Ergonomics: Life After the OSHA Ergonomics Standard

Kimberly J. Gordon, RN, MA, COHN-S and John Rosecrance, PTD, PhD

With these words, President Bush signed a joint resolution of Congress disapproving the Occupational Safety and Health Administration’s (OSHA) ergonomics standard and, at the same time, pledged to find a solution to ergonomic-related problems affecting the nation’s workforce. OSHA’s ergonomics standard was issued November 14, 2000. It took effect January 16, 2001. Seven weeks later, on March 6 and 7, the US Congress voted to repeal the standard, acting under authority of the Congressional Review Act of 1996. Although employers and workers are no longer bound by its requirements, Secretary of Labor Elaine L. Chao said on June 1 that her department will move to devise an ergonomics standard less “precipitous” than the regulations issued by the Clinton administration. Chao said she would “listen to all the stakeholders” in the debate over workplace safety issues, adding, “I’m committed to a comprehensive review of ergonomic standards, and we have embarked on a very aggressive program.” However, a timetable for new standards has not been set.

Meanwhile, OSHA is likely to continue using the General Duty Clause to enforce ergonomics in the workplace. Section 5(a)(1) of the OSHA Act of 1970, also known as the General Duty Clause, states when there is no occupational safety or health standard applicable to the working condition in question, employers must provide employees with a workplace “free from recognized hazards that are causing or are likely to cause death or serious physical harm.” There are now two precedent-setting legal cases in which the General Duty Clause successfully led to a workplace change. (Continues on page 3)
NIOSH Requires New Label on Respirators

The OSHA Respirator Standard (1910.134) permits the use of chemical cartridge respirators for substances with poor warning properties. Stephanie Leonard MS, an Industrial Hygienist at WORKSAFE IOWA, says the National Institute for Occupational Safety and Health (NIOSH) has responded to the 1998 standard by requiring approval labels and user instructions. **The new label requirement must appear on respirators sold after July 1, 2001.** The label must read, “Follow established cartridge and canister change schedules or observe ESLI to ensure that cartridges and canisters are replaced before breakthrough occurs.” (Note: “ESLI” refers to End of Service Life Indicator).

If you have questions related to the OSHA Respirator Standard, the new NIOSH label requirement, fit testing or other related information, contact Stephanie Leonard, Industrial Hygienist, WORKSAFE IOWA at 319-335-4432 or via e-mail at stephanie-leonard@uiowa.edu

New Steel Erection Standard

OSHA’s new rule on steel erection will become effective July 17, 2001. The standard is the first OSHA safety standard developed under the Negotiated Rulemaking Act of 1990. The rule was developed by members of the Steel Erection Negotiated Rulemaking Advisory Committee (SENRAC), which represents employers and employees affected by the standard. The standard is expected to prevent fatalities and injuries related to steel erection and ironwork. For specific details regarding the Steel Erection Standard, refer to the OSHA Fact Sheet for Revised Steel Erection Standard at: http://www.osha.gov/media/oshanews/jan01/national-200010117.html

Key Provisions of the Steel Erection Standard include:
- Site Layout and Construction Sequence
- Site-Specific Erection Plan
- Hoisting and Rigging
- Structural Steel Assembly
- Column Anchorage
- Beams and Columns
- Open Web Steel Joists
- Systems-Engineered Metal Buildings
- Falling Object Protection
- Fall Protection
- Training

OSHA Announces Outreach Effort on Needlestick Prevention

The Occupational Safety and Health Administration (OSHA) is reaching out to educate employers, health care workers and the general public on the revised bloodborne pathogen standard. OSHA’s education effort includes a collection of written materials designed to explain specific aspects of the standard. Materials are available on OSHA’s web site at www.osha.gov.

During the outreach period, OSHA will not enforce the new provisions of the standard that require employers to maintain a sharps injury log and involve non-managerial employees in selecting safer medical devices. **Enforcement of these new provisions will begin on July 17, 2001.** States that operate their own OSHA-approved state programs must adopt the revisions to the federal bloodborne pathogen standard or a more stringent amendment to their existing standards by October 18, 2001. According to Russ Gilkes, Iowa Occupational Safety & Health (IOSH), the state of Iowa will utilize the federal standard with provisions effective July 17, 2001.

Additional information can be found at http://www.oshaslc.gov/needlesticks/index.html.

