

## Hearing Protection Devices

### Earplugs

Earplugs are inserted to block the ear canal. If properly inserted, you will feel a slight sensation of pressure, and your voice will sound louder and resonate.

- Employers must instruct workers in how to insert earplugs.
- You must wash soiled hands before inserting earplugs.
- You must throw away single use earplugs after each use.



### Canal Caps

Canal caps are composed of two earplugs held over the ends of the ear canal with a rigid headband.

### Earmuffs

Earmuffs are composed of sound attenuating material with soft ear cushions, which fit around the ear, and hard outer cuffs. They are held together with a headband.

Proper care of hearing protection:

- **REFER** to manufacturer's instructions.
- **REPLACE** ear cushions or plugs that are no longer pliable.
- **REPLACE** unit when headbands are so stretched that they do not keep ear cushions snugly against the head.
- **DISASSEMBLE** earmuffs to clean.
- **WASH** hearing protectors with a mild liquid detergent in warm water, and then rinse in clear warm water.
- **ENSURE** that sound attenuating material (inside cushions) does not get wet.
- **USE** a soft brush to remove skin, oil, and dirt which can harden ear cushions.

Comparison of Hearing Protection	
Earplugs	Earmuffs
<p><b>Advantages:</b></p> <ul style="list-style-type: none"> <li>• Small and easily carried</li> <li>• Convenient to use with other personal protective equipment (can be worn with earmuffs)</li> <li>• More comfortable in hot, humid work areas</li> <li>• Convenient for use in confined work areas</li> </ul>	<p><b>Advantages:</b></p> <ul style="list-style-type: none"> <li>• Less attenuation variability among users</li> <li>• Designed so that one size fits most head sizes</li> <li>• Easily seen at a distance to assist in monitoring their use</li> <li>• Not easily misplaced or lost</li> <li>• May be worn with minor ear infections</li> </ul>
<p><b>Disadvantages</b></p> <ul style="list-style-type: none"> <li>• Require more time to fit</li> <li>• Difficult to insert and remove</li> <li>• Require good hygiene practices</li> <li>• May irritate the ear canal</li> </ul>	<p><b>Disadvantages</b></p> <ul style="list-style-type: none"> <li>• Less portable and heavier</li> <li>• Inconvenient for use with other personal protective equipment</li> <li>• Uncomfortable in hot, humid work areas</li> <li>• Inconvenient for use in confined work areas</li> </ul>

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# Hearing Protection



## Making Safety A Way Of Life



## The Alberta Construction Safety Association

## Noise at Work

Noise is one of the most common hazards in the workplace. More than 100,000 Alberta workers are exposed to hazardous noise. Many industries and processes in Alberta have noise levels that are so high they can damage your hearing. If the sound is loud enough, and exposure is long enough, your hearing will be damaged.

You should ask these questions if you want to prevent hearing loss:

- Do you get a ringing in your ears after being at work?
- Do your ears feel plugged, or are sounds muffled after work?
- On your way home, do you have to turn the car radio volume louder than it was when you came to work?
- Do you have trouble following conversation when two or more people are talking at the same time?
- Do you have to strain to understand conversations?
- Do you get confused about where sounds come from?

If you answered “yes” to any of these questions, then you are probably exposed to too much noise.

Additional noise from sports, recreation, or hobbies can add damage to your hearing. Even loud music from stereo systems or noisy entertainment in restaurants and nightclubs can increase damage to your hearing.



## Noise Exposure Levels

### Decibels (A)

Soft Whisper	30
Average Home	50
Conversational Speech	66
Noisy Restaurant	80
Gravel Trucks	83-93
Lawnmowers	90-95
Dozer Operation	93-97
Drilling Rigs at 1 m from motors	90-100
Woodworking Shop	100
40-lb Jackhammer	108
Chainsaw	110
Sandblasting	112
Night clubs, Rock Band	120
Jet Plane	140
Gunshot Blast	140

### PROLONGED EXPOSURE to noise levels over 85 dB may eventually lead to hearing loss.

You are affected by noise depending on:

- Loudness
- Pitch
- Length of exposure
- Length of time between exposures
- Previous ear trouble

**WE ARE EXPOSED TO EXCESSIVE NOISE AT HOME, WORK, AND PLAY. NOBODY IS IMMUNE TO THE LONG-TERM EFFECTS OF NOISE!**



## The Right Protection

If workers are exposed to noise at a work site in excess of 85 decibels, an employer must conduct a noise exposure assessment and develop and implement a noise management program.

When engineering controls cannot eliminate the noise hazards, hearing protection provides a secondary means of reducing workers' noise exposure.

The employer is responsible for knowing which workers are exposed to noise over 85 dB during an eight hour shift and which workers must wear hearing protection.

Hearing protection must be selected and provided in accordance with the Canadian Standards Association (CSA), and applicable legislation.

### Hearing Protectors

Wearing hearing protectors reduces the level of noise reaching the ears. Improper fit and irregular use greatly reduce the effectiveness of hearing protectors.

### Selecting Hearing Protection

Your employer must comply with the current applicable provincial legislation.

- You must use the correct hearing protection for the job.
- The protection must be comfortable enough for you to wear during all exposure to noise.
- Noise reducing capability of a hearing protector is given as NRR (Noise Reduction Rating). To determine the amount of noise reduction, subtract seven from the given NRR. (e.g., A hearing protector with a NRR of 28 will provide a maximum noise reduction of 21 dB.)