



*Too Much of a Good Thing
Avoiding Overprotection in Hearing Protection*

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Introduction

Hearing protectors are unique among personal protective equipment in that in order to protect our hearing, they make us partially deaf. This can lead to complications not found with other protective equipment, namely, overprotection. The risks of overprotection are very real, and the consequences can be catastrophic. An employee who cannot hear the warning signal of a truck or piece of heavy equipment backing up can be in serious danger.

But the consequences are also more common and are more far reaching than that. Employees who cannot hear on the job are much more likely to make mistakes than those who can communicate naturally with their supervisors and co-workers. Also, studies have shown that employees who cannot communicate clearly or effectively with their fellows tend to feel more isolated on the job, and are less likely to be happy or productive.

Recognizing Overprotection

So, what is overprotection? While there are no hard and fast rules, any protection that reduces sound levels so far below the OSHA-defined 85 dB Action Level that it interferes with communication can be considered as overprotecting. For example, properly using an earplug rated at 33 NRR (the maximum available) to protect against 90 dB noise levels (the minimum for which protection is required) would definitely qualify. You should also bear in mind that employees who already have some degree of hearing loss (STS) will be more susceptible to overprotection. The ideal hearing protector brings the hazardous noise levels to a manageable range of 70-85 dB!

Overprotection Warning Signs and Diagnostic Methods

Warning Signs	Diagnosis
Employee Complaints	If employees <i>tell</i> you they have problems communicating, or hearing instructions or warning signals, that's a pretty strong clue. You probably don't need to spend time thinking up other reasons why they would make such complaints, but start evaluating sound levels and HPD ratings.
Employee Non-Compliance	Whether they tell you or not, one of the main reasons workers avoid wearing hearing protection is that they are overprotected. If you're having a compliance problem, or you spot an employee not wearing protection, start asking questions. Interestingly, this is one instance where strict enforcement policies can be counter-productive as they tend to make employees less than forthcoming in their replies.
Observation	Don't wait for an accident to prove you have a problem. If you suspect overprotection may be an issue, observe conditions for yourself. Occupy yourself with something in the warehouse and surreptitiously watch the forklift in operation: do employees move away naturally when it's backing down? Or do they seem to wait till the last second, then jump out of its path?
Experiment	Try a number of different HPD models and attenuation ratings yourself and see how easily you can hear that forklift, or how difficult it is to hold a conversation with an employee. If you have a product selection committee, get them involved also. If you and/or they have difficulty hearing and communicating with a particular protector, chances are the rest of the work force will as well.

¹ ISO Guideline EN-458

Guarding Against Overprotection

To guard against overprotection, we recommend this three part strategy:

1) Know Your Noise Levels

Know the noise levels in your facility, especially in areas where other hazards are present. If you haven't already done so (as part of an OSHA-mandated Hearing Conservation program), measure these levels with a sound meter and record the results. A good idea is to post a noise map, indicating where hearing protection is required, and what NRR is required. Making employees wear hearing protectors in areas where they are not required, or providing hearing protectors overrated for the noise hazard is a sure way to induce overprotection.



Use a Sound Level Meter to measure area noise. Photo courtesy of Larson Davis, a PCB Piezotronics division.

2) Select the Right Amount Of Protection

Select HPDs that provide the right levels of protection for your noise environment. The Environmental Protection Agency is expected to announce a change to the Noise Reduction Rating (NRR) soon that will change the NRR from a fixed number to a range of protection levels for hearing protectors. Most manufacturers already provide charts showing protection level ranges for their products. Select a product that will lower your employee's exposure to a safe level, but not one that reduces ambient levels too far below 85 dB.



The Clarity multiple-use earplug from Howard Leight features the patented Sound Management Technology™ and a special filter that block hazardous noise while voice, signals and other higher frequencies can be heard more naturally.

Also, there are a number of new products on the market that provide level or uniform attenuation. These products, like Howard Leight® Clarity® earplugs and earmuffs, are designed to block harmful noise but to allow warning signals and speech communication to be heard more naturally. In other situations — especially where loud, intermittent noise is a problem — sound management earmuffs like Howard Leight Impact® Sport can provide a solution. These products include external microphones that amplify ambient sound up to a certain level, but block noises over 82 dB. They can be especially useful for workers with existing hearing impairments.



Howard Leight's Impact Sport earmuff amplifies ambient sound up to 82 dB, while providing adequate protection from hazardous noise.

3) Understand the Risks

As with any safety program, make sure your employees understand the risks. It's hard enough to get workers to understand the risks of hazardous noise in the first place, but we also need to make them understand that more protection is not always better.

Recent studies have shown the best way to facilitate this understanding is through one-on-one training. Group training is a good reminder of Hearing Conservation principles, but individual sessions — especially those using some of the new earplug fit-testing software products available, including VeriPRO™ from Howard Leight — are far more effective, both in helping workers achieve good results from their hearing protectors, and in avoiding overprotection.

Bottom line, rather than thinking of the issue of overprotection as part of your Hearing Conservation program, you should consider it as an element of your accident prevention program. Damage from overexposure to noise generally accumulates over time. Damage from overprotection from noise can happen in an instant.

Posting motivational posters, such as Noise Thermometers, throughout your facility can help employees identify hazardous noise. Such posters are available for free from Sperian Protection. Download a PDF at www.howardleight.com/bestpractices or contact Sperian Customer Care at 800.430.5490.



Sperian Hearing Protection, LLC, recommends all users of its products undergo thorough training and that all warnings and instructions provided with the products be thoroughly read and understood prior to use. It is necessary to assess hazards in the work environment and to match the appropriate personal protective equipment to particular hazards that may exist. At a minimum, a complete and thorough hazard assessment must be conducted to properly identify the appropriate personal protective equipment to be used in a particular work environment.

▲ FAILURE TO READ AND FOLLOW ALL PRODUCT WARNINGS AND INSTRUCTIONS AND TO PROPERLY PERFORM A HAZARD ASSESSMENT MAY RESULT IN SERIOUS PERSONAL INJURY, ILLNESS OR DEATH.

For further information on VeriPRO or other Hearing Conservation topics, contact Howard Leight VeriPRO Technical Support at: 877/VERIPRO.

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