

Workplace safety - noise pollution

Excessive noise levels over a long period of time will damage your hearing. This may happen so gradually and painlessly that you may not notice the minor deterioration from one day to the next. Excessive noise in the workplace presents a risk of hearing damage and other health problems.

The parts of the ear that process high frequency sounds are usually the first to be affected. The degree of hearing loss depends on the loudness of the noise and your level of exposure. Sudden explosive sounds, such as gunshots, can cause immediate damage.

Some people exposed to excessive noise develop tinnitus, which is described as a constant ringing sound. For most cases of noise-induced hearing loss, there is no cure. Hearing aids only amplify sounds and can't replace normal hearing.

Associated effects of constant noise

Apart from damage to hearing, exposure to constant and excessive noise can cause other health problems including:

- Headache
- Elevated blood pressure
- Fatigue
- Irritability
- Digestive disorders
- Increased susceptibility to colds and other minor infections.

The workings of the ear

The vibration of air molecules makes up a sound wave. Low frequency sounds have waves that are far apart, while high frequency sounds have waves that are bunched together.

Sound waves are funnelled from the outer ear into the middle ear, where they vibrate the eardrum. The three tiny bones lying on the other side of the eardrum pick up the vibration and pass it on to the inner ear.

The vibration is picked up in the inner ear by a small, spiral shaped organ called the cochlea. Hairs on the cochlea sense the vibration and pass on the message to the brain via the cochlear nerve. These sensitive hairs are bent, damaged and broken by excessive noise. The resulting scar tissue can't conduct sound. The parts of the ear that process high frequency sounds are usually the first to be affected.

Dangerous decibels

The loudness of noise is measured in decibels. Sensitivity to noise differs from one individual to the next, but experts believe that damage to hearing occurs when noise levels are higher than 85 decibels, which is about the loudness of heavy traffic.

The risk of hearing loss increases as the noise becomes louder. Length of exposure is important too. For example, it is not recommended to listen to noises of 109 decibels for any longer than two minutes at a time.

If you have to raise your voice or shout to be heard, or if your ears ring or sounds seem muffled afterwards, then the noise level was too loud and harmful.

Reducing noise exposure in the workplace

Noise levels can be measured using a sound level meter, which detects the pressure of sound waves as they move through the air.

Reducing exposure to excessive noise in the workplace can be accomplished in many different ways:

- Change or modify equipment.
- Locate the equipment in a more isolated area, or soundproof the room.
- Make sure that people spend time working in quiet areas too.
- Try to run noisy equipment early or late in the day when fewer people will be exposed.
- Use personal hearing protection such as ear plugs or ear muffs.

Ongoing monitoring

Occupational health and safety officers can offer advice and information on reducing noise in the workplace. Noise levels should be regularly monitored and work practices continuously improved to preserve the hearing of workers. Companies can offer annual hearing tests to their employees.

Once hearing is damaged, it can't be restored. See your doctor immediately if you suspect any noise-induced hearing loss.

Where to get help

- Your manager or supervisor
- Your Elected Health and Safety Representative and your workplace occupational health and safety coordinator
- Victorian WorkCover Authority Tel. (03) 9641 1555
- Your doctor
- Your union.

Things to remember

- Damage to hearing occurs when noise levels are higher than 85 decibels, which is about the loudness of heavy traffic.
- The degree of loss depends on the loudness of the noise and your level of exposure.
- Once hearing is damaged, it can't be restored.

This page has been produced in consultation with, and approved by:

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