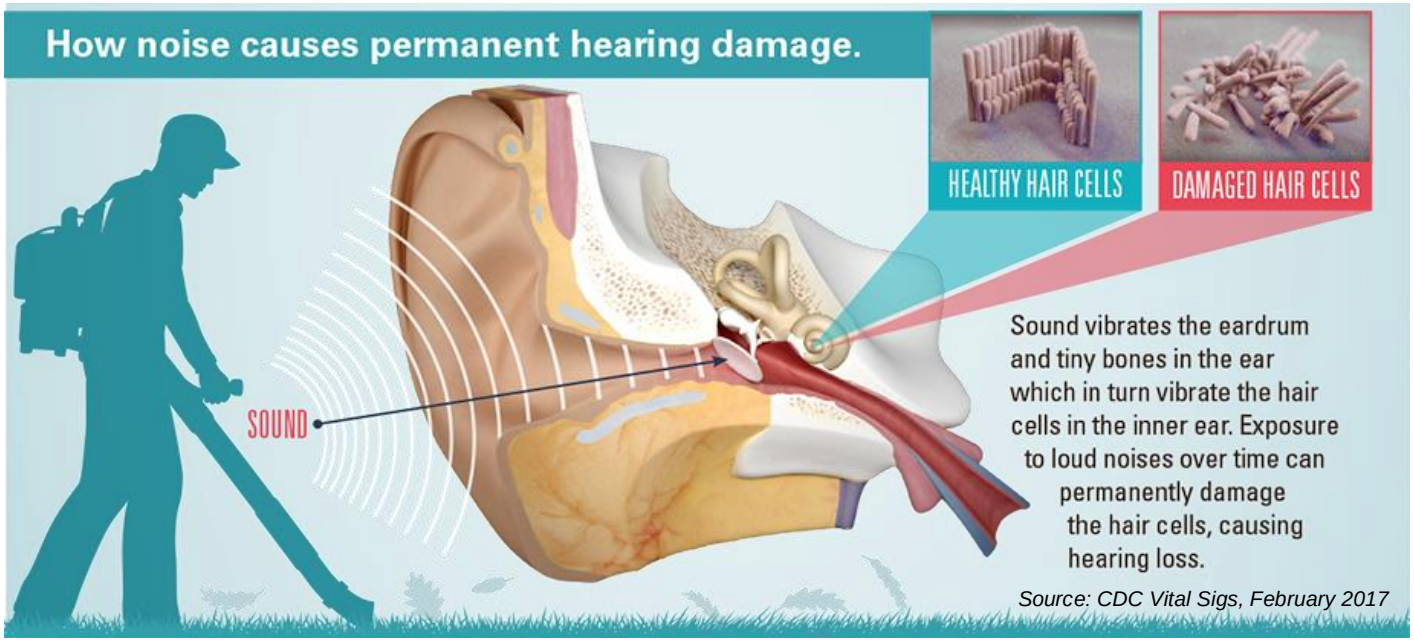
The *BSO Plus Safety Topic* is a review designed from the BSO Plus agenda. This safety topic is your way to stay current on the safety information over the 3 years between BSO Plus and BSR.

NOISE

Overview

Noise is one of the most common occupational health hazards. Noise exposure, both at work and at home, can damage your hearing permanently! As noise induced hear loss (NIHL) develops slowly over time, it is hard to notice in the early stages. Due to its subtle nature, workers often don't notice or ignore signs of hearing loss until more pronounced symptoms emerge.



