



HOSPITAL EMPLOYEE HEALTH



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Exposures to Opioid Patients Endanger Healthcare Workers

Even minute amounts may overwhelm caregivers

By Gary Evans, Medical Writer

Three Ohio hospital nurses recently had to be revived with an opioid antidote after caring for a drugged patient, underscoring a new occupational threat to healthcare workers and the lack of federal guidelines to protect them.

The incident, which the three healthcare workers survived, drives home the growing occupational risk of the national opioid epidemic. Though few details were released, the life-threatening effect of the drug involved suggests exposure to carfentanil. It is estimated that carfentanil — a drug approved for tranquilizing elephants — is 100 times more potent than fentanyl, a similar synthetic opioid.¹ Both

narcotics are much stronger than heroin, and are sold on the street or added to other drugs to boost potency and, presumably, profits.

“It is not known which type it was, but based on their

symptoms it appears it was carfentanil,” says **Michelle Mahon, RN**, a union representative for the nurses, who work at Affinity Medical Center in Massillon, OH. “One of the frightening things about this is that carfentanil is so strong that just a small grain of it can be very potent.

This is something that could happen anywhere these toxins are present. We are looking at this as a canary in a coal mine.”

Asked for details on the incident,

“ONE OF THE FRIGHTENING THINGS ABOUT THIS IS THAT CARFENTANIL IS SO STRONG THAT JUST A SMALL GRAIN OF IT CAN BE VERY POTENT.”

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EDITORIAL QUESTIONS:

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Gary Evans at (706) 424-3915.

Susan Koosh, vice president of marketing and community relations at Affinity Medical Center, issued the following statement to *Hospital Employee Health*: “While we cannot provide specific details about patients or employees in regard to the incident, I can share that we have effective policies and procedures in place for handling hazardous drugs and any accidental exposure.”

Those policies and procedures either were not in place or not followed on Aug. 8, 2017, when three nurses at the hospital succumbed to the effects of the powerful narcotic and had to be administered naloxone. This antidote blocks the opioid receptors in the brain and restores proper breathing function. The nurses apparently were involved in care and/or room cleaning for a patient admitted for an overdose of the narcotics. Room cleaning raises the possibility of aerosolization of the drug, but it had not been reported whether the narcotic was inhaled.

“It is very difficult to pin down in hindsight the exact mechanism of exposure,” says Mahon, a union official with National Nurses United. “There are many potential points of exposures from the time the patient arrived through the cleanup of the room.”

National Guidance Lacking

Citing the lack of national guidelines for nurses and other healthcare workers, the union is developing personal protective equipment (PPE) recommendations to prevent exposures to hospitalized patients.

“Our focus [now] is really to examine all of the potential

ways nurses could be exposed,” Mahon says. “Those include body fluid precautions as well as other environmental precautions. We are currently assessing the best available evidence regarding opiate overdose and occupational exposures. We will be releasing a safety protocol and recommendations for nurses, as well as other healthcare workers who face opioid exposure, as soon as possible.”

The National Institute for Occupational Safety and Health (NIOSH) updated its occupational exposure guidelines for fentanyl on Aug. 24, 2017, but the measures are primarily for first responders and public safety exposures.

“What NIOSH has put out is mostly for first responders — prehospital,” says **Christina Spring**, MA, associate director for communication at the agency. “[We] are aware of the reports of the issue and trying to determine next steps. At this point, NIOSH hasn’t put out guidance for hospitals workers.”

Illicitly manufactured fentanyl can be in powder, tablet, or liquid form, NIOSH notes on its website. (For more information on preventing fentanyl exposure, visit: <http://bit.ly/2wIDLae>.)

“Potential exposure routes of greatest concern include inhalation, mucous membrane contact, ingestion, and percutaneous exposure (e.g., needlestick),” according to NIOSH. “Any of these exposure routes can potentially result in a variety of symptoms that can include the rapid onset of life-threatening respiratory depression. Skin contact is also a potential exposure route, but is not likely to lead to overdose unless large volumes of highly concentrated powder are encountered over an extended period of time. Brief skin contact with fentanyl or its analogues is not

expected to lead to toxic effects if any visible contamination is promptly removed. There are no established federal or consensus occupational exposure limits for fentanyl or its analogues.”

For example, in a “moderate” risk situation of an emergency medical worker responding to a suspected fentanyl overdose, NIOSH recommendations include the following PPE:

- A filtering facepiece respirator such as a P100 FFR.
- Face and eye protection (i.e., goggles).
- Powder-free nitrile gloves.
- Wrist/arm protection such as long sleeves, sleeve covers, or gowns.
- Wash hands with soap and water immediately after a potential exposure and after leaving a scene where fentanyl is known or suspected to be present to avoid potential exposure and to avoid cross-contamination.
- Do not use hand sanitizers or bleach solutions to clean contaminated skin.

