



National Safety  
Management  
Society

**DIGEST**

*Updating Members on Safety Management News*

**February 2007**

## **Welcoming Our New 2007 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 2007 membership to the National Safety Management Society. We would also like to acknowledge and welcome the following new members to our Society:

- Lafi M. Al-Fehaid, Senior EH&S Engineer – Equate Petrochemical Company (Ahmadi, Kuwait).
- Lucretia Lawson – Dell, Inc (Annapolis, MD).
- Jim B. Lynch, Manager of Health, Safety and Environmental – Compressco, Inc. (Oklahoma City, OK).
- Clyde J. Monlezun, Consultant – Construction Safety Professionals, Inc. (Many, LA).
- Jeffery A. Parsons, Senior Director of Transportation Safety – SYSCO Corporation (Houston, TX).
- Michelle K. Patton, Wellness/Safety Coordinator – Holiday Retirement Corporation (Salem, OR).
- David L. Perry, Executive Vice President of Health, Safety and Environment – CUDD Energy Services (Houston, TX).
- MD Idris Salim, Engineer – Johnson Controls (Selangor, Malaysia).
- John S. Vidrine, Vice President Health, Safety and Environment – Moncla Companies (Lafayette, LA).
- Alfred W. Williams, Manager CWT Program Veteran Hospital - Veterans Health Administration – (Reno, NV).

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!

## **NSMS National Conference Planning is Underway – November 2007**

A core group of volunteers have stepped up to form the working committee to plan for our **Winter 2007 National Conference** to be held in Las Vegas, Nevada during the month of November 2007 (dates to be announced later). The team is comprised of:

Dr. Charles McGlothlin of Oakland University in Rodchester, Michigan, Chair (Email: mcglothl@oakland.edu)

Mr. Walter Caiazza of Risk Stewardship Group, Inc. in Moreno Valley, California (Email: wcaiazza@adelphia.net)

Mr. Timothy Wells of Risk Management Resources, LLC in Houston, Texas (Email: twells@rmrllc.com)

Please make note on your calendars. We encourage members to contact our working group if you would like to be part of the planning committee, be a keynote or technical speaker, identify sponsors, or are interested in setting up a vendor exhibit booth. We need the active efforts and support of our members to help make this year's conference a knowledge-packed, networking-strong and entertainingly successful event. 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://nsms.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](http://www.cshmprep.com) and the only action an NSMS member needs to take is to register for the exam and then emailing Steve to request 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.

## **Lost Workdays From Injury or Illness Fall in 2005**

The number of workdays missed due to illness or to on-the-job injury has dropped at least 4 percent for the second year in a row, according to the Bureau of Labor Statistics. In 2005, 1,234,680 non-fatal occupational injuries and illnesses requiring days away from work were reported. There was a 2 percent increase in the number of hours worked in 2005. The median days away from the job were seven.

As with past years, strains and sprains led the way in every major industry sector by representing 40 percent of the injuries and illnesses. The industry with the highest number of work days missed due to illness and injuries was “transportation and material moving”. Visit [www.bls.gov/news.release/pdf/osh2.pdf](http://www.bls.gov/news.release/pdf/osh2.pdf) to download the full report.

## **OSHA Revises Program on Preventing Amputations**

In an effort to reduce the number of amputations caused by workplace machinery hazards, OSHA has revised its prevention program. The National Emphasis Program on Amputations now identifies industries and typical machinery and equipment associated with amputations. According to OSHA, the new targeting methodology includes more current data and two additional standards: Control of Hazardous Energy – Lockout/Tagout (1910.147) and Mechanical Power-Transmission Apparatus (1910.219). The program also incorporates comparison chart codes for the Standard Industrial Classification and the North American Industry Classification System.

## **FED-OSHA Management Team**

OSHA administrator Edwin G. Foulke Jr., finalized his executive management team, including the appointment of Seven F. Witt as Directorate of Construction. Witt has worked at the agency since 1983, most recently as acting deputy assistant secretary of labor. One of Witt's responsibilities will be to complete OSHA's crane and derricks negotiated rulemaking, which is under review. Foulke said publishing a final cranes and derricks rule is an OSHA priority. Other appointments include: Deputy assistant administrators: C. Bryan Little, formerly of the Department of Labor's Office of Congressional and Intergovernmental Affairs; and Donald G. Shalhoub, former ombudsman for Part E of the Labor Department's energy Employees Occupational Illness Compensation Program. Chief of Staff: Gabe Sierra, formerly a senior marketing manager in private industry. Director of OSHA's Directorate of Standards and Guidance: Dorothy Dougherty who had been serving as the directorate's acting director.

