

## Hearing Threshold Shifts, Audiometric Testing and RECORDABILITY ON THE OSHA FORM 300

An effective hearing conservation program is required whenever employee noise exposures equal or exceed an 8-hour time-weighted average (TWA) of 85 dBA.

A valid audiogram meets all the requirements of the audiometric testing program.

### Noise EXPOSURE

Under OSHA's Hearing Conservation standard (29 CFR 1910.95), employers must administer an effective hearing conservation program whenever employee noise exposures equal or exceed an 8-hour time-weighted average (TWA) of 85 dBA. When engineering controls do not reduce noise exposure below this level, administrative controls (e.g., reducing the amount of time in an area), and appropriate hearing protection devices must be used to protect workers.

### AUDIOGRAMS

When an employee's noise exposure equals or exceeds 85 dBA TWA, the employer must provide an audiometric monitoring program that meets all the requirements of the audiometric testing program outlined in 29 CFR 1910.95(g) and (h) and mandatory appendices C-E. The testing program must be at no cost to the employee and include a baseline and annual audiogram.

### Problem AUDIOGRAMS

Problem audiograms include those with a standard threshold shift (STS), hearing thresholds that are not repeatable, unusual audiometric configurations, and significant differences between ears. Audiograms that show an STS should be repeated within 30 days of the initial test to determine if the STS is persistent. An audiologist, otolaryngologist, or other physician must review all problem audiograms and determine whether further evaluation is necessary.

### Recreational NOISE EXPOSURE

All workers are exposed to noise outside the workplace. Some hobbies, activities, and lifestyle choices may result in significant exposures. However, even in these cases, workplace noise may still contribute to hearing loss. A detailed case history will help determine whether the hearing loss occurred on or off the job. Employers must show that workplace noise exposure did not cause or significantly contribute to hearing loss or make existing hearing loss worse.

### Ototoxic AGENTS

Although not required by OSHA, employees exposed to ototoxic agents should also be included in a hearing conservation program. Ototoxic agents, such as benzene and toluene, can cause hearing loss and have a synergistic effect with noise exposure. A careful occupational history, including a worksite inventory of chemicals and an industrial hygiene assessment, is beneficial and important for protecting the worker and aiding in the work-related determination.

STS is defined as a change in hearing threshold, relative to the baseline audiogram for that employee, of an average of 10 decibels (dB) or more at 2000, 3000, and 4000 Hz

## Standard Threshold SHIFT (STS) OF HEARING

An STS is defined in the occupational noise exposure standard at 29 CFR 1910.95 (g)(10) (i) as a change in hearing threshold, relative to the baseline audiogram for that employee, of an average of 10 decibels (dB) or more at 2000, 3000, and 4000 Hz in one or both ears.

Unless a physician determines that the STS is not work-related or aggravated by occupational noise exposure, the employer must ensure that the following steps are taken:

- Fit or refit the employee with appropriate hearing protection devices (HPD)
- Provide more effective (higher attenuation) HPDs if necessary
- Train or retrain the employee in the use and care of HPD
- Require the employee to use the HPD
- Refer the employee for a clinical evaluation as appropriate

## Recording an STS ON THE OSHA FORM 300 – 29 CFR 1904.10(B)(7)

If an employee's hearing test (audiogram) reveals a recordable STS (or a recordable STS was not re-tested within 30 days of the initial STS), the case must be recorded on the OSHA Form 300. When entering a recordable hearing loss case on the OSHA 300 Log, you must check the 300 Log column for hearing loss.

Two requirements must be met for an STS to be recordable:

1. The employee has a work-related hearing loss of 10 dB or greater averaged over the frequencies of 2000, 3000, and 4000 Hz in one or both ears and
2. The employee's total hearing level is 25 decibels (dB) or more above audiometric zero (averaged at 2000, 3000, and 4000 Hz) in the same ear(s) as the STS.

While OSHA allows employers to use age corrections when deciding whether an STS has occurred, a more protective approach to employee safety and occupational health is to use existing thresholds without the application of age corrections. Details are outlined in 29 CFR 1910.95 appendix F.

As with other workplace exposures, if an event or exposure in the work environment either caused or contributed to the hearing loss or significantly aggravated a pre-existing hearing loss, the physician or licensed healthcare professional must consider the hearing loss to be work-related. Work does not need to be the sole or predominant cause of hearing loss.

Employers are responsible for determining whether an injury or illness is work-related. Employers may seek and consider the guidance of a physician or other licensed healthcare professional when evaluating the work-relatedness of hearing loss, provided the licensed healthcare professional is operating within the scope of their state license or certification. The employer is then responsible for ensuring that the physician or licensed health care professional applies the analysis in Section 1904.5 when determining work relatedness.

Through the Alliance between OSHA and CAOHC, CAOHC developed this brochure for informational purposes only. It does not necessarily reflect the official views of OSHA or the U.S. Department of Labor. [April 2024] Under the Occupational Safety and Health Act (<https://www.osha.gov/workers/employer-responsibilities>), employers are responsible for providing a safe and healthy workplace and workers have rights (<https://www.osha.gov/workers>). OSHA can help answer questions or concerns from employers and workers. OSHA's On-Site Consultation Program (<https://www.osha.gov/consultation>) offers free and confidential advice to small and medium-sized businesses, prioritizing high-hazard worksites. For more information, contact your regional or area OSHA office, visit the webpage (<https://www.osha.gov/contactus/bystate>), call 1-800-321-OSHA (6742), or visit [www.osha.gov](http://www.osha.gov).

## CAOHC

555 E. Wells Street, Suite 1100  
Milwaukee, WI 53202  
414-276-5338  
[info@caohc.org](mailto:info@caohc.org) [www.caohc.org](http://www.caohc.org)