

The National Institute for Occupational Safety and Health (NIOSH)




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eNews: Volume 21, Number 8 (December 2023)

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Volume 21, Number 8 (December 2023)

From the Director's Desk

John Howard, M.D., Director, NIOSH

Hearing Loss—Caused by More Than Loud Noise

In the United States, hearing loss is the [third most common chronic physical health condition](#) among adults. When thinking about what causes hearing loss, many people typically think of loud noise. But did you know that chemicals can also cause hearing loss?

Exposure to certain chemicals can cause damage to different parts of the ear. This can result in hearing loss or increase a person's sensitivity to the harmful effects of noise. These chemicals are called ototoxicants or ototoxic chemicals. Workers can be exposed to ototoxic chemicals by breathing them in. Workers can also consume food or drinks that have been contaminated or absorb a chemical through the skin. Once exposed, these chemicals can travel through the bloodstream. They can injure the inner ear and damage the nerves that transmit information to the brain.

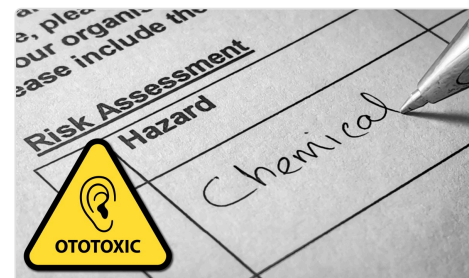



Photo by ©Getty Images | Ototoxic image by NIOSH

Chemicals that can damage your hearing are common. A few examples include solvents, degreasers, fuels, mercury, lead, tobacco smoke, pesticides, and antineoplastic (cancer-treating) drugs. In some workplaces, workers may be exposed to both loud noise and ototoxic chemicals. This can cause more hearing damage than either noise or chemical exposure alone. You can find out if a certain chemical may cause hearing loss or other hearing damage. Go to the CDC [Toxicology Profile](#) webpage, find the chemical of interest, and read the section under “Health Effects” in the report.

Occupational hearing loss is permanent but preventable. Understanding how some chemicals can cause hearing loss is a great first step in protecting your hearing. We recently updated the [NIOSH Noise and Occupational Hearing Loss](#) webpage. We added more information about ototoxic chemicals, industries known to use them, and ways to reduce exposure.

Consider these actions to protect yourself from ototoxic chemicals:

- Read and follow all requirements on each chemical’s [Toxicological Profile](#).
- Wear personal protective equipment, such as gloves resistant to the chemical(s) of concern, long sleeves, and eye protection, as needed. Wear hearing protection to prevent the effects of noise.
- Consider all the risk factors and how to control them if you may be exposed to possible hazards.

NIOSH is a leader in this area of research. Working together, NIOSH and OSHA published the first [Safety and Health Information Bulletin](#) [related to ototoxic chemicals](#) . NIOSH researchers also take part in the [International Ototoxicity Management Group](#) [IG](#). This is a global consortium that focuses on healthcare gaps in the management of ototoxicity. These gaps include hearing loss, tinnitus, and vestibular and balance deficits caused by environmental toxicants or medications.

NIOSH also offers a free service to investigate workplace hazards. The [NIOSH Health Hazard Evaluation \(HHE\) Program](#) helps workers, unions, and employers learn if health hazards, such as ototoxic chemicals, are in their workplace. The HHE Program recommends ways to reduce hazards and prevent work-related illness.

Visit the NIOSH noise and occupational hearing loss webpage to [learn more about protecting workers from ototoxic chemicals](#).

Research Rounds

Comparison of Finger, Hand, and Wrist Injuries in the U.S. Air Force to U.S. Workers

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Study authors: Melody Gwilliam, Scott Hendricks, Christina Socias-Morales, Bruce Burnham, Harold Gomes, Audrey Reichard, and Heidi Stallings

Why is this [study](#) important?

Finger, hand, and wrist (FHW) injuries are the most common work-related injury resulting in an emergency room visit among the military and workforce. These injuries are also some of the costliest. The main objective of this study was to describe and compare FHW injuries in the U.S. Air Force (USAF) to the U.S. workforce. This study may offer the first step to understanding what prevention methods to prioritize to prevent future FHW injuries.

How did you do the study?

Injury rates were compared between the USAF enlisted, officers, and civilian personnel to the U.S. workforce population from 2008 through 2018. The event, source, and nature of injury from 2011 through 2018 were also compared.

What did you find?

FHW injuries were significantly higher among the U.S. workforce compared with the USAF. Males had a higher rate of FHW injuries compared with females in both populations. However, the rate of FHW injuries from falls was higher among females compared with males in both groups. The rate of FHW injuries from falls was twice as high among females in the USAF compared with males in the USAF. Further, the rate of falls increased with age among females in the U.S. workforce and USAF. Additionally, FHW injuries were highest among ages 16 to 24 years.