## **OSHRF Finds High-Vis Apparel Not Classified As PPE**

A 2-1 decision by the Occupational Safety and Health Review Commission (OSHRF) on Nov. 20, *Secretary of Labor vs. United States Postal Service and National Association of Letter Carriers, Branch 15*, is bad news for OSHA and for makers of high-visibility apparel. The decision states that 1910.132, the OSHA general industry PPE standard, does not cover "warning garments" including high-vis apparel because such garments are not specifically mentioned in it. The Labor Department has considered high-vis apparel to be required PPE in at least four interpretation letters for the past 10 years, as Commissioner Thomasina Rogers pointed out in her dissent, but OSHRC's chairman, W. Scott Railton, and Commissioner Horace A. Thompson III outvoted her.

The case involved a Nov. 13, 2003, incident where a Fall River, Mass., postal worker was crossing a street at twilight when a vehicle struck her pushcart. She was wearing a USPS-issued bomber jacket and rain pants, but not high-vis PPE. The driver told the worker he hadn't seen her, according to the underlying administrative law judge's (ALJ) decision in the case. DOL subsequently filed one serious citation against USPS alleging a 1910.132 violation with a proposed penalty of \$2,625 because the Postal Service had not required its carriers to wear high-vis apparel such as vests, jackets and hats. When the case was tried before the ALJ, the department in the alternative alleged USPS had violated the General Duty Clause, section 5(a) (1) of the OSH Act.

Both the ALJ and OSHRC have now sided with the Postal Service and against the DOL interpretation of the PPE standard. The 2-1 OSHRC majority said if OSHA and DOL want to enforce their interpretation that the standard includes warning garments, they must initiate a rulemaking to do so.

On the same day, OSHRC ruled in a similar case, *Secretary of Labor vs. The Ruhlin Company*, involving a construction management and heavy construction company based

in Ohio. On Sept. 30, 2004, an OSHA compliance officer inspected Ruhlin's worksite and observed that nine Ruhlin employees working within the work zone were not wearing high-visibility vests. Ruhlin made such vests available to both flaggers and its other employees working within the work zone, but Ruhlin only required its flaggers to wear the vests. Based on the failure of these employees to wear the vests while working in or near oncoming traffic, Ruhlin was issued a citation alleging a serious violation of 1926.95(a) -- the PPE standard for the construction industry. The citation was subsequently amended to allege, in the alternative, a violation of the General Duty Clause.

An ALJ vacated the citation alleging a violation of 1926.95(a), concluding that concluding that "reflective warning vests" were not protective equipment within the meaning of 1926.95(a) and that the standard did not apply to the cited conditions. OHSRC affirmed the judge's decision to vacate the 1926.95(a) item.

The ALJ also concluded that an advisory (as opposed to a mandatory) standard in the Manual on Uniform Traffic Control Devices (MUTCD) -- cited in a May 2004 interpretative letter from Russell B. Swanson, the Director of OSHA's Directorate of Construction -- did not preempt a citation under the General Duty Clause. Reaching the merits, the judge found that Ruhlin violated section 5(a) (1) by not requiring its employees who worked within the highway construction work zone to wear high-visibility vests. OSHRC agreed with the judge that the citation was not preempted, finding that a provision in the MUTCD wasn't incorporated as an OSHA standard, but the citation was vacated for lack of fair notice.

The decision in *Secretary of Labor vs. United States Postal Service and National Association of Letter Carriers, Branch 15* can be accessed at [http://www.oshrc.gov/decisions/html\\_2006/04-0316.html](http://www.oshrc.gov/decisions/html_2006/04-0316.html), and *Secretary of Labor vs. The Ruhlin Company* can be accessed at [http://www.oshrc.gov/decisions/html\\_2006/04-2049.html](http://www.oshrc.gov/decisions/html_2006/04-2049.html).

## **Appeal Court Backs Cal/OSHA in Key Multi-Employer Case**

A California Court of Appeal rejected the appeal of Overaa Construction in what has been regarded as a key test of Cal/OSHA's multi-employer worksite regulation.

But the Jan. 31 ruling left unanswered a key question in the controversial regulation that allows the agency to cite multiple employers for the same violation.

The Third Appellate District, based in Sacramento, upheld the Sacramento Superior Court and the Cal/OSH Appeals Board, both of whom ruled that the Division of Occupational Safety and Health (DOSH) properly cited Overaa for a trenching hazard created by a subcontractor.

Under the multi-employer regulation, multiple classes of employers ("controlling," "creating," "exposing" and "correcting") can be cited for the same hazard on a job site. In this case, Overaa, which was general contractor on a project to upgrade a wastewater treatment plant in Alameda County, was cited as controlling employer, meaning it was the employer with the authority to ensure that the hazardous condition was corrected.

