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IN THIS ISSUE

- **OSHA injury records**: Err on the side of recording injuries, as underreporting can raise a red flag for inspectors . . . . . .cover
- **Tunnel vision:** Carpel often assumed to be work related, but is it? 87
- **New OSHA hazard signs**: Your employees may need training on a new system of labeling chemical hazards. 88
- **Green power**: Using Green Teams to reduce chemical hazards. 90
- **Skin protection:** NIOSH makes it easier to understand the dermal hazards of chemicals with new publications. 91
- **Measles cost:** Two Tucson hospitals find a measles outbreak to be very costly, disruptive . . .92
- **Stair wars:** Creative ways to make workers skip the elevators 94
- **Junk food blues:** Health risk assessments can be motivate healthy substitutes 94

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OSHA records: Err on the side of documenting reportable injuries

But be wary of 'over-reporting' anything and everything

Is an injury covered by workers' compensation insurance? Does the worker's supervisor believe the injury didn't really happen at work? Did the employee see a health care provider?

In fact, none of these issues determines whether a given injury is Occupational Safety and Health Administration (OSHA)-recordable.

"My rule of thumb is, put it on the log and work it out later," says **Cindy Groves**, RN, BSN, COHN-S, clinical manager at Beloit (WI) Health System's Occupational Health Centers. "You've got seven days to be current. It's better to have it on there and line it off, than not have it on there at all."

Bruce E. Cunha, RN, MS, COHN-S, manager of employee health and safety at Marshfield (WI) Clinic, points out that a company can be fined by OSHA for every recordable injury that isn't on the log.

"I have seen very large fines over this in the past. It all boils down to integrity," says Cunha. "As a professional, I would not participate in any practice to 'cook the books.'"

If an injury is questionable, Cunha first logs it and then crosses it off if it turns out to not be recordable. "In the multiple OSHA inspections I have been involved with, we usually are told that we over report," he says.

A workplace may assign the OSHA log to a secretary or manager who does not really understand how to correctly record injuries.

"I have audited facilities and found this to be the case. It is pretty easy to catch," says Cunha. "Just ask for their OSHA log, and also their workers' compensation report. You can tell fairly easily if they know what they are doing." To clear up common misconceptions on OSHA-recordability, con-

EXECUTIVE SUMMARY

If there is any doubt as to whether an employee's injury should be recorded on the Occupational Safety and Health Administration (OSHA) log, document it. To avoid fines and violations:

- Encourage workers to report injuries early.
- Use recognition-based incentives, not monetary-based incentives.
- Contact outside service providers to determine if education is needed.
- Adequate training in reporting can ensure accuracy for OSHA records, while not "over-reporting"

sider these items:

1. An injury is not automatically recordable just because an employee sees a health care provider, including an occupational health nurse or physician.

"It is all about the care that is provided, not the diagnosis or who provides the care," says Groves. Work-related cases involving cancer, chronic irreversible disease, a fractured or cracked bone, or a punctured eardrum must always be recorded under the general criteria at the time of diagnosis by a physician or other licensed health care professional, however. This is the case regardless of whether the health care professional prescribes any treatment for the injury or illness to the worker.

If ice and over-the-counter ibuprofen are adequate for a worker's simple muscle sprain, though, the injury would not be OSHA-recordable regardless of whether that individual saw a doctor or not.

Providers may give a prescription to an injured employee — thus, making the injury OSHA-recordable — which is never filled because the medication isn't needed. "The employee may have been just fine if they had taken over-the-counter ibuprofen," says Groves.

To avoid over reporting of injuries, a provider may choose to have the worker return the following day so the medication can be prescribed only if it's truly needed. "It is a matter of good communication between the provider and the patient," Groves says. "That's where occupational health plays a big role."

Since occupational health professionals understand the work environment better than other providers, they're more likely to offer "low-tech" solutions that work. "Ice may not seem 'high tech' enough to some providers, but it is such a huge help for so many injuries," says Groves. "It's all about controlling swelling, which contributes to pain and irritation."

2. Employees should not wait to report injuries.

In fact, if workers are encouraged to avoid reporting unless an injury is serious, they are more likely to see a physician, go on restricted duty, or lose time from work. "If employees are encouraged to report minor injuries early, they can be treated simply and avoid prescription medications," Groves explains.

3. Underreporting injuries can be a red flag.

There is anecdotal evidence that some occupational health care professionals are pressured to consider whether the treatment they administer to employees could affect the recordability of the case on the OSHA log. Some of these health professionals fear loss of their contracts if their treatment results in too many recordable cases, according to OSHA.

However, "if an employer was underreporting, their numbers would be significantly under what would be considered a normal benchmark for their industry," says Groves. "That's going to be a red flag."

OSHA inspectors will be interested in how such a low injury rate is possible. "They will want to see other records, and will want you to prove you're really this good," says Groves.

4. Bigger incentives for safety are potentially dangerous.

Consider whether your programs may be discouraging employees from reporting injuries and illnesses at work. If a prize is very coveted, there's

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EDITORIAL QUESTIONS

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Carpal tunnel: Is it work-related?

