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A monthly advisory for occupational health programs

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INSIDE

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Occupational asthma: Health crisis in health care workers

Common triggers: Cleaning agents, latex, and disinfectants

While national data don't give us the overall picture, cases of work-related asthma logged in four states that track the disease indicate it is a major health issue among health care workers. Massachusetts, New Jersey, Michigan, and California conduct surveillance of work-related asthma as part of the federal Sentinel Event Notification System for Occupational Risk (SENSOR) program. Data from 1993 through 1997 showed that 16% of all confirmed occupational asthma cases in those states were in health care workers.

Most (67%) developed new-onset asthma, according to **Elise Pechter**, MPH, CIH, industrial hygienist with the Massachusetts Department of Health Occupational Health Surveillance Program. Those cases were nurses or other health care workers who had never had asthma in their lives or who had been symptom-free for two or more years. "No doubt about it, it's a serious problem," she says. "In Massachusetts and two other states, there were more cases from health care than from any other industry."

Work-related asthma is asthma that is caused or made worse by environmental exposures in the workplace. The diagnosis is made first by confirming asthma and then by establishing a relationship between asthma and work. According to industrial medicine literature, occupational asthma should be considered in any case of adult-onset asthma or in an adult whose asthma is growing worse.

EXECUTIVE SUMMARY

Occupational asthma is a serious problem among health care workers, according to data available in states tracking the disease.

- Sixteen percent of confirmed occupational asthma cases in four states were in health care workers.
- Cleaning products are most often to blame for triggering work-related asthma.
- Chance of full recovery relies on time between exposure and diagnosis; most people who develop work-related asthma never fully recover.

Several studies on occupational asthma show workplace exposures are responsible for up to 29% of all asthma cases among adults, according to the American Thoracic Society (ATS), which estimates that more than one out of seven adult asthma sufferers in the United States has occupational asthma. "What you have to remember is that this is a preventable disease, if we do a good job preventing it," explains Pechter.

Cleaning products often to blame

Work-related asthma falls into three categories: immunologically mediated disease caused by exposure to sensitizers in the workplace, asthma resulting from acute exposure to irritants in the workplace, and pre-existing asthma made worse by workplace exposures.

"Health care workers with work-related asthma were exposed to latex and disinfectants that cause asthma and to numerous other chemicals that can exacerbate asthma, including cleaning products, renovation materials, mold, and poor indoor air quality," Pechter says. In fact, there are more than 400 recognized asthma triggers found in workplaces, including manufacturing chemicals, cleaning products, animals, insects, latex gloves, and preservatives, according to **Jennifer Flattery**, MPH, an epidemiologist with the California Department of Health Services' Occupational Health Branch.

Flattery and **Robert Harrison**, MD, MPH, chief of occupational health surveillance for the California Department of Health, wrote in a report for the ATS that while removing the worker from the source of exposure is the primary treatment for work-related asthma, the outlook for recovery is affected by the length of the exposure. "The majority of people who develop occupational asthma fail to fully recover, even after several years without exposure," Flattery and Harrison report in "Work-Related Asthma," a report available at the ATS web site. **(See resource box, p. 27, for information on how to access full report.)** Several studies have shown that 50% to 60% of workers remain symptomatic three to four years after exposure has ended.

Compared to cases employed in other industries, health care workers with work-related asthma were more likely to be female (93% vs. 50%) and white (79% vs. 72%).

Pechter says that while latex gloves are anecdotally linked to occupational asthma (and historically have been triggers for asthma), she has not seen any sentinel reports involving latex in the past couple of years. "So maybe that means fewer people are using latex gloves and using nitril instead, or maybe the latex gloves have improved," she theorizes.

Cleaning products have been and continue to be the leading irritants in work-related asthma cases reported to the SENSOR program. "In the [1993-1997] study, the people interviewed were asked what their exposures were; it was cleaning products," Pechter explains. "[Just as] replacing powdered latex gloves with non-latex or low-allergen, powder-free gloves is one example of eliminating a sensitizing agent from the health care environment, reducing use of disinfectants, by cleaning more and using disinfectants selectively, is another method."