What are the next steps?

Future studies of the USAF might examine FHW injuries among specific occupations and USAF groups (enlisted, officer, and civilian) by severity. Understanding in more detail the risk factors for FHW injuries could lead to developing targeted intervention strategies.

A Staffing Perspective on Barriers to and Facilitators of Temporary Worker Safety and Health

Study authors: Lauren Menger-Ogle, Devin Baker, Rebecca Guerin, and Thomas Cunningham

Why is this [study](#) important?

This study helps us understand U.S. staffing company perceptions of the barriers to and facilitators of temporary worker safety and health. Previous

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[What's this?](#)

research has found occupational health disparities, including higher rates of work-related injuries, among temporary workers compared with workers in standard employment arrangements.

According to NIOSH and the Occupational Safety and Health Administration, both staffing companies and host employers are responsible for keeping temporary workers safe. Yet, little research has focused on temporary worker safety and health in the United States. In addition, effective safety programs designed to meet the needs of temporary workers are lacking.

How did you do the study?

We interviewed, by phone, representatives from 15 U.S. staffing companies. We audio-recorded, transcribed, and analyzed the interviews.

What did you find?

Staffing company representatives cited several barriers to temporary worker safety and health:

- Differential treatment of temporary workers by host employers.
- Lack of understanding of joint safety responsibilities among host employers and staffing companies.
- Workers' fear of job loss or other negative impacts if they report an injury or illness or voice workplace safety concerns.

Staffing company representatives also mentioned two ways staffing companies can promote temporary worker safety and health: 1) conduct client (host employer) assessments and site visits, and 2) foster strong communication and relationships with both host employers and temporary workers.

What are the next steps?

These findings can be used to inform safety programs to promote health equity among temporary workers.

Highlights

Counterfeit N95 Challenge Winners Announced!

NIOSH, in collaboration with [NASA Tournament Lab](#) and [HeroX](#), announced the winners of the [NIOSH Counterfeit N95 Challenge](#). The winner, Essayon Engineering, developed a prototype filtering facepiece respirator phone app and website to help people check a respirator's authenticity. Learn more during a [webinar](#) on December 7, at 12:30 p.m. (PST), where the winners will discuss their solutions and experience. Read the full [NIOSH Update](#).

Webinar on Best Practices for Diagnosing and Treating Obstructive Sleep Apnea

Join NIOSH for a webinar in the World Trade Center Health Program series on [Best Clinical Practices](#). The event, titled [Obstructive Sleep Apnea Diagnosis and Treatment](#), will be December 14, 12–1 p.m. (ET). Dr. Iris Udasin and Dr. Jag Sunderram, both affiliated with Rutgers University, will summarize obstructive sleep apnea research findings among people exposed to 9/11. Continuing education credits are available. Register now!

Applying a Health Equity Lens to Work-related Motor Vehicle Safety

The *International Journal of Environmental Research and Public Health* recently published a NIOSH-authored paper. The open-access article is titled [Applying a Health Equity Lens to Work-related Motor Vehicle Safety in the United States](#). It summarizes risk-disparity literature for work-related motor vehicle crashes by sociodemographic and employment characteristics.



NIOSH Partners to Improve Mine Safety

NIOSH and [Teck Coal Limited](#), a Canadian mining company, signed an agreement to work together to advance rockfall catchment bench design guidelines. They also aim to improve slope performance monitoring at surface mines and quarries. For more information about this or NIOSH's [highwall safety](#) research efforts, contact [Dr. Josef Bourgeois](#).

NIOSH Congratulates

- **NIOSH Scientists Receive Prestigious Hand-arm Vibration Award**

Scientists in the NIOSH Health Effects Laboratory Division recently received the 2023 William Taylor Award. This award, given by the International Advisory Committee on Hand-arm Vibration, recognizes significant contributions on the effects of hand-arm vibration. The team received the award during the 2023 [Hand-arm Vibration International Conference](#).







- **NIOSH Engineer Honored With Lifetime Achievement Award**

NIOSH Engineer, Andrew Cecala was honored with the [2023 Charles C. Shepard Lifetime Scientific Achievement Award](#). The award acknowledges individuals for a body of work contributing to public health. Nominees are judged on their work's scientific merit and its effect on public health and the CDC/ATSDR mission. Also considered are their leadership qualities and recognition received from peers.

