

Noise Induced Hearing Loss

What is it?

Noise induced hearing loss is caused by prolonged or intense exposure to noise. Noise exposure damages the sensory cells (hair cells) in the inner ear. Noise induced hearing loss is not reversible. Once the hair cells are damaged they do not recover. Damage may be from a single incident of exposure to intense, high decibel noise or from prolonged, repeated exposure. The likelihood of damaging hearing is determined by how loud the sound is, the duration of exposure and the distance from the sound. Keep in mind that the louder sound is, the less time it takes for noise induced hearing loss to occur (NIDCD, 2017).

HOW LOUD

ARE COMMON SOUNDS?

Decibel (dBA) is the unit used to measure the intensity of sound

30 DECIBELS

A faint noise, such as a **whisper**.



60 DECIBELS

Conversational Speech

80 DECIBELS

The sound of an **Alarm Clock**.



85 DECIBELS

A passing **Diesel truck**. Risk of hearing damage in **8 hours**.



110 DECIBELS

A **rock band** concert. Risk of hearing damage in **2 minutes**.



125 DECIBELS

The sound of a **balloon popping**. Risk of hearing damage in **0 seconds**.



140 DECIBELS

A **jet engine** at take off. Risk of hearing damage in **0 seconds**.



INFORMATION GATHERED FROM:

Government of Alberta Employment and Immigration (GOA). (2009). Workplace health and safety bulletin: Noise at the work site (Bulletin HS003) Retrieved from https://work.alberta.ca/documents/WHS-PUB_hs003.pdf

Noise Help. (n.d.). Noise level chart. Retrieved from <https://www.noisehelp.com/noise-level-chart.html>

Who is at Risk?

Individuals of any age can be exposed to harmful noise levels (NIDCD, 2017). Working and/or spending recreational time in loud environments are risk factors for developing hearing loss (Fligor, 2011). Common sources of loud, potentially damaging, noise are engines, power tools, gunfire, music, nightclubs, bars and sporting events (CAA, n.d.; CDC, 2016; WHO, 2015).

How to Prevent Noise induced Hearing Loss:

Noise management strategies can reduce the occurrence of permanent noise induced hearing loss by up to one third (Fligor, 2011).

The following strategies can protect hearing health:

- Wearing adequate personal hearing protection, such as ear plugs or ear muffs, in loud environments (GOA, 2009).
- Listening to electronic devices at a volume level of 60% or less of maximum (SAC, n.d.).
- Alter/remove the source of noise (GOA, 2009).
- Limit noise exposure to acceptable durations.

Warning Signs of Hearing Loss:

- ringing in the ears (tinnitus);
- needing to turn the volume up on the TV/radio; and/or
- having trouble hearing others who are speaking.

The loss of the ability to hear high frequency (high pitched) noises happens first. With repeated and prolonged exposure, lower frequencies may also be affected. Since a range of high frequency sounds are not included in speech, one may not notice the initial stages of hearing loss (GOA, 2009). If left untreated, hearing loss can lead to social isolation and cognitive decline (CAA, n.d.).

If you notice any issues or changes with hearing, it is important to have a hearing assessment completed by an audiologist (SAC, n.d.).



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Information Gathered from:

Canadian Academy of Audiology (CAA). (n.d.). Retrieved from <https://canadianaudiology.ca>

Centers for Disease Control and Prevention (CDC). (2016). Retrieved from <https://www.cdc.gov/ncbddd/hearingloss/noise.html>

Fligor, B. (2011) Your guide to prevention of hearing loss from noise. Better Hearing Institute. Retrieved from <http://clienthiadev.devcloud.acquia-sites.com/sites/default/files/BHInoiseGuide.pdf>

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National Institute on Deafness and other Communication Disorders (NIDCD). (2017). Noise induced hearing loss. Retrieved from <https://www.nidcd.nih.gov/health/noise-induced-hearing-loss>

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Speech-Language & Audiology Canada (SAC). (n.d.). Noise induced hearing loss poster. Retrieved from https://www.sac-oac.ca/sites/default/files/resources/nihl_poster_letter_en.pdf?_ga=2.16432182.1025961041.1527178665-1612061600.1526504714

World Health Organization (WHO). (2015). 1.1 billion people at risk of hearing loss. Retrieved from <http://www.who.int/mediacentre/news/releases/2015/ear-care/en/>

Getting Help

If you suspect a problem, consult a Registered Audiologist (R.Aud). To find a practitioner:

- Contact HEALTH LINK - Health Advice 24/7 at 8-1-1 or visit: www.MyHealth.Alberta.ca
- Enquire at a Public Health Centre or your child's school.
- Find a private practice audiologist:
 - Search 'Audiologist' in the Yellow Pages.

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