A Conceptual Model for Take-Home Workplace Exposures

The postulated boundary between occupational and environmental exposures is often artificial. A hazard emanating in a workplace is occupational when it impacts employees of the workplace, and becomes environmental when it escapes confines of the workplace and impacts persons in the wider community. In some cases workers may be ‘vehicles’ by which occupational hazards are introduced into the home environment. The importance of these “take-home” exposures, also termed “para-occupational” exposures, has long been recognized. For example, in 1995, at the behest of Congress, the National Institute for Occupational Safety and Health (NIOSH) summarized reports of exposures and adverse health effects associated with contamination of workers' homes with hazardous chemicals and substances transported from the workplace.¹ National Institute for Occupational Safety and Health: Report to Congress on Workers' Home Contamination Study Conducted Under The Workers' Family Protection Act (29 U.S.C. 671 a). DHHS (NIOSH) Publication No. 95–123 (1995). These exposures, however, persist, resulting in occupational diseases and poisonings among family members, including children.², ³

Read more: Journal of Occupational and Environmental Hygiene, Accepted author version posted online: 20 Oct 2017 (Available with AIHA membership)
Canadian Man Dies after Inhaling Walnut Particles from Sandblaster at Worksite

On 2 October, David and Mabel Mathews received a phone call that their son Justin had been taken to the University of Alberta Hospital.

When they arrived at the hospital he was in a coma, being supported by a breathing machine. The doctors told the parents that 80% of his brain wasn’t active.


Firefighters Exposed to Carcinogens through the Skin

Firefighters face many known hazards on the job, but one area that hasn't been well researched is how their skin's exposure to hazardous chemicals might increase their risk of cancer. It has long been known that firefighters have higher rates of several types of cancer than people in the general population. In a new study, researchers at the University of Ottawa examined firefighters' exposure to polycyclic aromatic hydrocarbons (PAHs) in smoke from fires. PAHs can cause genetic mutations and are known carcinogens. They are one of the hazardous substances
released into the air when wood, plastics, furniture, electronics or building materials burn. Read more: https://medlineplus.gov/news/fullstory_169171.html

Evaluating Optical Hazards from Plasma Arc Cutting

The Health Hazard Evaluation Program of the National Institute for Occupational Safety and Health evaluated a steel building materials manufacturer. The employer requested the evaluation because of concerns about optical radiation hazards from a plasma arc cutting system and the need to clarify eye protection requirements for plasma operators, other employees, and visitors. The strength of the ultraviolet radiation, visible radiation (light), and infrared radiation generated by the plasma arc cutter was measured at various distances from the source and at different operating amperages. Investigators also observed employees performing the plasma arc cutting. Optical radiation above safe levels for the unprotected eyes in the ultraviolet-C, ultraviolet-B, and visible light ranges were found during plasma arc cutting. In contrast, infrared and ultraviolet-

A radiation levels during plasma arc cutting were similar to background levels. The highest non-ionizing radiation exposures occurred when no welding curtains were used. A plasma arc welding curtain in place did not eliminate optical radiation hazards to the plasma arc operator or to nearby employees. In most instances, the measured intensities for visible light, UV-C, and UV-B resulted in welding shade lens numbers that were lower than those stipulated in the OSHA Filter Lenses for Protection Against Radiant Energy table in 29 CFR 1910.133(a)(5). "Eye and Face Protection," Code of Federal Regulations Title 29, Part 1910.133(a)(5).

Investigators recommended using a welding curtain that enclosed the plasma arc, posting optical radiation warning signs in the plasma arc cutter area, installing audible or visual warning cues when the plasma arc cutter was operating, and using welding shades that covered the plasma arc cutter operator's face to protect skin from ultraviolet radiation hazards.

