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INSIDE

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Work and menopause: Eliminate mystique, address this health issue

Symptoms affect productivity; work conditions can worsen symptoms

As the American work force ages and women make up more and more of the labor force, occupational health nurses are giving more attention to the effects menopause may have on employees' health and productivity, as well as how working conditions might affect menopause symptoms.

Menopause is a "normal physiological event" that usually affects women starting in their 40s or 50s. A recent survey of members of the National Association for Female Executives revealed that 80% of women 35 and older who experience menopausal symptoms have had one or more symptoms interrupt their daily routines. Forty-four percent of those who experience insomnia say it has had a negative impact on their work productivity.

And while women are expected to soon make up half of the nation's work force, menopause is not a topic usually addressed in the workplace. In a setting such as a hospital, where up to three-fourths of the employee population can be female, the effects of this life change bear consideration.

Don't treat menopause like a disease

"We look at menopause like it's a normal physiological event, not an illness, and address it like other life changes and lifestyle issues," says **Mary "Cricket" Barakzai**, EdD, FNP-C, CNM, CNS, of the California State University, Fresno Department of Nursing. Barakzai and her colleagues offer a "Menopause or Madness" workshop for CSUF faculty and staff through the university's Life+Work+Links employee assistance and development program.

"Menopause is a normal process, like pregnancy," stresses Barakzai. "It's not a disease. So we try to offer some tips on how to handle various symptoms."

Emphasizing the normalcy of menopause and demystifying it is a major component in making women feel more at ease about menopause and making employers more open about it, which in turn can ease symptoms.

The Trades Union Congress in the UK conducted a survey in 2003 in

which working women were asked about menopause and their jobs.

Somewhat predictably, the survey found that the most common symptoms experienced at work, and at times made worse by work, included hot flashes, headaches, lack of energy, sweating, anxiety, general aches and pains, dry skin and eyes, and short-term memory and concentration problems.

Significantly, despite the large numbers of women in the work force, the Trades Union Congress survey found that employers' health risk assessments did not take menopause symptoms into account as potential work issues.

Barakzai says with each generation, discussion of menopause, menses, and pregnancy becomes more open. However, she points out, there is still plenty of mystique and misconception when it comes to people's understanding of menopause.

"We try to deal with the misconceptions, such as why people have hot flashes, why someone can experience menopause even after having a hysterectomy," she says.

Despite increasing openness about women's physiological changes, occupational health professionals realize that part of the reason menopause's effects are overlooked as a work issue is because women going through menopause take great pains to appear as if nothing is wrong.

Especially in male-dominated fields, women may feel they'll be perceived as weak or unable to do the same job as their male — or younger female — counterparts. Male supervisors often don't bring the subject up for fear of a discrimination complaint.

The British survey of working women, however, highlights why employers should have a mechanism for accommodating or offering information and assistance to women experiencing menopause symptoms. Not only do the symptoms disrupt productivity at times, but working conditions can worsen the symptoms. Among the worst offenders, the survey indicates, are high temperatures in the work area, poor ventilation, inadequate or non-existent bathroom and rest facilities, and lack of access to cold drinking water.

Other factors that can exacerbate symptoms are stress, working in a fixed position for long periods, dealing with the public, managing other employees, heavy lifting, and long periods spent in front of a computer screen.

Make access to information easy, private

There is plenty of information available on menopause, its symptoms, and its health effects, and it's important to make that available to working women. Making it available privately or anonymously is likely to boost the number of people — male and female — who seek out information. Male employees can experience some side effects of a spouse's menopause (e.g., if she can't sleep, his sleep may be affected) or that of a female coworker (if symptoms are affecting her productivity), and information on menopause might reduce resulting friction.

In the CSUF wellness programs on menopause, Barakzai says there's lots of discussion about general healthy lifestyle choices, as well as discussion about what menopause actually means.

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"In some cultures, it's welcome, but in general, mainstream America is a youth culture and menopause is a sign you're getting old," she says. "Whether you grieve that loss or you don't depends on your viewpoint."

Other things going on in a woman's life at the time influence that viewpoint: Are her parents getting older or in failing health? Are children leaving home? Is her overall health good or bad?

"The effect of hypoestrogenism on bones is a real hot topic now," Barakzai says. "Breaking your hip used to be a death sentence, but not anymore. Still, bone health has a serious effect on your quality of life, so there's a lot of interest in getting enough calcium, enough vitamin D, and in media reports on hormone replacement."

Offer suggestions to ease symptoms

Barakzai says women can look for triggers that cause hot flashes and other symptoms to flare up or worsen. Dressing in layers, avoiding spicy foods, and avoiding stress, when possible, are some basics.

