



# Stats at Work

## Occupational hearing loss in manufacturing industry workers

BWC's Division of Safety & Hygiene Research and Statistics Program is available to assist you in understanding your industries occupational injury and illness statistics.

BWC provides statistics for the Bureau of Labor Statistics (BLS) SOII from Ohio.

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**Stats at Work** provides you with examples of industry information that is available for your use as a direct result of the annual BLS survey of occupational injuries and illnesses.

Our end goal is providing an educational tool demonstrating the value of the information collected.

Occupational hearing loss results from exposure to noise or non-noise agents in a work environment. This includes different degrees of hearing loss which may or may not immediately lead to hearing impairment or permanent hearing loss. Most cases occur gradually over a long period of time and many exposed workers are unaware that they are losing their hearing until it is too late. Such cases are neither reported nor recorded, leading to a poor representation of the problem.

A traumatic noise exposure can lead to immediate hearing loss. These types of cases make up the majority of reported cases captured on the Occupational Safety and Health Administration (OSHA) logs. Despite the challenge of under-reporting, occupational hearing loss remains a top issue in the occupational safety and health community even though public knowledge of the issue is still growing.

The National Institute for Occupational Safety and Health (NIOSH) estimates that 30 million workers are exposed to noise levels high enough to cause irreversible hearing loss. Additionally, nine million workers are at risk of hearing loss from non-noise agents, such as organic solvents, carbon monoxide and certain metals. Hearing loss from noise exposure limits one's ability to hear high frequency, understand speech, reduce ability to communicate and can considerably affect the ability to socialize. Hearing loss is best prevented because once it occurs, noise induced hearing loss is neither curable nor reversible. Workers in construction sites, manufacturing plants, and other work environments with noisy operations stand the risk of significant noise exposure. The largest amount of hearing loss cases are based in the manufacturing industry.

### **Risk of hearing loss in manufacturing industry**

According to the Bureau of Labor Statistics' (BLS) Quarterly Census of Employment and Wages second quarter report for 2013, there are an estimated 12 million people working in the manufacturing sector, accounting for approximately 11% of the US private sector workforce. BLS also reports that occupational hearing loss is the most commonly reported occupational illness in the manufacturing industry. It accounts for about one in nine recordable illness

# 74% of hearing loss cases in the U.S. due to manufacturing



Keep your workplace noise below 85 dBA

cases. The report shows that more than 72% of these occur among workers in manufacturing. These numbers are alarming considering the stringent requirements needed to classify a case as an occupational hearing loss case and be OSHA-recordable. The hearing loss must be determined to be work related and severe enough to have caused impairment. The challenge here is that hearing loss has a long latency period, thus, a lot of cases are not discovered early enough to be reported. Furthermore, it is possible to suffer occupational hearing loss without being hearing impaired at that time.

## **SOII stats on hearing loss**

In the US, in 2012, hearing loss represented 12% or 18,500 cases of all recordable cases submitted through the survey of occupational injuries and illnesses in private industry. The manufacturing industry in the US accounted for a total of 74% of those hearing loss cases.

At the state level, Ohio SOII data for 2012 estimated a total number of illness cases in private sector industries alone to be 5,000 cases. Of this total, hearing loss cases accounted for approximately 900 cases and 800 of those cases were in Ohio's manufacturing industry.

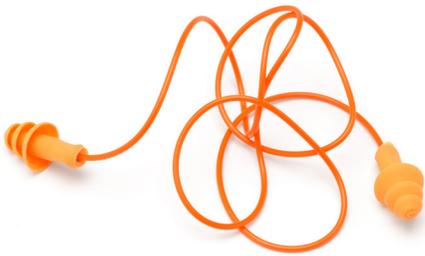
The Ohio Labor market information for the year 2012, estimates 640,000 workers in the manufacturing industry. This number alone represents a large "at risk" population in Ohio and demonstrates the necessity for attention to sound levels and hearing protection in our workplaces.

## **When are you at risk?**

OSHA recommends that workplace noise levels be kept below 85 decibels adjusted (dBA) as an eight-hour time-weighted average. As the noise level increases, it damages your hearing more quickly. Research indicates that your hearing can be damaged by regular eight-hour exposures to 85 dBA. Noise levels of about 100 dBA (like a jackhammer or stud welder); require repeated exposures of as little as one-hour per day to damage your hearing. To minimize occupational noise-induced hearing loss, NIOSH recommends that all worker exposures to noise be controlled below a level equivalent to 85 dBA for eight-hours.

**2-3 Foot Rule** – This rule is an OSHA recommended technique to estimate noise level when a sound level meter is not available. This rule requires that you stand about an arm's length away from a co-worker and if you have to raise your voice to be heard when only 2-3 feet away you should assume that the sound level is at or above 85 dBA. This is a sign that something needs improved to protect workers hearing.

# Hearing loss is greatest within the first 10 years of exposure



Monitor your hearing before and after work

## Warning signs

Noise may be a problem in your workplace if:

- Any employees hear ringing or humming in their ears when they leave work;
- To be heard by a co-worker an arm's length away you have to shout;
- An employee experiences temporary hearing loss when leaving work.

## Be informed...be safe

It is important that you are aware of your risks and exposure in the workplace. Monitor your hearing before and after work. A simple process to achieve this is one recommended by OSHA. It requires that you set the volume of your car radio at a certain minimal level such that you can barely hear it just before going in for work. After work, watch to see if you can still hear it at the same volume. If you cannot hear it, you may be suffering from occupation hearing loss. Request safety devices if you feel you are being over exposed to noise at work.

NIOSH reports that the rate of hearing loss is greatest within the first 10 years of exposure. Prevention efforts are therefore necessary for new workers. Continued exposure further causes hearing loss to affect frequencies needed to understand speech. As a result, long tenure employees also need safety measures that cater for their exposure as well.

## Be informed, be safe, and be well.

### References:

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