



# HOSPITAL EMPLOYEE HEALTH



THE PRACTICAL GUIDE TO KEEPING HEALTH CARE WORKERS HEALTHY

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## Vaccinated HCWs acquire measles, expose patients, co-workers

*Use respirators for suspect cases*

*By Gary Evans, Senior Staff Writer*

**T**he resurgence of measles continues to vex employee health professionals, as recently published research emphasizes that even immunized healthcare workers can still acquire the virus and expose co-workers and patients.

The take-home message: Workers with a history of measles vaccination or immunity should wear an N95 or equivalent respiratory protection when examining or caring for patients with suspected or confirmed measles, says **Shruti K. Gohil**, MD, MPH, lead author of the study and associate medical director of

Epidemiology & Infection Prevention at the University of California Irvine School of Medicine.

"You can acquire it even though you have been vaccinated, and the impact of not wearing an N95 for infection prevention in terms of exposures is huge," she says. "You can expose a lot of patients and cause a lot of worry about transmission." There is about a 3% risk of breakthrough infections even after measles immunization, so the Centers for Disease Control and Prevention recommends wearing a respirator even if vaccinated when caring for patients

**"YOU CAN ACQUIRE IT EVEN THOUGH YOU HAVE BEEN VACCINATED, AND THE IMPACT OF NOT WEARING AN N95 FOR INFECTION PREVENTION IN TERMS OF EXPOSURES IS HUGE."**



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**SENIOR STAFF WRITER:** Gary Evans, (706) 424-3915,  
(gary.evans@ahcmedia.com).

**MANAGING EDITOR:** Jill Drachenberg  
**CONTINUING EDUCATION AND EDITORIAL  
DIRECTOR:** Lee Landenberger

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For questions or comments, call  
**Gary Evans** at (706) 424-3915.

with suspect or confirmed measles.

“I work in partnership with our hospital occupational health folks in making sure that all of our healthcare workers are immunized — making sure the people who are sick are not working while they are actively ill — and that they are in compliance with infection prevention practices,” Gohil says. “One of the things we have difficulty with sometimes is that our healthcare workers will ask us, ‘How come I have to wear an N95 if I am already vaccinated against measles?’”

With measles declared eradicated in the U.S., in 2000 it fell off the clinical radar, leading to misdiagnoses and unrecognized cases as it began dramatically returning a decade later. The infected workers in this outbreak were exposed primarily through face-to-face contact with undiagnosed cases of measles, though given the patient symptoms, N95 respiratory protection was probably warranted. Yet N95 respirator use by healthcare workers with documented immunity to measles is not uniformly required or practiced in hospitals, the authors observe.

“We know it’s not standardized practice to use N95s if you have been vaccinated against measles,” Gohil says. “They should wear N95s as soon as there is concern about potential measles in a patient. Recognizing those infected early [and following precautions] allows you to use resources appropriately. Your time and energy can go toward taking care of the patient as opposed to chasing down all the healthcare workers who may have exposed other patients.”

## More than 1,000 exposed

A community outbreak of measles in Orange County, CA, in

2014 led to secondary transmission to five healthcare workers. Of these, four had direct contact with measles patients and none wore N95 respirators. Four of the healthcare workers had prior evidence of immunity and continued working after developing symptoms, ultimately resulting in 1,014 exposures to patients and colleagues.

“They had proof of immunity, but still got sick,” Gohil says. “They were very mild symptoms — that was pretty striking. They hardly knew that they were sick. You usually have symptoms of fever, cough, and cold-like symptoms. These healthcare workers had very little or none of that. The reason they continued to work is that they really didn’t feel that they were sick. It wasn’t until the [measles] rash showed up that clinicians were aware that something else was going on and that’s when they reported for care.”

Despite the relatively mild nature of the occupational infections, it certainly could not be assumed that transmission would not continue. Due diligence required the herculean follow-up of all exposures, none of whom contracted measles.

“In the literature we know that if you are vaccinated you are less likely to acquire measles, and it would make common sense that the presence of antibodies would limit the course of the illness and the likelihood that you would transmit to others,” she says. “We have hints and suggestions that this is true, but the fact that we had four symptomatic healthcare workers who saw all these other patients while they were actively infected resulted in a whole bunch of exposures. None of the exposures went on to acquire disease, and that is important to note.”

Thus, in an experiment of sorts that would never be approved as a

clinical trial, the outbreak showed the vaccine is imperfect but it did apparently block subsequent transmission. “So as far as we know, this is one of the few opportunities to [assess] the vaccine efficacy in limiting illness and preventing transmission.”

The outbreak could serve as a teachable moment for employee health professionals.

“Since re-emerging global and domestic infectious diseases like measles are a real risk to healthcare workers — even with former immunity status — and because measles symptoms can present like other infectious diseases, it is important that healthcare workers wear respirators when evaluating these types of patients prior to diagnosis,” says **Amber Mitchell**, DrPh, MPH, CPH, president and executive director of the International Safety Center.

