

Occupational Health Management™

*A monthly advisory
for occupational
health programs*



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If the worst happens to workers, will safety training save the day?

Employees exposed to chemical drive selves to ED

When a barrel at an East St. Louis plant was dropped containing the highly toxic chemical nitroaniline, the lid popped off. White powder spilled and coated eight workers. Instead of calling 911, however, the workers went home. When they began having breathing problems, some drove themselves to the nearest emergency departments (ED). Others waited hours before seeing medical care.

This response not only put the workers at risk for serious harm, but also put dozens of other people at risk as well. Two EDs immediately were locked down, with staff and patients quarantined and decontaminated due to possible exposure to the chemical.

The Occupational Safety and Health Administration (OSHA) is investigating whether the workers followed proper procedures, whether they had received adequate safety training, and whether they were wearing the proper safety equipment.

Willful violation can cost \$70,000 plus

Fines for OSHA violations vary depending on the type of infraction and what is found during the course of an investigation. The facts of this particular case are not yet known, but if OSHA finds a willful violation, in which the employer knew that a hazardous condition existed but made no reasonable effort to eliminate it, penalties would range from \$5,000 to \$70,000 per violation. In addition, in a case like this, if the employees weren't told what to do and that caused an injury, the occupational health nurse possibly could be held liable, according to **Karen Mastroianni**, RN, MPH, COHN-S, FAAOHN, co-owner and health and safety strategist for Raleigh, NC-based

Report on *OHM* Salary Survey Moves to January

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Dimensions in Occupational Health & Safety.

"Worker's comp is designed to prevent lawsuits," Mastroianni says. "However, in this case, it would be highly likely that lawyers would pursue the injured and lawsuits would result."

As an occupational health professional, it's *your* responsibility to bring the potential for catastrophic, worst-case scenarios to upper management, says **Chris Kalina**, MBA, MS, RN, COHN-S/CM, FAAOHN, director of global occupational health programs and services at Wm. Wrigley Jr. Co. in Chicago.

"If this isn't done by an [occupational health nurse] or onsite safety person, then it is possible *nobody* will bring this to their attention," she says. "That being said, you should be at the table when people start planning and preparing for how such incidents will be addressed."

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Editorial Questions

For questions or comments, call **Joy Dickinson** at (229) 551-9195.

EXECUTIVE SUMMARY

Take steps now to be sure that workers are prepared for any incident that occurs at your workplace, whether a catastrophic incident or an individual getting ill or injured. A recent incident involving chemically exposed employees driving themselves to the hospital underscores the importance of this preparation.

- Alert upper management to possible worst-case scenarios.
- Offer your expertise in emergency preparedness without waiting to be asked.
- Plan for the care of workers involved in emergencies, including follow-up care.
- Remind workers about procedures with signs, e-mails, presentations, and practice drills.

One way to get involved is by volunteering to be a member of any task groups on emergency preparedness. Mastroianni says, "I think often we wait until we're asked to assist, or for our opinion about something. This is often a mistake.

Kalina says, "The process needs to be totally mapped out, with everyone knowing their role and specific areas of responsibility and accountability." Address every aspect of managing an emergency incident, including transportation from the scene.

What your planning should include

Your planning should include establishment of a trained emergency response team on site, regular refresher training and updates for the team, practice drills, and after-drill critique sessions. (See **resource box, p. 119, to order a reference guide on OSHA's emergency response requirements.**)

As an occupational health professional, you bring a medical expertise that *no one* else involved will have. "This is essential, not only to address the emergency, but also to take care of the well-being of the people involved in the emergency," says Kalina. This might include debriefings, Employee Assistance Program referrals, or follow up care, such as for employees exposed to blood or other biological hazards.

