



CONNECTICUT OCCUPATIONAL HEALTH e-NEWS



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The Connecticut Occupational Health e-News is published quarterly by the Connecticut Department of Public Health to provide occupational health surveillance and educational information to workers, employers, clinicians, and other community partners interested in the protection and promotion of healthy work environments.

CONNECTICUT DEPARTMENT OF
PUBLIC HEALTH

Keeping Connecticut Healthy

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J. Robert Galvin, M.D., M.P.H.,
Commissioner

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A CONNECTICUT YOUNG WORKER TIME CAPSULE



SNOW SHOVELING

Young girl shoveling snow in Norwich, Connecticut
November 1940.

From Library of Congress, Prints and Photographs Division
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REQUIRING SAFETY BELT USE IS KEY EMPLOYER POLICY FOR PREVENTING JOB VEHICLE DEATHS

Employers should implement and enforce the use of safety belts in company and agency vehicles. This recommendation was made by NIOSH Director John Howard, M.D. at the Occupational Safety and Health Administration/National Highway Traffic Safety Administration Motor Vehicle Safety (NHTSA) Symposium. Among the general population, the use of safety belts saved nearly 12,000 lives in motor vehicle crashes in 2000 and could have prevented an additional 9,000 fatalities had the victims been wearing safety belts. NHTSA estimates injuries from non-use of safety belts cost employers more than \$1 billion each year in health insurance and other direct costs. More information on NIOSH recommendations to prevent work-related motor vehicle fatalities and injuries can be found at <http://www.cdc.gov/niosh/injury/traumamv.html>.

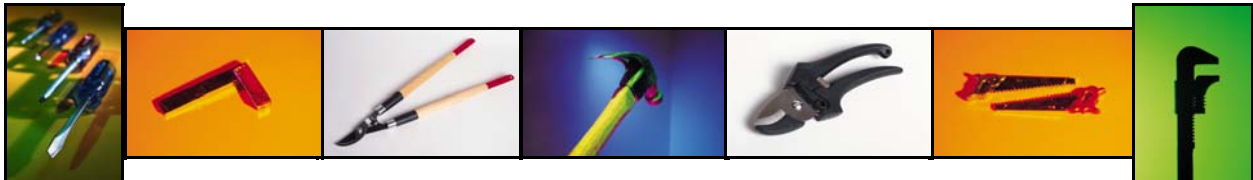


PRELIMINARY RESULTS FROM NIOSH-SUPPORTED WTC SCREENINGS ISSUED

Preliminary results of the NIOSH-supported health screenings of 1,138 rescue and recovery workers and volunteers from the World Trade Center attack indicate high rates of persistent upper and lower respiratory effects and persistent psychological effects associated with the responders' work at the disaster site, according to reports by the Mt. Sinai School of Medicine in the Sept. 10 issue of CDC's *Morbidity & Mortality Weekly Report*. Mt. Sinai is part of a consortium that was awarded federal funding through NIOSH grants to conduct health screenings for the WTC workers and volunteers. The article on the physical health status of the rescue and recovery workers can be found at <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5335a1.htm>, and the article on psychological effects can be found at <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5335a2.htm>. More information on the support for the screening program can be found at <http://www.cdc.gov/niosh/updates/hhs-03-18-04.html>.

FROM NIOSH, CAL/OSHA: EASY ERGONOMICS IN HAND TOOL SELECTION

Easy-to-use guidance for evaluating and selecting ergonomically designed, non-powered hand tools to reduce risks of injuries from repetitive movements is provided in a new publication jointly issued by NIOSH and the Cal/OSHA (California Occupational Safety and Health Administration) Consultation Service, "Easy Ergonomics: A Guide to Selecting Non-Powered Hand Tools." The guide includes user-friendly, illustrated discussions and a checklist for deciding whether to stay with traditional tool designs, evaluating the effectiveness of different designs for reducing risks of musculoskeletal injuries while accomplishing a given task, and choosing a tool of the right size and shape for the task and the user. The guide, DHHS (NIOSH) Publication No. 2004-164, is available at <http://www.cdc.gov/niosh/docs/2004-164/>.



