Hearing Loss Quiz

QUESTION

What are the methods and procedures to control and reduce workers exposure to noise in the workplace’

ANSWER

1. Engineering controls
2. Administrative Controls
3. Hearing Protection Devices (HPDs)
4. Effective Hearing Conservation Program.

WHY IS IT RIGHT

WORKPLACE RISKS ASSOCIATED WITH HEARING LOSS

Hearing is the body’s built-in alarm system and plays a vital role in protecting a person from physical harm. Hearing picks up on possible dangers that may not be visible yet, like the sound of an approaching truck or the clanging of a broken machine. However, when hearing is compromised, the built-in alarm system isn’t as effective and may not pick up on incoming dangers as quickly, putting workers at risk.

Workplace accidents are common among workers with hearing damage due to reduced situational awareness or the inability to hear a warning siren or signal.

The risks associated with hearing loss don’t stop there. Not only does hearing loss contribute to workplace-related issues, it can also take a toll on an employee’s quality of life.

Hearing loss is permanent, and as it worsens, it can make interpersonal communication difficult and frustrating, putting a strain on relationships. In addition, ringing in the ears associated with hearing loss can be disruptive to normal sleep patterns and concentration, which sometimes can increase the risk of depression, anxiety and stress. All of these factors may contribute to underperformance or dissatisfaction at work.

WHY IS PREVENTION IMPORTANT

Hearing loss is the third most common chronic physical condition after high blood pressure and arthritis. Not surprisingly, hearing loss is among the most common work-related illnesses. Workers are faced with occupational noise hazards every day.

Here is why

- Almost all work-related hearing loss is permanent, and it can have a profound impact on quality of life.
- As hearing loss worsens, hearing and understanding others becomes increasingly difficult, which can lead to isolation.
- Hearing loss is associated with cognitive (mental) decline and heart problems, such as high blood pressure and heart disease.
- Hearing loss is also strongly associated with depression.
- Hearing loss can lead to loss of enjoyment, when all the sounds we want to hear (e.g., music, voice of loved one) become muted and lack quality.
- Ringing in the ears (tinnitus), which often occurs along with hearing loss, can disrupt sleep and concentration and is associated with both depression and anxiety.
- Hearing loss can impact safety at home and on the job.
- Income is typically lower among workers with hearing loss, than among workers with normal hearing.

HEARING LOSS OCCURS

Hearing loss occurs when workers are exposed to high levels of noise, whether suddenly or on an ongoing basis. Sadly, this type of hearing loss cannot be corrected medically ‘ neither surgery nor hearing aids are effective if hearing has been significantly damaged by hazardous noise. In some cases, the hearing loss is temporary. After leaving work, you may notice a reduced ability to hear, which returns after a few minutes or several hours. Unfortunately, constant exposure will eventually lead to permanent tinnitus (ringing in the ears) or permanent, significant hearing loss. The temporary hearing loss is merely the first stage of permanent damage.

SIGNS OF WORK-RELATED HEARING LOSS

The signs of a worker’s exposure to dangerous, potentially permanently damaging noise levels include the following symptoms:

- Ringing in the ears (tinnitus)
- Buzzing sound in ears
- Roaring sound in head or ears
- Difficulty hearing the words of a person close to you at normal volume
- Indistinct sounds at higher ranges

Workers can experience these symptoms after leaving the place of employment, and as the hours pass, the effect reduces and regular hearing appears to be restored. In fact, if you are experiencing any of these symptoms, you may be in the early stages of permanent hearing loss.

A good cue for gauging whether noise levels are too high is to simply monitor if you have to raise your voice significantly when speaking to someone at around an arm’s length away. If you do, then noise levels may be potentially damaging. Modern technology can also come in handy, too. Phone applications can also measure noise levels and are a handy tool for self-

monitoring your own environment and its level of safety.

WHY IS EVERYTHING ELSE WRONG

THE DANGERS

Loss of hearing from high noise makes it hard to hear warnings and directions and this can lead to accidents. Though most employers make great effort to protect workers from noise hazards, sometimes, the problem is not what is done but how it is done.

Some workplaces might not understand what level of noise is harmful and this creates room for error while implementing controls. But safety regulations require employers to protect workers from excessive noise; this means, having a program that regulates noise exposure through noise level assessments, hearing protection, employee training and hearing tests. Without this program and its annual reviews, control measures are useless and may even become hazardous.

PREVENTION

Reduce the Hazard From Noise

Noise controls are the first line of defense against excessive noise exposure. The use of these controls should aim to reduce the hazardous exposure to the point where the risk to hearing is eliminated or minimized. With the reduction of even a few decibels, the hazard to hearing is reduced, communication is improved, and noise-related annoyance is reduced. There are several ways to control and reduce worker exposure to noise in a workplace.