Your goal is to address the specific risks at your worksite — not just chemical exposure incidents, but also workplace violence that can occur any-

SOURCES/RESOURCE

For more information on preparing employees for a workplace incident, contact:

- **Robert Emery**, DrPH, Assistant Vice President, Safety, Health, Environment and Risk Management, The University of Texas Health Science Center at Houston. Phone: (713) 500-8100. E-mail: Robert.J.Emery@uth.tmc.edu.
- **Chris Kalina**, MBA, MS, RN, COHN-S/CM, FAAOHN, Director, Global Occupational Health Programs and Services, Wm. Wrigley Jr. Co., Chicago. Phone: (312) 645-3770. E-mail: ckalina@wrigley.com.
- **Karen Mastroianni**, RN, MPH, COHN-S, FAAOHN, Co-Owner and Health & Safety Strategist, Dimensions in Occupational Health & Safety, Raleigh, NC. Phone: (919) 676-2877 ext. 12. E-mail: karenm@dimensions-ohs.com.

Principal Emergency Response and Preparedness is a reference guide summarizing the Occupational Safety and Health Administration's general and industry-specific emergency response requirements. The cost is \$29 plus \$5 for shipping. To order the book, contact: Government Institutes, 15200 NBN Way, Building B, Blue Ridge Summit, PA 17214. Phone: (800) 462-6420. Fax: (800) 338-4550. E-mail: custserv@rowman.com. To order online, go to www.govinstpress.com and type "Principal Emergency Response" in the book search box.

where. Work with management, human resources, safety and environmental health, and mental health professionals, advises Kalina. "Identify all risks that would potentially be found within an actual emergency incident situation," she says. "Then, develop strategies to mitigate these." ■

4 ways to be sure workers are ready

Do these four things so employees know what to do if an incident occurs, whether it be a catastrophe, disaster, or injury:

- **Remind employees repeatedly about how to respond to an incident.**

"Consistent and frequent communications are necessary from the first day of hire," says **Karen Mastroianni**, RN, MPH, COHN-S, FAAOHN, co-owner and health and safety strategist for Raleigh, NC-based Dimensions in Occupational Health & Safety.

It's not enough to mention protocols and procedures once during employee orientation, since the information is quickly forgotten. "Employees need to be reminded repeatedly on key procedures such as emergency protocols and evacuation procedures," says Mastroianni. She recommends posting signs, sending e-mails, and having managers discuss the procedures in meetings.

- **Establish an Incident Command System as part of the company's emergency action plan.**

This system can be structured as an expandable system, so only components needed for a specific incident are applied. "It can range from very minor incidents to a tragic event. But when needed, each module is there and can be enacted," says Mastroianni. "Each employee knows someone is in charge of getting the necessary emergency assistance."

Use all of your skills

Remember three important skills that you have as an occupational health professional: problem solving, communication, and organization. All of these are extremely valuable when it comes to emergency planning, says Mastroianni.

"You truly need to let management know you have these skills. They are skills that other professions don't often possess," she says. "Serve as a consultant to safety and management. Help to coordinate the hazard assessment process, and ensure that all aspects are considered."

In addition, you have your finger on the pulse of employee issues and concerns. "Your perspective and skills are extremely beneficial when planning emergency response to catastrophic situations," says Mastroianni. "You can help identify communication systems, flow, assembly areas, and contact points."

You'll need plans and procedures for catastrophic events as well as individual injury and illness emergencies. "Plan for what equipment would be needed and where, until emergency services arrive on the scene," Mastroianni says. "And even then, plan to provide assistance and comfort injured or frightened employees."

- **Consider all the "what ifs."**

This is an important component of the

Occupational Safety & Health Administration's (OSHA's) Process Safety Management, says Mastroianni. "Know the potential hazards and plan accordingly," she says.

Often, the focus is on risk loss management, which emphasizes engineering controls. "While this is essential, the [occupational health nurse] brings a more holistic and humanistic perspective. Often, you know things that employees tell you — information often not shared with anyone else," she says. "Since you are outside the process and not so focused on engineering aspects, you bring fresh eyes to assess the situation. "

- **Hold regular practice drills.**

When incidents such as emergencies happen, people often just react — and not always in an appropriate way.