TRAINING FOR HEALTHCARE WORKERS ON THE DANGERS OF BLOODBORNE PATHOGENS

With funding from NIOSH, researchers at the Columbia University Mailman School of Public Health have developed a Web-based innovative learning program for healthcare workers about bloodborne pathogens. This simulation-training program is based on the premise that adults learn best when they actively participate in the learning process. Participants have an opportunity to read a simulated story based on a true event, make decisions, and come to conclusions on their own. Nurses who complete the training will receive up to three continuing education credits. For more information, visit the Bloodborne Pathogen Training for Nurses Web site at <http://www.bbp-nursetraining.hs.columbia.edu/>.

CONNECTICUT ABLES PROGRAM

During the third quarter of 2004, the Connecticut Department of Public Health's (DPH) Adult Blood Lead Epidemiology and Surveillance (ABLES) Program received 98 reports of elevated blood lead levels (EBLL) ≥ 10 $\mu\text{g/dL}$, which is approximately 69% of the number of reports received during the comparable period from one year ago (143 reports). Of those, 41 reports were received regarding individuals with EBLLs ≥ 17 $\mu\text{g/dl}$, which is approximately 73% of the number of reports received during the comparable period from one year ago (56 reports).

Individuals with EBLLs ≥ 17 $\mu\text{g/dl}$ receive a letter from DPH notifying them of their EBLL, accompanied by a Lead Fact Sheet and Take Home Lead Survey. Copies of the notification letters are also sent to the local health department where the individual resides to notify the Director of Health about the EBLL and keep them informed of our activities.

In addition, the ABLES program follows-up with companies having workers with EBLLs ≥ 40 $\mu\text{g/dL}$. For the third quarter of calendar year 2004, two workers were reported with EBLLs ≥ 40 $\mu\text{g/dL}$, which is 50% the number received during the comparable period from one year ago (4 reports). Reports of these lead poisoned workers led to the following investigations by the Connecticut ABLES program:

The first investigation involved one individual with an EBLL of 93 $\mu\text{g/dl}$. This patient is working part-time as a self-employed scrap yard worker. The worker's elevated blood lead level was suspected to be caused by torching lead without using personal protective equipment. There are currently no other workers employed at this facility. Medical tests were performed and the patient seems to be in good health. This worker was contacted by telephone to discuss work practices that can be implemented to avoid future poisonings. Educational materials were not sent per the patient's request, however, we will continue to follow-up with this person until the blood lead level is within normal limits.

The second investigation involved one individual with an EBLL of 43 $\mu\text{g/dl}$. The patient is employed as a bridge painter for a company that is based in another state. This worker has a history of elevated blood lead levels since 1994. Both the physician and company safety director were contacted, however, we are still unable to identify the primary source of exposure. We also tried contacting this worker by telephone several times without success.

The Connecticut ABLES program is funded through a cooperative agreement with the National Institute for Occupational Safety and Health (NIOSH). For more information about the Connecticut ABLES program, please contact Deborah Pease at (860) 509-7744.

SEASONAL AFFECTIVE DISORDER IN THE WORKPLACE

What is Seasonal Affective Disorder?



Seasonal affective disorder (also called SAD) is a type of depression associated with seasonal variations of light. As seasons change, there is a shift in our “biological internal clocks” or circadian rhythm, due partly to these changes in sunlight patterns. This can cause our biological clocks to be out of “step” with our daily schedules and therefore make it difficult to concentrate on work tasks. The most difficult months for SAD sufferers are January and February, which can have an overall effect on workplace productivity and safety.

For many people SAD is a seriously disabling illness, preventing them from functioning normally without continuous medical treatment. For others, SAD is a mild debilitating condition, which causes discomfort but not severe suffering. This type is called subsyndromal SAD or 'winter blues.'

How common is SAD?

Six out of every 100 people in the United States may have winter depression and another 10% to 20% may experience mild SAD. SAD is more common in women than in men. Onset can begin at any age, but it usually occurs between 18 and 30 years of age. This is also around the same time people are starting to enter the workforce on a full-time basis. However, the risk of SAD decreases for adults as they get older.