Another frequent offender is glutaraldehyde, a broad-spectrum antimicrobial used as a cold sterilization agent for medical instruments. It is also an ingredient in X-ray developer and pathology tissue fixative. **(See box, p. 27, for a list of common occu-**

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Agents Identified as Occupational Asthma Triggers

- **Cleaning Products**
— Predominant agent reported by health care workers with asthma
— Includes disinfectants and cleaners, including bleach, ammonia, and hydrochloric acid
— Quaternary ammonium compounds, or "quats," used in surface cleaning in clinical and food preparation settings
- **Latex**
— Second most commonly reported exposure
— Allergy attributed to latex protein exposure from frequent glove changes
— Reactions range from localized dermatitis to anaphylaxis, including work-related asthma
- **Indoor air quality**
— Air quality issues in health care similar to those in other non-industrial workplaces
— Exposures include bystanders exposed to irritants, possibly exacerbated by inadequate ventilation
- **Glutaraldehyde**
— Broad-spectrum antimicrobial agent
— Still in use, but special precautions and ventilation are recommended
- **Formaldehyde**
— Reported in 5% of cases to Sentinel Event Notification System for Occupational Risk (SENSOR) program
— Tissue preservative and disinfectant
— Sold commercially as formalin
— May result from building materials (plywood, particleboard)

Source: Elise Pechter, MPH, CIH, Industrial Hygienist, Massachusetts Department of Public Health, Boston.

pational asthma triggers.) There are alternatives to using glutaraldehyde as a disinfectant, including peracetic acid, hydrogen peroxide, and orthophthaladehyde, the SENSOR study suggests. "Work-related asthma among health care workers is a preventable disease," Pechter insists. "Health care workers should be protected from respiratory diseases that result from their work."

Occ health nurses help reduce exposure

Efforts such as the Sustainable Hospitals Program provide occupational health providers in the health care setting resources for elimination of some hazardous workplace exposures. **(For more information on the program, see resource box.)**

SOURCES/RESOURCE

For more information on work-related asthma, contact:
- **Elise Pechter**, MPH, CIH, Industrial Hygienist, Massachusetts Department of Public Health, Occupational Health Surveillance Program, Boston, MA. Phone: (617) 624-5681.
- **Jennifer Flattery**, MPH, Epidemiologist, and **Robert Harrison**, MD, MPH, Chief of Occupational Health Surveillance, California Department of Health Services, Oakland, CA. Phone: (510) 620-5757.

Flattery J, Harrison R. **Work-related asthma**. Available at www.thoracic.org/sections/chapters/ca/current-news/resources/WorkRelatedAsthma113004.pdf.

"Occupational health nurses can play a really important role by making sure cleaning products and processes selected and used are not triggers, or if they are, [by determining] what their effects will be on employees and patients," Pechter says. "If you are disinfecting floors, for example, are you putting more [cleaning agent] into the air than is needed?" The first question to ask is whether the product can be eliminated, and if it can be replaced with a product that is safer. "Where you can't replace the product, and you have to use a disinfectant, ask, use it wisely, and, wherever possible, clean instead of disinfecting when the goal is cleaning rather than disinfecting," says Pechter.

When investigating a substitute for a product that is triggering or exacerbating asthma, the nurse should be cautious of new products and make sure the substitute accomplishes what is needed and is safe in the process. "Always ask the question about the products you are using and about the safer alternatives," Pechter says. "Ask if the alternative is safer." In the SENSOR reporting states, as well as other states, work-related asthma must be reported to the state by health care providers. ■

Employers get creative to help with elder care

Flex time, resources among offerings

One segment of your employee population might be stretched thin balancing work and

EXECUTIVE SUMMARY

Employees struggling with eldercare can sink without support from their employers, sometimes having to choose between work and a frail relative. Employers, faced with the prospect of absenteeism, presenteeism, or turnover, are finding creative ways to help.

- Caregiving employees struggling with elderly or disabled relatives cost employers as much as $34 billion per year, one survey shows.
- Companies are offering resources to help find care for employees' elderly relatives, bolster insurance coverage, and provide flexible scheduling to allow a better work/life balance.
- By 2020, one in three families anticipates having eldercare issues to balance with their careers.

children, but another growing segment of the U.S. work force is also feeling the pull of conflicting obligations: work and caring for elderly parents. For more and more companies, eldercare resources are becoming a commonplace benefit.

For the 16,000 employees of Inova Health System in Northern Virginia, headquartered in Fairfax, eldercare resources are provided through the employee, which means the employer and human resources provide access to services to the employee, not directly to the elderly parent or spouse. "If we have an employee who is concerned with an elderly parent or spouse, we give them an opportunity to talk with an eldercare specialist," according to **Joe Roche**, executive director of Inova's employee assistance program. Inova employs eldercare specialists who are trained specifically to assist with eldercare issues. "They don't do anything else but eldercare," he explains. This expertise is important to offer, he adds, because many employees who seek help with eldercare issues don't know what their relative needs or what resources are available. "A lot of time, people don't know what the levels of care are — the difference between assisted living and nursing homes, for example," he points out.

