

Welcoming Our New 2006 NSMS Members

On behalf NSMS President Roosevelt, the NSMS Executive Committee and the NSMS Board of Directors, we like to thank all members who have renewed their 2006 membership to the National Safety Management Society. We would also like to acknowledge and welcome the following new members to our Society:

- Nicholas R. Baker, Columbia Southern University – (Orange Beach, AL)
- Daniel D. Ducan, Duncan Safety Management, LLC – (Breese, IL)
- Thomas W. Kennedy, Nova Scotia Power, Inc. – (Nova Scotia, Canada)
- Ojelola Abiodun Olufemi, Ecobank Nigeria, PLC – (Lagos, Nigeria)
- Ognjen Saran, Securitas – (Pontiac, MI)

We appreciate your interest in furthering your skills, knowledge and abilities in the management of safety and risks, as well as your interest to networking and professional development. Welcome again to NSMS!

Calling All NSMS Members: Volunteers Are Needed for Our National Conference Planning Committee

NSMS is still seeking volunteers to form a working committee for planning our National Conference. We need the efforts and support of all members to keep the information exchange and networking possible. Without a working group, our goal of a conference may not be met this calendar year. If you are interested in participating, please email us at nsmisinc@yahoo.com or call and leave a message at (800) 321-2910. Please spread the word and get involved! Thank you.

The NSMS “Blog” is Here

Steve Geigle has created and launched the “NSMS Blog” on the NSMS website. It will allow members and others to post comments, remarks and initiate discussions about a variety of safety management topics and issues. You can participate in the Blog by going to the NSMS website (<http://nsmis.us>) and look for the link on the home page along the left-hand column of navigation areas.

FREE ACCESS: Online Certified Safety and Health Manager (CSHM) Educational and Exam Preparation Reference Materials

As a benefit for our current and future dues-paying members, NSMS is **permanently** offering free access to the Certified Safety and Health Manager (CSHM) preparation and educational materials. The online resources, created by NSMS member Steve Geigle, can be found at www.cshmprep.com and the only action an NSMS member needs to take is to email Steve requesting access from that website. You will need to include your current NSMS member number (found on your membership card and certificate). Once the number is verified, you will be granted a username and password to access the online reference materials. This is a great opportunity to brush up on your safety management and technical knowledge and prepare for a successful passing of the CSHM certification examination.

Summer Safety Tip Courtesy of the Mayo Clinic

Before you head outdoors to enjoy summer activities, slather on the sunscreen. Apply 15 to 30 minutes before sun exposure and reapply every one to two hours while outdoors. The July issue of *Mayo Clinic Women's Health Source* offers tips to select the right sunscreen. Look for one that offers:

- Broad-spectrum protection: Find one that protects against ultraviolet A (UVA) and ultraviolet B (UVB) sun rays. Both can damage the skin.
- SPF of 15 or higher: A sun protection factor (SPF) of 15 deflects about 93 percent of the UVB rays and allows you to remain in the sun 15 times longer than you normally would before getting burned. Higher SPFs deflect about 97 percent of the UVB rays.
- Water-resistant or waterproof qualities: This is especially important if you will be swimming or perspiring heavily. Water-resistant sunscreen protects for 40 minutes; waterproof sunscreen for up to 80 minutes.
- Skin-appropriate form: If your skin is dry, choose a cream or lotion sunscreen to increase moisture. For oily skin, choose an oil-free sunscreen. If you have sensitive skin, look for a sunscreen that contains only zinc oxide or titanium dioxide. These ingredients provide a physical barrier against UV rays rather than chemically absorbing them, which may be gentler on your skin. Avoid alcohol-based sunscreen if you have rosacea or eczema.

MSHA Issues Interpretive Bulletin on Limited Liability Companies

On May 9, MSHA issued an Interpretive Bulletin that says agents of Limited Liability Companies (LLCs) can be held personally liable under Section 110(c) of the Mine Act if they knowingly authorize, order, or carry out a violation of any mandatory health or safety standard, or fail or refuse to comply with any order issued under the act.

About 10 percent (or 782) of the nation's 7,287 active mine operators are LLCs, and this includes many large mine operators, according to the bulletin, which was signed by MSHA chief David Dye.

"Limited Liability Companies are like corporations in that they shield their agents from personal liability. For that reason, they raise concerns similar to those which led Congress to enact Section 110(c)," said David G. Dye, MSHA's acting administrator. "The Secretary of Labor believes that Section 110(c) should be applied to agents of LLCs, because their actions often directly affect miners' safety and health."

An LLC is a hybrid business entity that effectively did not exist when Congress enacted the Mine Act in 1977. LLCs did not attain any significant popularity until 1988, when the Internal Revenue Service announced that they could be taxed as partnerships despite their corporation-like liability shield. Once the IRS declared LLCs could elect pass-through taxation, their numbers grew dramatically.

The MSHA bulletin notes that Section 110(c) has been held not to apply to agents of partnerships because, by its terms, 110(c) applies only to agents of corporations. A case with this holding "has no bearing in this situation, however, because partnerships, unlike LLCs, existed and were a well-known form of business organization when Congress enacted the Mine Act," the bulletin states. "The secretary believes that the underlying objective Congress identified when it enacted the Coal Act in 1969 and reiterated when it enacted the Mine Act in 1977 -- to place responsibility for compliance and liability for violations "on those who control or supervise the operation of ... mines as well as on those who operate them" -- will best be advanced if Section 110(c) is interpreted as being applicable to agents of LLCs," it adds.

