SAFETY UNLIMITED, Inc.

Weekly Safety Meeting

Your Safety Is Our Business®

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Noise Safety

Noise is unwanted sound that can affect job performance, safety, and your health. Psychological effects of noise include annoyance and disruption of concentration. Physical effects include loss of hearing, pain, nausea, and interference with communications when the exposure is severe.

Most workers take good hearing for granted. Hearing loss can happen so gradually that it can go unnoticed until it's too late. Then, even a hearing aid may not help. Some assume hearing loss is the unavoidable result of getting older, yet most hearing loss is due to noise over a lifetime. While loss of hearing may result from a single exposure to a noise or explosion, such traumatic losses are rare. Most cases of hearing loss begin gradually in frequencies slightly above that of human speech and then subtly spread to lower and higher frequencies. Hearing loss can disrupt job performance, cause stress-related problems, increased heart rate, fatigue, irritability, tension and lead to unnecessary accidents or injuries on the job.

The workplace can be very noisy. Both the amount of noise and the duration of exposure determine the ability to damage hearing. Workers may be exposed to noise from many sources: equipment, vehicles, or tools, to name a few. Any of this noise can damage hearing when exposure accumulates over extended periods of time. How can you tell if work is too loud and may be causing hearing damage? It's too loud if:

- You have to raise your voice to be heard;
- You can't hear someone less than two feet away without shouting;
- Speech around you sounds muffled or dull after you leave a noisy area; or
- You have ringing in your ears after exposure to noise.

Noise and hearing protection:

Exposure to normal noise levels doesn't cause hearing loss -- overexposure to high noise levels does. Noise is measured in units called "decibels." The higher the decibel, the louder the noise. To help you see the difference in the decibel scale, look at these examples of various noise levels:

- 20 decibels - soft whisper
- 30 decibels - leaves rustling, very soft music
- 60 decibels - normal speech, background music
- 85 decibels - heavy machinery with a soundproof cab
- 90 decibels - lawnmower, shop tools
- 100 decibels - heavy machinery without a soundproof cab, motorcycles
- 115 decibels - loud music, sand blasting
- 140 decibels - jet engine, shotgun

In the workplace, hearing protection must be used to reduce noise exposure for anyone who is exposed to 90 decibels or more throughout the course of a workday. Hearing protection may be used at lower levels, particularly for people who are very close to the 90 decibel exposure level.

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Sounds above 120 decibels can cause hearing damage after only a brief exposure and should be avoided unless hearing protection is worn.

There are many types of hearing protection available, but keep in mind that not every type of hearing protection is good for every type of noise. Disposable foam earplugs may be fine for some noise exposure. Earmuff-type protection may be suitable for another.

It is the employer's responsibility to assess noise exposures and provide appropriate hearing protection as needed for everyone in the workplace. It is the worker's responsibility to use the protection consistently and correctly. Hearing protection is no use if it's not worn.

Keep in mind that equipment operators aren't the only ones who may need protection. Other people who work nearby may also be overexposed to noise. If you work in a noisy area -- even if you're not the one making the noise -- be aware of the hazard of hearing loss and use protection.

Noise reduction rating (NRR):

NRR is a standardized measure of noise reduction provided by a hearing protector as measured in the laboratory. It provides for a comparison when choosing a suitable protector for the intended use.

When hearing protection is worn, your level of exposure to noise is based on the NRR rating of the protection device being used.

Keep in mind, however, that while the NRR is measured in decibels, the hearing protector being used does not reduce the surrounding decibel level by the exact number of decibels associated with that protector's NRR.

For example, if you are working in a machine shop with a level of noise exposure at 100 dB and you are wearing a hearing protector with an NRR 33 dB, your new level of noise exposure is 87 dB.

To determine the actual amount of decibel deduction applied (when decibels are measured dBA which is the most common), you take the NRR number (in dB), subtract seven, and then divide by two.

Given the previous example, your noise reduction equation would look like the following: (33-7)/2 = 13.

"Dual protection" – use of earplugs and earmuffs required when levels exceed 105 dBA.

When hearing protectors are worn in combination (i.e. earplugs AND earmuffs), rather than adding the two NRR numbers together, you simply add five more decibels of protection to the device with the higher NRR.

Hearing protection is a sound investment!!

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Safety Meeting Sign-In Sheet

Supervisor:	*Subject:*
Location:	*Date:*
Conducted By:	*Trainer Signature:*

Name (print clearly)	Signature	Comments / Safety Concerns / Training Requests