An emergency plan with repeated training and practice drills is the best way to teach both employees and management how to react effectively and productively, says **Chris Kalina**, MBA, MS, RN, COHN-S/CM, FAAOHN, director of global occupational health programs and services at Wm. Wrigley Jr. Co. in Chicago. "We have regular emergency medical response drills, so if there is a bad accident in any area, all our employees know now to respond." ■

Teach all workers this disaster info

All employees should know the following steps in order to prepare for workplace incidents, says **Anita M. Holloway**, MD, MBA, manager of health strategy and clinical programs at Warrenville, IL-based Navistar:

- procedures outlined in disaster and emergency preparedness plans. These prepare employees in advance for anticipated response activities and prevent work-related injuries and illnesses;
- information about potential hazards, such as exposure associated with a worksite chemical spill;
- what to do in the event of a spill or other disaster at work;
- how and where to get care from an emergency department. For example, a decontamination unit may be needed after a chemical spill event;
- how to get accurate and timely information during and immediately after the event;
- where to get follow-up information on worksite status and additional care services. ■

Will employees self-transport to ED?

Make sure it doesn't happen

The fact that employees exposed to a toxic chemical at a St. Louis plant drove themselves to the emergency department reinforces one of the key lessons learned from the Tokyo sarin gas attack of 1995, says **Robert Emery**, DrPH, assistant vice president of safety, health, environment and risk management at The University of Texas Health Science Center at Houston. Emery is also an associate professor of occupational health at The University of Texas School of Public Health, also in Houston.

In that incident, about 80% of the victims transported themselves to the hospital, which is a surprising fact to many disaster planners who assumed that victims would be transported by ambulance, with hospitals being warned about the patient's condition and decontamination status in advance.

"This event reinforces the notion that self-transport is a serious concern," says Emery. "Controls need to be put into place to keep such victims from contaminating the hospital."

Five steps to avoid contamination

To be sure employees at your workplace don't do this, Emery suggests the following:

- Develop a hazard communication training plan.
 - Be sure workers are knowledgeable about the chemicals they work with, and know how to access critical safety information contained in material safety data sheets (MSDS).
 - Establish a standard protocol for responding to spills and exposures, including the delivery of MSDS information to health care providers.
 - Create a standard protocol for the receipt and processing of victims, so the risk of hospital contamination is minimized. For example, the removal of outer clothing can remove about 70% of a contaminant.
 - Become familiar with the types of chemicals that are being used in your workplace.
- "In many municipalities, the presence and use of particularly toxic or hazardous chemicals must be reported to local emergency planning organizations," says Emery. ■

OSHA could multiply fines by number affected

'Clarification' opens employers to higher fines

Lapses in personal protective equipment and training could soon become a lot more costly. The Occupational Safety and Health Administration has proposed a "clarification" of rules, including the respirator protection and bloodborne pathogen standards, that give it authority to magnify fines for employers.

If employees do not use personal protective equipment (PPE) when exposed to a hazard or if they don't receive their annual training, the fine could be multiplied by the number of employees affected. In other words, each employee in a department or facility could represent a separate violation. **(See proposed wording, bottom right.)**

If the proposed wording change goes into effect, employers could feel the heat, says **Bruce Cunha**, RN, MS, COHN-S, manager of employee health and safety at Marshfield (WI) Clinic. "You've really got to be sure your employees are trained and have the right PPE," Cunha says. **(For more on PPE, see story, bottom right.)**

According to OSHA's explanation in the *Federal Register*, the agency always intended for standards to apply individually to employees. "The amendments add no new compliance obligations," OSHA states. "Employers are not required to provide any new type of PPE or training, to provide PPE or training to any employee not already covered by the existing requirements, or to provide PPE or training in a different manner than that already required. The amendments simply clarify the remedy for violations of these requirements."

In a statement, Assistant Secretary of Labor for OSHA **Edwin G. Foulke Jr.** said, "We want employers to understand the importance of complying with OSHA's PPE rule for each and every one of their employees."

As a practical matter, the rule "clarification" opens up employers to much higher fines. Yet OSHA notes that it often groups violations for a single penalty and reserves the "per-employee" citation "where the resulting heightened aggregate penalty is appropriate to deter flagrant violators and increase the impact of OSHA's limited resources."

An OSHA spokesperson said, "It is not

intended to work a fundamental change in the conduct of inspections or the number of citations, but rather to ensure that an appropriately high penalty can be assessed in appropriate cases."