If an employee reports carpal tunnel syndrome to his or her primary care physician, the provider may wrongly assume it's work-related — and therefore, Occupational Safety and Health Administration (OSHA)-recordable.

"If the provider is only listening to the employee, and is not aware that there are other risk factors or other potential for the condition having happened off the job, we always bring this to the provider's attention," says **Bruce E. Cunha**, RN, MS, COHN-S, manager of employee health and safety at Marshfield (WI) Clinic.

"Keep in mind that most employees only are on the job about one third of the day, and not seven days a week," says Cunha. "The private life of the employee is as much, if not a greater, influence on conditions they develop as work is."

Research suggests carpal tunnel syndrome is less related to work, and more related to other risk factors such as weight, genetics, and other medical conditions, notes Cunha.[1]

A provider may examine an employee and assume the carpal tunnel is work-related, without identifying other significant risk factors. In other cases, the provider may not understand what the employee really does.

In this case, Cunha contacts the provider and asks that they show there are no other risk factors that could be the cause. "If we have the primary provider saying a condition is work-related, and we also have an Independent Medical Review saying it is not, we will typically go with the second opinion," he adds.

Since personal providers probably won't want to disagree with their patients, they're more likely to conclude an injury is work-related, especially if there is a financial incentive for the employee. An employee may say, for example, "Doctor, I think my back condition is related to my job. I don't have medical insurance and if workers' compensation does not cover this, I don't know how I will pay for the treatment."

The provider, especially if there is an established relationship with the patient, is more likely to say a condition is work-related, than to disagree and potentially have the employee drop them as their provider.

"This is where occupational health providers are at their best. They have a better understanding of the mechanisms of injury," says Cunha. "They can objectively review the issues, to determine if a condition is truly caused by or significantly aggravated by work."

REFERENCE

1. Conolly WB, McKessar JH. Carpal tunnel syndrome: Can it be a work related condition? *Aust Fam Phys* 2009; 38(9):684-686. ■

a good chance that workers will think twice about reporting injuries.

"There's nothing wrong with incentivizing people in other ways, but it should be recognition-based — a pizza party, for instance — rather than monetary-based," says Groves.

On the other hand, incentive programs that reward employees who work for some period of time without reporting any injuries or illnesses may discourage reporting.

5. All work-related injuries and illnesses that meet the recording criteria set out in the record-keeping rule must be entered on the log.

Employers may wrongly believe that only injuries compensable under workers' compensation need to be entered on the OSHA log. Be ready to present documentation on why you decided a particular injury was not recordable.

"You should be able to substantiate how you came to that decision," says Groves. "The best practice is to put the injury on the log if there is any room for doubt that it may be recordable."

Avoiding the other extreme

By the same token, experts caution against the strategy of listing anything and everything as OSHA reportable. Consider this example: An employee hurts his back on a Thursday, takes off work the next day to rest, and reports the injury to a supervisor on Monday. Is it OSHA-recordable?

"There was no doctor involved, no medical treatment received, and the employee decided to take the day off. Return him to regular duty," says **Peggy Ann Berry**, MSN, RN, COHN-S, SPHR, president of the Ohio Association of Occupational Health Nurses.

The employee may have "lost a day" but the

employer did not, and therefore it is not OSHA-recordable, she explains.

When Berry accompanied an OSHA inspector on a general audit of a company that had been fined in the past, she discovered that they were over-recording all reported injuries.

"If someone said they pulled their back, took a couple of Motrin, and iced it, the company recorded it," says Berry. "Even larger companies can over report because of lack of training."

There may be hyper-vigilance because the company has received citations in the past, or management may lack training on which injuries are recordable. "In some instances, it takes medical expertise in speaking with the medical professionals to determine if an OSHA recordable has occurred," says Berry.

Although under-recording appears to be the focus in OSHA inspections, Berry says that over-reporting incidents "might tip the scales for a site visit by OSHA."

To avoid over or under in recording injuries, Berry gives these recommendations:

• Obtain training in how to medically manage the OSHA log.

This can be obtained from OSHA, the third-party administrator, or through the American Association of Occupational Health Nurses. "Work with outside providers to make sure they know what makes an injury OSHA-recordable," says Berry.

• Educate everyone, including human resources, on what is and is not an OSHA-recordable injury or illness.

OSHA-recordable injuries require medical care of prescriptive medications, physical therapy, fractures (teeth included), physician-directed lost time or temporary restrictions. "It is a lot easier to say what is OSHA-recordable than what is not," says Berry. "X-rays for a look-see, a doctor's appointment for an evaluation, and employee-directed time off are not OSHA recordable."

• Contact outside service providers to offer timely input on medical services given.

If you identify increased prescriptive and lost time from a provider group, reach out to that group and find out if it is an education issue. "Not all doctors are well versed in OSHA recordability," says Berry.

• Require every employee needing an outside referral to contact occupational health.