The National Women's Health Resource Center makes the following recommendations:

Cool off hot flashes without hormone therapy

Suggest dressing in light layers that can be taken off when a hot flash starts; using a hand-held, battery-operated fan; and taking a tepid or cool shower before bedtime. For some women, alcohol or caffeine triggers hot flashes, so it can help to avoid these substances. If stress brings on hot flashes, try relaxation techniques such as deep breathing and meditation.

Weight gain at menopause common, but not inevitable

Most women gain weight, especially in their midsection, around menopause. This midlife weight gain is partly because of hormonal changes associated with menopause. However, weight gain also is associated with inadequate physical activity, and women tend to be less physically active as they grow older. Encourage female employees to reduce calorie intake and make exercise a priority.

Calcium, vitamin D key to bone, overall health

Remind women approaching menopause that adequate calcium intake — in the presence of adequate levels of vitamin D — plays a major role in reducing the incidence of osteoporosis. In addition, calcium also appears to have beneficial effects in several non-skeletal disorders, such as high blood pressure, colorectal cancer, obesity, and kidney stones. Most women who are peri- or postmenopausal should get at least 1,200-1,500 mg per day of elemental calcium, and, to ensure adequate calcium absorption, 400-800 IU per day of vitamin D. Calcium is best absorbed from whole foods or in supplement doses of 500 mg or less at a time, so 1,200- to 1,500-mg total doses should be split into two or three smaller doses. ■

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***National Women's Health Resource Center**. 157 Broad Street, Suite 315, Red Bank, NJ 07701. Phone: (877) 986-9472. Web: www.healthywomen.org/health-topics/menopause. Free materials available on menopause and other women's health topics.]*

CDC: Urge foreign-born employees to test for TB

HCWs with latent TB pose huge risk to patients

If your organization includes foreign-born employees, CDC figures on tuberculosis (TB) are important for their health and the health of others, particularly in health care facilities.

CDC figures from 2005 indicate that the rate of TB in the United States was the lowest recorded since national reporting began in 1953, with a total of just more than 14,000 cases reported. That's the good news; the bad is that the rate of decline has slowed dramatically in recent years, and the rate of TB among foreign-born residents is nearly nine times greater than for people born in the United States.

According to Vanderbilt University medical professors **Timothy R. Sterling**, MD, and **David W. Haas**, MD, health care workers born outside the United States may assume they are protected by immunizations given in childhood or that their latent TB will remain latent.

Cases of health care workers inadvertently exposing thousands of patients to TB in New York City and Boston in recent years should serve as a warning to all health care facilities of the "tremendous potential for a bad outcome" when TB infection is left untreated, Sterling and Haas wrote recently in the *New England Journal of Medicine.*

High-risk criteria for latent TB treatment

Persons in these high-risk groups should be given treatment for latent tuberculosis infection (LTBI) if:

Reaction to the tuberculin skin test (TST) is ≥5 mm of induration:

- HIV-infected persons
- Recent contacts to a TB case
- Persons with fibrotic changes on chest radiograph consistent with old TB
- Patients with organ transplants
- Persons who are immunosuppressed for other reasons (e.g., taking the equivalent of >15 mg/day of prednisone for one month or longer)

Reaction to the TST is ≥10 mm of induration:

- Recent arrivals (<5 years) from high-prevalence countries
- Injection drug users
- Residents and employees of high-risk congregate settings (e.g., correctional facilities, nursing homes, hospitals, other health care facilities)
- Mycobacteriology laboratory personnel
- Persons with clinical conditions that place them at high risk for developing TB (e.g., diabetes)
- Children <4 years of age, or children and adolescents exposed to adults in high-risk categories ■

Source: Jenson et al. Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Settings, 2005. *MMWR Recomm Rep.* 2005; 54(RR17):1-141.

In the New York case in 2003, a nurse from the Philippines who worked in a newborn nursery and maternity ward had pulmonary TB that went undiagnosed for two months. A decade earlier, a routine pre-employment TB skin test was positive, but the nurse declined treatment for latent TB, because she believed that the positive test was caused by an anti-tuberculosis vaccination (Bacille Calmette–Guérin, or BCG) and, therefore, most adults from the Philippines who had positive TB skin tests were not treated. About 1,500 people came in contact with the nurse while she was considered infectious, but only one-third could be located for follow-up, report Haas and Sterling. Among those located were at least four infants who were found to be infected with TB.