“We have seen first responders have to be treated for contact exposures,” Mahon says. “We know that law enforcement and EMS have been affected by the increase in the synthetic opioids, including fentanyl and carfentanil. We are stepping up because no one has made recommendations for nurses and other healthcare workers who are providing life-saving care for patients once they reach the hospital.”

The Fourth Wave Looms

The threat of exposure to healthcare workers to debilitating narcotics is the latest manifestation of a national opioid epidemic that has included medical staff diverting

drugs for personal use, admitted patients injecting their IV lines with street drugs, and the recent arrest of a nurse charged with attempting to smuggle a fentanyl patch to an inmate.² In addition, 18 police officers in Pittsburgh recently had to be taken to a hospital for treatment after being exposed to opioids when a table laden with the narcotics was overturned in a drug raid.³

“THE RISK IS THERE, AND ORGANIZATIONALLY WE FOLLOW THE PRECAUTIONARY PRINCIPLE AND BELIEVE THE HIGHEST STANDARDS NEED TO BE IN PLACE — ASSUMING THE WORST IN EVERY CASE TO PROTECT HEALTHCARE WORKERS.”

“Carfentanil has already been attributed to several deaths, even among opioid-tolerant patients,” according to a paper by emergency physicians.¹ “Exposures present with symptoms typical of opioid overdose, including decreased alertness, respiratory depression, and pinpoint pupils. Symptom onset is very rapid after exposure. Importantly, patients may require unusually large or repeated doses of naloxone. Even with reversal of acute symptoms with naloxone, recurrence of symptoms may occur and warrants prolonged observation in a hospital setting.

Failure to treat in a timely manner can result in respiratory arrest, hypoxia, or death.”

Although there are regions of particular risk, it is becoming apparent that some aspect of the epidemic may appear anywhere in the country.

“Here in the Midwest, if you look at where this opioid epidemic is hitting the hardest, certainly Affinity Medical Center is right in the epicenter — in Stark County, Ohio — of this crisis,” Mahon says. “It is certainly not the only one. We have been hearing reports of nurses, and the evidence bears out that there are more and more [opioid] patients coming in, having to be treated in the field and by first responders such as emergency department nurses and personnel. Even inpatients can pose a potential risk of exposure if they have this history. The risk is there, and organizationally we follow the precautionary principle and believe the highest standards need to be in place — assuming the worst in every case to protect healthcare workers. That’s where we are coming from on this.”

The CDC recently reported, in commemorating Aug. 31, 2017, as International Overdose Awareness Day, that the opioid epidemic has hit the United States in three distinct waves.⁴

Approximately 300,000 people — roughly the population of Pittsburgh — died of opioid overdose from 1999-2015, when 33,000 died in one year alone. The estimated overdose deaths in 1999 were 8,050.

“The first wave of deaths began in 1999 and included deaths involving prescription opioids,” according to the CDC. “It was followed by a second wave, beginning in 2010, and characterized by deaths involving heroin. A third wave started in 2013,

with deaths involving synthetic opioids, particularly illicitly manufactured fentanyl [IMF].”

Drug products containing IMF now come in various guises, including counterfeit prescription pills, mixed with cocaine, or sold as powders to persons using heroin with and without their knowledge that they are ingesting IMF, the CDC warns.

“Rapid increases in fentanyl drug product rates in the Northeast, Midwest, and South coincided with increases in synthetic opioid death rates with and without heroin starting in 2013,” the CDC noted. “Overdoses involving both heroin and synthetic opioids primarily drove increases in heroin deaths in the Northeast and Midwest during 2013–2015. Targeting timely response efforts requires rapid surveillance of illicit opioid products and deaths.”

‘The Real Face of America’

While NIOSH is considering the issue, there does not appear to be any active national surveillance system for these exposures and subsequent effects in healthcare workers.

“What we’re seeing is very concerning,” Mahon says. “It’s not getting reported, and we certainly know it is affecting our patients at very high rates.”

NIOSH recommends a filtered respirator for possible fentanyl exposures, but Mahon says the nursing union can find little data to guide PPE for carfentanil, a large-animal veterinary drug that is not indicated for humans.