OSHA Turns 30

On April 28, 2001, OSHA celebrated its 30th anniversary. In an April 27 press release Secretary of Labor Elaine Chao said, “Over the past three decades job-related fatalities have been cut in half. Injuries and illnesses have declined by 40 percent. OSHA, its state partners, employers and employees together share the credit for the progress that has been made. But there is more that must be done. Every day 16 workers still lose their lives in this country. And every hour 650 workers experience an injury or illness on the job. While these numbers are steadily coming down, they are still far too high. Prevention is the key to greater success. Together we must find ways to ensure that workers are protected so accidents don’t happen and illnesses don’t occur. The 21st century demands a workforce that is prepared. This is a time for improving the quality of work life and closing the skills gap. All of us must be ready to meet that challenge.”

Source: OSHA National News Release, April 27, 2001

NIOSH Director

Dr. Kathleen Rest will serve as the next Acting Director of the National Institute for Occupational Safety and Health (NIOSH) beginning June 1, 2001.
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Duty Clause has been used to address lifting and repetitive motion hazards.

In the case of Secretary of Labor v. Pepperidge Farm, Inc., 17 BNS OSHC 1993, 1995-97 CCH OSHD paragraph 31, 301 (no. 89-0265), the employer was found to have recognized the hazard presented by work practices under which its employees suffered back and shoulder injuries and experienced low back pain from lifting heavy objects in a manufacturing facility. In the case of Secretary of Labor v. Beverly Enterprises, OSHRC Docket Nos. 91-3344, 92-0238, 92-0819, 92-1257, 93-724, the Secretary of Labor did not prove the existence of a "recognized hazard" within the meaning of the OSHA Act, Section 5(a)(l). Thus all citations were vacated against Beverly Enterprises, a multi-facility health care corporation providing long-term care.

Needless to say, local and national media coverage has focused attention on ergonomics in the last year and a half. Dr. John Rosecrance, an ergonomics expert at The University of Iowa, says "Many companies use ergonomic principles to improve production and product quality. They've had successful ergonomic programs years before the (OSHA) standard and don't intend to discontinue them now. These businesses see ergonomics as an advantage over their competitors."

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Dr. Rosecrance defines ergonomics as the process of designing the workplace to fit the workforce. He and a team of ergonomists at The University of Iowa use a participatory "ergonomic process" when they work with employers around the country. The elements of this process include:

- Identification of Opportunities
- Analysis of the Situation
- Solution Development
- Solution Implementation
- Evaluation of Improvements

Successful application of the ergonomics process, according to Rosecrance, promotes management and employee participation, in-house expertise, and attention to business drivers, the economic factors that make a business profitable. "Good ergonomics is good economics," he says.

Dr. Rosecrance points out that the attention to business drivers is especially important for a successful ergonomics program. The benefits of a successful ergonomics process include efficient production, better product quality, reduced injury and illness rates, and enhanced quality of work life.

Dr. Rosecrance and his colleagues strive to make the ergonomics process highly participatory. "Some companies want a quick solution to solve the problem immediately," he explains, "but input and buy-in from all levels of the company are necessary for effective and lasting solutions. It is essential to talk with the employees that perform the job, he says, and one of the most important questions to ask is "if you could change one thing about your job, what would it be?" Most employees have never been asked that," says Rosecrance, "and yet they are the experts, they perform the job day in and day out. They know what hurts, they know what the problems are, and they know the solutions. Just ask the workers!"

To promote the ongoing success of any ergonomics programs, the UI consultants find ways to develop in-house expertise. They provide and teach employees awareness training, team training and problem solving.

Sources:

1 http://www.oshrc.gov
4 http://www.osha-slc.gov/decisions/html_200091-3344.html
6 Stafford, Kansas City Star, 06/01/01

DOT Drug & Alcohol Testing Rule Change Effective August 1, 2001

The deadline for the DOT drug and alcohol testing rule changes is August 1, 2001. The U.S. Department of Transportation (DOT) released its revised drug and alcohol testing rule on December 19, 2001.

A copy may be obtained by calling the fax-on-demand telephone line at (800) 225-3784 and requesting document 151.

The DOT drug and alcohol testing rule is posted in the Department of Transportation Docket Management System accessible on-line at http://dms.dot.gov. Once on the website, go to "Search the DMS Web", then to "Docket summary Information", click on OST-1999-6578-1, then find the "download document" section to download and print the revised standard.
Working in the heat of a mid-summer day in the Midwest can be excruciating. Heat and humidity combine to cause soaring temperatures. The concern for workers is that they will overheat and experience a heat-related illness. There are three primary heat illnesses:

**Heat Cramps → Heat Exhaustion → Heat Stroke**

These heat-related illnesses follow a continuum. If left untreated, a minor heat illness, like heat cramps, can result in a major heat illness, like heat stroke. Heat illnesses can result in death. The Occupational Health and Safety Administration (OSHA) reports that the combination of heat, humidity and physical labor can lead to fatalities. According to OSHA, in 1999, 34 workers died and 2,420 others experienced heat-related occupational injuries and illnesses serious enough to miss work.