The Vanderbilt researchers wrote that treatment should be provided to health care workers with latent TB infection as indicated by a positive tuberculin skin test, particularly if they meet certain high-risk criteria. **(See box.)**

Test for TB even in BCG-vaccinated

The CDC guidelines point out that many foreign-born people received the BCG vaccine, which is not commonly given in the United States due to the low rate of TB in this country. BCG may cause a positive reaction to the tuberculin skin test (TST), which may complicate decisions about prescribing treatment.

Despite this interference, the CDC guidelines specify that the tuberculin skin test (TST) and QuantiFERON-TB Gold test (QFT-G) are not contraindicated for persons who have been vaccinated with BCG. The presence or size of a TST reaction in these people does not predict whether BCG will provide any protection against TB disease, and the extent of a TST reaction in a BCG-vaccinated person is not a factor in determining whether the reaction is caused by latent TB (LTBI) or the prior BCG vaccination.

Treatment of LTBI substantially reduces the risk that TB infection will progress to disease, but the CDC warns that careful assessment must be made to rule out the possibility of TB disease before treatment for LTBI is started. Evaluation of TST reactions in persons vaccinated with BCG should be interpreted using the same criteria for those not BCG-vaccinated.

Q and A for the occ-health professional

The CDC's tuberculosis guidelines include a question-and-answer section to provide practical solutions for occupational health professionals. Following are some pertinent to the health care setting:

A health care worker (HCW) who has been vaccinated with BCG is being hired. She states that BCG will make her TST result positive and that she should not have a TST. Should this HCW be exempted from a baseline two-step TST?

Unless she has documentation of a positive TST result or previously treated LTBI or TB disease, she should receive baseline two-step TST or one BAMT (a blood assay for *M. tuberculosis*). Some persons who received BCG never have a positive TST result. For others, the positive reaction wanes after five years. U.S. guidelines state that a positive TST result in a person who received BCG should be interpreted as indicating LTBI.

Does BCG affect TST results and interpretations?

BCG is the most commonly used vaccine in the world. BCG might cause a positive TST (i.e., false-positive) result initially; however, tuberculin reactivity caused by BCG vaccination typically wanes after five years but can be boosted by subsequent TST. No reliable skin-test method has been developed to distinguish tuberculin reactions caused by vaccination with BCG from reactions caused by natural mycobacterial infections.

What steps should be taken when an HCW has had a recent BCG vaccination? When should the TST be placed?

A TST may be placed anytime after a BCG vaccination, but a positive TST result after a recent BCG vaccination can be a false-positive result. QFT-G should be used, because the assay test avoids crossreactivity with BCG.

Do health-care settings or areas in the United States exist for which a baseline two-step skin TST for newly hired HCWs is not needed?

Ideally, all newly hired HCWs who might share air space with patients should receive baseline two-step TST (or one-step BAMT) before starting duties. In certain settings, a choice might be offered not to perform baseline TST on HCWs who will never be in contact with or share air space with patients who have TB disease, or who will never be in contact with clinical specimens (e.g., telephone operators in a separate building from patients). **(See story, "CDC says low-risk hospitals can halt annual TB tests," p. 102.)**

How long may I use my respirator for TB exposures before I discard it?

Respirators may be functional for weeks to months; reuse is only limited by considerations of hygiene, damage, and breathing resistance. A disposable respirator may be reused by the same HCW as long as it remains functional. Each respirator manufacturer has a recommended user seal-checking procedure that should be followed by the user each time the respirator is worn.

When does an infectious TB patient become noninfectious?

Historically, health care professionals have believed that the effect of anti-tuberculosis treatment to reduce infectiousness was virtually immediate; older texts state that patients on anti-tuberculosis treatment are not infectious. No ideal test is available to diagnose the infective potential of a TB patient on treatment, and it is unlikely that infectivity disappears near the moment when anti-TB therapy is initiated. After two to three weeks of treatment, infectiousness averages less than 1% of the pretreatment level.

A pregnant HCW in a setting is reluctant to get a TST. Should she be encouraged to have the test administered?

Yes. Placing a TST on a pregnant woman is safe. The HCW should be encouraged to have a TST or offered BAMT. The HCW should receive education that 1) pregnancy is not contraindication to having a TST administered, and 2) skin testing does not affect the fetus or the mother. No documented episodes of TST-related fetal harm have been reported since the test was developed, and guidelines issued by the American College of Obstetrics and Gynecology emphasize that postponement of the application of a TST as indicated and postponement of the diagnosis of infection with *M. tuberculosis* during pregnancy is unacceptable.

