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INSIDE

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Health legacy of 9/11: Respiratory, emotional complaints persist among those exposed

Protocols created to help responders now ill; many scattered across U.S.

The question, "Were you exposed to the World Trade Center disaster?" is probably not what you typically ask when conducting a risk assessment or patient history. But if the person you are interviewing complains of respiratory symptoms or reflux disease, or if mental health problems or substance abuse disorders are present, and the person might have been living or working in New York on Sept. 11, 2001, it is a question you should add to the list.

Five years after the terrorist attacks, New Yorkers and others throughout the country still experience World Trade Center-associated physical and mental illness, according to the New York City Department of Public Health and Mental Hygiene (NYCDPH). NYCDPH has developed guidelines for health care providers to suspect, diagnose, treat, and refer patients who are suffering ongoing physical and emotional consequences of exposures to the terrorist attack.[1]

The New York guidelines were released in September 2006, and placed on the department's website because health officials know that hundreds of people who were exposed to the World Trade site are scattered across the country. (*See Key Occupational and Residential Exposure History Questions, page 111.*)

Lingering health price of 9/11

Hundreds of thousands of people in Lower Manhattan on 9/11 were exposed to the dust, smoke, gases, and airborne debris created by the crash of the airliners into the towers, the fires, and the subsequent collapse of hundreds of tons of building material when the towers fell. Added to that, an estimated 40,000 rescue and recovery workers were exposed to caustic dust and toxic pollutants following the attacks, and thousands of workers and volunteers have since had respiratory and other health problems, according to experts.

Most were from the New York area, but many came from all over the country to help. Military reservists, nurses, physicians, firefighters and paramedics, construction and utility workers, police, and members of countless volunteer organizations were in and around the disaster sight in the months following. Documenting the exact number of people who were at the World Trade site on 9/11 and in the days and weeks following the attack is nearly impossible, officials say, because of the number of people and agencies who responded.

The rates of responders' symptoms and pulmonary function abnormalities correlate to how early they arrived at the site. Those who were there at the time of the attacks and tower collapses, or who arrived shortly thereafter, suffered the heaviest exposure.

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Editorial Questions

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More than 70% of responders who have sought screenings at Mount Sinai arrived at the site between Sept. 11 and Sept. 13. Within weeks, many were complaining of upper respiratory irritation.

Later, between July 2002 and April 2004, nearly 70% of the nearly 10,000 World Trade Center responders examined at Mount Sinai School of Medicine reported new or worsened respiratory symptoms, according to a study released in September 2006 by Mount Sinai researchers.[2]

Mount Sinai has conducted medical and mental health programs serving 9/11 responders since 2002. The study details findings from the World Trade Center Worker and Volunteer Medical Screening Program coordinated by Mount Sinai since 2002. The program is the largest multicenter effort to examine people who worked and volunteered at the World Trade Center and other 9/11 sites.

The illnesses have persisted, the report found, and, in some cases, at rates far exceeding normal rates. Emergency responders who have been administered pulmonary function tests have shown abnormalities at twice the rate found in the general population. Researchers point out that before the attacks, the workers who went to the World Trade recovery site were mostly strong and healthy and were not already suffering from the conditions they began experiencing afterward.

"World Trade Center cough" is now a recognized complaint seen at Mount Sinai and clinics that treat responders; some responders still report coughing up black particles inhaled at the site. Those treated, and whose cases are monitored by Mount Sinai and the National Institute for Occupational Safety and Health, have reported respiratory symptoms (e.g., laryngitis and sinusitis); lower respiratory disorders such as asthma; depression and post-traumatic stress disorder; and musculoskeletal complaints. (*See Potential World Trade Center-Associated Conditions, page 112.*)

In releasing the Mount Sinai report, one of the researchers urged anyone who worked at the World Trade site on or after 9/11 to be screened.

"It is important that those who gave so heroically in the aftermath of the disaster be assured that they will be able to get all the medical care they need," says **Philip J. Landrigan**, MD, chair of Mount Sinai's Department of Community and Preventive Medicine.

Key occupational and residential exposure history questions

Ask: "Were you exposed to the World Trade Center disaster?"