“We really have a big job ahead of us in that regard,” she says. “We are doing our due diligence to put out protocols, polices, and protection guidelines that reflect the

best evidence. What has been noted — particularly with these stronger [opioid] doses — is that it is taking more naloxone to reverse the impact than it does for heroin or fentanyl. Very large doses have been needed to reverse the effect of the carfentanil.”

The National Institute of Drug Abuse estimates that 90 Americans die every day of an opioid overdose.

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How did we get here? The following is the institute’s explanation, posted on a National Institutes of Health webpage, current as of June 2017:

“In the late 1990s, pharmaceutical companies reassured the medical community that patients would not become addicted to prescription opioid pain relievers, and healthcare providers began to prescribe them at greater rates. This subsequently led to widespread diversion and misuse of

these medications before it became clear that these medications could, indeed, be highly addictive.” (For more information, visit: <http://bit.ly/2iWiNS>.)

To summarize the impact in one harrowing sentence, the drug institute estimates that 80% of people who use heroin in the United States first misused prescription opioids.

“This crisis is affecting every single state,” Mahon says. “There is a lot of focus in areas where things are particularly bad, like Appalachia and Ohio, but there is no state that is immune. This needs to be addressed in a national, systemic way. One of the things that we know is that social and economic problems tend to present themselves on the frontlines in our hospitals at the bedside. Nurses are typically the first ones to encounter that. We see the real face of America every day.” ■

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NIOSH Looks to Expand Use of Elastomeric Respirators

The catch: A decontamination protocol

The National Institute for Occupational Safety and Health (NIOSH) is seeking input to develop procedures for decontamination of reusable elastomeric respirators, which could be an important and sustainable resource in times of high PPE demand.

Reusable elastomeric respirators with N95 cartridges were used to protect healthcare workers during the SARS outbreak of 2003 and the flu pandemic in 2009. However, there is a need for a standardized protocol to clean and disinfect the elastomeric respirators.

“NIOSH is interested in improving understanding of the best practices for disinfecting and cleaning reusable respirators, appropriate applications for use, and how best to educate and train healthcare workers on proper use of elastomeric respirators,” an agency representative wrote in an email to *Hospital Employee Health*. “Elastomeric half-face respirators are not commonly used today, but we are aware of the point-of-use challenges and we are seeking expert input on the matter. NIOSH is seeking to sponsor one or more workshops in the coming months to discuss these issues with our partners, stakeholders, and experts in the field.”

There is a pressing need for more PPE options, as the supply chain has little capacity for surge production, resulting in challenges to meeting large, unexpected increases in demand that might occur during a public health emergency, the CDC reports in a new study.¹ Additionally, much

of the PPE is produced offshore and might not be available to the U.S. market during an emergency.

“The availability of respiratory protective devices remains a major gap in pandemic influenza preparedness,” says **Anita Patel**, PharmD, MS, the lead author of the paper and a senior advisor on pandemic medical care at the CDC. “Elastomeric respirators are a reusable option that needs to be explored further for feasibility and acceptability for use by select healthcare workers. These possible product options could dramatically decrease the demand on traditional disposable respirators during a pandemic influenza response.”

The 2009 H1N1 influenza pandemic and the 2014 Ebola virus epidemic revealed that adequate stores of PPE are a critical component of the response.

“During the 2009 H1N1 pandemic, as an important component of infection control strategy, CDC recommended respiratory protective devices for healthcare workers, including first responders, when ‘caring for persons with known, probable, or suspected 2009 H1N1 [infection] or influenza-like illness,’” Patel and colleagues noted. “Upon release of these recommendations, it became apparent that limited supplies could make the recommendations difficult to implement. Although the release of N95 respirators and facemasks from the federal Strategic National Stockpile increased facility inventory levels, products received were not

necessarily the items on which hospital staff were trained and fit tested, posing additional challenges.”

Both the disposable N95 and the reusable N95 elastomeric respirator have a NIOSH assigned protection factor of 10, meaning with proper use as part of a respiratory protection program they will, at minimum, reduce the aerosol concentration to which the wearer is exposed to one-tenth room air levels.

The issue of the potential benefit and current underuse of elastomeric respirators was recently raised in a blog post by **Michael Bach**, PhD, RN, an American Association of Colleges of Nursing fellow with NIOSH.

“Most healthcare workers are aware of the N95 respirator but may not be aware that the reformable, reusable elastomeric respirators are a viable option for respiratory protection,” Bach wrote.² “The facepiece is made of synthetic or rubber materials that form a seal against the user’s face, with properties that allow the original shape to be repeatedly re-established if it is temporarily deformed. As the facepiece of the elastomeric respirator should form a tight seal against the user’s face, just like the disposable [N95s], fit testing is still required.”