A pregnant HCW in a setting has a positive TST result and is reluctant to get a chest radiograph. Should she be encouraged to have the chest radiograph performed?

Pregnant women with positive TST results or who are suspected of having TB disease should not be exempted from recommended medical evaluations and radiography. Shielding consistent with safety guidelines should be used even during the first trimester of pregnancy.

Are periodic chest radiographs recommended for HCWs (or staff or residents of long-term care facilities) who have positive TST or BAMT results?

No. Persons with positive TST or BAMT results should receive one baseline chest radiograph to exclude a diagnosis of TB disease. Further chest radiographs are not needed unless the patient has symptoms or signs of TB disease or unless ordered by a physician for a specific diagnostic examination. HCWs who have a previously positive TST result and who change jobs should carry documentation of the TST result and the results of the baseline chest radiograph (and documentation of treatment history for LTBI or TB disease, if applicable) to their new employers. ■

[For more information:

Trends in Tuberculosis — United States, 2005. MMWR *2006;55:305-308. Available on-line at www.cdc.gov/mmwr/preview/mmwrhtml/mm5511a3.htm.*

Sterling TR, Haas DW. Transmission of Mycobacterium tuberculosis *from health care workers.* N Engl J Med *2006;355(2):118-21.]*

CDC says low-risk hospitals can halt annual TB tests

New guideline eases tracking where TB rare

The tedious job of tracking tuberculin skin tests for hundreds, or even thousands, of employees has ended for hospitals that rarely treat patients with tuberculosis.

In guidelines released late last year, the Centers for Disease Control and Prevention (CDC) advised that hospitals that are "low risk" based on a risk assessment do not need to conduct annual TB screening. Without the burden of that task, employee health professionals have been able to focus on other projects, including injury prevention and wellness.

"It does free up an awful lot of time," says **Deborah Rivera**, RN, COHN, occupational health nurse supervisor at Children's Mercy Hospitals and Clinics in Kansas City, MO. "It was something we monitored very carefully. You wanted your compliance to be 100%, if at all possible, and we worked hard to do that. I'm glad it's gone."

Until this year, Children's Mercy conducted 7,000 to 10,000 TB tests a year, including two-step baseline tests. The hospital will continue to conduct two-step baseline tests on new employees, or a total of about 3,000 tests. The reduction will save an estimated $50,000, much of that in staff time.

In its 2005 *Guidelines for Preventing Transmission of* Mycobacterium tuberculosis *in Health-Care Settings*, the CDC classified hospitals as low risk if they had more than 200 beds and fewer than six TB patients in the preceding year, or if they had fewer than 200 beds and fewer than three TB patients in the preceding year.[1]

Children's Mercy met the criteria, so Rivera brought the issue to the hospital's infection control committee and got the approval of the public health department. The hospital still provides annual education to employees about TB, monitors employee symptoms, and conducts an annual risk assessment.

If the risk status changes or transmission occurs, employees would need to have baseline, two-step tests if they have not had a TB test within the past 12 months, says **Paul Jensen**, PhD, PE, engineer director with the U.S. Public Health Service and the CDC's division of TB elimination. Employees who move to a new setting, even if it is low risk and within the same facility, would need the two-step test, he says. (Different units, such as the emergency department, may carry different risk assessments.)

So nurses who "float" among different departments still may need annual TB testing even if they're in a low-risk facility, Jensen says. For other employees who transfer settings, the two-step testing could be avoided by using a TB blood test such as QuantiFERON-TB Gold, he notes.

Now employees want TB tests

It seems strange to end annual TB testing, Rivera acknowledges. After all, conducting TB skin tests has long been a significant task for employee health — and one often reviewed by visiting surveyors from the Joint Commission on Accreditation of Healthcare Organizations.

Employees also had grown accustomed to the annual screening. So paradoxically, employee health professionals who once spent hours reminding employees and following up on those who didn't get their tests now field requests from employees who still want the TB tests even if they're not required.

"Danville Regional Medical Center continues to offer annual TB testing to its associates, with almost all associates choosing to receive it," says **Peggy Taylor**, RN, COHN-CM, employee health nurse at the center in Virginia. "It seems like more so now than before, but it might be my imagination."

Employee health won't track down the employees to make sure they return for their test result to be read. But Taylor tells them, "'There's no point in my placing it if you're not going to get it read,'" adding that they usually do come back.

As at many rural hospitals, **Phyllis Radcliff**, RN, employee health nurse at St. Mary's Hospital in Streator, IL, once spent hours following up on employees who had failed to get their TB screens within the designated time. All of the hospital's 520 employees received annual TB tests, although the hospital hasn't treated a confirmed TB patient in at least five years.