Healthcare workers who have rarely seen a measles case may assume they are immune if they have been vaccinated or had natural infection as a child. Thus, they may feel safe treating confirmed or suspect measles patients without respiratory protection and may even decide to disregard a hospital policy.

“I think most of hospitals do have these [N95] policies in place, but in practice they may see some resistance to this type of policy,” Gohil says. “I can say at my hospital, UC Irvine, we did have something in place for use of N95s.”

In addition, although most healthcare workers are required to have evidence of measles immunity as a condition of employment, enforcement of such policies is variable, the authors noted. Infection control and occupational health strategies often treat historical documentation of measles immunity as absolute, despite the low but present risk for measles infection in

persons with evidence of immunity, the authors concluded.

While examining suspect cases is more of a gray area, immunized workers would certainly be expected to wear respirators to enter the room of a diagnosed measles patient under airborne precautions. Though they use powered air purifying respirators (PAPRs) instead of N95s, the policy at UnityPoint Health-Methodist/Proctor Hospital in Peoria, IL, calls for full precautions regardless of immune status, says **Mary Bliss**, RN, COHN, Coordinator of Employee Health Services at the hospital.

“We check MMR vaccine verification and/or titer results on all new hires coming into our hospital,” she tells *Hospital Employee Health*. “Annually, every employee has to complete the infection control training modules. One of the training modules addresses types of diseases, measles included, and the type of isolation room, protective equipment, precautions, that are required before entering the room. It is expected that any employee going into one of the rooms where there is a patient with a diagnosis of measles would follow the precautions for that type of isolation room — even if the employee has had two MMR vaccines or a titer verifying their immunity. It would be considered a policy violation to not follow the precautions.”

The community outbreak in Orange County included 17 confirmed cases diagnosed from mid-January 2014 to April 21. The first identified measles case was a 19-year-old female with known exposure to measles during travel to the Philippines who developed disease despite three documented MMR vaccine doses. One cluster in the outbreak included a “vaccine-refusing family” which led to subsequent spread in a daycare center. As cases

presented for care, a history of immunity provided “false reassurance” to healthcare workers with unprotected face-to-face exposures, leading them to continue working even when mild symptoms appeared.

“Our findings emphasize the importance of adherence to the recent CDC recommendation for use of N95 or equivalent respirator for suspect measles cases regardless of immunity status,” Gohil and colleagues concluded.

That may present a challenge for primary care facilities that frequently do not stock N95 respirators or have their staff fit-tested. Again, even facilities with policies in place still depend to some degree on the ability to recognize the rare but returning disease.

“Timely N95 respirator use relies on provider suspicion of measles, which may not be appreciated until after direct contact with infected patients, particularly in post-elimination era settings where clinical experience with measles is low,” the researchers noted. “In our study, 80% of patients required multiple visits before diagnosis. This finding underscores the need for continued, periodic education on previously eliminated diseases of front-line healthcare workers.”

After the outbreak, the facility began immediate triage of patients presenting with any rash, using signage to guide patients to enter the facility away from the emergency room waiting area and directly into airborne isolation until further evaluation.

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# 25% of HCWs may refuse to treat patients in next pandemic threat

*But desire to protect family trumps self-preservation*

**B**ased on the historical precedents of HIV/AIDS and Ebola, some 25% of healthcare workers may refuse to treat patients with the next novel pandemic pathogen that is perceived as life-threatening, researchers report in a fascinating new attitudinal study.<sup>1</sup>

“Unfortunately, we have no reason to believe that past won’t be prologue,” says lead author **Deepa Narasimhulu, MD**, a clinician at Maimonides Medical Center in Brooklyn, NY. “With the emergence of a new pathogen that is thought to be capable of spreading from person to person, we would guess that a similar proportion of healthcare workers may be unwilling to treat affected patients.”

Thus, an open discussion should begin among health educators, hospital administrators, the media, and others who have important roles to play in educating providers about their ethical obligations and the limits thereof. Less “inflammatory” messaging about emerging diseases would certainly help as well, she notes.

“Only by doing all these things can we hope that the lessons of Ebola can result in better, safer, more humane care for victims of epidemics yet to come,” Narasimhulu says.

The researchers assessed healthcare workers’ (HCWs’) attitudes toward care of patients with Ebola virus disease through a self-administered questionnaire-based cross-sectional study of HCWs at two urban hospitals. Of 428 workers surveyed, 25.1% believed it was ethical to refuse care to patients with Ebola and 25.9% were unwilling to provide care to them. In a multivariate analysis, female gender (32.9% vs.

11.9%); nursing profession (43.6% vs. 12.8%); ethical beliefs about refusing care to patients with Ebola (39.1% vs. 21.3%); and increased concern about putting family, friends, and coworkers at risk (28.2% vs. 0%) were independent predictors of unwillingness to care for patients with Ebola.

