



NOISE AND HEARING LOSS PREVENTION

It is estimated that over 22 million workers are exposed to hazardous noise on the job and an additional nine million are at risk for hearing loss from other agents such as solvents and metals.

Noise is not a new hazard. It has been a **constant threat** since the industrial revolution. Too much noise exposure may cause a **temporary change in hearing** (your ears may feel stuffed up) or a **temporary ringing in your ears** (tinnitus). These **short-term problems** usually go away within a few minutes or hours after leaving the noise.

Repeated **exposures to loud noise can lead to permanent, incurable hearing loss or tinnitus.**

NIOSH recommends removing hazardous noise from the workplace whenever possible and **using hearing protectors** in those situations where dangerous noise exposures have **not yet been controlled or eliminated.**

EXPANDABLE FOAM PLUGS

These plugs are made of a **formable material** designed to **expand and conform to the shape of each person's ear canal.**

- **Roll the expandable plugs** into a thin, crease-free cylinder. Whether you roll plugs with thumb and fingers or across your palm doesn't matter. What's critical is the final result—a **smooth tube thin enough so that about half the length will fit easily into your ear canal.**
- **Using your other hand, gently lift up at the top of your ear and insert the plug.**
- Allow the plug to expand within your ear.
- Re-using disposable ear-plugs is a bad idea. Never put a dirty ear plug in your ear. **Most foam ear-plugs are designed for single use.** Read the instructions carefully!

PRE-MOLDED, REUSABLE PLUGS

Pre-molded plugs are made from **silicone, plastic or rubber** and are manufactured as **either “one-size-fits-most”** or are available in several sizes. Many pre-molded plugs are available in sizes for small, medium or large ear canals.

- A critical tip about pre-molded plugs is that a **person may need a different size plug for each ear.**
- **The plugs should seal the ear canal without being uncomfortable.**
- This takes trial and error of the various sizes.



Directions for fitting each model of pre-molded plug may **differ slightly** depending on how many flanges they have and how the tip is shaped. Insert this type of plug by reaching over your head with one hand to **pull up on your ear**. Then use your other hand to insert the plug with a gentle rocking motion until you have sealed the ear canal.

Some advantages of pre-molded plugs are that they are relatively inexpensive, reusable, washable, convenient to carry, and come in a variety of sizes. Nearly everyone can find a plug that will be comfortable and effective. In dirty or dusty environments, you don't need to handle or roll the tips.

CANAL CAPS

Canal caps often resemble earplugs on a flexible plastic or metal band. The earplug tips of a canal cap may be **a formable or pre-molded material**. Some have headbands that can be worn over the head, behind the neck or under the chin. Newer models have jointed bands increasing the ability to properly seal the earplug.

The main advantage canal caps offer is convenience. When it's quiet, employees can leave the band hanging around their necks. They can quickly insert the plug tips when hazardous noise starts again. Some people find the pressure from the bands uncomfortable. Not all canal caps have tips that adequately block all types of noise. Generally, the canal caps tips that resemble stand-alone earplugs seem to block the most noise.

EARMUFFS

Earmuffs come in many models designed to fit most people. They work to **block out noise by completely covering the outer ear**. Muffs can be "low profile" with small ear cups or large to hold extra materials for use in extreme noise. Some muffs also include electronic components to help users communicate or to block impulsive noises.

Workers who have heavy beards or sideburns or who wear glasses may find it difficult to get good protection from earmuffs. The hair and the temples of the glasses break the seal that the earmuff cushions make around the ear. For these workers, earplugs are best. Other potential drawbacks of earmuffs are that some people feel they can be hot and heavy in some environments.

MISCELLANEOUS DEVICES

Manufacturers are receptive to comments from hearing protection users. This has led to the development of new devices that are hybrids of the traditional types of hearing protectors. Because many people like the comfort of foam plugs, but don't want to roll them in dirty environments, a plug is now available that is essentially a foam tip on a stem. You insert this plug much like a pre-molded plug without rolling the foam.

Still, the best hearing protector is the one that is **comfortable and convenient** and that you will wear every time you are in an environment with hazardous noise.