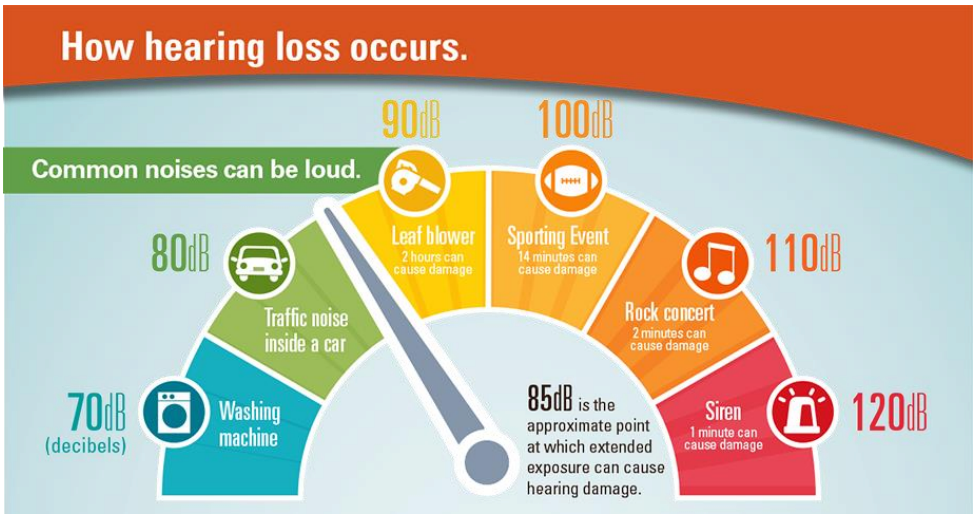
Noise exposure can cause two kinds of health effects: non-auditory effects and auditory effects.

Non-auditory effects include stress, related physiological and behavioural effects, cardiovascular function (hypertension, changes to blood pressure and/or heart rate), annoyance, sleeping problems, and mental health.

Physiological effects can be temporary or permanent. Examples of temporary physiological effects are:

- The startling response to loud noise, where muscles burst into activity, generally, with the intention to protect.
- The muscle tension response, where muscles tend to contract in the presence of loud noise.
- The respiratory reflexes, where the respiratory rhythm tends to change when noise is present.
- Changes in the heart beat pattern.
- Changes in the diameter of the blood vessels, particularly in the skin.

Auditory effects include hearing impairment resulting from excessive noise exposure. Noise-induced permanent hearing loss is the main concern related to occupational noise exposure. Workers may also experience temporary hearing loss, acoustic trauma, or tinnitus (ringing or buzzing in the ear).



The **Noise Regulation (O. Reg. 381/15)** applies to all workplaces covered under the Occupational Health and Safety Act (OHSA).

This regulation requires employers to ensure that no worker is exposed to a sound level greater than a time-weighted average exposure limit of 85 dBA measured over an 8-hour work day.

This does not mean that hearing protection is required only when sound levels exceed 85 dBA. For example, a constant exposure to 84 dBA over a 12 hour period would mean that worker protection is mandated, because the exposure limit for noise would be exceeded.

Common signs of hearing loss

As noise induced hear loss (NIHL) develops slowly over time, it is hard to notice in the early stages. Due to its subtle nature, workers often don't notice or ignore signs of hearing loss until more pronounced symptoms emerge. Early recognition of NIHL is important for proper management and protection from further hearing loss. Common signs of hearing loss can include the following:

- straining to hear
- favouring one ear
- constantly asking for words to be repeated
- speaking louder than necessary
- withdrawing from social contact
- having difficulty hearing on the telephone
- thinking that people always mumble
- turning the television or radio up louder than usual
- misunderstanding conversations
- ringing or buzzing in one or both ears, also known as tinnitus

Protecting yourself from hearing loss

If the noise or sound level at the workplace exceeds 85 decibels (A-weighted) or dBA, workers should be wearing hearing protection. Hearing protectors reduce the noise exposure level and the risk of hearing loss. The choice of hearing protection depends on a number of factors including level of noise, comfort, and the suitability of the hearing protector for both the worker and their environment. Most importantly, the hearing protector should provide the desired noise reduction.

- **Ear plugs** are inserted in the ear canal. They may be premolded (preformed) or moldable (foam). Disposable, reusable or custom molded ear plugs are available.
- **Semi-insert ear plugs** which consist of two ear plugs held over the ends of the ear canal by a rigid headband.
- **Ear muffs** consist of sound-attenuating material and soft ear cushions that fit around the ear and hard outer cups. They are held together by a head band.

If the noise exposure is intermittent, ear muffs are more desirable, since it may be inconvenient to remove and reinsert earplugs. In some instances, double hearing protection may be required.