Read more: Journal of Occupational and Environmental Hygiene, Accepted author version posted online: 23 Oct 2017 (Available with AIHA membership)
Army Industrial Hygiene News and
Regulatory Summary

Measurement of Area and Personal Breathing Zone Concentrations of Diesel Particulate Matter (DPM) during Oil and Gas Extraction Operations, including Hydraulic Fracturing

Diesel engines serve many purposes in modern oil and gas extraction activities. Diesel particulate matter (DPM) emitted from diesel engines is a complex aerosol that may cause adverse health effects depending on exposure dose and duration. This study reports on personal breathing zone (PBZ) and area measurements for DPM (expressed as elemental carbon) during oil and gas extraction operations including drilling, completions (which includes hydraulic fracturing) and servicing work.

Researchers at the National Institute for Occupational Safety and Health (NIOSH) collected 104 full-shift air samples (49 PBZ and 55 area) in Colorado, North Dakota, Texas, and New Mexico during a four year period from 2008–2012. The arithmetic mean (AM) of the full shift TWA PBZ samples was 10 µg/m³; measurements ranged from 0.1 to 52 µg/m³. The geometric mean (GM) for the PBZ samples was 7 µg/m³. The AM of the TWA area measurements was 17 µg/m³ and ranged from 0.1 to 68 µg/m³. The GM for the area measurements was 9.5 µg/m³. Differences between the GMs of the PBZ samples and area samples were not statistically different (P>0.05).

Neither the Occupational Safety and Health Administration (OSHA), NIOSH, nor the American Conference of Governmental Industrial Hygienists (ACGIH) have established occupational exposure limits (OEL) for DPM. However, the State of California, Department of Health Services lists a time-weighted average (TWA) OEL for DPM as elemental carbon (EC) exposure of 20 µg/m³. Five of 49 (10.2%) PBZ TWA measurements exceeded the 20 µg/m³ EC criterion. These measurements were collected on Sandmover and Transfer Belt (T-belt) Operators, Blender and Chemical Truck Operators, and Water Transfer Operators during hydraulic fracturing operations.

Recommendations to minimize DPM exposures include elimination (locating diesel-driven pumps away from well sites), substitution, (use of alternative fuels), engineering controls using advanced emissions controls technologies, administrative controls (configuration of well sites), hazard communication and worker training.

Read more: Journal of Occupational and Environmental Hygiene, Accepted author version posted online: 20 Oct 2017 (Available with AIHA membership)
A Point-Source Outbreak of Coccidioidomycosis among A Highway Construction Crew

Coccidioidomycosis is an infection caused by inhaling spores of the soil fungus Coccidioides immitis (hereafter termed Cocci). Cocci is endemic in certain areas of California. When soil containing the fungus is disturbed, as during earth-moving activities, respirable Cocci spores can become airborne and be inhaled by persons in the vicinity. This paper describes a cluster of seven Coccidioidomycosis cases among a highway construction crew that occurred in June/July 2008 in Kern County, CA, which is among the most highly endemic regions for Cocci in California. The exposures spanned no more than seven work days, and illness developed within two to three weeks of the exposures. Given the common source of exposure (soil dust generated at the work site) and the multiple cases occurring close in time, the cluster can also be termed a “point-source outbreak.” The contractor was not informed of the infection risk and did not take adequate precautions against dust exposure. Appropriate engineering/administrative controls and respiratory protection are discussed.

Read more: Journal of Occupational and Environmental Hygiene, Accepted author version posted online: 20 Oct 2017 (Available with AIHA membership)

Ambulance Disinfection Using Ultraviolet Germicidal Irradiation (UVGI): Effects of Fixture Location and Surface Reflectivity

Ambulances are frequently contaminated with infectious microorganisms shed by patients during transport that can be transferred to subsequent patients and emergency medical service workers. Manual decontamination is tedious and time-consuming, and persistent
contamination is common even after cleaning. Ultraviolet germicidal irradiation (UVGI) has been proposed as a terminal disinfection method for ambulance patient compartments. However, no published studies have tested the use of UVGI in ambulances. The objectives of this study were to investigate the efficacy of a UVGI system in an ambulance patient compartment and to examine the impact of UVGI fixture position and the UV reflectivity of interior surfaces on the time required for disinfection. A UVGI fixture was placed in the front, middle or back of an ambulance patient compartment, and the UV irradiance was measured at 49 locations. Aluminum sheets and UV-reflective paint were added to examine the effects of increasing surface reflectivity on disinfection time. Disinfection tests were conducted using Bacillus subtilis spores as a surrogate for pathogens.