Comments on the bulletin are due by June 8, and it is scheduled to take effect July 10. Send comments with "Interpretive Bulletin regarding Limited Liability Companies" in the subject line to zzMSHA-comments@dol.gov. Patricia W. Silvey, acting director of MSHA's Office of Standards, Regulations, and Variances, is the contact for more information (Silvey.Patricia@DOL.GOV, 202-693-9440).

The bulletin can be accessed at <http://www.msha.gov/REGS/FEDREG/NOTICES/2006misc/06-4317.asp>.

OSHA Extending 1,3-Butadiene Standard

On June 20, OSHA published a routine information collection extension request for the 1,3-Butadiene Standard (29 CFR 1910.1051), which requires employers to monitor employees' exposure to 1,3-Butadiene and control exposures when they're above the permissible exposure limit or action level. The PEL is an eight-hour time-weighted average of 1 part per million (ppm) parts of air; the action level is 0.5 ppm as an eight-hour TWA. When these are exceeded, employers must label respirator filter elements to indicate the date and time they're first installed on the respirator; establish medical surveillance programs to monitor employee health; and inform employees about their exposures and about the health effects of exposure to 1,3-Butadiene.

These information collection requests go to the Office of Management and Budget for review and approval under the Paperwork Reduction Act of 1995. They give the public an opportunity to comment about an existing regulation; in this case, OSHA estimates the standard requires 3,532 annual responses from 115 respondents at a total burden of 956 hours.

Send comments to Office of Information and Regulatory Affairs, Attn: OMB Desk Officer for the Occupational Safety and Health Administration (OSHA), Office of Management and Budget, Room 10235, Washington, DC 20503, 202-395-7316, within the next 30 days.

The information collection request can be accessed at http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=FEDERAL_REGIS TER&p_id=18779

National Safety Council: Workers' Perceptions About Safety Risks Do Not Reflect National Injury Data

Accidental injury, which is the leading cause of death for people under 40 and the fifth leading cause of death for all ages, followed violent crime and natural disasters as the top safety concerns among American workers, according to a new National Safety Council survey. The survey also found that more feel safer at home than they do at work, when in fact the opposite is true, according to national injury data.

The council's 2006 American Worker Safety Survey of more than 400 American workers was conducted for the NSC's June National Safety Month observance by Atlanta-based Infosurv, a market research firm specializing in employee and customer surveys. Asked to put unintentional injuries in perspective with other safety issues, natural disasters and violent crimes tied with 59 percent of the respondents saying they were equally concerned about each of those threats. Unintentional injuries followed with 55 percent, and concerns about terrorism ranked fourth at 52 percent.

While the effects of violent crime and natural disasters are unquestionably devastating, the number of these incidents falls far short of the thousands of people who die -- and the millions who are disabled -- by unintentional injuries in the workplace, on the roads and in homes and communities each year, NSC stated. According to the FBI's annual "Uniform Crime Report," 16,137 Americans were murdered in 2004. That same year, 230 Americans died in natural disasters including hurricanes, tornadoes, extreme cold and severe or tropical storms. However, in 2004, unintentional injuries claimed more than 110,000 lives and disabled roughly 23.2 million people seriously enough to cause permanent or temporary disability.

The survey also revealed that workers' perceptions of where injuries occur do not reflect national statistics that show far more people are killed or injured from accidents occurring in and around the home than in the workplace. About 31 percent of respondents said they believe they are safer at home than in the workplace, and 62 percent said they feel equally safe at home and at work. Only 5 percent said they feel safer at work. However, in 2004, about 5,000 workers died and 3.7 million suffered disabling injuries as a result of accidents occurring in the workplace. That same year, nearly 44,100 workers died and 6.8 million American workers were disabled as a result of injuries suffered while they were off the job.

Despite the perception of being safer at home, the fact that the workplace is less dangerous is consistent with survey respondents' actual experiences. The Infosurv survey asked respondents if they, or someone they know, had suffered an injury requiring medical attention within the last six months. Of those responding "yes," 77 percent said the injury occurred away from work. "Contrary to what most people believe, home is not the safe haven we think it is. With more than half of all accidental deaths occurring in homes and communities, we have a greater challenge protecting the public from injuries while off the job than in America's workplaces," said Alan C. McMillan, president and CEO of the National Safety Council.

Both on and off the job, motor vehicle crashes are the leading cause of unintentional injury deaths. Falls are also an issue for workers both on and off the job. When asked about what type of workplace injuries they were most concerned about, more than 37 percent of respondents said they are more concerned about falls than any other type of injury. In American homes, falls are the leading cause of injury-related deaths (12,800), followed by poisoning, fire, choking, suffocation and drowning.

McMillan described the economic toll of unintentional injuries -- to individuals and their families, employers and the nation -- as staggering. Last year, the cost of all unintentional injuries -- including lost wages and productivity, property losses, medical expenses, administrative expenses and employers' uninsured costs -- was nearly \$575 billion. While 77 percent of respondents identified serious illness as a concern for themselves and their family, according to the Agency for Healthcare Research and Quality, more is spent by private health insurance on medical care associated with trauma and poisoning for people of working age than for any other health condition, including cancer, heart conditions, mental disorders or upper respiratory conditions and asthma.

According to another recent National Safety Council survey, businesses are recognizing the value of keeping their employees safe both on and off the job. Among 1,300 businesses of varying size that have implemented off-the-job safety programs, 58 percent reported reductions in injuries occurring outside of work. While most respondents said they do not believe employers are responsible for their safety away from work, 70 percent said their employers care about off the job safety. Almost 35 percent said their employers provide them with information about off the job safety.