The best way to disinfect the respirators is with a water-diluted bleach mixture, Bach notes, but adds “the use of bleach and water is not practical between patients. Therefore, alcohol may be used for disinfection by wiping the exterior surface. ... Unfortunately, procedures

for disinfection and decontamination within healthcare environments are not routine and must be established for the environment where elastomerics may be used.”

One facility developed a cleaning protocol³ with a diluted bleach solution, showing that elastomeric respirators could be reused in a pandemic situation. However, the standard operating procedure (SOP) was not designed for routine use and cleaning the masks between patients. Thus, the issue of transmission via a contaminated respirator serving as a fomite would remain in routine practice. The assumption was that during a pandemic, healthcare workers would be treating cohorts of infected patients, thereby allowing them to clean their masks at the end of their shifts, leaving them to dry in a designated area until they report back to work.

“Frankly, if we had a pandemic, elective cases would stop being done and the hospital becomes a place to care for the pandemic respiratory illness,” says **Mary T. Bessesen**, MD, lead author of the study and a clinician at Denver Veteran’s Administration Medical Center. “A healthcare worker would likely have all of their patients with the pandemic illness. It wouldn’t be like it is today, where a nurse would have five patients and put on a mask for only one of them. So, she disposes of that disposable mask at the end of caring for that patient. Here, we are thinking of a disaster scenario.”

In the study, healthcare workers were provided with manufacturers’ cleaning and disinfection instructions and all necessary supplies. They were observed and filmed. SOPs were developed based on the observations, and tested on new group of healthcare workers.

“When using respirator

manufacturers’ cleaning and disinfection instructions without specific training or supervision, all subjects made multiple errors,” Bessesen and colleagues reported. “When using the SOPs developed in the study, without specific training or guidance, naïve healthcare workers disinfected respirators with zero errors. Reusable facial protective equipment may be disinfected by healthcare workers with minimal training using SOPs.”

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The elastomeric respirators were generally comfortable to wear and easier to breathe through than an N95, she says. On the downside, the respirators the hospital tested are somewhat imposing-looking and may frighten patients, with twin filters on either side of the face giving them a more industrial or military look. Presumably, this would become normalized during a pandemic, she says. Can someone adapt the cleaning SOP for routine use?

“There is a drying time issue, so if you were going to do it, you would have to use hospital air [to blow them dry], but I think it’s feasible,”

Bessesen says. “The issue would probably be space — you would have to do this on the nursing unit.”

To have other employees cleaning the respirators for reuse in a designated area would be more of a “central service approach,” she says. “We early on judged that to be less feasible in a pandemic situation, and it would be more practical for each healthcare worker to be responsible for his or her equipment.”

NIOSH Q&A

HEH requested further comment from NIOSH on this issue and received the following answers via email from Bach and three colleagues: **Lewis Radonovich**, MD, senior physician scientist at the National Personal Protective Technology Laboratory (NPPTL) at NIOSH; **Ron Shaffer**, PhD, chief of NPPTL’s Research Branch, and **Debbie Novak**, PhD, RN, senior service fellow with NPPTL.

HEH: Can you comment on why most healthcare workers may not be aware of elastomeric respirators?

NIOSH: There are a variety of respiratory protective devices, configurations, makes, and models used in U.S. healthcare. During periods of high demand, the healthcare workforce needs to be aware of supply chain issues so suitable alternatives may be identified.

Estimates indicate that the N95 filtering facepiece respirator has been, and continues to be, the most common respirator used by U.S. healthcare workers.³ Therefore, elastomeric respirators are not commonly used in healthcare, although some institutions have viewed them as a cost-conscious and sustainable alternative, especially

when the demand for disposable respirators is unusually high. The availability of personal protective equipment on the U.S. market is closely linked to consumer demand with limited elasticity to meet unexpected surges.

Among facilities polled in 2014 and 2015, the reported usage of elastomeric respirators amounted to 25-35% of all respirators used in healthcare, and most of the respondents who reported using elastomeric respirators were from the Midwest. Therefore, depending on the geographical area, the healthcare workers may not be aware that reusable N95 elastomeric respirators may be a viable option.

A case study in the “Implementing Hospital Respiratory Protection Programs: Strategies from the Field” publication highlights one U.S. hospital that uses the elastomeric half-face respirator exclusively. This facility chose the reusable respirator because “they feel it provides a more reliable and comfortable fit, offers better respiratory protection, is cost-efficient, and it is less time-consuming for fit testing.”⁴

HEH: The blog notes that the original shape of the elastomeric facepiece can be reformed. Can you comment a little more on why the elastomeric still needs to be fit tested and how often that should be done?