Valerie Palazzolo, Work-Life Program manager for the University of Michigan in Ann Arbor, echoes Roche's experience. "One of the major things an employer can do is offer a way for employees to find out what resources are out there," she says. "That's what we do. We're an office that helps people find that out at the outset, hopefully before they are in the position of having to make immediate decisions."

Supporting employees with elderly relatives

Eldercare is now recognized by a growing number of employers. According to the National Alliance for Caregiving, support for employees who have caregiving responsibilities can take a variety of forms:

- "Cafeteria-style" employee benefits allow employees to select supplemental dependent care coverage to reimburse costs for in-home care or adult day care. Benefits also should cover therapeutic counseling for the employee to help cope with the stresses of caregiving.
- Human resource or employee assistance program staff can provide information on helpful Internet sites and local resource centers.
- Larger businesses can organize in-house caregiver support groups or coordinate with local community groups or hospitals so that employees can attend an outside support group.
- One of the most critical benefits for an employee with caregiving responsibilities is time. Flexible work hours, family illness days, and leave time are key. Data from the Bureau of National Affairs (1993) found that flexible scheduling improved job performance, decreased lateness and employee turnover, and increased job satisfaction.
- Companies with 50 or more employees must comply with the Family and Medical Leave Act (FMLA), which allows for up to 12 weeks of unpaid leave to care for a seriously ill parent, spouse, or child, while protecting job security. Smaller firms can use the FMLA guidelines to tailor their own support plans for individual employees.
- Offer private long-term care insurance coverage for employees, their spouses, and dependents. Information on available insurance packages is available from the Health Insurance Association of America.
- Consider organizing a company "caregiver fair" or a series of lunchtime seminars on issues such as hiring a home care attendant or coping skills for caregivers. Employers can establish a telephone hotline or publish a list of key contacts in their employee newsletter.

Source: National Alliance for Caregiving. Web: www.caregiving.org.

According to the National Association for Caregiving and the MetLife Foundation, employees who are struggling with elderly dependents cost their employees up to $34 billion a year in absenteeism, presenteeism, and the cost of replacement workers. That averages out to $2,110 for each of the estimated 15.9 million full-time workers who also are caregivers. With the average age of Americans rising, that number is expected to increase. By 2020, one of every three American households is expected to be involved in caring for an elderly or disabled relative, up from one in four now, according to a recent survey by MetLife and the National Alliance for Caregiving.[1]

Employers can lose workers

While the federal Family and Medical Leave Act (FMLA) grants workers at large employers up to 12 weeks of unpaid leave per year, going three months without income is often an untenable situation for families. Smaller companies are exempt from the FMLA; in either case, employers often lose their employees to the demands of caring for their elderly relatives. **(See box, p. 28, for examples of assistance employers can offer.)** Subsequently, companies are turning to their benefits menus and employee assistance programs to provide help that keeps the employees' families functioning, their elderly relatives cared for, and the employees at work. These measures can include extended, sometimes subsidized, leaves of absence; inclusion of elderly relatives on employer-provided health insurance; assistance with in-home care; and counseling.

The McGraw-Hill Co., with headquarters in New York City, provides a comprehensive set of benefits to their employees including backup dependent care, matching contributions to dependent care flexible spending accounts, eldercare resources and referrals, eldercare case management, and an emergency personal business policy that allows employees to take up to two paid days off per calendar year for family reasons, according to **Marty Martin**, vice president of employee benefits. An innovative benefit McGraw-Hill has added allows employees to extend their health care coverage to one adult family member in addition to themselves, such as a parent or grandparent. "Together, these policies and programs help create an environment in which all of our employees can develop to their fullest potential, both professionally and personally," Martin adds.

Inova eldercare specialists emphasize early assessment and intervention as the preferred means of preventing a caregiving situation from turning into a caregiving crisis. When an Inova employee contacts eldercare services, the first thing that occurs is an assessment of what the employee's family needs and what the community has to offer, Roche says.

"Then we go out and search the market and find the facilities that are a fit for them, wherever they are," Roche explains, pointing out that the elderly relative might not be living in the same town or even state that the employee is. "So wherever they are, we provide the employee a list of licensed, bonded facilities that can meet their loved one's needs."