If patient answers yes, ask further questions regarding the nature and duration of exposure, such as:

1. Were you showered by the cloud of debris and dust when the towers collapsed?

2. Were you in Manhattan on the streets near the World Trade Center at the time of the impact of the planes, the collapse of the towers, or shortly afterwards?

3. Did you work or volunteer at the World Trade Center site providing rescue and recovery, cleanup, construction, or support services, or at the World Trade Center Recovery Operation on Staten Island or on a barge? What tasks did you perform? Did you consistently use a respirator? If so, describe what kind.

4. If you lived, worked, volunteered, or attended school in lower Manhattan in the months after September 11th, what was the condition of your home, work, or school?

5. Are there other WTC-related exposures that concern you?

Source: New York City Department of Public Health and Mental Hygiene, Clinical Guidelines for Adults Exposed to the World Trade Center Disaster, 2006.

According to the NYCDPH, construction debris, cement dust, glass particles, tar, cotton and asbestos fibers, and soot filled the air. Respirators were in short supply, and the paper masks that were available provided inadequate protection.

The Mount Sinai report describes the amount of particles that were inhaled by people in Lower Manhattan as lifetime doses.

And the effects might not be fully known, health experts say. They have not ruled out the possibility of World Trade Center-related cancers, and the effects on children who were in schools in the area of the attacks are still being determined.

Screening those who were there

Health officials, many alarmed at the growing number of health complaints arising or worsened in people who were at the attack sites, have long demanded the government develop protocols for health care workers, pointing out that standardized guidelines can lead to suspicion of conditions that otherwise might escape detection.

For example, those at the Ground Zero site are not the only group the NYCDPH says should be considered vulnerable to post-9/11 health effects. Other groups include:

- Being caught in the dust cloud on 9/11;
- Dismantling damaged building structures in the surrounding rubble, or handling World Trade Center debris without adequate protection;
- Cleaning affected commercial and residential buildings in lower Manhattan;
- Cleaning or reoccupying homes covered in dust;
- Being exposed to high levels of dust or smoke while restoring services in lower Manhattan.

Thus, just because someone is an electrician in Los Angeles today does not preclude exposure to 9/11 illness.

Emotional effects of the terrorist attacks on New York and Washington also continue to surface and be identified, the NYCDPH guidelines point out.

More than one in ten (11%) of those seeking treatment at Mount Sinai screened positive for serious psychological distress, the medical center's report indicates.

People who were injured in the collapse of the buildings, who witnessed the injury or death of others during the attack, or who were involved in the rescue and recovery efforts, experienced considerable psychological stress and direct trauma, New York health officials say. Indirect trauma may also have resulted from the loss of a loved one or from constant exposure to graphic media coverage of the attacks.

World Trade Center-related physical illness or economic hardship may also have caused psychological stress. For most individuals, acute stress symptoms abated quickly, within a month, but some developed disorders such as post-traumatic stress disorder (PTSD), depression, generalized anxiety disorder, or substance use disorders.

Health care providers can serve an important role in the identification, evaluation, treatment, and referral of trauma-related mental health disorders, Landrigan says. Medical and mental health providers should:

- Be alert to risk factors and signs that may indicate one of the identified World Trade Center-related disorders;

Potential World Trade Center-Associated Conditions

Inhalation or ingestion of dust and fumes at the World Trade Center affected the mucous membranes of the nose, sinuses, pharynx, gastrointestinal tract, and respiratory tract. The symptoms and signs of these conditions include:

- Sinus, nasal, and postnasal congestion
- Heartburn, hoarseness, and throat irritation
- Shortness of breath and wheezing
- Chronic cough

Some clinicians have described a syndrome consisting of a triad typified by:

- Upper airway cough syndrome (postnasal drip syndrome)
- Asthma/reactive airways dysfunction syndrome (RADS)
- Gastroesophageal reflux disease (GERD)/laryngopharyngeal reflux disease (LPRD)

Source: New York City Department of Public Health and Mental Hygiene, Clinical Guidelines for Adults Exposed to the World Trade Center Disaster, 2006.

- Establish a trauma history and screen for mental health disorder risk factors;
- Assess for symptoms of PTSD, depression, anxiety disorder, and substance abuse disorders;
- Educate patients about normal stress reactions;
- Diagnose/manage/refer conditions consistent with treatment guidelines.

