Hearing Conservation

Most occupational hearing damage happens gradually due to exposure to high noise levels over time. The good news is that you CAN prevent hearing loss.

Noise and Hearing

Loud noises, as well as noise over time, can damage your ability to hear.

- A short-term (acute) exposure to moderate noise could result in a temporary loss of hearing *(Temporary Threshold Shift)*
- A short, intense sound, such as an explosion, may cause immediate hearing loss, which can be permanent *(Acoustic Trauma)*
- Most hearing loss, however, happens gradually upon exposure to high noise levels over a period of time *(Permanent Threshold Shift)*

Signs of Hearing Loss

Because hearing loss typically appears gradually over time, you may not even realize that you are losing your ability to hear. You may notice that:

- Sounds become muffled or distorted
- Conversations become more difficult to understand
- You have trouble hearing in noisy areas
- You experience ringing, hissing or pulsing in your ears

Hearing Conservation Program

The Occupational Safety and Health Administration (OSHA) requires your employer to administer a hearing conservation program whenever employee noise exposures equal or exceed an 8-hour time-weighted average sound level of **85 decibels**.

Monitoring Noise Levels

- Your employer will monitor noise exposure levels to identify employees who are exposed to noise at or above 85 decibels averaged over 8 working hours
- Your employer will repeat monitoring whenever changes in production, process or controls have the potential to increase exposure to noise

Conducting Hearing Tests

- Affected employees will take an initial baseline hearing test and annual hearing tests thereafter
  - Your employer must provide these audiometric tests at no cost to you
- Your baseline test shows what your normal hearing is, and is used as a reference for future tests to determine whether loss of hearing is occurring

Complying With Recordkeeping Requirements

- Your employer will:
  - Keep noise exposure records for at least 2 years
  - Maintain records of your hearing test results for the duration of your employment

Offering Annual Training

- Your employer must train you annually on:
  - The effects of noise on hearing
  - The purpose of audiometric testing, with an explanation of the test procedures
  - The purpose of hearing protection

Providing Hearing Protection

- Your employer may be able to reduce worker exposure to hazardous noise by changing equipment and work schedules
- If your employer cannot reduce or eliminate the level of hazardous noise, hearing protection (such as earplugs or earmuffs) must be worn

Types of Hearing Protection

Type	Advantages	Disadvantages
Single-Use Earplugs	• Convenient to use, even with other hearing protection • Inexpensive and disposable • Comfortable for long-term use in hot environments	• Require more time to put in • More difficult to insert and seat correctly • Are easily lost or misplaced • Require clean hands to handle and roll • Can cause ear infections when unclean
Pre-molded Earplugs	• Washable and reusable • Easy to insert properly • Don't require the user to handle the tips	• Are easily lost or misplaced • Can cause ear infections when unclean • Require trial and error to find a plug that fits • Custom-molded earplugs are expensive
Canal Caps	• Convenient and simple • When it is quiet, you can leave the band hanging around your neck	• Not all canal caps have tips that adequately block all types of noise • Some people find the pressure from the band uncomfortable

Earmuffs	• Come in many models and provide different levels of protection
	• The variety of styles makes it easy to find a comfortable pair
	• Easier to slip on and off than earplugs
		• Require a good seal
		  ○ Long hair, eyeglasses and safety glasses may make it difficult to get a good seal
		  ○ Facial movements such as chewing may reduce the protective value
		• Can be uncomfortable in hot environments

Inserting Earplugs

To insert a single-use earplug:

1. Roll the plug into a thin, smooth tube using both your thumb and fingers or by rolling it across your palms.
2. It should be thin enough to allow half of its length to fit easily into your ear canal.
3. Insert it by reaching over your head with one hand to pull up on the top of your ear.
4. Then use your other hand to insert the plug with a gentle rocking motion until you have sealed the ear canal.
5. It's generally advisable to maintain light pressure on foam plugs while they expand to ear canal contours. Otherwise they may move out of position before a good seal is formed.

To insert a pre-molded earplug:

1. Reach over your head with one hand to pull up on the top of your ear.
2. Then use your other hand to insert the plug with a gentle rocking motion until you have sealed the ear canal.
3. Because directions for fitting each model of pre-molded plugs may differ slightly, consult the manufacturer's directions.

Use and Care of Hearing Protection

<table>
<tr><th>Type</th><th>Pre-Use Inspection</th><th>Cleaning</th></tr>
<tr><td>Single-Use Earplugs</td><td rowspan="2">• Check for dirt, damage or extreme hardness
• Check pre-molded earplugs for deterioration and discard if cracked or not forming a good seal</td><td>• Discard after every use</td></tr>
<tr><td>Pre-molded Earplugs</td><td rowspan="2">• Clean after each use
○ Wipe down with mild soap and warm water, and gently pat dry
○ Do not submerge earmuffs in water
○ Do not treat with any other substances
○ Keep hearing protection inside a case between uses</td></tr>
<tr><td>Canal Caps</td><td></td></tr>
<tr><td>Earmuffs</td><td>• Check for cracks and leaks in the earcups or cushions
○ Replace damaged cushions
○ Discard earcups if damaged
○ Discard earmuffs when the headband no longer holds the cups tightly against the ear</td><td></td></tr>
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