The information package Inova prepares includes details about the facilities, rates, contact information, and how to go about evaluating the level of care they select for their relative. "We also have attorneys available who specialize in elderlaw issues, to help with any estate or planning issues that might arise when they are moving their relative into a different facility and out of the home," Roche says.

Inova tries to alleviate some of the stress and confusion employees might be experiencing by providing "a one-stop shop" for a variety of needs, he adds.

While the focus of the employee's interest, and the eldercare specialist's efforts, is the elderly relative, Inova's work-life program does not ignore the needs of the employee, Roche says. "We can provide resources and emotional support for employees who are caring for a loved one directly," he says. "We can find respite care for them, so that the employee can have a break."

SOURCES

For more information on eldercare resources at work, contact:

- **Joe Roche**, Executive Director, Inova Employee Assistance, Fairfax, VA. Phone: (800) 346-0110. E-mail: joe.roche@inova.com.
- **Valerie Palazzolo**, Manager, Work/Life Program. Work/Life Resource Center University of Michigan, Ann Arbor, MI.
- **Marty Martin**, Vice President, Employee Benefits, The McGraw-Hill Co., New York, NY. Phone: (212) 512-2000.

There are plenty of ways Inova tries to help when an elderly relative is still fairly independent but in need of some extra help. Employees have successfully sought eldercare specialists' help in obtaining Meals on Wheels assistance, landscaping and mowing help, housecleaning, and in-home temporary care.

Assisting employees with making sure their relatives are comfortable and safe, wherever that might be, is the biggest help an employer can give a caregiving employee, Palazzolo says. "Having those things, like respite care or housing care or adult day care, in place helps the employee come to work without worrying about the parent home alone," she points out. "And we do everything we can to encourage employees to seek out resources early, and not wait for a crisis." Employees who not only have aging parents, but also aging spouses — or who are aging themselves — are urged to prepare.

"Another piece of it is flexibility in the workplace. If the manager can let them have flexible start and stop times, that might allow them to take a longer lunch break, so they can run home and check on their relative," Palazzolo says. ■

Reference

1. National Alliance for Caregiving. *Caregiving in the U.S.: Findings from the National Caregiver Survey* (2004). Accessed at www.caregiving.org/data/04finalreport.pdf.

Federal guidelines say know risks, protections

Workplaces at risk for flu targeted

The Occupational Safety and Health Administration (OSHA) has unveiled guidance for employers to help them prepare for and deal with the possibly debilitating effects of an influenza pandemic.

OSHA deputy director for guidance and standards Amanda Edens describes the potential effects on workplaces as severe. "During a pandemic, workplaces can likely experience high absenteeism — probably as much as 40% of the workforce," says Edens.

For the occupational health nurse (OHN), keeping a business or health care facility productive by keeping as many employees healthy requires more than just encouraging workers to be vaccinated. In a recent article in the *American Association of Occupational Health Nursing Journal*, author **Erin Andersen**, MS, RN, OHNP, a nurse practitioner with the University of California at San Francisco's employee health center, describes these scenarios:

- as many as 30% of nurses, physicians, technicians, clerks, and housekeeping staff not coming to work because they are sick;
- another substantial percentage of staff staying home out of fear of becoming sick;
- employees demanding vaccine or prophylactic medication that is not available or available only on a stringent rationing schedule.

EXECUTIVE SUMMARY

The Occupational Safety and Health Administration has issued new guidance to help employers prepare for the effects of an influenza pandemic. Occupational health and safety nurses can help prepare employees at their worksites by evaluating the workplace's risk for exposure and determining what protective measures to encourage.

- Health care workers in direct contact with infected patients and lab workers evaluating specimens from flu patients are at highest risk.
- Work practice and engineering controls, administrative controls, and personal protective equipment — in that order — are considered effective means of reducing risk.
- Educating employees about the levels of exposure they are at risk for can help contain unrealistic fears.

Workplaces classified by risk

The new OSHA guidance categorizes workplaces and industries into four groups based on risk for exposure — very high, high, medium, and lower — and suggests preparation and expectations:

- ***Highest risk***

As numerous previous reports on influenza have done, OSHA's new guidelines rank health care providers, particularly those who are likely to come in contact with known or suspected pandemic patients during specific, aerosol-generating procedures, among the highest-risk workers. Cough-inducing procedures, bronchoscopies, dental procedures, and invasive specimen collection,

are among procedures that can increase risk by causing aerosol droplets to be generated.