Overaa contended that it was not aware of the violative condition and it had acted reasonably by continually evaluating the subcontractor's work. The company asserted that the Appeals Board erred when it concluded that the company's "reasonable diligence" was immaterial to the case. Overaa also maintained that it is DOSH's burden to prove that the company did not exercise diligence in detecting hazards, and further argued that letting the violation stand would impose a strict-liability standard on general contractors.

But the Appeal Court rejected all these arguments. However, it did not rule on whether a general contractor's due diligence would let it off the hook for a multi-employer citation.

The court said the Appeals Board properly held that DOSH does not bear the burden of proving reasonable diligence, Overaa failed to properly raise the reasonable diligence affirmative defense at the administrative law level even though it had ample opportunity to do so, and in any event, Overaa demonstrated "a lack of reasonable diligence."

Look for full details on this important story in the next edition of *Cal-OSHA Reporter*.

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## **Two New Web-Based Incident Command System Review Courses Now Available**

Charlie Dickinson, acting USFA administrator, announced on Nov. 20 that the nation's first responders can now take two new Incident Command System (ICS) review courses online through the National Emergency Training Center (NETC) Virtual Campus. These new scenario-based courses are intended as a review of fundamental ICS concepts and principles for the student prepared to take intermediate or advanced-level ICS training, or for those who need a refresher in ICS.

"The U.S. Fire Administration continues to move forward in their efforts to ensure the nation's first responders have available to them, the most current ICS body of knowledge," Dickinson said. "Our firefighters and first responders face numerous challenges in their communities, and these courses further ensure the effectiveness and safety of our response and recovery responsibilities."

The USFA, the Emergency Management Institute and the National Wildfire Coordinating Group, in cooperation with the NIMS Integration Center, have jointly developed ICS 100 through ICS 400 courses based on standard learning objectives. ICS 300 and ICS 400 are classroom-based courses. All of the ICS courses are based on standard learning objectives and are considered equivalent in terms of meeting NIMS requirement; NFA's courses are geared toward ensuring that operational responders can perform ICS functions in an emergency or incident environment. Information concerning the National Fire Academy (NFA) versions of ICS 300 and ICS 400 are available through State Fire Training agencies.

New ICS courses now available are:

- Q-464 -- Fundamentals Review for ICS 300. This course can be used as a pre-course module or as remedial training for the classroom version of ICS 300, because this course alone does not meet the training requirements for ICS 300.
- Q-464 -- Fundamentals Review for ICS 400. This course can be used as a pre-course module or as remedial training for the classroom version of ICS 400, because this course alone does not meet the training requirements for ICS 400.

The two new courses follow the precedent set by the popular online interactive ICS training offered on the NETC Virtual Campus, specifically designed for operational responders. Two of the courses are often used by responders to meet NIMS ICS training requirements:

- Q-462 -- ICS 100, Introduction to ICS for Operational First Responders.
- Q-463 -- ICS 200, Basic ICS for Operational First Responders.

These courses can be found at the NETC Virtual Campus <http://training.fema.gov> and then clicking on "Online Training (NETC Virtual Campus)" on the upper left.

## **Tips to Help Ensure Healthier Workplace and Minimize Disruptions During Flu Season**

As another flu season gets under way, employers are increasingly concerned about the threat sick employees pose in the workplace.

According to the findings of the 2006 CCH Unscheduled Absence Survey, 56 percent of employers now report that "presenteeism," when sick employees show up for work, is a problem in their organization, up from 39 percent just two years ago. As those who catch the flu also pass it along, CCH highlights the important steps employers can take to avoid presenteeism and keep a healthier workplace during flu season and throughout the year.

"Presenteeism is a concern for employers not only because it lowers an employee's productivity, but because that employee can pass along contagions to other workers and

customers," said CCH Employment Law Analyst Brett Gorovsky, JD. "Employers need to understand why employees are coming to work sick and what they can do to help address this -- whether it's adapting policies, educating employees and managers or taking some other steps to make it clear that while they need employees at work, they also want a healthy workforce and workplace."

There are many reasons why employees don't stay home to recuperate, including being overworked, considering themselves too devoted to the company, saving time off for future use or being strongly discouraged by their company from taking sick time.

Having too much work/fear of missing deadlines was the most common reason sick employees come in to work, mentioned by 66 percent of respondents to the CCH survey. The lack of anyone to cover a sick employee's workload was cited by 56 percent of respondents, and company loyalty was a factor in 36 percent of presenteeism situations.

But not wanting to use vacation time and trying to save sick time for later in the year also were common reasons sick employees are at work, cited 50 percent and 41 percent of respondents, respectively.