Across the world the incidence of SAD increases with distance from the equator. It primarily occurs throughout the northern and southern hemispheres, especially when individuals are going to work and leaving work in the dark. SAD is extremely rare among those living within 30 degrees of the Equator, where daylight hours are long, constant and extremely bright.

What are the symptoms of SAD?

The symptoms of SAD usually recur each winter beginning between September and November and continuing until March or April. A diagnosis of SAD can be made after three or more consecutive winters that include a number of the following symptoms:

- **Sleep problems** - usually a desire to oversleep and difficulty staying awake but in some cases, disturbed sleep and early morning wakening
- **Depression** - feelings of misery, guilt and loss of self-esteem, sometimes hopelessness and despair, sometimes apathy and loss of feelings
- **Social problems** - irritability and a desire to avoid social contact
- **Lethargy** – a feeling of fatigue and inability to carry out a normal routine
- **Anxiety** - tension and inability to tolerate stress
- **Overeating** - craving for carbohydrates and sweet foods, usually resulting in weight gain
- **Mood changes** - in some sufferers, extremes of mood and short periods of hypomania (overactivity) in spring and autumn.
- **Loss of libido** – decreased interest in sex and physical contact



Most sufferers show signs of a weakened immune system during the winter, and are more vulnerable to infections and other illnesses.

SAD symptoms disappear in spring, either suddenly with a short period (e.g., four weeks) of hypomania or hyperactivity, or gradually, depending on the intensity of sunlight in the spring and early summer. In sub-syndromal SAD, symptoms such as tiredness, lethargy, sleep and eating problems occur, but depression and anxiety are absent or mild.

What causes SAD?

Winter depression is probably caused by your body's reaction to a lack of sunlight. The problem stems from the lack of bright light during winter months. Researchers have proved that bright light makes a difference to the brain chemistry, although the exact means by which sufferers are affected is not yet known.

When should you seek professional help?

It is encouraged that people who suffer from depression and or “winter blues” seek professional help. Depression and lack of energy can become debilitating. If you notice that your work performance and/or relationships are suffering then you should seek professional help. Your doctor can provide support and ensure that you receive the necessary treatment.



What is the treatment for SAD?

Light therapy is of the most effective ways for treating winter depression. It has been proven to be effective in up to 85 percent of diagnosed cases. If your doctor suggests you try light therapy, you may be asked to sit in front a light box or wear a light visor for a certain length of time each day. Light therapy usually takes about 30 minutes each day throughout the fall and winter. If light therapy helps you, you should continue using it until enough sunlight is available.

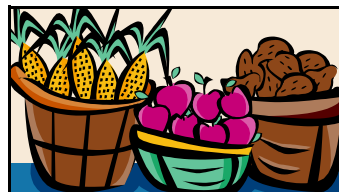
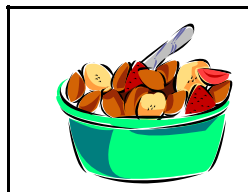
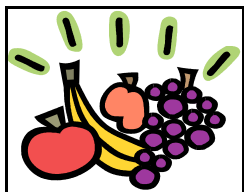
When used properly, light therapy seems to have very few side effects. Side effects may include eyestrain, headache, fatigue, irritability and inability to sleep (if light therapy is used too late in the day). For people who have manic depressive disorders, skin that is sensitive to light, or medical conditions that make their eyes vulnerable to light damage, light therapy should be used with caution.

For individuals with milder SAD symptoms, increasing your exposure to the available sunlight during the winter months may provide some relief. Try making a point to spend some time out in the sunlight during your lunch hour or at break time. In addition, make an effort on the weekends to spend as much time as possible out in the daylight to make up for lost time during the week.

Other Therapies/Interventions:

Nutrition:

Careful inclusion of complex carbohydrates (fruits, grains, potatoes, etc.) can provide what is necessary to stimulate serotonin levels. However, be aware that too much of a good thing (note the symptom of craving carbohydrates) can lead to that often occurring winter weight gain.