"The success corporate America has had in reducing the rate and costs of workplace injuries has set the stage for businesses to understand the importance of their employees applying workplace safety practices in their off-the-job activities," McMillan said. "Ultimately, employers should strive to establish a corporate culture of safety that transcends the workplace to include the safety and health of their employees and their employees' dependent family members in all aspects of their lives."

CSB Calls For Revision Of Propylene Relief Valve Standards, Offers Good Safety Practices

The U.S. Chemical Safety and Hazard Investigation Board (CSB) issued a safety bulletin that focuses attention on the propylene gas cylinder hazards that contributed to fire and explosions at a St. Louis, Mo., facility -- and offers specific actions that propylene gas vendors can take to prevent similar incidents. The safety bulletin follows the agency's investigation into the June 24, 2005, accident at the Praxair Distribution, Inc., gas cylinder filling and distribution center. In addition, the CSB released a safety video on the incident, which includes a computer animation depicting the gas release, as well as video of the initial release and fire taken by a Praxair security camera. The video features comments by CSB investigators and board Chairman Carolyn W. Merritt.

The accident occurred when gas released by a pressure relief valve on a propylene cylinder ignited. The bulletin notes that as a result of the fire, dozens of exploding cylinders were launched into the surrounding community and struck nearby homes, buildings and cars, causing extensive damage and several small fires. Workers and customers quickly evacuated the facility after a worker sounded the alarm at the plant. Fortunately, residents escaped injury from the falling fragments.

CSB investigators noted the accident occurred on a hot summer day with a high temperature of 97 degrees Fahrenheit in St. Louis. At Praxair, cylinders were stored in the open on asphalt, which radiated heat from the direct sunlight, raising the temperatures and pressure of the gas inside the cylinders. At approximately 3:20 p.m., a propylene cylinder pressure relief valve began venting. CSB investigators believe static electricity, created by escaping vapor and liquid, most likely ignited the leaking propylene.

Praxair security camera video shows the initial fire spreading quickly to other cylinders. Exploding cylinders -- mostly acetylene -- flew up to 800 feet away, damaged property,

and started fires in the community. The fire could not be extinguished until most of the flammable gas cylinders were expended. An estimated 8,000 cylinders were destroyed in the fire, which took five hours to control. The investigation determined that the pressure relief set points, specified in industry standards, are too low for propylene and may allow the gas to begin venting during hot weather -- well below the pressures that could damage the cylinders. Not only are the specified set points too low for propylene, the CSB found some valves begin releasing gas even before the pressure reaches the set point. Each time a pressure relief valve opens, its performance deteriorates -- making it more likely to vent gas at too low a pressure in the future.

CSB lead investigator Robert Hall said, "The key lesson learned in our investigation is that the combination of high ambient temperatures and relief valves that open at too low a pressure increase the risk of catastrophic fires at these facilities." The CSB bulletin lists three similar fires at gas repackaging facilities that were reported to be caused by leaking propylene containers since 1997. Fires occurred at another Praxair facility in Fresno, CA., just a month after the St. Louis accident; an Airgas facility in Tulsa, OK.; and an Air Liquide facility in Phoenix, Ariz. Merritt said, "The fire at Praxair was serious and not the only one that has occurred at compressed gas facilities. The accidents show the need for companies to follow best practices for outdoor cylinder storage and fire protection. We hope the industry takes notice with the coming of summer and high ambient temperatures in cylinder storage yards."

The CSB safety bulletin lists several best practices for cylinder storage at gas repackaging facilities, including fire protection systems to cool cylinders and limit the spreading of fires, barriers to contain exploding propylene cylinders within the facility, and gas detection systems that can sound alarms and activate fire mitigation systems. The board recommended that the Compressed Gas Association (CGA) revise its standards for propylene relief valves to provide a greater margin of safety and improved reliability. The safety bulletin, "Dangers of Propylene Cylinders in High Temperatures: Fire at Praxair St. Louis," can be accessed at http://www.csb.gov/completed_investigations/docs/CSBPraxairSafetyBulletin.pdf. The safety video may be viewed and obtained by filling out an online form of request at <http://www.csb.gov>.

Study: Don't Blame Job Stress For Chronic High Blood Pressure

While no one disagrees that a fight with the boss can send blood pressure skyward for an hour or so, a comprehensive review of the literature on the subject finds little evidence that day-to-day work woes affect chronic blood pressure, one way or the other.

"It's long been a cherished notion that chronic stress -- in this case, job stress -- contributes to hypertension. It's time to set the record straight, however," said Dr. Samuel J. Mann, professor of clinical medicine at Weill Medical College of Cornell University

and a hypertension specialist at New York-Presbyterian Hospital/Weill Cornell Medical Center in New York City (<http://www.med.cornell.edu>).

"When you realize that doctors may be advising patients to quit or change jobs to help them avoid hypertension, it's clear that this misconception can have life-altering effects," Mann said.

His review of dozens of studies on the subject, published in the May issue of *Current Hypertension Reviews*, finds that the evidence that workplace stress has a lasting effect on blood pressure is very weak and very inconsistent.

His review was spurred, in part, by a rigorous study published in 2003 by a team of French researchers in the prestigious journal *Hypertension*.

That study found no effect of job strain on hypertension. "So, I wondered, if this very large, well-conducted trial found nothing, why did smaller trials sometimes say otherwise?" Mann said.