"It had always been a battle getting everybody to do their annual TB testing," she says. The hospital still conducts annual respirator fit-testing and provides TB education as a part of that. Employees may receive the annual TB test free of charge, if they want one, a policy that particularly

benefits nursing students who need it for school, Radcliff says.

But with an end to mandatory testing, Radcliff says she will have at least a few extra hours a week to focus on improving employee health and preventing injuries. ■

Reference

1. Jenson et al. Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Settings, 2005. *MMWR Recomm Rep.* 2005; 54(RR17):1-141.

HRA gateway to healthier workers, reduced costs

"Good health is good business"

When considering the components of your workplace's health promotion and risk management toolbox, think of the health risk assessment (HRA) as a kind of minesweeper, scanning for health risks that might not even be visible yet.

"Why do we do [HRAs]?" asks **Michelle Reyna**, RN, BS, program director for Texas Health Resources' (THR) Be Healthy THR wellness program. "Some people walking around are ticking time bombs due to weight, blood pressure, and other conditions. If we can [identify] people with modifiable conditions, we can greatly reduce the risk that they will develop serious illness."

HRAs are an important part of the award-winning Be Healthy THR program, says Reyna, because they are entry points to the activities, education, and incentives that the THR wellness program provides.

First step is participation

HRAs assess the level and nature of an individual's health risks and provide recommendations for improved health and well-being. The surveys have become a critical part of virtually all wellness programs, but every organization uses HRAs differently in their corporate wellness programs.

In the past, THR used HRA results to get employees involved in activities and nutrition challenges that earned them credits that could be cashed in for money at the end of the year.

"We are in the process of enhancing the program, changing it drastically for the better," says Reyna. "The [national] average for participation in employee wellness programs is 17 to 19%, and ours has been 30%. That's good, but we want 100%."

THR is using its HRA as a tool to identify people with hidden health risks, and get them into the increasingly holistic wellness offerings. One of the changes to the program has been paying in gift cards immediately when a component of the program is completed instead of the end of the year.

This helps with that critical first step of getting employees to actually take the health risk survey. The HRA is one component of the THR program, so employees who complete the survey are rewarded immediately just for doing the health questionnaire.

"[The HRA questionnaire] is a good tool because it identifies those employees and gets them into the programs, so that's why we made it a requirement to earn those credits," Reyna says.

HRA helps address cost drivers

Employers realized some time ago that cost-sharing is one way to save on health care-related costs, but that there is a greater need to address the cost-drivers of health care expenses, including chronic health conditions. Ideally, if a risk is identified, the employee can be motivated to take steps that might result in avoiding the chronic condition completely.

The return on investment from HRAs is $3 in savings for every $1 invested in the appraisals after three years, health care industry observers have said.

Kingsport, TN-based Eastman Chemical Co. has used HRAs administered by Health Fitness Corp. since the early 1990s as part of its health promotion and health risk management program offered through Eastman Integrated Health. Both Eastman and THR were recognized as Best Employers for Healthy Lifestyles by the National Business Group on Health for 2006.

"Health is a real important business issue at Eastman," says **David Sensibaugh**, director of Eastman's Integrated Health program. "These are not things we're doing just to make employees happy. It goes back to keeping them on the job they were hired to do, and minimizing time off.

"Good health is good business, and that's what we're trying to do."

Lloyd Herlong, Eastman's vendor relationship manager, who oversees the company's relationship with Health Fitness Corporation, says

assessments of the health benefits to employees provide an indication of how HRAs help improve health and the company's investment.

"We do consistently see improvement on the back end," says Herlong. An assessment of health risks of employees who participated in the health risk management programs from 2003 through 2005 indicates that, on average, employees entered the program with two health risks, and left with 1.5 — a 25% reduction in risk that Herlong says is statistically significant.

Under a typical HRA program, an employer hires a vendor and pays a per-employee fee to establish an appraisal program, primarily online, though paper versions sometimes are used for employees who don't have access to a computer. Costs range from about $2 to $6 per on-line appraisal, and slightly more for paper-based ones.

Employee feedback a powerful motivator

Reyna says that in focus groups conducted as part of THR's wellness program redesign, employees asked for more feedback. In fact, HRA results are sometimes all a person needs to do an about-face on unhealthy lifestyle practices; so getting those results into employees' hands and helping them understand what they mean takes on added importance.

"We want to simplify the program, identify what the [employee's] issue is, give him or her access to predictive modeling tools, and quickly outreach to people and get them involved," Reyna explains. "We do biometric screenings, and counselors go through the labs with the person and help them understand what they mean and where they should go from here."