NIOSH: Fit testing is required for all users of tight-fitting respirators, including filtering facepiece and elastomeric respirators. The fit test ensures that the selected brand and size of respirator fits adequately, when donned properly, to protect the wearer from excessive inward leakage of contaminant around the face seal. The fit test must be repeated annually and whenever the employee reports, or the employer, supervisor, or program administrator makes visual

observations of, any changes in the employee’s physical condition, such as weight gain or loss, facial scarring, or dental changes that could alter fit of the facepiece. Since many brands and models of elastomeric respirators exist, fit testing continues to remain necessary for proper fit.

HEH: Can you clarify the concern regarding disinfecting the respirators? Is there a possibility that the healthcare worker would expose a subsequent patient to pathogens on the mask from a previous patient?

NIOSH: The purpose of disinfection is to reduce the chances that the respirator would serve as a fomite. Pathogens on the respirator surface may potentially be transferred from one person to another via contamination of the wearer’s hands. However, when an infectious outbreak occurs, it can be very difficult to trace a specific healthcare-acquired infection to a contaminated object. Accordingly, we are not aware of any clinical studies that have clearly established a link between a contaminated respirator and secondary infection.⁵

The Occupational Safety and Health Administration (OSHA) and NIOSH offer general procedures for disinfecting and cleaning reusable elastomeric respirators; however, specific standard operating procedures are needed for guidance within healthcare facilities.

HEH: You point to the need for education about the elastomeric respirator, but it seems until the aforementioned problems are addressed, routine use could be limited.

NIOSH: It is important for infection prevention and control and safety professionals to understand options for respiratory protection in healthcare. We aim to discuss this topic at the planned workshop(s).

Respirator manufacturers often have specific recommendations for their products. From time to time, NIOSH publishes general recommendations or best practices. For example, the Hospital Respiratory Protection Program Toolkit⁶ is a resource for program administrators and provides insight for the use of respirators. NIOSH seeks to shepherd additional educational and procedural information to marketplace in the near future. ■

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Is Complacency Setting in on Sharps Injury Prevention?

Meager reductions annually suggest effort has stalled

Although incremental gains continue, needlestick and sharps injury prevention efforts overall have plateaued and there is a risk of complacency in healthcare settings due to the perceived diminished threat of the major bloodborne pathogens, according to an expert on the issue.

Terry Grimmond, FASM, BAgSc, GrDpAdEd, an Australian microbiologist with 50 years of experience as a consultant on sharps injury prevention, finds some troubling trends.

“We used to be very concerned about sharps injuries, but in my opinion sharps injuries have fallen off the radar somewhat,” he said recently in Portland at the annual conference of the Association for Professionals in Infection Control and Epidemiology (APIC).

Although transmission via needlestick remains a rare but real risk, Grimmond cited the general perception that HIV has become a chronic, treatable condition and patients typically are not hospitalized for care. Similarly, although there is a large population of HCV carriers, there are now treatments for the infection. Of course, there is a vaccine for hepatitis B, which healthcare workers are routinely administered if they don't exhibit evidence of existing immunity. Still, that leaves a wide variety of bloodborne threats that can be injected by a needlestick.

“Do you know how many pathogens are capable of being transmitted [by sharps injury]? Sixty,” Grimmond said. “Six years ago, a

nurse in South Africa died from a needlestick injury. Malaria was transmitted from a patient. It was a mosquito without wings.”

In addition, the emergence of Ebola and Zika underscores that the next bloodborne threat via sharps injury may be looming on the horizon. “The organisms are cleverer than us. There are others around the corner,” he said.

While the 2001 U.S. Needlestick Safety and Prevention Act resulted in a 38% reduction of sharps injuries the year after it became effective, only incremental progress has been made since then.

Using multiple denominators and surveillance data, Grimmond said many U.S. healthcare facilities are finding it exceedingly difficult to significantly lower their injury rates. Predictions that sharps injuries were on their way to extinction after the needlestick act was passed now seem particularly farfetched.

“We're not achieving it, guys — we're nowhere near it,” he said. “We actually have had a decrease. It was 2.7 per 100 FTE [full-time equivalent employees] in 2001. Now, it's 2.1 — 16 years later. It fell 38% in one year. We have not even matched that 38% 16 years later — 1.4% a year reduction. I am passionate about trying to reduce injuries among healthcare workers, and we are not doing it enough yet.”