For those outside the New York area, the nationwide network of the Association of Environmental and Occupational Health Clinics (www.aeohc.org) offers medical screenings for 9/11 workers. ■

For more information:

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Occupational cancers — prevention starts at the workplace

ACOEM creates checklist for prevention, screenings, reducing risks

Cancer's high toll on life, health, and employer costs make it worthwhile to remember that many cancers are preventable, a fact that the American College of Occupational and Environmental Medicine (ACOEM) chose to make the subject of its annual Labor Day checklist.

The Elk Grove, IL-based ACOEM issues a checklist each Labor Day, selecting a different health topic affecting worker health and workplace safety.

"The identification of occupational cancers and the reduction of occupational cancer rates in the United States due to uncontrolled exposures has been a major public health success," according to ACOEM president **Tee L. Guidotti**, MD, MPH, FACOEM. "[H]ow to do it is well known, but more remains to be done."

Prevention up to employers and employees

A report commissioned in 2005 by the American Cancer Society and C-Change, a nonprofit organization with missions relating to cancer research and prevention, presents the costs of cancer versus the cost of screenings to employers. The report concludes the savings in medical and non-medical benefits costs from early detection of breast, cervical, and colorectal cancer essentially equals the costs of screening.

Also, people with cancer represent about 1.6% of the commercial population in the United States, but generate 10% of employers/insurers' annual medical claim costs, the report states.

With an eye toward employer savings and resulting broad improvements in cancer prevention among American workers, ACOEM developed its 2006 checklist in conjunction with the CEO Roundtable on Cancer, which has developed the CEO Cancer Gold Standard (www.cancergoldstandard.org), a series of cancer-related recommendations for employers to use in cancer prevention. (*See ACOEM checklist for cancer prevention, p.113.*)

"Cancer remains a leading cause of lost productive, and otherwise vital, years, including among

ACOEM Checklist for Cancer Prevention at Work

Prevention

Employers:

• Establish and enforce tobacco-free worksite policies; ensure that health benefit plans include coverage at no cost for evidence-based tobacco treatments; establish workplace-based tobacco cessation initiatives
• Sustain a culture that supports healthy food choices; provide access to nutrition/weight control programs
• Sustain a culture that promotes physical activity; demonstrate commitment to eliminating barriers to active lifestyles

Employees:

• Don't use tobacco products and avoid environmental tobacco smoke; if you use tobacco, identify a program that will help you quit; find out if your health benefit plans cover smoking cessation help
• Maintain a healthy diet and weight; look for healthy food choices at work; find out if your company offers access to weight-control programs; set healthy eating goals.
• Exercise regularly; if you are not physically active, design a personal workout program that is appropriate for you.

Screening and Early Detection

Employers:

• Sustain a culture that promotes appropriate cancer-screening behaviors.
• Ensure that health benefit plans include cancer-screening provisions that adhere to the American Cancer Society or U.S. Preventive Services Task Force guidelines.
• Offer health benefit plans that eliminate cost as a barrier to accessing preventive/screening tests and exams.

Employees:

• Get screened for certain cancers at the appropriate time
• If you are not being screened appropriately, talk to your physician to determine which cancers, if any, you should be screened for
• Check your health benefit plans to find out how cancer screening tests and exams are covered.

Access to Quality Care and Clinical Trials

Employers:

• Provide education and promotion of cancer clinical trials.
• Offer benefit plans that eliminate cost as a barrier to accessing clinical trials.
• Ensure that health benefit plans provide access to cancer care at Commission on Cancer- and/or NCI-approved cancer centers

Employees:

• If you are healthy, educate yourself about where you can get quality cancer treatment should you ever need it
• If you have been diagnosed with cancer, check with your company to determine how your cancer treatment will be covered
• Learn about cancer clinical trials and, if you wish, discuss trial participation with your physician.

Reduce Exposure to Workplace Carcinogens

Employers:

• Eliminate use of cancer-causing substances; if not feasible, control exposure, preferably using engineering controls
• Ensure that all state and federal OSHA requirements are met or exceeded to reduce exposure to cancer-causing agents

Employees:

• Learn about the chemicals you work with, understand their hazards and how to work with them safely.

younger workers," says Guidotti. "We know that many cancers are not recognized as arising out of work because they occur years after exposure, often after retirement. We need to recommit ourselves to prevent cancer and to make work as safe as it can be, and this year's checklist is a first step."