The most common finding that surprises many THR employees is news that they are overweight, and the one-on-one counseling informs them how their weight is affecting them now and will continue to impact their health.

Nearly all observers agree that some employees will not answer some questions honestly, but that the design of the surveys and the actual number of people who lie makes that an insignificant factor.

"Our risk assessment used to be paper and pencil, but we went on-line in 2004," says Herlong of Eastman Chemical's risk assessment process. "It does include biometric values that have to be collected, including blood pressure, lipid profiles, height, and weight. They get those through screenings on site or through their personal physicians, and [entering those values is on] an honor system. We don't police it."

Employees get an immediate summary of where they stand, healthwise, and are encouraged to share that information with their personal physicians. The company does not send results to personal physicians. The database is cross-referenced with Eastman's fitness center participation, demographic information, and other components of the integrated health system.

"[The HRA step] is a key part of our program, because we have built and integrated a system of providing wellness benefits to our employees, so all the other parties we work with are integrated with one another and make referrals among themselves," Herlong says.

"We are sure there are tangible benefits. We get incredibly positive feedback from people who have made some lifesaving changes." ■

OSHA guide addresses workplace first aid

Guide identifies four essential elements

Occupational health and safety is becoming as technical and complex as the businesses and industries it is a part of. But after prevention, the fundamental means of saving lives and minimizing damage from injury or exposure is first aid.

OSHA has compiled a new guide on best practices for first aid in the workplace, to help employers and occupational health professionals develop at-work first aid programs and keep those programs up to date. Where occupational health nurses are not on site full-time, training workers in first aid can be a valuable component of the site's safety program.

"Best Practices Guide: Fundamentals of a Workplace First-Aid Program" was released by OSHA in May, and describes the agency's vision of how employers might develop, implement, and update a first aid program that fits their worksites and their employee populations.

"Workplace first aid. . . is a key component of any comprehensive safety and health management system," says OSHA administrator Ed Foulke.

The new OSHA guide identifies four essential elements for first-aid programs to be effective

OSHA recommendations for first-aid provider training

Training for first aid providers in the workplace should include the following elements, according to OSHA's best practices guide:

- prevention as a strategy in reducing fatalities, illnesses, and injuries;
- interacting with the local EMS system;
- maintaining a current list of emergency telephone numbers (police, fire, ambulance, poison control) accessible to all employees;
- understanding the legal aspects of providing first aid care, including Good Samaritan legislation, consent, abandonment, negligence, assault and battery, and state laws and regulations;
- understanding the effects of stress, fear of infection, and panic; how they interfere with performance; and what to do to overcome these barriers to action
- learning the importance of universal precautions and body substance isolation to provide protection from bloodborne pathogens and other potentially infectious materials; learning about personal protective equipment (gloves, eye protection, masks, and respiratory barrier devices); appropriate management and disposal of blood-contaminated sharps and surfaces; and awareness of OSHA's bloodborne pathogens standard. ■

Source: Occupational Safety and Health Administration, *Best Practices Guide: Fundamentals of a Workplace First-Aid Program*, available at www.osha.gov/Publications/OSHA3317first-aid.pdf.

and successful:

- identifying and assessing workplace risks;
- designing a program that is specific to the worksite and complies with OSHA first aid requirements;
- instructing all workers about the program, including what to do if a coworker is injured or ill;
- evaluating and modifying program to keep it current, including regular assessment of the first aid training course.

Additionally, the guide suggests management leadership and employee involvement, worksite analysis, hazard prevention and control, and safety and health training.

When planning first aid training, OSHA recommends that training courses include instruction in general and workplace hazard-specific knowledge and skills, incorporating automated external defibrillator (AED) training in CPR training if an AED is available at the work site, and periodically repeating first aid training to help maintain and update knowledge and skills.

The new best practices do not constitute a standard or regulation. The guidelines create no new legal obligations, nor do they change existing OSHA standards or regulations.

According to OSHA, a workplace first aid program at work should include the following elements:

- identifying and assessing the workplace risks that have potential to cause worker injury or illness;
- designing and implementing a workplace first aid program that aims to minimize the outcome of accidents or exposures, complies with OSHA requirements relating to first aid, provides sufficient and appropriate first-aid supplies and equipment, and assigns and trains first aid providers **(see box)**;
- instructing all workers about the first aid program, including what workers should do if a coworker is injured or ill. Putting the policies and program in writing, including languages other than English if applicable to the work force, is recommended to implement this and other program elements;
- providing for scheduled evaluation and changing of the first aid program to keep the program current and applicable to emerging risks in the workplace, including regular assessment of the adequacy of the first-aid training course.

