

HETI Horizons

Occupational Hearing Loss

Noise-Induced Hearing Loss (NIHL) is one of the most widespread and recognized occupational hazards. The National Institute for Occupational Safety & Health (NIOSH) estimates 22 million workers in the United States are exposed to occupational environments with dangerous noise levels annually. NIHL accounts for one in nine occupational illnesses according to the Bureau of Labor and Industry. While employers may meet the requirements of the Occupational Safety & Health Administration (OSHA) Standard 29 CFR 1910.95 to establish a Hearing Conservation Plan (HCP) for workplaces with noise exceeding 85 dBA (decibels, A-weighted), many employers have not performed adequate noise exposure assessments. This can result in employees working in environments above 85 dBA without proper hearing protection – potentially leading to citations, recordable illnesses, increased insurance premiums, and workers' compensation claims.

Evaluating NIHL Claims

The evaluation of hearing loss claims is complicated, as the cause may not be solely occupational. The OSHA occupational injury and illness recording and reporting requirements final rule states that although work-relatedness is not presumed, the determination of work-relatedness is made on a case-by-case basis.

And, according to workers' compensation law, the employer is responsible for providing evidence that an individual was not exposed to sufficient noise levels in the workplace to cause illness. Preparation and retention of thorough and complete noise surveys and individual noise exposure assessments are the primary means to evaluate the work-relatedness of NIHL claims. However, it is not uncommon that an adequate noise exposure assessment is not performed until there is a problem.



If employee noise exposure records are absent or incomplete, under certain circumstances a noise exposure reconstruction is still possible. The following examples illustrate two cases where a Certified Industrial Hygienist (CIH) provided noise exposure reconstruction for evaluation of NIHL claims:

Example 1: Cafeteria Worker

A 49-year old cafeteria worker with seven years of experience in an assisted living facility for the elderly, claimed to have occupational NIHL – based on the results of a hearing test (or audiogram) after a referral from her primary care physician – and filed a workers' compensation claim. The facility did not have a previous sound survey or dosimetry and believed it was not required to have a HCP since it was assumed that cafeteria workers were not exposed to noise levels above 85 dBA.

The facility retained a CIH to reconstruct the noise exposure conditions and conduct a noise exposure assessment in the kitchen. The CIH interviewed cafeteria workers with management present and documented that none of the cafeteria staff believed there to be any particularly noisy tasks or machines and that the same kitchen machinery was in use during the claimant's tenure. The sound survey was conducted with all machines running at peak level for a simulation of the worst possible scenario and noise dosimetry was performed for each cafeteria task. The CIH found all areas and workstations in the cafeteria to be below 80 dBA. The report was submitted to a licensed health care professional with experience in occupational medicine and audiology who determined it to be improbable that the hearing loss was work-related.

Example 2: Equipment Operator

A 38-year old equipment operator with four years at a bulk aggregate storage and handling facility displayed a Standard Threshold Shift (STS) on an annual audiogram. The facility had an OSHA-compliant HCP and performed baseline and annual audiograms for all workers. The audiogram results revealed an STS in this operator's left ear from the baseline performed at the time of hiring.

The facility retained a CIH to perform a noise exposure assessment focused on the tasks that the worker was performing. During the CIH's initial interview, the worker stated he had recently been spending up to 10 hours a day in a specific front-end loading machine. Using a sound level meter, the CIH discovered a high level of noise emitting from the muffler located approximately five feet from the left side of the worker's hearing zone. After the CIH notified the plant manager, facility maintenance inspected the muffler and found it to be damaged. The machine was placed out-of-order until the damaged muffler was replaced and the worker's hearing subsequently recovered.

The reported hearing loss was due to acoustical trauma over a short period of time and was determined to be a temporary threshold shift. Diagnosing the source of the noise prevented permanent hearing loss and avoided an OSHA-recordable illness...as well as the associated workers' compensation claim for the equipment operator and possible additional work-related hearing loss incidents.

Both examples illustrate the value of a thorough and complete noise exposure assessment. The employers were fortunate that an Industrial Hygienist was able to accurately reconstruct the noise environment that was the suspected cause of hearing loss.

Hearing Loss Statutes

OSHA's injury/illness reporting requirements are uniform throughout the U.S. If an employee's hearing test reveals that he/she has experienced a work-related STS in hearing in one or both ears, and 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, the case must be recorded on the OSHA 300 Log. However, workers' compensation statutes vary significantly among jurisdictions and may have significant variability in the hearing impairment assessment formula, waiting period, deductions made for age-related hearing loss, provisions for hearing aids, statute of limitations, etc. A CIH familiar with the local hearing loss statutes can provide important guidance for an employer who believes a workers' compensation claim is unjustified.

HETI...Helping with Occupational Hearing Loss

HETI can assist facilities in identifying noise hazards and evaluating hearing loss claims. We have the experience and technical expertise to assist with hazard recognition, exposure monitoring, and control development to reduce the risk of noise exposure to employees and help ensure regulatory compliance.

To find out more about this and other HETI industrial hygiene services, please contact us.

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