The Association of Occupational Health Professionals in Healthcare (AOHP) in Warrendale, PA, offered support for OSHA's emphasis on protecting each employee, although the association still is reviewing the potential ramifications of a "clarification" that could result in per-employee fines. "All of the standards that include the use PPE should have common language that makes it clear to employers that PPE must be made available for each employee and that each employee must be trained in the proper use of the PPE," says **MaryAnn Gruden**, MSN, CRNP, NP-C, COHN-S/CM, employee health coordinator at Western Pennsylvania Hospital (West Penn) in Pittsburgh and AOHP's liaison with OSHA.

The emphasis of the potential for per-employee citations actually could give employee health professionals more leverage, notes **Bill Borwegen**, MPH, occupational safety and health director for the Service Employees International Union (SEIU), which represents health care workers. "This is an opportunity for the occupational health professionals in health care to assert a greater authority," he says. "They're the only ones who are adequately trained to deal with respiratory protection issues." [Editor's note: The proposed rule ran in the Aug. 19 *Federal Register*. It is available at www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=FEDERAL_REGISTER&p_id=21055.] ■

New wording emphasizes 'per employee' duty

OSHA has proposed wording changes to the following sections of standards that related to the health care industry:

- **Sec. 1910.9 Compliance duties owed to each employee.**

- **a) Personal protective equipment.** Standards in this part requiring the employer to provide personal protective equipment (PPE), including respirators, because of hazards to employees impose a separate compliance duty to each employee covered by the requirement. The employer must provide PPE to each employee

required to use the PPE, and each failure to provide PPE to an employee may be considered a separate violation.

- **b) Training.** Standards in this part requiring training on hazards and related matters, such as standards requiring that employees receive training or that the employer train employees, provide training to employees, or institute or implement a training program, impose a separate compliance duty to each employee covered by the requirement. The employer must train each affected employee in the manner required by the standard, and each failure to train an employee may be considered a separate violation.

- **Sec. 1910.95 Occupational noise exposure.**

- (k)(1) The employer shall train each employee who is exposed to noise at or above an eight-hour time-weighted average of 85 decibels in accordance with the requirements of this section. The employer shall institute a training program and ensure employee participation in the program.

- **Sec. 1910.134 Respiratory protection.**

- (a)(2) A respirator shall be provided to each employee when such equipment is necessary to protect the health of such employee. The employer shall provide the respirators which are applicable and suitable for the purpose intended. The employer shall be responsible for the establishment and maintenance of a respiratory protection program, which shall include the requirements outlined in paragraph (c) of this section, for each employee required by this section to use a respirator.

- **Sec. 1910.1030 Bloodborne pathogens.**

- (g)(2)(i) The employer shall train each employee with occupational exposure in accordance with the requirements of this section. Such training must be provided at no cost to the employee and during working hours. The employer shall institute a training program and ensure employee participation in the program.

- **Sec. 1910.1047 Ethylene oxide.**

- (g)(1) **General.** For employees who use respirators required by this section, the employer must provide each employee an appropriate respirator that complies with the requirements of this paragraph.

- (2) **Respirator program.** The employer must implement a respiratory protection program in accordance with Sec. 1910.134 (b) through (d) [except (d)(i)(iii)], and (f) through (m) for each employee required by this section to use a respirator.

- **Sec. 1910.1048 Formaldehyde.**

- (g)(1) **General.** For employees who use respirators required by this section, the employer must provide each employee an appropriate respirator that complies with the requirements of this paragraph.

- (2)(i) The employer must implement a respiratory protection program in accordance with Sec. 1910.134 (b) through (d) [except (d)(1)(iii), (d)(3)(iii)(b)(1), and (2)], and (f) through (m) for each employee required by this section to use a respirator. ■

Employees must wear the PPE

The thought of being liable for multiple violations can be daunting. The Occupational Safety and Health Administration (OSHA) recently inspected a veterinary lab within the Marshfield (WI) Clinic in response to a complaint, says **Bruce Cunha**, RN, MS, COHN-S, manager of employee health and safety at the clinic.

