



## Personal Protective Equipment (PPE) for Hearing Health and Safety

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### Introduction

Personal Protective Equipment (PPE) is a vitally important line of defense against hazards. You need to provide the PPE your employees may need to guard them against hazards on the job.

- Hearing protection should be provided to employees free of charge and it is your responsibility that they know how to properly use it.
- This may require extra effort for employees with special needs such as non-English speakers.
- Hearing protective devices (HPDs) come in many shapes, sizes and protection levels.
- Knowing how you intend on using the HPDs will help match your needs to the appropriate device.
- Many hearing protective devices will have labeled Noise Reduction Ratings (NRRs) that indicate the level of protection they provide.
- These numbers are based on optimized lab testing and bear little resemblance to actual protection among employees in real life work environments.
- The National Hearing Conservation Association recommends using these ratings not as a buying guide, but as an indicator that a device has been designed and tested for noise reduction.

### Objective

Discuss the three basic types of hearing protective devices:

- Foam Ear Plugs
- Ear Muffs
- Semi-aural Devices

### Foam Ear Plugs

#### Fit:

1. Foam earplugs expand and will conform to fit your ears.
2. Foam earplugs may be disposable, or they may be re-useable with washing.
3. Foam earplugs are small and can easily fit in your pocket where's they'll be easy to access when you need them.

**Insertion:**

1. Roll and squeeze the plug lengthwise with your fingers.
2. Reach over your head with one hand and pull the top of your ear up to open the ear canal.
3. Insert the plug into your ear and hold it there until it seals.
4. Foam plugs will expand to seal the ear canal.

**Care:**

1. Keep plugs clean.
2. Insert them with clean hands.
3. You can clean plugs with soap and water but never wear them when they are wet.
4. When plugs become hard or damaged throw them away.

**Additional Information**

1. Increased protection can be reached by wearing earplugs and earmuffs together.
2. It generally takes 10 days to get used to hearing protection, just as it takes a while to get used to a pair of new shoes.
3. Improperly worn hearing protection devices may not reduce noise levels.
4. Hearing aids are NOT hearing protectors.
5. Persons with normal hearing always can detect some sound while wearing hearing protection devices.

Figure 1. Photo of foam ear plugs.

**Ear Muffs****Fit:**

1. Muffs resemble stereo headphones with adjustable foam-filled or liquid-filled plastic cushions that cover the ears.
2. Make sure the cushions fit snugly against your head.
3. Keep hair from getting between the cushions and your head.
4. In most cases the best protection is achieved with the earmuff band worn on top of the head rather than behind the head or under the chin.
5. Cotton pads are available that fit inside the earmuff to absorb perspiration and increase comfort.
6. If you wear glasses, the seal of the earmuffs will be broken and they will be less effective in providing noise protection. If you wear glasses, talk to your supervisor about using a different type of hearing protection.

**Care:**

1. Make sure your earmuffs stay clean!
2. Clean cushions with a damp cloth or paper towel. (A dirty device can cause serious skin irritation and ear infection.)
3. Replace cushions when they become hard or damaged, or after 3 months of routine use as recommended by the manufacturers.

### Additional Information

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2. It generally takes 10 days to get used to hearing protection, just as it takes a while to get used to a pair of new shoes.
3. Improperly worn hearing protection devices may not reduce noise levels.
4. Hearing aids are NOT hearing protectors.
5. Persons with normal hearing always can detect some sound while wearing hearing protection devices.

Figure 2. Photo of ear muffs.



### Semi Aural Devices

#### Description:

Semi-aurals, also called canal caps, consist of pods or flexible tips on a lightweight headband. Because they are quick to put on and take off and easy to store around the neck, they are ideal for intermittent use. They provide less protection than either plugs or muffs and aren't usually recommended for continuous long-term wearing.

#### Fit:

1. 1. Hold the large ends of the pods and swivel them to direct the tips into the ear canal openings.
2. 2. Firmly push and wiggle the pods into the canals until a snug seal is obtained.
3. 3. Pulling on the outer ear while pushing on the pods will be helpful to most wearers.

#### Care:

1. 1. Most semi-aurals can be cleaned in the same way earplugs are cleaned.
2. 2. Since the headband holds the tips in place to provide an acoustic seal, don't tamper with it or the protection the device provides may be reduced.

#### \*Hearing Protector Fitting Tip:

When either a plug or muff is properly fitted, the sound of your own voice should change, becoming deeper, hollow, or muffled. If you don't hear the change, or if it isn't the same in both ears, you haven't obtained a proper fit and acoustic seal in either one or both ears.

### Additional Information

1. Increased protection can be reached by wearing earplugs and earmuffs together.
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3. Improperly worn hearing protection devices may not reduce noise levels.
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5. Persons with normal hearing always can detect some sound while wearing hearing protection devices.

Figure 3. Photo of semi aural device



### Sources:

Cabot Safety

National Hearing Conservation Association

Institute of Agricultural Medicine and Occupational Health

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