CONN-OSHA QUARTERLY

Connecticut Department of Labor - Division of Occupational Safety and Health

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CONNECTICUT DEPARTMENT OF LABOR

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Top Stories

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Occupational Noise Exposure in General Industry

By Marigrace Riley, Occupational Hygienist

Basics of Noise and Hearing

The word noise is used to indicate unwanted sound. Sound occurs when vibrations travel through the air and can be heard when they reach a person's ear. When sound waves enter the outer ear the vibrations impact the ear drum and are transmitted to the middle and inner ear. In the middle ear there are three small bones called the malleus (hammer), the incus (anvil), and the stapes (stirrup) that amplify and transmit the vibrations generated by the sound to the inner ear. The inner ear contains a snail-like structure called the cochlea which is filled with fluid and is lined with cells with very fine hairs. These microscopic hairs move with the vibrations and convert the sound waves into nerve impulses resulting in the sound we hear. Exposure to loud noise can destroy these hair cells and cause hearing loss. What determines whether a person will lose their hearing or not depends on how loud the sound is (intensity) and how long they are exposed to the sound (duration).

Temporary hearing loss occurs with a short-term exposure to excessive noise and is reversible with periods of quiet. Permanent hearing loss occurs after repeated exposure to high noise levels over a period of time. This prolonged exposure gradually causes permanent damage and the extent of damage depends on the intensity of the noise as well as the duration of exposure. Excessive noise exposure can also lead to tinnitus (ringing in the ears), social isolation, stress, anxiety, increased blood pressure, and a quickened pulse.

Noise may be a problem in the workplace if you need to shout to be heard from an arm's length away or you hear ringing or humming in your ears when you leave work. Ideally, engineering and administrative controls should be implemented, when feasible, to reduce employee exposures to excessive noise levels. When these actions are not possible or do not reduce exposures adequately, a hearing conservation program may be required.

Hearing Conservation Program

OSHA's Occupational Noise Standard for General Industry (29 CFR 1910.95) requires employers to implement an effective hearing conservation program when noise exposures reach a certain level. OSHA's general industry standard has an Action Level of 85 dBA as an 8-hour time-weighted average and a Permissible Exposure Limit of 90 dBA. Once employees are exposed to noise at or above the action level a hearing conservation program must be implemented.

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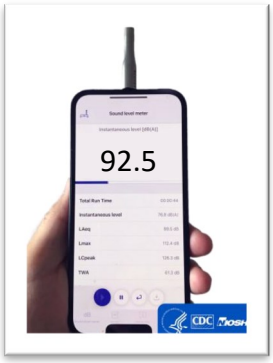
The purpose of a hearing conservation program is to protect workers who have had significant occupational noise exposures from hearing impairment even if they have been subjected to excessive noise during their entire working lifetimes. The hearing conservation program should include: noise level monitoring; employee information and training; audiometric examinations; hearing protection; and recordkeeping.



Exposure Monitoring
Conduct noise monitoring to identify which employees are exposed to noise levels above the action level. These are the employees that need to be included in a hearing conservation program. Monitoring should be conducted when there are changes in equipment or tasks. Monitored employees should be notified of the results of noise monitoring in writing. Employees can be notified individually or by posting results in a common area. When only some workers in an area were monitored for exposure, other workers similarly exposed should also be notified and included in the hearing conservation program.

Audiometric Testing
Provide a baseline audiogram within 6 months of an employee's exposure to noise greater than the action level. Subsequent audiograms should be conducted annually thereafter. The baseline audiogram is the reference audiogram against which future audiograms are compared. All audiograms should be at no cost to affected employees and be performed by a qualified person. For each tested employee, this qualified person will compare the annual audiogram to the baseline audiogram and will determine whether a standard threshold shift (STS) has occurred. An STS is an average shift in either ear of 10 dB or more at 2000, 3000, or 4000 Hz.

Employee Training
Institute a training program for all employees included in the hearing conservation program. The training should be conducted upon hiring, repeated annually, and updated as necessary due to changes in hearing protection or work processes. The program must include information on: the effects of noise on hearing; the purpose of hearing protectors, advantages and disadvantages of various types, and instructions on selection, fitting, use and care; and the purpose of audiometric testing, and an explanation of the test procedures.