Controlling Cancer in the Workplace is posted on ACOEM's web site at www.acoem.org/news/laborday.asp ■

Additional Resource

"Cancer Screening: Payer Cost /Benefit thru Employee Benefits Programs," C-Change and the American Cancer Society, 2005. Available online at www.c-changetogether.org/about_ndc/newsroom/article/MillimanReport.pdf.

Your site is OSHA-compliant — is that good enough?

For some, focusing on OSHA compliance may mean missing risks

If striving for 100% compliance with Occupational Safety and Health Administration (OSHA) safety requirements is an ongoing struggle at your workplace, you probably won't like what **Deborah R. Roy**, MPH, RN, COHN-S, CET, CSP, FAAOHN, has to say about it.

"One hundred percent compliance with OSHA won't eliminate workplace injuries, illnesses, and fatalities," she says. "And it was never intended to."

Too many workplaces focus on OSHA compliance and don't make enough of an effort to identify the risks associated with their own environments and employment populations, she says.

"OSHA regulations are a minimum standard, not the ideal standard," says **Lee**, president of SafeTech Consultants in Portland, ME. "They were developed by OSHA in response to complaints about the high rate of on the job fatalities, but were never intended to be the ultimate safety system."

100% compliant not 100% safe

Lee frequently speaks to groups about the difference between compliance and best practices, and illustrates her point with Bureau of Labor Statistics data from the U.S. Department of Labor. When workplace fatality data are lined up with OSHA safety regulations, she points out, more than 50% of the deaths are not even addressed by OSHA regulations. The first OSHA standards were published in 1971.

"That's because most [of the deaths not addressed by OSHA standards] are due to transportation accidents and workplace violence, and neither is addressed by OSHA standards," she explains. "That's one big example of why one hundred percent compliance with OSHA regulations will not result in zero workplace fatalities."

That's not to say that OSHA standards have not had a clear impact on workplace deaths. In 1970, there were 56 million workers in the United States, and 13,800 worker fatalities (according to Department of Labor data). In 2004, by contrast, there were 138 million workers and 5,700 deaths; however, there were 4.3 million work-related injuries and illnesses, a rate that has a huge impact on productivity and business economics, as well as the individual effects to those sickened and injured.

Focusing solely on complying with OSHA regulations, Lee points out, can mean employers are not identifying the risks around them and eliminating openings for injuries and illnesses.

If a company spends time on compliance with standards for which lack of compliance has not resulted in injury, that's time and effort misdirected, Lee says. It is possible, even though incongruent, to be fully compliant with OSHA regulations and not have a safe workplace; likewise, it is possible to have a safe workplace and yet be out of compliance and subject to citation by OSHA.

Possible to have it all

"It is possible to accomplish both [OSHA] compliance and safety," Lee insists. "The concept is to really look beyond OSHA compliance, and rather than looking at it as the level to achieve, strive to achieve a more comprehensive health and safety program."

While assessing operations in pursuit of compliance with federal standards, Lee says occupational health and safety professionals should be assessing the hazards inherent in their operations. In some cases, hazards present in the workplace are addressed by OSHA standards but, as Lee has pointed out, sometimes they are unrelated to any OSHA standard.

For that reason, Lee suggests companies develop safety systems based on risk in their own specific industry, not simply based on existing regulation.

The European Union uses a management systems approach to workplace safety, leaving evaluation of risk—and the decisions made to reduce

risk—up to company management to decide. This management systems approach is a method of integrating day to day operations, safety goals, performance targets, risk assessments, rules and procedures, and monitoring and evaluation processes. Decisions on workplace safety are based on an evaluation of risk rather than on-set standards.

Here in the United States, Lee says, the idea of management systems is evident in OSHA's Voluntary Protection Program (VPP) and the Maine Top 200 Program, both of which center on eliminating risks and creating a safe work environment, rather than concentrating all attention on avoiding OSHA penalties. The Maine Top 200 program, similar to VPP, was created by OSHA in Maine, in which companies with good safety records could join a voluntary program and learn to do self inspections, and take responsibility for planning and implementing health and safety improvements.

