Express Eddie's Toolbox

Managing Occupational Noise Exposure

Loud noise threatens workers' hearing and is one of the most widely spread occupational health problems. Employees may find themselves exposed to loud short-term or steady long-term sounds, depending on the nature of their work. Employers must follow OSHA requirements to minimize the chances of temporary or permanent hearing damage.

Monitoring sound exposure

There are two variables that affect how powerful a sound is - intensity and duration. Some noises only last for a short period of time but reach very high decibel levels and may cause temporary hearing loss, with repeated exposures causing permanent loss. Sounds that persist for long periods of time cause permanent hearing loss over time.

OSHA's hearing conservation program requires employers to monitor sound exposure to accurately identify workers exposed to noise hazards. Areas must be monitored anywhere workers are exposed to sounds at or above 85 decibels (dB) averaged over 8 working hours, or an 8-hour time-weighted average (TWA). Monitoring must take exposure into account, including all continuous, intermittent, and impulsive noise within an 80 dB to 130 dB range.

When any machines are replaced or processes are altered, employers must re-test the sound levels at a facility or worksite. These changes may also require more employees to be included in a hearing protection program if the TWA of a workplace has changed.

To keep workers healthy and safe, companies must also test employees on a regular basis to make sure that their hearing isn't being harmed. This evaluation of employee hearing is called audiometric testing, and it measures changes in their ability to hear over time. OSHA requires that all personnel undergo audiometric testing within six months of their first exposures to sound levels of 85 dB TWA. From there, annual audiometric tests must be administered. This process helps employers identify which workers need hearing protection and if they need to be refitted with protection that is more appropriate for the noise level in their work area.

All testing records should be retained so that workers with hearing damage can seek medical treatment. This documentation will also help safety departments manage sound exposure in the future.

Offering protection

If a worker's baseline audiogram, or first audiometric test result, is different from later tests as a result of workplace noise hazards, companies must fit or refit them with adequate hearing protection. Workers exposed to 85 dB TWA sound sources must be given hearing protection. This includes providing a selection of at least one type of ear plug and one variety of ear muff.

Workers exposed to TWAs of 85 dB and above need to be trained annually about the dangers of spending time around loud noises. This will help to ensure that they understand the risks of being exposed to high-volume sources. Workers who are well-informed of the reasons for a hearing conservation program will be more motivated to wear their hearing protection.

Hearing conservation help

OSHA offers free consultation services and extensive help with safety and health programs, state plans, voluntary protection programs, partnerships, alliances, and training and education.

The OSHA website provides additional information and help through eTools such as Expert Advisors and Electronic Compliance Assistance Tools, information on specific health and safety topics, regulations, directives, publications, videos, and other information for both employers and employees.

Keep workers safe and minimize the chance of temporary and permanent hearing loss in your workplace by monitoring noise and worker hearing, and providing safety supplies such as ear plugs and ear muffs.

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