



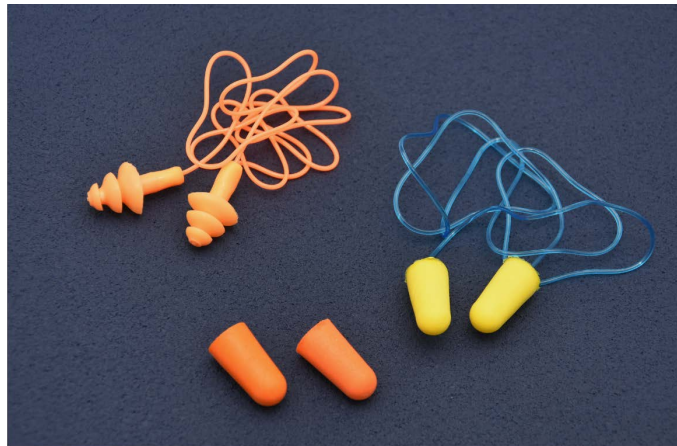
October 3, 2023

October 2023 Safety Tip

Hearing Protection Safety Tips

October is National "Protect Your Hearing Month!"

Exposure to loud noise or certain chemicals while at work can damage your hearing. Occupational hearing loss is one of the most common work-related illnesses and is permanent. Agency safety coordinators should take this opportunity to educate their team about the importance of hearing loss prevention.



How the Ear Is Damaged by Noise

When sounds are too loud and prolonged, tiny bundles of hair-like structures on top of hair cells in the inner ear are harmed, causing damage to your hearing. The average person's inner ear contains about 16,000 hair cells at birth. Your brain detects sounds because of these cells. When hair cells are damaged, they cannot respond to sound, resulting in noise-induced hearing loss (NIHL). Human hair cells don't grow back and cannot be recovered or replaced, making hearing loss permanent. You might not recognize the early warning signs of hearing loss because NIHL can develop gradually over time. By the time you notice hearing loss, many hair cells have already been permanently damaged or destroyed.

Sound Can Cause Damage If:

- You have to shout to be heard
- You have decreased or "muffled" hearing for various hours after exposure
- The noise makes your ears ring
- The noise is painful to your ears



How Sounds Is Measured

Sound intensity is measured in decibels (dB); the higher the decibel, the more damage it can inflict.

- Normal conversations are 60dB
- Gunshots and fireworks are 140dB
- Emergency sirens range from 110dB to 129dB

The louder the sound, the faster it can damage your hearing. Two minutes of 110 dB can damage your hearing. The good news is that NIHL can be avoided.

How to Protect Your Hearing

- **Avoid loud noises.** Noises at or above 85 dB can cause damage. Lower the volume when using headphones or earbuds.
- **Step away from the noise.** If you cannot lower the volume, distance yourself from the source.
- **Wear hearing protection.** Use earplugs or earmuffs when you can't escape a noisy situation, such as mowing the lawn, using power tools, playing loud music, or attending a concert or sporting event. Activity-specific earplugs and earmuffs are sold online and at hardware and sporting goods stores.

Agency's are required to reduce noise exposure by implementing the following hierarchy of controls:

1. **Eliminate dangerous noise exposure.** Remove employees from a dangerous noise area or stop the noise.
2. **Install engineering controls.** Add sound barriers, enclosures, and noise-dampening systems to reduce noise.
3. **Implement administrative controls.** Provide training on the correct use of hearing protection, job rotation, breaks, and routine maintenance programs.
4. **Supply PPE.** Track the levels of noise that remain after applying the controls above. For noises between 85-100 dB on an 8-hour Time-Weighted Average (TWA)*, earplugs need to be provided. Noise over 100 dB on an 8-hour TWA* require providing double ear protection (earplugs and earmuffs).



Long-term consequences of hearing loss can be devastating and severely impact the quality of life. Danger may be reduced by implementing and following the safety measures mentioned above.

** TWA is the employee's average airborne exposure in any 8-hour work shift of a 40-hour work week which shall not be exceeded. The 8-hour TWA is the level of exposure established as the highest level of exposure an employee may be exposed to without incurring the risk of adverse health effects.*

Resources

- [Noise and Occupational Hearing Loss](#)
- [Occupational Noise Exposure](#)

WCMB is here to help you and your team implement hearing loss prevention measures! Contact us at WCMB@mt.gov.

WORKERS' COMPENSATION MANAGEMENT BUREAU

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