



“Let’s Talk Health”

Noise

DISCUSSION AID 

INTRODUCTION

This talk has been developed to assist the person facilitating the “Let’s talk health” week topic on noise. It provides pointers to get the conversation started and is not a full explanation of all health and safety requirements, related to this subject, and should not be relied upon as such.

What is noise and how do you know when it’s too noisy?

Noise is defined as ‘unwanted sounds’, while sound is a term used for sensation that the brain receives when pressure variations in the air are detected by the ear. What is sound to one person can very well be noise to somebody else, but anyone who is exposed to noise is potentially at risk. The higher the level of noise, and the longer individuals are exposed to it, the more risk they have of suffering harm from it.

Sound is measured in decibels. There are many sounds in the environment, from rustling leaves (20 to 30 decibels) to a thunderclap (120 decibels) to the wail of a siren (120 to 140 decibels). Sounds that reach 85 decibels or higher can harm a person’s ears. Sound sources that exceed this threshold include familiar things, such as power lawn mowers (90 decibels), subway trains (90 to 115 decibels), and loud rock concerts (110 to 120 decibels).



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Do you feel your workplace is noisy?

Your workplace is considered noisy if:

- you have to shout to be heard
- You struggle to have a conversation at normal speaking level
- If there is difficulty in communicating, then it is likely that noise levels are high.

The Control of Noise at Work Regulations require an employer to take precautions to minimize the levels of noise employees, contractors & visitors are exposed to as a result of their activity.

There are 2 action levels defined by the regulation based on an average cumulative exposure over a period of 8 hours

1. Greater than 80dB(A) but less than 85dB(A) – hearing protection advisory
2. Greater than 85dB(A) – hearing protection mandatory

What are the main sources of noise in your place of work?

Noise exposure is the most common health hazard in industries such as entertainment, manufacturing, agriculture, shipbuilding, textiles, mining and quarrying, food and drink, woodworking, metal working and construction.

- the use of heavy machinery
- workplace transport
- electrical tools such as circular saws and cutter heads
- pneumatic tools such as drills, grinders and riveting guns
- electrical motors and generators
- plant rooms where ventilation equipment has to run continuously.



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Are you aware that exposure to noise can affect your hearing?

Research has also shown that exposure to loud sounds can cause hypertension (high blood pressure), higher stress and may affect sleep cycles. Noise is also associated with the decline of cognitive capacity. It may also cause hearing loss and tinnitus.

Temporary Threshold shift.

A temporary threshold shift is a temporary shift in the auditory threshold. It may occur suddenly after exposure to a high level of noise, a situation in which most people experience reduced hearing. A temporary threshold shift results in temporary hearing loss.

Tinnitus

Imagine a constant ringing, buzzing or whistling in your ear, 24 hours a day. It is called tinnitus. You never get a break. It is always there. Nobody else but you can hear the noise because it does not come from any external source. This condition is not curable

Noise Induced Hearing Loss

A permanent threshold shift is a permanent shift in the auditory threshold. It may occur suddenly or develop gradually over time. A permanent threshold shift results in permanent hearing loss. This condition is not curable.



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What can be done to prevent exposure to noise affecting your hearing?

One way that noise can permanently damage your hearing is by a single brief exposure to a high noise level, such as a firecracker going off near your ear. But hearing damage can also occur gradually at much lower levels of noise if there is enough exposure over time. To protect your hearing, you’ll want to limit your exposure to these moderately high noise levels as well and give your ears a chance to recover after any period of noise exposure.

Your employer must take action to identify areas where noise meets or exceeds these limits, assess the risk, and take appropriate measures to reduce exposure. Using the hierarchy of control, the aim is to eliminate the risk however this is not always possible and there are times when PPE is necessary.

The best policy for equipment is to buy quiet. The noise emission criteria for any new piece of equipment are that manufacturers data must specify that noise emission must be less than 75db(A) at 1 meter.

Where possible, sound enclosures are used to reduce noise levels generated by general noise from machinery. Where there is the need for interactions with the machines it is impossible to totally enclose the machine and eliminate the noise risk. Noise surveys and personal dosimetry in all areas must be carried out. Where indicated that the exposure levels are high the use of ear defenders is mandatory.

The best way to protect your hearing from noise is to avoid noisy activities. When you can’t avoid loud noise, use hearing protection. Hearing protection devices reduce the level of sound entering your ear. They do not block out sound completely.



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Can you think of instances where exposure to loud noises occur outside your workplace ?

Some of the sounds that you hear daily are not trivial. They can add up in time. To protect your ears, take precautions when you are exposed to these everyday sounds that can ruin your hearing.

- Personal Device Player: 70-100 dB
- Hair Dryer: 80-90 dB
- Concerts: 85-115 dB
- Alarms: 90-120 dB
- Car Horn: 115 dB
- Firecrackers: 140-150 dB
- Blender or Food Processor: 80-90 dB
- Traffic: 85 dB
- Subway: 90 dB
- Lawnmower: 106 dB
- Thunder: 120 dB

What is hearing protection?

Hearing protectors are wearable devices that can lower the intensity of sound that enters your ears.

There are several forms of ear protection available such as disposable foam earplugs, custom fitted reusable ear plugs, over ear - ear defenders so you are sure to find a solution that is comfortable for you.



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Why is it important to use hearing protection?

Hearing protection is one of the most important, and often overlooked, safety tools in any facility.

Apart from the previously discussed points of how noise can cause hearing loss and related conditions, there are other major side effects of exposure to noise.

The following are a few of the side effects of failing to use proper hearing protection:

- Psychological Stress & Irritability
- Headaches
- Increased Risk of Accidents
- Poor Concentration and Communication

Exposure to loud noises for extended periods of time has been shown to cause people to become irritated more quickly and easily. This can also lead to higher levels of stress in the workplace. The loud noises can cause a more hostile workplace, opening the facility up to a wide range of different risks. Proper hearing protection, however, can prevent the psychological stress and added irritability. This will not only help improve the safety of the facility, but also keep employees from becoming disgruntled with their jobs.

It is important to note that Hearing protection that does not fit properly will not protect your hearing.