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# **HEARING CONSERVATION AND YOU *(Concise)***

**Leader's Guide, Fact Sheet  
& Quiz**

**Item Number: 4671**  
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***This easy-to-use Leader's Guide is provided to assist in conducting a successful presentation.***

## **PREPARING FOR THE MEETING**

Here are a few suggestions for using this program:

- a) Review the contents of the Fact Sheet that immediately follows this page to familiarize yourself with the program topic and the training points discussed in the program. The Fact Sheet also includes a list of Program Objectives that details the information that participants should learn from watching the program.
- b) If required by your organization, make an attendance record to be signed by each participant to document the training to be conducted.
- c) Prepare the area and equipment to be used for the training. Make sure the watching environment is comfortable and free from outside distractions. Also, ensure that participants can see and hear the TV screen or computer monitor without obstructions.
- d) Make copies of the Review Quiz included at the end of this Leader's Guide to be completed by participants at the conclusion of the presentation. Be aware that the page containing the answers to the quiz comes before the quiz itself, which is on the final page.

## **CONDUCTING THE PRESENTATION**

- a) Begin the meeting by welcoming the participants. Introduce yourself and give each person an opportunity to become acquainted if there are new people joining the training session.
- b) Introduce the program by its title and explain to participants what they are expected to learn as stated in the Program Objectives of the Fact Sheet.
- c) Play the program without interruption. Upon completion, lead discussions about your organization's specific policies regarding the subject matter. Make sure to note any unique hazards associated with the program's topic that participants may encounter while performing their job duties at your facility.
- d) Hand out copies of the review quiz to all of the participants and make sure each one completes it before concluding the training session.

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## FACT SHEET

**LENGTH: 11 MINUTES**

### **PROGRAM SYNOPSIS:**

The hearing conservation program: a system designed to identify and control harmful workplace noise while providing workers with training, personal protective equipment and medical monitoring to prevent hearing loss. This video provides viewers with important information about the various elements of the hearing conservation program. Topics include how noise can damage hearing, using and fitting earplugs and ear muffs, the medical surveillance program, dangers of off-job noise and signs and symptoms of hearing loss.

### **PROGRAM OBJECTIVES:**

After watching the program, the participant should be able to explain the following:

- How noise can damage our hearing;
- How to fit earplugs and earmuffs and the importance of wearing them when harmful noise is present;
- How the medical surveillance program is used to recognize and help prevent employee hearing loss;
- Why it is important to protect hearing when performing off-job activities;
- What the signs and symptoms of hearing loss are.

### **PROGRAM OUTLINE**

#### **HOW NOISE CAN DAMAGE HEARING**

- For any of us to hear a sound, the sound waves must travel from its source to your outer ear, where it is channeled into your ear canal.
- Inside the ear canal, these sound waves strike the ear drum, causing it to vibrate. The membrane of the ear drum vibrates against three delicate bones which carry the vibrations to a structure known as the cochlea.
- The cochlea is filled with fluid and contains tiny hair-like structures called cilia. When waves of fluid induced by noise vibrations pass over the cilia, they bend and sway.
- As the tiny hair like cilia bend and sway, they transmit signals to the brain. Our brain then interprets these signals into the sounds we hear.
- The whole process is somewhat delicate and at high enough noise levels, the fluid waves inside the cochlea can become so forceful that the cilia can be damaged.
- As this process is repeated, over time, a gradual loss of hearing will occur. At first you may not even notice it's happening; usually it's your family members who will notice it first.
- Damaged cilia cannot repair themselves nor can we grow more. When our cilia are damaged from excessive exposure to loud noise, the resulting hearing loss is permanent.

#### **HEARING PROTECTION: Earplugs and Canal Caps**

- The facility conducted a noise assessment to determine the levels of noise in each area. Where possible, engineering controls have been used to bring noise down to a safe level. In those cases where engineering controls could not be used, workers will be required to wear some type of hearing protection.
- The purpose of any hearing protection is to reduce noise to a safe level.
- Each type of hearing protection has a noise reduction rating, or NRR. This is a measure in decibels of how much the device reduces the level of outside noise before it reaches the inner ear.
- Our organization has selected hearing protection with a noise reduction rating high enough to reduce the measured noise levels to a safe level; however, you must understand that the hearing protection will not provide the listed noise reduction if it is not properly fitted or is not properly installed.
- Earplugs are a very common choice of hearing protection. Disposable earplug dispensers can be found in many areas of the facility.
- Before installing the plugs, make sure your hands are clean to prevent dirt and other debris from entering the ear canal.
- Then compress the plug by rolling it in your fingers.

- Use your other hand to pull up on the top of the ear, opening the entrance to the canal.
- Insert the earplug into the ear and hold it there with the tip of your finger for around 10 seconds while the plug expands inside your ear canal. Then repeat the process for the other ear.
- Once both plugs expand, you can test for a proper fit by placing your hands over your ears; when you remove your hands, there should be no difference in the amount of noise you are able to hear.
- One benefit of earplugs is that they are available in different sizes. You can work with your supervisor to find a size that fits you properly and is comfortable.
- Another advantage of earplugs is that they can be disposable or re-useable.
- Most disposable earplugs are made of polyurethane or other type of foam that will expand in the ear canal after being compressed for insertion.
- Reusable earplugs don't require compression, but they must also be inserted properly, into the ear canal, to provide maximum protection.
- Reusable earplugs should be cleaned with soap and water periodically and stored in a clean, dry container when not in use.
- In addition to the common earplug, there is another type of hearing protection called canal caps. Canal caps provide less noise reduction than earplugs and only cover the entrance to the ear canal.
- Some people feel that canal caps are more comfortable than earplugs and prefer them when less noise reduction is permissible.