Our results showed that the UV irradiance varied considerably depending upon the surface location. For example, with the UVGI fixture in the back position and without the addition of UV-reflective surfaces, the most irradiated location received a dose of UVGI sufficient for disinfection in 16 seconds, but the least irradiated location required 15 hours. Because the overall time required to disinfect all of the interior surfaces is determined by the time required to disinfect the surfaces receiving the lowest irradiation levels, the patient compartment disinfection times for different UVGI configurations ranged from 16.5 hours to 59 minutes depending upon the UVGI fixture position and the interior surface reflectivity. These results indicate that UVGI systems can reduce microbial surface contamination in ambulance compartments, but the systems must be rigorously validated before deployment. Optimizing the UVGI fixture position and increasing the UV reflectivity of the interior surfaces can substantially improve the performance of a UVGI system and reduce the time required for disinfection.

Read more: Journal of Occupational and Environmental Hygiene, Accepted author version posted online: 23 Oct 2017 (Available with AIHA membership)

Cold War Radiation Testing in US Widespread, Author Claims

Three members of Congress are demanding answers after a St. Louis scholar’s new book revealed details of secret Cold War-era U.S. government testing in which countless unsuspecting people, including many children, pregnant women and minorities, were fed, sprayed or injected with radiation and other dangerous materials.
The health ramifications of the tests are unknown. Lisa Martino-Taylor, an associate professor of sociology at St. Louis Community College who wrote “Behind the Fog: How the U.S. Cold War Radiological Weapons Program Exposed Innocent Americans,” acknowledged that tracing diseases like cancer to specific causes is difficult.


Ventilation

Evaluation of an Improved Prototype Mini-Baghouse to Control the Release of Respirable Crystalline Silica from Sand Movers

The OSHA final rule on respirable crystalline silica (RCS) will require hydraulic fracturing companies to implement engineering controls to limit workers' exposure to RCS. RCS is generated by pneumatic transfer of quartz-containing sand during hydraulic fracturing operations. Chronic inhalation of RCS can lead to serious disease, including silicosis and lung cancer.

NIOSH research identified at least seven sources where RCS aerosols were generated at hydraulic fracturing sites. NIOSH researchers developed an engineering control to address one of the largest sources of RCS aerosol generation, RCS escaping from thief hatches on the top of sand movers. The control, the NIOSH Mini-Baghouse Retrofit Assembly (NMBRA), mounts on the thief hatches. Unlike most commercially-available engineering controls, the NMBRA has no moving parts and requires no power source. This article details the results of an evaluation of generation 3 of the NMBRA at a sand mine in Arkansas from May 19 – 21, 2015.

During the evaluation, 168 area air samples were collected at 12 locations on and around a sand mover with and without the NMBRA installed. Analytical results for
respirable dust and RCS indicated the use of the NMBRA effectively reduced concentrations of both respirable dust and RCS downwind of the thief hatches. Reductions of airborne respirable dust were estimated at 99+%; reductions in airborne RCS ranged from 98–99%. Analysis of bulk samples of the dust showed the likely presence of freshly fractured quartz, a particularly hazardous form of RCS. Use of an improved filter fabric and a larger area of filter cloth led to substantial improvements in filtration and pressures during these trials, as compared to the generation 2 NMBRA.

Planned future design enhancements, including a weather cover, will increase the performance and durability of the NMBRA. Future trials are planned to evaluate the long-term operability of the technology.

Read more: Journal of Occupational and Environmental Hygiene, Accepted author version posted online: 20 Oct 2017 (Available with AIHA membership)

NIOSH Releases Updated Permeation Calculator Tool

The NIOSH National Personal Protective Technology Laboratory (NPPTL) has released a new version of the Permeation Calculator, a software program for analyzing chemical permeation test data. The tool works for both closed-loop and open-loop permeation testing, and is intended to help industrial hygienists and researchers avoid performing labor-intensive permeation parameter calculation by hand. According to NIOSH, the Permeation Calculator can also help prevent inconsistency among different experimenters and ensure identical permeation parameters from a particular permeation test data file.

