

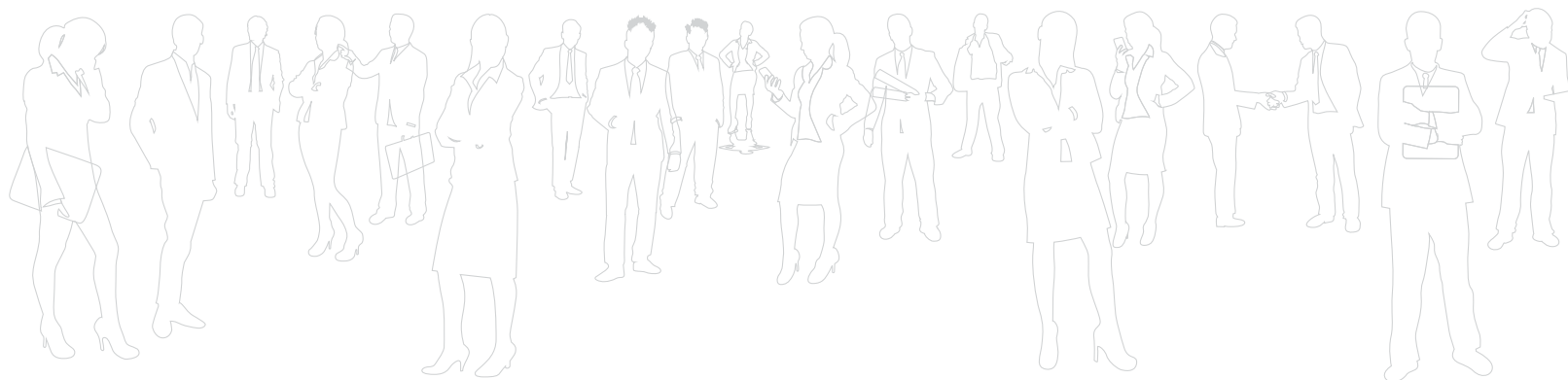
Management Essentials for an **Effective Hearing Conservation Program**



Workplace Medical Corp.

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Overview

Noise induced hearing loss (NIHL) is the most common occupational disease. It's 100% permanent, but it's also 100% preventable.

An employer must take measures to protect workers from exposure to an 8hr time-weighted noise exposure of 85dBA (decibels) or greater and/or 140dBC peak sound level.

This White Paper will explore the dangers of noise exposure, an employer's obligation to protect employees and how to create a hearing conservation program.

Executive Summary

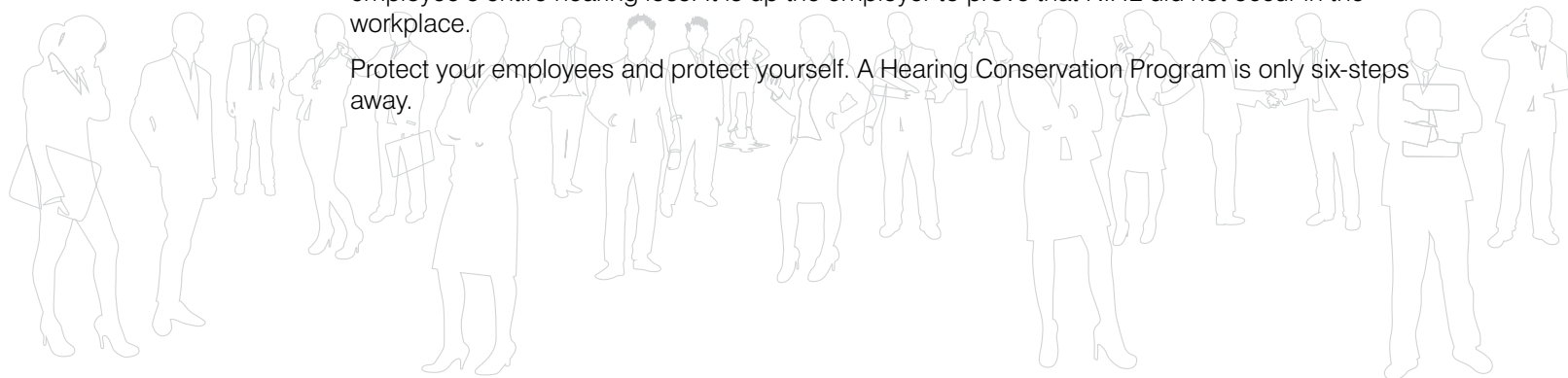
NIHL can be prevented with a comprehensive Hearing Conservation Program. NIHL is the leading occupational health disease in North America. Implement a proper Hearing Conservation Program, and decrease the risk of occupational health claims later on.