“Much of the complaint was not sustained, but the inspector noted that while eye protection was provided, the PPE [personal protective equipment] wasn’t being used by employees,” Cunha says. The clinic was fined less than \$1,000, which was reduced because it was a first violation. “Had that been under the new rule, we would have been fined 16 times,” based on the number of potentially exposed employees in the lab, Cunha says.

As a result of the citation, he implemented a hazard assessment in all departments. He is also retraining managers, who may mistakenly think it’s the employer’s responsibility to provide the PPE but the employee’s responsibility to wear it. “We’ve got to make sure the managers are enforcing [the requirement to use PPE] and [employees] are wearing PPE when needed,” he says. “The bloodborne pathogen standard is clear. It is the employer’s responsibility to make sure that the employees are wearing the PPE.”

OSHA’s clarification stems from rulings of the Occupational Safety and Health (OSH) Review Commission, which found that wording referring to training or PPE for “all [exposed] employees” created a requirement “in the aggregate.” In other words, failure to provide respiratory protection would be one violation. Yet OSHA stated the agency “believes that a separate violation occurs

for each employee who is not provided required PPE or training, and that a separate citation item and proposed penalty may be issued for each.”

In seeking the clarification, OSHA is responding to an OSH Review Commission ruling in the case of *Secretary of Labor v. Erik Ho*. Ho, of Houston, was cited for hiring 11 undocumented Mexican immigrants to remove asbestos from a building without providing PPE or training them on the hazards of asbestos. The commission ruled that the wording of the standards allowed only single violations for the failure to provide respirators and training.

That interpretation was upheld by the U.S. Court of Appeals, though on somewhat different grounds. Meanwhile, the OSH Review Commission allowed per-employee citations in a different case, related to the construction lead standard, because of the wording. ■

Do you give presenteeism the attention it deserves?

Get an ‘immediate impact on productivity’

The number of days an employee is absent and worker’s compensation costs are fairly black-and-white metrics. But what about presenteeism, when employees are at work, but not optimally productive?

“Presenteeism is typically the most significant component of the health-related productivity loss experienced by employers,” says **Ron Loeppke**, MD, MPH, director of health and productivity

strategy for Alere Medical, a Reno, NV-based consulting company that helps patients with chronic illnesses manage their conditions. “Unfortunately, it is not as easily measured as the time a worker is absent from the workplace. Therefore, it is often overlooked as a metric.”

Assessing presenteeism can give you a valuable piece of information: risk factors that are most closely linked with productivity. **Patti Clavier**, BSN, RN, COHN-S, manager of Chandler, AZ-based Intel Corp.’s Global Health for Life Wellness Program, says, “Interventional programs can be put in place to support employees. Improving these risk factors can have an immediate impact on productivity.”

Millions of workers have work disabilities related to chronic health conditions or are at risk for this, says **Karen Griffith**, global health, well-being and productivity senior program manager at Intel in Colorado Springs, CO. “There are both economic and social imperatives for sustaining the employability and productivity of these individuals.”

Data IDs need for services

At Intel, the Work Limitations Questionnaire is used to capture data on presenteeism.

The questionnaire measures the degree to which employees are experiencing limitations on the job due to their health problems, and it measures health-related productivity loss due to employees’ physical or mental health problems.

“We are in our third year of analysis,” says Clavier. “Work limitation rates provide important data about the economic burden of illness.”

Intel gives the data to Mayo Clinic Health Solutions for analysis and receives their recommendations based on risk factors that were identified. Nutrition was identified as a top risk factor affecting presenteeism, so additional weight management programs were added at the company’s major sites. (See related stories on showing a direct cost savings and how to assess presenteeism, p. 124.)

The questions measure on the job disability and productivity loss only over the previous two weeks, to maximize accuracy of the respondents’ memory. It covers four domains of work: time management and performance of physical, mental-interpersonal, and output demands. Employees are asked to rate their level of difficulty or ability to perform specific job demands.

“Intel plans to continue the year-to-year analysis, focusing program support on risk areas,” says

EXECUTIVE SUMMARY

Presenteeism often is overlooked because it’s difficult to measure or demonstrate direct cost savings. However, if it’s not addressed, a major amount of productivity will be lost.