"Occupational health is an invaluable resource to reduce injuries, manage OSHA recordable injuries, and administer temporary modified duty programs and [the Family and Medical Leave Act]," says Berry.

SOURCES

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New OSHA requirements on chemical hazards

Labels, safety sheets to change with new rule

Hospitals will need to retrain all their employees on chemical hazards when the U.S. Occupational Safety and Health Administration finalizes its changes to the Hazard Communication Standard.

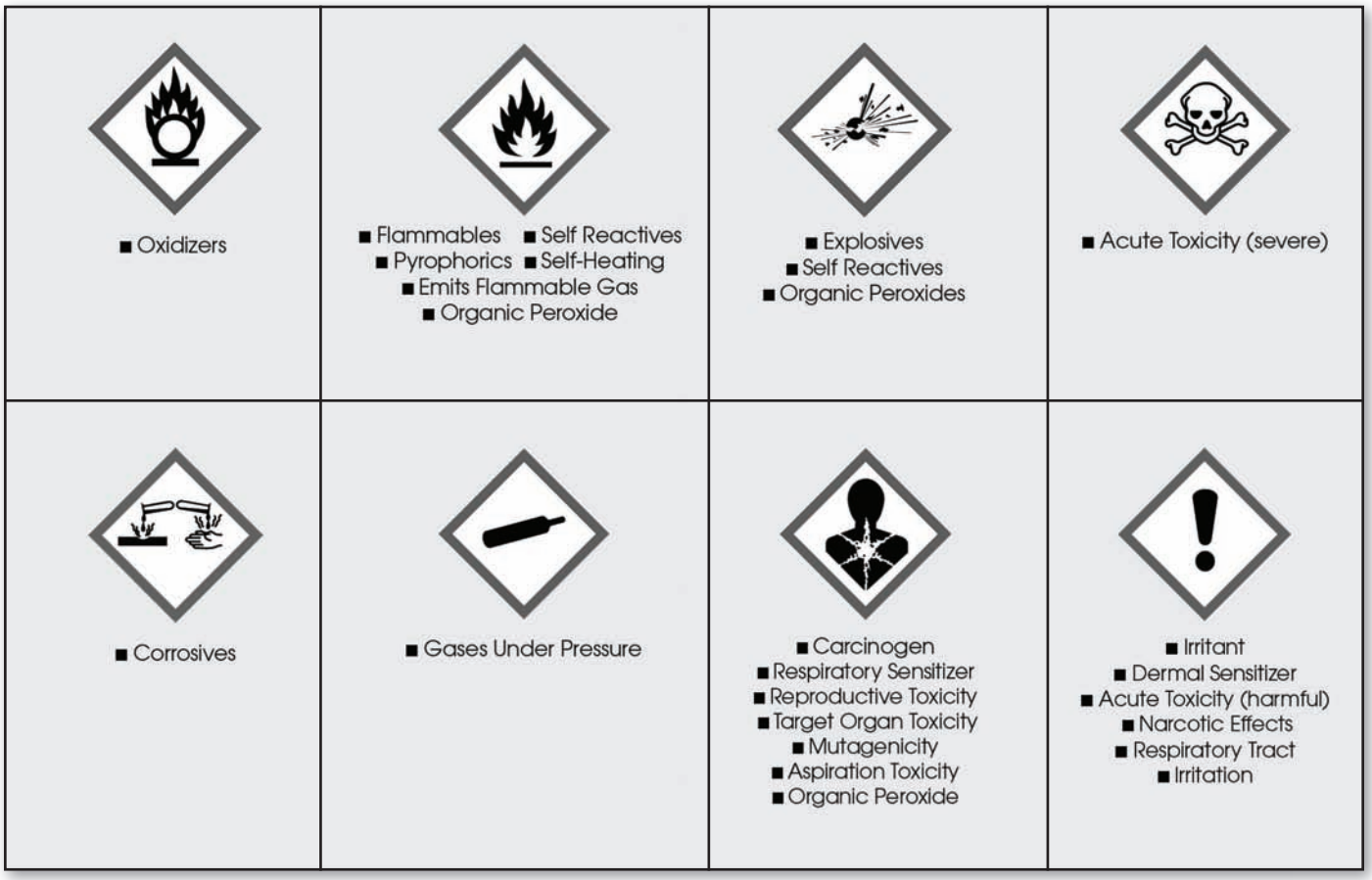
The standard involves new pictograms and "signal" words on labels as well as revised safety data sheets (SDSs). For example, irritants and dermal or respiratory sensitizers would be marked with a black exclamation point surrounded by a red diamond. (*See box on p. 89.*)

With the proposed revisions, OSHA would bring hazard communication in line with international requirements — a Globally Harmonized System of Classification and Labeling of Chemicals.

"With this rulemaking, OSHA is proposing to revise its requirements to increase the effectiveness of the Hazard Communication Standard and make it reflective of the 21st century workplace," **Dorothy Doughtery**, CIH, director of the Directorate of Standards and Guidance, said at a hearing on the proposed rule.