### **HEARING PROTECTION: Earmuffs**

- Another type of hearing protection is the earmuff. Earmuffs are another common choice when it comes to hearing protection.
- Some advantages of earmuffs are that they are easy to put on properly, making it more likely that you will receive their maximum noise reduction.
- Also, they can be adjusted to fit anyone and after a proper cleaning can be shared with other employees.
- There are some disadvantages to ear muffs. Some people find their tight fit uncomfortable and they can feel hot when working in high temperatures.
- Earmuffs can also interfere with other protective equipment such as face shields or hardhats, but this can be overcome by using specialized equipment or adapters.
- Before putting on a pair of earmuffs, check the cushions of the cups for tears and inspect the muffs and headband for other damage. If you discover any defects, get a new pair.
- To be effective, the foam padding around the earmuff must make a good seal all the way around your ear. When putting on earmuffs, make sure your hair doesn't interfere with a secure seal.
- It's important for all workers to understand that any required hearing protection has been selected to provide the appropriate noise reduction for the level of noise in your work area. This protection must be worn properly and consistently to prevent hearing loss.
- If you have any questions or concerns about your hearing protection, please work with your supervisor to find a type of protection that works for you.

### **THE MEDICAL SURVEILLANCE PROGRAM**

- OSHA requires the establishment of a hearing conservation program when employees may be exposed to noise levels which average 85 decibels or more for an eight-hour period.
- Medical surveillance is an important part of the hearing conservation program in which hearing tests called audiometric testing are used to help recognize and prevent employee hearing loss.
- Every employee who is enrolled in the hearing conservation program will be given an initial hearing test, known as a baseline audiogram, that establishes an initial reference point to which future hearing tests can be compared to determine if there has been any hearing loss.
- After the baseline has been established, each worker will be retested annually. If subsequent tests indicate a hearing loss of at least 10 decibels as compared to the baseline audiogram, then the worker will have suffered some hearing loss, which is referred to as a "standard threshold shift."
- Of course, we do not want any of you to suffer ANY hearing loss. This is why you must always follow your training and wear your hearing protection at work, but you must also protect your hearing away from work. You would be

surprised how many workers I see who are diligent at work but have suffered hearing loss by not wearing any hearing protection at home.

#### **OFF-JOB NOISE**

- Off job noise can be a leading cause of hearing loss. For example, a simple hand held drill has a noise level of 98 decibels. A typical lawn mower is 107 decibels and a power saw is around 110 decibels.
- If you recall that prolonged exposure to 90 decibels of noise can cause irreversible hearing loss, you will see how important it is to protect your hearing both on and off the job.

#### **SIGNS AND SYMPTOMS OF HEARING LOSS**

- Failing to protect your hearing can lead to hearing loss. People with hearing loss often suffer socially because they have a hard time communicating in a group setting.
- People with hearing loss often suffer socially because they have a hard time communicating in a group setting. People experiencing hearing loss often have trouble hearing in the higher frequency ranges, which include the voices of women and children. This often causes tension and misunderstandings with the people we love the most.
- If you think you may be suffering from hearing loss discuss it with your supervisor and arrange to be tested.
- Unfortunately, hearing loss is not curable, but it is never too late to redouble your efforts to protect the hearing you have left.

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**ANSWERS TO THE REVIEW QUIZ**

1. b

2. b

3. a

4. b

5. d

6. c

7. c

8. a

9. b

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**REVIEW QUIZ**

*The following questions are provided to determine how well you understand the information presented in this program.*

Name \_\_\_\_\_ Date \_\_\_\_\_

1. The structure in the in the ear that is filled with fluid and contains tiny hair-like structures called cilia is known as the \_\_\_\_\_.
  - a. Ear drum
  - b. Cochlea
  - c. Stirrup
  
2. Damaged cilia are capable of repairing themselves and we can also grow more.
  - a. True
  - b. False
  
3. Hearing protection will not provide its rated noise reduction if it is not properly fitted or is not properly installed.
  - a. True
  - b. False
  
4. Canal caps provide \_\_\_\_\_ noise reduction than earplugs.
  - a. More
  - b. Less
  
5. What is an advantage of wearing earmuffs?
  - a. They are easy to put on properly
  - b. They can be adjusted to fit anyone
  - c. They can be shared with other employees
  - d. All of the above
  
6. OSHA requires a hearing conservation program to be established when employees may be exposed to noise levels that average \_\_\_\_\_ decibels or more for an eight-hour period.
  - a. 65
  - b. 75
  - c. 85
  
7. The initial hearing test for employees enrolled in the hearing conservation program is known as a \_\_\_\_\_.
  - a. Threshold audiogram
  - b. Conductive audiogram
  - c. Baseline audiogram
  
8. Off-job noise can be a leading cause of hearing loss.
  - a. True
  - b. False
  
9. If you have suffered a significant amount of hearing loss, there is no reason to try to protect what hearing you have left.
  - a. True
  - b. False