Exercise:

There is strong anecdotal evidence and a general belief among health researchers that exercise improves mood and self-esteem for a number of reasons. Exercise when combined with outdoor exposure to sunlight can prove very beneficial to those suffering from SAD. Find time to take a walk during your lunch hour or on the weekends.



Medication:

In severe cases, physicians may prescribe a selective serotonin reuptake inhibitor (SSRI) antidepressant such as fluoxetine (Prozac), sertraline (Zoloft), or paroxetine (Paxil). SAD sufferers have also been prescribed trazodone (Desyrel). New antidepressant medications are constantly emerging on the market. Check with your physician on the appropriateness of medication use.

Counseling:

Using counseling as a way to develop new ways of thinking, problem-solving and managing stress can be useful, particularly for those struggling with poor attitude, self-defeating beliefs and behaviors. Many employers offer access to a confidential in-house counseling program or Employee Assistance Program (EAP) at no cost to provide counseling services to their employees.



Additional Resources:

SAD Association <http://www.sada.org.uk/index.htm>

National Mental Health Association: <http://www.nmha.org/infoctr/factsheets/27.cfm>

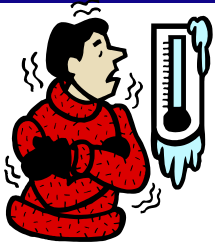
Seasonal Affective Disorder: Winter Depression <http://www.ncpamd.com/seasonal.htm>

Seasonal Affective Disorder: <http://www.mentalhealth.com/book/p40-sad.html>

Seasonal Affective Disorder: <http://familydoctor.org/267.xml>

Westfield State College: <http://www1.wsc.ma.edu/counseling/SAD.htm>

Editors Note: The information in this article was compiled from the sources listed above and other Internet sources.



SAFETY TIP



Winter Safety and Cold Stress

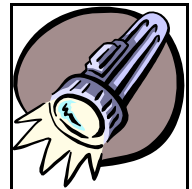


Winter can be a time to enjoy the holidays and watch the snowflakes fall, but winter harbors many hidden dangers that can seriously impact your health and safety. Many people work long hours in the cold while being exposed to extreme weather conditions. Cold temperatures can lead to hypothermia and frostbite, and snow removal can lead to many injuries. By following the safety tips below, you can minimize winter's dangers and enjoy all the festivities that the season has to bring.

Winter Nighttime Safety:

During the late fall and winter months, days quickly become shorter. Many workers begin and end their workday while it is dark outside. The tips below will help make the dark road to spring a safe one.

- Always carry a flashlight to see where you are walking, and while getting into your car. This will help you to avoid slips on black ice, and also makes you more visible to others.
- Use the buddy system when leaving work at night. There is safety in numbers, and it may help to discourage a mugger or attacker.
- Winterize your vehicle to make sure that it is ready for winter weather and nighttime travel. This includes, cleaning your windows and mirrors, refilling windshield washer fluid, replacing any burnt out light bulbs, and preparing an emergency kit in the event you become stranded.



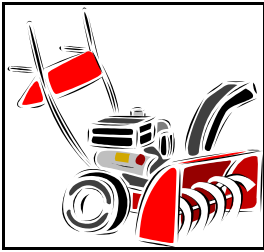
Snow Shoveling: Use caution when shoveling snow.

Snow shoveling can be a good source of aerobic exercise, but it can also be equally dangerous, especially for those that do a large amount of it as part of their work duties. Below, you will find ways to safely remove snow while benefiting from the exercise.

- If you are inactive or have a history of heart trouble, talk to your doctor before taking on the task of shoveling snow.
- Protect your back from injury by lifting correctly. Correct lifting includes lifting with your knees and keeping the load close to your body. It is also important to avoid twisting motions when moving; instead reposition your feet to a better position before dumping snow.
- Drink plenty of water while engaging in this rigorous outdoor activity. Dehydration is a winter issue just like it is in the summer months.
- Take it slow! Shoveling can raise your heart rate and blood pressure dramatically. Be sure to stretch out and warm up before taking on the task.
- Use a shovel with a small blade and take small scoops, especially when shoveling wet snow.



