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Complete Health Environmental and Safety Services

Can You Hear?

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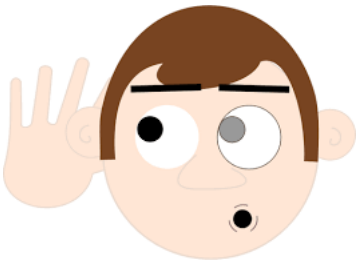

Can you hear as well as you could when you were ten years old? Probably not. Don't blame it just on getting old. It's more likely to be from noise.

We live in a noisy world. An impact wrench might measure more than 103 decibels – as loud as the stands at a hockey game. At that level, only eight minutes of noise exposure a day would put you over the recommended limit. If the exposure happened only once, your ears might recover. But combine that impact wrench, day after day, with the hockey game and the blaring radio and the grinder and all the other noise around you, and you have the formula for damaged hearing.

Noise causes permanent damage to specialized nerve cells deep in your ear, in your cochlea. Those nerve cells take sound waves and translate them into signals to your brain. If they aren't working, you aren't hearing. The nerve cells that are most sensitive to noise are the ones that respond to high frequencies. So an early sign of noise-induced hearing loss is losing the ability to hear those high frequencies. That makes it harder to understand what people are saying, because you're missing the high frequency parts of speech.

Hearing loss isn't the only effect from noise overexposure. There's evidence that it increases blood pressure, that it can cause insomnia, and that it increases stress levels. Even more damning, noise induced hearing loss is socially isolating. If you have it, you can't follow conversations. You start guessing what people said, leading to wrong responses – and people start thinking you're becoming senile.

Consistent exposure to noise levels above 85 dBA will damage hearing. Several years ago, we measured tool sound levels in body shops. Air powered tools, other than paint spray guns, were consistently loud enough to require hearing protection. Electric drills weren't that bad, ranging from 83 to 88 dBA. The worst: air impact wrenches that their owners described as missing mufflers or broken.

Noise induced hearing loss cannot be cured, but it can be prevented.

Limit noise when you can. Buy quiet. Manufacturers are designing quieter equipment and tools. Choose those when you can and provide incentives to employees to do likewise. One of the most successful examples: air compressors. If you change from a reciprocating compressor to a rotary screw one, sound levels will drop significantly.

Block noise when you can. If you have noisy fixed equipment such as a compressor, put it in its own sound-proofed box or room. Even things as simple as closing doors or putting curtains

between work areas can reduce noise exposure. Sound-absorbing materials may help protect others in the area when a noisy tool is being used.

Keep equipment maintained. If a tool is supposed to have a muffler, make sure the muffler is there.

If you can't limit noise, limit exposure. Nearly everyone reaches for ear plugs or ear muffs when the noise bothers them. But many people don't wear that hearing protection effectively.

Foam ear plugs can block more noise than other forms of hearing protection if they are worn correctly. They usually aren't. They need to be inserted so deep into the ear that only a little bit sticks out. That means rolling each plug up into a very tight cylinder, lifting the ear up and back to open up the ear canal, inserting the plug, and holding it while it expands. But if your hands are dirty or if you'll be taking the ear plugs out throughout the day, foam earplugs probably aren't for you.

You could use push-in plugs. Even if inserted perfectly, they won't be quite as effective as the roll-up plugs. These need to be inserted the same way as the foam plugs – lift your ear up and back to open the ear canal, then insert them deeply.

But what if the plugs just don't fit? Just as people's noses vary in shape and size, so do ear canals. What fits and is comfortable for one person may not work at all for someone else (OSHA realizes this; its hearing conservation standard requires the employer to provide choices in hearing protection). Or you could try ear muffs.

Ear muffs are much easier to put on correctly than ear plugs. They're not foolproof: to be effective, they must form a complete seal around the ear. Long bushy hair, hats, and even safety glasses can break that seal.

Could you use noise-cancelling headphones or ear buds? Not for hearing protection. Those work well with relatively steady noises, such as the drone of an aircraft engine. They don't work well for irregular or high frequency noises.

What about ear muffs with built-in radios? If they've been assigned an NRR, Noise Reduction Rating, they may be protective enough. Those usually limit the radio noise level. Their primary disadvantage is that users may not notice outside noises, such as warning yells.

Make noise protection a priority

One simple action won't be enough to protect you and your employees from noise-induced hearing loss. But one simple action, emphasizing the need to protect hearing, is a start. Don't tolerate excessively noisy equipment. Provide different types of hearing protection. Require that employees use them. And train your employees on the hazards of too much noise.

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