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IN THIS ISSUE

Continued on next page

Finally, the long-delayed OSHA ergonomics rule takes aim at aching backs

Pay protection, 2nd opinion provisions controversial

Health care workers won the promise of long-awaited relief from the hospital industry's most common debilitating injury as the U.S. Occupational Safety and Health administration (OSHA) issued a standard mandating ergonomics programs.

"This is a great day for health care workers!" exclaimed **Bill Borwegen**, MPH, occupational health and safety director of the Service Employees International Union in Washington, DC.

But not everyone was jubilant about the final version of the ergonomics standard. Business groups immediately filed suit, asserting that the new rule is legally and scientifically unsound. The American College of Occupational and Environmental Medicine (ACOEM) withdrew its support for the OSHA ergonomics standard, saying the final version failed to require a medical diagnosis or a causal assessment by a health care provider trained in the prevention and treatment of musculoskeletal disorders (MSDs).

The standard becomes effective Jan. 16, just days before President Clinton leaves office. Employers must begin implementing the ergonomics rule by educating employees and responding to injuries no later than Oct. 14. Employers will have four years to fully implement controls, such as purchasing mechanical lifts.

After more than 7,000 written comments and 700 witnesses at five public hearings, some occupational health experts expected OSHA to clarify the

In This Issue **continued from page 1**

Part II of a Two-Part Series

Also in This Issue

COMING IN FUTURE ISSUES

- Political challenges overshadow new ergonomics rule
- Why hospitals have one of the top rates of work-related asthma
- A guide to selecting occupational health software
- Expert advice on post-exposure HCV testing
- Are you holding supervisors accountable for safety?

standard and remove the most controversial element, the work restriction protection, which requires employers to give workers 90% of earnings and 100% of benefits for up to 90 days when they are unable to work due to a work-related MSD.

While some specifics in the final version were welcomed, other changes triggered new concerns. "It appears to create more problems than it solves, mostly administrative problems and states' rights issues," says **Geoff Kelafant**, MD, MSPH, FACOEM, medical director of the occupational health department of the Sarah Bush Lincoln Health Center in Mattoon, IL.

"They didn't make it any simpler, that's for sure," says Kelafant, who is also vice chairman of the Medical Center Occupational Health Section of the ACOEM in Arlington Heights, IL.

Both the American Association of Occupational Health Nurses and the Association of Occupational Health Professionals in Healthcare (AOHP) had asked OSHA to eliminate the special pay protection for this injury. ACOEM had vigorously argued for a medical basis to be a part of the final standard, noting that symptoms of other illnesses, such as thyroid disorder, could be mistakenly attributed to an MSD.

"This standard is certain to be held up by legal battles for the next several years," said a statement released by ACOEM president **Robert L. Goldberg**, MD, FACOEM, director of ErgoUC with the Ergonomics Program and assistant clinical professor at the University of California, San Francisco. "Unfortunately, OSHA's failure to base the standard on a firm medical foundation lends credence to the arguments that will be made in court by those who will try to block this standard from going into effect.

"It is distressing that our nation's workers will be left without preventive measures to protect them from unnecessary musculoskeletal injuries," he said.

The work restriction protection is necessary to ensure that workers would come forward in the early stages of an MSD, when the conditions are more easily treated, asserts **Gary Orr**, PE, CPE, an ergonomist with OSHA who was involved in drafting the standard. He notes that a similar provision has been included in other standards and that employers will be able to count sick leave toward this provision.

Overall, the cost of complying with the new standard is far less than the direct and indirect impact of musculoskeletal injuries, according to

Borwegen. "This is a proactive approach that has workers come forward before they become permanently crippled. That is simply sound public health policy."

The bottom line, says OSHA, is that implementing an ergonomics program will save employers money. More than 18,000 hospital workers suffered an injury from overexertion due to lifting in 1998, according to the Bureau of Labor Statistics. Each injury prevented will save $27,700 in medical and other costs, OSHA says.

Ergonomics experts hope the OSHA regulation will produce a new mindset toward lifting and repetitive stress and ultimately a safer workplace. Hospital-based ergonomics programs have led to reductions in MSDs of 46% to 83%.[1]

"With the standard becoming finalized, it will encourage people to take this area of ergonomics much more seriously," says **Guy Fragala**, PhD, PE, CSP, director of environmental health and safety at the University of Massachusetts Medical Center in Worcester, and a leading ergonomics expert.

OSHA says it tried to make the standard easy to read and practical. The standard offers specifics about what action employers must take when an MSD is reported and in what time frame, while allowing some flexibility in the design of an ergonomics program. The agency even included a Basic Screening Tool to help employers identify risk factors that could lead to MSDs. **(See sample copy inserted in this issue.)**

Yet how the ergonomics standard will be enforced is not entirely clear. A compliance directive, which guides OSHA inspectors, will be issued in the next few months, Orr says. While nursing homes may be targeted for special inspections as a high-risk industry, hospitals are not in that category, he says. Inspections may come largely based on complaints.

The standard is "performance-based," notes Fragala. "I think OSHA is going to have to recognize when organizations are making good faith efforts to put programs in place and give them flexibility with their programs if they're trying to meet the overall intent of the standard," he says.