A Hearing Conservation Program (HCP) consists of Six Components:

- 1) **Noise/Dosimeter Surveys:** the Health and Safety Act mandates that workers must not be exposed to noise that exceeds 85dBA in an 8hr time-weighted average, or a 140dBA peak sound level. A noise/dosimeter survey will establish hazard zones and work areas.
- 2) **Noise Control:** Eliminating noise hazards is the best way to eliminate harmful noise exposure. Engineered solution, machine modifications, rotating shift work and hearing protection are ways in which employers can limit excess noise and achieve levels below 85dBA.
- 3) **Hearing Protection Recommendations:** The best hearing protectors are the ones that get worn. Whether it be an earplug or ear muff, the recommended hearing protection is determined by how much noise reduction is necessary.
- 4) **Education and Training:** Educating staff on the dangers of hazardous noise exposure and training employees as to how to properly protect their hearing proves to produce an effective HCP program. When quality of life is in question, employees listen up.
- 5) **Audiometric Screening (Hearing Testing):** Ongoing hearing testing will be able to detect early signs of NIHL, which are undetectable if not tested. Testing will also help employers see if their program is effective.
- 6) **Program Review:** the program should be reviewed annually to review results and set ongoing targets.

If employers do not routinely measure noise levels and obtain a baseline test on employees (to know where hearing levels started pre-employment), employers could be held liable for employee's entire hearing loss. It is up the employer to prove that NIHL did not occur in the workplace.

Protect your employees and protect yourself. A Hearing Conservation Program is only six-steps away.



Background

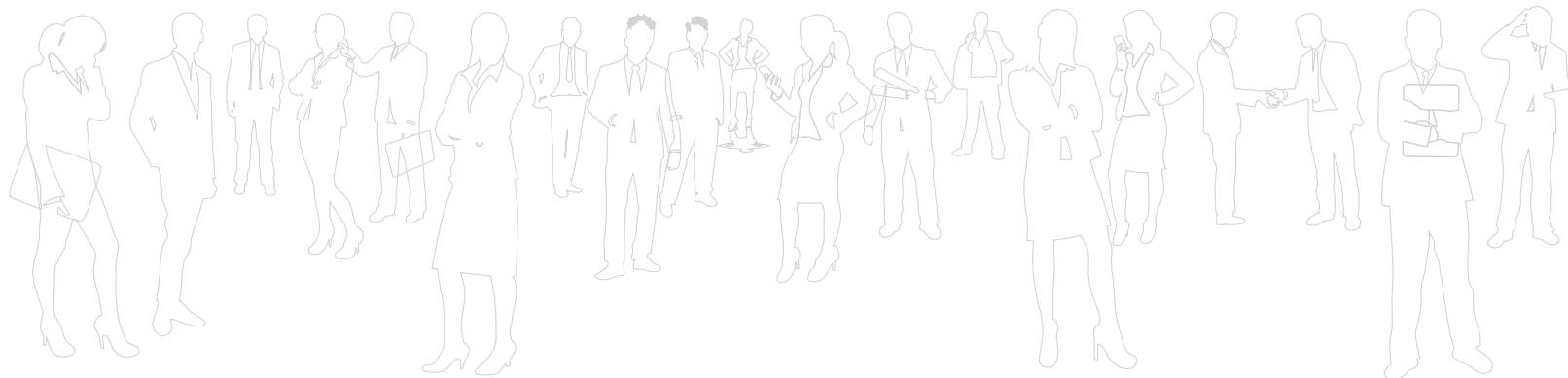
The Cost of Loss

According to Statistics Canada, more than one million adults across the country have reported a hearing-related disability. A 2006 study estimated that hearing loss costs the Canadian economy more than \$10.6 billion each year. According to Heather Ferguson, President of the Hearing Foundation of Canada, actual numbers may reach as much as three million, as hearing loss is believed to be under reported.

The Workplace Safety and Insurance Board (WSIB) estimated that, "in 2006, the average cost of a set of hearing aids and batteries for workers with noise induced hearing loss can reach \$11,000 every four years, payable from the time the claim is approved until the death of a worker. In the case of a 55-year-old worker who lives until the age of 83, the equipment costs could reach \$100,000. Workers with approved claims may also be eligible for future economic loss and non-economic loss awards, in addition to the hearing aids and batteries."