"You can do both [compliance and best safety practices], because in theory, if the OSHA standards make sense, as you identify risks you'll find things that aren't compliant," she says. "If you have a fleet of trucks, there's your risk, but that's not something OSHA standards address."

A common mistake companies make by mapping their safety systems on OSHA is focusing on the safety of their employees without paying attention to contractor safety.

"That's a big hole for most employers," Lee says. "If it's not their own employees, they sort of ignore them, even if it [contractors' actions] can affect their employees."

Measure organization's unique safety risk

For evaluating safety and health risks, Lee likes to use a program evaluation profile (PEP) form developed by OSHA a decade ago. (Note: OSHA no longer uses the PEP form, but it remains accessible at the administration's website: www.osha.gov/SLTC/safetyhealth/pep.html.) The PEP format has the evaluator grade the organization in six areas:

Management leadership and employee participation — Visible management leadership in an effective safety and health program for both regular employees and contractors; employee participation in their own protection.

Workplace analysis — Survey and hazard analysis; inspection; hazard reporting system.

Accident and record analysis — Investigation of accidents and near-misses; analysis of injury and illness records.

Hazard prevention and control — Hazard control; facility and equipment maintenance; suitable medical program.

Emergency response — Appropriate emergency planning, training, drills, and equipment; first aid and emergency care readily available.

Safety and health training — Training that includes all subjects and areas necessary to address hazards at the site.

Each area is assigned points based on whether the organization's practices are outstanding, superior, basic, developmental, or absent/ineffective.

"With the PEP form, you can do a self-evaluation and look at where the holes are," Lee explains.

She says the first time she spoke to an audience of safety experts on simple compliance versus best practices, she was surprised to find out how many had not approached safety from that standpoint.

"I didn't get it — they should have already been there," she recalls. "There are a lot of companies doing a good job with their safety systems, but plenty out there for whom this is new information." ■

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Occupational Safety and Health Administration Safety and Health Programs Program Implementation. More information available at www.osha.gov/SLTC/safetyhealth/evaluation.html.

U.S. Food and Drug Administration, "Maine Top 200" occupational health case study. Available at www.fda.gov/cdrh/leveraging/03c.html.

Injuries create challenges for returning veterans and their employers

Thousands re-entering civilian workforce; PTSD among conditions to watch for

By the time most United States forces return home from active duty in the Middle East, more than 2 million military personnel will have been deployed in that part of the world. Many of those who have seen combat will have little difficulty returning to their civilian lives but, for some, reentering home life and the working world will be

Symptoms of post-traumatic stress disorder (PTSD)

- Re-experiencing the trauma through painful, intrusive memories and recollections; suffering from nightmares and flashbacks. Reminders intensify the symptoms.
- Developing behaviors and attitudes that cause the person to avoid people, places, and things that may cause him/her to remember the trauma. The person may become emotionally numb with feelings of alienation from people, even those with whom the person had previously maintained a close bond. This can include family members, friends, and associates.
- Developing symptoms of irritability, impatience, anxiety, and depression. He/she may have a "short fuse" and is quick to become enraged with little provocation.
- Developing sleep problems and an ongoing feeling of hypervigilance and distrust.
- Experiencing problems with attention and concentration.
- Experiencing physical reactions like heart palpitations or sweating when reminded of the trauma.

challenging to both the returning employee and his employer as they deal with the emotional impact of combat and injury.

As in past post-war periods in the United States, most employers are uncertain how to help returning veterans integrate back into the workforce. Occupational health nurses are positioned to be of great help in this process, one veterans health professional says, but only if they know how.

"[Wounded or combat-traumatized veterans] are not going to tell you things because they're not going to trust you," says **Michael J. Wagner**, PhD, Colonel (Retired) USAR, executive director and chairman of the Military, Veteran and Family Assistance Foundation (MVFA). MVFA is a nonprofit organization that provides services and resources beyond the budgetary and mission capabilities of the Department of Defense, the Department of Veterans Affairs, and other national, state, and local veterans' agencies.

"So, how do you treat them compared to other employees?" Wagner asks. "How does it [combat and injury] impact their work?"