The latest version of the Permeation Calculator, version 3.0.0, runs on both Windows and macOS. Version 3.0.0, which is capable of reading data files in the latest Excel format, also features an updated graphical user interface.

Read more: https://www.aiha.org/publications-and-resources/TheSynergist/Industry%20News/
Heat Stress Risk Profiles for Three Non-Woven Coveralls

The ACGIH® TLV® is used to limit heat stress exposures so that most workers can maintain thermal equilibrium. That is, the TLV was set to an upper limit of Sustainable exposures for most people. This paper addresses the ability of the TLV to differentiate between Sustainable and Unsustainable heat exposures for four clothing ensembles over a range of environmental factors and metabolic rates (M). The four clothing ensembles (woven clothing, and particle barrier, water barrier and vapor barrier coveralls) represented a wide range of evaporative resistances. Two progressive heat stress studies provided data on 480 trials with 1440 pairs of Sustainable and Unsustainable exposures for the clothing over three levels of relative humidity (rh) (20, 50 and 70%), three levels of metabolic rate (115, 180, and 254 Wm−2) using 29 participants. The exposure metric was the difference between the observed wet bulb globe temperature (WBGT) and the TLV. Risk was characterized by odds ratios (ORs), Receiver Operating Characteristic (ROC) curves and dose-response curves for the four ensembles. Conditional logistic regression models provided information on ORs. Logistic regressions were used to determine ROC curves with area under the curve (AUC), model the dose-response curve, and estimate offsets from woven clothing. The ORs were about 2.5 per 1 °C-WBGT for woven clothing, particle barrier and water barrier and for vapor barrier at 50% rh.

When using the published Clothing Adjustment Values (CAVs, also known as Clothing Adjustment Factors, CAFs) or the offsets that included different values for vapor barrier based on rh, the AUC for all clothing was 0.86. When the fixed CAVs of the TLV were used, the AUC was 0.81. In conclusion, ¹ ACGIH: “Heat stress, TLVs and BEIs: Threshold limit values for Chemical Substances and Physical Agents & Biological Exposure Indices.” Cincinnati: ACGIH, 2017. ORs and the shapes of the dose-response curves for the nonwoven coveralls were similar to woven clothing, and ² Budd, G.M.: Wet-bulb globe temperature (WBGT)—its history and its limitations. Journal of Science and Medicine in Sport 11(1): 20–32 (2008). CAVs provided a robust way to account for the risk of nonwoven clothing. The robust nature of CAV extended to the exclusion of different adjustments for vapor barrier by rh.
Brain Training Could Help Combat Hearing Loss, Study Suggests

Contrary to what you might think, the hearing loss that accompanies getting older isn’t entirely about your ears. Studies have found that as people get older, the parts of their brain that process speech slow down, and it becomes especially difficult to isolate one voice in a noisy environment. New research suggests there may be a way to help older people hear better: brain training.


Flu Experts See Potential for a Nasty Winter Season

Influenza viruses are among the most unpredictable disease actors around. These constantly changing germs regularly humiliate anyone who is rash enough to forecast the potential severity of an upcoming flu season or how well — or poorly — the vaccine¹ might work this year. “I wouldn’t,” Dr. Kanta Subbarao, director of the World Health Organization’s influenza collaborating center in Australia, said with a laugh when asked what she
would project the Northern Hemisphere might be facing, flu-wise, in the coming months. “I’ve been in this business too long to fall into the trap of trying to predict.” That said, flu experts are a bit worried right now. There are some signals they think may foretell that we’re facing a nasty flu season. But they hand-to-heart don’t know whether the constellation of things that is worrying them will lead to clogged doctors’ offices.