Unlike other regulations that seek to eliminate hazards before an employee is injured, OSHA is requiring employers to set up an MSD management program after an employee has a work-related MSD. (Employers can use a screening tool to determine if the injury is job-related.)

Within seven days of an "action trigger," the employer must begin MSD management, including job hazard analysis within 60 calendar days and initial controls within 90 calendar days. Three years later, employers must evaluate the ergonomics program that stemmed from the "action trigger."

The proposed standard highlighted manufacturing and manual handling, including patient handling, as high-risk jobs. The final standard removes the distinction and applies equally to all jobs. That means educational materials must be provided to all employees, not just those in jobs which have a higher rate of MSDs, Orr says.

"People had told us during the hearings it was somewhat confusing [to focus on only certain workers]," he says. "How would employees know what to report unless they're given some information about MSDs? The best thing to do was to have all employees covered."

Orr suggests that education about MSDs could be presented on flyers included with paychecks or as the topic of educational sessions.

Hospitals may find assistance from vendors of ergonomics equipment that are offering educational and programmatic support, says Fragala. In fact, at least one vendor has guaranteed that its ergonomic equipment will reduce injuries by at least 50%.

OSHA offers flexibility, grandfather clause

OSHA had encouraged employers to start an ergonomics program before the standard was completed. And in its final version, the agency rewarded hospitals and other employers who had followed that advice.

A "grandfather" clause delays the implementation of MSD management, including work restriction protection, for employers with an existing ergonomics program. However, the existing program must contain essential elements, such as employee involvement in the program development and implementation and periodic program evaluation. "An employer who has policies or procedures that discourage employees from participating in the program or reporting the signs or symptoms of MSDs or the presence of MSD hazards in the workplace does not qualify for grandfather status," the standard states.

At the University of Massachusetts Medical Center, the new rule infused energy into a multidisciplinary committee that had been reviewing the hospital's ergonomics program. "[The committee members] felt their work was important,

(Continued on page 5)

Ergonomics Standard at a Glance

What injuries are covered?

The standard covers musculoskeletal disorders (MSDs) caused by exposure to risk factors in the workplace. Those include disorders of the muscles, nerves, tendons, ligaments, joints, cartilage, blood vessels, or spinal discs caused by workplace exposure to one or more of the following risk factors: repetition, force, awkward postures, contact stress, and vibration. The standard does not address injuries caused by slips, trips, falls, vehicle accidents, or similar accidents.

What does the standard require?

All employers must provide employees with basic information about:

- ✔ Common MSDs and their signs and symptoms.
- ✔ The importance of reporting MSDs, and signs and symptoms, as soon as possible.
- ✔ How to report MSDs in the workplace.
- ✔ Risk factors, job and work activities associated with MSD hazards.
- ✔ A brief description of Occupational Safety and Health Administration's ergonomics standard.
- ✔ No further action is needed unless an employee reports an MSD or persistent signs and symptoms of an MSD.

What if there's a reported injury?

Employers must promptly determine whether an MSD or its signs or symptoms is an MSD incident. Employers may request assistance of a health care professional to make that determination. An MSD incident means an MSD is work-related, and requires days away from work, restricted work, or medical treatment beyond first aid, or the signs or symptoms last for seven or more consecutive days after reporting.

To determine whether the MSD incident meets the standard's "action trigger," employers review the worker's job to determine whether it routinely involves exposure to one or more of the five ergonomic risk factors on one or more days a week.

How do employers respond to an action trigger?

Employers can use a "Quick Fix" option, and not implement a complete program, for problems that can be resolved in 90 days in a job where only one MSD has occurred and where no more than two MSDs have been reported in the preceding 18 months.

If the problem cannot be corrected in 90 days, or if a quick fix is not applicable, employers must develop and implement a full ergonomics program for that job and others just like it with the following elements: management leadership and employee participation; job hazard analysis and control; training; MSD management; program evaluation; and record keeping.

What is work restriction protection? (WRP)

This provision provides protection to workers who are on temporary work restriction. That includes maintaining 100% of earnings and full benefits for employees who are not on restricted work. Employees removed from work will receive 90% of earnings and 100% of benefits. WRP benefits last until either: (1) the employee is safely able to return to work; (2) a health care professional determines the employee can never return to the former job; or (3) 90 calendar days have passed, whichever comes first.

The standard also allows for an employee to receive a second opinion from his/her own health care professional (HCP) about the need for work restrictions. In the case of a dispute, the standard states: "If the two HCPs are unable to resolve their disagreement quickly, you and the employee, through your respective HCPs, must, within five business days after receipt of the second HCP's opinion, designate a third HCP to review the determinations of the two HCPs, at no cost to the employee."

When does it go into effect?

The standard becomes effective Jan. 16, 2001, but it includes a phase-in period.