Rising Risk in Home Care

There are high-achieving “sharps-aware” hospitals that typically run

about 70% below the national average of sharps injuries, he said. However, too many settings have insufficient systems in place to reduce the estimated 320,000 sharps injuries that occur annually in the United States.

“That's 800 a day,” he said. “Half of those injuries occur in hospitals, but half of all the healthcare workers in the U.S. don't work in hospitals. The biggest growth industry at the moment is home healthcare — it is rising so rapidly.”

Indeed, home health is on the expanding frontier of care delivery, and it is likely that many sharps injuries are not being reported or captured in formal surveillance systems.

In one study, a questionnaire survey was administered to aides hired by home care agencies and directly by clients. Overall, 1,178 aides completed questions about sharps injuries and potential risk factors occurring in the 12 months before the survey. Aides had a 2% annual risk of experiencing at least one sharps injury. Client-hired aides, men, and immigrants had a higher risk than their counterparts. Risk factors among all home care aides included helping a client use a sharp device, observing used sharps lying around the home, and caring for physically aggressive clients.

“We calculated a 2% annual sharps injury risk among healthcare aides, corresponding to an annual rate of 6.5 SI/100 FTE,” the authors concluded.¹ “Although the risk may appear low, this is the annual

risk among a large and expanding population of home care workers who generally have limited access to healthcare.”

No Data, Big Problem

In the most recent hospital surveillance collected by Grimmond and colleagues for the AOHP’s EXPO-S.T.O.P. survey, 45.6% of sharps injuries were reported by nurses, he said. However, he expressed concern that the total sharps injuries reported by physicians (32.8%) and those working in surgery (38.3%) are trending downward.

“What worries me is that these two numbers are down from previous years,” he said. “I have a fear that doctors are reporting fewer of their injuries. Remember, these are only reported injuries.”

The concern, in part, is that the same emerging complacency about the threat of bloodborne pathogens could result in fewer reported injuries. One of the hazards of underreporting and lax surveillance systems is that the dearth of data will translate to inaction. Thus, the adage, “no data, no problem, no action,” Grimmond said.

To counter these trends, establish sharps injury reporting systems that are fully transparent to all staff. Provide regular updates of exposures to decision-makers so a safety culture permeates, he urged.

“Make your sharps injury reduction goals part of your institution’s strategic plan,” Grimmond said. “You can’t use a benchmark. Zero has to be your benchmark for sharps injuries. You won’t do it on your own. Find a champion. There is always one on every unit — even the OR.”

While leadership support is critical, one must bridge the gap and ensure frontline staff are directly involved, he said.

“Do not assume new staff know what they’re doing in your hospitals,” he noted. “The sharps-aware hospitals that brought their injury rates down — if they know that a new staff member is going to handle sharps, they don’t let them on the unit until they’ve demonstrated they can [use the needle devices] safely on manikins. That’s called competency-based training, not ‘see one, do one, teach one.’”

Workers should return for training if they suffer a sharps injury or if a new engineering device is introduced.

Grimmond recommended using a safety script with patients prior to a sharps procedure, citing this example: “I’m about to use a sharp. For your safety and mine, I need you to try and be as still as you can.” Likewise, door signs can be posted before the procedure, warning, “Do not enter. A sharps procedure is in progress,” he said.

For investigations, Grimmond advocates “no blame, no shame” to encourage reporting of every incident. “When there is a trend or problem, ask the users for their opinion,” he said. “Involve the unit manager, leadership, and the employees. Investigate every incident. Confirm they had a safety-engineered device available and they knew how to use it.”

Remember that it is required by OSHA that new sharps prevention devices be evaluated annually, he emphasized.

“People say to me, ‘I’m using safety-engineered devices for almost every procedure,’” Grimmond said. “‘Is there a better one?’ They don’t know. The OSHA law says that, on

an annual basis, you must evaluate the other technology that may be better than the technology you’re using.”

Celebrate safety milestones and recognize worker achievements, he added. “When they know this is backed from the top, it’s a safer hospital,” he said.

Another idea is to hold safety forums that open with a thought-provoking question like, “If you arrived at work today and it was a safer environment, what would it look like?”

Don’t assume sharps protection devices are being used correctly — or used at all, for that matter. “I’ve emptied sharps containers and counted every single item,” he said. “I have seen safety devices not activated at all. I was shocked at the number of safety devices that were used that were not activated. Why would you pay more money for a safety device that you are not going to use?”

Although the use of sharps safety-engineered devices is mandatory, shrinking healthcare resources make it difficult for facilities to make the best and safest devices available. Grimmond argued that efforts to reduce healthcare-associated infections (HAIs) in patients have resulted in fewer resources for employee health efforts to reduce needlesticks.