Read more: https://www.statnews.com/2017/10/16/flu-virus-severity/

This Former Surgeon General Says There’s a ‘Loneliness Epidemic’ and Work is Partly to Blame

When people think of the public health issues that have been pet priorities for surgeon generals, physical health concerns usually come to mind. Smoking. Immunizations. Obesity. Preventing the spread of the AIDS virus. But Vivek H. Murthy, who became the U.S. surgeon general in late 2014 after a lengthy confirmation battle over his remarks about guns being a health-care issue, added emotional well-being and loneliness to his list of big public health worries.


Triclosan Accumulates in Toothbrushes, Potentially Prolonging Users’ Exposure

In September, a ban on triclosan in over-the-counter antiseptic soaps, gels and wipes went into effect in the U.S. But the antibacterial ingredient is still allowed in toothpastes for its reported ability to reduce gum inflammation, plaque and cavities. Now a study in ACS’ Environmental Science & Technology has found that
triclosan accumulates in toothbrush bristles and elastomer parts, and is readily released when users switch toothpastes, potentially prolonging users’ exposure to the compound.

Reconciling Sex-Related Bias: An Alternative Method for Data Analysis

During development, hormones guide the processes that underlie the normal formation and function of tissues.1,2 Boys’ and girls’ different hormonal backdrops mean they may differ in their vulnerabilities to endocrine-disrupting chemicals (EDCs).2,3 However, as highlighted in a new study in Environmental Health Perspectives,3 the relationships between confounding factors and outcomes may themselves differ by sex, and failure to account for this may result in false estimates of effect. The authors of the study propose a new method to address this issue.

“If you think your exposure might act differently on the outcome by sex, you should think about confounders that might also act differently by sex, and account for that,” says Jessie Buckley, an assistant professor at the Johns Hopkins Bloomberg School of Public Health, who coauthored the new study.

New York Bans Vaping at Work

On October 23, 2017, New York Governor Andrew Cuomo signed legislation that amends the Clean Indoor Air Act to ban the use of electronic cigarettes (“e-cigarettes”) everywhere that smoking traditional tobacco products is prohibited. With this amendment, the Clean Indoor Air Act will prohibit both smoking and vaping in
certain indoor areas, including places of employment, as well as certain outdoor areas accessible to the public. This legislation will become effective on November 22, 2017. Prior to this date, any required posters and signs will need to be updated to include reference to “No Vaping” or “Vaping” along with the “No Smoking” or “Smoking” signs, or international “No Smoking” symbol.

Read more: https://www.natlawreview.com/article/new-york-bans-vaping-work

Arsenic Can Cause Cancer Decades after Exposure Ends

A new paper published in the Journal of the National Cancer Institute shows that arsenic in drinking water may have one of the longest dormancy periods of any carcinogen. By tracking the mortality rates of people exposed to arsenic-contaminated drinking water in a region in Chile, the researchers provide evidence of increases in lung, bladder, and kidney cancer even 40 years after high arsenic exposures ended.

Read more: https://www.sciencedaily.com/releases/2017/10/171024115610.htm

Toxic Ash, Debris from California Wildfires Pose Health and Environmental Risks

Homes leveled, cars reduced to their frames. Entire neighborhoods in California gone. Families left with nothing.

“All your life savings and work for all the years is gone,” Penny Wright told CNN. “We lived here 10 years. I never thought that...
Santa Rosa would have a fire like this and we would lose everything.”

This is the aftermath of the October wildfires that burned more than 245,000 acres, destroyed an estimated 8,800 structures and killed 42 people, according to Cal Fire. The focus is now on cleanup of the resulting ash and debris — both of which could pose risks to people and the environment.

Read more:

Prop 65 Warning Required - California Office of Environmental Health Hazard Assessment

Effective September 30, 2017, California will require a clear and reasonable warning on products containing furfuryl alcohol (CAS No. 98-00-0) providing notice to people the chemical is known to cause cancer or reproductive toxicity. The requirement is part of California’s Safe Drinking Water and Toxic Enforcement Act of 1986, or Prop 65, which requires products containing chemicals on the Prop. 65 List to be labeled with warnings of exposures.