Although beliefs about the ethics of refusing care were independently associated with willingness to care for patients with Ebola, 21.3% of those who thought it was unethical to refuse care would be unwilling to care for patients with the virus, the researchers found. Healthcare workers had concerns about potentially exposing their families and friends to Ebola (90%), which was out of proportion to their degree of concern for personal risk (16.8%). *Hospital Employee Health* asked Narasimhulu to detail some of the findings, which certainly are germane to the current and future emergence of novel infectious diseases.

**HEH:** Your hypothesis was spot-on that the proportion of HCWs who would be unwilling to care for patients with Ebola would be the same as the proportion of HCWs unwilling to care for patients with HIV/AIDS in the 1980s (25%). Yet Ebola was a known virus and the CDC was initially stating that any hospital could handle an Ebola patient through correct isolation and PPE use. Do you think your results were highly influenced by the transmission to two nurses in Dallas, meaning that more HCWs would have been willing to treat cases before infection control measures failed?

**Narasimhulu:** While the Ebola virus was known, previous outbreaks were

mostly confined to smaller geographic areas, mostly in African nations, were controlled relatively quickly, and the reported number of cases never exceeded a few hundred. During the recent pandemic, the rapid spread of Ebola across national boundaries with several thousand cases reported in a short time was a “new behavior” for the Ebola virus which, coupled with the high fatality rate, made it more worrisome similar to the manner in which anthrax and smallpox are both known pathogens, but are still capable of engendering fear.

Given the fact that a disproportionate number of healthcare workers were infected in West Africa during the Ebola pandemic, along with its high fatality rate, a significant proportion of HCWs may have been unwilling to care for Ebola patients even before the events in Dallas. However, the transmission to two nurses in Dallas put a face on the pandemic, and clearly influenced our results. We suspect that more HCWs would have been willing to treat Ebola patients before these events. People tend to respond more strongly to nearby and concrete events as compared to faraway and abstract events, even if the numbers in the latter cases are much larger. As Stalin said, “A single death is a tragedy; a million deaths is a statistic.”

Indeed, following the highly publicized transmission to the nurses in Dallas, there was a panicked reaction fueled by the lay press. Almost every newspaper had a picture of the nurses and a story about the tragedy. There were even stories about how one of the nurse’s dog, Bentley, made it through the Ebola crisis, and how the city spent

\$27,000 on Bentley. This helped put a face on an unfortunate occurrence, and made it a tragedy to which people were able to relate, especially HCWs who were able to identify with the suffering of an affected fellow HCW. While the nation focused on these two healthcare workers, the flu killed several thousand Americans during the 2014-2015 flu season, as it does every year, and that fact was met with a collective shrug, while the laser focus of the nation remained on Dallas.

**HEH:** In your opinion, was there a problem with the public health message by the CDC, some element that created healthcare worker distrust that they would be protected?

**Narasimhulu:** The CDC did have to play catch-up after initially announcing that any hospital could take care of Ebola patients. It was subsequently realized that it was not easy, in some cases not feasible, to train the nation's hospital staffs and to ensure the availability of appropriate protective equipment at all hospitals in the immediate wake of the infection of the two nurses in Dallas. Ebola treatment centers were then identified and equipped to take care of infected patients. While it is easy to point fingers in retrospect, if Mr. Duncan had not landed in Dallas to visit his family, the preparation and expenditure of healthcare dollars in the absence of available evidence of infection in the U.S. may have been criticized as excessive.

The mistrust felt by some HCWs may be related to the way the Ebola messages were presented to them. An article detailing how the CDC made its initial recommendation based on the available evidence, and modified its recommendation in the light of subsequent developments may have reassured HCWs that the CDC was constantly monitoring the situation and updating its recommendations in

order to ensure their safety. On the other hand, articles criticizing the CDC for its incorrect recommendations lead to sense of insecurity and distrust among HCWs. In reality, we were all constantly learning new things about Ebola (e.g., persistence in semen and ocular fluid) that challenged a nimble public health service to respond to rapid changes in knowledge as the epidemic evolved. On the whole, the CDC did an exemplary job.

**HEH:** Were you surprised given all the advances in AIDS prophylaxis, treatment, and clearly established routes of transmission that 12.6% of participants thought it was ethical to refuse care to HIV patients? I have not heard of reports of healthcare workers refusing to treat those with HIV — do you think this is actually happening?

**Narasimhulu:** While we were surprised to find that 12.6% of participants in the 21st century thought it was ethical to refuse care to HIV patients, this may not equate with an unwillingness to actually care for these patients. We know from our study that ethical beliefs do not closely mirror willingness to provide care in the case of Ebola. In other words, beliefs about the “right thing to do” do not always determine what people are willing to do. HCWs may merely be staking out the position that providers have a right to choose which patient they see, and they can refuse care because, for example, they feel they lack the expertise to render care for a given ailment. Alternatively they may be loath to deal with patients they feel have some unnamed social stigma (e.g., HIV infection may disproportionately affect intravenous drug users). We found it useful to use these statistics both as a contrast with attitudes towards Ebola, and with attitudes toward HIV in the antediluvian 1980s.

