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Three Steps for Mitigating Hearing Loss in the Workforce

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The Center for Disease Control (CDC) estimates 22 million workers are exposed to potentially damaging noise at work each year and the effects go far beyond [loss of hearing](#).

Exposure to excessive noise can affect more than just workers' hearing. It can also create dangerous situations, such as an inability to hear warning signals, a decline in one's ability to communicate with fellow employees and a decrease in one's ability to concentrate. Excessive noise has even been found to cause stomach problems and high blood pressure.

When you consider the harm excessive noise actually creates in the work environment, you can see that the dangers are far reaching and in some cases could be a matter of life and death. If for instance a worker can't hear a large utility vehicle backing up, well... you see what could happen next.

In most industries, there are many occupational noise sources that can create excessive noise, such as manufacturing equipment, power generators, use of motor vehicles or heavy equipment, aircraft noise, hammering, jackhammering, sawing, drilling, emergency vehicle sirens and construction sites. All of these noises can easily exceed safe levels and over time cause hearing loss.

That's the thing with hearing loss, it usually occurs over an extended period of time and may go unnoticed by an employee, since humans usually cannot detect hearing loss while it's happening. Although hearing loss is sometimes temporary it can be permanent.

Employers, that's why it's incredibly important that you limit your workforce's exposure to harmful noises. Whether that be through hearing protection, engineering controls or

administrative controls, employers need to be diligent in their efforts to minimize hearing loss.

In deciding how to minimize hearing loss amongst your workforce, employers should perform a three-step process in order to best determine how to mitigate potential hazards and implement safety protocol. The process will likely result in the use of engineering controls, administrative controls, hearing protection devices or [a combination](#).

Step 1 - Recognize That a Noise Problem May Exist

The first step is to recognize if there is a problem. The problem can be as simple as not being able to properly communicate with another worker a few feet away. It can also be very complicated. For example, a worksite might have many different machines contributing to the overall excess of noise, there may be acoustic cues associated with determining whether a machine is operating properly.

Step 2 - Evaluate the Extent of the Problem

In order to evaluate the extent of the problem, employers need to measure noise in the workplace, plain and simple. This can be done using various sound measuring devices, such as sound level meters, dosimeters, and octave band analyzers. It should be noted, that in order to determine accurate noise measurements, the measurements should be performed by a qualified professional such as a Certified Industrial Hygienist, Certified Safety Professional or other qualified health and safety professional.

When levels exceed 85 dBA as an 8-hour time weighted average (TWA), OSHA requires employers to institute a hearing conservation program. For the general industry, the Federal OSHA Standard on Occupational Noise Exposure is 29 CFR 1910.95. It sets the permissible exposure limit (PEL) at 90dBA as an 8-hour time weighted average TWA with an action level at 85 dBA.

Step 3 - Control the Problem

Controlling the problem can be accomplished by using administrative controls, engineering controls, hearing protection devices or some sort of combination. Generally accepted practice dictates that administrative and engineering controls be exhausted before hearing protection is used. However, if neither administrative controls nor engineering controls can reduce the noise level below the limit, hearing protection must be worn and employees should receive training on how to properly use the protection. There are many situations when the only practical means of noise control is through the use of hearing personal protective equipment (PPE).

The use of hearing protectors can preserve an employee's hearing when noise cannot be engineered out of the workplace. Choosing the right hearing protector requires careful consideration.

Many types of hearing protectors are available to meet employee needs in terms of both compliance and user acceptance. For example, earplugs have varying NRR's for different situations and come in many different colors and shapes. Selecting an appropriate device that does not overprotect the user can alleviate concerns about not being able to hear warnings and fellow employees. Adequate training and allowing the employee to get used to the device can also help.

Bands and earmuffs on the other hand can be useful in situations that require the employee to periodically leave a noisy environment, thus causing the employee to remove the device several times throughout the day. If the employee has to wear a hearing protector for extended periods of time, earplugs are often preferred. They are comfortable and require little maintenance.

Employers should also consider how the hearing protector interacts with other personal protective equipment such as hard hats, eye protection and welding hoods.

Proper Training

At the end of the day, hearing protection is only part of the solution for reducing hearing loss and hearing related injuries in the workplace. If employees don't understand the hazards associated with noise and become acclimated to the use of the hearing protection devices, wearing hearing protectors might seem like a nuisance.

That's why employers must also ensure that employees are using the protection device properly by implementing a hearing conservation program that includes thorough and comprehensive training in addition to providing suitable hearing protection. Your hearing conservation program should include annual audiograms, training, providing a choice of hearing protectors to employees, and various other elements. Employers should refer to [OSHA regulations](#) for details. Employers should also look to see if their state has its own program. State regulations will be at least as stringent as the Federal Regulation. They can be stricter and possibly have additional requirements.

And so, employers, in short, in order to reduce hearing loss in your workforce, you must understand that there is noise problem. Professional help should be sought out in evaluating the extent of the problem and then different engineering and administrative controls, as well as hearing protection should be used to mitigate the noise.

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