

**SIM 05 05 01 NIHL Prevention
Track C Education and awareness**

Guidelines for Trainers Volume 3

**Addressing typical concerns raised by individuals who are resistant to
using hearing protection devices**

Preface

It is universally accepted that personal protection strategies should be implemented as a last resort and only temporarily until engineering solutions are in place that reduce or eliminate hazards at their source. Where personal protection strategies are implemented as an interim measure, effective education, motivation and training of exposed workers are essential. In the case of the noise hazard, experience has shown that workers' attitudes and beliefs regarding hearing protection devices are often more negative than for personal protection against other hazards, perhaps, most notably, eye injury.

The present guidelines are designed to assist trainers in addressing negative attitudes and beliefs of workers, in order to gain wider acceptance of and compliance with employers' personal protection strategies. These guidelines were compiled by the CSIR: Centre for Mining Innovation, on behalf of the Mine Health and Safety Council as an output for Project SIM 05 05 01.

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1 Introduction and general information to assist trainers

Reference is made to two figures, which are appended to Part 1 of the guidelines. To make use of these visual aids, the trainer/presenter should either print them on transparency film for display with an overhead projector, or display the images using a computer and projector.

These guidelines deal with commonly expressed excuses, objections, comments and questions that people put forward regarding the use of hearing protection devices (HPD). These responses are often indicative of negative attitudes towards hearing protection and should be dealt with in an unhurried, non-threatening and informative manner. Take the time to allow members of the group to ask their questions or state their opinions. Avoid expressing scepticism or disregard for what people say and discourage other members of the group from doing so. Try to address people's concerns in a positive manner, providing reasons and explanations and encouraging other members of the group to contribute. Ensure that all issues raised are satisfactorily resolved.

2 Questions, concerns, comments and objections frequently put forward by workers, and appropriate responses

Q-1 "My ears are already used to the noise, or the noise doesn't worry me."

A If a person's ears are accustomed to the noise or if loud noise doesn't worry them, it shows that the ears have already been damaged and that the person has lost some hearing. It may not seem so to the person, because he or she may still be able to understand what other people say, but the person will be unable to hear very soft sounds. He or she will also have difficulty understanding what is being said if there is interference from noise. The hearing loss will also show up on the annual audiogram conducted at the Occupational Health Centre.

If the person continues to work in loud noise without protection, a bit more damage will be done to the ears each day. After a number of years the person will be unable to understand everything that other people say and will need to ask for what was said to be repeated. Or the person will act as though he or she understood what was said to avoid embarrassment, but will miss out on what was said and begin to feel uncomfortable when interacting with others.

The person will find it difficult to use the telephone, and the radio and television will always sound soft and muffled. If the person tries to make the sound from the television or radio louder, other people may complain, saying that it is already loud enough or even too loud already. A person who has suffered noise-induced

hearing loss may still be young and strong but have the ears of an old person. This can happen to anyone who does not use hearing protection while working in loud noise.

Q-2 "If I go deaf the mine can give me a hearing aid."

A A hearing aid can help a person whose ears are weak as a result of being old, in the same way that crutches can help a person with a broken leg to get around. A hearing aid makes the sound louder so that the weak ear is able to hear a bit better, but not as well as someone whose ears have not been damaged. This is because loud noise destroys many of the tiny nerve fibres inside the ears that send messages to the brain so we can hear. Once some of these nerve fibres are destroyed, some of the sound messages are no longer sent to the brain, no matter how loud the sound is.

For someone whose ears have been damaged by loud noise, a hearing aid will make certain parts of the sound seem louder but not clearer, because some of the sound messages do not reach the brain. It is a bit like turning up the volume of a radio that is not properly tuned onto the station. The sound is louder but still difficult to understand because it is not clear.

Q-3 "If I am deaf it shows people that I am an Ndota and have an important job on the mine working with big noisy machines."

A It is unfortunate that some people still have this misunderstanding. They think that if other people have to repeat what they say, it shows that the person is important.

What really happens is that other people start to make jokes about the deaf person that he or she is unable to hear. At first people make good-natured and friendly jokes and laugh at them in a nice way. The deaf person can't really hear the joke properly so he can't join in with the laughter. This makes some deaf people angry and the other men sometimes find this even funnier and make more jokes and laugh more. After a while other people become impatient with the deaf person and the jokes soon become less friendly.

Eventually other people get tired of trying to talk to the deaf person because it is too much trouble to say things two or three times. If it's too much trouble to explain things to a person, then other people stop including the person in their conversations. This means that the deaf person gets left out of what is being said and doesn't know what is going on with the people around him. He becomes

isolated and begins to feel alone. When the hard-of-hearing person replies to someone or answers a question that someone has asked, because he or she didn't hear the question properly, the answer the person gives doesn't make sense. Such responses may seem funny or strange to other people and they begin to lose respect for the deaf person. Even the deaf person's children may lose respect if he or she often answers in the wrong way. The sad thing is that noise-induced hearing loss is entirely preventable. The damage caused by noise can be prevented by using hearing protection devices.