In his review, Mann analyzed data from 48 studies on job stress and blood pressure, all published in English-language journals from 1982 to 2004. Overall, more than 100,000 people were included in the trials. Mann found that most studies actually found no relationship between job stress and blood pressure, and that findings were very weak in most of the studies that did report a relationship.

"For example, researchers would sometimes find no overall effect of job stress on blood pressure, but would then report a relationship limited to a small subgroup of the study population," he said. "The trouble was that if any specific subgroup was particularly susceptible, you'd expect to see that subgroup crop up across studies. None did."

In other studies, the authors would focus on a weak relationship found between blood pressure and one measure of job stress, while ignoring the absence of a relationship with all other job stress measures assessed.

Another flaw? Inexplicably, some studies found that job strain affected diastolic blood pressure -- the bottom number in a reading -- but didn't affect the systolic pressure (the top number) at all. In fact, two studies neglected to even mention systolic pressure.

"This is all very odd, since clinicians know that systolic pressure varies more widely than diastolic pressure. It's also a more reliable marker of cardiovascular risk compared to diastolic readings," Mann said. "The omission of systolic pressure in those studies' data is troubling," he added.

Finally, most trials that have looked at potential remedies for chronic stress -- particularly stress reduction techniques -- found that they did not lower blood pressure levels. "This suggests, of course, that the job stress wasn't causing the hypertension in the first place," Mann said.

He stressed that he in no way disagrees with the notion that clashes with co-workers can boost blood pressure over the short-term -- minutes or hours. "Furthermore, reliable studies have shown that ongoing difficulties at work can contribute to coronary artery disease," Mann added. "That appears to be true, but blood pressure does not seem to be the link between the two."

So, if the evidence suggests otherwise, why does the idea that job strain is a contributor to high blood pressure persist among researchers, clinicians and the general public?

"Mainly because there is no doubt that stress can elevate blood pressure in the moment. But the corollary that recurring stress leads to sustained blood pressure elevation has not been demonstrated, despite decades of research that aimed to prove it. It's hard not to think that many researchers -- for a variety of reasons -- have a vested interest in keeping this notion alive, and that they publish articles that strain to support their view," Mann said. "However, as scientists, we need to get better at weeding out faulty data and prove that, in this case at least, the 'emperor has no clothes.'"

Workplace Safety Tips for Expectant Mothers

With almost half the workforce being women and many being expectant moms, the American Society of Safety Engineers (ASSE) suggests that employers and workers be aware of significant physical changes and workplace solutions to help ensure a safe workplace for pregnant women.

For instance, when a woman is pregnant, her balance, reach distance and lifting capability changes. Additionally, hormonal changes that occur with pregnancy affect ligaments and joints, which can cause postural problems, backache and impairment of dexterity, agility, coordination and balance. Pregnant women may be more affected by some ergonomic hazards such as awkward postures, heavy lifting, repetitive forces and limited rest periods. As a result pre-term delivery, low birth weight, spontaneous abortion, and stillbirth could occur.

As a pregnant woman's size increases, her reach distance is affected causing additional stretching, which can affect the arms, shoulders, and lower back. This can make lifting tasks particularly hazardous resulting not only in greater back pain, but having to carry the load farther from the body.

"Heavy lifting tasks can also cause the flow of blood in the body to be altered which can affect the fetus," ASSE member and Practice Specialty Administrator Linda Tapp, ALCM, CSP, of Cherry Hill, N.J., said in her report titled "Maintaining the Safety and Health of a Diverse Workforce." "Intra-abdominal pressures are also increased during heavy lifting. Hormone disturbances as well as nutritional deficits can also occur."

Excessive standing during pregnancy can also cause concern, Tapp said. Standing for long periods of time can cause lower back pain. Prolonged standing can cause serious risk. For example, standing more than 36 hours a week or more than 10 hours a day, can lead to a variety of problems, Tapp noted.

Occupational safety, health and environmental professionals can help employers implement good workplace design principles and programs to help make the workplace safer. Although there is no one-size-fits-all-solution there are ways to increase safety for all and for expectant working mothers that include:

- Using material handling equipment whenever possible and practical -- material handling equipment reduces the need to lift, lower, push, pull or carry heavy materials; forklifts and other powered trucks should be used to eliminate manual handling of heavy bags, pails and other materials; carts, conveyors, ball caster tables and hand trucks should be used to eliminate carrying materials greater than 20 feet.
- Reducing the weight of objects that must be handled not only make the task easier for older and women workers but make the job safer for everyone.
- Keeping floor surfaces dry and free of debris, clutter, oil, chemicals, water and other slippery materials.
- Pallets should be in good condition without broken boards or protruding nails.
- Providing safety/ergonomics training on material handling techniques that covers body mechanics and preferred postures should be ongoing.
- Providing a workplace with features that can be adjusted to accommodate the physical needs of all workers.

Workplace controls implemented for expected mothers protect them as well as the child. These controls include: assigning less physical tasks, restricting lifts, adjusting work and breaks, and varying the employee's tasks if possible; using foot rests when standing and sitting helps with circulation; removing obstacles, which are more difficult for a pregnant employee to see, at floor level; arranging work so that it is kept close to the body; and, encouraging the use of good support for the back. ASSE: <http://www.asse.org>.

International Labour Organization (ILO): Workplace Violence Increasing Worldwide

Workplace violence is increasing worldwide, reaching epidemic levels in some countries, according to a new publication by the International Labour Organization (ILO). The global cost of workplace violence is enormous and costing untold millions of dollars in losses in other countries due to causes including absenteeism and sick leave, the study states.