The bottom line, according to OSHA: New labeling will make it easier for workers to understand the hazards of various chemicals and the new SDS will be easier to read than the current MSDS (material safety data sheet). Employers would be required to train their employees on the new system within two years. OSHA's regulatory agenda says that the Hazard Communication Standard will be issued in final form

GHS Pictograms and Hazard Classes



SOURCE: Occupational Health & Safety Administration

in August.

"I'm going to be working very hard to come up with a completely new training program," says **John Schaefer**, CIH, HEM, CPEA, associate director of health safety and environment at Johns Hopkins University and Medical Institutions in Baltimore.

The changes also offer an opportunity to increase awareness and emphasize the proper engineering controls, such as ventilation, as well as use of personal protective equipment, Schaefer notes. "If we can get employees to understand a little more about what they're working with, it will be a beneficial," says **Bruce Cunha**, RN, MS, COHN-S, manager of employee health and safety at Marshfield (WI) Clinic.

In fact, in the preamble of its proposed rule, OSHA says that better communication about hazards could influence some employers to adopt less hazardous substitutes and can promote safer practices. (*See related article on "green teams" on p. 90.*)

"Knowledgeable employees can take the steps required to work safely with chemicals, and are able to determine what actions are necessary if an emergency occurs. Information on chronic effects of exposure to hazardous chemicals helps employees recognize signs and symptoms of chronic disease and seek early treatment," OSHA said.

Not all hazards covered?

With cleaners, solvents, disinfectants, and even pesticides, hospital employees can be exposed to a wide variety of hazardous chemicals. Even so, some of the most hazardous substances in hospitals — chemotherapeutic agents — are not covered by the Hazard Communication Standard. The standard specifically excludes drugs and other substances from labeling requirements if they are regulated by the Food and Drug Administration.

The Association of Occupational Health Professionals in Healthcare (AOHP) asked OSHA to consider adding those to the standard, as well. Otherwise, AOHP endorsed the changes. "We support anything that would help healthcare workers become more knowledgeable about the chemical hazards in the workplace," says **MaryAnn Gruden**, manager of Employee Health Services at Allegheny General Hospital and the Western Pennsylvania Hospital in Pittsburgh and community liaison of

AOHP.

She notes that the recent joint OSHA-NIOSH-Joint Commission letter to hospitals emphasizing safe handling of anti-neoplastic agents also will promote awareness about those hazards.

OSHA's proposed rule includes "unclassified hazards," for which there is not yet enough information. "Nano materials represent an example of the new potential hazard that may cause harm but has not yet been sufficiently studied to allow classification. For nanoscale materials, size and shape may be more important than chemical composition as a determinant of hazard," **Paul Schulte**, PhD, director of the Education and Information Division of the National Institute for Occupational Safety and Health said at a hearing.

Overall, OSHA's revised Hazard Communication Standard got favorable reviews and is likely to be one of the few rules that won't face a legal challenge, says **Brad Hammock**, an attorney with Jackson Lewis in Reston, VA, who specializes in occupational health law.

"As you get integrated into the [Globally Harmonized System], it will be more understandable for employees, employers and manufacturers," he says.

The standard changes offer an opportunity for hospitals to reassess their chemical hazards, revise their hazard communication program, and improve awareness of the hazards among employees, says Hammock.

"Hazard communication is a fundamental linchpin of your safety and health program. From an OSHA compliance standpoint, it's like a building block for everything," he says. "It's a major mechanism to inform employees of where your hazards are and what is required to protect against those hazards."

Too often, health care employers don't have a full, written hazard communication program, he says. "[This is] an opportunity to ensure you've got your hazard communications plan in order and your safety data sheets up to date, and to make sure you have your employees in the correct protection," he says. ■

`Green' movement makes hospitals safer

EH can be a part of 'green teams'

Being greener is safer. As hospitals join the sustainability movement, they are making the workplace safer for their own employees.

Employee health professionals should join their hospitals' "green teams" as a way to reduce chemical hazards, says **Barbara Sattler**, RN, DrPH, FAAN, a professor at the University of Maryland School of Nursing in Baltimore and program director of Maryland Hospitals for a Healthy Environment.

"These green teams are creating a remarkable opening," says Sattler, who is also director of the Environmental Health Education Center at the School of Nursing. "It's a profound shift that people in occupational health should take advantage of."

Green teams pose questions that impact a broad constituency, says Sattler: "What is safe and healthy for our patients? What is safe and healthy for our employees? What is safe and healthy for our community?"

Based on a 2007 survey of nurses, chemical exposures in the health care workplace are widespread. The online survey of more than 1,500 nurses from all 50 states, conducted by the Environmental Working Group and Health Care Without Harm, found that one third (32%) were exposed at least twice weekly to combinations of at least five chemicals and other hazardous agents for ten years or more. Almost half (46%) said they did not think their employers are doing enough to protect them.[1]

Nurses also are suffering from the effects. The survey found that nurses with high exposures to anti-neoplastic agents (at least once a week for 10 years) had a higher incidence of cancer, and nurses with high exposures to sterilizing and disinfecting agents and housekeeping chemicals had higher rates of asthma. A recent study of Texas nurses also found that those exposed to disinfectants and cleaning products and those involved in cleaning medical instruments had higher rates of asthma.[2]

Green teams can begin by seeking safer substitutes for some hazardous chemicals, says Sattler. "Often these chemicals that may trigger or cause asthma have other health effects, as well," she says.

