



Millions of workplace injuries occur every year in the U.S. resulting in 5,000 fatalities annually. Noise in the workplace can damage hearing, and neurotoxic chemical exposures can affect central nervous system functions including hearing and balance. In collaboration with the University of Cincinnati, the National Institute for Occupational Safety and Health (NIOSH) recently conducted a thorough review of available scientific evidence to determine if there is an association between exposure to noise or neurotoxins and injury.

The report summarizes results of 41 published research studies of noise exposure, hearing loss, and neurotoxic chemical (solvent) exposure. Some researchers studied workplace accidents while others reported on accidents outside of work and health outcomes such as sick days, decreased cognitive ability, and disability retirement. In general, higher exposures to noise were associated with injury and negative health outcomes, although the relationship was not well understood. Solvent exposures were also linked to accidents and other health outcomes such as balance disorders. Some of the strongest relationships were found among workers with hearing loss and the rate of accidents, injuries, and disability retirement.

**To learn more:**

- Estill, Rice, Morata and Bhattacharya (2017). Noise and neurotoxic chemical exposure relationship to workplace traumatic injuries: a review. *Journal of Safety Research*, 60, 35-42.
- CavCom, [SoundBytes](#).[Accident Risk and Noise](#)
- CavCom, [SoundBytes](#).[Special Considerations for Workers with Hearing Loss](#)  
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