
ADVISORY NO. 33.0: HEARING CONSERVATION PROGRAM

PURPOSE

This written program specifies the requirements of a Hearing Conservation Program. Most importantly, this Hearing Conservation Program is intended to make University of Cincinnati employees aware of noise exposure hazards, provide an overall understanding of the program, and ensure compliance with the requirements. The Occupational Safety and Health Administration (OSHA) has promulgated guidelines for the prevention of hearing loss in the work place. Refer to OSHA Occupational Noise Exposure 29 CFR 1910.95 (www.osha.gov/comp-links.html) for additional information.

REQUIREMENTS

Under the OSHA regulation for occupational noise exposure a Hearing Conservation Program must include the following:

- ▶ Assessment of noise exposure through monitoring
- ▶ Audiometric tests of exposed workers
- ▶ Engineering and/or administrative controls
- ▶ Hearing protector responsibilities
- ▶ Employee training
- ▶ Maintenance of exposure records

RESPONSIBILITIES

Assessment of Noise Exposure

University of Cincinnati employees are required to follow the regulatory specifications outlined in the OSHA General Industry Standard 29 CFR 1910.95-Occupational Noise Exposure.

When information indicates that a University of Cincinnati employee exposure to noise may equal or exceed an 8-hour Time-Weighted Average (TWA) of 85 decibels, the employing department shall notify Environmental Health & Safety, 556-4968, who shall implement a monitoring program. If sound level monitoring indicates, a noise abatement program and the use of personal protective equipment (PPE) may be initiated. A medical surveillance examination may also be warranted.

Monitoring should be performed in accordance with regulatory standards and must be computed in accordance with Appendix A of OSHA 29 CFR 1910.95. Whenever there is a change in the work environment that increases the noise level, monitoring shall be repeated. Individuals exposed to noise levels above an 8-hour TWA of 85 decibels shall be notified of the exposure level. All affected employees and their representatives have the right to observe any noise measurements performed.

To determine if personnel in a particular area are being overexposed to noise, sound level meters should be used to identify areas that may contain potential noise hazards. The sound level meter can be used to measure sound levels at different intervals and areas during the shift to determine where potential noise hazards exist. A noise dosimeter then can be used to monitor a workers exposure during a period of time.

Audiometric Tests of Exposed Workers

University Health Services shall implement and maintain an audiometric testing program by making audiometric testing available to all University employees whose exposure equals or exceeds an 8-hour TWA of 85 dBA. Audiometric testing shall be provided at no cost to the employees. Testing must be performed by a certified professional in accordance with 29 CFR 1910.95(g)(3). **All audiograms shall meet the requirements of Appendix C of the OSHA standard.**

University Health Services will provide a baseline audiogram within six months of workers first documented exposure to noise at or above 85 dBA. Audiograms shall then be performed at least

annually after the baseline audiogram. Evaluation of the audiogram shall be performed in accordance with 29 CFR 1910.95(g) (7-10).

Noise Abatement and/or Administrative Controls

When University employees are subject to noise levels exceeding 85 dBA, administrative or engineering controls will be implemented. If the controls fail to reduce sound levels to acceptable limits, personal hearing protection shall be provided at no extra cost to the employee. Hearing protection may include the following:

Ear Plugs: These are used to seal the ear canal to prevent excessive noise levels from reaching delicate parts of the ear. Earplugs are inexpensive and portable, but they can be hard to fit and can introduce dirt to the ear if not kept clean. There are disposable and reusable earplugs. Disposable earplugs should be thrown away at the end of each shift while reusable plugs can be used over again. Reusable plugs should be washed at least once a day and stored in clean and sanitary location.

Canal Caps: These are soft pads on a headband that seal the entrance to the ear without entering the ear. If used incorrectly, they may not seal the ear properly.

Ear Muffs: These have a headband, ear cups, and ear cushions. This type of ear protection generally provides the greatest amount of protection.

Availability of Hearing Protectors

University departments/units employing workers exposed to an 8-hour TWA of 85 dBA or greater shall provide hearing protectors at no cost to the workers and shall replace them as necessary.

University department/unit supervisors shall ensure that hearing protection is worn in compliance with the regulations. In addition, supervisors will insure proper selection of hearing protection based on the evaluation method described in **Appendix B of the standard**.

Employee Training and Education

Environmental Health & Safety will institute a training program for all workers who are exposed to noise levels at or above the 85 dBA Time-Weighted Average (TWA). Training will be updated and repeated annually. Training will include the following:

- the effects of noise on hearing
- the purpose of hearing protection
- the advantage and disadvantages of various types of protectors
- instructions on selection, fitting, use, and care of hearing protectors
- the purpose of audiometric testing
- description of audiometric testing procedures

Also, a copy of the advisory and standard will be made available in the work place.

Maintenance of Records on Noise and Hearing Data

Environmental Health & Safety will maintain copies of all worker exposure data in accordance with 29 CFR 1910.95(M) of the regulation. Noise exposure measurement records will be retained for two years. Audiometric test records will be retained for the duration of the worker's employment with the University. All employee records required by OSHA 29 CFR 1910.95 should be available upon request of the employee. If the employee leaves the university to work for another employer all required records shall be forwarded to the new employer upon request of the employee.

How Loud Is It?

The unit for measuring relative loudness among various sounds is the decibel. One decibel is the smallest amount of change that can be detected by the human ear. However, the steps on the scale of increasing loudness are huge ones. For example, the sound level of a soft whisper is rated at 30 decibels. This is 100 times more intense than rustling leaves rated at 10 decibels, not 3 times more intense as you might think.

Decibel levels of some common noise sources are listed below:

<u>Noise Source</u>	<u>Decibels</u>
Average quiet office	40
Light traffic	50
Freeway traffic, vacuum cleaner	70
Alarm clock	80
Lawn mower, food blender	90
Vehicle horn (within 3 feet)	110
Thunderclap (nearby)	120
Jet airplane (taking off)	150
Rocket engine (lift-off)	180

Although the jet airplane take-off at 150 decibels appears to be only 3 times as many decibels as light traffic at 50 decibels, the jet's sound intensity is actually 1 billion times higher than light traffic.

According to this chart, a person operating a lawn mower continuously for eight hours is at the risk level that OSHA Standard 1910.95 uses to require the wearing of hearing protection.