Employers must begin to distribute information on the standard to employees and begin receiving and responding to reports of injuries no later than Oct. 14, 2001. Employers must also meet the following time frames for specific requirements of the standard:

- ✔ Determination of action trigger within seven calendar days after employee has experienced an MSD.
- ✔ MSD management within seven calendar days after it's determined job meets the action trigger.
- ✔ Management leadership and employee participation within 30 calendar days after job meets action trigger.
- ✔ Train employees involved in setting up and managing ergonomics program within 45 calendar days after job meets action trigger.
- ✔ Train current employees, supervisors, or team leaders within 90 calendar days after job meets action trigger.
- ✔ Job hazard analysis within 60 calendar days after job meets action trigger.
- ✔ Implement initial controls within 90 calendar days after job meets action trigger.
- ✔ Program evaluation within three years after job meets action trigger.
- ✔ Implement permanent controls no later than Jan. 18, 2005.

Source: Occupational Safety and Health Administration, Washington, DC.

but now that the standard has been finalized it's validated that," says Fragala.

OSHA also expanded its "quick fix" option, allowing employers in some cases to remove the hazard that led to the MSD without establishing a full-blown MSD management program. Employers can use the "quick fix" if there is not more than one MSD incident in a job and not more than two MSDs in the facility within 18 months. (The proposed standard allowed a quick fix only if no more than one MSD occurred within 36 months. **For an overview of changes between the proposed and final standard, see box, p. 4.)**

But that good news may be overshadowed by some additions to the standard. Employees are allowed to seek an opinion about temporary work restrictions or work removal from a health care professional of his or her choice. If that health care professional disagrees with the employer-selected health care professional, the employer may select a third health care professional to resolve the differences.

That new provision caught some people by surprise. "It's going to be extremely difficult to manage these MSDs in any effective way with this kind of requirement," says **MaryAnn Gruden**, MSN, CRNP, NP-C, COHN-S/CM, AOHP executive president and employee health nurse practitioner at Sewickley (PA) Valley Hospital.

While Gruden was pleased to see changes that responded to some issues raised by AOHP, she says she would have questioned the second-opinion clause if given the opportunity.

"When we issued the proposal, there was no conflict resolution [between different medical opinions]," responds Orr. "All the times we have used medical removal protection [also known as work restriction protection], we have also used multiple physician review. Ideally, the two doctors would talk to one another, they would come to some resolution, and you wouldn't have to see another doctor."

Kelafant worries that this scenario could be unwieldy as physicians confer on MSD cases.

A bigger issue overshadows questions about how the ergonomics standard will be enforced. Will it stand up to strong political forces?

OSHA first began working on an ergonomics standard in 1990, during the Bush administration. In 1995, after a draft version was released, Congress attached a rider to an appropriations bill that prohibited OSHA from issuing a final ergonomics standard before Sept. 30, 1998. A much different proposed standard was released in November 1999. In the fall of 2000, the ergonomics standard was responsible for a budget impasse as the House and Senate voted to again bar OSHA from issuing the standard and Clinton promised to veto the spending bill unless the provision was removed. The dispute was delayed until after the presidential election.

Congress has a chance to formally weigh in on the ergonomics rule. After the standard was printed in the *Federal Register* on Nov. 14, OSHA sent a copy to the speaker of the House and the president of the Senate, in compliance with federal law. Congress can review regulations, debate them, and even vote to rescind them, Orr says. President Clinton would likely veto any effort to scuttle the regulation. Congress has yet to take such action against a regulation, he says. "No regulation has ever gone through this process."

Even if the regulation stands, a Republican administration could block its enforcement.

"Right now the emphasis is on the workers," says **Bill Wright,** OSHA spokesman. "If the politics come into it, we'll have to take it as it comes. As it stands now, the rule will be issued with an effective date and we'll see what happens."

(Editors' note: A copy of the full ergonomics standard is available on the OSHA Web site at www.osha-slc.gov/ergonomics-standard/regulatory/tableW-1.pdf.)

Reference

1. Fragala G, Santamaria D. Heavy Duties? On-the-job back injuries are a bigger — and costlier — pain than you think. *Health Facilities Management* 1997:22-27. ■

Superman need not apply: 5 myths of patient handling

Exercise, training, back belts won't prevent injury

Hospitals rate among the top injury sources for work-related musculoskeletal disorders. Despite efforts to improve patient handling, in the past two decades, back injuries among nurses have risen substantially.

"It's not that we haven't tried anything [to prevent the injuries]," says **Peggy Swirczek**, CHSP, director of loss prevention services at the Michigan Health and Hospital Association in Lansing. "We've tried lots of things."

Unfortunately, some approaches to resolving patient handling hazards simply don't work. Here are a few of the misguided notions about preventing musculoskeletal hazards:

1. **Men can lift substantially more weight than women.** When a patient seems too heavy and too dependent for a female nurse (or even two nurses) to lift, they often take the Superman approach. They call in a male colleague.

But lifting guidelines drafted by the National Institute for Occupational Safety and Health (NIOSH) make it clear that the lifting capacity for men is not substantially higher than for women. (NIOSH sets a limit of 46 pounds in ideal circumstances for women, and 51 pounds for men. The guidelines involved lifting a box with handles, not human beings.)

"Very few of our patients weigh under 51 pounds, and none of [the lifting is] under ideal conditions," remarks **Bernice Owen**, RN, PhD, professor and researcher at the University of Wisconsin-Madison. Part of the problem is the mindset in health care. "[Nurses think], 'This patient weighs 100 pounds; this person is light. I don't need any help,'" she says. "But if you were in industry and told you have to lift a 100-pound box, think of the reaction you'd have."