Monthly Features

New Communication Products & Reports

FACE Reports

- [Cannabis Flower Technician Experiences Fatal Asthma Exacerbation—Massachusetts](#)
- [Contract Agricultural Worker Died After Being Engulfed by Tons of Nuts—California](#)
- [Farm Worker Heat-related Fatality—Oregon](#)
- [Hazard Alert: Workplace Violence—Oregon](#)  
- [Construction Worker Struck by Rollaway Dump Truck—Washington](#)   (Slideshow  

Health Hazard Evaluations

- [Evaluation of Occupational Exposures and Indoor Environmental Quality in an Underground Cavern Workplace](#) 

Report

- [Approaches to Safe 3D Printing: A Guide for Makerspace Users, Schools, Libraries, and Small Businesses](#)
-

NIOSH Science Blog

[Sign up](#) to receive updates about new NIOSH Science Blogs delivered directly to your inbox! Here are the blogs from last month:

- [Visualizing Ohio Workers' Compensation Claims by Event/Exposure](#)
 - [Using Public Health Data to Protect Workers in the Oil and Gas Extraction Industry](#)
 - [Bloodborne Pathogen Exposures Continue in Operating Room Settings](#)
 - [NIOSH Ag Centers Celebrate 10 Years on YouTube](#)
 - [The Cannabis Industry and Work-related Asthma and Allergies](#)
 - [Social Connection and Worker Well-being](#)
 - [On-duty Injuries Among Ohio Law Enforcement Officers](#)
 - [The Role of Skills in the Future of Work](#)
-

NORA

NORA Councils Announce Upcoming Meetings


- The quarterly meeting of the [NORA Cancer, Reproductive, and Chronic Disease Prevention Council](#) will take place on December 5 from 2–3 p.m. (ET). Please email crcprogram@cdc.gov to attend.
- The fall meeting of the [NORA Agriculture, Forestry, and Fishing Sector Council](#) will take place on December 13 and 14

from 1–3 p.m. (ET). This virtual meeting will feature presentations on the intersection of agriculture, forestry, and fishing safety and health issues with those of rural communities. Anyone with interest in the sector or in rural communities is welcome. Please email nioshagff@cdc.gov to attend.



News from Our Partners

National Advisory Committee on Occupational Safety and Health (NACOSH) to Meet


The next NACOSH Health meeting is December 12, 9 a.m. to 4 p.m. (ET). Meeting topics will include the NIOSH Mental Health for Healthcare Workers Campaign, the importance of safety as a core value, and whistleblower protection.

[Register](#)  to attend in person or online.

New Marine Safety Alert

In response to two firefighter line-of-duty deaths, the U.S. Coast Guard released a [Marine Safety Alert](#)  . The purpose of the alert is to raise awareness of the unique dangers and special operations required for marine firefighting operations. The alert provides recommendations for first responders, port patrons, and partners.


Interactive Adult Blood Lead Epidemiology and Surveillance (ABLES) Dashboard

The Pennsylvania Occupational Safety and Health Surveillance program has published a [public-facing ABLES dashboard](#)  to monitor adult blood lead reports among industries. The goal is to increase awareness of occupational sources of lead exposure. This dashboard showcases blood lead report data from 2007–2021. It will be updated in Spring 2024 to include 2022 and 2023 data.


New Recovery-Ready Workplace Toolkit

The U.S. Department of Labor recently released the [Recovery-Ready Workplace Toolkit: Guidance and Resources for Private and Public Sector Employers](#) . The toolkit is designed to help businesses and employers prevent and respond more effectively to substance misuse among employees. States, local governments, labor and business groups, and nonprofits can use this resource when considering launching multi-employer Recovery-Ready Workplace initiatives at the local or state levels.

Gather Wisely: A Healthier Holiday Season

Discover practical recommendations for holiday gatherings safe from infectious diseases. Consider the [4Ds—duration, density, dilution, and distance—and more](#)  to ensure a joyful celebration.

Unlock the Full Potential of Your Research!

Are you currently conducting or recently completed innovative EHS research? Consider publishing your research in SHIFT, the BCSP Foundation's peer-reviewed journal. Through SHIFT, your research will be available to a broad audience of international subscribers and be freely available to researchers, practitioners, and policymakers—plus it will be published rapidly in the next upcoming issue! Submit your manuscript at <https://shiftr2p.com/submit> .

Federal Register Notices

Advisory Board on Radiation and Worker Health, National Institute for Occupational Safety and Health Meeting

The [notice](#) was posted on November 17. The meeting will be held on December 7 from 11 a.m. to 6 p.m. (ET).

World Trade Center Health Program Scientific/Technical Advisory Committee; Amended Notice of Solicitation of Nominations

The [notice](#) was posted on November 27. Nominations must be received by December 30.

Proposed Data Collection Submitted for Public Comment and Recommendations: Occupational Exposure to Surgical Smoke and Related Respiratory Health Effects in Clinical Veterinary Settings

The [notice](#) was posted on November 3. Comments must be received by January 2, 2024.

Conferences, Meetings, Webinars, & Events

This page provides a list of publicly available occupational safety and health-related [conferences, meetings, webinars, and events](#) sponsored by NIOSH as well as other government agencies, and nongovernment agencies, such as universities, professional societies, and organizations.

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