**HEH:** Only 44.1% of participants felt that their hospital was well equipped

to take care of patients with Ebola. Was this at the heart of much of the HCWs' fear — that they had, for example, insufficient protective equipment and training to deal with an Ebola patient?

**Narasimhulu:** We believe that this was, indeed, an important part (though not the heart) of the reason for the fears of HCWs. We also believe that rather than the actual lack of protective equipment, the inadequate education and training component may have been more of an issue. For example, even if the hospitals had sufficient protective equipment to deal with Ebola patients, lack of a good program to educate and train the HCWs may result in the HCWs being unprepared to take care of Ebola patients. The other reason may have been a sense of insecurity due to the unavailability of support for themselves and their family in the unlikely case that they acquire infection as a result of patient care. Offering some form of temporary disability insurance, life insurance, and assurance that they would be cared for at no cost if they were to acquire the infection may have helped to alleviate the fears of HCWs.

**HEH:** If the HCW had provided care to a patient with Ebola, 90.8% of participants would be “somewhat” or “very concerned” about putting their family, friends, and coworkers at risk of Ebola even if he or she (the HCW) were asymptomatic. Could you elaborate a little more on some remedies you suggested for this family concern issue, particularly for female workers, “child care assistance, temporary living quarters to reduce the risk of disease transmission to family members, as well as insurance to protect them and their families should they become ill.”?

**Narasimhulu:** HCWs were worried about how their professional obligations to their patients may conflict with their personal obligations to their families. Hence, while the risk to family and friends was statistically

small, it apparently loomed large in the mindsets of frontline staff. This concern was amplified by a lack of programs to support HCWs and their families if the workers were to get sick and become disabled or die as a consequence of performing their duties. In our study, HCWs' concern for their family and friends was more than their concern for their personal safety. This may be because they thought that, "I signed up for this, but my child did not; do I have the right to put him or her at risk?"

While it is not recommended that personnel caring for Ebola patients be isolated if they are asymptomatic, providing them with that option and with the ability to do so for a finite period of time may make them more willing to care for these patients. Providing temporary sleeping quarters, childcare/eldercare assistance may help alleviate concerns about transmitting disease to family and friends. Employer-provided temporary life and disability insurance will serve as a protection for their families in the event that they are infected.

Since provision of these facilities to all HCWs may not be feasible, identifying a team of HCWs that will

provide care for any suspected patient with Ebola, and providing them with these benefits and options when they sign up may be a reasonable first step. However, it is important to recognize that all HCWs are at risk since the first encounter, usually in the emergency room, may not be provided by this "special team" of HCWs. Hence, "the benefits" may need to be extended to cover HCWs in other vulnerable locations as the next step. Finally, in addition to reassuring HCWs that provisions will be available for their families as needed (rarely if ever), HCWs (and, perhaps more importantly, political leaders) need to have the fact that Ebola patients are not infectious when they are asymptomatic reinforced.

**HEH:** You cite the need for teaching "beyond the unique biology, and infection control necessities associated with a given infectious agent, and instead focus on the broader issue of the ethical responsibilities, and limits thereupon." Would this involve hospital administration expressing concern and support for workers and sort of putting the fears and risks "on the table" for discussion? This almost

sounds like it would require a culture change in some hospitals, but perhaps that is what is warranted in such extraordinary circumstances?

**Narasimhulu:** A cultural evolution would be a more appropriate term. From HIV to Ebola to the recent Zika virus, new threats are constantly surfacing. The next "unknown" is lurking right around the corner and we need to prepare and support our healthcare workforce to tackle it. Therefore we agree with what you surmised; we can't merely move from epidemic to epidemic and deal with the unique causes of transmission and natural history of sequential diseases. We also need to learn from our social history, and the history of medicine. Young trainees need to be reminded of their obligations as healers in difficult circumstance.

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# Patient safety experts: Protect and support the healthcare workforce

*No patient safety without worker safety*

A new report by some of the nation's leading patient safety advocates shows strong support for the healthcare workforce, saying protecting patients must begin with protecting their caregivers.

"The tactics recommended in the report would support developing strong employee health and occupational health programs within hospitals and, in fact, in all

healthcare settings," says **Sanjay Saint**, MD, MPH, a member of the report committee and chief of medicine at the VA Ann Arbor (MI) Healthcare System.

The National Patient Safety Foundation (NPSF) convened an expert panel to create the recently released report, "Free from Harm: Accelerating Patient Safety Improvement Fifteen Years after To Err

Is Human."<sup>1</sup>

The report emphasizes that "workforce safety, morale, and wellness are absolutely necessary to providing safe care. ... Such support should include attention to both physical harm (e.g., physical injury, violence in the workplace, stress-related illness) and emotional harm (e.g., disrespectful behavior, intimidation, and verbal abuse)."

The report specifically recommends that the healthcare setting adopt initiatives to improve working conditions by establishing the following:

- an environment of respect;
- programs to support staff and improve resiliency;
- fatigue management systems;
- communications, apology, and resolution programs.