A survey of health care workers at long-term care facilities in Michigan revealed that the average aide feels capable of lifting a totally dependent patient who weighs 150 pounds or less without assistance, Swirczek says. A similar survey is under way at the state's hospitals.

2. **Training in proper lift techniques can prevent injuries from patient handling.** A nurse may have lifted patients day after day, with only occasional back strain and no serious ramifications. Then, one day, the nurse transfers a patient and suffers a back injury. The first reaction may be to ask, 'What did she do wrong?'

But ergonomics experts say even the best posture can't make it safe to lift a load that is too heavy. "You can't train [workers] to lift in an environment that's hazardous," says Swirczek.

"We have to change the job in order to fit the worker — that's what ergonomics is — instead of putting the whole onus on the worker and expecting them to change," says Owen. In some patient handling tasks, the "ideal" position to lift simply isn't possible.

"One of the basics of body mechanics is straight back and bent knees," she says. "If the patient is in the middle of the bed and you're going to lift them up in bed, how are you going to do that? The patient's not real close to you."

3. **Two-person lift teams can be used instead of lift equipment.** Lift teams can be effective, depending on the weight of the patient and the number of people who are assisting. But the NIOSH guidelines still apply, notes Swirczek. If the amount lifted by each person exceeds 51 pounds, the team is lifting too much. "The considerations have to be made based on the equipment available, the weight of the patient, and the number of caregivers involved in the transfer."

"You've got to use engineering controls," adds Owen. "With a lot of engineering controls we need two people."

That doesn't mean the lift team will necessarily need expensive mechanical lifts. Beds that fold into chairs and chairs that flatten and become horizontal allow for easier transfers. In a horizontal transfer, friction reducers can help as health care workers slide the patient.

4. **Patients feel uncomfortable in mechanical lifts and would rather be lifted manually.** "That is such a fallacy," scoffs Owen. "Why do we even think that? Sure, there are patients who are uncomfortable in a mechanical lift — probably because they sense the nurses don't know what they're doing. When people are skilled, when you have a full ergonomics program implemented, our research has shown that patients are comfortable."

After all, how comfortable is it to be grasped under the arms and yanked out of a chair, notes Swirczek.

5. **Back belts and regular exercise programs can reduce back injuries.** Exercise is valuable to good back health, but it can't combat a work hazard, says Owen. "I don't think there's evidence that it prevents back injuries," she says. "There is some evidence that people who have been back injured who have regular exercise, they are rehabilitated faster."

Fatigue and the repetitive nature of the patient handling tasks can play a role in injury, says Owen.

Some nurses may say that "a little" back pain is just a part of the job. "I think we have to begin to melt that down a bit by saying we have a right to a healthy and safe workplace that includes [being free of] back ache, or neck or shoulder pain," she says. ■

It's the law: Buy safer needles, keep injury log

Needlestick law may usher in sweeping changes

For 12 years, **Janine Jagger**, PhD, MPH, has been telling health care professionals that needles with a safety design could prevent 80% of needlestick injuries.

Now, with the signing of the Needlestick Safety and Prevention Act, Jagger, who is the director of the International Health Care Worker Safety Center at the University of Virginia in Charlottesville, can watch that dramatic shift take place nationwide.

Just as health care workers wouldn't think of drawing blood or providing other patient care tasks without wearing gloves, Jagger envisions the day when they will be appalled to see a "conventional" needle without a safety device.

But moving from law to practice may not be completely smooth.

"I think getting the facilities to quickly and efficiently undertake the change once the law is in effect, that's going to be the larger of the challenge," says Jagger. "There's a lot of inertia at the level of the health care facilities."

Cost has been a stumbling block

Safer devices have typically been more expensive than the conventional ones, presenting a stumbling block for hospitals in financial straits. However, group purchasing organizations are now including more safety devices among their inventory, and manufacturers are improving both the availability and quality of their designs, say Jagger and others.

For example, Premier Inc., an alliance of hospitals and health systems based in Chicago, awarded new group-purchasing contracts to substantially expand its choices of safety devices.

"There are going to be ripple effects continuing to occur here," says **Bill Borwegen**, MPH, occupational health and safety director of the Service Employees International Union in Washington, DC.

Safety device supply shouldn't be a serious problem, as it was initially when California's landmark needle safety law went into effect in 1999.

"The manufacturers are about as prepared as they can be for this," says Jagger, although she adds, "With such a massive change ahead, there is going to be some level of challenge along the way."

About 17 states had passed individual laws mandating the use of safer needle devices. In November 1999, the Occupational Safety and Health Administration (OSHA) issued a compliance directive, saying that hospitals should use the best available safety devices and update an exposure control plan yearly.

The new law goes further, providing for involvement of frontline workers in the evaluation and selection of devices and requiring the maintenance of a needlestick log.

The law directs OSHA to revise its bloodborne pathogens standard. The new standard will become effective 90 days after it is published in the *Federal Register*, which should occur in about six months.