Emotional signs can surface later

While the military screens many combat veterans for mental health issues at the time of discharge, those results might not be truly accurate markers of the emotional toll of combat service, according to **Thomas A. Grieger**, MD. Grieger and colleagues at the Uniformed Services University of the Health Sciences (USU), the nation's only federal medical school, have found that the emotional impact of injury deepens in the first year after evacuation from combat.

"The biggest punch line on the article is that of all things examined at initial evaluation (at one month post discharge), including exposures and length of service, presence of [post-traumatic stress disorder] PTSD and depression, none are predictive of PTSD and depression at seven months," says Grieger. "The one thing that was indicative was a high level of physical complaints initially."

Grieger's study is the first to examine emotional injury in soldiers seriously wounded or injured in combat in Iraq or Afghanistan. It indicates a correlation between self-reported physical problems and psychiatric disorders.

The findings came from the screening of more than 600 soldiers who were the most severely wounded of those receiving combat injuries from March 2003 to September 2004. Of these soldiers, 243 completed assessments at the one-, four-, and seven-month time frame after being injured. The rates of PTSD and depression were 4% at one month, 12 % at four months, and 19 % at seven months.

What does this mean to an occupational health nurse who has combat veterans working in his or her organization?

"[Occupational health nurses] should be aware that if they have patients who have a large number of severe physical complaints following such exposures to combat, that would warrant a medical evaluation to determine if PTSD or depression is present," says Grieger. "Also, they should be aware that treatment of the mental health conditions might alleviate physical complaints." (*See box on Symptoms of PTSD*.)

A study that appeared in the *New England Journal of Medicine* in 2004 found the following in military personnel serving in Iraq who met screening criteria for major depression, anxiety, or PTSD:

- only 78% acknowledged a problem;
- just 43% indicated an interest in receiving help;
- only 40% had received help from any professional within the previous year;
- only 27% had received help from a mental health professional within the past year.

Reasons they gave for not seeking help included fear that they would appear weak; diffi-

culty getting time off for therapy; doubt that mental health treatment would work; and feeling embarrassed. And as Wagner pointed out, more than one-third said they did not trust mental health professionals.

Grieger's findings, "Posttraumatic Stress Disorder and Depression in Battle-Injured Soldiers" appear in the October 2006 issue of *The American Journal of Psychiatry*. ■

For more information:

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Stroke: Screening results challenge stereotypes

Nurse shares tips for getting management to approve screening

Bonnie Nevels, a registered nurse and occupational health nursing administrator for the U.S. Postal Service in Oklahoma City, OK, thought she knew which of her employees would be at risk for stroke — that is, until she implemented a screening program for the shift workers at her site.

"The results were not what we expected," says Nevels, BScN, RN, who organized the screening with another nurse who specializes in community education.

The American Stroke Association, a division of the American Heart Association, warns that strokes are becoming more common in people younger than 65. But Nevels assumed that in the population of shift workers at her Oklahoma City location would be lower risk — mostly young, healthy, and engaged in physical activity rather than sedentary desk jobs.

"I learned a lot myself," says Nevels, who explained that many in her apparently healthy employee population found they had work to do to bring their blood pressure, cholesterol, and triglyceride levels within safe parameters.

Warning signs of stroke

- Sudden numbness or weakness of the face, arm or leg, especially on one side of the body
- Sudden confusion, trouble speaking or understanding
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness, loss of balance or coordination
- Sudden, severe headache with no known cause

Source: American Stroke Association

Selling the idea of screening

Nevels also learned a lot about selling a stroke screening program to management and to employees.

"The challenge is finding an avenue to bring your educational materials to the workers, get the screening done at little or no costs, and keep your product line going [so that production is not interrupted by the screening]," she explains. "So how do you sell it to management? You make it personal. You have to tell them, 'Stroke does not discriminate. It happens to people as young as 44, so it could be you.'"

And, she adds, pointing out that if one person's life or health is saved by being screened for stroke risk, "that's huge."

She advises occupational health nurses to look for ways to introduce the idea within the framework of information networks already in place.

"I knew our managers have to do service talks [to employees] once a month, and I said, 'Hey, this can serve as one of them,' and the managers were delighted to let me come in and talk about stroke," she says. "The service talks are only 10 minutes, so I had to be creative and make them interested. So we gave away things — people will always show up if you are giving things away — and then we delivered the information, making it as personal as possible."