The problem with NIHL is that it is a very slow process. There is no blood, no pain, and often it takes years to manifest. For this reason it can often be difficult to convince people that anything is happening. After all, their hearing seems to be the same today as it did yesterday. The problem is, they eventually DO notice a change, but by then, permanent damage has already been done.

Statistics Canada reports that more than one million adults have reported a hearing-related disability. Numbers may be closer to three million.



Quality of Life

A Hearing Conservation Program consisting of noise hazard identification, hearing protection, education, hearing testing and noise reduction, will reduce the potential of WSIB claims lasting decades.

Common side effects of hearing loss include:

- **Communication Problems**
- **Social Isolation**
- **High Blood Pressure**
- **Anxiety**
- **Depression**
- **Fatigue**

Noise induced hearing loss begins by impairing the ability to hear high pitch sounds such as beeps and whistles. It is these tones that break up words into syllables, without which, voices (particularly women's and children's) sound muffled, as though they were talking with their hands over your mouth.

These tones also provide the directional cues that help us locate the source of a sound. Diminished ability to hear these tones can lead to accidents, miscommunication, and other costly mistakes both on the job and elsewhere. And eventually, the hearing loss begins to spread to the lower pitch tones as well, making it difficult to hear all voices, music, and many other things in our everyday life.

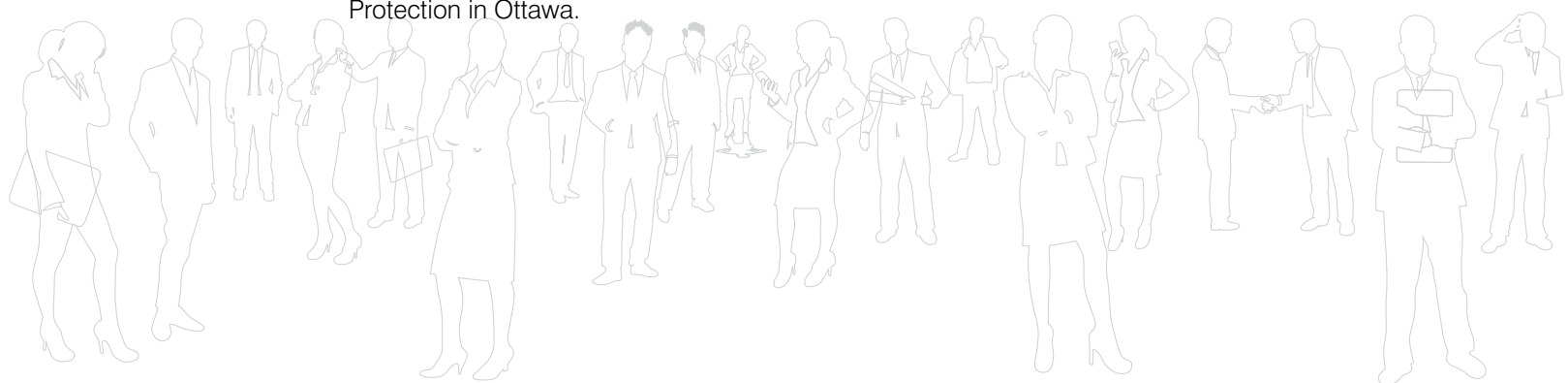
Employees with noise induced hearing loss often describe their lives as one of isolation, both at work and at home. They get confused and are unable to follow conversations, especially in crowded, noisy places. And because they have trouble hearing voices, they often live under tremendous anxiety and stress that affects both their job and their family life.

The isolation they experience can lead to serious withdrawal from the family and a shying away from social activities. It's worth noting that people with both hearing and vision loss, including Helen Keller, claim that the isolation from voices is harder to deal with than the loss of vision.

The Ministry of Labour reports that, "according to Veterans Affairs Canada, close to 320 military personnel who served in Afghanistan since 2001 are now receiving disability benefits linked to hearing loss. In 2001, Veterans Affairs had a total of 37,374 clients receiving treatment benefits for hearing loss with expenditures totalling \$22.6 million."

They also quote, "Hearing loss is the biggest occupational health issue in the Canadian Forces," according to Steve Tsekrekos, an occupational medicine specialist with the Force Health Protection in Ottawa.

