Training Solutions, Delivered!

MSHA Hearing Conservation Employee Training

(Concise)

Leader's Guide, Fact Sheet & Quiz

Item Number: 1577

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.

1577 MSHA Hearing Conservation Employee Training
FACT SHEET

LENGTH: 8 MINUTES

PROGRAM SYNOPSIS:
Most mine workers already know the importance of selecting and using personal protective equipment on the job, but there is one hazard that may not be obvious to all of us: noise. While noise cannot be seen and its effects don't cause immediate pain, it can cause serious and dramatic damage to our hearing. We must use hearing protection in areas with high noise levels to prevent permanent injury that affects our lives and the lives of our families indefinitely.

This program stresses to miners the importance of wearing hearing protection at all times when working in areas where hazardous noise levels are present. Topics include the effects of noise on hearing, the mine operator's hearing conservation program, medical surveillance, exposure assessment and the selection and use of hearing protection.

PROGRAM OBJECTIVES:
After watching the program, the viewer will be able to explain the following:
- How noise can damage hearing;
- How the hearing conservation program works;
- How to select and earplugs and earmuffs;

PROGRAM OUTLINE:

HOW NOISE DAMAGES HEARING
- Because hearing loss is usually not painful and happens gradually, many of us don't fully understand how our hearing can be damaged by noise exposure.
- To better understand how this damage occurs, we need to examine how loud noise can affects our hearing.
- The outside of the ear gathers sound and channels it into the ear canal. Once inside, the sound moves in waves and flows against the eardrum.
- The membrane of the eardrum vibrates against three delicate bones that carry the vibrations to the inner ear.
- The inner ear contains a coiled tube filled with fluid known as the cochlea. Inside the cochlea, fluid carries the vibrations over tiny hair structures called cilia.
- Healthy cilia are arranged in v-shaped patterns in the inner ear. As noise-induced vibrations pass over the cilia, they sway and bend.
- When they move, the cilia transmit signals to the brain which interprets them as sound.
- Noise intensity is measured in decibels. Most experts agree that exposure to noise levels around 85 decibels can damage these tiny structures.
- As the noise level grows louder, the cilia get bent farther and with more force. When exposed to this damaging level of noise, the delicate structures get damaged or destroyed and hearing loss will occur.

THE MSHA HEARING CONSERVATION PROGRAM
- To help prevent hearing loss, the Mine Safety and Health Administration requires mine operators to develop a hearing conservation program when workplace sound levels average 85 decibels over an 8-hour time-weighted period.
- This level of noise is often called the "action" level.
- The development of this program begins with a noise assessment to determine the noise levels in the work environment.
- The mine operator, along with MSHA, have established a system of noise monitoring. This monitoring is done by trained hearing professionals and is used to determine the noise levels to which each miner is exposed.
- Miners will be notified when noise exposure levels require action on the part of the mine operator and the miner to prevent hearing loss. The proper preventive action to be taken will be included in this notification.
- When the action level is reached, the miner will be enrolled in the hearing conservation program.
- The mine operator will continue noise exposure monitoring and the miner will receive training on hearing loss prevention.

ENGINEERING & ADMINISTRATIVE CONTROLS

- A noise level that exceeds 90 decibels over an eight-hour period is referred to as the Permissible Exposure Limit.
- When noise levels exceed this limit, the mine operator will put in place all feasible engineering and administrative controls to reduce the level of noise exposure.
- Affected miners will be given a written copy of the control measures and a copy will be posted on the mine bulletin board for review.
- When noise exposure levels reach 105 decibels per eight-hour period, dual hearing protection is required. This means earplugs and earmuffs must be worn at the same time to provide proper protection.
- Another key part of the hearing conservation program is medical surveillance. This includes hearing tests and evaluation by a hearing professional.

HEARING PROTECTION

When a miner is first enrolled in the hearing conservation program and each year thereafter, training is provided on the fundamental aspects of the program.

- Perhaps the most important part of this training includes the proper selection and use of hearing protection devices.
- Each type of hearing protection device has a noise reduction rating. This is a measure in decibels of how much outside noise is reduced before it reaches the inner ear.
- The goal of any hearing protection device is to reduce the level of noise in the inner ear to a safe level. Hearing protection devices with higher noise reduction ratings offer more protection than those with lower ratings.
- A hearing professional has worked with the mine operator to evaluate the types of noise hazards in your work area and has recommended the proper types hearing protection that must be worn.
- This hearing protection will be provided by the mine operator and comes in two basic types: earplugs and earmuffs.

EARPLUGS

- Earplugs are available in different sizes and may be disposable or reusable.
- Some plugs are designed to be inserted into the ear canal, while canal caps only cover the entrance to the canal. Canal caps generally provide less protection than standard earplugs.
- Most disposable earplugs are made of polyurethane or other expandable foam that is easily compressed for insertion into the ear.
- Before inserting this type of plug, make sure your hands are clean. Then compress the foam by rolling it in your fingers.
- Pull on the top of the ear with your opposite hand and insert the plug into the opening of your ear canal. Keep your finger on the plug while it expands.

EARMUFFS

- Earmuffs are designed to cover the entire ear. They consist of a pair of cups connected by a headband.
- The cups are usually filled with soft foam to provide a comfortable, secure fit and a low-pressure seal.

ADVANTAGES OF PROTECTIVE DEVICES

- Each type of hearing protection device has certain advantages.
- Earplugs generally provide more protection than earmuffs and are less cumbersome. They don't interfere with other PPE. They are also inexpensive and easily replaced.
- Earmuffs are easy to use and to install properly. They eliminate the risk of ear infection form dirt getting into the ear canal and they are designed so that one size fits all.
- No matter what type of protection you choose, check with your supervisor to be sure the protection you have selected is appropriate for your work area.
- Of course, when the dual hearing protection level is reached at 105 decibels, earplugs and earmuffs must be worn together. This level of noise exceeds the capacity of earplugs or earmuffs alone.

CONCLUSION

- Keep in mind that hearing protection should not stop when you leave work. Plenty of activities off the job involve dangerous noise levels.
- No one will set up a hearing conservation for you at home; that responsibility is up to you.
- No one wants to experience a life with hearing loss. Do everything you can today to protect your hearing for tomorrow.
- Make sound decisions about protecting your hearing by participating in the hearing conservation program and always wearing your hearing protection when required. Take the necessary steps to reduce off-job noise hazards.

MSHA Hearing Conservation Employee Training *(Concise)*

ANSWERS TO THE REVIEW QUIZ

1. a

2. a

3. b

4. d

5. c

MSHA Hearing Conservation Employee Training
REVIEW QUIZ

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

Name_____Date_____

1. At what decibel level can noise began to damage cilia inside an unprotected ear?

a. 85
b. 95
c. 105
d. 115

2. The mine operator is required by MSHA to have a hearing conservation program when noise levels reach a certain limit.

a. True
b. False

3. In general, earplugs provide _____ earmuffs.

a. More protection than
b. Less protection than
c. The same protection as

4. When noise levels reach _____ decibels, both earplugs and earmuffs must be worn.

a. 90
b. 95
c. 100
d. 105

5. You will know that your earplugs are fitted correctly by placing your hand over your ear and the level of noise you hear is _____.

a. Louder
b. Not as loud
c. Not affected by your hand over your ear