As one works and moves about, the body heats up. Sweat is the body’s main mechanism to get rid of extra heat. As long as blood is flowing to the skin and the worker is sweating, extra heat from the core of the body goes out through the skin and is removed by sweat evaporation. If the worker does not sweat enough or blood is not flowing to the skin, extra heat will stay in the body. If the worker is dehydrated (has not drunk enough water and fluids), it will be harder to sweat and the body will not send blood to the skin, putting the worker at greater risk for heat illness. It is critical to replace the water lost via sweat by drinking water.

When the air temperature is above 90 degrees Fahrenheit, when the humidity is high, or both, it is also difficult for one to stay cool. Humid air makes it harder for sweat to evaporate, so the body cannot rid itself of extra heat as effectively when it’s muggy as when the air is dry.

### Heat Cramps

Heat cramps are muscle contractions, usually in the gastrocnemius or hamstring muscles (the muscles at the back of the calves). These contractions are forceful and painful. These cramps seem to be connected to heat, dehydration, and poor conditioning. A worker suffering from heat cramps will usually have:

- Moist, cool skin
- Heavy sweating
- Muscle cramps (usually in legs and calf muscles)

**First aid treatment for heat cramps includes:**

- Stop working
- Move to a cool place
- Drink water
- Muscle massage may be comforting

### Heat Exhaustion

Heat exhaustion is the result of excessive heat and dehydration. It is also partly due to exhaustion as the name implies. The signs of heat exhaustion include:

- Pale, cold, or clammy skin
- Heavy sweating
- Dizziness
- Nausea and vomiting
- Fainting
- Weak pulse
- Shallow breathing
- Weakness and fatigue
- Headache

**First aid for heat exhaustion includes:**

- Stop working
- Move to a cool place
- Sit in front of a fan blowing cool air
- Remove sweat-soaked clothing
- Apply cool packs under armpits, near carotid artery in the neck and in the groin area
- Drink water
- WATCH CLOSELY FOR CHANGES
Prevent Heat-Related Illnesses

It is possible to prevent heat-related illnesses. There are three important tips to remember:
1. Drink plenty of water.
2. Make sure the body can sweat and get rid of extra heat.
3. Take regular breaks to rest and re-hydrate the body.

The best fluid to drink is WATER. Workers should drink 1 cup of cool water every 15 to 20 minutes. Sport drinks and other fluids are also good but water is easy to obtain and helps the body keep cool. Workers should avoid coffee, tea and caffeine-ated soft drinks. It is important for the worker to drink water even when not thirsty when working in the heat.

It may take workers several days to get used to working in the heat and humidity. It is important to provide frequent breaks and to make sure plenty of cool water is available. The clothing workers wear also makes a difference. The lighter the clothing, the easier one can cool off. Lightweight, light-colored, loose-fitting clothing is best if suitable for the worksite.

Obesity, lack of conditioning and pregnancy can increase the worker’s susceptibility to heat-related illnesses. It is important to recognize and to treat the symptoms of heat illness early on to prevent the progression to heat stroke. In all heat emergencies, you will need to cool the worker down. Prevention is best—work safely in the heat!

Source: The American Safety & Health Institute
Summer not only brings heat and humidity but also insect bites and stings. Every year, thousands of calls are made to the Poison Control Center regarding insect bites and treatment advice.

While all insects can bite or sting, some are more bothersome and dangerous than others. Bites from fleas, mosquitoes, and the common horsefly can cause pain, itching, and swelling at the site. This is unpleasant but not necessarily harmful unless an infection occurs. Stings from bees, hornets, and wasps can be more dangerous. They can cause death, usually from an allergic reaction. There are typically two types of allergic reactions to stings. In the first type, the bite or sting site becomes excessively swollen and the worker may experience nausea, vomiting, dizziness and headache. This worker should be monitored for more severe reaction. You should wash the site and apply a cold pack. The second type of allergic reaction, known as anaphylaxis, is severe and can be life-threatening. The worker may experience body-wide itching, hives (rash), or puffiness of the eyes, nose, lips, tongue and throat. Abdominal pain and vomiting may occur. Breathing difficulties are common, including wheezing and shortness of breath. The patient may collapse and go into shock. This kind of reaction is a medical emergency. Call 9-1-1 immediately.

Mosquito bites can be very annoying. Treatment includes:
• Wash site
• Avoid itching area
• Apply over-the-counter cream (i.e. Caladryl)
• Use antihistamines if needed
• Apply ice packs of Epsom salt solution
• Bites near the eyes–apply cool wet cloth of baking soda and water
• If bite looks infected consult a doctor

The Iowa Statewide Poison Control Center (ISPCC) is a partnership of The University of Iowa Hospitals and Clinics and St. Luke’s Regional Medical Center - Sioux City/Iowa Health System. According to Director Linda Kalin, the ISPCC was established in 2000 to provide statewide poison control services. The Iowa Statewide Poison Control Center was one of the first 12 in the nation to adopt a nationwide 800 number. The number is 1-800-222-1222. All 50 states should be utilizing this new number by June 2001.

