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Noise-Induced Hearing Loss

Updated: December 2012

Original: July 2002

# IT'S YOUR HEALTH

## Noise-Induced Hearing Loss

### THE ISSUE



Noise-induced hearing loss is caused by overexposure to **loud sounds**. In some cases, the damage is only temporary. But repeated exposure to excessive **noise** for long periods of time can cause permanent damage. So can a single exposure to an intense sound close to the ear, like a gun shot.

Until recently, noise-induced hearing loss was linked mainly to **excessive noise in the workplace**.

Some newer studies suggest that many teenagers and young adults have experienced permanent hearing loss caused by over-exposure to loud noise from a variety of everyday activities.

### HOW LOUD AND HOW LONG?

Scientists measure the levels of different sounds with a unit called the **A-weighted decibel (dBA)**.

Sounds with levels below 70 dBA pose no known risk of hearing loss, no matter how long you listen. This is roughly what you would hear if you were driving alone at highway speeds in a family car, with the windows up and the radio off.

When sound levels increase, the daily listening time becomes an important risk factor for hearing loss. In general, the louder the sound, the less time it takes to pose risks to your hearing.

Use this table to see whether you may be in situations that could cause gradual, noise-induced hearing loss:

Due to the noise around you:	Means the sound levels are probably:	Means you're at significant risk of permanent hearing loss if exposed daily for:
someone standing a metre away has to shout to be understood →	higher than 85 dBA →	8 hours or more
someone standing 30 cm away has to shout to be understood →	higher than 95 dBA →	45 minutes or more
someone has to shout into your ear to be understood →	higher than 105 dBA →	5 minutes or more

The sounds around you may also pose a risk of gradual, noise-induced hearing loss if you experience either of these signs after a loud noise has stopped:

- a temporary hearing loss—sounds seem muffled, quieter or less clear
- tinnitus—a ringing, buzzing, roaring or rushing sound in the ear, which has no source outside the ear

## EVERYDAY ACTIVITIES AND THE RISK OF HEARING LOSS



It's been found that a variety of everyday activities can cause exposure-to sound levels above 85 dBA. A few examples are:

- listening to music through headphones or earbuds
- attending a rock music concert
- mowing the lawn
- using a table saw
- driving a car on the highway with the windows open

All of these activities pose a potential risk of a gradual, noise-induced hearing loss, depending on:

- the actual sound levels you are exposed to
- how long you are exposed

But there's more to the story. Exposure to noise adds up. So to get a sense of the risk, you have to consider all of the noise you are exposed to on a given day.

Let's say you listen to your [personal stereo system](#) for 1 hour during the day at 93 dBA. Then later that night, without hearing protectors you spend just 10 minutes using a table saw at 100 dBA. Each activity, on its own, is not quite enough to cause a significant risk of a gradual, permanent noise-induced hearing loss, but on the same day, your total exposure crosses that threshold.

If you use firearms regularly for hunting or target practice, without the appropriate hearing protection, you are at increased risk for permanent hearing loss, whether gradual or immediate. An intense sound close to the ear from a rifle, cap gun, or firecracker, can cause immediate and severe hearing loss that may be permanent. If you are exposed to a sound like this, stay in a relatively quiet place for 24 hours to rest your ears. If your hearing hasn't recovered fully after a day, contact your doctor in case you need a test or an examination.

## REDUCE YOUR RISK

Take the following steps to protect your hearing:

- Limit the amount of time you spend on activities that are extremely noisy.
- Keep your car and home audio at enjoyable but safe levels.
- Wear hearing protection, like earplugs or earmuffs, when you're at risk for noise-induced hearing loss. The protection device should be as well fitted as possible. See an [audiologist](#) if you need help with this.
- Schedule some quiet time if you experience temporary hearing loss or [tinnitus](#) after work or other activities. Give your ears a chance to recover fully.

- Avoid buying children's toys that produce high sound levels. Look for [toys](#) that have volume-control features or an on-off switch so that sound can be kept low or turned off. Remember, children may hold toys closer to their ears than adults.