The study also notes that professions once regarded as sheltered from workplace violence such as teaching, social services, library services and health care are being exposed to

increasing acts of violence, in both developed and developing countries. The study, *Violence at work, Third edition*, was conducted by Vittorio Di Martino, an international expert on stress and workplace violence, and Duncan Chappell, past president of the New South Wales Mental Health Review, Australia, and the Commonwealth Arbitral Tribunal, United Kingdom.

"Bullying, harassment, mobbing and allied behaviors can be just as damaging as outright physical violence," the authors state. "Today, the instability of many types of jobs places huge pressures on workplaces, and we're seeing more of these forms of violence." In addition, the authors also address growing concerns about terrorism, calling it "one of the new faces of workplace violence -- contributing to the already-volatile mix of aggressive acts taking place on the job."

A 2000 survey of the then-15 member states of the European Union showed that bullying, harassment and intimidation were widespread in the region. In Germany, a 2002 study estimated that more than 800,000 workers were victims of mobbing, i.e. a group of workers targeting an individual for psychological harassment. In Spain, an estimated 22 percent of officials in public administration were victims of mobbing. In France, the number of acts of aggression against French transport workers, including taxicab drivers, rose from 3,051 in 2001 to 3,185 in 2002.

In Japan, the number of cases brought before court counselors totaled 625,572 between April 2002 and March 2003. Of these, 5.1 percent, or almost 32,000, were related to harassment and bullying, whereas, from April to September 2003 there were 51,444 consultations requests, 9.6 percent concerning bullying and harassment.

In developing countries, the most vulnerable workers include women, migrants and children, according to the report. In Malaysia, 11,851 rape and molestation cases at the workplace were reported between 1997 and May 2001. Widespread sexual harassment and abuse were major concerns in South Africa, Ukraine, Kuwait and Hong Kong, China, among others, the report states. In South Africa, workers in the health care sector bear the brunt of workplace violence, according to the study. Over one 12-month period, a survey showed 9 percent of those employed in the private health sector and up to 17 percent of those in the public sector experienced physical violence.

On a more positive note, the study cited improvements in England, Wales and the United States. In England and Wales, the estimated 849,000 incidents of workplace violence in 2002-2003, including 431,000 physical assaults and 418,000 threats, represented a decline from 1.3 million such incidents cited in a previous survey. In the United States, where homicide is the third leading cause of death at work, the number of workplace murders has declined in recent years, with a similar trend for non-fatal assaults. The report states that women represent approximately 61 percent of all victimized workers because of their concentration in jobs considered high-risk for assault.

Growing awareness of the need to tackle workplace violence has spawned the development of new and effective prevention strategies, ILO states. The study highlights

a number of "best practice" examples from local and national governments, enterprises and trade unions from around the world that have successfully implemented "zero tolerance" policies and violence-prevention training programs. Several countries have now explicitly recognized violence in their national occupational health and safety legislation. Argentina, Belgium, Canada, Finland, France, Poland and Sweden have recently adopted new legislation or amended existing laws and regulations to address violence at work.

The ILO also has adopted a number of fundamental conventions on worker protection and dignity at work. In 2004, the *ILO Code of Practice, Workplace violence in services sectors and measures to combat this phenomenon*, was published to address the extent and severity of workplace violence in various service sector industries. In addition, the ILO, along with partners at the International Council of Nurses, World Health Organization and Public Services International, have developed framework guidelines to combat workplace violence in the health sector. For more information, contact ILO at <http://www.ilo.org>.

Lightning Safety Awareness Tips

Reducing the risk of being struck by lightning is the focus of national Lightning Safety Awareness Week, June 18-24. Lightning is most common in the summer months, but can be a hazard throughout the year. And although most lightning victims are struck outdoors, lightning poses a threat to those indoors as well. "All thunderstorms produce potentially deadly and destructive lightning. Knowing lightning is in the forecast and being prepared to react to the first sound of thunder are the initial key safety steps," said Brig. Gen. David L. Johnson, U.S. Air Force (Ret.), director of the National Oceanic & Atmospheric Administration's (NOAA) National Weather Service.

If you are outdoors and see darkening skies or hear thunder, seek a sturdy, enclosed shelter immediately, such as a building or hardtop automobile. "Don't wait for rain to start falling to seek shelter from the storm -- by then it could be too late," said John Jensenius, lightning expert with NOAA's National Weather Service. "Lightning casualties frequently occur before the rain begins and soon after the rain ends. Wait at least 30 minutes after the last sound of thunder before returning outside." If you are indoors during a thunderstorm, try not to use corded appliances and electronics, such as computers and phones, as well as plumbing. Electrical wiring and pipes can provide a path for lightning to enter an enclosed structure.

"Lightning is a cunning and powerful force of nature. It is important to realize there are no guaranteed safe shelters -- rather only ways to reduce your chances of becoming a victim," Jensenius said. Last year in the United States, lightning was reported to have killed at least 48 people. On average, lightning is responsible for 66 fatalities annually. Additionally, hundreds of people are injured by lightning. "Lightning survivors are often left with debilitating health effects, such as permanent nerve damage or brain injury,"

said Dr. Mary Ann Cooper, professor at the University of Illinois's department of emergency medicine.

To stress the importance of lightning safety for people of all ages, the Lightning Safety Alliance created a cartoon character, Leon the Lightning Lion, who promotes the slogan "When thunder roars, go indoors!" created by a private group, Struckbylightning.org. Both organizations are among the NOAA partners providing public information about lightning safety. Leon is featured in a new children's coloring page that can be printed from NOAA's lightning safety Web site (<http://www.lightningsafety.noaa.gov>).