“As background, the panel members reviewed much of the literature, including a report from the NPSF Lucian Leape Institute, which focused on workforce safety and emphasized that we cannot achieve patient safety without providing a safe environment for healthcare workers,” Saint says. “Workforce safety encompasses physical, psychological, and emotional safety. One example of how directly this can be tied to patient safety is by providing necessary resources to counter burnout, which contributes to safety lapses.”

Noting that workforce safety is a precondition to patient safety, the report recommends healthcare settings “expand or develop resources that support the workforce.” That would seem to certainly suggest support for employee health and occupational health programs in hospitals. However, somewhat surprisingly in the wake of Ebola, the infectious disease threat to healthcare workers is not underscored in the report.

“The report focuses broadly on workforce safety,” Saint says. “Although outlining specific clinical guidelines is beyond the scope of the report, I would say the threat of infectious and communicable disease falls within the report’s recommendations for strong training and resources, be that personal protective equipment and the training to use it effectively, or other resources. The panel also suggests involving the

workforce in identifying areas for measurement and focus.”

Again, this goes beyond hospitals, as a recent study<sup>2</sup> shows nurses in ambulatory settings largely falling short of following all standard precautions to protect themselves from bloodborne pathogens, he says.

“We need to know why it is that any particular nurse would not do this — is it because of a time crunch, lack of resources, lack of education, or another reason?” Saint says. “The answer may not be the same for every institution, or every unit within the same institution.”

In grim statistics that will be all too familiar to employee health professionals, the report noted that healthcare workers suffer almost twice the rate of injury and illnesses as private industry as a whole. Other observations in the report include the following:

- In terms of days lost from work due to injury, hospitals are among the most hazardous job sites in the U.S.
- Healthcare workers are at risk for physical injuries on the job, sometimes inflicted by violent patients or families.
- Bullying behavior among healthcare professionals has direct effects on workforce safety and patient safety. Many organizations do not address disrespectful behavior decisively; too often, individuals in roles of power or influence are not corrected or reprimanded when they intimidate others.
- Healthcare workers who are bullied may be intimidated from speaking out when they observe safety violations or failures to complete safety-related tasks. Healthcare organizations should take steps to eliminate bullying behavior and address the security of the workforce.
- Professional burnout is common. About half of physicians in primary care and some specialties report

symptoms of burnout.

“Pockets of awareness” about workforce support are emerging, as research increases and the importance of finding “joy” at work is recognized.

“The important role of joy and meaning in work for patient care outcomes was not widely recognized 15 years ago; its acknowledgement as a valid topic for research, and its discussion represents progress,” the report states.

To find joy and meaning in their daily work, each employee should be able to affirmatively answer the following three questions each day, according to the report:

- Am I treated with dignity and respect by everyone?
- Do I have what I need so I can make a contribution that gives meaning to my life?
- Am I recognized and thanked for what I do?

Organizations must adopt modern quality improvement tools and methods and train all professionals in safety culture and implementation science throughout their career trajectory. Providing the knowledge and skills to improve safety may improve job satisfaction, engagement, resilience, and patient safety, the panel concluded. Overall, the report calls for the establishment of a total systems approach and a culture of safety, and calls for action by government, regulators, health professionals, and others to place higher priority on patient safety science and implementation.

In addition to supporting the workforce the report makes the following seven recommendations:

- ensure that leaders establish and sustain a safety culture,
- create centralized and coordinated oversight of patient safety,
- create a common set of safety metrics that reflect meaningful

outcomes,

- increase funding for research in patient safety and implementation science,
- address safety across the entire care continuum,
- partner with patients and families

for the safest care, and

- ensure that technology is safe and optimized to improve patient safety.

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Safety Improvement Fifteen Years after To Err Is Human. National Patient Safety Foundation, Boston, MA; 2015.

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# Zika 101: Prime threat for the pregnant

*Editor's note: As this issue went to press, a case of sexual transmission of Zika virus was reported Feb. 2 in Dallas. Sexual transmission of the virus has occurred before, but the development jolted a public health narrative that was primarily focused on mosquitoes, pregnancy, and birth defects. The CDC is emphasizing condom use for those returning from Zika transmission areas while working on more detailed guidelines to prevent sexual transmission. Look for full details in the next HEH.*

Employee health professionals should advise healthcare workers who are pregnant to strongly reconsider any travel south of the border due to the emergence of mosquito-borne Zika virus. In Brazil and other countries where Zika is actively spreading via mosquitoes, the virus is the prime suspect behind increasing cases of microcephaly — a horrific birth defect that stunts head and brain development. The vast majority of healthcare workers are women, many of whom are of childbearing age and may be concerned about Zika.

As this issue went to press, the virus had not been acquired in the United States, but that is subject to change as travelers return from countries where Zika is spreading. Outbreaks of Zika previously have been reported in tropical Africa, Southeast Asia, and the Pacific Islands, but the first confirmed case in the Americas was reported in May

2015 in Brazil.

