

OSHA 3074: Highlights of Federal Hearing Conservation Program

Amendment Effective: April 7, 1983

Monitoring

The Hearing Conservation Amendment requires employers to monitor noise exposure levels in a manner that will accurately identify employees who are exposed to noise at or above 85 decibels (dB) averaged over eight working hours, called an 8-hour time-weighted average (TWA). The exposure measurement must include all noise within an 80 dB to 130 dB range and must be taken during a typical work situation. This requirement is performance oriented since it allows employers to choose the monitoring method that best suits each individual situation.

Under the amendment, employees are entitled to observe monitoring procedures and must be notified of the results of the exposure monitoring of their workplace. The method used to notify employees is left to the discretion of the employers.

Instruments used for monitoring employee exposures must be carefully checked or calibrated to ensure that the measurements are accurate. Calibration procedures are unique to specific instruments. Employers have the duty to assure that the measuring instruments they are using are properly calibrated. They may find it useful to follow the manufacturer's instructions to determine when and how extensively to calibrate.

Audiometric Testing

Audiometric testing not only monitors the sharpness or acuity of an employee's hearing over time, but also provides an opportunity for employers to educate employees about their hearing and the need to protect it. The important elements of an audiometric testing program include baseline audiograms, annual audiograms, training and follow-up procedures. Audiometric testing must be made available to all employees who have average exposure levels over an 8-hour period of 85 dB. The audiometric testing program follow-up should indicate whether hearing loss is being prevented by the employer's hearing conservation program. A professional audiologist (specialist dealing with individuals having impaired hearing), and otolaryngologist (physician specializing in the diagnosis and treatment of disorders of the ear, nose and throat) or a physician must be responsible for the program. Both professionals and trained technicians may conduct audiometric testing. However, the professional does not have to be present when a qualified technician is conducting testing. The professional's responsibilities include overseeing the program and the work of the technicians, reviewing problem audiograms and determining whether referral is necessary.

Since 2004, the Bureau of Labor Statistics has reported that nearly 125,000 workers have suffered significant, permanent hearing loss. In 2009 alone, BLS reported more than 21,000 bearing loss cases.

There are two types of audiograms required in the hearing conservation program: baseline and annual audiograms.

1. Work/Rest Regime

The baseline audiogram is the reference audiogram against which future audiograms are compared. Baseline audiograms must be provided within six months of an employee's first exposure at or above an 8-hour time-weighted average (TWA) of 85 dB. Where employers are using mobile test vans to obtain audiograms, baseline audiograms must be completed within one year after an employee's first exposure to workplace noise at or above a TWA of 85 dB. Where mobile vans are used and employers are allowed to delay baseline testing for up to a year, after six months their employees exposed at or above 85 dB must be issued and fitted with hearing protectors to be worn until the baseline audiogram is obtained.

Baseline audiograms taken before the effective date of this amendment are acceptable baselines in the program if the professional supervisor determines that the audiogram is valid.

2. Annual Audiograms

The annual audiograms must be conducted within one year of the baseline. It is important to test hearing on an annual basis in order to identify changes in hearing ability so that protective follow-up measures can be initiated before hearing loss progresses. Annual audiograms must be routinely compared to baseline audiograms to determine whether the audiogram is accurate and to determine whether the employee has lost hearing ability (that is, if a Standard Threshold Shift (STS) has occurred).

STS is defined in the amendment as an average shift in either ear of 10 dB or more at 2,000, 3,000, and 4,000 hertz. An averaging method of determining STS was chosen because it diminishes the number of persons falsely identified as having STS who are later shown not to have had a change in hearing ability.

Audiogram Evaluation

If an STS is identified, employees must be fitted or refitted with adequate hearing protectors, shown how to use them and required to wear them. Employees must be notified within 21 days from the time the determination is made that their audiometric test results showed an STS. Some employees with an STS may need to be referred for further testing if the professional determines that their test results are questionable or if they have an ear problem of a medical nature that is thought to be caused or aggravated by wearing hearing protectors. If the suspected medical problem is not thought to be related to wearing protectors, employees must be informed that they should see a physician. If subsequent audiometric tests show that the STS identified on a previous audiogram is not persistent, employees whose exposure to noise is less than a TWA of 90 dB may discontinue the wearing of hearing protectors.

A subsequent audiogram may be substituted for the original baseline audiogram if the professional supervising the program determines that the employee's STS is persistent. This substitution will ensure that the same shift is not repeatedly identified. The professional may also decide to revise the baseline audiogram if an improvement in hearing has occurred. This will ensure that the baseline reflects actual hearing thresholds to the extent possible.

Hearing Protectors

Hearing protectors must be available to all workers exposed to 8-hour time-weighted average noise levels of 85 dB or above. This requirement will ensure that employees have access to protectors before they experience a loss in hearing. Hearing protectors must be worn by: 1) employees for any period exceeding six months from the time they are first exposed to 8-hour average noise levels of 85 dB or above until they receive their baseline audiograms in situations where baseline audiograms are delayed because it is inconvenient for mobile test vans to visit the workplace more than once a year; 2) employees who have incurred standard threshold shifts since these workers have demonstrated that they are susceptible to noise; and 3) employees exposed over the permissible exposure level, an 8-hour time-weighted average of 90 dB or above.

Employees should decide, with the help of a person who is trained in fitting hearing protectors, which size and type of protector is most suitable for their working environment. The protector selected should be comfortable to wear and offer sufficient attenuation to prevent hearing loss.

Hearing protectors must adequately reduce the severity of the noise level for each employee's work environment. The employer must reevaluate the suitability of the employee's present protector whenever there is a change in working conditions that may cause the hearing protector being used to be inadequate. If workplace noise levels increase, employees must be given more effective protectors.

The protector must reduce employee exposures to at least 90 dB and to 85 dB when a standard threshold shift has already occurred in the worker's hearing. Employees must be shown how to use and care for their protectors and must be supervised on the job to ensure that they continue to wear them correctly.

Training

Employee training is very important. When workers understand the reasons for the hearing conservation program's requirements and the need to protect their hearing, they will be better motivated to participate actively in the program and to cooperate by wearing their protectors and taking audiometric tests. Employees exposed to TWA's of 85 dB and above must be trained at least annually in the effects of noise, the purpose, advantages and disadvantages of various types of hearing protectors; the selection, fitting and care of protectors; and the purpose and procedures of audiometric testing. The training program may be structured in any format. Different parts may be conducted by different individuals and at different times as long as the required topics are covered.

Recordkeeping

Noise exposure measurement records must be kept for two years. Records of audiometric test results must be maintained for the duration of employment of the affected employee. Audiometric test records must include the name and job classification of the employee, the date, the examiner's name, the date of acoustic or exhaustive calibration, measurements of the background sound pressure levels in audiometric test rooms and the employee's most recent noise exposure measurement.

<https://www.osha.gov/SLTC/noisehearingconservation/>

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