Growing a 'green team'

At the University of Maryland Medical Center, **Denise Choiniere**, RN, MS, began her sustainability efforts as a nurse in the cardiac intensive care unit who wanted to recycle batteries. She was planning to take them home and recycle them on her own.

Then she heard of the newly formed Green Team, and she became involved in the team's efforts to improve the hospital's waste management program. Soon, she was sharing her ideas with the

vice president of facilities, the chief nursing officer — and the hospital CEO. The grass-roots program became a mission of the hospital leadership, says Choiniere, who is now the hospital's sustainability manager.

Some hospital departments have taken on their own "green" initiatives, as hospital employees grow accustomed to looking for environmentally safe practices, she says. "I'll know I'm successful when [the departments] don't need me anymore, when sustainability is incorporated in every department, just the way patient safety is incorporated," she says.

Here are some ways the University of Maryland Medical Center has used "green" strategies to improve health and safety:

• **Reducing exposure to hazardous chemicals.** The hospital uses Green Seal-certified cleaners and tries to eliminate chemicals, when possible. "When parts of the hospital are renovated, we're installing a rubber flooring that doesn't require stripping and waxing. That's another way to improve the indoor air quality," says Choiniere. An added benefit: The rubber flooring is less slippery than waxed floors and reduces the risk of slipping and falling, the second most common injury in hospitals.

The hospital also has worked to eliminate mercury and Di(2-ethylhexyl)phthalate (DEHP), a plasticizer used in some tubing and medical devices. (DEHP is primarily a patient safety issue, especially for critically ill male neonates.)

If nurses or other health care workers have adverse effects from chemicals, it's important for them to inform employee health — and for employee health professionals to pass on that information to the green team, says Choiniere. "It's hard for me to build my case without numbers," she says, noting that often nurses will simply treat a reaction to an exposure with Benadryl and go back to work.

• **Reducing pesticides and microbicides.** The University of Maryland Medical Center has gotten rid of ethylene oxide, a sterilant, and has reduced its use of glutaraldehyde. An analysis of surveillance data in four states by the National Institute for Occupational Safety and Health revealed 401 cases of work-related injury due to anti-microbial pesticides — cleaning or disinfecting products — from 2002 to 2007.

Meanwhile, on its grounds, the hospital has adopted "integrated pest management." The first response to complaints about bugs is to seek the source of the problem, such as plugging holes or cleaning up sitting water. "Pesticides are actually the last resort," says Choiniere.

Choiniere works with the purchasing department to seek safer alternatives to some products.

"It's definitely a process," she says. "You need patience and perseverance to make changes."

• **Raising awareness of environmental health.** Choiniere attends monthly meetings of the nursing managers, chairs an interdisciplinary Green Team with about 25 active members, and sometimes attends unit meetings. She promotes green initiatives in the hospital's newsletter

The hospital also hosts a farmer's market, providing much-needed fresh fruits and vegetables to their urban community. It also makes it easier for hospital employees to adopt healthy eating habits, she notes. "People incorporate this in their personal life," she says.

Convincing 8,000 employees to change their habits isn't easy. But Choiniere builds on the support of people who are already committed to living a more sustainable lifestyle. "There are passionate people out there," she says.

REFERENCES

1. Environmental Working Group. *Nurses health: A survey on health and chemical exposures.* December 2007. Available at http://bit.ly/pdy3kN

2. Arif AA, Delclos GL and Serra C. Occupational exposures and asthma among nursing professionals. *Occup Environ Med* 2009; 66:274-278. ■

Beware of chemicals that penetrate skin

NIOSH issues 'skin notation profiles'

The skin is a very effective barrier to hazards such as blood or body fluids. But because some chemicals can penetrate the skin, health care workers need to be aware of the risks and necessary protections, says **Scott Dotson**, PhD, CIH, an industrial hygienist with the Education and Information Division of the National Institute for Occupational Safety and Health in Cincinnati.

NIOSH is issuing a series of "skin notation profiles" to provide detailed information on serious hazards, including formaldehyde and glutaraldehyde. "A lot of pesticides can actually get through the skin and contribute to neurotoxicity. There are compounds that can get through the skin and

they're so toxic that they can contribute to a life threatening event," notes Dotson.

Yet the standards and guidelines from the U.S. Occupational Safety and Health Administration focus on the inhalation hazards related to chemicals by setting airborne permissible exposure levels, he says.

