

April 2024

Hearing Loss in the Workplace

by Dr. Michael MacDonald CCC-A Director of Audiology

Excessive noise exposure ranks second among the most common etiologies of hearing loss.¹ Unfortunately, among the active working population, this chronic disability does not receive the attention it deserves. In the United States, it is estimated that the annual compensation for Occupational Noise Induced Hearing Loss (ONIHL)is \$242.4 million.² The Center for Disease Control (CDC) calculated that 22 million

people are exposed each year to excessive noise and 1 out of 8 of all workers have difficulty hearing.³ Understanding the impact of hearing loss caused by the work environment is vital to creating proactive prevention solutions and care for employees who suffer from hearing loss. Doing so will improve an employee's quality of life and reduce current and future medical costs.

Having a hearing healthcare option available offers numerous benefits for employees and employers



Occupational hearing loss can be obtained in different ways. According to the CDC, "Noise is considered loud (hazardous) when it reaches 85 A-weighted decibels (dBA) or higher." ³ For example, landscaping equipment, electric vacuums, and jackhammers can produce enough hazardous noise to cause permanent hearing loss if exposed for extended periods. However, it is not just sound that causes permanent hearing loss in the workplace. The CDC also reported that over 10 million workers are exposed to ototoxic chemicals and solvents that can cause hearing loss. Once identified, efforts should be made to reduce a person's exposure to these causes of workplace hearing loss and to address untreated hearing loss.

When left untreated, hearing loss has a severe impact on the socioeconomic status of an individual. A 2015 study by S. Emmet et al. revealed that a person with hearing loss had three times lower odds of obtaining educa-

tion, was one and a half times more likely of having a lower income and twice as likely to be under or unemployed".⁴ The Better Health Institute study reported that hearing loss can be attributed to an income loss of \$12,000 annually.⁵ Finally, a longitudinal study found that exposure to hazardous noise at work accounted for approximately 2.53 lost healthy years annually across all industries per 1,000 noise-exposed workers.⁶ Such barriers can hinder an employee from achieving workplace satisfaction and career success.

Untreated hearing loss not only impacts employees, but also creates issues for employers. Studies have indicated that 11% of persons with hearing loss suffer from moderate to severe depression.⁷ A 2011 study revealed a positive association between depression severity score and loss in work productivity. When there was a 1-point increase in severity score there was an additional 1.65%

loss of productivity.8 Also in your working population, people with hearing loss between the ages of 45 and 64 are more at risk for having dementia in the future.9 These health conditions can add up to weeks of lost work productivity, absenteeism, and overall poor health.

66

...utilizing hearing healthcare enhances job satisfaction and overall well-being



Unfortunately, a person's hearing loss not only affects their own job performance and ability to succeed, but also affects their safety and the safety of others. Hearing loss can make it difficult to hear a fire alarm, smoke detector, machine warning signal, or even a beep from a forklift backing up. It can cause miscommunication, which can lead to the employee or someone else becoming injured. Lin, et al. found that people ages 40-69 with a 25-decibel hearing loss, classified as mild, were nearly three times more likely to have a history of falling.¹⁰ These issues can impact everyone involved.

With such staggering costs, it is crucial that employers find solutions. It has been shown that "workplaces with appropriate and effective hearing conservation programs have higher levels of worker productivity and a lower incidence of absenteeism."11 However, when hearing loss is already present, having a cost-effective hearing solution to treat it is

paramount. Research has demonstrated that when hearing aids are utilized, depressive symptoms are improved after six months,¹² and income loss can be greatly mitigated to 90 to 100%.13 Having options available will allow employees to improve overall health, increase productivity, reduce workplace injuries, and decrease medical costs.

Since hearing loss is most often permanent, we must prioritize prevention by reducing exposure to sources that cause it. Once a person has hearing loss, having a hearing healthcare option available offers numerous benefits for employees and employers. Treatment of hearing loss can improve communication, understanding, and participation in the workplace. Additionally, it can help individuals hear important safety instructions and warning signals, reducing the risk of accidents and injuries. Moreover, utilizing hearing healthcare enhances job satisfaction and overall well-being by reducing the strain and fatigue associated with trying to hear and understand conversations throughout the day. We want to empower individuals with hearing loss to thrive in their professional environments and fully utilize their skills and abilities.

References

- Natarajan N, Batts S, Stankovic KM. Noise-Induced Hearing Loss. J Clin Med. 2023 Mar 17;12(6):2347. doi: 10.3390/jcm12062347. PMID: 36983347; PMCID: PMC10059082.
- 2. Chen KH, Su SB, Chen KT. An overview of occupational noise-induced hearing loss among workers: epidemiology, pathogenesis, and preventive measures. Environ Health Prev Med. 2020 Oct 31;25(1):65. doi: 10.1186/s12199-020-00906-0. PMID: 33129267; PMCID: PMC7603754.
- 3. About Occupational Hearing Loss Noise and Occupational Hearing Loss | NIOSH | CDC. (n.d.). https://www.cdc.gov/niosh/topics/noise/about.html
- 4. Emmett SD, Francis HW. The socioeconomic impact of hearing loss in U.S. adults. Otol Neurotol. 2015 Mar;36(3):545-50. doi: 10.1097/MAO.000000000000562. PMID: 25158616; PMCID: PMC4466103.
- 5. Better Hearing Institute. The Impact of Untreated Hearing Loss on Household Income Sergei Kochkin, Ph.D. May 2007
- 6. Masterson EA, Bushnell PT, Themann CL, Morata TC. Hearing Impairment Among Noise-Exposed Workers United States, 2003–2012. MMWR Morb Mortal Wkly Rep 2016;65:389–394. DOI
- 7. Li CM, Zhang X, Hoffman HJ, Cotch MF, Themann CL, Wilson MR. Hearing impairment associated with depression in US adults, National Health and Nutrition Examination Survey 2005-2010. JAMA Otolaryngol Head Neck Surg. 2014 Apr;140(4):293-302. doi: 10.1001/jamaoto.2014.42. PMID: 24604103; PMCID: PMC4102382
- 8. Beck A, Crain AL, Solberg LI, Unützer J, Glasgow RE, Maciosek MV, Whitebird R. Severity of depression and magnitude of productivity loss. Ann Fam Med. 2011 Jul-Aug;9(4):305-11. doi: 10.1370/afm.1260. PMID: 21747101; PMCID: PMC3133577.
- 9. Liu C, Lee CT. Association of Hearing Loss With Dementia. JAMA Netw Open. 2019;2(7):e198112. doi:10.1001/jamanetworkopen.2019.8112
- 10. Lin FR, Ferrucci L. Hearing loss and falls among older adults in the United States. Arch Intern Med. 2012 Feb 27;172(4):369-71. doi: 10.1001/archinternmed.2011.728. PMID: 22371929; PMCID: PMC3518403.
- 11. Occupational Noise Exposure Hearing Conservation Program | Occupational Safety and Health Administration. (n.d.). https://www.osha.gov/noise/hearing-programs
- 12. Choi JS, Betz J, Li L, Blake CR, Sung YK, Contrera KJ, Lin FR. Association of Using Hearing Aids or Cochlear Implants with Changes in Depressive Symptoms in Older Adults. JAMA Otolaryngol Head Neck Surg. 2016 Jul 1;142(7):652-7. doi: 10.1001/jamaoto.2016.0700.
- 13. Kochkin, S. (2010, October). MarkeTrak VIII: The efficacy of hearing aids in achieving compensation equity in the workplace. The Hearing Journal, 63(10), 19–24. https://doi.org/10.1097/01.hj.0000389923.80044.e6
- 4 Hearing Loss in the Workplace