
Ears - ways to protect your hearing

Summary

- Once hearing is damaged, it often can't be restored.
 - Avoid exposure to noise when you can and wear earplugs in noisy environments, such as concerts or motor racing events.
 - Certain chemicals and medications can damage your hearing if taken over a long period of time.
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Causes of hearing loss or deafness include noise, trauma, certain medications and diseases. Injuries including a perforated eardrum or head injury can also cause hearing loss. Hearing loss often cannot be reversed.

Some causes of hearing damage

Once hearing is damaged, it often can't be restored. Some of the many causes of hearing damage include:

- **noise** – sound is picked up by a small, spiral-shaped organ called the cochlea that is located within the inner ear. Thousands of tiny hairs in the cochlea sense the vibration and pass the message to the brain via the cochlear nerve. These sensitive hairs can be damaged by excessive noise. Ringing in the ears (tinnitus) after exposure to loud noise is a warning sign that your ears have been overloaded
- **medications** – certain chemicals and medications can damage your hearing
- **disease** – some diseases, such as measles, mumps, rubella (German measles) and meningitis, can cause loss of hearing
- **injury** – including perforation of the ear drum, fractured skull or large changes in air pressure (barotrauma).

Loud noise and hearing loss

It is a mistake to believe that only noises loud enough to cause earache are capable of causing damage. The inner ear can still be harmed by noise, even when it doesn't send you a pain signal.

A rule of thumb is that if you need to shout to be heard over the noise, it's potentially damaging. Suggestions on how to protect your ears from noise include:

- Avoid exposure to noise when you can.
- Consult with your occupational health and safety officer at work if you are concerned about noise levels in the workplace.
- When unavoidably exposed to loud noise, wear personal hearing protection such as earplugs, ear muffs or both.
- Wear earplugs in noisy environments, such as night clubs, rock concerts or motor racing events.
- Remember that everyday equipment, such as lawnmowers, power tools and personal stereos, may be loud enough to be damaging your ears.

Ototoxic medications and chemicals

Ototoxicity is damage to the ear caused by medications or chemicals. Medications that are thought to cause hearing loss include medications for malaria (quinine and chloroquine) and salicylates like aspirin, but the hearing loss is believed to be temporary.

Certain industrial chemicals, such as solvents, are also implicated in hearing damage.

Suggestions to avoid medication-related hearing damage include:

- Discuss concerns about medications with your doctor.
- Take medications only as directed.
- See your doctor immediately if you experience unusual symptoms, such as tinnitus, while on a course of medicine.
- If your line of work involves chemicals, talk to your occupational health and safety officer about ways to reduce your exposure.

Diseases and hearing loss

Hearing loss can be caused by viral diseases including mumps, measles, pertussis (whooping cough) and rubella (German measles). These types of infections are more common in childhood, although adults who haven't been immunised and didn't have the diseases in childhood may catch them too.

Bacterial diseases, such as meningitis and syphilis, can also target and harm the ears. A tumour which grows on the hearing nerve, called an 'acoustic neuroma', can cause hearing loss and tinnitus.

Suggestions to avoid disease-related hearing damage include:

- Vaccinate children in accordance with the **Immunise Australia Program**. See your doctor or maternal and child health nurse for further information.
- If you fall ill, see your doctor for prompt diagnosis and treatment.
- Have persistent tinnitus or sudden hearing loss investigated by an ear specialist.
- Protect yourself from sexually transmissible diseases (STDs) by using condoms when you have sex.
- See your doctor if you suspect you may have been exposed to an STD.

Injury and hearing damage

The middle and inner ears are protected by the temporal bones, located at the base and sides of the skull. Head injury that involves trauma to the temporal bones can cause hearing loss. Concussion may be enough to cause hearing damage, even if the skull bones aren't broken.

Otitic barotrauma refers to hearing damage caused by changes in air pressure on either side of the eardrum. This can be caused by descending or ascending through water too quickly – for example, while scuba diving.

Suggestions to avoid hearing damage through injury include:

- Wear a helmet while cycling and playing contact sports.
- Wear a seat belt when travelling by car.
- Avoid falls – for example, don't stand on the top rung of a ladder.
- Take all precautions while scuba diving.

Other suggestions on ear care

A range of conditions and events can cause temporary hearing loss. Suggestions on reducing your risk include:

- Don't try to clean your ears by poking anything into the ear canals. You may injure the delicate skin, or impact earwax.
- Reduce the risk of ear infections by treating upper respiratory tract infections promptly.
- Avoid swimming in dirty water.
- Dry your ears after bathing.

Where to get help

- Your doctor
- Audiologist
- Ear, nose and throat specialist
- **Australian Hearing** Tel. 1300 412 512, TTY (02) 9412 6802, SMS 0427 366 205

- **Hearing Help free advice service** (by Australian Hearing) Tel 1800 740 301
- **Better Hearing Australia**, Victorian branch Tel. 1300 242 842 (hearing advice line), (03) 9510 1577, TTY (03) 9510 3499

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