“There are 31 travel-associated cases detected in 11 states and the District of Columbia, from the period of 2015 to the present,” **Anne Schuchat**, MD, principal deputy director of the Centers for Disease Control and Prevention said at a Jan. 28 press conference. “For the U.S. territories, there are 20 laboratory-confirmed cases that we are aware of, 19 from Puerto Rico, and one from the U.S. Virgin Islands. [We are] making this nationally notifiable and laboratory testing for the lab confirmation with the PCR is just increasing, so we really do expect there to be a lot more travel-associated cases. The key thing for people to know and remember is that most of these are very mild illnesses. It’s really the circumstances of pregnant women who are traveling that we want to have heightened awareness of, and we really caution pregnant women to consider postponing travel.”

If there is anything we’ve learned about infectious diseases in this 21st century age of pandemics, it is not to underestimate them. The *Aedes* mosquitoes that can carry the Zika virus are in the U.S. and similar tropical diseases like dengue have been sporadically transmitted here. That will probably happen with Zika in the U.S. when a traveler returning from a country where the virus is endemic is bitten by a mosquito, who then subsequently feeds on

another person and transmits the virus between them. Remember, however, that the infected person does not become a life-long chronic carrier of Zika virus and the window of transmission possibility is thought to be about one week. There is no vaccine to prevent infection or medicine to treat Zika. Four of five people infected with the virus will not develop symptoms, which include fever, rash, joint pain, or red eyes. The infection is thought to be self-limiting and the primary threat is to mother and unborn child. Travel advisories are currently in affect for Mexico, and countries in the Caribbean and Central and South America. Check the CDC for travel updates at: <http://wwwnc.cdc.gov/travel/page/zika-information>.

The CDC has issued the following questions and answers to address some of the issues of Zika and pregnancy.

### • **I am pregnant. Should I travel to a country where cases of Zika have been reported?**

Until more is known, CDC recommends special precautions for pregnant women and women trying to become pregnant:

- Pregnant women in any trimester should consider postponing travel to the areas where Zika virus transmission is ongoing. Pregnant women who do travel to one of these areas should talk to their doctor or other healthcare provider first and strictly follow steps to avoid mosquito bites during the trip. (See below.)

- Women trying to become pregnant or who are thinking about becoming pregnant should consult with their healthcare provider before traveling to these areas and strictly follow steps to prevent mosquito bites during the trip.

• **How will Zika virus affect me or my unborn baby?** Zika is primarily transmitted through the bite of infected Aedes mosquitoes. It can also be transmitted from a pregnant mother to her baby during pregnancy or around the time of birth. We do not know how often Zika is transmitted from mother to baby during pregnancy or around the time of birth. There have been reports of a serious birth defect of the brain, microcephaly (a condition in which a baby's head is smaller than expected when compared to babies of the same sex and age) and other poor pregnancy outcomes in babies of mothers who were infected with Zika virus while pregnant. Additional studies are needed to further characterize this relationship. More studies are planned to learn more about the risks of Zika virus infection during pregnancy.

• **Is it safe to use an insect repellent if I am pregnant or nursing?** Yes. Using an insect repellent is safe and effective. Pregnant women and women who are breastfeeding can and should choose an EPA-registered insect repellent and use it according to the product label.

• **If a woman who is not pregnant is bitten by a mosquito and infected with Zika virus, will her future pregnancies be at risk?** We do not know the risk to the infant if a woman is infected with Zika virus while she is pregnant. Zika virus usually remains in the blood of an infected person for only a few days to a week. The virus will not cause infections in an infant that is

conceived after the virus is cleared from the blood. There is currently no evidence that Zika virus infection poses a risk of birth defects in future pregnancies. A woman contemplating pregnancy, who has recently recovered from Zika virus infection, should consult her healthcare provider after recovering.

• **Should a pregnant woman who traveled to an area with Zika virus be tested for the virus?** See your healthcare provider if you are pregnant and develop a fever, rash, joint pain, or red eyes within two weeks after traveling to a country where Zika virus cases have been reported. Be sure to tell your healthcare provider where you traveled.

• **Is it safe to get pregnant after traveling to a country with Zika virus?** If infected, Zika virus usually remains in the blood of an infected person for about a week. The virus will not cause infections in a baby that is conceived after the virus is cleared from the blood.

• **Can a pregnant woman be tested for Zika weeks or months after being in a country with Zika?** At this time, and for several reasons, we do not recommend routine Zika virus testing in pregnant women who have traveled to a country with known transmission. First, there can be false-positive results due to antibodies that are made against other related viruses. Second, we do not know the risk to the fetus if the mother tests positive for Zika virus antibodies. We also do not know if the risk is different in mothers who do or do not have symptoms due to Zika virus infection.

• **What can people do to prevent becoming infected with Zika?** There is no vaccine to prevent Zika. The best way to prevent diseases spread by mosquitoes is to avoid being bitten.