Lab workers who collect or handle specimens from known or suspected pandemic patients are also at highest risk, OSHA says.

• ***High risk***

At high risk are health care delivery and support staff — for example, anyone who must enter a known or suspected flu patient's room. Paramedics, emergency medical technicians, or anyone else who must transport patients, as well as workers who perform or assist with autopsies on flu patients, are also a high-risk group.

• ***Medium and low exposure risk***

Anyone working in frequent contact (within six feet) with the general public — in schools, in crowded work environments, and in some high-volume retail settings, for example — are considered to be at medium risk for exposure. People who have only minimal occupational exposure to coworkers or the public are considered at the lowest risk for exposure.

Depending on the type of worker population the OHN works with, there may be a need to factor in the importance to the community in keeping those employees healthy, OSHA advises. Employers of critical infrastructure and key resource employees (such as law enforcement, emergency response, or public utility employees) may want to upgrade protective measures beyond the minimum requirements for these employees due to the necessity of such services as well as the potential difficulties in replacing them during a pandemic (i.e., due to extensive training or licensing requirements).

For more employers in the low- and medium-risk exposure groups, hand-washing, disinfecting

Control measures for cutting influenza exposure risk

The Occupational Health and Safety Administration (OSHA) has issued new guidance to help employers ready their businesses for a potential influenza pandemic, but if you are in charge of health and safety at your workplace you should know that all protections are not the same. In order of most to least effective, control measures include work practice and engineering controls, administrative controls, and personal protective equipment (PPE):

• **Work practice and engineering controls.** Work practice controls help provide safe and proper work practices that reduce the duration, frequency, or intensity of exposure to a hazard. These controls should be crafted with input from the employees who actually use them, and occupational health and safety managers should make sure they are understood and followed by everyone from managers to employees. Work practice controls often are paired naturally with engineering controls, changes to the work environment that reduce hazards. Barrier protections, such as sneeze guards and PPE, are commonly used and effective in reducing transmission between employees and the public, but transmission still can be a problem among coworkers.

• **Administrative controls**. Coworker-to-coworker transmissions that are not reduced by barrier protections and other engineering controls may be controlled by scheduling changes and reorganization of work stations that minimize employee contacts. Among administrative controls suggested by OSHA are:

— developing policies that encourage ill employees to stay at home without fear of any reprisals. Under OSHA, an employee is not required to come to work if he or she "reasonably and in good faith believes that he would be in imminent danger of death or serious injury in the workplace," according to **Chuck Wolf**, an attorney with the Chicago-based firm Vedder Price. Vedder Price, which has created a pandemic preparedness task force to help clients address pandemic-related legal issues, points out that companies can help allay unnecessary fears by including in their emergency preparedness plans communication programs that provide accurate and credible information about what risks for exposure the workers are likely to face at their sites;

— the discontinuation of unessential travel to locations with high illness transmission rates;

— minimizing face-to-face contact between employees by communicating via e-mail, web sites, and teleconferences. Flexible work arrangements such as telecommuting and staggered work hours can reduce the number of employees who are on site and in contact at any one time.

• **PPE**. OSHA advises that while not as effective at minimizing exposure to influenza as administrative, engineering, and work practice controls, PPE is indicated during some exposures. To offer protection, gloves, goggles, face shields, surgical masks, and respirators must be appropriate to the hazard; properly fitted and periodically refitted; properly and consistently worn, maintained, and replaced; and properly removed and disposed of. OSHA advises occupational health providers visit www.pandemicflu.gov for the latest guidance on PPE.

[Editor's Note: For more information on control measures for pandemic flu, contact: Chuck Wolf, Pandemic Preparedness Task Force, Vedder Price, Chicago. Phone: (312) 609-7888. Web: www.vedderprice.com.]

surfaces, and social distancing (reducing the frequency of occupational contacts and increasing the distance between people who do come in contact with each other at work) will be the primary safeguards.

Social distancing and hygiene are part of the "hierarchy of controls" framework by which occupational health and safety professionals choose intervention strategies to systematically remove exposure hazards from the workplace. The OHN should evaluate his or her workplace and fit a control plan that suits the employees, environment, and risk level. **(See box, p. 31, for descriptions of control measures.)** ■

Vaccinate caregivers against pertussis

Newly approved vaccine has high success rate

Pertussis (whooping cough) is the only preventable infectious disease that has been steadily increasing in reported cases over the past 30 years, and for that reason the Centers for Disease Control and Prevention (CDC) has recommended that health care workers who have direct patient contact be vaccinated with a single dose of a new tetanus, diphtheria, and pertussis vaccine (TDaP).