Of particular concern are the numbers of employees who are showing up for work ill because either they want to avoid disciplinary action or their company discourages taking sick time. Forty-six percent of survey respondents cited fear of discipline as a reason why employees come to work sick, while 25 percent report their company culture discourages using sick days.

"If an employer takes disciplinary action regardless of the circumstances when an employee exceeds a sick-day limit, then an employee who has been out with the flu for several days may choose to come into work sick rather than risk disciplinary action," Gorovsky explained. "Given that the height of flu season is at the beginning of the year in most parts of the country, employees are particularly concerned about using all of their sick time early in the year. Employers need to be particularly careful that their policies are not encouraging the wrong behavior, which can be counterproductive to a healthy workforce and have costly consequences."

The 2006 CCH Unscheduled Absence Survey found, however, that disciplinary action is still the number one absence control program, used by 97 percent of employers to help control high rates of employee absences.

At the same time, employers are taking steps to help overcome the rise in presenteeism, according to the CCH survey. A majority of companies (62 percent) with presenteeism problems report that they try to combat the issue by sending sick employees home; 46 percent educate employees on the importance of staying home when they are sick; 36 percent foster a culture that discourages workers from coming in sick; 22 percent permit employees to telecommute when they are sick; and 9 percent report they give employees an unlimited number of sick days.

More employers also are allowing employees to carry over unused sick time from one year to the next, with 44 percent of employers now allowing this, compared to 38 percent in 2005. Also on the rise are Paid Leave Bank programs, also known as Paid Time Off (PTO), which combines all time off into a single bank of days to be taken in the way that best meets an employee's needs. According to the CCH survey, 70 percent of employers now offer PTO programs.

"With a PTO program, employees have more control over how to use time off, helping to eliminate the fear of depleting sick days early in the year," Gorovsky said. "But it's apparent that companies need to take multiple steps to combat presenteeism if they're going to address all the different reasons workers show up for work sick."

### **Tips for Employers to Promote a Healthy Workplace**

Among the steps CCH notes employers can take to help ensure a healthier workplace and minimize disruptions during flu season:

- Offer a flu-vaccination program: Sixty-four percent of organizations CCH surveyed now sponsor flu-shot programs for employees, up from 61 percent in 2005.
- Tap your employee assistance program and health-care support services: Determine if they offer a hotline or Web site your employees can use to access FAQs and get guidance and information about healthcare issues.
- Establish and communicate guidelines: Help employees understand under what conditions they should stay home, and when it's safe to return to work. For example, the U.S. Centers for Disease Control and Prevention (CDC) estimates people who get the flu may be able to infect others from the day before their symptoms develop, to five days after becoming sick.
- Provide tips on how to avoid spreading germs -- a good source is the CDC: <http://www.cdc.gov/flu/protect/stopgerms.htm#GoodHealthHabits>. Use posters or offer the information on your corporate Intranet.
- Ensure absence control policies are not counterproductive: Programs such as disciplinary action need to be assessed to ensure they don't unnecessarily pressure sick employees to report for work.
- Foster a healthy environment: Ensure managers are fostering an environment in which ill employees feel comfortable asking to leave the workplace or, better yet, not report to work in the first place.
- Set a good example: Managers should be urged not to come in sick as employees may then see the message to "stay at home" as lip service.
- Work with employees and your facilities group to keep common areas clean: Make sure these areas are cleaned regularly; this may even include cleaning conference rooms between meetings.
- Recognize helpful employees: Consider bonuses, rewards or other recognition for employees who step in to help do extra work for ill colleagues.

## **Study Indicates Half of People at High Risk Don't Know They Need a Flu Shot**

Many people at high risk of flu infection mistakenly believe they're in a low-risk group and, consequently, are much less likely to get a flu shot, according to a researcher from the University of North Carolina at Chapel Hill School of Public Health.

The study, conducted during the flu vaccine shortage of 2004-2005, found that underestimating risk was common, particularly among people less than 65 years old, said Dr. Noel T. Brewer, UNC assistant professor of health behavior and health education. Only 26 percent of younger adults at high risk were vaccinated that flu season, despite recommendations from the Centers for Disease Control and Prevention (CDC) urging high-risk groups to get a flu shot.

The results also indicate what messages will resonate with people and encourage those most likely to get the flu to be vaccinated, Brewer said. "We need to be clearer about who is in the high risk groups. If we can frame health messages around easily identifiable risk categories, then others -- including family and friends of high risk individuals -- can help persuade those at high risk to get their flu shot. This simple message could very well save lives."

The study appeared in the Dec. 1 issue of *Clinical Infectious Diseases*. The U.S. Centers for Disease Control and Prevention (CDC) provided funding.

Brewer notes that the vaccine shortage apparently discouraged some high-risk people from being vaccinated -- about 24 percent -- but the majority of study participants -- 73 percent -- said the shortage did not affect their behavior.