- Identify risk factors most closely linked to productivity.
- Use the data to develop programs for specific areas, such as nutrition or mental illness.
- Target anything you believe is affecting productivity, such as stress or smoking.

SOURCES

For more information on presenteeism, contact:

- **Patti Clavier**, BSN, RN, COHN-S, Manager, Global Health for Life Wellness Program, Intel, Colorado Springs, CO. Phone: (719) 273-1027. E-mail: patti.clavier@intel.com.
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Griffith. “Improving these risk factors may have more of an immediate impact on productivity than other risk factors.”

Intel will need at least another year of data to begin its analysis against the baseline year, says Clavier, but preliminary results are positive. There is a cohort group of 5,400 which shows a 17% movement out of high risk — for example, someone who is overweight who moves into an ideal weight category. “This will likely have a positive impact on presenteeism,” says Clavier.

Intel plans to do the presenteeism analysis yearly. The next analysis will occur in the fourth quarter of this year, to confirm that positive movement out of high risk is reducing presenteeism. Aggregate risk data is being analyzed within Intel’s data warehouse.

“This is a baseline year, so the coming years will be analyzed for the actual cost savings for those participating in the wellness program,” says Clavier. ■

Can you show a direct cost savings?

The problem with presenteeism is proving that money is saved by decreasing it. “It’s not impossible, but it’s very, very difficult, to show

this,” says **Joseph Fortuna**, MD, co-chair of the Health Steering Committee of the Automotive Industry Action Group.

If you use the right tools, however, you can get a sense of the number of unproductive hours due to presenteeism. “The cost of those hours can then be converted to dollars,” says Fortuna. “What is much more difficult to calculate, except in call center environments, is the cost of poor quality due to workers who are there, but not there.”

Fortuna recalls that a former employer was not willing to invest in a medical, safety, and worker’s compensation software that would have made employees more productive. “We had to prove that we could save actual dollars. They weren’t interested in cost avoidance,” he says.

However, you now have a new tool at your disposal: A growing body of research showing just how costly lost productivity is.^{1,2} “When we looked at indirect productivity cost data, we found that the direct cost of health care, which everybody knows about and thinks is the biggest cost, is less than the indirect cost,” Fortuna says. “This might motivate people to do something about this.”

The truth is that most companies are not able to “get a good handle” on lack of productivity, says Fortuna. “It’s almost invisible in most situations. That’s one of the reasons they can’t manage it,” he says. “For most manufacturing organizations, it really isn’t on the radar screen.”

However, Fortuna says that people are starting to realize that “there is a lot of money being left on the table” by semi-productive workers. “There is a huge role for occupational health with this.”

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3 steps to get back lost productivity

To tackle presenteeism, assess it first, and then use the information wisely. Take these three steps:

1. Use a validated tool.

Joseph Fortuna, MD, co-chair of the Health Steering Committee of the Automotive Industry Action Group, says that the best way to measure presenteeism is by using validated health-related productivity measurement tools and instruments, such as the Work Limitations Questionnaire, the Health and Work Performance Questionnaire, and the Stanford Presenteeism Scale.^{1,2,3} Results are self-reported by the employee, with the results given in aggregate.

"You don't want to do a questionnaire on your own. There's a big problem with self-administered questionnaires. If it's not a validated instrument, it's not worth the paper it's written on," says Fortuna.

2. Figure out why employees are less productive.

A worker may be significantly less productive up to 24 hours before and 48 hours after a migraine, for example, says Fortuna.

To learn the underlying reasons for lost productivity, Fortuna recommends going out to talk to supervisors and employees. "You can intervene to an extent, by steering them to better treatment mechanisms. The problem is, that gets a little intrusive, and people might not particularly like having that done," says Fortuna. "You are walking a fine line between trying to help them and prying into their lives."

3. Use your data to develop programs.

Once you have some hard data, use it to target anything you believe is resulting in lost productivity, such as smoking and obesity, recommends Fortuna. "Some companies are going after smokers really aggressively," he says. "A lot of people frown on it, but the truth of the matter is that smokers are a lot less productive."

