



IT'S A NOISY WORLD

PROTECT YOUR HEARING



DEPARTMENT OF DEFENSE HEARING CENTER OF EXCELLENCE

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Noise is everywhere in our society.

Whether you currently have normal hearing or an existing hearing loss, it is important to understand that risks to your hearing do not end when you leave military service. Noise isn't just a concern for those in the workplace. We can expose ourselves to hazardous noise levels while using lawn equipment or power tools at home when we do these activities without the benefit of hearing protection. Recreational activities such as sporting events, concerts, motorcycling, hunting, and target shooting, can easily reach hazardous levels requiring self-imposed strategies to reduce the risk to your hearing.

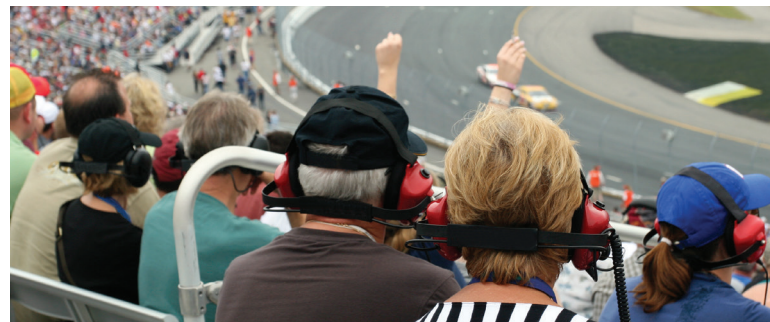
Excessive noise exposure without proper use of hearing protection is the most common cause of hearing loss. According to a National Institutes of Health report (2014), approximately 26 million Americans, ages 20 to 69, have noise-induced hearing loss (NIHL) related to occupational or recreational noise exposures. Hearing loss caused by noise exposure is permanent and can significantly affect a Veteran's quality of life and employment opportunities. Hearing loss prevention is important for all Veterans, even those that already have hearing loss. It is possible for Veterans to halt the progression of an existing loss by employing strategies to reduce exposures to hazardous noise levels.



Types of Noise

STEADY-STATE NOISE can be continuous or intermittent noise that lasts longer than one second (such as a motorcycle or a lawnmower). Steady-state noise becomes most hazardous to your hearing when it is 85 decibels for more than eight continuous hours. Higher levels of noise become hazardous with much shorter exposure times.

Hearing protection should be worn when noise is 85 decibels or greater regardless of how long the exposure will last. Most hearing protection devices can be used to protect against steady-state noise exposures.



IMPULSE NOISE is a high level, short-duration sound energy that lasts for less than one second, such as gunfire or a firecracker. Impulse noise greater than 140 peak decibels is hazardous to your hearing. Both standard and specialized level-dependent hearing protection devices can be worn to protect against impulse noise. Level-dependent hearing protection permits softer sounds to pass through a filter, attenuating the sound when the impulse noise meets or exceeds a hazardous level.

Types of Hearing Protection



NOISE MUFFS have a headband that fits over the top of your head and two tightly fitted ear cups that cover each ear entirely, blocking noise from entering the ear.

When wearing noise muffs be aware of:

- Headband tightness, and
- Ear cup fit

Noise muffs must be snug to maintain a seal around your ears. If the headband tension is too loose, the noise may be able to sneak around the ear muff, reducing its effectiveness. Also, any break in the seal of the noise muff will also decrease its effectiveness. For example, the eyeglass frame temple may break the seal, allowing sound to come in around the noise muff and pass into the ear.

Ear cups must be of sufficient size to effectively cover the ear and create an airtight seal around the ear. Disadvantages of noise muffs are that they can be uncomfortable to wear in hot climates and they can affect the ability of the wearer to localize to sound effectively, especially sound coming from the front or back. In these cases, earplugs may be a better choice.

Ear cups must be replaced if they show signs of cracks and tears, or if the cup seal becomes too hard to mold to the shape of the head. If the ear cup seals can't be replaced, new noise muffs are required.

STANDARD EARPLUGS

provide protection from steady-state hazardous noise.