She says she asked employees if they knew or were related to anyone who'd suffered a stroke, then explained how screenings could prevent them from having strokes. She concluded by telling them they'd have to come back at another time for the screenings.

"I told them that if they had an interest, we'd come back, do a blood pressure and cholesterol test, and take a family history," she explains. "Then, they'd get a one-on-one interview to discuss the results with a nurse."

She stresses that she emphasized to the employees that their one-on-one would NOT be with her.

"They would not want to talk with me [as their company nurse] if they had a 500 cholesterol level," she points out. So she contacted a local nursing school and got volunteers to come do the fingersticks and tests, and to discuss the results. She advised the nursing students on what to say when some results were particularly serious, but did not herself talk to the employees about their results.

Employees whose results were worrisome were advised to see their physicians, and counseled on diet and exercise.

"We had one manager who we really believe averted, if not death, then a life-altering event," she says. He was found to be hypertensive and have high cholesterol and triglyceride levels. The screening results led to a fitness program that, six months later, had lowered his blood pressure, cholesterol and triglyceride levels, and his weight by 20 pounds.

Stereotypes challenged

Nevels says before she saw the results of the screenings in her shift workers, she assumed that the night shift would be less healthy because night workers tend to eat more vending machine food; that daytime employees would be healthier because they had more healthy food choices; and that, overall, the shift workers would be healthier than managers because they are on their feet and performing physically.

"All that went out the window," she says. Night shift, she concludes, is not a higher risk population because they are busier than the day shift, apparently counteracting the vending machine food theory. And the 40- to 50-year-olds were at higher levels of risk than she'd anticipated for such an active group.

"It didn't have anything to do with eating out at restaurants during the day versus eating out of vending machines at night," she says.

Employees in general "had an 'Oh my God' reaction to what they learned," says Nevels. "We asked management if we'd disturbed their product line, and they said we had not, so they were happy."

Changes that resulted include that the plant changed its policy on calling 911. Previously, if an employee went down, coworkers were required to notify a manager before calling 911. Now, with employees educated as to the signs of stroke (*see box on p. 117*), if an employee shows signs of stroke, his or her coworkers can use the closest available phone to call 911 before finding a manager.

"Time is brain," says Nevels, quoting the Stroke Association's mantra.

Nevels says her experience with screening is that it took on average 10 minutes per employee, including the one-on-one consultation.

"My advice to occupational health nurses is to outsource it as much as possible, and stay cheap by going to a college of nursing for help," she adds. ■

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Hotel industry to help business travelers keep healthy habits on the road

Nutrition advice, in-room workout programs among newer programs

Travel is an integral part of American business and, consequently, there are a lot of people who find themselves abandoning their normal healthy eating and exercise habits while they are away. Some hotel chains have recognized this tendency, and in an effort to protect the health of this important part of their customer population, are taking steps to steer guests to healthy nutrition and activity options while they travel.

"When people are at home, they might eat a bowl of cereal or something healthy for breakfast before they go off to work," points out **John Lee**, vice president for brand marketing and communications for Memphis-based Embassy Suites Hotels. "But when they travel, they indulge in breakfast foods they wouldn't indulge in at home — they eat doughnuts, bacon and eggs, and they feel it during the day."

Embassy Suites began surveying its business travelers about their food and activity behaviors on the

road, and used that information to create Business Balance, a fitness and nutrition initiative that the chain will debut in January 2007 in each of its hotels in the United States, Canada, and Latin America.

Rick Bradley, former director of the Occupational Health and Fitness Program at the U.S. Department of Transportation, and culinary instructor Paulette Mitchell have helped put together the Embassy Suites program, which hotel industry officers say is reflective of a general trend in the industry to make business travelers feel healthier and more comfortable.

Traveling away from good habits

Lee says guests report they feel more stressed when on business travel than they do at home, and health and fitness sometimes fall by the wayside in the scramble to attend meetings and meet travel timetables.

The hotel industry is well aware "that a room is a room, a bed is a bed," says Lee. According to a survey conducted in 2005 by the Hilton Hotels Corporation, more than 60% of frequent travelers report that business travel greatly disrupts daily activities such as sleeping, eating, and exercise. An evaluation of reaction and alertness showed that travelers who exercised during their business trips performed 61% better than non-exercisers.