A low of 1,010 pertussis cases was reported in 1976, compared to 25,827 cases in 2004, according to the CDC. Age group distribution also has changed, with adolescents and adults comprising an increasing proportion of the total.

Health care personnel are considered high risk for pertussis exposure. Pertussis in its early stages is indistinguishable from other upper respiratory infections, and in several cases the CDC has documented the spread of the disease among hospital workers and patients.

A person is considered exposed to pertussis if there is inhalation of droplets and discharges from the respiratory tract of an infected person. This can occur if you are within three feet of a patient and you are not wearing a mask. Adding to health care workers' risk of exposure is the fact that pertussis patients are most contagious during the early stages of the disease, before the onset of the tell-tale cough, when symptoms mimic a respiratory infection.

While pertussis is rarely a serious illness in adults, in young children it can be life-threatening. With CDC surveys indicating that 90% of personnel at pediatric hospitals surveyed had been exposed to pertussis during the previous five years, the recommendation was made that health care workers be vaccinated with the newly licensed TDaP vaccine, Adacel (sanofi pasteur, Toronto). **(See box, p. 33, for CDC recommendations.)**

Business as usual at many hospitals

The new guidelines, appearing in the CDC's Dec. 18, 2006, *Morbidity and Mortality Weekly Report*, urge hospitals to vaccinate personnel who will likely have direct contact with patients. The TDaP vaccine is believed to be about 92% effective, based on studies in healthy adults, according to **Tom Talbot**, MD, MPH, chief hospital epidemiologist at Nashville, TN - headquartered Vanderbilt University Medical Center. The cost of the vaccine is $30 per dose, but the CDC estimates hospitals could save $2.38 for every dollar spent.

Many hospitals, particularly pediatric hospitals, already are observing the CDC guidelines.

David March, MHA, spokesman for Johns Hopkins Medicine in Baltimore, says his hospital has implemented the vaccination guidelines set out by the CDC, "but the manufacturer ran out [of vaccine]." March says vaccinations will resume when the hospital's supply is restocked. (According to the manufacturer, a brief shortage was experienced in late 2006, and orders were being accepted again as of mid-January 2007.)

Children's Hospital Boston learned first-hand in late 2006 the effect a pertussis outbreak could have on a facility, when a suspected 38 people — 36

EXECUTIVE SUMMARY

Pertussis is the only preventable infectious disease that has been increasing in reported cases for the last 30 years. In response, the Centers for Disease Control and Prevention is recommending that all health care workers who have direct contact with patients be vaccinated as soon as is possible.

- Healthy adults should receive a single-dose tetanus, diphtheria, and pertussis vaccine (TDaP) when it is time for their booster.
- Health care workers should have a single dose of TDaP as soon as it is feasible.

Pertussis Recommendations

• Health care personnel with direct patient contact should receive a single dose of the tetanus, diphtheria, pertussis (TDaP) vaccine, Adacel, as soon as possible if they have not previously received it.

• While tetanus/diphtheria booster shoots (Td) are generally given every 10 years, health care personnel may receive the TDaP vaccine as soon as two years after their last Td booster.

• Health care personnel who do not have direct patient contact should receive a single dose of TDaP to replace the next scheduled Td booster.

• In the event that the supply of vaccine should need to be rationed, the Centers for Disease Control and Prevention recommends that priority be given to health care workers who have direct contact with pediatric patients younger than 12 months and other vulnerable patient populations.

Source: Centers for Disease Control and Prevention. *MMWR* 2006; 55(RR-17):1-33.

adults and two children — fell ill with what rapid-result polymerase chain reaction (PCR) tests confirmed was pertussis. Children's implemented its protocol for pertussis exposure and confirmation by sending sick employees home for five days to complete an antibiotics course. State lab cultures used to confirm the initial PCR tests returned negative results on all the patients. Testing failed to determine conclusively what made the 38 people sick.