The study, lead by Brewer and Dr. William K. Hallman, professor of human ecology at Rutgers University, surveyed a random sample of 300 adults in September 2004 and March 2005. The researchers examined the number of people at high risk of getting the virus, as defined by the CDC, and assessed how many got vaccinations. High-risk groups include older adults (age 65 or older) and people from 18 to 64 years old who had chronic health conditions. A third high-priority group comprised people who had regular contact with high-risk adults or children. Reasons for not getting vaccinated also were examined.

Of the 300 people surveyed, half who met the CDC's criteria for being top priority for vaccination said they believed their risk was low, and as a result they were not vaccinated.

Also, though more than 60 percent of elderly adults were vaccinated, Brewer said, only 26 percent of younger adults at high risk and 36 percent of people who had regular contact with either of the other two groups were vaccinated.

"Underestimating one's risk was common, particularly among people under age 65," Brewer said. "Most older people understood their high risk, but two thirds of respondents

in the other high-risk categories mistakenly thought they were at low risk. Only a couple people overestimated their risk of infection."

The study also examined whether the news of a vaccine shortage during that flu season changed behaviors -- either prodding more people to seek vaccination or fewer. About a quarter (24 percent) said the shortage discouraged them from being vaccinated, while only three percent said the shortage encouraged them to get a flu shot. The vast majority, though (73 percent), said the shortage had no effect on their behavior.

"This study helps us understand what messages will resonate with people, and encourage those most likely to get the flu to be vaccinated," Brewer said. About 36,000 people in the United States die each year from flu-related illnesses, so vaccinating the people who would be in the most danger if they got sick is a critical public health priority, he said.

## **Researchers Working On Lightweight Garment To Protect Workers From Toxic Chemicals**

Researchers are working on a new synthetic rubber material tailored with liquid crystals that might be used to make body suits to protect chemical-industry employees from skin exposure to toxic vapors and aerosols, as well as providing protection for military personnel and civilians in the event of a chemical-weapons attack. The new composite is lightweight and breathable, but the material still blocks the passage of toxic chemicals, reducing the risk of heat exhaustion in anyone wearing it.

Writing in issue 24 of *Advanced Materials*, Douglas Gin of the University of Colorado, Brian Elliott at TDA Research Inc. (Wheat Ridge, Colo.), and colleagues explain that effective personal protection against exposure to toxic vapors is a major concern in industry and in defense. At present, the only certain way to protect people from all chemical vapors to which they might be exposed is to use a hermetically sealed body suit and fully enclosed breathing apparatus. An alternative used by the military is a heavy over garment lined with activated carbon that can adsorb vapors for a limited time. The researchers said that such equipment, while safeguarding personnel, is cumbersome, costly, and unwieldy to use in an emergency, as well as coming with health risks if used in hot environments.

To solve this problem, the researchers have turned to a highly effective garment material -- butyl rubber (BR) -- used in protective clothing, adapting it to a modern application. Butyl rubber, or more formally, linear poly (methylpropene-co-2-methyl-1,3-butadiene) can be chemically modified so that the polymer strands become cross linked to one another. These crosslinks make synthetic rubber resistant to many corrosive chemicals and give it very low permeability, so that most toxic chemical agents, whether vapor or liquid, cannot penetrate.

However, it is this same lack of permeability that is a major drawback to using butyl rubber. Water vapor also is prevented from passing through crosslinked butyl rubber, so that under even moderate workload, people wearing a synthetic rubber protective garment can become very uncomfortable and, in extreme cases, suffer heat stress, heat stroke and even death from overheating.

The ideal protective garment should be lightweight and selectively block toxic vapors, but be "breathable," allowing water vapor to pass outward, thereby maintaining personal comfort and safety. Gin, Elliott and their colleagues have now developed just such a material based on modified butyl rubber. The material is breathable but also rejects chemical agents.

To make their breathable rubber, the researchers originally blended the synthetic rubber with a liquid-crystal molecule that could also be crosslinked like the rubber itself. During preparation of the breathable rubber, the liquid crystals organize themselves into cylinders around water molecules in the reaction mixture. This causes tiny water-filled nanopores just 1.2 nanometers in diameter to form. Only the smallest of molecules can pass through these pores, including water. Many toxic molecules, nerve agents and other chemicals are too big to enter the pores. Moreover, the pores are water-loving, or hydrophilic, whereas most chemical warfare agents and many toxic compounds are hydrophobic, or water repellent, so even if they could fit, they would be repelled by the pores.