Here are some additional safety suggestions from NOAA:

Safe Buildings

A safe building is one that is fully enclosed with a roof, walls and floor, such as a home, school, office building or a shopping center. Even inside, you should take precautions. Picnic shelters, dugouts, sheds and other partially open or small structures are not safe.

Enclosed buildings are safe because of wiring and plumbing. If lightning strikes these types of buildings, or an outside telephone pole, the electrical current from the flash will typically travel through the wiring or the plumbing into the ground. This is why you should stay away from showers, sinks, hot tubs, etc., and electronic equipment such as TVs, radios and computers.

Lightning can damage or destroy electronics, so it's important to have a proper lightning protection system connected to your electronic equipment.

Unsafe Buildings

Examples of buildings which are unsafe include car ports, covered but open garages, covered patio, picnic shelters, beach shacks/pavilions, golf shelters, camping tents, large outdoor tents, baseball dugouts and other small buildings such as sheds and greenhouses that do not have electricity or plumbing.

Safe Vehicles

A safe vehicle is a hard-topped car, SUV, minivan, bus, tractor, etc. (soft-topped convertibles are not safe). If you seek shelter in your vehicle, make sure all doors are closed and windows rolled up. Do not touch any metal surfaces.

If you're driving when a thunderstorm starts, pull off the roadway. A lightning flash hitting the vehicle could startle you and cause temporary blindness, especially at night.

Do not use electronic devices such as HAM radios or cell phones during a thunderstorm. Lightning striking the vehicle, especially the antennas, could cause serious injury if you are talking on the radio or holding the microphone at the time of the flash. Emergency

officials such as police officers, firefighters, security officers, etc., should use extreme caution using radio equipment when lightning is in the area.

Your vehicle and its electronics may be damaged if hit by lightning. Vehicles struck by lightning are known to have flat tires the next day. This occurs because the lightning punctures tiny holes in the tires. Vehicles have caught fire after being struck by lightning; however, there is no modern day documented cases of vehicles "exploding" due to a lightning flash.

Bolts from the Blue

There are times when a lightning flash can travel horizontally many miles away from the thunderstorm cloud itself and then strike the ground. These types of lightning flashes are called "Bolts from the Blue" because they seem to come out of a clear blue sky. Although these flashes are rare, they have been known to cause fatalities. It is a good idea to wait 30 minutes or more after the rain ends before resuming outdoor activities. *More tips can be NOAA's lightning safety Web site (<http://www.lightningsafety.noaa.gov>).*

Incentives and Barriers to Workplace Health Promotion

Worksite programs designed to change modifiable health risk factors such as obesity and smoking have led to better health for employees and decreased health care costs for employers. Yet, barriers to participation in health promotion/disease prevention (HP/DP) programs remain.

To be most effective, HP/DP programs should be integrated into the traditional health protection mission of occupational health and safety professionals, according to Tamara M.K. Schult, M.P.H., of the University of Minnesota. The role of key stakeholders -- employers, employees and health plans, and the incentives and barriers encountered providing these HP/DP programs -- are reviewed by Schult and co-authors in an article in the June issue of the *Journal of Occupational and Environmental Medicine*, the official publication of the American College of Occupational and Environmental Medicine (ACOEM).

In 1999, some type of health promotion activity was reported by 95 percent of companies with more than 50 employees. Yet barriers to effective HP/DP programs remain. Participation rates are low, programs are not always targeted to the employees who need them most, and smaller companies are unable offer them due to limited purchasing power and resource restraints.

For employers, the need to control continually rising health costs is a powerful incentive to participate in HP/DP programs. In addition, many companies are shifting to a "human capital approach," recognizing that improvements in worker health may lead to gains in corporate performance.

Other barriers to investing in employee health include the fact that the benefits may be intangible or might not be realized for years. Federal insurance regulations can pose barriers as well -- for example, employers are restricted from rewarding employees who make positive health changes. Partnering with health plans may avoid some of the confidentiality and other barriers to worksite HP/DP programs.

Ultimately, the success of health promotion programs depends on employee participation. It has been debated that shifting health costs from employers to employees will give workers incentives to decrease their costs, but this has yet to be proven. Despite the obvious benefits of improved health, many people do not want to change their behavior, even if they're aware of the health risks. Several studies have found that other incentives are needed to increase employee participation in HP/DP programs.

Historically, the federal government has provided only modest support for prevention, including HP/DP programs. Signs this may be changing include the National Institute for Occupational Safety and Health's "Steps to a Healthier U.S. Workforce Initiative," designed to integrate healthy lifestyle promotion into workplace safety initiatives.

For professionals in the occupational health fields, HP/DP programs offer an opportunity to expand their role. By broadening their traditional emphasis on environmental health and safety, occupational health professionals can incorporate risk-reduction strategies into a spectrum of services supporting a healthy work environment and managing employee health.

"The time is right for occupational and environmental physicians to vigorously collaborate with all the key stakeholders in HP/DP to create the integrated health protection and promotion programs of the 21st century," the authors concluded.

Sleep Studies Focus On Shift Workers' Caloric Intake, Driving

Sleep-Deprived Shift Workers Are More Likely To Eat Snacks Instead Of Meals

Shift workers who experience sleep deprivation are more likely to base their caloric intake from snacks rather than meals, according to a research abstract presented at the 20th anniversary SLEEP meeting of the Associated Professional Sleep Societies (APSS).

