

Hearing loss (noise induced)

What is noise-induced hearing loss?

Noise is a common cause of hearing loss in adults. During our lives, the cumulative effects of noisy workplaces, busy city streets, technology exposure, loud recreational events and hobbies take a toll on the delicate structures of the inner ear, resulting in permanent hearing loss. It's happening to people at young ages due in part to listening to music at damaging volumes with the use of headphones. It is estimated that approximately 800,000 to 900,000 New Zealanders have hearing loss, and around 16–37% of this is due to noise exposure.

How can noise damage our hearing?

There are three key factors that affect whether and by how much a sound will damage your hearing:

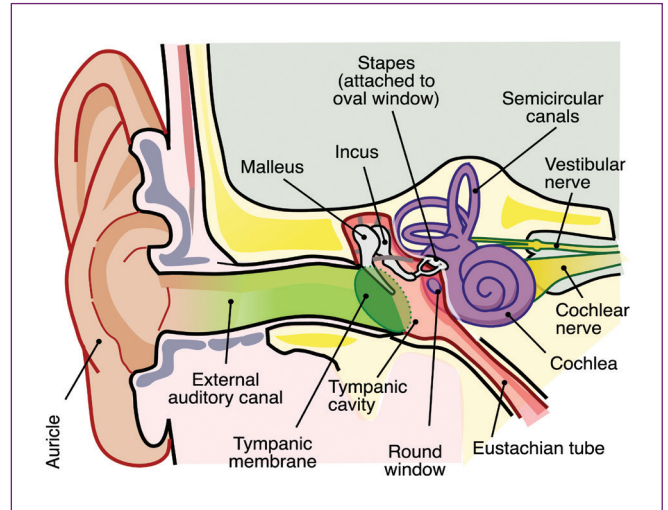
- **Decibel level:** How loud the sound is
- **Distance:** How close you are to the source of the sound
- **Time:** The length of time you are exposed to the sound

For example, noise-induced hearing loss can be caused by a one-time exposure to a loud sound as well as by repeated exposure to sounds at various loudness levels over an extended period of time. Damage happens to the microscopic hair cells found inside the cochlea (inner ear, see picture above). Over time, sounds can damage these hair cells. When that happens, they can't send information about sounds to the brain. In humans, these hair cells cannot be fixed or replaced, so this damage leads to permanent hearing loss.

Some examples of sound exposure are listed below,

- A typical conversation occurs at 60dB – not loud enough to cause damage.
- A bulldozer that is idling is loud enough at 85dB that it can cause permanent damage after only 1 work day
- When listening to music with earphones at a maximum volume, the sound generated can reach a level of over 100 dB, loud enough to begin causing permanent damage after just 15 minutes per day
- A clap of thunder from a nearby storm (120dB) or a gunshot (140–190dB) can both cause immediate damage.

There are a number of occupations that have higher rates of noise-induced hearing loss, compared with rates for the rest of the population. These include building and construction, agriculture/horticulture and mining.



How is hearing loss measured?

There are a variety of thresholds used to define whether a person has hearing loss. In New Zealand we use the NZ Deafness notification database which defines hearing loss as:

Mild	26–40dB hearing loss
Moderate	41–65dB hearing loss
Severe	65–95dB hearing loss
Profound	>95dB hearing loss

Hearing loss is also defined by the total loss of hearing as a percentage of all hearing (hearing in both ears); ACC uses this as an eligibility criterion for cover.

Signs and symptoms of hearing loss

Because noise-induced hearing loss can build slowly over time, you might not notice the early signs of hearing loss. As your hearing gets worse, certain sounds—particularly speech—begin to sound muffled. As a result, you may:

- Ask others to repeat what they've said more often
- Turn up the sound on the TV, music player, or other devices
- Have ringing or buzzing in your ears (a condition called tinnitus)
- Have trouble hearing high-frequency speech sounds, such as some consonants
- Avoid some social settings, especially when there is background noise or a crowd

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*See tritonhearing.co.nz for details.



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When can you claim from ACC?

ACC funding is available for hearing solutions where 6% or more of your hearing loss is due to injury-related causes, including:

- Gradual onset hearing loss caused by noise at work
- Hearing loss caused by an accident
- Hearing loss caused by some medical treatments

ACC offers different levels of funding for hearing aids, depending on the cause and extent of your hearing loss. The amount of funding provided by ACC will depend on how much of your hearing loss is due to injury. ACC will not cover health-related, age-related hearing loss or non-occupational noise.

There are also other funding mechanisms for the provision of hearing aids, including; Veterans Affairs, Children's Hearing Aid Fund, Ministry of Health Hearing Aid Funding scheme and the universal Hearing Aid Subsidy scheme. The level of funding may not meet the full cost of hearing aid provision – talk to your audiologist about the best options of hearing aids for you.

What to do if you think you have hearing loss?

If you have a sudden loss of hearing, particularly in one ear, seek immediate medical attention. Talk to your doctor or local hearing clinic if difficulty hearing is interfering with your daily life.

If you want to make a claim with ACC for noise-induced hearing loss there are a few steps to take.

1. It is often a good idea to get an initial screen hearing test from your local hearing clinic – most will offer a free screening hearing test.
2. You will need to see your GP to complete an ACC claim form (take along your hearing test results if you have had one).
3. ACC will ask you to complete a hearing loss questionnaire. ACC will either complete this questionnaire with you over the phone or send it in the post.
4. ACC will send you a confirmation letter requesting you organise a hearing assessment and/or an Ear Nose and Throat (ENT) specialist appointment.
5. Depending on the results of your test and specialist visit, you will hear from ACC if your claim has been approved and what hearing-aid funding has been made available. You can then make an appointment with an audiologist to decide which hearing aids will best suit your hearing needs; these appointments will usually be covered by ACC, in addition to the hearing-aid funding.

Preventing noise-induced hearing loss

Aside from damaging the hearing, loud noise exposure and noise-induced hearing loss can lead to anxiety, insomnia (even after the noise stops), cardiovascular problems and isolation due to hearing loss. Therefore, it's important to take precautions to protect your ears:

- Keep noise levels below 85dB on average and 140dB at peak.
- Avoid noisy environments where possible.
- Always wear hearing protection if noise levels are high.
- If you work in a job that is at high risk of noise-induced hearing loss then, your employer needs to provide hearing protection equipment, monitor the noise and attempt to minimise exposure to noise where possible, eg, by replacing machinery that creates noise above these levels or reducing your exposure to it.

Worksafe has excellent resources to help workplaces with occupational noise exposure.

Support and help for hearing loss

There are lots of national and local support for people with hearing loss, including National Foundation for Deaf & Hard of Hearing, Hearing New Zealand. Your GP, audiologist or hearing clinic will be able to provide you with more information about these services.

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