The ISPCC will need the following information when you call 1-800-222-1222:
• Identify yourself and the worker who was bit/stung or came in contact with the poison
• Give your telephone number so you can be reached if disconnected
• Give the approximate age and weight of the worker
• Estimate when the exposure occurred
• Describe the symptoms the worker is experiencing, if any
• Give the name of the nearest hospital you will go if needed
• Remember to remain calm

Post the Poison Control number on or near all telephones: 1-800-222-1222.

The Iowa Statewide Poison Control Center also has poison information, prevention tips and first aid on its website at http://www.iowapoison.org

Source: Linda Kalin, Director of the Iowa Statewide Poison Control Center and the Center’s website http://iowapoison.org

To Bee or Not to Bee

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Hearing Loss Linked To Smoking

A study in the Journal of Occupational and Environmental Medicine links cigarette smoking to high-frequency hearing loss. Dr. Noriyuki Nakanishi of Osaka University analyzed the effects of smoking on the rate of hearing loss in nearly 1,600 male office workers. Researchers found that the risk for high frequency hearing loss increased as the number of cigarettes smoked daily and the number of packs smoked over a lifetime increased. A man who smoked the equivalent of a pack of cigarettes per day for 40 years had more than twice the risk of high-frequency hearing loss than a man who never smoked. Smoking had no apparent effect on hearing loss in the low-frequency range.

It is unknown how smoking increases the risk of hearing loss. Further studies are needed; in the meantime, the results suggest that hearing loss may be added to the long list of harmful effects of smoking. Researchers suggest the inclusion of the risk of cigarette smoking in hearing conservation programs in the workplace.

Source: Journal of Occupational and Environmental Medicine, 11/00, Vol. 42 No. 11

Iowa has adopted the International Association of Industrial Accident Boards and Commissions (IAIABC) EDI standards for filing of First Reports of Injury and Subsequent Reports of Injury. Iowa has been accepting Employers First Reports of Injury via EDI since 1996. In August 1997, Iowa became the first state to test the “enhanced version” of the EDI, which expands the information that can be transmitted.

Director Running released information on May 18, 2001, stating, “the Division of Workers’ Compensation is putting an increased emphasis on compliance with Iowa workers’ compensation statutes and rules.” Workers’ compensation officials are advising businesses that fail to comply that they may be subject to administrative sanctions, interest and/or penalties, as well as common law punitive damages. The Division is asking businesses to provide the name of a compliance contact person within their company. The compliance contact person should be knowledgeable about Iowa workers’ compensation laws and rules and have the authority to resolve compliance issues.

Iowa Workforce Development will be providing new educational opportunities to work with businesses regarding Iowa workers’ compensation compliance and claim handling. For more information visit the Iowa Division of Workers’ Compensation website at http://www.state.ia.us/iwd/wc

Source: May 18, 2001 Press Release, Division of Workers’ Compensation
Iowa Division of Workers’ Compensation Guide to Workers’ Compensation, Fifth Edition (70-9040), pages 10-12

NIOSH-Approved Spirometry Training for Workers Screening Course

Fall 2001

A course is being planned for Fall 2001 (late November or early December) at The University of Iowa, Oakdale Campus in Iowa City, Iowa. Enrollment is limited to 10.

Occupational Hearing Conservationist Certification and Recertification Courses
March 6-8, 2002

The University of Iowa College of Nursing will offer an Occupational Hearing Conservationist Certification course on March 6, 7 & 8, 2002. In addition, a one-day Recertification course will be offered on March 7. The courses will be held at Oakdale Hall on the University of Iowa’s Oakdale Campus. A CAOHC-certified course director will teach the courses. For more information or a registration form, contact Jennifer Clougherty, College of Nursing, The University of Iowa, Iowa City, IA. Telephone 319-335-7119, Fax 319-335-7129, e-mail: jennifer-clougherty@uiowa.edu

4th Annual Occupational Health Symposium
March 13 & 14, 2002

Iowa Memorial Union, The University of Iowa, Iowa City, IA

This symposium will provide current information on health and safety regulations, workplace illnesses and injuries, health care delivery, and management issues. It will also provide important resources and networking opportunities necessary for keeping current in occupational health. Details will be forthcoming.

For further information on any of the above programs, contact,
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World Wide Web
http://www.public-health.uiowa.edu/worksafe