The team carried out initial tests with their breathable liquid crystal rubber and found it to have a very high selectivity for water vapor compared to so-called "half mustard" gas, 2-chloroethyl ethyl sulfide (CEES). However, the rate of water vapor transport in the original test material was lower than that widely viewed as the target valued needed by the military. Also, penetration by CEES vapor was slightly above that measured for pure crosslinked butyl rubber.

In order to improve on this prototype, the researchers tried a different liquid crystal in their new composite. This second-generation material does not contain isolated water pores spread across its surface but instead has a manifold network of tiny conduits. The new material is more than 10 times as effective at transporting water vapor compared to the original material. It also blocks the passage of CEES much more effectively than pure butyl rubber.

The team is now refining the material to make it thinner but just as effective. They are also testing how effective it is at keeping out phosphorus ester-based chemical-warfare agents.

Douglas Gin: <http://www.colorado.edu/chemistry/people/gind.html>

## **Overweight Workers Have Higher Rate Of Short-term Disability Than Slimmer Colleagues**

Workers with above-normal body weight have increased rates of short-term disability, according to a study in the November *Journal of Occupational and Environmental Medicine*, official publication of the American College of Occupational and Environmental Medicine (ACOEM).

Led by Vincent C. Arena, Ph.D., of University of Pittsburgh, the researchers analyzed data from health-risk appraisals of more than 19,000 employees of a large financial-services institution. The study sought to determine whether body weight was a risk factor for short-term disability, continuation for paid time off because of illness lasting more than five days, excluding pregnancy. Information on height and weight was used to calculate each subject's body mass index (BMI), a standard measure of the relative percentages of fat and muscle mass.

Overall, 9.6 percent of employees had at least one episode of short-term disability during the three-year study period. Short-term disability rates increased from 7.3 percent for normal-weight workers (a BMI 18.5 to 24.9), to 8.8 percent for workers in the overweight category (a BMI 25 to 29.9), to 14.9 percent for those in the obese category (a BMI 30 and over).

The relationship between increased body weight and short-term disability remained significant after adjustment for other risk factors. In this adjusted analysis, overweight workers had a 26 percent increase in short-term disability rate, while obese workers had a 76 percent increase.

Nearly one-third of absences due to short-term disability were related to musculoskeletal conditions (such as arthritis or low-back pain) or mental health conditions (such as depression). Both categories of illness previously have been linked to overweight and obesity.

Women had a higher rate of short-term disability than men: 11.6 versus 3.9 percent. (Nearly three-fourths of the employees in the study were women.) Rates also tended to be higher for non-exempt employees, African-American and Hispanic employees, and workers with from the staff and lower-level officer ranks.

Previous studies have linked obesity to increased health costs, increased absenteeism and reduced productivity. As the U.S. obesity rate continues to increase, disability rates are expected to rise as well. This new study is one of the first to look at how overweight and obesity affect the risk of short-term disability, particularly in a large population of white collar workers.

Body mass index in the overweight and obese range is a true risk factor for lost work productivity related to short-term disability, the results suggest. Arena and colleagues believe that companies should consider programs designed to promote healthier body

weight among their employees. They conclude, "Successful weight management initiatives should reduce short-term disability expenditures, improve worker productivity, and lessen the indirect costs associated with overweight and obesity."

Vincent C. Arena: <http://www.biostat.pitt.edu/arena.htm>

## **Keep an Eye on Common Computer-Related Problem**

It's the end of the workday, and you've got your usual headache. Your eyes feel like the Gobi Desert is embedded in them, and you couldn't muster up a tear even if you watched "Titanic" 12 times. If you are among the 175 million Americans who work on computers, this is probably a realistic scenario. And tomorrow you'll sit down again at your terminal, and the eyestrain thing begins again.

This is where it would be nice if your manager would rush over and exclaim, "My goodness! We can't have you ruining your eyesight! Go for a nice latte and rest your eyes until you feel better!" Not likely to happen. According to the Computer Vision Syndrome Information Center, research shows that about 90 percent of consumers working on computers more than three hours a day have vision trouble, with some 10 million people a year seeking treatment. Cost: more than \$2 billion a year for computer-related eye care.

The group says that as the No. 1 complaint of office workers, eyestrain can lower productivity "from 4 percent to 19 percent on common office work and tasks." And while one in five Americans will suffer from carpal tunnel syndrome, seven of 10 will experience the symptoms of computer vision syndrome, which the Occupational Safety and Health Administration has formally defined as "the complex of eye and vision problems experienced during and related to computer use . . . a repetitive strain disorder that appears to be growing rapidly."

