



Hearing Protection

Meeting Objectives

To explain the relationship of noise to hearing loss and the importance of hearing conservation programs. The result should be the use of ear protection equipment whenever required on the job.

Suggested Materials to Have on Hand

- Chart of noise levels to emphasize risk to hearing. (Note: If noise measurements have been conducted in your work area, try to get a copy of the levels recorded for various machines used by your workers.)
- Samples of hearing protective devices used in company

Introduction/Overview

As you listen to me, you're using one of our really amazing abilities: hearing. Our ears process sounds so they get to the brain and we hear them. They also allow us to distinguish the sounds so that we can tell a shout from a whisper, music from machinery, the voice of a friend from the voice of a stranger.

Your ears also process noise, but they don't like it much. Noise above certain levels can damage parts of the ear so that you stop hearing some kinds or levels of sound. You probably won't be aware of it—at first—but hearing loss caused by noise is a serious risk and a permanent one.

Many work areas in many companies have dangerously high noise levels. It's estimated that up to 16 million Americans are exposed to high noise levels at work. That's why we have hearing conservation programs. Your hearing is too delicate and too important to risk.

General Hazards

The main hazard of noise is loss of hearing, which can be either partial or total, and is usually permanent. Sometimes, after one long exposure to very loud noise, you may have a temporary partial hearing loss. But most hearing loss is very serious. And it's not the only problem caused by too much noise.

Noise can:

- Cause you not to hear important safety warnings or work instructions, or to misunderstand what you hear.
- Create stress that affects you physically and mentally.
- Exhaust you from the strain of trying to listen or talk over loud sounds

OSHA Regulations and Frequent Violations

OSHA has a very detailed noise and hearing conservation regulation (29 CFR 1910.95). Basically, it requires all companies where noise levels exceed a certain level to provide protection against the effects of noise exposure. That includes:

- Trying to reorganize equipment, facilities, and/or tasks to reduce noise levels
- Monitoring individual and work area noise levels and reporting high levels to employees
- Testing employee hearing, with annual follow-ups



Hearing Protection

Page 2 of 5

- Providing hearing protectors where needed
- Providing training in the selection and use of hearing protectors.

This is a brief summary of a detailed regulation, complete with charts and tables. OSHA takes this problem seriously, and issues many citations for violating various paragraphs of this regulation.

See the Violations section for the most recent citations and penalties issued by OSHA under these regulations.

Identifying Hazards

You can't be expected to measure noise; there is very special equipment for that. What the equipment looks for is noise levels, over an eight-hour workday, of 85 decibels or more. That's the level at which a hearing conservation program is required. A decibel is the measurement of loudness, and exposure to more than 90 decibels over an eight-hour workday can mean a risk of hearing loss.

What does 85 decibels mean? Here are some examples of decibel levels of familiar sounds:

- Whisper—10 decibels
- Quiet house—30 decibels
- Street sounds—70 decibels
- Factory—80-90 decibels
- Sander—85 decibels
- Subway—90 decibels
- Pneumatic drill—100 decibels
- Car horn—120 decibels
- Artillery—120 decibels.

Hearing Loss Symptoms

If you accept that you are spending at least some of your time in areas with loud noise, how do you know if it's hurting your hearing? It's not easy to tell, but here are some signs:

- Noise or ringing in your ears
- Trouble hearing people when they speak
- Trouble hearing certain high or soft sounds
- Needing a higher volume on the TV or radio—high enough that other people complain.

If you have any of these problems, you should have your hearing tested.

Protection against Hazards

OSHA's hearing conservation program is designed to provide thorough protection against hearing damage from noise by measuring noise levels, requiring hearing tests, and requiring protective equipment.

The company takes various steps to protect your hearing. Some of the ways noise can be reduced in a work area include:

- Separating noisy machinery or operations
- Keeping equipment maintained and lubricated so it doesn't rattle or squeak
- Replacing worn or loose machine parts



- Using quiet substances like wood or plastic instead of metal when possible
- Using rubber mountings under heavy machinery to reduce vibration
- Using sound-absorbing acoustical tiles on the floor, ceiling, or walls
- Considering noise levels before buying new equipment or installing new processes
- Trying to perform high-noise maintenance after hours.

Of course, some equipment, like saws and punch presses, will never be quiet no matter what we do. So other measures are necessary.