Talk to your doctor if you have concerns about your hearing. Early signs of hearing loss include:

- trouble following a conversation when there is background noise (like at a social gathering or in a cafeteria)
- a sense that people mumble when they speak
- [tinnitus](#)

Prevention is the only way to protect yourself from noise-induced hearing loss. There is no way to know how sensitive your ears are to damage from sounds, until the damage is done.

## THE GOVERNMENT OF CANADA'S ROLE

[Health Canada](#) helps Canadians avoid hearing loss from exposure to excessive noise at work, at home, and at play. As part of this work, we:

- review current scientific studies
- measure sound levels from consumer products like [personal stereo systems](#)
- give Canadians information to help them protect their hearing
- help develop national and international standards for [measuring machinery noise](#) to help assess and manage the potential risks of hearing loss from noise



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- encourage manufacturers to provide standardized information about the noise emitted by the machinery they sell

We also develop regulations, if deemed necessary, to protect Canadians from excessive noise. One example is the *Toys Regulations* under the *Canada Consumer Product Safety Act*. The regulations say that no children's toy, as ordinarily used, should produce sound levels above 100 decibels.

## FOR MORE INFORMATION

- Health Canada, Noise at: [www.hc-sc.gc.ca/ewh-semt/noise-bruit/index-eng.php](http://www.hc-sc.gc.ca/ewh-semt/noise-bruit/index-eng.php)
- *It's Your Health*, Personal Stereo Systems and the Risk of Hearing Loss at: [www.hc-sc.gc.ca/hl-vs/iyh-vsv/life-vie/stereo-baladeur-eng.php](http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/life-vie/stereo-baladeur-eng.php)
- *It's Your Health*, Community Noise at: [www.hc-sc.gc.ca/hl-vs/iyh-vsv/life-vie/community-urbain-eng.php](http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/life-vie/community-urbain-eng.php)
- Hearing Foundation of Canada at: [www.thfc.ca/Default.aspx](http://www.thfc.ca/Default.aspx)
- U.S. National Institutes of Health, Wise Ears website at: [www.nidcd.nih.gov/health/wise](http://www.nidcd.nih.gov/health/wise)

## FOR INDUSTRY AND PROFESSIONALS

- Health Canada, Noise from Machinery Intended for the Workplace at: [www.hc-sc.gc.ca/ewh-semt/noise-bruit/machinery-machines-eng.php](http://www.hc-sc.gc.ca/ewh-semt/noise-bruit/machinery-machines-eng.php)

- Canadian Centre for Occupational Health and Safety, Noise: Occupational Exposure Limits in Canada at: [www.ccohs.ca/oshanswers/phys\\_agents/exposure\\_can.html](http://www.ccohs.ca/oshanswers/phys_agents/exposure_can.html)
- *Canada Consumer Product Safety Act* at: [www.hc-sc.gc.ca/cps-spc/legislation/acts-lois/ccpsa-lcspc/index-eng.php](http://www.hc-sc.gc.ca/cps-spc/legislation/acts-lois/ccpsa-lcspc/index-eng.php)

## RELATED RESOURCES

- For information on audiologists, go to: [www.speechandhearing.ca](http://www.speechandhearing.ca)
- Safe Use of Consumer Products at: [www.hc-sc.gc.ca/ewh-semt/hazards-risques/prod/index-eng.php](http://www.hc-sc.gc.ca/ewh-semt/hazards-risques/prod/index-eng.php)
- For safety information about food, health and consumer products, visit the Healthy Canadians website at: [www.healthycanadians.gc.ca](http://www.healthycanadians.gc.ca)
- For more articles on health and safety issues go to the *It's Your Health* web section at: [www.healthcanada.gc.ca/iyh](http://www.healthcanada.gc.ca/iyh)

You can also call toll free at 1-866-225-0709 or TTY at 1-800-267-1245\*

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