Q-4 "Miners are strong and don't need earplugs or earmuffs. Only 'moffies' wear them."

A Miners do hard work that only strong people can do. Miners need to work hard but they also need to work smart. And this includes working safely. No one will go underground without a hardhat and safety boots. People who are grinding or chipping would not be willing to work without safety goggles to protect their eyes and gloves to protect their hands. The same is true of welders; they would refuse to work if they didn't have gloves and welding goggles or a welding helmet. These people all know what would happen to them if they worked without their safety equipment.

But too many people fail to realise how important it is also to protect their hearing. This is because they can't see the damage that noise causes. Another reason is that it takes a long time for the damage to become great enough to cause noticeable hearing loss. These things make people think that there is no damage occurring. But the damage is happening every day, and it all adds up until the person finally realises that he or she can no longer hear properly. But by then it's too late. The damage to the ears is permanent; it can never get better and cannot be cured. It is forever.

If someone says that you are weak because you wear earplugs or earmuffs, the person does not know that noise is dangerous and does not understand the problems that it causes. You should try to explain that the noise is dangerous and that you are trying to protect your hearing.

Trainer/presenter to display figure of the ear's general anatomy (Figure A-3 from Part 1 of "Guidelines for Trainers")

Point out and explain the function or job of each of the ear's three sections: the outer ear, which gathers the sound; the middle ear, which

sends the sound to the inner ear; and the inner ear, which sends the sound messages to the brain. Explain that damage to the outer or middle ear can be treated, but damage to the inner can never be treated or cured because the nerve fibres cannot grow back.

Trainer/presenter to display figure showing inner ear damage (Figure A-4 from Part 1 of "Guidelines for Trainers")

Compare the normal ear at the bottom of the figure with the noise-damaged ear at the top, pointing out the area where nerve fibres have been destroyed (indicated with arrows) by loud noise. Explain that the destruction of nerve fibres as illustrated in the top picture will make it impossible to hear certain sounds, causing the person to misunderstand or miss out on some of what is said.

Trainer/presenter to explain that this damage is permanent because the nerve fibres cannot grow back or be repaired.

Q-5 "How can I tell if the noise is loud enough to damage my ears?"

A If your ears feel a little bit numb or deaf after your shift, or if you hear a ringing or hissing sound coming from inside your ears, that means that the noise during your shift caused some damage inside your ears. If the damage was slight, and if this sort of thing is not repeated over and over, your ears will recover. But if you continue to work in loud noise without HPDs, the damage will become permanent. And the damage will become greater every time you go into a noisy place without protection.

If you are having difficulty understanding what some people say to you on the telephone or in a crowded room where others are talking, then you have already lost some of your hearing. This might have been pointed out to you when you last had your ears tested at the hospital or medical station. If this is the case, it is most important that you use your HPDs to save what hearing you still have. It usually takes a long time for the damage to become noticeable but, after that, the hearing loss becomes worse very quickly. The hearing loss caused by noise is permanent and it cannot be cured, but it can be prevented by wearing HPDs.

If your ears are still healthy, you should do your best to protect your good hearing by wearing your HPDs when working in loud noise.

Don't wait until you have damaged your ears to find out that noise is dangerous; if you see this warning sign put on your HPDs.

Trainer/presenter to display figure showing international symbolic sign for mandatory hearing protection (Figure A-2 from Part 1 of the "Guidelines for Trainers")

Whenever you see this sign, it means that the noise in that workplace has been measured and found to be dangerous. If you are working in such a place you should be wearing your HPDs.

BUT even without the signs, you can tell that the noise is dangerous if you must shout for someone close by to hear you. If this is what happens in your workplace, you and everyone else working there should be using HPDs.

Q-6 "If I wear earplugs or earmuffs I won't be able to properly hear signals or what people are saying to me."

- A.** This is something that many people believe to be true, but it is not true. In loud noise, earplugs or earmuffs actually make it easier for most people to hear signals and understand what others are saying to them. This is because HPDs block out most of the high-pitched noise from the machines but only a little bit of the deeper sound from signals and people's voices. In this way, HPDs make it easier to hear the voices and signals by making the machine noise much quieter.

It's a little bit like turning down the volume of a very loud radio in a room full of people. By turning the radio down, the people are able to speak more softly and understand each other better. The earplugs block out the machine noise more than the sounds from signals and people's voices, making it easier to hear signals and speech sounds.

You may have seen someone removing their HPDs when they are trying to listen to someone else, or perhaps you have done this yourself. This is a mistake because it lets in all of the machine noise, which not only makes it more difficult to hear what is being said but it can also cause damage to the person's ears.

If someone finds it more difficult to hear signals and voices while wearing HPDs, it means that their hearing has already been damaged. These people should still wear protection to save the hearing they still have, but they should use special HPDs that don't block out quite as much of the noise as the HPDs that other people use.