In the interim, "OSHA has been pretty aggressive in citing people for failing to purchase safer needles under the compliance directive," says Borwegen. "[The law] basically codifies the compliance directive."

While the law will speed up the move to safer devices, it will take time for hospitals to evaluate and implement them throughout their facilities, notes **Gina Pugliese**, RN, MS, director of the Premier Safety Institute.

"Very few hospitals have a safety device in place everywhere there's a sharp," she says. "But it's important to have a plan [for compliance] and be working on the plan."

Watch out for JCAHO

The greatest impact could come from surveyors with the Joint Commission on Accreditation of Healthcare Organizations in Oakbrook Terrace, IL. The Joint Commission requires hospitals to comply with all applicable laws and regulations.

While Jagger says she would have preferred to see the Joint Commission provide more of a leadership role on this issue, she notes that the accrediting body could carry significant weight.

Meanwhile, the push for state laws hasn't ended with the federal law. It doesn't apply to facilities not covered by federal OSHA, such as public hospitals.

"If state laws are more comprehensive in covering the institutions in their state, that would be an important role for state legislation," says Jagger. ■

Part II of a Two-Part Series

Fighting fear: Bioterrorism raises issue of prophylaxis

HCWs may need prophylaxis to feel protected

Imagine the ripple of fear that runs through a nursing unit when a patient turns up with bacterial meningitis, tuberculosis, or a little known infectious disease.

Now magnify that many times over in the case of a bioterrorism attack, and you can understand why coping with fear may be one of the most important tasks of employee health professionals.

As hospitals create bioterrorism plans, they should consider the use of prophylaxis not just to prevent infection but to ensure the maintenance of the work force, bioterrorism experts say. Meanwhile, how employee health professionals respond to health care workers' everyday concerns about infectious diseases may lay the groundwork.

The creation of trust extends into everyday operations, as employee health professionals provide prompt and accurate information on infectious diseases to dissuade employees from having unnecessary prophylaxis.

"People get scared, and they start to consider the worst-case scenario," says **Michael Bell**, MD, bioepidemiologist for the Centers for Disease and Prevention's Hospital Infections Program and lead CDC author of a guidance paper on bioterrorism.

But they need to balance that emotion with well-established facts. Standard precautions prevent transmission, whether with an outbreak of Ebola in Africa or endemic plague in California, he notes. Exposure requires close contact with infected patients, and prophylactic medications have side effects and risks of their own.

"Many times people who are merely in the same hallway [with an infected patient] will come to employee health and request to be prophylaxed," he says. "A lot of times what inflames that situation is mixed and incorrect information that circulates through the hospital."

An exercise in Denver revealed just how crippling fear could be in the event of a bioterrorism attack.

In the scenario, scores of health care workers stayed home because they feared becoming infected or inadvertently infecting their family members. Planners decided that a portion of the available prophylactic medication would be reserved for health care workers, police officers, and other first responders and their families, just to reassure them enough to stay at work, says **Stephen Cantrill**, MD, associate director of emergency medicine at Denver Health Medical Center and a participant in the exercise.

"Health care workers were close to the top in terms of the groups you're going to prophylax," says Cantrill. "If you lose the hospital staff, you lose your ability to treat anybody.

"You have to worry about the real threat, those who are at risk for infection, but there's also the perceived threat," he says. "What percentage of your health care workers would show up for work once this became apparent? That's a major issue. If all your health care workers stay at home, you become completely unable to operate."

Swift communication is critical, with specific information on the incubation period of the infectious disease and its treatment, says **Tara O'Toole**, MD, MPH, deputy director of the Center for Biodefense Studies at Johns Hopkins University in Baltimore. Health care workers may feel reassured just to know that prophylactic medication is being made available for them, she says. "Scientifically there's no question what the correct decision is, but that will be only one parameter of the decision-making process."

Hospital takes proactive approach

Responding to fear of infection is nothing new for employee health professionals, who get periodic requests for prophylaxis.

Dartmouth Hitchcock Medical Center in Lebanon, NH, takes a proactive approach, as infection control works with employee health to counsel employees who work in the area that treated a patient or patients with certain infectious diseases, such as meningococcal meningitis or tuberculosis. Staff ask detailed questions about exposure then explain what type of contact is necessary to put a health care worker at risk.

"If someone is insistent on taking chemoprophylaxis when it's not appropriate, we spend a lot of time talking . . . about the side effects vs. the risk of their exposure," says **Kathleen Golden McAndrew**, MSN, ARNP, COHN-S, CCM, department director and nurse practitioner in the section of occupational medicine.

"I think what people are looking for is the reassurance that they're not going to develop the disease and pass it on to family members," she says.

Dartmouth keeps track of the exposure information in case occupational cases occur. "It helps us evaluate whether there was some kind of precautions we could have used with patients," she says. "Was this person put in isolation appropriately and within the right time frame? [Was he or she] masked? [Was the person] not masked when [he or she] should have been?"

Routine education isn't enough to convey information about exposure and prophylaxis, says **MaryAnn Gruden**, MSN, CRNP, NP-C, COHN-S/CM, executive president of the Association for Occupational Health Professionals in Healthcare and employee health nurse practitioner at Sewickley (PA) Valley Hospital.