Stress, whether work or home-related, is another key culprit. "This is probably one of the biggest things that makes people less productive," says Fortuna. "It's not a stretch to figure out that a 'lunch and learn' mediated by the occupational health nurse can help with this."

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Get office workers up and moving

Instead of "economy class syndrome," should deep vein thrombosis (DVT) be called "sitting at a desk all day syndrome?" According to new research, prolonged sitting at work is linked to double the risk of DVT and pulmonary embolism.¹ And, the more hours you sit without getting up, the higher your risk, say the researchers. Each additional hour spent sitting without getting up increased the likelihood of blood clots by 20%.

Encourage workers to get up from their desks at least every hour, avoid sitting in cramped conditions, and move their feet and legs while seated, says **Richard Beasley**, one of the study's authors and a researcher at the Medical Research Institute of New Zealand.

"These measures should contribute to a significant reduction in risk of venous thromboembolism associated with prolonged seated immobility at work," says Beasley.

It stands to reason that any job which requires sedentary activity increases the risk of DVT, says **Deborah V. DiBenedetto**, MBA, RN, COHN-S/CM, FAAOHN, president of DVD Associates in Battle Creek, MI. "Have workers get up and leave their work stations to take a walk and stretch their legs, as well as [do] exercises to avoid carpal tunnel and tendonitis which are associated with desk tasks," she says.

Occupational health professionals need to make the workforce, their dependents, and retirees aware that sedentary activities increase risk of DVT and its complications, including pulmonary emboli, says DiBenedetto. (See related story with another occupational health expert's assessment of the DVT risk, p. 126.)

EXECUTIVE SUMMARY

Workers who sit for prolonged periods double their risk for deep vein thrombosis and pulmonary embolism, according to a new study.

- The longer workers sit, the higher their risk.
- Workers should take a short walk every 30 minutes.
- While seated, employees should do foot exercises and avoid crossing legs.

SOURCES

For more information on sedentary workers and deep vein thrombosis risk, contact:

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- **Monika Fischer**, MN, RN, APRN BC, CCM, COHN-S, FAAOHN, Health Services Administrator, City of Glendale, CA. E-mail: MFischer@ci.glendale.ca.us.

“Ergonomics programs for office workers should include ‘get up and go’ activities to spur individuals to change positions at least hourly and keep the circulation moving,” says DiBenedetto. “Knowing that we work for longer periods of time, often 10 or 12 hours sitting at our desks, with three or four hours at a single stretch, we need to get moving and take a break from our sedentary positions.”

To prevent DVTs, DiBenedetto says that workers should stand at their workstation and stretch their legs, arms, and torso, and take a short walk every 30 minutes. Ask workers to rotate their feet in small circles, or write the alphabet with their feet elevated in the air every hour.

“It is imperative to not cross your legs and impede blood flow,” she says. “DVT is avoidable, as are ergonomic injuries in the workplace. Both require worker training and engagement, with organizational support to ensure success.”

Reference

1. West J, Perrin K, Aldington S, et al. A case-control study of seated immobility at work as a risk factor for venous thromboembolism. *J Royal Med Soc* 2008; 101:237-243. ■

How big is the DVT risk, really?

Although a new study says that sedentary workers double their risk of deep vein thrombosis (DVT), it’s difficult to gauge the true risk of DVT, according to **Monika Fischer**, MN, RN, APRN BC, CCM, COHN-S, FAAOHN, health

services administrator for the City of Glendale, CA. For one thing, Fischer points to the “extremely small sample size” in the study and other confounding factors.¹

“These people could have co-morbidities that increased their risk, as well as significant family history,” says Fischer. “Further, more in-depth studies need to be done before any company will start to think this is a serious enough problem to address it with special programs.”

Fischer also points to the 612 million people flying each year who average about 1,046 miles per trip. “So let’s say that we took a quarter of them and said they went on ‘long-haul flights,’ — that would end up with about 32 million cases of DVT, a much more significant number,” she says.

