

NELHSF NewsNotes

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Sound Advice—Protect Your Ears in Noisy Work Environments

Your job shouldn't cause you to lose your hearing. Yet for many construction workers years of exposure to excessive noises on the job has led to permanent hearing loss.

The National Institute for Occupational Safety and Health (NIOSH) classifies work-related hearing loss as one of the most common occupational diseases in the United States.

According to NIOSH, 30 million Americans are exposed to hazardous noise at work. This has resulted in a permanent hearing loss for about 10 million workers. If you are one of these people, you don't have to suffer hearing loss. Your supervisors can make changes to the equipment to eliminate or reduce noise. In many cases you can adjust your work schedule and job to avoid being around noisy equipment. Finally, when engineering or administrative controls can't eliminate your exposure to hazardous noise, you can wear hearing protection devices, such as ear plugs or ear muffs.

Now hear this...

Loud noises can cause hearing loss by damaging the delicate hair cells in the inner ear. Most of the time this damage happens gradually when prolonged exposure to loud sounds exhausts these hair cells. As noise levels increase, the tiny cilia at the top of the hair cells can be injured or broken off. Entire groups of these hair cells can even be torn away. Hair cells don't repair themselves. So when enough hair cells are damaged, a hearing loss results.

Sound is measured in decibels. A normal conversation takes place at about 60 decibels. Background noise in construction is about 85 decibels. Prolonged exposure to noise above 85 decibels can cause hearing loss. A concrete joint cutter's noise level is about 100 decibels, a pneumatic chip hammer noise measures about 110 decibels, and a bulldozer, gradeall, and crane range from 90 to 96 decibels.

A short, intense sound—an explosion, for example— may cause immediate hearing loss. But usually hearing loss occurs gradually after prolonged exposure to loud noise. It may occur so gradually you may not even realize you are losing your hearing. Over time, sounds may simply become muffled or distorted. Except in very rare cases, there is no pain associated with hearing loss. What does occur is a progressive loss of communication, socialization, and responsiveness to the environment.

Tinnitus, a ringing or roaring sound, sometimes described as the sound of crickets in one or both ears, can accompany both immediate and gradual hearing loss. Tinnitus is the perception of sound within the human ear in the absence of corresponding external sound. So even though there is no noise in the immediate vicinity, the damaged hair cells are constantly stimulated because they are irritated. The brain perceives this constant irritation as sound. People with severe tinnitus may have trouble hearing, working or even sleeping.

Muffle the roar

The Occupational Safety and Health Administration (OSHA) requires employers to develop and implement a noise monitoring program when any employee's exposure may equal or exceed an 8-hour average exposure of 85 decibels in general industry and 90 decibels in the construction industry. When this occurs, OSHA requires employers to include all exposed workers into a hearing conservation program. The employer must notify employees of the exposure, establish and maintain a hearing test program, train workers how to prevent occupational hearing loss, and monitor noise exposure. When engineering controls have not yet eliminated hazardous noise, OSHA also requires employers to provide hearing protectors and ensure workers wear them.

Not every type of hearing protection is useful for every type of noise. Disposable foam earplugs may be fine for some noise exposure while earmuff-type protection may be suitable for another.

To see if you may be in an environment that could cause hearing loss, ask yourself the following questions:

Is the noise at my workplace so loud that I have to raise my voice significantly for someone an arm's length away to hear me?

When I leave work and am in a quieter environment, do my ears feel plugged? Or do I hear a mild ringing or whooshing noise that goes away after an hour or two?

If you answer yes to either of these questions, take some sound advice: Get your hearing tested and protect your ears.