The American Optometric Association (AOA) says that even back and neck strain problems may actually be a result of eye problems, since people will often put themselves through weird contortions trying to see through the wrong kind of correction lenses for computers. So why isn't more being done to ease eyestrain? Some of it is cost. But another part may be simply ignorance of the problem and the solutions. The AOA says that there are many ways to easing eyestrain that are both simple and cheap. Among them:

- Blink more. We have a tendency to blink less while staring at a screen.
- Use lubricating drops to keep eyes more comfortable, especially if they are dry or itchy.
- Take frequent breaks. OSHA recommends about 15 minutes for every 45 minutes on a computer. Try to look at something across the room or even out a window to give your eyes a break.

- Clean the computer screen often, using a damp cloth.
- Eliminate glare. Windows, lamps and overhead lights reflecting off a screen can cause a glare, leading to eyestrain and headaches. A glare reduction filter that fits over the computer screen may be a good option. Or place cardboard on the top and sides of the screen to eliminate glare.
- Increase the font size of documents so that they are easy to read.
- Use a light screen with dark letters.
- Place documents on a holder near the screen, both equal distance from your eyes.
- Adjust your screen so that it is four to nine inches below eye level, and 20 inches from your eyes.
- If you wear glasses, make sure you're wearing the right kind for computer work.
- If possible, request that your computer monitor be at least 17 inches.

## **Speeding Triples the Odds of Crashing**

Driving faster than surrounding traffic, driving while drowsy, not paying attention and aggressive driving are associated with increased risk of being involved in crashes, according to a recent study sponsored by the AAA Foundation for Traffic Safety. AAA estimates that you will be sharing the road with 51 million people between Christmas and New Years, so it is essential to know how to reduce the likelihood of being involved in a crash.

The AAA Foundation's research found four driving behaviors directly associated with an increased crash risk. Speeding was found to nearly triple the odds of being involved in a crash. Driving while drowsy was associated with a similar increase in the odds of being involved in a crash. When a driver's eyes were off the road for more than two seconds, for any reason, the odds of a crash occurring were nearly double those of a driver paying attention to the road. The odds of a crash more than doubled when a driver exhibited aggressive driving behaviors.

"Unfortunately, many drivers choose to drive and behave in ways that increase their risk of crashing," said Peter Kissinger, AAA Foundation president and CEO. "It is our desire to reduce the number of crashes this holiday season by educating all drivers about specific behaviors that increase their crash risk. Although you may have driven too fast or while fatigued in the past and haven't crashed yet, these risks are real and thus will eventually catch up with you if you continue to drive in this manner."

The data used for the analyses in this report were collected during the National Highway Traffic Safety Administration's (NHTSA) 100-Car Naturalistic Driving Study conducted by the Virginia Tech Transportation Institute (VTTI). The 100-Car Study collected

naturalistic, continuous, real-time data over a 12- to 13-month period from a sample of 109 primary drivers and 132 secondary drivers in the Northern Virginia/Washington, D.C., area. Video and electronic sensors in the vehicles allowed researchers to detect data on several driving behaviors.

The report "How Risky Is It? An assessment of the relative risk of engaging in potentially unsafe driving behaviors," is available online at <http://www.aaafoundation.org>.

## **Correct Head Restraint Positioning Can Help Minimize Whiplash Injuries**

To avoid pain associated with whiplash injury, the position of the driver and passenger head restraints should be factored in safety considerations for cars, according to research at the Medical College of Wisconsin in Milwaukee.

"The practical aspect of this study is that you want to set your head restraint so that it's very close to the back of your head. Each time drivers and passengers get in a car, they should be sure the head restraint is correctly positioned to minimize injuries," said Brian Stemper, Ph.D., assistant professor of neurosurgery, who conducted the study.

His work is published in the journal *Accident Analysis and Prevention*, and data from the report has been submitted to the U.S. Department of Transportation for possible use in determining safety rules for car manufacturers.

Whiplash injuries affect the soft tissues of the cervical spine (e.g., ligaments and intervertebral discs) and can be sustained in any type of crash but occur most often in low speed rear-end collisions. The injury affects more than one million people in the United States each year and results in symptoms of neck pain, headaches and lower back soreness. A 1999 Insurance Institute for Highway Safety study found that 26 percent of rear-struck vehicle drivers reported neck injuries.

Stemper investigated cervical spine ligament stretch during whiplash by comparing increasing distances between the back of the head and the head restraint. He has developed a mathematical computer model of the head and cervical spine that can be studied under simulated rear-end collision conditions. The model provides quantifiable data on soft tissue distortions in humans.

"The process involved moving the head restraint to different positions to look at spinal ligament distortion and see how it changed with each of these configurations," he said. "Ligament distortions were compared to previously determined failure thresholds. Our team also used previous studies and computer models to validate our work. In addition, we studied the computer response in 57 different measures of spinal motion. This data was compared to previous experimental research to be sure they were realistic."