Read more:
https://www.lexology.com/library/detail.aspx?g=7bceba52-3b73-4643-ba0b-00d7117e13ac

Carbon Dioxide Levels Grew at Record Pace in 2016, U.N. Says

The amount of carbon dioxide in the earth’s atmosphere grew at record rate in 2016 to a level not seen for millions of years, potentially fuelling a 20-metre rise in sea levels and adding 3 degrees to temperatures, the United Nations said. Atmospheric concentrations of carbon dioxide (CO2), the main man-made greenhouse gas, hit 403.3 parts per million
(ppm), up from 400.0 in 2015, the U.N. World Meteorological Organization said in its annual Greenhouse Gas Bulletin.

Read more: http://www.reuters.com/article/us-climatechange-greenhouse/carbon-dioxide-levels-grew-at-record-pace-in-2016-u-n-says-idUSKBN1CZ0YB

### Ergonomics

**To Prevent Injury, Gastroenterologists Should Complete More Ergonomics Training, Take Breaks**

1. Musculoskeletal injuries were common among endoscopists. Approximately 85 percent of men and women reported such injuries.

2. Women experienced upper body injuries more commonly than men.

3. The most common injuries were left thumb, neck and lower back injuries.

4. The least common injury was to the left elbow.

Researchers recommend gastroenterologists and fellows complete more ergonomics training and take short one to three minute breaks every hour. Less than 14 percent of surveyed physicians reported taking breaks.


An American Gastroenterological Association survey examined musculoskeletal-related injuries in endoscopists, *Gastroenterology & Endoscopy* reports. The AGA surveyed approximately 10,600 physicians. Here's what they found:
Noxious Gas Has Sickened VA Workers at DC Facility for Two Years

Staff and patients at a District of Columbia medical facility for homeless military veterans have endured noxious gas exposure for nearly two years as top hospital administrators, though aware of the problem, have failed to remedy it, according to interviews with staff and documents obtained by The Washington Post.

At least eight clinical workers at the Department of Veterans Affairs Community Resource and Referral Center have tested positive for elevated levels of carbon monoxide, a March internal email said, describing a potentially dangerous condition that restricts oxygen circulation. As many as 30 employees, desperate to avoid further exposure, have sought reassignment or permission to work remotely.

Read more: https://www.stripes.com/news/us/noxious-gas-has-sickened-va-workers-at-dc-facility-for-two-years-1.492259#.WeCktXaQzRY

The Eleventh Circuit Expands the Definition of ‘Machine’ under the OSHA Lockout/Tag-out Standard

On July 13, 2017, the Eleventh Circuit Court of Appeals was tasked with deciding what constitutes a “machine” under OSHA’s lockout/tag-out (LOTO) standard (29 C.F.R. § 1910.147). Sec’y of Labor v. Action Elec. Co., 868 F.3d 1324 (11th Cir. 2017). Specifically, the court had to decide under what circumstances different pieces of equipment are considered one “machine” thus mandating that all pieces of equipment that comprise the “machine” must be de-
energized when employees are only servicing one of the pieces of equipment. Under the LOTO standard, employers are required to de-energize machines in which the release of stored energy could cause injury to employees. The LOTO standard, however, does not define “machine.”

### Preventing and Managing Laboratory Worker Exposure to Zika Virus

Zika virus is primarily spread by the bites of infected mosquitoes. However, workers in biomedical laboratories working with the virus are also at risk of infection. This guidance provides employers and workers with information to prevent and manage occupational exposure to Zika virus. The guidance may be updated as more information becomes available.

Read more: https://www.osha.gov/Publications/OSHA3917.pdf

### Engaging Our Mature Workers for Better Sustainability, Safety, and Efficiency

In many fields today, the labor force is tight. Employers can't find new employees and recent hires may jump ship for the next best opportunity. What is a company to do when the work keeps coming in but the staffing isn't always adequate? The answer is simple: Go back to your loyal, older employees and ask them to share knowledge and improve processes so that efficiencies can be created within safe working environments. Not only will you end up with better processes, but your employees will be motivated by your concern and acknowledgement of them.