"Out of about 30 chemicals they've developed standards for, only one is specifically designated as a dermal hazard," says Dotson. That chemical is 4,4' Methylenedianiline (MDA), which is used in the manufacture of epoxy resin and other industrial substances. Although OSHA still set a PEL for the chemical, the standard calls for medical surveillance related to dermal exposure. NIOSH's skin notation profiles use a standardized system to denote the potential effects of dermal exposure — systemic, localized or immunemediated responses. They include a review of the medical literature.

"We hope the manufacturers will start taking these new skin notations into consideration and including them in their dossiers," says Dotson. "To help facilitate that, we've tried to align some of our notations with the Globally Harmonized System."

For example, glutaraldehyde is designated as SK: DIR (COR)-SEN. That means its skin notation (SK) indicates that there can be direct effects from skin exposure, including the potential for the chemical to be corrosive. It also is a sensitizer that can lead to immune-mediated reactions.

So far, NIOSH has published 20 skin notation profiles. Another 150 chemicals are being evaluated.

"We're trying to [promote] better risk assessment and better risk communication," Dotson says.

When workers don't understand the hazards of chemicals they're handling, they may not take the proper precautions. That concern was underscored when Dotson recently taught a class in Cincinnati.

"The employees were putting gloves on to protect themselves from solvents, and they made the comment that the gloves were dissolving after five minutes," he says. "They were wearing the wrong kind of gloves."

In fact, wearing the wrong gloves could increase the hazard by allowing the chemical to penetrate and then trapping it against the skin, he says. For example, latex gloves are not recommended for exposure to glutaraldehyde, but Butyl, Viton or neoprene gloves are acceptable, he says.

"It's important to know the hazards of your chemical and couple it with the right recommendations," he says. ■

Measles outbreaks laborious, costly

Tucson outbreak cost 2 hospitals $800,000

When a single imported case of measles led to a small outbreak in Tucson, AZ, in 2008, two hospitals were forced to spend a total of some $800,000 to contain it, much of that related to ensuring the immunity of employees.[1] That incident presents a cautionary tale as the United States struggles with its largest number of measles cases since 1996.

In the first 19 weeks of 2011, 118 measles cases were reported. Most (89%) were related to importation of measles from other countries. Nine outbreaks accounted for almost half (49%) of the cases. And the consequences were serious. Forty percent of the patients with measles required hospitalization.[2]

"Measles is quite severe," says **Jane Seward**, MD, MPH, deputy director of the Division of Viral Diseases at the Centers for Disease Control and Prevention in Atlanta and an author of an analysis of the Tucson outbreak. Hospitals need to consider a diagnosis of measles if a patient presents with a cough, fever and rash, she says. "Unvaccinated travelers coming into the United States continue to pose a risk," she says.

The Tucson case revealed just how costly and difficult measles can be for hospitals. A primary concern: Ensuring that all health care workers have immunity. Measles can easily spread to people who are non-immune — and to infants too young to have had their measles-mumps-rubella (MMR) immunization.

"Measles is very highly infectious," says Seward. "It's one of the most infectious diseases that we have."

Hospitals typically require new employees to receive two doses of the MMR vaccine or show proof of immunity. People born before 1957 may be presumed to be immune, according to guidelines from the Centers for Disease Control and Prevention — although in the event of an outbreak, CDC recommends that health care workers born before 1957 receive two doses of MMR.

In an outbreak situation, hospitals need to be able to verify immunity of employees quickly, says Seward. "I think hospitals in general do recommend MMR vaccine for health care workers. But I think recommending and implementing and

evaluating are different things," she says. "A lot of hospitals don't necessarily do the extra work to follow up and see how well those policies are being implemented and if anyone is falling through the cracks."

It can also be a nightmare for public health officials trying to contain an outbreak. "In public health circumstances, we don't accept a report by a health care provider that they're immune," says **Stephen Ostroff**, MD, director of the bureau of epidemiology in the Pennsylvania Department of Health in Harrisburg.

"Either you have to be able to produce records that show the date you received the vaccine or you have to have a laboratory test that demonstrates with absolute certainty that you're immune. If you can't produce either one of them, then from our perspective you're not immune," he says.

Measles not suspected

The Tucson case began with a 37-year-old traveler from Switzerland who was unvaccinated. She went to a hospital emergency room in Tucson on Feb. 12, 2008 and again the next day, when she was admitted with a fever and rash. Yet measles wasn't initially suspected and she wasn't isolated until two days later.

Meanwhile, a 50-year-old woman who was exposed to the Swiss traveler in the emergency department waiting room developed a fever and respiratory illness. At first, she was diagnosed with asthma exacerbation, then pneumonia and allergic drug reaction. Finally, on March 2, she was diagnosed with measles.

Measles spread from that second patient to several other people. A health care worker, who had just received her MMR vaccine the day she cared for Patient 2, developed fever on March 5 and fever, cough and rash by March 9. An unvaccinated 11-month-old boy who was in an emergency department room across the hall from Patient 2 developed measles, as did two unvaccinated children, ages 3 and 5, who walked past the patient's room while visiting their mother in the hospital.