"We found that auto head restraints positioned less than 2.4 inches from the back of the head kept ligament stretch within the physiologic range -- meaning that no injury would occur. However, as the restraint distance increased beyond 2.4 inches, the ligaments began to exceed failure thresholds, meaning that whiplash injury was more likely to occur," Stemper said.

Brian Stemper: <http://www.mcw.edu/display/router.asp?docid=12392>

## **Prevent Cold-weather Injuries to Feet**

With cold weather on the horizon, podiatrists at Temple University's School of Podiatric Medicine (TUSPM) warn that people of all ages need to take precautions to protect their feet from cold-related injuries like frostbite, ankle sprains and fractures.

### **Fighting Frostbite**

Prolonged exposure to harsh winter conditions can cause damage to the skin and underlying tissues, or frostbite. During the cold weather months, those who work outdoors and winter sports enthusiasts are particularly vulnerable. Serious cases of frostbite have been known to lead to amputation of a limb or even death. At the very least, the sufferer can experience severe numbness and pain as the area thaws.

"Warm towels and water should be used to warm the affected area at the first sign of numbness. The person should then see a doctor, who can determine if there's any tissue damage," said James B. McGuire, D.P.M., assistant professor and chair of podiatric medicine at TUSPM.

### **Poor circulation also can lead to frostbite.**

The elderly, smokers, caffeine drinkers and people with illnesses characterized by poor circulation, such as diabetes, hypothyroidism and arteriosclerosis (hardening of the arteries), are all prone to this type of injury. Alcohol and the use of certain drugs or medications may also put a person at risk by hindering his or her ability to recognize the warning signs.

"Dressing properly is the best defense against the problems that severe weather causes," McGuire said. "But it is important to remember that proper foot gear is just as important as a warm coat, hat and gloves."

Because extreme cold and wet clothes put exposed areas such as the feet and toes in jeopardy, well-insulated shoes and boots are a must, McGuire stressed. And socks made from acrylic keep feet dry by slicking away perspiration from inside shoes and boots.

## **Cold-weather Injuries**

Winter athletes should check their boots and shoes on a yearly basis to ensure proper fit. Too-tight or loose footwear can cause blisters and abrasions, impair control and lead to accidents.

"For skiers, high speeds and gravity pressure raise the probability of injuring the lower extremities. Ice skating and hockey pose added risk to the ankle region during quick turns and stops," McGuire said.

### **Serious wintertime injuries are not problems solely for athletes.**

"Ankle sprains and ankle fractures are much more prevalent this time of year for everyone. Ice and snow create the impetus for injury by allowing the foot to twist on the leg in such a way that ligaments and bone are damaged," said Jason R. Miller, D.P.M., podiatric surgery instructor at TUSPM.

According to Miller, initial treatment for these injuries should include rest, ice, immobilization, compressive wraps and elevation (commonly known as RIICE). He advises that any ankle or foot injury with pain and swelling beyond 48 hours be checked out by a podiatric physician.

"A person sustaining an ankle injury should not ignore it. Fractures of the foot can occur with seemingly minor ankle sprains and may be missed by ER doctors who are only focusing on the ankle," Miller said.

After the injury is treated by a physician, a home exercise program will aid in recovery.

"It should be outlined by a physician to assure that the maneuvers are performed correctly and at the right time in the healing process," Miller said.

Temple University School of Podiatric Medicine: <http://podiatry.temple.edu>

## **Safety Training Strategies – "Label Hunt"**

To help bring employee's attention to the unthought-of hazards that surround them in the workplace, try doing the following during trainings. Break the attendees into small groups and send them off to different areas of the workplace with the challenge to locate every hazard warning label they can find. They should record what each label says, including the level of the hazard. After ten minutes, everyone should reunite and each group presents their findings. They will be quite surprised to discover just how much they fail to notice in their day-to-day tasks. The number of warning labels on a ladder alone is an amazing thing, but how many of us ever bother to look at all those stickers on the equipment we use?

## **You Can't Beat the Train**

There are currently eight commercial railroad companies in the United States, operating twenty thousand locomotives pulling half a million freight cars, along 150,000 miles of tracks. A typical 150-car freight train needs at least a mile and a half to come to a full stop when it's traveling at 50 mph. Every year, 650 people in the U.S. die in automobiles that try to beat the train as the gate falls or drive around a train crossing gate when it's down.

**Safety Tidbits** (from "Safety Stuff" by Richard Hawk Inc.  
<http://www.richardhawkinc.com>)

- Every year, 1,413 people in the U.S. die on the road due to road debris.
- In golf, the third and eighteenth holes are the most fatal. (Most deaths on the golf course are health related; only 2 percent are caused by golf clubs or golf balls.)
- Homicides as a direct result of talk show, game show, and reality TV participation since 2001: 13.