Foam or hand-formed earplugs:

- Do not require medical fitting
- Are disposable and to be worn once only
- Are appropriate for one-time exposures to hazardous noise, such as at concerts and sporting events

Pre-formed earplugs:

- Should be sized and fitted by medically trained personnel
- Are reusable and available in different sizes
- Can be used for both steady-state and impulse noise exposures when effective communication is not required, such as when target shooting or mowing the lawn
- Should be examined periodically to ensure proper size and fit

LEVEL-DEPENDENT EARPLUGS

are commonly known as “shooters earplugs”. They provide protection from impulse noise (i.e., target shooting or hunting) and allow for effective communication and situational awareness by allowing softer sounds to pass through the filter, attenuating only when the level of the impulse noise becomes hazardous. These types of earplugs can frequently be found in sporting goods and outdoor/shooting equipment stores.

Level-dependent earplugs (shooters earplugs):

- Usually require fitting by medically trained personnel
- Are reusable and may be available in different sizes
- Serve as earplugs for use when exposed to impulse noise

At this time, these types of hearing protection devices are not covered under VA audiology benefits.

EARLY WARNING SIGNS OF NIHL INCLUDE:

- You can hear people talking, but have difficulty understanding what they're saying
- You hear buzzing or ringing in your ears
- You have a feeling of “fullness” in your ears after leaving a noisy area, such as a concert venue

In general, the “three-foot rule” can be used as a low-tech approach to determine if noise is hazardous. If you have to raise your voice to be heard by someone standing within three feet of you, you are in a hazardous-noise situation. Hearing protection should be worn.

SELF-CHECKS FOR GOOD EARPLUG FIT

- ✓ Do a buddy exam and make sure the earplug is well inserted into the ear
- ✓ Ensure that the flanges of the earplug are inserted into the ear canal at a sufficient depth to block the ear canal entrance and to form an airtight seal
- ✓ Listen to your voice by counting to five. Your voice should sound deeper and fuller, or muffled, and should be heard in the center of your head
- ✓ Do a “tug test” by gently tugging on the stem or end of the earplug; you should feel resistance when you tug on it
- ✓ Listen to your voice and the sounds around you while cupping your hands over your ears, and then remove your hands; you should not notice a difference in the sound

Remove and reposition the earplugs at a sufficient depth to form an airtight seal, if your voice is not heard in the center of your head, or if the earplugs come out easily when tugged. After repositioning, try the self-checks again until you have a proper fit. If a proper fit cannot be obtained, try a different size or style of hearing protector.

It's a noisy world. Protect your hearing.

For additional information about hearing and hazardous noise, contact your hearing health provider or audiologist, or visit the Hearing Center of Excellence web site.



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The content in this pamphlet is for informational purposes only. The Hearing Center of Excellence does not endorse any specific brand of hearing protection. Visit gsa.gov for a complete list of government-approved hearing protection devices (HPDs).

Proper Insertion Technique



To properly insert and use foam earplugs in order to get their full benefit:

- Wash your hands
- Roll and compress the entire earplug so that it is crease free and small enough to slide easily into your ear canal
- Reach over your head with the hand opposite of the ear being fitted, and pull up and back on your ear to straighten the ear canal
- With your other hand, slide the compressed earplug into your ear canal, as deeply as it fits comfortably
- Then let go of your ear, and the earplug expands to fill your ear canal

To properly insert pre-formed earplugs/level-dependent earplugs:

- Reach over your head with the hand opposite of the ear being fitted, and pull up and back on your ear to straighten the ear canal.
- With your other hand, grasp the stem of the earplug and gently insert the earplug into your ear canal at a sufficient depth to form an airtight seal, and then let go of your ear.
- Tug on the stem of the earplug to feel a good airtight seal between your ear canal and the earplugs.

NOTE: Most non-electronic, level-dependent, earplugs are capable of protecting users from both steady state and impulse type noises. Through the use of an in-ear toggle switch or removable valve cover, the user can select between open (impulse noise) and closed (steady-state) mode.



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