We all know that communication is important for good teamwork and safety. If we can understand each other better, then we can do the job better and more safely.

Using the correct HPDs can make it easier to understand each other, by blocking out most of the machine noise and letting in most of the sounds from signals and voices.

Q-7 "If I wear earplugs or earmuffs I won't be able to hear 'roof talk'."

A If you are working in a place with noisy machines, the noise is already too loud to hear 'roof talk'. If you have been working without HPDs, when the machines stop your ears will be numb or a little bit deafened from the loud noise and you won't be able to hear the 'roof talk'. What you should do is wear your HPDs when the machines are running and take them out when the machines stop. Then your ears will be fresh and strong and able to hear any 'roof talk' if it happens. But remember to refit your HPDs before the machines start up again.

Q-8 "Earplugs will make my ears sick or cause an infection."

A The only way earplugs can cause problems in your ears is if you allow them to become dirty. You should never put dirty earplugs into your ears. If you use the kind of earplugs that can be used many times, you should wash them after every shift or whenever they get dirty. You should wash your earplugs every day using ordinary soapy water and then use a towel or tissue to dry them. If you drop your earplugs on the floor and they get dirty, clean them before you put them into your ears.

Earmuffs also need to be cleaned to prevent skin irritation. Use a clean, damp cloth or tissue to wipe the cushions every day or whenever they become dirty.

Q-9 "Earplugs are uncomfortable. They hurt my ears."

A It is true that safety equipment can sometimes be a bit uncomfortable. It would be much more comfortable to work without a hardhat, heavy safety boots or a self-rescuer. But we wear these things because we might need them to protect ourselves if something goes wrong. Earplugs or earmuffs protect us against a hazard that is always present when the machines are working: that hazard is noise and noise will cause damage to a person's ears if they are not wearing HPDs.

Just as you have become used to wearing a hardhat, you can get used to wearing HPDs. By wearing them only for short periods and taking them out when the noise is not so great, your ears will gradually adjust to them. If after three or four days you are still having trouble, you should try different earplugs to see if they fit your ears better. Earplugs are a bit like shoes – some feet are only comfortable in certain types of shoes and, similarly, some types of earplugs might be more comfortable for you than others. The only way to find out if a certain type of plug fits your ears is to try it out for a few days. If your earplugs do fit well, eventually you won't notice that they are in your ears. You'll even find that without your earplugs you feel uncomfortable in noisy places.

When you wear your earplugs in the noise, at the end of the shift you'll find that your ears don't feel numb or half-deaf and you won't have any ringing or hissing sounds coming from inside your ears. These kinds of noises inside your ears are caused by damage to the tiny nerves deep inside the ears. For some people, the hissing or ringing is so loud that it keeps them awake at night. Another thing you'll find if you wear your HPDs is that you won't feel so tired at the end of your shift. Noise actually causes stress and tiredness, the same as heat and the same as worries that are troubling us. In addition to protecting your hearing, HPDs can reduce the stress of working in a noisy job.

Q-10 "Earmuffs make me feel too hot."

- A.** If you work underground or in a hot place, even on surface, earmuffs can make you feel hot and uncomfortable. This might also be true if you do a lot of hard work or operate a hot machine. If earmuffs make you feel too hot, then you should probably try earplugs. Earplugs and earmuffs can both give the same amount of protection against loud noise. Earplugs are better for people who work very hard in hot places; earmuffs are better for people who often go into and out of the noise, because earmuffs are easier to put on and take off. Some people use band-mounted earplugs because, like earplugs, they are not too hot to wear, and, like earmuffs, they are easy to put on and take off.

Q-11 "I know my job and I don't need to hear anything to do it properly."

A All of us working on the mine are part of a team and team members must work together. We need to be able to communicate with each other in order to work efficiently and safely. HPDs can help us to hear what other people are saying better by blocking out most of the machine noise and letting in most of the speech sounds.

Q-12 NB This is not often expressed but indications are that some people are thinking along these lines, especially as they approach retirement. It is an issue that the presenter could raise by saying: "Some people may think that if they don't wear earplugs they can get paid compensation money by the mine."

A This indicates that the person doesn't appreciate how valuable hearing is and how much he or she depends on it. It also shows that the person doesn't know how deaf they must become before they get any money. If you can hear what I'm saying to you now, then it will take many more years before you are deaf enough to get any money. Finally, even if you did become so deaf that you couldn't hear properly and you got some compensation money, you would probably only get a once-off lump-sum payout that would not be enough to last very long. Even if you were deaf enough to get money every month, it would only be a small part of what you earn now and you would need to give up your job to collect it. And remember, the money won't do anything to help your deafness. There are many people who have difficulty understanding others but who are not deaf enough to get any money. All they have to show for their years in the noise is bad hearing.

DON'T LET IT HAPPEN TO YOU. You can prevent deafness by wearing your HPDs whenever you are in loud noise.