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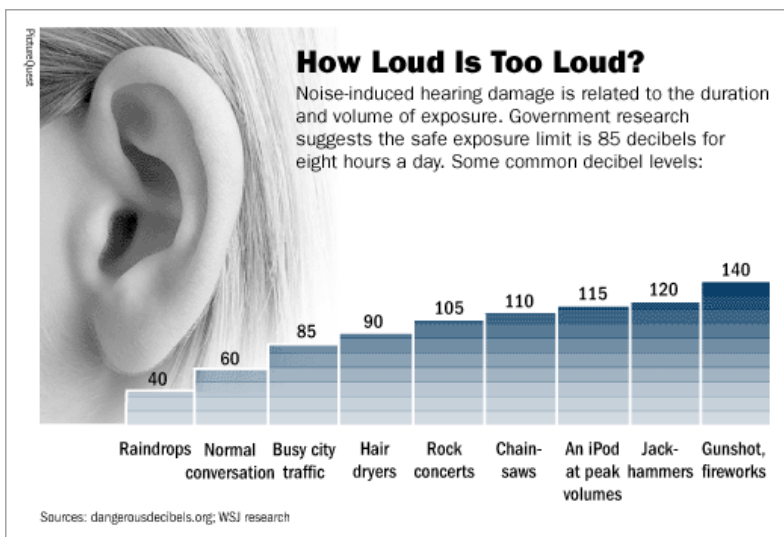




Dealing with Noise in the Workplace

In most jurisdictions, the employer's legal obligations may be summarized as follows:

1. An employer shall take measures to protect workers from exposure to an 8hr time-weighted noise exposure of 85dBA or greater and/or 140dBC peak sound level.
2. Where there is an exposure of 85dBA or greater, the employer must implement a hearing conservation program that includes:
 - **noise measurement**
 - **education & training**
 - **engineered noise control**
 - **hearing protection**
 - **hazard postings**
 - **annual hearing tests**
 - **annual program review**





Hearing Conservation Program Development

Due to the high noise levels often found in industry, a thoroughly comprehensive Hearing Conservation Program (HCP) is recommended. Outlined below are brief descriptions of the various elements that would be recommended by Workplace Medical Corp. when setting up a HCP program.

1. Noise Survey

Noise surveys and personal noise dosimetry will establish noise hazard zones, job types, and work stations. Once established, engineered solutions and/or hearing protection protocols can be implemented. Due to wear & tear, machinery tends to get louder as it ages. Therefore, surveys should be done every 1-2 years. They should also be done whenever there is a change in machinery or building structure.

2. Noise control:

Where noise hazards are present, the primary goal is to eliminate the hazard altogether. To this end, the first obligation of the employer (where practical) is to reduce the sound to safe levels through

- engineered solutions such as acoustical enclosures, barriers, etc.
- modification of the machinery, purchasing new and quieter equipment
- rotating work shifts which limit the worker's exposure to safe durations
- other similar approaches.

3. Hearing Protection:

Where the noise control solutions mentioned above are not applicable, appropriate warning signage must be conspicuously placed at the entrance to the noise hazard area and hearing protection must be provided to and utilized by anyone in the area.

The hearing protectors must be sufficiently rated for the noise level in the area. For this reason, consideration should be given to custom-fitted calibrated earplugs. These can be custom-calibrated to the exact noise level of the user. Furthermore, as comfort level is the most important factor in hearing protection compliance, these plugs offer a degree of comfort and effectiveness unavailable in other protectors.



4. Education & Training:

Over the years, we've come to realize that education is the most important factor in establishing an effective program. Almost as a rule, clients who put a strong emphasis on education have the most effective programs. Hearing safety seminars, generally about an hour in duration, answer all the basic questions that employees have about hearing, hearing loss, hearing protectors, noise, etc... The end result is a workforce that sees hearing conservation as a desirable personal responsibility, rather than a punishment or imposition. This safety training should be done on an annual basis.

5. Audiometric Screening (hearing testing):

All employees exposed to hazardous noise levels should be monitored for hearing loss on an annual basis. This is the only way of monitoring the effectiveness of your hearing protection program. This preventative measure will detect a hearing loss BEFORE the employee becomes aware it, meaning follow-up action can be taken at the earliest possible stage.