Protect yourself and your family from mosquito bites. Here's how:

- Wear long-sleeved shirts and long pants.

- Stay in places with air conditioning or that use window and door screens to keep mosquitoes outside.

- Use Environmental Protection Agency (EPA)-registered insect repellents. All EPA-registered insect repellents are evaluated for effectiveness. Always follow the product label instructions. Reapply insect repellent as directed. Do not spray repellent on the skin under clothing. If you are also using sunscreen, apply sunscreen before applying insect repellent.

- If you have a baby or child: Do not use insect repellent on babies younger than 2 months of age. Dress your child in clothing that covers arms and legs, or a covered crib, stroller, and baby carrier with mosquito netting. Do not apply insect repellent onto a child's hands, eyes, mouth, and cut or irritated skin. Adults: Spray insect repellent onto your hands and then apply to a child's face.

- Treat clothing and gear with permethrin or purchase permethrin-treated items. Treated clothing remains protective after multiple washings. See product information to learn how long the protection will last. If treating items yourself, follow the product instructions carefully. Do NOT use permethrin products directly on skin. They are intended to treat clothing.

- Sleep under a mosquito bed net if you are overseas or outside and are not able to protect yourself from mosquito bites.

• **What is the treatment for Zika?** There is no specific medicine to treat Zika virus infections. Treat the symptoms:

- Get plenty of rest.
- Drink fluids to prevent dehydration.
- Take medicine such as acetaminophen to reduce fever and pain.
- Do not take aspirin or other non-steroidal anti-inflammatory drugs.
- If you are taking medicine for another medical condition, talk to your healthcare provider before taking additional medication.

• **How is Zika diagnosed?** See your healthcare provider if you develop symptoms (fever, rash, joint pain, red eyes). If you have recently traveled, tell your healthcare provider. Your healthcare provider may order blood tests to look for Zika or other

similar viral diseases like dengue or chikungunya.

• **What should I do if I have Zika?** In addition to treating the symptoms, you can protect others. During the first week of infection, Zika virus can be found in the blood and passed from an infected person to another mosquito through mosquito bites. An infected mosquito can then spread the virus to other people. To help prevent others from getting sick, avoid mosquito bites during the first week of illness. See your healthcare provider if you are pregnant and develop a fever, rash, joint pain, or red eyes within 2 weeks after traveling to a country where Zika virus cases have been reported. Be sure to tell your healthcare provider where you

traveled.

• **Does Zika virus infection cause Guillain-Barre syndrome (GBS)?**

GBS is a rare disorder where a person's own immune system damages the nerve cells, causing muscle weakness and, sometimes, paralysis. These symptoms can last a few weeks or several months. While most people fully recover from GBS, some people have permanent damage and in rare cases, people have died. We do not know if Zika virus infection causes GBS. It is difficult to determine if any particular pathogen "caused" GBS. The Brazil Ministry of Health is reporting an increased number of people affected with GBS. CDC is working to determine if Zika and GBS are related. ■

## HCV infections in Utah hospitals linked to drug diverter

*More than 7,000 patients advised to seek testing*

Two Utah hospitals have notified thousands of patients that they may have been exposed to hepatitis C virus linked to an infected nurse with a history of drug diversion.

Health officials have urged some 7,200 patients at McKay-Dee Hospital in Ogden and Davis Hospital and Medical Center in Layton to get tested for HCV. The follow-up of former patients began after a patient and a former nurse tested positive for the same HCV strain.

The nurse lost her medical license in December 2014 after admitting to stealing medication from her employer, according to published reports. She was fired from McKay-Dee in 2014 after the hospital found evidence she had stolen morphine and dilaudid. Authorities expanded the investigation to include

patients at Davis Hospital and Medical Center after they learned the nurse was caught diverting IV Benadryl while employed there in 2012 and 2013.

McKay-Dee recently sent letters to nearly 4,800 patients informing them that they may have been exposed to HCV between June 17, 2013 and Nov. 25, 2014. Davis Hospital and Medical Center sent letters to nearly 2,400 patients informing them that they may also have been exposed to HCV between June 17, 2011 and April 11, 2013.

There are reports of more HCV infections being identified beyond the nurse and the index case, but the state health department did not start updating the tally until the offer of free HCV testing to all contacted patients ended on Jan. 31.

There have been recurrent outbreaks of HCV traced back to addicted healthcare workers stealing opioids and other medications. They may contaminate solutions in doing so, sometimes trying to cover their tracks by replacing pain medication with saline. As a result, cross transmission among patients may occur or the worker may be the HCV source, if infected. The latter appears to be the case at Utah hospitals, where the infected nurse worked in the emergency departments of both facilities.

The investigation began when a blood donor with no reported risk factors for HCV tested positive for the virus. Public health investigators found he had previously been a patient at McKay-Dee medical center and was treated by the nurse in question. ■

# AOHP marks 35th anniversary

The year 1981 saw President Reagan appoint the first woman to the Supreme Court, *Indiana Jones* and *Chariots of Fire* were atop the box office, and public health officials in Los Angeles reported the first cases of what would later be called Human Immunodeficiency Virus.