Beth Andrews, spokeswoman for Children's Hospital, says the experience ramped up the hospital's pertussis vaccine program, so the CDC guidelines will not affect its approach to vaccinating patient care staff. However, Talbot is leading a two-year study at Vanderbilt to find out if typical hospital protocol following pertussis exposure is necessary. Researchers will attempt to determine whether health care workers previously vaccinated for pertussis who are later exposed to someone infected with the disease require additional antibiotics, the current standard treatment. At Vanderbilt, as well as in other hospitals in the United States, the suggested treatment for an employee exposed to pertussis is a five-day antibiotics course. If the employee develops signs or symptoms of pertussis, further antibiotic treatment is administered while the employee is furloughed from work.

While the CDC says TDaP is 92% successful in healthy adults, it is unknown whether the chemical prophylaxis still is necessary, Talbot says. "The lingering question is whether we still need the antibiotics after exposure," he says.

While the vaccine has a high success rate, Talbot says, exposed health care workers still might harbor bacteria in their throats after exposure, bacteria that then could be passed on to other patients. "What we can see is asymptomatic transmission," he says. Another part of the pertussis protocol that Talbot is testing is whether the furlough is necessary after immunization. "What we're going to do is vaccinate a huge population [of Vanderbilt Medical Center employees] and follow them for about two years," Talbot explains.

According to the CDC guidelines, adults age 19-64 years should receive a single dose of TDaP, which replaces a single dose of Td (tetanus-diphtheria) vaccine for booster, if they received their last dose of Td more than 10 years ago.

Health care workers in hospitals or ambulatory care settings who have direct patient contact should receive a single dose of TDaP as soon as feasible, provided they have not already received the vaccine, according to the CDC guidelines. ■

SOURCES/RESOURCES

For more information on prophylactic antibiotics in pertussis exposure, contact:
• **Thomas R. Talbot**, MD, Chief Epidemiologist, Vanderbilt University Medical Center, Nashville, TN. Phone (615) 322-2035.E-mail: tom.talbot@Vanderbilt.edu.

AAOHN touts nurses' role in bottom line

Health and productivity is focus for 2007

As employers give more weight to the impact employee health has on their companies' bottom line, occupational health nurses (OHNs) should make a concerted effort to cement their place as leaders in workplace health, according to leaders in the profession.

While a focused effort on relating health to

EXECUTIVE SUMMARY

The American Association of Occupational Health Nurses (AAOHN) hopes to raise the profile of OHNs as business assets by issuing a position statement and public policy platform that lists how nurses boost the bottom line of American business by promoting employee health and productivity through:
- modeling healthy behaviors;
- developing and leveraging programs that encourage employees to be accountable for their own physical, mental, and emotional health;
- acting as advocates and experts on health issues within and outside the workplace.

productivity might seem to be an understood element of occupational and environmental health nursing, **Susan Randolph**, RN, COHN-S, president of the American Association of Occupational Health Nurses (AAOHN), says the association's newly released position statement clearly stakes out OHNs' role in the overall health of American business.

"[Health and productivity] is an area that we're going to place more emphasis, and the new position statement on that topic explains how the contributions of occupational and environmental health nurses relate to wellness, and how [wellness] is integrated with businesses' production and health care costs," Randolph explains.

The position statement, *Occupational and Environmental Health Nurses' Role in Improving Employee Health and Productivity*, released on the AAOHN web site in January exhorts OHNs to:

- Be role models for healthy behaviors.
- Develop and leverage programs that encourage employees to be accountable for their own physical, mental, and emotional health.
- Act as advocates and experts on health issues within and outside the workplace. **(For information on how to access the position statement, see resource box, below left.)**

RESOURCE

- To read the American Association of Occupational Health Nurse's (AAOHN's) new position statement on the influence of nurses on corporate well-being, "Occupational and Environmental Health Nurses' Role in Improving Employee Health and Productivity," visit the AAOHN web site at www.aaohn.org. On the menu at the left of the home page, click on "For Your Practice," and then scroll down to "Position Statements."

2007 focus: OHN value to business

AAOHN in January also announced its focus areas for 2007. Randolph says that while the list of issues — workplace violence, nursing compacts, hazard preparedness, confidentiality of employee health records, the health productivity relationship, and quality of work environments — may look the same as it did in 2006, both the issues and the association's emphasis have shifted.

"One of the areas we tweaked [from 2006's public policy platform] was the health and productivity piece," Randolph points out. "That is an area we'll have more emphasis on, as our position statement demonstrates. We want to address more the role the occupational and environmental health nurse plays within the company and the larger community." Another hot topic in occupational health continues to be the protection of employees' confidentiality as medical records migrate from paper to electronic, Randolph adds.