“We need to renew our focus,” he said. “We are concentrating — as we should — on the patients with HAIs, but we forget about our own colleagues who are being injured. Eight hundred a day. Guys, let’s care for the carers.” ■

REFERENCE

1. Brouillette NM, Quinn MM, Kriebel D, et al. Risk of sharps injuries among home care aides: Results of the Safe Home Care survey. *Am J Infect Control* 2017;1;45:377-383.

Under Pressure: Multiple Factors Driving Nurse Burnout

Stress reported as a medical condition

We frequently hear of rampant stress and resulting burnout in nurses. What causes it? Employee health professionals are well aware of the threats of occupational injury and illness, but other factors in the work environment require considerable resilience to withstand daily. Consider this incomplete list, summarized from a new book called *Nurse Burnout: Overcoming Stress in Nursing*.

Overcoming Stress in Nursing.

- Insufficient staffing, long, rotating shifts, excessive workload, and time pressure.
- Lack of teamwork with co-workers, and reporting to supervisors who may be unqualified.
- Sicker patients, and families with unrealistic expectations.
- A lack of control in the work environment due to mandates driven by others, floating to new work areas with little or no orientation.
- The threat of hostility or violence by patients, visitors, and co-workers.

Know What You Cannot Control

Hospital Employee Health discussed some issues of nurse burnout in an interview with the book's author, **Suzanne Waddill-Goad**, DNP, MBA, BSN, RN, CEN. She has 31 years of experience in nursing and is a consultant to hospitals and other healthcare settings.

HEH: How is nurse burnout different from physician burnout — or is it?

Waddill-Goad: I think some of the stress is similar, but if you contrast

the physicians' and nurses' practice, the nurses are with the patients — especially in a hospital setting — 24/7. It's obviously a different role in terms of education and training, and also, there is a different level of stress. Typically, nurses in a lot of states work 12-hour shifts, which are good

"I HAVE SEEN MORE STRESS LEAVES IN THE LAST DECADE THAN PROBABLY THE PREVIOUS TWO. IN SOME CASES, EVEN MANAGEMENT IS GOING ON STRESS LEAVE AND REPORTING TO EMPLOYEE HEALTH."

for work-life balance because they have days off if they don't fill them up with other hospital work, which nurses have a tendency to do — working overtime.

HEH: You refer to the adage of knowing what you can control and what you can't. How does this apply to nursing burnout?

Waddill-Goad: Most physician providers are trained to be the captain of the ship, so to speak. Nurses, on the other hand, often are employed [by a hospital or

organization] where others — the leaders — are making the rules. And sometimes they have to live with it, whether they like it or not. The best scenario is to have nursing leaders that are really engaged with those doing the work. They can help a great deal by listening to the people who are providing care, who are really at the sharp point of "quality" and some of the other [QI] nomenclature. Nurses are with the patient at that point of service. That's where the rubber meets the road, and we need to know how that work is conducted and what kinds of things aren't working. I have always felt the responsibility as a nurse leader to make sure we are making changes not only in the best interest of patients, but also for the staff providing the care. There is a lot of interesting research on the connection between staff satisfaction and patient satisfaction.

HEH: What kind of trends are you seeing in nursing that you discuss in the book?

Waddill-Goad: I have seen more stress leaves in the last decade than probably the previous two. In some cases, even management is going on stress leave and reporting to employee health. That should really be a red flag for a broken system. People feel they are out of control, or their job is so stressful that they just can't see the forest through the trees. They are feeling so overwhelmed standing in the middle of a tornado. Sometimes, you just have to step out.

HEH: Just to clarify, you're talking about reporting stress as a

medical condition and taking leave from work?

Waddill-Goad: Yes, and I have actually seen a lot of that when consulting, at both the staff level and the leadership level. I would say middle management, not the senior leadership. Things have changed so much with this focus on outcomes. You can directly tie the patient outcomes to things nurses are or are not doing. That typically hasn't been the case in the past. We haven't been graded on how we provide care and what we are like as customer service agents. Do your patients have bedsores or outcomes that are secondary to the reason the patient was admitted? Now with [CMS] Value-Based Purchasing, the hospital may not get paid [for adverse outcomes]. That's a lot of pressure for nurses who have been in the profession in times when that wasn't the case. We were always considered overhead.

HEH: Does fatigue, stress, and burnout in nurses produce a cumulative effect, a sort of linear progression?