Concerning the latter, healthcare workers would soon need support and information to protect themselves from AIDS, and thankfully 1981 also marked the founding of the Association of Occupational Health Professionals in Healthcare (AOHP).

“Employee health — occupational health in healthcare — has had to grow and change as healthcare systems and delivery has grown and changed,” says **Kim Stanchfield**, RN, COHN-S, a member of the AOHP executive board and the editor of its scholarly journal. “Add to [bloodborne pathogens] safe patient handling, emerging infections, essential immunization requirements as well as the multiple other responsibilities of today’s healthcare workplace. The entire landscape has changed and our profession continues to embrace the challenges. Thirty years ago, employee health offered flu vaccine a couple days in the fall, a few employees took it and that was it for flu vaccine. Today, we conduct comprehensive mandatory influenza protection programs with multiple components.”

Indeed, as employee health is increasingly recognized as a critical component of patient safety, healthcare leaders and political powers realize the future of the system relies on the health of its workers.

“A key to the future is expanding the present to be better,” Stanchfield says. “Evidence-based practice should be based on statistical research as we work to eliminate sharps injuries and prevent

patient handling injuries. Keeping our employees protected from communicable disease is a constant in employee health. This is accomplished by current and future immunization recommendations, state-of-the-art monitoring, and testing of personal protective equipment (PPE) and specialized education on safety training.”

The organization was founded as a local Association of Hospital Employee Health Professionals (AHEHP) in Northern California in 1981 in acknowledgement of the fact that healthcare workers face a unique set of hazards not encountered by workers at large. AHEHP was incorporated and became a national organization in 1983, and then became AOHP in 1994 to more accurately reflect the mission and vision of the organization, which actively champions safer workplaces and recognizes the relationship between healthy healthcare workers and optimal patient care.

“AOHP is the only national professional association dedicated exclusively to addressing the needs and concerns of occupational health professionals who work in healthcare settings,” says AOHP Executive President **Mary Bliss**, RN, COHN.

In a related development, the AOHP announced that one of its Executive Board Members, **MaryAnn Gruden**, MSN, CRNP, NP-C, Cohn-S/CM has been

appointed to the National Institute for Occupational Safety and Health (NIOSH) Board of Scientific Counselors. Her two-year term began Jan. 1, 2016. The NIOSH Board of Scientific Counselors includes 15 experts in fields related to occupational safety and health. These members, selected by the Secretary of the U.S. Department of Health and Human Services, advise the NIOSH director on occupational safety and health research and prevention programs. The board also provides advice on standards of scientific excellence, current needs in the field of occupational safety and health, and the applicability and dissemination of research findings. Gruden, a member of the editorial advisory board of *Hospital Employee Health*, has more than 20 years of occupational health nursing experience in healthcare and is the manager of Employee Health Services for Allegheny Health Network (AHN) in Pittsburgh.

*Editor’s note: AOHP will be observing its 35th anniversary throughout the year and is extending an open invitation for others to join the celebration during the 35th Annual AOHP National Conference, scheduled for September 7-10, 2016 at the Sheraton Myrtle Beach Convention Center Hotel in South Carolina. For more information about AOHP or how to register for the National Conference, contact AOHP Headquarters at 800-362-4347, or email [info@aohp.org](mailto:info@aohp.org). ■*

## COMING IN FUTURE MONTHS

- Safe lifting fed legislation – it’s the fight that counts
- Chronic disease prevalence in HCWs
- Does nurse-to-nurse bullying go back to conflicts over – yikes – men?
- Stress at home increases risk of injury at work



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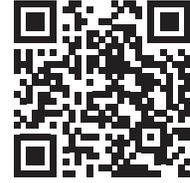
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## CNE INSTRUCTIONS

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

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## CNE QUESTIONS

- 1. Healthcare workers with a history of measles vaccination or immunity should do which of the following when examining or caring for patients with suspected or confirmed measles?**  
A. Receive a booster dose of MMR vaccine.  
B. Wear an N95 or equivalent respiratory protection.  
C. Wear a standard surgical or examination mask.  
D. Avoid face-to-face contact with patients.  
B. 3  
C. 5  
D. None
- 2. Four healthcare workers with prior evidence of measles immunity continued working after developing symptoms, ultimately exposing 1,014 patients and colleagues. How many cases of transmission resulted from these exposures?**  
A. 17  
B. 3  
C. 5  
D. None
- 3. The Centers for Disease Control and Prevention recommends that only pregnant women in the first trimester should consider postponing travel to the areas where Zika virus transmission is ongoing.**  
A. True  
B. False
- 4. Based on the historical precedents of HIV/AIDS and Ebola, what percentage of healthcare workers may refuse to treat patients with the next novel pandemic pathogen that is perceived as life-threatening?**  
A. 16%  
B. 20%  
C. 25%  
D. 33%

## CNE 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 health care 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.