

TOOLBOX TALK

WHAT IS NOISE-INDUCED HEARING LOSS?

Noise-induced hearing loss is **permanent damage to hearing** caused by exposure to excessive noise over time or from sudden loud noise.

It typically occurs gradually and may not be noticed until significant damage has already occurred.

Key point: Once hearing is damaged, it **cannot be repaired**.

What Is Occupational Noise Exposure?

Noise, or unwanted sound, is one of the most pervasive occupational health problems. It is a by-product of many industrial processes. Sound consists of pressure changes in a medium (usually air), caused by vibration or turbulence. These pressure changes produce waves emanating away from the turbulent or vibrating source. Exposure to high levels of noise causes hearing loss and may cause other harmful health effects as well. The extent of damage depends primarily on the intensity of the noise and the duration of the exposure.

Noise-induced hearing loss can be temporary or permanent. Temporary hearing loss results from short-term exposures to noise, with normal hearing returning after period of rest. Generally, prolonged exposure to high noise levels over a period of time gradually causes permanent damage.

The degree of permanent hearing loss that occurs is dependent on how loud the noise is and the length of exposure. **Repeated or prolonged exposure to loud sounds increases the risk of hearing damage**, and the effects are cumulative (commonly referred to as Cumulative Noise Exposure (CNE)). Permanent hearing loss can also occur suddenly if a person is exposed to very loud impact or explosive sounds. This type of damage is known as acoustic trauma.

Common High-Noise Tasks on Site

Examples include:

- Operation of power tools (grinders, saws, jackhammers)
- Mobile plant and heavy equipment
- Impact tools and nail guns
- Cutting, drilling and demolition works
- Compressors and generators
- Working near operating machinery or plant rooms

Any noise that requires you to **raise your voice to speak to someone 1 metre away** is likely hazardous.

Health Effects Of Excessive Noise

Exposure to high noise levels can cause:

- Permanent hearing loss
- Ringing in ears (tinnitus)
- Difficulty hearing conversations
- Increased fatigue and stress
- Reduced concentration and awareness
- Increased risk of incidents due to missed warnings

Legal Requirements (Australia)

Under WHS Regulations:

- Exposure standard: 85 dB(A) over 8 hours
- Peak noise: 140 dB(C)
- Employers must implement control measures
- Hearing protection must be provided where required.
- Audiometric (hearing) testing required for ongoing exposure.

Control Measures (Hierarchy of Control)

A. Elimination / Substitution

- Use quieter equipment where possible
- Avoid unnecessary running of machinery
- Use electric instead of pneumatic tools if feasible

B. Engineering Controls

- Fit mufflers and silencers
- Install noise barriers or enclosures
- Maintain equipment to reduce noise
- Isolate noisy plant where possible

C. Administrative Controls

- Schedule noisy works to minimise exposure
- Limit time spent in high-noise areas
- Rotate workers where required
- Display hearing protection signage
- Conduct noise assessments

D. PPE (Last Line of Defence)

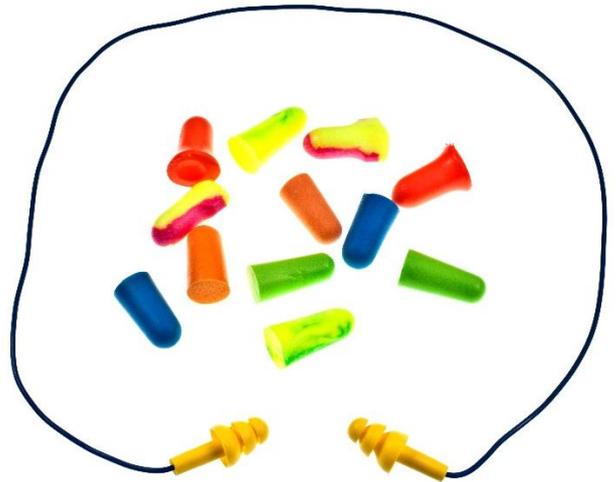
Where noise cannot be reduced:

- Wear approved hearing protection
 - Ear plugs
 - Ear muffs
- Ensure correct fit and condition
- Double protection where required (plugs + muffs)
- Do not remove PPE in designated areas

Worker Responsibilities

All workers must:

- Wear hearing protection where required
- Follow signage and site rules
- Report damaged or missing PPE
- Report excessive noise hazards
- Attend required hearing tests
- Avoid modifying or removing noise controls



Warning Signs of Hearing Damage

Report immediately if you experience:

- Ringing or buzzing in ears
- Muffled hearing after work
- Difficulty hearing conversations
- Sensitivity to noise

Early reporting helps prevent further damage.

Discussion Points / Questions

Supervisor to discuss:

- What are the main noise hazards on this site?
- Where are hearing protection zones?
- Are workers using correct PPE?
- Any noisy equipment concerns?
- Any hearing issues experienced by workers?

If it's too loud — protect your hearing.

Hearing loss is permanent but completely preventable with proper controls and PPE.