Fire Fighter Fatality Investigation Prompts Fire Hose Performance Testing and Revised Standards

Personal protective equipment, such as fire fighter turnout gear, is vital in firefighting operations. Turnout gear offers thermal protection to keep fire fighters safe. Hoselines are also important protective equipment for fire crews entering burning buildings. However, hoselines have been damaged during recent firefighting operations.

Fires involving modern materials burn much faster than those of several decades ago, resulting in rapidly deteriorating fire conditions that can damage hoselines. While thermal protection for firefighter turnout gear and breathing apparatus have improved, thermal protection for fire hoses has remained unchanged. Although unchanged, there are existing testing requirements that fire hoses must meet.

Read more:
https://www.cdc.gov/niosh/docs/2017-205/default.html

Emergency Preparedness

Preparing Your Medicine Cabinet for an Emergency: A Checklist

If you read our blog on a regular basis you can probably recite the mantra “Make a kit. Have a plan. Be informed.” in your sleep. You are probably familiar with the important items you should keep in your emergency kit – water, food, a flashlight,
and a battery-powered radio. What you may not think about is personalizing your kit for your unique medical needs or the needs of your family. Particularly, including prescription medications and other medical supplies in your emergency kit and plans. As a pharmacist whose job is focused on emergency preparedness and response, I want to give you 10 pointers about how to prepare your medications for an emergency so you can decrease the risk of a life-threatening situation.

Read more: https://blogs.cdc.gov/publichealthmatters/2017/10/preparing-your-medicine-cabinet-for-an-emergency/

Some Disaster Relief Workers are Protected Employees under USERRA


In times like these, a federal agency called the National Disaster Medical System (NDMS) often springs into action. The NDMS, created in 2002 under the Public Health Security and Bioterrorism Preparedness and Response Act of 2002, is a corps of volunteer reservists who perform a variety of disaster-relief services. While

NDMS members are often medical clinicians providing health services (including doctors, nurses, paramedics, physician assistants, and pharmacists), teams may also include other non-medical professionals such as logistical specialists, information technologists, fatality management, veterinary professionals, and communication and administrative specialists.

Relevant to employers, NDMS reservists are protected by the Uniformed Services Employment and Reemployment Rights Act of 1994 (USERRA).

Read more: https://www.natlawreview.com/article/some-disaster-relief-workers-are-protected-employees-under-userra
Deployment Health

Early Numbers Show the Army’s New Fitness Test is Reducing Injuries in Basic Training

In the 10 months since the Army implemented an occupational fitness test for potential recruits, injury and drop-out rates are down at basic training, officials said.

The Occupational Physical Assessment Test has four events, and a soldier’s score determines which jobs he or she is qualified for. The idea behind it is that if soldiers are tested and categorized based on their Army-related physical abilities before basic training, they are less at risk of getting hurt once they’ve enlisted.


Nanotechnology

Peas in a Pod? The Similarities between UFPs and Nanoparticles Yield Research Opportunities

From a size standpoint, engineered nanoparticles are identical to ultrafine particles (UFPs) in ambient air—both measure 100 nm or less in diameter—but differences in the origin and potential chemistry of the two groups of particles have sent investigators down separate paths of inquiry. In a new workshop report in EHP, researchers outline knowledge-
sharing opportunities that may help bolster understanding of both types of particles.\(^1\) “We realized that a lot of the work in ultrafine particles could be fed back into nanotoxicology, and vice versa,” says first author Vicki Stone, a toxicologist at Heriot Watt University in Edinburgh. “So we brought some of the field together to discuss these opportunities.”

(read more: https://ehp.niehs.nih.gov/ehp2097/)

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Characterizing Workforces Exposed to Current and Emerging Non-Carbonaceous Nanomaterials in the U.S.