"In every instance where this happens, you have to do a lot of education with the employees even if it's something they've received training in," she says. ■

CDC considers risk-based guidelines in update on TB

New guidelines likely to come after OSHA standard

The Centers for Disease Control and Prevention is reviewing its tuberculosis guidelines with a focus on how recommendations for skin-testing and protective equipment should apply to hospitals in areas with a very low prevalence of TB.

This fall, a CDC working group began reviewing the existing guidelines, which were issued in 1994. CDC officials estimated it would take two years to complete a final version of new TB guidelines, including publication in the *Federal Register* and collection of comments on a draft copy.

"An important goal we have is to simplify and clarify the guidelines," said **Adelisa Panlilio**, MD, MPH, medical epidemiologist in the Hospital Infections Program, at a meeting of the Healthcare Infection Control Practices Advisory Committee (HICAC) in Atlanta. "As in 1994, the issues are complex and [a final version] will need to consider diverse interests."

The guideline revision comes amid controversy over a proposed Occupational Safety and Health Administration (OSHA) tuberculosis standard. The OSHA standard has drawn intense criticism from the Association of Professionals in Infection Control (APIC) and the American Hospital Association, among others, for provisions that would require skin-testing and respirator fit-testing at least yearly.

A final OSHA standard is expected sometime in 2001. Meanwhile, an Institute of Medicine report on key questions about TB skin-testing and protective equipment likely will be released by early January.

Members of the hospital infections committee, an expert panel that serves an advisory function to CDC, reacted favorably to the news that CDC is drafting new TB guidelines.

"The fact that CDC is willing to open the 1994 guidelines is helpful because at least it sends the message that they need revision," said **Alfred DeMaria**, MD, state epidemiologist with the Massachusetts Department of Public Health and liaison member to the Advisory Committee for the Elimination of Tuberculosis.

The current CDC guideline calls for hospitals to assess TB risk at least annually and identifies five risk categories, from high to minimal. All employees should have a baseline TB skin test, and the frequency of follow-up tests depends on the risk level, the guidelines state.

For example, in a "minimal risk" facility — one that doesn't admit TB patients to inpatient or outpatient areas and is located in a community with no TB cases in the past year — periodic skin testing of health care workers is not necessary, according to a decision chart in the guideline.

Revised guidelines are likely to clarify which risk levels can rely on baseline and exposure-based testing only, with no routine follow-up, said **Denise Cardo**, MD, chief of CDC's HIV infections branch.

National consequences?

Such a clarification would resolve the predicament of **Robert J. Sharbaugh**, PhD, CIC, international director of infection control for Hill-Rom in Charleston, SC, and HICAC member. Sharbaugh noted that he had calculated "very low" risk levels for home health agencies affiliated with Hill-Rom, but the Joint Commission on Accreditation of Healthcare Organizations informed him that OSHA doesn't recognize the "very low" and "minimal" risk levels.

When he pressed the issue with OSHA, he received notification that his question "may have national consequences" and would be sent to the Washington, DC, headquarters for an

answer. None was immediately forthcoming.

"My main concern is with the [proposed OSHA] standard [and the] necessity for routine, periodic skin-testing," says Sharbaugh, who is chairman of the guidelines committee for APIC. ■

National hotline steers hospitals to best PEP

PEPLine finds workers taking unnecessary drugs

A significant number of health care workers may be taking unnecessary prophylactic medications after needlesticks, a post-exposure hotline has found.

Fearful health care workers may be taking a toxic three-drug regimen after a needlestick when a less toxic combination of two drugs — or none at all — may be the recommended response, say physicians at PEPline, a national post-exposure hotline at San Francisco General Hospital.

A review of PEPline data showed that in 4,253 consultations in the hotline's first year, 58% resulted in a recommendation to stop or not start post-exposure prophylaxis. Seven percent of callers reported having initiated or receiving two- or three-drug regimens after an event that was not a true exposure.[1]

The risk of transmission of HIV after bloodborne exposure with a known source patient is only .3%.[2] Side effects of the anti-viral drugs include nausea, fatigue, vomiting, and diarrhea, as well as possible toxic effects to the liver and kidneys.

Targeting treatment drugs

While the drugs can be effective in preventing seroconversion, they need to be targeted to the right individuals, says **David Bangsberg**, MD, MPH, director of the Epidemiology and Prevention Interventions Center at San Francisco General Hospital and co-director of PEPline.

"The vast majority of people will remain uninfected whether they get post-exposure prophylaxis or not," says Bangsberg.

"There's a real priority to minimize toxicity in those people who would remain uninfected with or without PEP. In the general community, we think overtreatment for post-exposure prophylaxis is probably more common than undertreatment," he says.

PEPline began in 1997 as a way to provide expertise to health care workers and clinicians around the country. It now receives more than 7,000 calls a year. PEPline provides advice about any bloodborne pathogen, including hepatitis B and C. But HIV prompts the greatest focus because of questions about the prophylactic treatment.

In the traumatic moments after an exposure, PEPline can provide vital counseling as well as assessment of risk.