In all, there were seven cases that were confirmed as health care-associated — linked to the index case. Another five developed community-acquired cases and one person who developed measles was exposed to a patient in his home. Of 11 patients who sought medical care at a hospital or physician's office for fever, cough and rash, only one was masked and isolated.

That delay in suspecting measles is a consequence of the success in controlling measles in this country, says Ostroff. But measles is raging elsewhere in the world. France and India were responsible for the greatest number of imported cases in the United States this year.

"Anytime you even remotely suspect this diagnosis, it should be immediately reported to the health department," says Ostroff. "That allows us to get the appropriate testing done and to start identifying the contacts as soon as possible to avoid an additional round of cases."

Furloughs cost $444,000

The outbreak investigation involved 4,793 hospital or clinic patients and 2,868 health care workers. Only 75% of the health care workers at the two hospitals that received patients with measles had evidence of immunity. None of the Tucson hospitals had electronic records that enabled them to quickly determine if their employees were vaccinated or otherwise immune.

Of 1,583 health care workers who had serologic testing, 11% were found to be seronegative. Meanwhile, health care workers without evidence of immunity were vaccinated and furloughed for five to 21 days after their last exposure.

The furloughs alone cost the two hospitals about $444,000, according to the analysis of the outbreak.

"Hospitals can be prepared by just having the evidence [of vaccination or immunity] on file," says Seward. For health care workers born before 1957, "they can choose to vaccinate them routinely or they can have it on file that they need to be vaccinated in the event of an outbreak," she says.

Because measles is so transmissible, it's important to have levels of immunity and vaccination of about 90 percent to 95 percent, says Seward.

"Suboptimal immunization is going to have ramifications in terms of the incidence of disease," says Ostroff. "I would hate for health care providers to become more familiar with measles because there's more disease [in the United States]."

REFERENCES

1. Chen SY, Anderson S, Kutty PK, et al. Health care–associated measles outbreak in the United States after an importation: Challenges and economic impact. *J Infect Dis* 2011; 203: 1517-1525.

2. Centers for Disease Control and Prevention. Measles — United States, January–May 20, 2011. *MMWR* 2011; 60:666-668. ■

Stairway to health: Design boost use

Novel ways to encourage 'stair masters'

When Union Pacific designed and built its new headquarters building in Omaha, NE, stairways — of all things — were a big part of the planning process.

"They are on each side of the building with glass on one side, so they are full of natural light and inviting to use," says **Jackie Austad**, general director of health promotion and wellness.

Printers were removed from individual workspaces and placed in common areas. "This configuration requires employees to get up from their desk and move throughout the day," says Austad.

Unlike wellness programs or lunch-and-learns, stairs are there any time an employee wishes to use them.

"You don't need employee buy-in to do that, like you would if you were doing an educational program where the employees had to show up and participate," says **Mark G. Wilson**, HSD, director of the Workplace Health Group at the University of Georgia's College of Public Health.

Here are ways to encourage workers to take the stairs:

• Make them more appealing.

"First of all, stairways must be well-lit and safe," says **Jennifer Rooke**, MD, MPH, FACOEM, FACPM, medical director of Atlanta Lifestyle Medicine.

• Set up competitions.

"Competitions seem to be the best way to get voluntary participation in health activities, especially among men," says Rooke.

• Employee involvement

To involve employees, hold a contest for drawings to be submitted by various departments, and have the stairwells painted with a selected illustration. "The illustration could depict the area or location you are climbing or exiting out of," suggests **Gail Bruce**, RN/COHN, an employee health nurse at West Jefferson Medical Center in Marrero, LA. Bruce gives these approaches to increase awareness of taking the stairs:

— Install an employee badge reader at the stairwells to track usage.

— Post colorful charts in centrally located areas such as cafeterias, depicting which employees or departments are using the stairs the most.

— Award healthy prizes to workers who take the stairs most often, such as free lunches of salads or fruit and cheese.

• Track activity.

This can be difficult, since constant observation is needed to determine how often stairs are being used. "Probably the easiest option is to use technology, such as video cameras or motion detectors," says Wilson. "However, it's important for employees to understand 'Big Brother' is not watching them, or they won't use the stairs to avoid observation."

Another approach is to give workers pedometers so they can measure their own activity. "These can be compared and used to rank participating groups or individuals," says Rooke.

SOURCES

For more information on encouraging workers to take the stairs, contact:

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• **Jennifer Rooke**, MD, MPH, FACOEM, FACPM, Medical Director, Atlanta (GA) Lifestyle Medicine. Phone: (404) 769-3928. E-mail: jeabr2@gmail.com.

• **Mark G. Wilson**, HSD, Director, Workplace Health Group, College of Public Health, University of Georgia, Athens. Phone: (706) 542-4364. Fax: (706) 542-4956. E-mail: mwilson@uga.edu. ■

Junk food: The ever-present temptation

Inexpensive, non-perishable, unhealthy

You probably work tirelessly to promote healthy eating, yet in the vast majority of workplaces, bowls of candy and donut boxes seem to be everywhere.