The confidential treatment of health information and health records — sometimes in the face of employer pressure to disclose information — always has been a key responsibility of OHNs. With increasing prominence of telehealth, electronic medical records, genetic issues, privacy requirements imposed by the Health Insurance Portability and Accountability Act (HIPAA), and other compliance requirements, however, OHNs face an increasing challenge to protect employee privacy of personal health information from unauthorized disclosure. ■

Secondhand smoke worse for women, long-timers

Studies show risk from passive smoke

The lung cancer risk for nonsmokers exposed for 30 years to secondhand smoke on the job

EXECUTIVE SUMMARY

Two new studies show risk to nonsmokers from secondhand smoke encountered at work is a serious health threat, with female employees and anyone enduring long-term (30+ years) exposure to smoke exhibiting higher rates of cancer.

- Nonsmokers exposed for 30 years or more to secondhand smoke have a 50% higher risk of lung cancer compared to those who are rarely exposed.
- Nearly 20% of women with lung cancer have never smoked, which suggests secondhand smoke might play a role.
- The number of states passing blanket no-smoking laws has doubled in the last two years to 16.

jumped by 50% compared to people who are rarely exposed to smoke, according to a review of studies associating passive, or secondhand, smoke in the workplace with an increased risk of lung cancer. Another study indicates up to 20% of women with lung cancer have never smoked.

University of Illinois at Chicago epidemiologist **Leslie Stayner**, PhD, professor and director of epidemiology and biostatistics, and her research colleagues found 22 studies that appear to confirm a link between secondhand smoke in the workplace and a higher risk of cancer in nonsmokers. Stayner's research appears in the March 2007 issue of the *American Journal of Public Health.*

High levels of secondhand smoke on the job can double nonsmokers' risk of developing lung cancer, and those who inhale it at work long-term face a 50% higher risk, according to Stayner. The review included statistical analysis of studies evaluating workplace smoking, and it evaluated workers' level and duration of exposure to passive smoke.

Overall, the analysts found a 24% increase in lung cancer risk among people exposed to passive smoke in the workplace. The risk to workers who were highly exposed was doubled (100% greater), and workers with a long history of exposure to passive smoke had a 50% increased risk.

"We believe this provides the strongest evidence to date of the relationship between workplace environmental tobacco smoke and lung cancer," Stayner states.

The study's authors note that while "great strides have been made in limiting smoking in the workplace," about 30% of all U.S. workplaces still permit indoor cigarette smoking. The research has important policy implications for cities and states that have not yet legislated smoking bans in bars and restaurants where there are high levels of environmental smoke, she adds.

Heather Wakelee, PhD, of Stanford University in California, and her colleagues surveyed 1 million people and indicate that there are fewer than 8% of male lung patients who did not smoke. Wakelee explains that the study does not make clear why women may be more likely to get cancer even if they have never smoked. ■

CE Objectives

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

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

COMING IN FUTURE MONTHS

- ■ Tailoring EAPs to an older work force
- ■ Return-to-work myths
- ■ Confidentiality and human resources
- ■ Limited capacity challenges

CE Instructions

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

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

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

CE *questions*

9. Which of the following has emerged as the leading cause or trigger of occupational asthma in health care workers?
   A. Latex gloves
   B. Cleaning products
   C. Glutaraldehyde
   D. Formaldehyde

10. Which of the following is NOT true regarding work/life balance for employees with elder-care issues?
   A. All U.S. employers are required to provide 12 weeks of unpaid leave under the Family Medical Leave Act.
   B. Data from the Bureau of National Affairs (1993) found that flexible scheduling improved job performance, decreased lateness and employee turnover, and increased job satisfaction.
   C. Companies with 50 or more employees must comply with the Family and Medical Leave Act (FMLA), which allows for up to 12 weeks of unpaid leave to care for a seriously ill parent, spouse, or child, while protecting job security.
   D. By 2020, according to one survey, one family in three expects to be involved in caring for an elderly relative.

11. Under the Occupational Safety and Health Act, an employee is not required to come to work if he or she "reasonably and in good faith believes that he would be in imminent danger of death or serious injury in the workplace."
   A. True
   B. False

12. According to the Centers for Disease Control and Prevention, the tetanus, diphtheria, pertussis (TDaP) vaccine is thought to be how effective?
   A. 80%
   B. 89%
   C. 92%
   D. 98%

Answers: 9. B; 10. A; 11. A; 12. C.