Waddill-Goad: I kind of liken it to a circle. I mention in the book that my doctoral research was on leadership fatigue. And I did that because I saw my consulting clients and they looked like they have been dragged through a keyhole backwards. Everyone looked exhausted. That's not good, so I started looking at this topic.

Being a nurse leader in a hospital, it's 24/7. You just don't turn it off. And a lot of people even on vacation don't turn it off. They take their phone, answer email, and continue to be available. Personally, I think that is unwarranted. There are other people in the hospital that you can turn over your responsibilities to. You need the time off for rest and relaxation and

to become more resilient. Otherwise, it is like a circle of stress and fatigue — and if you don't manage it, people will burn out.

HEH: What are some interventions and strategies the employee health professionals can adopt to help nursing staff?

Waddill-Goad: More hospitals have begun wellness-focused activities. For example, making sure that you take time to recover if you're sick — don't come to work sick. There are more policies now that if you have a fever, for example, don't come to work. I can tell you many times in my career I worked sick because I knew it was going to be difficult to replace me. So, the whole wellness arena, I think, is great.

Let's focus on being well and healthy — looking at the workforce from a health standpoint. Do we have a healthy workforce? Are we scheduling people so you are not working 12 days in a row? We [should be] promoting weight management, keeping blood pressure in check, eating right, exercising, and getting a good night's sleep. We see smoking cessation, diabetes management — all of those employee health-related activities. Another area is vacation time. For example, some organizations say you either use it or lose it. Or they cap it at 200 hours [of leave], which means you have to go on vacation, which I think is great.

HEH: Does the highly publicized bullying aspect of nursing contribute to burnout?

Waddill-Goad: Certainly, it causes stress for the people being bullied. As you say, there has been a lot in the literature, and I think a lot of hospital leaders have taken the position of zero tolerance. I was at a client site and one of the nurse managers in one of the critical care areas was having difficult time with some of her staff. She was a new leader and asked me, "What I should do?" Basically, in about five minutes [online] I found about 60 articles on nurse bullying. It's a huge problem. I said, "You as the nurse leader have to own it and manage it. You must take the tone that we are not going to tolerate that in our department. If you are a good nurse but have bad behavior, you can't work here." Nurse leaders really have to be vigilant in not allowing it.

HEH: Any point of emphasis you would like to make about the book and nursing health?

Waddill-Goad: As caregivers, we take good care of others, but often we don't consider our needs. Early in my career [a supervisor] asked me something that has stuck with me ever since. She asked me, "What do you need to do your best work?" Honestly, it had never occurred to me. I had never thought about it. That's a great take-home message. We nurses are at risk because of the kind of profession we have chosen. We need to raise the bar as far as what our expectations are for people. Know what people need to do their best work and promote safety and healthiness, just like we do quality. ■

COMING IN FUTURE MONTHS

- Proactive tips to control chaos after an exposure incident
- The best and the brightest: The employee health role in staff retention
- A streamlined method to TB-test volunteers
- In a dark time: Helping the grieving healthcare worker



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CE QUESTIONS

- 1. According to NIOSH, in a moderate-risk situation of an emergency medical worker responding to a suspected fentanyl overdose, PPE recommendations include which of the following?**
 - a. Filtering facepiece respirator
 - b. Powder-free nitrile gloves
 - c. Wrist/arm protection such as long sleeves
 - d. All of the above
- 2. According to the CDC, approximately how many people died from opioid overdoses from 1999 to 2015?**
 - a. 100,000
 - b. 200,000
 - c. 300,000
 - d. 400,000
- 3. A facility developed a cleaning protocol with a diluted bleach solution, showing that elastomeric respirators could be reused in a pandemic situation. Which of the following is correct regarding the standard operating procedure developed?**
 - a. Central service disinfects the respirators.
 - b. Respirators are microwaved for two minutes on half power.
 - c. Use of alcohol wipes allows quick cleaning between patients.
 - d. Healthcare workers clean their own masks at the end of their shifts.
- 4. In a study of sharps injuries, home healthcare workers had a 2% annual risk of at least one sharps injury.**
 - a. True
 - b. False

CE OBJECTIVES

After reading each issue of *Hospital Employee Health*, the nurse will be able to do the following:

1. Identify particular clinical, administrative, or regulatory issues related to the care of hospital employees;
2. Describe how the clinical, administrative and regulatory issues particular to the care of hospital employees affect healthcare workers, hospitals, or the healthcare industry at large;
3. Cite solutions to the problems faced in the care of hospital employees based on expert guidelines from relevant regulatory bodies, or the independent recommendations of other employee health professionals.