Fischer also notes that only about 21% of the total workforce work in sedentary jobs. “And I would imagine many of them require that they move around regularly throughout the day,” she says. “I do concede that people like dispatchers have problems.”

Fisher says that the City of Glendale has done extensive ergonomic evaluation on all police and fire dispatchers and made extensive changes. “Hi/lo” desks are provided that move up and down on hydraulics. Employees can stand or sit while working, and booklets on exercises to do while seated were distributed.

“We haven’t had a significant population with problems,” says Fischer. “And since I have been here, we have never had a dispatcher with a DVT.”

Reference

1. West J, Perrin K, Aldington S, et al. A case-control study of seated immobility at work as a risk factor for venous thromboembolism. *J Royal Med Soc* 2008; 101:237-243. ■

Tips for reducing employee stress

Employees rank time pressures, deadlines, office politics, and their bosses as the top stress-inducing factors at work, according to a new workplace wellness survey conducted by Eclipse gum and the Institute for Corporate Productivity (i4cp).¹

Employees can use small tools to beat stress at work, such as going outside for a breath of fresh air, closing their eyes while slowly counting to 50, or chewing gum. A study presented recently at the

10th International Congress of Behavioral Medicine examined the effects of chewing gum in response to a stressor. ² It found that the use of chewing gum was associated with reduced stress, improved alertness, and relieved anxiety.

I4cp recommends these other tips to help relieve office stress and increase employee efficiency:

- Company-sponsored social activities can help take the edge off. Survey results showed that the more social activities employees attended, the less stress they reported.
- Employees can re-energize before the next task by taking an afternoon walk around the office.

References

1. Institute for Corporate Productivity. Workplace Stress Survey 2008. Seattle. 2008.
2. Scholey A. An investigation into the effects of gum chewing on mood and cortisol levels during psychological stress. 10th International Congress of Behavioral Medicine. Tokyo, Japan. August 2008. ■

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The CE objectives for *Occupational Health Management* are to help nurses and other occupational health professionals to:

- Develop employee wellness and prevention programs to improve employee health and productivity.
- Identify employee health trends and issues.
- Comply with OSHA and other federal regulations regarding employee health and safety.

Nurses and other professionals participate in this continuing education program by reading the issue, using the provided references for further research, and studying the questions at the end of the issue.

Participants should select what they believe to be the correct answers, then refer to the list of correct answers to test their knowledge. To clarify confusion surrounding any questions answered incorrectly, please consult the source material.

After completing this semester's activity, you must complete the evaluation form provided in the June issue and return it in the reply envelope provided in order to receive a letter of credit. When your evaluation is received, a letter of credit will be mailed to you. ■

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CE questions

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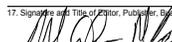
17. Which is true regarding preparing employees for a workplace incident, according to Chris Kalina, MBA, MS, RN, COHN-S/CM, FAAOHN, at Wm. Wrigley Jr. Co. in Chicago?
A. Practice drills are generally ineffective.
B. Planning for individual injury and illness emergencies is sufficient, since catastrophic events are extremely rare.
C. Use your medical expertise to address the well-being of workers involved.
D. Covering protocols and procedures during employee orientation is adequate.

18. Which is true regarding of employees exposed to chemicals in the workplace?
A. Almost 100% of victims of a chemical exposure incident will arrive by ambulance.
B. The employee's outer clothing should not be removed under any circumstances.
C. No municipalities require reporting of the presence and use of hazardous chemicals to local emergency planning organizations.
D. A training plan should be used to ensure that workers are knowledgeable about the chemicals they work with.

19. Which is recommended to assess presenteeism?
A. Don't rely on self-reported information.
B. Use data on risk factors to develop specific programs targeting these areas.
C. Use a self-administrated questionnaire.
D. Avoid speaking directly to employees.

20. Which is true regarding risk of deep vein thrombosis, according to new research published in *Journal of the Royal Medical Society*?
A. Prolonged sitting at work doubles an employee's risk.
B. Prolonged sitting was not a risk factor.
C. The length of time spent sitting didn't impact the employee's risk.
D. Sedentary workers had identical risk as more active workers.

Answers: 17. C; 18. D; 19. B; 20. A.

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