

HEARING PROTECTION DEVICES

Hearing protection devices (HPD) such as earmuffs and earplugs can be an effective measure to protect hearing in noisy work environments. However, hearing protection devices are only effective if they are properly sized and carefully fitted into or over the ear. The two common HPD categories are earplugs and earmuffs.

There are several common types of hearing protection devices:

- Formable earplugs made of expandable foam. One size fits most people.
- Premolded earplugs made from flexible plastics. Often sold in different sizes, they should be selected to provide best fit for each ear.
- Semi-aural devices, or canal caps, consisting of flexible tips on a lightweight headband. They provide less protection than earplugs or earmuffs but may be good for intermittent use.
- Earmuffs having rigid cups with soft plastic cushions that seal around the ears.

The formable foam earplug must be narrowed and compressed by rolling before it is inserted into the ear canal. Once inserted, the earplug expands to fill the ear canal and to reduce noise transmission further into the ear. If it is inserted incorrectly, the foam earplug will provide much less protection against noise.

To properly fit a formable foam earplug:

1. With clean hands, slowly roll and compress a foam earplug into a very thin cylinder.
2. Reach around the head with one hand to pull the top of the ear slightly outward and upward while inserting an earplug into the ear canal with the other hand.
3. After insertion, hold foam earplugs in place with a fingertip for a few moments to ensure that the plug expands in the ear canal without moving out of the ear. In a noisy environment, the reduction in perceived sound level as the plug expands should be noticeable.
4. Have a coworker visually check the earplug.

If the half or more of the earplug is sticking out of the ear canal, it not fitted correctly and won't provide the designed protection.

To properly fit an earmuff:

1. Adjust the headband so that it sits comfortably on the head and so that the cushions exert even pressure around the ears.
2. Pull hair back and out from beneath the cushions to ensure a proper seal.
3. Muffs should fully enclose the ears.

Employees may express concern about the potential for HPDs, particularly earplugs, to cause ear infections. Precautions that can be taken involve the cleanliness of HPDs. Hands should be clean before rolling foam earplugs. If feasible, disposable earplugs should be discarded after each use. If reused, earplugs should be washed with warm water and soap and allowed to dry thoroughly before reuse.

In many worksites, keeping hands clean may not be feasible. Preformed earplugs often come with a plastic stick at the outer end. This type of earplug allows for insertion and removal without touching the part of the earplug that enters the ear.

Earmuffs are less likely than earplugs to contribute to ear infections. However, earmuff cushions should be periodically wiped or washed clean. Workers who experience multiple ear infections with earplugs should wear earmuffs. Workers should let employers know which HPDs are best for them to wear, and feedback from workers should be considered in purchasing HPDs. Employers' and employees' working together to select HPDs increases the likelihood that HPDs are worn when needed to protect against hearing loss.