Objective: Toxicology studies suggest that exposure to certain types of engineered nanomaterials (ENMs) may cause adverse health effects, but little is known about the workforce in the United States that produces or uses these materials. In addition, occupational exposure control strategies in this industry are not well characterized. This study identified US ENM manufacturers and users (other than carbon nanotubes and nanofibers, which have been characterized elsewhere), determined workforce size, characterized types and quantities of materials used, occupational exposure control strategies, and the feasibility of occupational ENM exposure studies. Methods: Eligible companies were identified and information was collected through phone surveys on nanomaterials produced or used, workforce size, location, work practices, and exposure control strategies. The companies were classified into groups for additional examinations. Results: Forty-nine companies producing or using ENMs in the US were identified. These companies employed at least 1500 workers. Most companies produced or used some form of nanoscale metal. More than half of the eligible companies were suppliers for the coatings, composite materials, or general industries. Each company provided information about worker exposure reduction strategies through engineering controls, administrative controls, or personal protective equipment. Production-scale companies reported greater use of specific exposure control strategies for ENMs than laboratory-scale companies. Conclusions: Workplaces producing or using ENMs report using engineering and administrative controls as well as personal protective equipment to control worker
Army Industrial Hygiene News and Regulatory Summary

exposure. Industrywide exposure assessment studies appear feasible due to workforce size. However, more effort must be taken to target industries using specific ENMs based on known toxicological effects and health risks.

Read more: Journal of Occupational and Environmental Hygiene, Accepted author version posted online: 20 Oct 2017 (Available with AIHA membership)

Regulatory Research & Industrial Hygiene Professional News

Legislation

California and New York Require Manufacturers to Disclose Ingredients in Cleaning Products

On October 15, 2017, California Governor Jerry Brown (D) signed the Cleaning Product Right to Know Act of 2017 (S.B. 258). The new law requires manufacturers of cleaning products to disclose certain chemical ingredients on the product label and on the manufacturer’s website. The online disclosure requirements apply to a designated product sold in California on or after January 1, 2020. The product label disclosure requirements would apply to a designated product sold in California on or after January 1, 2021. Earlier this year, on April 25, 2017, New York Governor Andrew Cuomo (D) announced an initiative to require manufacturers of household cleaning products sold in New York to disclose the chemical ingredients on their websites. New York State Department of Environmental Conservation (NYSDEC) is expected to release final guidance shortly.

Reasonable Accommodation and a Qualified Individual with a Disability

In Severson v. Heartland Woodcraft, Inc., No. 15-3754, 2017 U.S. App. LEXIS 18197 (7th Cir. Sept. 20, 2017), the Seventh Circuit held that an employee who needs long-term medical leave cannot work and thus is not a qualified individual under the Americans with Disabilities Act (ADA).

Facts of the Case

Read more:

OSHA Now Fully Enforcing Construction Silica Standard

A memo issued Oct. 19 from Patrick J. Kapust, acting director of OSHA’s Directorate of Enforcement Programs, explains that the agency is now fully enforcing its construction silica standard. It says as of Oct. 23, 2017, the agency is fully enforcing "all appropriate provisions" of the standard.

The standard sets a new eight-hour time weighted average permissible exposure limit of 50 µg/m³ and an action level of 25 µg/m³.

Read more:
https://ohsonline.com/articles/2017/10/27/osha-now-fully-enforcing-construction-silica-
Draft Chapter Discusses Application of Biological Monitoring Methods for Chemical Exposure

NIOSH recently published a draft chapter on the application of biological monitoring methods for chemical exposures in occupational health to be published in its Manual of Analytical Methods (NMAM). NMAM is a collection of methods for sampling and analysis of contaminants in workplace air, and in the blood and urine of workers who are occupationally exposed.


October DOEHS-IH SUPER STARS

This month’s DOEHS-IH Super Stars are listed in the image below. The personnel in these Program Offices have been diligent in executing Step 5 of the DoD Exposure Assessment Model. They are actively collecting noise sample data to better characterize workplace exposures. Special recognition to those IHs performing TWAs on samples; this required step enhances the fidelity of employees’ exposures. A hardy congratulation goes out to the IH personnel in all of these Program Offices.
## DOEHRS SUPER STARS

**Noise Dosimetry Conducted On or After 01SEP17**

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### Calculated TWAs on Noise Dosimetry Conducted on or after 01SEP17

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