Researchers of the University of Chicago studied 18 healthy males who were divided into one of two protocols: extended wakefulness or extended wakefulness with displaced sleep. It was discovered that energy derived from snacks was higher in the group experiencing extended wakefulness with displaced sleep, especially during days of daytime sleep. The snacks had higher carbohydrate and lower protein content than the meals. Because snacks are usually of poorer nutritional value, daytime sleep may aggravate the consequences of the increased appetite due to sleep deprivation, the authors noted.

Shift work sleep disorder occurs due to a work schedule that takes place during the normal sleep period. This schedule requires someone to work when his or her body wants to sleep, the researchers said. Then the person has to try to sleep when his or her body expects to be awake. The timing of when a person sleeps and wakes is much different than what a person's internal body clock expects.

According to the National Institutes of Health, 20 percent to 25 percent of Americans perform shift work. Most shift workers get less sleep over a 24-hour period than those working the day shift. About 60 to 70 percent of shift workers have trouble sleeping and/or problem sleepiness.

Problem sleeping among shift workers may have several consequences, including an increased risk of getting into an automobile accident, a decreased quality of life, decreased productivity and an increased risk of accidents and injuries at work.

For more information on the research, contact the American Academy of Sleep Medicine at <http://www.aasmnet.org>.

The Associated Professional Sleep Societies (APSS) is a joint venture of the American Academy of Sleep Medicine and the Sleep Research Society.

People Continue To Drive Even When They Know They Are Sleepy

Studies have shown that sleepiness in drivers is an important factor contributing to the burden of traffic related injury and death. Estimates of the proportion of car crashes attributable to sleepiness range from 3 percent to 33 percent, but little is known about the extent to which drivers are able to assess that they are sleepy while driving.

Researchers in France examined the association between self reported driving while sleepy and the risk of serious road traffic accidents (RTAs) in 13,299 middle aged drivers.

They collected data on sleepiness and other driving behaviors in 2001, and serious RTAs in 2001 to 2003. Socioeconomic status was recorded, and a range of other factors that could affect the results were taken into account.

In answer to the question "in the past 12 months, have you ever driven while sleepy?" 63 percent of participants responded never, 36 percent a few times in the year, 0.8 percent about once a month, 0.3 percent about once a week, and 0.2 percent more than once a week.

There was a strong association between self assessed driving while sleepy and the risk of serious road traffic accidents over the next three years. This risk increased with reported frequency of driving while sleepy.

For example, participants who reported driving while sleepy "a few times in the year" were 1.5 times more likely to have been involved in a serious RTA compared with those who reported not driving while sleepy over the same period. And those who reported doing so "once a month or more often" were nearly three times more likely to have been involved in a serious RTA.

Further analysis did not change this association and follow-up questionnaires in 2004 also found a similar trend.

The researchers said these results clearly show that self assessed driving while sleepy is a powerful predictor of serious road traffic accidents, and suggest that drivers are aware that they are sleepy when driving but do not act accordingly. Drivers may either underestimate the impact of sleepiness on their driving performance or overestimate their capacity to fight sleepiness.

Messages on prevention should therefore focus on convincing sleepy drivers to stop driving and sleep before resuming their journey, they concluded.

To view the full paper, which was published on the British Medical Journal's Web site on June 21, go to <http://press.psprings.co.uk/bmj/june/sleepydrivers.pdf>.

Evolution of Seat Belts

Excerpt from: Uncle John Bathroom Readers.

Safety belts predate cars. They were originally designed as devices to secure workmen and window-washers to their equipment when scaling tall buildings. Although they first appeared in cars in the 1920s, it wasn't until the 1950s that seat belts were offered--and even then only as options--by most car manufacturers. In those days seat belts were like belts on pants: the strap went round your waist and buckled in the center of the abdomen just like a belt buckle. This design was far from perfect: the buckle itself could cause severe abdominal injuries in a crash, and since there wasn't any shoulder strap, the upper body was unrestrained. Head, spinal and internal injuries were common in serious crashes.

In the 1950s, Volvo experimented with a diagonal seat belt that went across the passenger's chest, but this presented new problems: in a crash the passenger's body tended to "submarine" or slip under the belt, at which point the passenger's neck could catch on the belt, causing severe neck lacerations or even decapitation.

In 1958 a Volvo safety engineer named Nils Bohlin hit on the idea of combining both types of belts--the lap belt and the diagonal shoulder belt--and moving the buckle from the center over to the side. The modern "three-point" seat belt, so called because it is

anchored to the car from on either side of the passenger's waist and over their shoulder, was born. It came standard equipment on all Volvos (front seats only) beginning in 1963; by 1968 all cars sold in the United States were required to have them. Since then they've reduced automobile fatalities by an estimated 75% and have saved more than a million lives.

Pesticide Exposure Associated With Parkinson's Disease Risk

A prospective study of more than 143,000 people found that those who reported exposure to pesticides had a 70 percent higher incidence of Parkinson's disease. Exposure to other occupational hazards, including asbestos, chemicals, acids, solvents, and coal or stone dust, did not lead to an increased disease risk, the researchers found. The study is published in the July issue of *Annals of Neurology*, ("Pesticide Exposure and Risk of Parkinson's Disease").

While the causes of Parkinson's disease are not fully known, many studies have suggested that factors other than inherited genes play a large role. Data suggests that chronic exposure to pesticides, even in low doses, could be a risk factor. To examine this association, researchers led by Alberto Ascherio, M.D., Dr.PH, of the Harvard School of Public Health (<http://www.hsph.harvard.edu/faculty/AlbertoAscherio.html>), conducted a prospective study of Parkinson's disease among a large cohort of Americans.