"The fear of contracting an infectious disease such as hepatitis or AIDS can be enormous," says **Ronald H. Goldschmidt**, MD, director of the family practice inpatient service at San Francisco General Hospital and co-director of PEPline. "Health care workers need to receive proper counseling and advice."

Fast, complete risk assessment

The risk assessment needs to be swift and thorough, says Goldschmidt. If prophylaxis is indicated, it needs to be available immediately, he says. **(See risk assessment chart, inserted in this issue.)**

"What we know from case-controlled studies in the past is that prophylaxis appears to decrease the transmission of HIV substantially — as much as 80%," he says. "It should be given promptly. What would be recommended would be within four hours if at all possible, but we would prescribe it up to 48 or 72 hours [after exposure] if the risk is substantial."

Emotional reactions or misinformation can lead to an incorrect assessment of risk. For example, if the blood of a known HIV-positive patient splashed on the intact skin of a health care worker, who immediately washed it off, "we would want to discourage them from taking any prophylactic medicines because there's probably no risk," says Goldschmidt.

On the other hand, a health care worker may erroneously believe that only hollow-bore needles present an exposure risk and that a needlestick from a suture needle isn't a potential problem. "There certainly could be a risk if the source patient were HIV positive," says Goldschmidt.

Even if the risk is clear, the exact regimen may not be. PEPline clinicians answer questions about the best antiviral drugs to use, and how the choice

may be influenced by the viral load or drug regimen of the source patient.

"The problem is to get the expertise we need at the right place at the right time. The PEPline can serve that function," says **David K. Henderson**, MD, deputy director for clinical care at the Warren G. Magnuson Clinical Center of the National Institutes of Health in Bethesda, MD. "It is a national resource."

PEPline may be of most use to hospitals that don't have in-house expertise on HIV exposure. But even experts can benefit from collaboration, says Henderson.

"In complicated cases, I wouldn't hesitate to call them just to get another view," he says. "Often there isn't a right answer to these very complicated questions. What you want to know is how a smart person will manage this . . . and that's the kind of information you can get from the PEPline."

[Editor's note: To contact PEPline, which is available 24 hours a day, call (888) 448-4911. Information on PEPline is also available on the Internet at http://pepline.ucsf.edu.]

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Flu vaccine prices soar as hospitals seek more

CDC: 'Price gouging' threatens those at high-risk

Hospitals seeking to boost their supply of flu vaccine amid delays and shortfalls have discovered a sudden surge in prices.

Flu vaccine that sold for about $30 per 10-dose vial now may cost as much as three times that, employee health professionals report. The higher prices apply to vaccine sold outside of pre-existing orders.

The American Medical Association (AMA)

CE objectives

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

- identify particular clinical, administrative, or regulatory issues related to the care of hospital employees;
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decried the "price gouging," saying it is "unethical and threatens the health of those who need the vaccination most." The AMA noted that additional doses of vaccine will be available in December and that no long-term shortage is expected.

Delays in production of the flu vaccine emerged earlier this year when growth of the A(H3N2) vaccine component proved more difficult than expected. Two manufacturers also had quality control issues to resolve with the Food and Drug Administration.

Additional doses available in December

At the request of the Centers for Disease Control and Prevention, Aventis Pasteur of Swiftwater, PA, produced an additional 9 million doses of vaccine, which was to be available in mid-December. Hospitals and other customers must fill out an application, which is available on-line, so the manufacturer can determine priorities for filling orders.

The price of the additional flu vaccine is about $30 per 10-dose vial for public sector customers, such as public health departments, and $50 per 10-dose vial for private sector customers.

The higher price stems from the increased cost of producing the additional vaccine, says **Len Lavenda**, spokesman for Aventis Pasteur.

"The economics of producing the vaccine in that time period are a little bit different," he explains. "Securing the materials and vendor items we need to produce that late in the year are a bit different."

Distributors, wholesalers at fault?

However, higher prices that have been reported are linked to distributors and wholesalers. "We think it's unfortunate that that is happening," says Lavenda. "We do want to make it clear that it's not on our part. We have not increased our prices, with the exception of this [CDC] contract. That is to pass along some of the increased cost we're experiencing as a part of extended production."

At Lanier Park Medical Center, **Edward I. Galaid**, MD, MPH, medical director of Lanier Park Occupational Health, decided to order additional vaccine despite the high price so he could provide timely immunizations for health care workers and initiate the annual community program.

"Even though market pressures have driven up prices and there are opportunists out there, the fact remains that any increased cost would be built into the marketing budget for the hospital," he says. "It's just the cost of doing the timely thing for our employees and the appropriate thing from a community standpoint."

