You can protect your hearing by keeping the noise level down, by using noisy equipment for only short amounts of time and by wearing earplugs or earmuffs. Personal hearing protection, such as earmuffs or earplugs, should be labelled with a class number between 1 and 5. Class 2 earmuffs will be ideal for mowing the lawn with a typical mower. Class 5 earmuffs are designed for exposures of dBA 105–110 over periods of up to 8 hours.

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Protect your family's hearing at home: Each November, the US Sight and Hearing Association publishes a list of the noisiest toys – www.sightandhearing.org

Many teens and adults set their personal listening device's headphones/ear buds at volumes that can cause hearing damage. Typically, a person can tolerate about two hours of 91 dBA per day before risking hearing loss. Volume-limited headphones/ear buds are now available and make great gifts for your family and friends.

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- A video about hearing loss can be found at: www.youtube.com/watch?v=iTFPh-COLFk
- FAQs about hearing protection can be found at: www.oticon.com/children/facts/hearing-loss/what-is-hearing-loss.aspx
- Other information about hearing loss:
  - www.hear-it.org/

Noise a workplace hazard:

This resource is available from www.healthed.govt.nz or the Authorised Provider at your local DHB. New Zealand. Revised September 2015. 09/2015. Code HE1122.
Many of the tools and machines used at home or when you’re out having fun can damage your hearing – even if they’re not used for long and not used very often.

How does noise cause hearing damage?

Spending long periods of time in noisy places can damage or destroy your hearing. But short, sharp loud noises can also cause hearing problems and the damage can happen more quickly.

Loud noises damage delicate cells inside the ear that allow you to hear. When you spend a short time near a loud noise, the damage to your ears may not last. Your hearing can return after a few hours away from the noise. But if you keep spending time near a loud noise, the cells in your ear cannot recover and the damage lasts for life.

Signs of hearing damage

As cells in the ear are destroyed, you begin to lose your hearing. Hearing loss causes isolation both at home and in social situations, and decreases efficiency at work. The ability to hear clearly higher-pitched sounds such as the voices of voices of women and children, and the consonants T, K, S, Sh, and P, is reduced in people with a hearing loss. You may find that other noises sound louder and can hurt your ears.

As you lose more of your hearing, it becomes hard to hear what people are saying, particularly if there is other noise in the background.

You might also have a ringing sound in your ears.

Hearing is fundamental to language, communication, and socialisation. The ability to hear is a key quality-of-life issue at all ages.
How long before there is hearing damage

Gunshot  120
Angle grinder  110
Noisy rave  110
Chainsaw  100
Skilsaw  95
Lawnmowing  90
Average factory  80–90
Busy road at 10m  80
Talking at 1m  66
Average home  50
Quiet office  40
Library  30

Examples of approximate noise levels

<table>
<thead>
<tr>
<th>Decibels</th>
<th>How long before there is hearing damage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gunshot 120</td>
<td>Instantaneous if close 2 minutes</td>
</tr>
<tr>
<td>Angle grinder 110</td>
<td>15 minutes</td>
</tr>
<tr>
<td>Noisy rave 110</td>
<td>15 minutes</td>
</tr>
<tr>
<td>Chainsaw 100</td>
<td>60 minutes</td>
</tr>
<tr>
<td>Skilsaw 95</td>
<td></td>
</tr>
<tr>
<td>Lawnmowing 90</td>
<td></td>
</tr>
<tr>
<td>Average factory 80–90</td>
<td></td>
</tr>
<tr>
<td>Busy road at 10m 80</td>
<td></td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>Average home 50</td>
<td></td>
</tr>
<tr>
<td>Quiet office 40</td>
<td></td>
</tr>
<tr>
<td>Library 30</td>
<td></td>
</tr>
</tbody>
</table>

Decibels are a ratio and cannot be added arithmetically. The threshold of hearing for a young person with undamaged hearing in laboratory conditions is 0 dB. This is equivalent to a pressure of 20 micropascals in air (0.00002 Pa).

The term 'A' as used in the abbreviation 'dBA' refers to the electronic equivalent of how humans hear different sound frequencies.
When you are at home or out having fun, you may also be around noise that is annoying or can damage your hearing.

Always remember that personal music devices, radios, home or car stereos, TVs and computer games all give out high levels of noise when the volume is not turned down.

**As a general rule:**

If the noise is so loud that you have to shout to be heard by someone standing 1 metre away – the noise is too loud and may damage your hearing. So you need to protect your hearing by turning down the sound or wearing hearing protection.

You may also choose to protect your ears from noises that are annoying and tiring even if they don’t last for long and are not likely to damage your hearing.

\[
\text{noise} + \text{time} = \text{hearing damage}
\]
How can you protect your hearing?

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