A. Engineering controls that reduce sound exposure levels are available and technologically feasible for most noise sources. Engineering controls involve modifying or replacing equipment, or making related physical changes at the noise source or along the transmission path to reduce the noise level at the

worker's ear. In some instances the application of a relatively simple engineering noise control solution reduces the noise hazard to the extent that further requirements of the OSHA Noise standard (e.g., audiometric testing (hearing tests), hearing conservation program, provision of hearing protectors, etc…) are not necessary. Examples of inexpensive, effective engineering controls include some of the following:

- Choose low-noise tools and machinery (e.g., Buy Quiet Roadmap (NASA)).
- Maintain and lubricate machinery and equipment (e.g., oil bearings).
- Place a barrier between the noise source and employee (e.g., sound walls or curtains).
- Enclose or isolate the noise source.

B. Administrative controls are changes in the workplace that reduce or eliminate the worker exposure to noise. Examples include:

- Operating noisy machines during shifts when fewer people are exposed.
- Limiting the amount of time a person spends at a noise source.
- Providing quiet areas where workers can gain relief from hazardous noise sources (e.g., construct a sound proof room where workers' hearing can recover ' depending upon their individual noise level and duration of exposure, and time spent in the quiet area).
- Restricting worker presence to a suitable distance away from noisy equipment.

Controlling noise exposure through distance is often an effective, yet simple and inexpensive administrative control. This control may be applicable when workers are present but are not actually working with a noise source or equipment. Increasing the distance between the noise source and the worker, reduces their exposure. In open space, for every

doubling of the distance between the source of noise and the worker, the noise is decreased by 6 dBA.

C. Hearing protection devices (HPDs), such as earmuffs and plugs, are considered an acceptable but less desirable option to control exposures to noise and are generally used during the time necessary to implement engineering or administrative controls, when such controls are not feasible, or when worker's hearing tests indicate significant hearing damage.

D. An effective hearing conservation program must be implemented by employers in general industry whenever worker noise exposure is equal to or greater than 85 dBA for an 8 hour exposure or in the construction industry when exposures exceed 90 dBA for an 8 hour exposure. This program strives to prevent initial occupationalhearing loss, preserve and protect remaining hearing, and equip workers with the knowledge and hearing protection devices necessary to protect them.

Key Elements Include:

- Workplace noise sampling including personal noise monitoring which identifies which employees are at risk from hazardous levels of noise.
- Informing workers at risk from hazardous levels of noise exposure of the results of their noise monitoring.
- Providing affected workers or their authorized representatives with an opportunity to observe any noise measurements conducted.
- Maintaining a worker audiometric testing program (hearing tests) which is a professional evaluation of the health effects of noise upon individual worker's hearing.
- Implementing comprehensive hearing protection follow-up procedures for workers who show a loss of hearing (standard threshold shift) after completing baseline (first) and yearly audiometric testing.
- Proper selection of hearing protection based upon

individual fit and manufacturer's quality testing indicating the likely protection that they will provide to a properly trained wearer.

- Evaluate the hearing protectors attenuation and effectiveness for the specific workplace noise.
- Training and information that ensures the workers are aware of the hazard from excessive noise exposures and how to properly use the protective equipment that has been provided.
- Data management of and worker access to records regarding monitoring and noise sampling.

EMPLOYEE TRAINING

Training workers is an essential step to educate a workforce about the risks associated with hearing loss and the importance of prevention. At a minimum, employers should conduct an annual noise training with all employees, but regular reminders throughout the year are also recommended.

For example, hanging educational posters and noise maps, which highlight decibel levels throughout the workplace, is a great way to remind employees throughout the year to take steps to mitigate hearing damage.

It can also be helpful to offer one-on-one educational sessions with individual employees who may be exposed to louder noises on a regular basis.

EMPLOYEE PERSONAL RESPONSIBILITY

- Stay informed and watch for warning signs, such as ringing or humming in your ears and temporary loss of hearing when you leave work.
- Wear and maintain all hearing protection provided by your employer.
- Us the right hearing protection for the job, task, or area.
- Participate in your employer's audiometric program and

understanding the results of your hearing tests.
- Ask questions about noise levels, hearing protection, and other noise and hearing related issues, as soon as you have a concern.

Summary

Control of noise in workplaces is of growing importance as a result of increasing hearing loss claims.

This is a convenient way of understanding the overall problem and a useful approach for putting control measures in place. The three components can usually be treated in isolation, although sometimes all three must be considered together in order to control unacceptable noise levels.

1. At the source, measures are aimed at reducing or eliminating the noise being generated.
2. Along the path, barriers can be introduced to reduce the amount of noise reaching the worker.
3. At the worker, measures involve personal protective equipment being properly selected, fitted, and worn. This PPE must be used in high noise environments all the time.

Failure to provide preventive or control measures will result in temporary and ultimately permanent hearing losses.