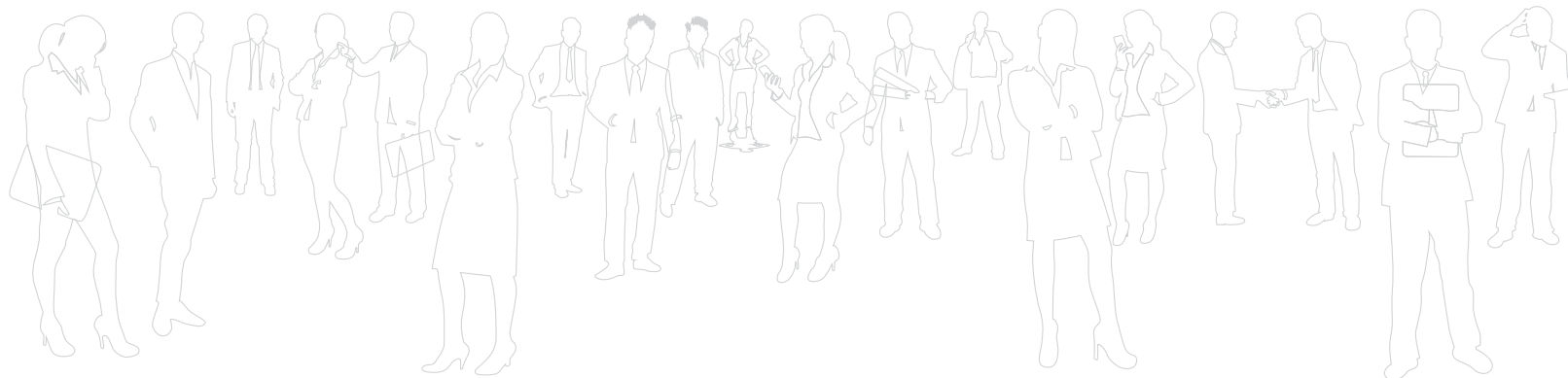
If the hearing loss is noise-related, it may mean that the hearing protection being used is either inadequate, not being worn correctly, or that there is unprotected noise exposure away from work. A brief questioning of the worker will establish which of these is most likely, and the appropriate action can be taken. If the hearing loss is medical in nature, a follow-up clinical examination should be arranged.

Many companies will utilize a mobile hearing testing service to perform the hearing tests. There are several advantages to this.

- Testing is done on site by trained and experienced specialists.
- In many cases these mobile units are highly time and cost efficient as they can test several people simultaneously.
- They can provide education to the employees and comprehensive statistical & trend reports to the client's management and/or medical team.

6. Program Review:

The program should be reviewed annually and in consultation with a specialist in these programs with an eye towards not just problem areas, but also towards improvements in education, participation, trends, a pro-active approach should be undertaken to address problems, improve the program, and set targets for the following year that will indicate a program success.





Workplace Medical Corp.

Workplace Medical Corp. has been providing mobile hearing testing since 1977. As Canada's premier mobile hearing testing service, we have helped guide the development of highly effective hearing conservation programs for thousands of businesses and government organizations across Canada. The experience of our management and consultants, the quality of our mobile units, and the dedicated professionalism of our certified technicians ensure unparalleled program and service quality.

Our highlights include:

- Medical Review & Supervision of tests and programs
- Fully certified and trained technicians
- Compliance with Ontario, OSHA and corporate protocols
- Fleet of 7 state-of-the-art Mobile Hearing Testing Trucks custom built to exceed all standards
- Trucks have office-like quality with central heating and A/C suitable for all seasons and environments
- Custom built clinical grade hearing booths with 4-inch thick walls exceeding industrial grade booths of only 2-inch thickness
- 6 simultaneous tests every 15 minutes. 24 tests per hour. Up to 250 per day.
- Proactive Management Report with comprehensive demographics, trend analysis and proactive action recommendations
- Letter of advice for each employee with comparisons to earlier test
- Full Hearing Conservation Programs include sound level surveys, education & training
- 24 hour service availability



For more information please contact us at www.workplacemedical.com or **1.800.268.6967**



References

Ministry of Labour. "Amendments to Noise Requirement in the Regulations for Industrial Establishment & Oil and Gas-Offshore". Health and Safety Guidelines. April 2007.

Arellano, Nestor E. "Hearing loss issue falling on deaf ears?" Canadian Occupational Safety. Monday, 16 March 2009. www.cos-mag.com.

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