds over 85 dBA for an extended period of time.

Decibel (dB): A logarithmic scale of intensity.

A Weighting: An electronic filtering in a sound level meter that allows the meter to largely ignore lower frequency sounds in a similar fashion to the way that our ears do.

The Rationale for CHS's Position

In addition to clear moral and ethical grounds, existing legislation, significant legal decisions and independent research reports support our position. In brief they are as follows:

<u>The World Health Organization (WHO)</u> states that in many countries, excessive noise is the biggest compensatable occupational hazard with the estimated costs of noise to those countries ranging from 0.2% to 2% of the GDP (gross domestic product). The WHO further states that noise-induced hearing loss is an important public health priority because, as populations live

longer and industrialization spreads, NIHL will add substantially to the global burden of disability.

The World Medical Association (WMA) Statement on Noise Pollution was amended in 2007 and included nine key recommendations to the National Medical Associations that included: to inform the public about the dangers of noise pollution; call upon ministers of transport to develop alternative concepts that reduce environmental noise pollution; advocate for appropriate statutory regulations for combating environmental noise pollution; support enforcement of noise pollution regulations and monitor effectiveness of control measures; inform young people of the risks associated with listening to loud music; prompt the educational authorities to inform pupils on the effects of noise on people; provide information about the risks of damage to hearing that arise in the private sector as a result of working with power tools or operating loud motor vehicles; emphasize the importance of noise protection in loud workplaces; and call upon persons responsible for occupational safety and health in businesses to take further action to reduce noise emission.

Under the Canadian Environmental Assessment Act, Health Canada provides advice to other Federal departments, public review panels and mediators on the potential health impacts of noise from a number of projects including expansions of airport runways, highways and railways as well as the building of wind turbines. To help with this work, Health Canada is developing National Guidelines for Environmental Assessment: Health impacts of Noise. Additionally, Health Canada conducts research to assess the potential health risks of community noise. This research is used to assess the need for regulations under the Radiation Emitting Devices Act for noisy outdoor machinery and equipment. Health Canada research is also used to help inform the public and if needed, make protective recommendations.

The Hazardous Products Act of Canada prohibits the sale of any toy that makes or emits sound exceeding 100 decibels (dBA) measured at the distance that the toy “ordinarily would be from the ear of the child using it”.

Workplace Safety and Insurance Board (WSIB) Among all occupational hazards, noise is the biggest cause of permanent disability claims settled by the Worker’s Compensation Board in Ontario. According to WSIB, hearing loss due to exposure to high levels of noise in the workplace results in an estimated $100 million in compensation costs being paid between 1995 and 2004.

Occupational Health and Safety Act R.R.O. 1990 Regulations 851 and 855: In January 2007, the Ontario government Ministry of Labour, introduced stricter limits for noise exposure in the workplace. Among other things, the government reduced the allowable exposure time to noise by workers in half.

Ontario Environmental Protection Act (EPA) Limits Noise: The Ministry of the Environment (MOE) is responsible for preventing excessive noise in Ontario. The loudness of sounds produced by human activity in Ontario is controlled by the laws stated in the Ontario Environmental Protection Act (EPA). The EPA indicates that noise is a contaminant and can have adverse effects such as: loss of enjoyment of the normal use of property; impairment of the quality of the natural environment, harm or material discomfort to any person, and an adverse effect on the health of people.

Municipal Noise Bylaws: Many municipalities throughout Ontario have noise bylaws in place. As an example, the City of Toronto By-Law No. 111-2003 states: “Whereas it is in the public

interest to reduce the noise level in the city, so as to preserve protect and promote the public health, safety, welfare and the peace and quiet of the inhabitants of the City and whereas, the making, creation or maintenance of excessive and unreasonable noises within the City affects and is a detriment to the public health, comfort, convenience, safety, welfare and the prosperity of the people of the City."

Canadian Association of Speech-Language Pathologists and Audiologists "Concerned About Classrooms" coalition: Coalition working toward protecting the learning environments and hearing health of millions of Canadian children, convincing provincial and territorial governments to develop standards for construction of classrooms, and educating the public about noise prevention in the classroom in order to attain an optimum learning environment.

Frequently Asked Questions

- *What level of noise is considered hazardous?*

  Typically, researchers indicate that if an individual were exposed to 85 dBA for eight hours a day over a number of years, this would result in hearing loss. The louder the sound the less time it takes to cause a hearing loss. Thus, the noisier the environment, the fewer exposures and fewer number of years it takes to produce significant hearing loss.

- *How can I protect my hearing?*

  The best protection is to avoid exposure to any loud sounds. Pay attention to the listening environment; turn down the volume on personal listening devices and reduce time participating in noisy hobbies, recreational activities and sports. Wearing protection, such as ear plugs or ear muffs, is strongly advised when in noisy environments or using loud equipment.

For more information please contact CHS Information Officer at The Canadian Hearing Society. Phone: 1-877-347-3427, TTY 1-877-347-3429 and e-mail info@chs.ca or visit us on the web at http://www.chs.ca.