If a company's equipment and processes make it impossible to reduce noise levels over an eight-hour workday below 85 decibels, OSHA requires that employees have hearing protectors available.

Not only that, OSHA says that if the noise levels are above 85 decibels, you may have to wear the hearing protectors. Considering that the alternative may be losing your hearing, this is pretty hard to argue with.

Hearing protectors have to reduce the noise coming to your ears to at least 90 decibels. In a really noisy environment, that might not be easy. You might even have to wear more than one kind of hearing protector at once. Hearing protectors fall into three categories:

- Earmuffs usually provide the greatest amount of protection to the ears. They have three parts: a headband, ear cups, and ear cushions.
- Earplugs seal the ear canal and keep noise from getting through to the ear's delicate parts. There are a wide variety of earplugs on the market. Some come in standard sizes, some can be individually molded, and some are custom-fitted to your ear.
- Canal caps are soft pads on the ends of a headband, sort of like headphones. The canal caps, which have to fit snugly, seal the entrance to the ear canal instead of going into it like the earplugs do.

Let's be honest. Most people don't like to wear hearing protectors. But they work. However, if you really can't get comfortable with your ear protectors, it's possible that you didn't get a good fit. So if they're a serious problem for you, talk to me and we'll have them checked.

OSHA includes another protection in its noise regulations: hearing tests. As you know, everyone has an initial test that sets what is called a baseline for your hearing. Then you are retested every year to see if there is any change so action can be taken if needed.

Safety Procedures

In order for a hearing conservation program to work, you have to be an active participant. That means you have to wear ear protection when needed and do your part to maintain equipment to reduce its noise levels.

You also have to make sure your ear protectors fit correctly and help maintain them so they can do their job. Here are a few hints:

- Keep ear protectors clean; wash them regularly according to manufacturer's instructions.
- Wash your hands thoroughly before inserting earplugs.
- Make sure that canal caps fit snugly.
- Make sure that earmuff cups fit snugly.
- Inspect your ear protectors before putting them on. If they're loose or cracked, report it. That probably means it's time for a replacement.



Hearing Protection

Page 4 of 5

- DON'T use "homemade" hearing protectors. Putting cotton in your ears is no protection against noise.

Keep in mind that work isn't the only place you're exposed to dangerously loud noise. You can take some steps to protect your hearing in your personal life, too, such as keeping a moderate volume on your stereo or radio—especially when you're wearing headphones. If you use power tools like chain saws, or if you have a motorcycle, snowmobile, or other loud vehicle, use some kind of ear protection. If you hunt or shoot, use ear protection for those activities, too.

Suggested Discussion Questions

- What is the greatest hazard of loud noise?
- What are some other hazards?
- What are some particularly noisy pieces of equipment or operations here?
- How seriously does OSHA take noise and hearing problems?
- Have any of you ever had any of the symptoms of possible hearing loss? What were they and what did you do?
- What types of hearing protection do we use here and when do we use them?
- What are some of the important points about caring for hearing protection equipment?
- Are there any other questions?

Wrap-Up

We're all used to noise that we forget that it's a genuine on-the-job hazard—and an off-the-job hazard, too. Hearing is something you can't fix or replace. All you can do is make every effort to preserve what you have.

The government has put a real priority on hearing conservation and this company continues to do what it can to reduce noise levels. You can't eliminate noise from a lot of operations. You can, however, reduce your own exposure to dangerous levels of noise by using hearing protection, on and off the job. You will get used to wearing hearing protectors, even if you don't grow to really love them. And when you consider the alternative of not being able to hear at all, they look a lot better.



Hearing Protection Do's and Don'ts Checklist

DO:

Make sure not to skip hearing test appointments.

Help maintain machinery to reduce noise levels.

Be aware of noise levels requiring hearing protection.

Have your hearing tested if you have:

—noise or ringing in your ears

—trouble hearing people speaking

—trouble hearing certain high or soft sounds

—TV or radio volume turned so high others complain.

Wear assigned hearing protectors.

Report hearing protectors that don't fit well or are in poor condition.

Make sure hands are clean before inserting or putting on hearing protectors.

Keep hearing protectors clean.

Use hearing protectors in loud-noise activities off the job.

DON'T:

Tamper with hearing-testing or noise-reduction equipment.

Ignore or "forget" to use hearing protection.

Use hearing protectors that are loose or cracked.

Use hearing protectors that don't fit snugly over or into the ear.

Ignore loud noise levels outside the job.