The best-practices guide is available for free at www.osha.gov/Publications/OSHA3317first-aid.pdf. ■

Exercise better for upper body pain than ergonomics?

Little proof that ergonomic equipment helps

Many conservative methods used to treat work-related complaints of the upper body have only limited effectiveness, according to an updated systematic review by researchers in the Netherlands. There's more proof in the literature that exercise is beneficial than there are studies

showing that ergonomic equipment helps, particularly for hospital and industrial workers, the review shows.

Despite little scientific evidence supporting the use of special keyboards and other ergonomic equipment, "conservative interventions such as physiotherapy and ergonomic adjustments play a major role in the treatment of most work-related complaints of the arm, neck or shoulder," says **Arianne Verhagen**, PhD, a physical therapist and epidemiologist at the Erasmus University Medical Center in Rotterdam and lead author of the study.

Verhagen updated a review published in 2003 that included 15 trials. She added six new trials, for a total of 2,110 adult participants. Most were industrial workers or hospital staff members who suffered with chronic complaints varying between three and 12 months. Workers with inflammatory or neurological diseases were not included.

The randomized and nonrandomized controlled trials evaluated more than 25 conservative interventions including exercises, relaxation, ultrasound, biofeedback, myofeedback, and workplace adjustments.

Verhagen says she was not surprised that exercise appeared to be most helpful to people suffering from chronic complaints of the arm, neck or shoulder.

Orthopedic surgeon **Nicholas A. DiNubile**, MD, a clinical assistant professor at the University of Pennsylvania, agrees that there is limited scientific proof that conservative interventions are effective for these injuries.

"It's not that they are *not* effective, though," he adds. "There is an important difference."

An orthopedic consultant for professional athletes and dancers, DiNubile says he is a great believer in physiotherapy interventions, such as exercise and stretching, as well as ergonomic workplace adjustments and taking breaks.

Verhagen says she does not believe that workers with chronic pain would report that a particular intervention was not effective if, in fact, it worked, adding, "I think normally, people would like to go back to work."

She says that with a rapidly increasing incidence in work-related disorders, the need "to determine whether these interventions have a significant impact on short-term and long-term outcomes" becomes more important.

In particular, she observes, research is needed on the effectiveness of ergonomic adjustments in the workplace, with studies looking at placement of chairs, computer monitors, and computer mice, and whether ergonomic keyboards are effective. Thus far, her review found, there have been very few studies in this area, but employers and individuals are investing heavily in making ergonomically correct changes in their workplaces.

"We have ongoing workplace adjustments in the Netherlands, for example, that are very expensive," she says. "Most of these have not been evaluated regarding their effect. The costs associated with these disorders are high — more than $2 billion of direct and indirect costs estimated annually in the United States alone."

The report by Verhagen's group is found in the *Cochrane Database of Systematic Reviews*. ■

Employee health program proves it can save money

Program wins award in Vermont

A trade association and physician on opposing sides of a debate over state health care spending set aside differences to prove that employee wellness programs can show clinical and economic benefits.

The alliance of the Vermont Automobile Dealers Association (VADA) and a naturopathic physician, Bernie Noe, ND, grew from an argument over a health care spending bill being considered by the Vermont state legislature. Noe contended that workplace interventions would not raise employers' costs, while VADA member executives argued such a mandate would raise costs.

After lawmakers adjourned, VADA hired Noe to develop and implement an employee wellness program and test his theory.

Between January and April 2005, Noe and his staff conducted biometric screenings (height, weight, blood pressure, cholesterol, etc.) of 1,182 employees at 77 VADA member locations throughout Vermont. All were asked to complete a health risk appraisal (HRA) that would later allow Noe and his colleagues to assess each individual's diet, exercise, and lifestyle behaviors as well as risk for, or presence, of chronic diseases. Using a Stanford Presenteeism Scale, they also measured each participant's level of presenteeism.

Those who completed the HRA and provided a mailing address were sent an individual health report (IHR). The IHR summarized the findings from both the biometric screening and the HRA. Noe created a monthly wellness newsletter that all employees received at work, including tips for managing stress and reducing the risk of a heart attack.

To help employees increase physical activity and to reduce the risk of chronic diseases such as heart disease and diabetes, Noe also created a pedometer challenge. Employees received free pedometers, and prizes and other incentives were used for motivation. More than 35 auto dealerships participated.