Hearing Protection
Hearing protection must be provided to employees who are exposed to 8-hour TWA exposures above the action level of 85 dBA as an eight-hour time weighted average. Hearing protection must be worn by employees once they are exposed to levels 85 dBA or greater until they receive their baseline audiogram; if they have a STS that demonstrates they are susceptible to noise; or if they are exposed to noise over the PEL of 90 dBA. Employers must provide employees with a selection of at least one variety of ear plug and one variety of earmuff. Hearing protection must adequately reduce the noise level to below 90 dBA or 85 dBA if a STS has occurred. The noise reduction rating can be used to evaluate whether or not hearing protection is adequate. Hearing protection should be re-evaluated when there is a change in conditions.

Recordkeeping
Employers must keep records of noise exposure monitoring data for at least two years. Employers must also keep records of employee audiometric testing for the duration of the employee's employment. Employees should also be given access to these records upon request.

Other Requirements
Occupational hearing loss must be recorded in the employer's log of recordable occupational injuries, illnesses, and fatalities (OSHA Form No. 300 or equivalent). Employers are also required to make a copy of the noise standard (29 CFR 1910.95) available to employees and to post it in the workplace.

OSHA's Occupational Noise Exposure Website has valuable resources that address the standard, health effects, exposures, and controls. Occupational Hygienists with CONN-OSHA's On-Site Consultation program are available to assist Connecticut employers with noise sampling surveys and the implementation of effective hearing conservation programs.

Requesting a Consultation

To learn more or request your free consultation from CONN-OSHA:

Call us at 860-263-6900, or visit our webpage

Portable Jack Inspections

By Ellen Burgum, Occupational Safety Officer

This article is a reminder of the employer's responsibility to have their portable jacks visually inspected periodically for wear and defects. The inspection is to be done by a knowledgeable person designated by the employer. A record of each jack should be kept on site for review and be available during an OSHA inspection. According to the OSHA standard, inspection intervals are based upon service conditions.

The OSHA requirements for jacks are found in 29 CFR 1910.244- "Subpart P: Other portable tools and equipment". The standard covers the loading and marking requirements as well as operation and maintenance. The rated load shall be legibly and permanently marked in a prominent location on the jack by casting, stamping, or other suitable means. Failure to do this is often a violation found during OSHA inspections. Newly acquired jacks usually have the manufacturer and the rated load on a label but the marking can become defaced over time due to its position on top of the jack. Marking the load on the side of the jack with a weld or paint works well in most cases.

In the absence of a firm foundation, the base of the jack shall be blocked. After the load is raised it shall be cribbed or blocked or otherwise secured at once. Jacks are to be lubricated at regular intervals. Each jack should be thoroughly inspected dependent on service conditions. For constant or intermittent use at one locality, the jack should be inspected once every 6 months. For jacks sent out of shop for special work, the jack should be inspected when sent out, and when returned. For a jack that has been subjected to abnormal load or shock, the jack should be inspected immediately before use and immediately thereafter. Any jack found to be defective is to be tagged and taken out of service until repairs have been made.

The improper use of jacks can result in tragedy. (See the Hazard Corner on Page 6.) Occupational Safety Officers with CONN-OSHA's On-Site Consultation program are available to help Connecticut employers inspect their portable jacks.

Farewell to Ellen Burgum

CONN-OSHA colleague, Ellen Burgum retired on July 1, 2022 after working for the department for 18 years. As an Occupational Safety Compliance Officer, Ellen became familiar with the various occupations of the Public Sector workforce. Part of her job was performing unannounced inspections, which most people think of as "surprise inspections". She soon learned that she would not always be received with a warm welcome- no one wants to see an OSHA Compliance Officer at their jobsite. However, after working with employers she was frequently told that they were happy she came out because they wanted to keep their employees safe. This feedback was rewarding.

Ellen became interested in workplace safety when working as a Lab Technician in 1994 at Scapa Tapes in Windsor, CT. She joined their safety committee and later became the Chairperson of the Committee. She decided to go back to college part-time to finish her degree and graduated in 2001 from Central Connecticut State University with a B.S. in Industrial Technology/Occupational Safety. In June of 2004 she began her career at CONN-OSHA.