"Junk food is inexpensive, virtually non-perishable, and quick to consume," says **Barbara Klinner**, RN, BSN, CCM, LNC, CWC, director of business services at Marshfield (WI) Clinic. "In addition to that, it's tasty!"

Employees are reluctant to replace junk food with healthy choices that may be more expensive, perishable, and might require utensils to eat.

"The abundance of candy, donuts and junk food is not unique to the workplace," notes Klinner. "Schools are also struggling with insti-

tuting healthy initiatives."

The problem carries over into adulthood and subsequently, the work environment.

Vicki Sexton, RN, manager of human resources and occupational health at Shaw Industries in Dalton, GA, reports that the company hasn't had much success with adding healthy foods to its vending machines. "We have tried piloting healthy snacks as alternatives, but they do not sell as well, so the vending companies are reluctant to implement this," she says.

The problem is that healthy foods cost more money, have to be replaced more frequently in vending machines, and are not as filling. "Most of our plant folks have limited time on their breaks and are looking for cheap, filling alternatives," explains Sexton.

Occupational health has had better success by providing healthy food as rewards to employees at dinners and breakfast meetings. "The nurses at the plants are part of the planning process for any reward meals," says Sexton. "I have had less success in our office environments. There tend to be more bagels, donuts, and biscuits. Cost becomes the primary issue."

Raise awareness with HRAs

"The path to elimination of workplace junk food is paved by efforts that speak to individual health concerns," says Klinner. "Once that candy bowl is out of sight, it is often out of mind."

Occupational health services offers personalized programs that can provide the foundation for lifestyle changes and institute preventative health measures, including health risk assessments (HRAs).

"These assessments collect information from individuals that identify risk factors, provide individualized feedback, and offers the person at least one intervention," says Klinner. "Many health risks can be mitigated through healthy nutrition changes."

This provides the employee with motivation for behavioral changes that promote health, sustain function and/or prevent disease. HRAs are also used to provide aggregate data reporting for employers and organizations.

"These reports include demographic data of participants, and highlight health risk areas," says Klinner. "They often include cost projections and savings in terms of increased healthcare, absence and productivity."

Organization-level reports can then be used to target and monitor appropriate health interventions within the workforce. "There have been suggestions that taking a HRA alone can have a positive effect on health behavior change and health status," adds Klinner.

Occupational health services can follow up on HRA findings by getting employees involved with health coaching. "They also help employers measure and monitor the population's health status, employee health behavior, and health risks over time," says Klinner.

CNE OBJECTIVES / INSTRUCTIONS

The CNE 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.

To earn credit for this activity, please follow these instructions.

1. Read and study the activity, using the provided references for further research.
2. Log on to **www.cmecity.com** to take a post-test; tests can be taken after each issue or collectively at the end of the semester. *First-time users will have to register on the site using the 8-digit subscriber number printed on their mailing label, invoice or renewal notice.*
3. Pass the online tests with a score of 100%; you will be allowed to answer the questions as many times as needed to achieve a score of 100%.
4. After successfully completing the last test of the semester, your browser will be automatically directed to the activity evaluation form, which you will submit online.
5. Once the completed evaluation is received, a credit letter will be e-mailed to you instantly.

COMING IN FUTURE MONTHS

- ID overuse of opioids for chronic injuries
- Update on penalties for obesity and smoking
- Get safety suggestions from employees
- How to revamp an unsuccessful program

SOURCES

For more information on encouraging employees to eat healthier, contact:

• **Barbara Klinner**, RN, BSN, CCM, LNC, CWC, Director of Business Services, Marshfield (WI) Clinic. Phone: (715) 847-3195. Fax: (715) 847-3868. E-mail: klinner.barbara@marshfieldclinic.org
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CNE QUESTIONS

1. What was recommended regarding OSHA recordability of injuries in the workplace, by **Bruce E. Cunha**, RN, MS, COHN-S?
   A. An injury should not be logged unless the occupational health professional is certain it is recordable.
   B. If there is doubt as to whether an injury is recordable, it should be logged and then removed if it turns out to not be recordable.
   C. Occupational health should educate human resources that all injuries are recordable if an employee sees any health care provider.
   D. Employees should be discouraged from reporting minor injuries to occupational health.

2. In order to avoid over-reporting, **Peggy Ann Berry**, MSN, RN, recommended that occupational health professionals obtain training on how to medically manage the OSHA log.
   A. True
   B. False

3. Research suggests carpal tunnel syndrome is less often related to work than to such personal risk factors such as:
   A. weight
   B. genetics
   C. other medical conditions
   D. all of the above

4. According to **Barbara Klinner**, RN, BSN, which is true regarding encouraging workers to make healthier dietary choices?
   A. Occupational health should provide individualized feedback to employees.
   B. Health risk assessment (HRA) data should not be used to project health care costs.
   C. Taking an HRA alone will not have a positive effect on health behavior change.
   D. Remind workers that some natural fruits have as much sugar as a candy bar.