The average number of steps per participant had increased from 10,622 per day in the beginning to 11,728 per day at the 12-week challenge's end.

Participants reported a variety of benefits, including: improved energy (63%), better sleep (55%), improved mood (55%), reduced stress (50%), weight loss (42%), and lower blood pressure (34%).

One year later Noe conducted another health screening for VADA employees, again offering the biometric screening and HRA. In analyzing the screening information for the period of 2006 vs. 2005, Noe found:

- Incidence of high blood pressure decreased by 36%.
- Multiple risks for cardiovascular disease decreased by 35%.
- High-risk stress decreased by 24%.
- Physical inactivity decreased 21%.
- High cholesterol decreased 17%.
- Obesity decreased by 15%.

Importantly for VADA, which had doubted the savings employee wellness could provide, financial savings were also notable. Direct health care savings for 2006 vs. 2005 were $315,817, and indirect savings for 2006 vs. 2005 were $1.14 million.

As a bonus, Noe and VADA were joint recipients of a state worksite wellness and physical fitness recognition award presented by the governor of Vermont. ■

Women hit harder by those long days at work

Both sexes consume less alcohol with long workdays

Long hours at work have a greater negative impact on women than men, making them more likely to smoke, drink coffee, and eat unhealthy food, a British research team says.

"Women who work long hours eat more high-fat and high-sugar snacks, exercise less, drink more caffeine, and, if smokers, smoke more than their male colleagues," says **Daryl O'Connor**, PhD, a researcher at Britain's Leeds University who led the study. Working long hours has no negative impact on men's exercise, caffeine intake or smoking, the study shows.

"The one clear positive impact of working long hours for both sexes is that alcohol consumption is reduced," O'Connor adds.

The findings on the effects of long working hours are part of a broader study of the effects of stress on eating habits. (The report, "'Effects of stress on eating behaviour: An integrated approach," is available at www.esrcsocietytoday.ac.uk.)

Stress causes people to opt for unhealthy high-fat and high-sugar snacks rather than healthier foods, O'Connor says, and people under stress tend to eat less than usual at meals, cutting their intake of vegetables and increasing their consumption of fatty, sugary snacks.

Researchers examined the stress caused by minor events, labeled "hassles," both in and outside work, including an argument with a colleague or friend, a meeting with a boss, giving a presentation at work, missing a deadline, or even losing keys. Findings show that those who experienced one or more such hassles during the day reported consuming significantly more between-meal snacks than usual but fewer portions of vegetables — though not fruit — and a smaller main meal.

Of the different types of stressors, it is mental

COMING IN FUTURE MONTHS

- Needlestick safety
- Indoor air quality
- Employee privacy concerns
- Be an RTW 'coach'

rather than physical stress that leads people to snack, O'Connor's team reports. Researchers categorized daily hassles into four types: ego-threatening (e.g., giving a presentation); interpersonal (having an argument); work-related (a meeting with the boss); and physical (a severe headache or feeling in danger). And while ego-threatening, interpersonal, and work-related hassles lead people to snack more, physical stressors actually lead people to snack less.

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 letter of credit. When your evaluation is received, a letter of credit will be mailed to you. ■

CE *questions*

9. According to a survey of female workers in Britain, which of the following working conditions make menopause symptoms worse?
A. high temperatures;
B. poor ventilation;
C. lack of bathroom facilities;
D. all of the above.

10. If a health care worker has recently been vaccinated with the anti-tuberculosis BCG vaccine, the Centers for Disease Control and Prevention says the TST test is preferable to the QFT-G test for avoiding false-positive results.
A. True
B. False

11. The return on investment from health risk assessments, according to industry observers, is:
A. $1 saved for every $5 spent
B. $3 saved for every $1 spent
C. $5 saved for every $2 spent
D. The cost vs. savings is break-even

12. New OSHA best practices on workplace first aid identify four essential elements for first aid programs to be effective and successful. Which of the following is NOT one of those elements?
A. identifying and assessing workplace risks;
B. designing a program that is general in approach and not specific to the worksite;
C. instructing all workers about the program, including what to do if a coworker is injured or ill;
d. Evaluating and modifying program to keep it current, including regular assessment of the first-aid training course.

Answers: 9. D; 10. B; 11. B; 12. B.

"Our findings are disturbing in that they show stress produces harmful changes in diet and leads to unhealthy eating behaviors," says O'Connor. "An overwhelming body of evidence shows the importance of maintaining a balanced diet. . . yet our study points to a clear link between stress and a tendency to eat more unhealthy snacks and consume fewer vegetables and less of a balanced main meal." ■