During her career Ellen had to investigate workplace accidents. Some of these accidents resulted in horrific injuries or death. This was most certainly the hardest part of her job. Interviewing victims, co-workers and witnesses was a difficult, but necessary, task. The goal, of course, was to prevent the accident from happening to someone else.

Ellen feels that being part of the CONN-OSHA team has been a great experience. "My co-workers and I truly care about the safety and health of Connecticut's workers. Our commitment and compassion are reflected in the work we do every day."

Although Ellen wasn't expecting to retire quite yet, she is looking forward to doing "what I want, whenever I want." She enjoys volunteering and plans to do more of it. Her son lives in Arizona and is the first on her travel list.

Save the DATE

Training Schedule

***Virtual* Trenching and Excavation** *8/10/22*	Studies show that excavation work is one of the most hazardous types of work done in the construction industry. Injuries from excavation work tend to be of a very serious nature and often result in fatalities. The primary concern in excavation-related work is a cave-in. Cave-ins are much more likely to be fatal to the employees involved than other construction-related accidents. This workshop will provide an overview of 29 CFR 1926.650 - 652, Excavations, including the role of the competent person.
***Virtual* Noise and Hearing Conservation** *8/23/22*	OSHA requires a hearing conservation program whenever employee noise exposures equal or exceed an 8-hour time-weighted average sound level (TWA) of 85 decibels measured on the A scale (slow response) or, equivalently, a dose of fifty percent. This class will provide an overview of 29 CFR 1910.95, Occupational Noise standard.
***Virtual* OSHA 300 Recordkeeping - What Does and Does Not Need to be Recorded** *9/7/22*	The purpose of this workshop is to introduce the requirements and procedures related to the OSHA 300 log. This class will help develop skills to accurately report occupational injuries and illnesses.
***Virtual* Fire Protection and Life Safety** *10/25/22*	An introduction to the requirements of 29 CFR 1910, Subpart L Fire Protection and Subpart E Means of Egress will be covered. Topics include Emergency Action Plans, Fire Prevention Plans, and NFPA 101 Life Safety Codes. Details of the chemistry of fire, means of egress, detection and alarm systems, fire brigades, and emergency action and fire prevention plans will be discussed.
Breakfast Roundtable *3rd Tuesday of the Month*	These meetings cover subjects ranging from evacuation plans and fire extinguishers to air quality and ergonomics. The intent of these free 90-minute workshops is to discuss safety and health issues in a supportive and informal environment. The roundtable meetings are held from 8:15 am to 9:45 on the third Tuesday of the month.

Visit this link for more info and to sign up.

State & Town:

- **Report to CONN-OSHA**
- **(860) 263-6946**
- **(866) 241-4060 *Toll Free***

Private Employers:

- **Report to Federal OSHA**
- **(800) 321-OSHA (6742)**

Fatality & Casualty Reporting

Hazard Corner: Mechanic Crushed Underneath Four-ton Wood Chipping Machine

A 54-year-old male mechanic at a tree trimming and removal company died after being crushed underneath an 8,000-pound wood chipping machine at a maintenance yard. On the day of the incident, the decedent and another worker were attempting to change the brakes on the woodchipper. They were using a telescopic hydraulic jack to lift the chipper in order to remove the wheels. After one side of the woodchipper was lifted, a single jack stand (rated for three-tons, used in a pair) was placed under that side. The decedent went underneath the machine attempting to properly position the hydraulic jack on the axle to lift the other side. The jack slipped, the jack stand broke, and the woodchipper fell on top of the decedent, killing him.

The full FACE Report can be viewed here.

The investigators recommended that these safety guidelines be followed to prevent similar incidents:

- The machine should be lifted one side at a time, and then cribbed and blocked to prevent movement.
- Jack stands should be selected according to the appropriate loading capacity and should be used and rated in pairs.
- An expander should be used on the floor jack saddle to avoid having the worker going underneath the machine.
- A safety and health plan based on a job hazard analysis should be developed by the employer and followed where workers are assigned tasks.

How to Subscribe

Contact robert.hunt@ct.gov and in the subject line type "Subscribe" and then provide your e-mail address in the body of the message.

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