They included male and female participants of the Cancer Prevention Study II Nutrition Cohort who, beginning in 1982, completed extensive lifestyle questionnaires that included questions about occupation and exposure to pesticides and other potentially harmful materials. The researchers focused their study on 143,325 people who completed a follow-up survey in 2001, responded to a question about lifetime occurrence of Parkinson's disease, and had no symptoms at baseline.

The researchers requested the medical records of all study participants who reported a new diagnosis of Parkinson's disease after 1992 -- that is 10 or more years after the reported exposure to pesticides -- to independently confirm the diagnosis. 413 cases were included in this study, and statistical analyses were performed to determine the association between pesticide exposure and Parkinson's disease.

The risk of Parkinson's disease was 70 percent higher for people exposed to pesticides. Notably, a similar increase in risk was observed among people who were exposed because of their occupation, such as farmers, as among people not occupationally exposed, suggesting that home or garden use of pesticides also is deleterious. Also noteworthy, exposure to other environmental contaminants was not related to risk of Parkinson's disease, the researchers found.

The study was limited by lack of detailed information about the duration, frequency and intensity of pesticide exposure. However, because of its prospective design, the study

provides much stronger evidence on a link between exposure to pesticides and Parkinson's disease than that is so far available, the researchers said. "The findings support the hypothesis that exposure to pesticides is a risk factor for Parkinson's disease," the authors conclude. Since this study did not have access to information on specific pesticides, they suggest, "future studies should seek to identify the specific compounds associated with risk."

Earlier this month, Mayo Clinic researchers (<http://www.mayoclinic.com>) announced they have found that using pesticides for farming or other purposes increases the risk of developing Parkinson's disease for men. Pesticide exposure did not increase the risk of Parkinson's in women, and no other household or industrial chemicals were significantly linked to the disease in either men or women. Findings were published in the June issue of the journal *Movement Disorders*.

Safety Training Strategies – Dress for Success

Raising employees' awareness of the importance of wearing proper personal protective equipment could be reinforced by trying this training exercise. Announce and introduce a game to play at your next safety called "Dress for Success" where two employees choose a card which states a job task.

The employees then have to put on the protective equipment that is appropriate for the chosen task. They must choose from several options of PPE. The employee that puts on the proper gear first wins the game and receives a small prize. Of course it is explained to the participants that in a real life work situation speed is not the goal but having the appropriate, proper fitting protective equipment is. The speed component does make the game interesting and fun for the employees! It is amazing how competitive it gets!

The employees learn about the importance of protecting themselves and how to take responsibility for this. They also learn about the different types of personal protective equipment that are available.

Safety Training Strategies – Balloon Squeeze

Here is a way to bring interest in conduct excavation awareness training which was created at the Chemtura (Taft/Los Angeles, California plant) to involve the employees in the training.

Construction work can be hazardous; and work involving trenching and excavating activities tends to be the most hazardous in the industry. Cave-ins pose the greatest risk and are much more likely than other excavation-related accidents to result in worker fatalities. Most people are killed in cave-ins by suffocation or by being crushed. Death can occur when pressing weight of soil forces internal organs up into the chest cavity, preventing the lungs from functioning.

The class could possibly better understand the effect a cave-in can have on the human body if you use some type of demonstration. Try purchasing some balloons and fill them with 1/4 water and distribute them to the class.

At first, the class may think that they were going to have a water balloon fight and start looking for the balloons that were the largest in the bunch. Once all the balloons have been distributed, asked the class to take their balloons in one hand and squeeze the bottom which forced the water to move from the bottom of the balloon to the top.

Some people have a misconception of what happens in a cave-in, this gives them the opportunity to experience and see that the water in the balloon represents their internal organs and how they are forced upward (in reality--into the chest cavity, preventing the lungs from functioning). The majority of your class will be astonished. Most of them probably thought it was the lack of oxygen and the soil getting into the person's mouth that suffocated them. They probably never fully understood the mechanics of a cave-in and how the force is distributed to the human body. They will after this hands-on demonstration. It's always a benefit when you can have class participation; just make sure you collect all the water balloons after the demonstration is done!

Safety Tidbits (from "Safety Stuff" by Richard Hawk Inc.

<http://www.richardhawkinc.com>)

- Every part of these plants is poisonous: azalea, foxglove, nightshade, oleander, rhododendron.
- Those aged 19 and under constitute about 5%-6% of licensed drivers. However, they are involved in more than 12% of fatal accidents.
- The longest nonfatal fall known occurred when an air hostess for a Yugoslavian air-line dropped--without a parachute--33,000 feet over Czechoslovakia and survived.
- Men are seven times more likely than women to commit suicide at work and are twice as likely as women to die from accidental poisoning.
- Forty percent of the chemicals in apple juice (all naturally occurring) have been found to be carcinogenic in laboratory studies.
- Most likely sources of rabies: 1) Skunks, 2) Raccoons, 3) Bats, 4) Cats, 5) Dogs.
- An Australian company makes Eco-friendly coffins out of recycled newspapers.
- 60 Million: Number of American adults who suffer from inadequate sleep; 32: Percentage who lose sleep due to stress on a weekly basis.
- \$100 Billion: Estimated annual loss in dollars because of sleep-deprivation related problems in the United States.
- 100,000: Number of fatigue-related traffic accidents per year in the United States.