[Editor's note: For additional information on the flu vaccine doses, contact Aventis Pasteur at (800) 720-8972 or visit its Web site at www.vaccineshoppe.com. A Fluzone application must be completed. It can be faxed to (888) 889-7129.] ■

PEPline Post-Exposure Prophylaxis Decision Table

Exposure Type	SOURCE PATIENT CHARACTERISTICS: HIV+; known low titre — *Low Titre /SC*$_1$	HIV/AIDS, unknown titre — *Undefined*	Pre-terminal AIDS; acute seroconversion; known high titre — *High Titre/SC*$_2$
PERCUTANEOUS INJURIES			
Superficial injury *Solid needle* *EC2*	Offer *R2*	Recommend *Undefined*	Strongly recommend *R3*
Visibly bloody device Used in artery or vein *EC3*	Recommend *R3*	Recommend *Undefined*	Strongly recommend *R3*
Deep/IM Actual injection *EC3*	Strongly recommend *R3*	Strongly recommend *Undefined*	Strongly recommend *R3*
MUCOSAL EXPOSURES *or Skin with integrity compromised (i.e., Portal of entry)*			
Small volume and brief contact *EC1*	Offer (Recommend for eye exposures) *May not be warranted*	Offer (Recommend for eye exposures) *Undefined*	Offer (Recommend for eye exposures) *Consider 2*
Large volume or prolonged contact *EC2*	Recommend *R2*	Recommend *Undefined*	Recommend *R3*
Large volume & prolonged contact *Omit*	Recommend *Omit*	Recommend *Omit*	Strongly recommend *Omit*
CUTANEOUS EXPOSURES *(Intact skin): Consider PEP only if high volume blood exposure is prolonged or involves large area of intact skin*			

Legend

PEPline categories and recommendations are in standard print.
Corresponding CDC recommendations (MMWR 1998; 47 [No. RR-7]:1-33 [May, 15, 1998] are in *italics.*

EC=Exposure Code
SC=HIV Status Code
R_2–Recommend Basic Regimen (2 nucleoside drugs)
R_3=Recommend Expanded Regimen (2 nucleoside drugs plus protease inhibitor)
Consider 2–Consider Basic Regimen (2 nucleoside drugs)
Omit=This category subsumed in other categories
Undefined=This category not specifically addressed

National Post-Exposure Prophylaxis Hotline (PEPline) 1-888-448-4911, January 1999

Basic Screening Tool

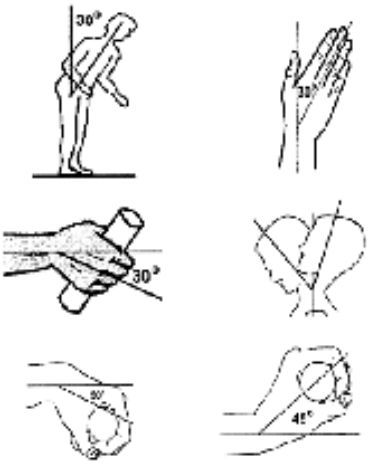
Table W-1 - Basic Screening Tool

You need only review risk factors for those areas of the body affected by the MSD incident.

		Body Part Associated With MSD Incident			
Risk Factors This Standard Covers	**Performing job or tasks that involve:**	Neck/ Shoulder	Hand/ Wrist/ Arm	Back/ Trunk/ Hip	Leg/ knee/ Ankle
Repetition	(1) Repeating the same motions every few seconds or repeating a cycle of motions involving the affected body part more than twice per minute for more than 2 consecutive hours in a workday.	√	√	√	√
	(2) Using an input device, such as a keyboard and/or mouse, in a steady manner for more than 4 hours total in a workday.	√	√		
Force	(3) Lifting more than 75 pounds at any one time; more than 55 pounds more than 10 times per day; or more than 25 pounds below the knees, above the shoulders, or at arms' length more than 25 times per day;	√	√	√	√
	(4) Pushing/pulling with more than 20 pounds of initial force (e.g., equivalent to pushing a 65 pound box across a tile floor or pushing a shopping cart with five 40 pound bags of dog food) for more than 2 hours total per day;	√	√	√	√
	(5) Pinching an unsupported object weighing 2 or more pounds per hand, or use of an equivalent pinching force (e.g., holding a small binder clip open) for more than 2 hours total per day;		√		
	(6) Gripping an unsupported object weighing 10 pounds or more per hand, or use of an equivalent gripping force (e.g., crushing the sides of an aluminum soda can with one hand), for more than 2 hours total per day.		√		

Table W-1 - Basic Screening Tool - continued

You need only review risk factors for those areas of the body affected by the MSD incident.

		Body Part Associated With MSD Incident			
Risk Factors This Standard Covers	**Performing job or tasks that involve:**	Neck/ Shoulder	Hand/ Wrist/ Arm	Back/ Trunk/ Hip	Leg/ knee/ Ankle
Awkward Postures	(7) Repeatedly raising or working with the hand(s) above the head or the elbow(s) above the shoulder(s) for more than 2 hours total per day;	√	√	√	
	(8) Kneeling or squatting for more than 2 hours total per day;			√	√
	(9) Working with the back, neck or wrists bent or twisted for more than 2 hours total per day (see figures:) 	√	√	√	
Contact Stress	(10) Using the hand or knee as a hammer more than 10 times per hour for more than 2 hours total per day;		√		√
Vibration	(11) Using vibrating tools or equipment that typically have high vibration levels (such as chainsaws, jack hammers, percussive tools, riveting or chipping hammers) for more than 30 minutes total per day.	√	√	√	
	(12) Using tools or equipment that typically have moderate vibration levels (such as jig saws, grinders, or sanders) for more than 2 hours total per day.	√	√		

Source: U.S. Occupational Safety and Health Administration, Washington, DC.