Westin Hotels and Resorts conducted a survey in 2003 entitled "Road Runners: Working Out on the Road" to gauge the importance of fitness for travelers, and how easy it was for travelers to keep to their routines when away from home.

Those surveyed by Westin also revealed the following information about travel and wellness:

- 90% said exercise relieves stress on the road
- 60% said exercise helps alleviate jet lag
- 40% said they eat more on the road
- 17% said they gain weight when traveling
- 37% said they feel more stress on the road than at home.

Hotels are not alone in identifying the nutrition and fitness needs of the business traveler. AthleticMindedTraveler.com is an online subscription service that will provide wellness and work/life balance support to traveling employees, and to employers whose workers travel.

Runners who are frustrated by an inability to find good running routes in unfamiliar cities were the impetus for www.favoriterun.com, which allows users to locate and map running routes by zip code and map them, find running partners, view pictures of routes, and chat with other runners who are familiar with the city.

"What seemed important [to guests surveyed by Embassy Suites] was reducing stress and reminding them that if they get some circulation going and get warmed up before starting the day, the benefits are enormous," says Lee. "Just getting the information [on making healthy food and activity choices] in front of travelers gives them choice and control, and makes life easier."

Embassy Suites has developed its Business Balance program to include healthy breakfast choices, many of which have been there all along, coupled with information in the guest rooms on continuous loop video, on in-house television, and on cards in the dining room that tell guests what choices they have that are healthier and can make them feel more energetic and alert during the day.

Likewise, some stretching and warmup exercises are on continuous loop on guest room televisions, so even if there's not time for a full workout before starting the day, guests can warm up and get circulation going, Lee adds.

Hotel chains began looking at fitness and stress reduction a few years ago, particularly for its business customers. Many introduced improved bedding and mattresses to promote better sleep, and turned attention to their fitness rooms and equipment.

"When people travel, they get off their routine and they don't feel the same," points out **Dawn Ray**, senior manager for brand communications for Embassy Suites. "This helps remind them they don't have to get off their routine. They can stay as close to it as possible."

Offer tips for business travel

When employees in your organization travel, there are tips you can provide that might make

COMING IN FUTURE MONTHS

- Worksite stroke prevention and screening
- Creating an employee privacy protocol
- Building a resume that works
- Indoor air quality

them more inclined to take care of themselves while they are on the road.

Suggest they pack basic exercise gear — shorts, t-shirt, socks, and running shoes on hand make it easier to take a quick walk or run. It's also a good idea to work out first thing in the morning because, as business meetings turn into business dinners, finding time to exercise gets harder as the day wears on. Also, the benefits of an early morning workout carry through the day.

CE Objectives / Instructions

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

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

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

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

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

CE *questions*

13. Regarding the effects of the terrorist attacks on the World Trade Center, which of the following statements is NOT true?
A. Health officials know that hundreds of people who were exposed to the World Trade site are scattered across the country.
B. Documenting the exact number of people who were at the World Trade site on Sept. 11 and in the days and weeks following the attack is nearly impossible because of the number of people and agencies who responded.
C. Health officials have ruled out the existence of World Trade Center-related cancers.
D. Researchers are still working to determine the effects on children who were in schools in the area of the attacks.

14. The European Union uses what approach to workplace safety?
A. Management systems
B. Compliance to set standards
C. Voluntary Protection Program
D. No formal approach

15. According to Grieger, mental health evaluation of a combat veteran immediately after injury or combat exposure is a certain indicator of whether he will experience depression or post-traumatic stress disorder months afterward.
A. True
B. False

16. A report by the American Cancer Society and C-Change concludes the savings in medical and non-medical benefits costs from early detection of breast, cervical, and colorectal cancer:
A. essentially equals the costs of screening.
B. is by necessity less than the costs of screening.
C. is greater than the costs of screening.
D. is impossible to determine.

Answers: 13. (c); 14. (a); 15. (b); 16.(a)

If your company provides health club benefits, find out if there are reciprocal visitor passes available in the cities your employees travel to most often. YMCAs are easily accessible, and honor memberships from others Ys across the country; if your employees travel often to the same cities, find out the location of health clubs that are easy and accessible at little or no cost. ■