Using A Snow Thrower:



- Never wear scarves or other loose clothing that can become entangled in the snow thrower's moving parts.
- When moving the snow thrower, avoid awkward positions and twisting, as you can easily injure your back or slip on the icy pavement.
- NEVER place hands and feet inside the moving mechanical parts of the snow thrower while the engine is running, as the machine can seriously injure you.

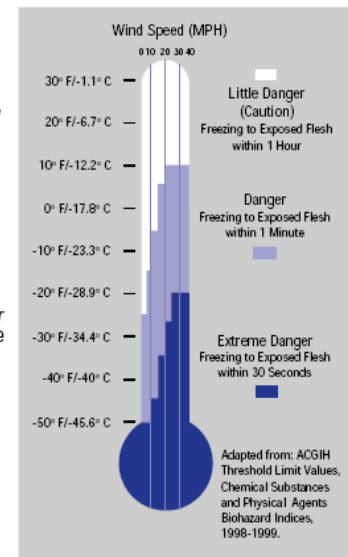
Cold Stress: Ways to avoid hypothermia and frostbite while at work.

- Perform work during the warmest part of the day.
- Take frequent short breaks in warm dry shelters to allow your body to warm up while working in the cold.
- Select the proper clothing for cold, wet, and windy conditions. Layer clothing to adjust for changing temperatures. Wear a hat and gloves, as well as thermal underwear with a material such as polypropylene to help wick the moisture away from the skin.
- If you are working in the cold and notice signs of cold injury, i.e. numbness and pain in extremities, STOP WORKING and get to a warm shelter to warm your body up. Frostbite is a medical emergency. If frostbite has set in, get medical treatment immediately!
- For employers, educate and train your workforce about cold-induced injuries and illnesses.

THE COLD STRESS EQUATION

LOW TEMPERATURE + WIND SPEED + WETNESS
= INJURIES & ILLNESS

When the body is unable to warm itself, serious cold-related illnesses and injuries may occur, and permanent tissue damage and death may result. Hypothermia can occur when *land temperatures* are above freezing or *water temperatures* are below 98.6°F/37°C. Cold-related illnesses can slowly overcome a person who has been chilled by low temperatures, brisk winds, or wet clothing.



Here's a Tip!

Remember, workers are at increased risk for frostbite and hypothermia when they have predisposing health problems, such as cardiovascular problems, diabetes, or high blood pressure.

Other Winter Safety Tips:

- Use rock salt or other ice-melt on walkways and stairs, to avoid slips and falls.
- If possible, carry a mobile phone to make emergency phone calls if you or someone you see becomes stranded in snow or ice.
- When driving in snow and ice, slow down and be respectful of other drivers and pedestrians.

Other Resources:

The Scoop on Snow Shoveling Safety, North Dakota State University <http://www.ext.nodak.edu/snow.htm>

Occupational Safety and Health Administration: <http://www.osha.gov/Publications/OSHA3156.pdf#search='cold%20stress'>

National Safety Council: <http://www.nsc.org/library/facts/snowshov.htm>

Information abstracted from the Occupational Health and Safety Administration, North Dakota State University, and The National Safety Council.



CLINICAL Q&A

By
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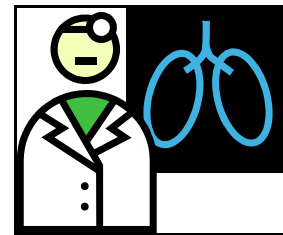


Scenario:

A 43 year old woman who worked at the deli counter of a supermarket developed cough, wheezing, chest tightness, and shortness of breath 4 hours after mopping up a large spill of drain cleaner that had been used to unclog a sink drain. She was hospitalized and treated with steroids and albuterol. Nine months later she still had episodes of cough, wheeze, and shortness of breath and was still using asthma medications. She never had asthma before this episode and never smoked cigarettes.

Question:

1. What is the most likely diagnosis?
 - (a) Irritant Lung Reaction
 - (b) Occupational Asthma
 - (c) Hypersensitivity Pneumonitis
 - (d) Reactive Airways Dysfunction Syndrome (RADS)
2. What is the appropriate management?



Answer:

This patient has a variant of occupational asthma called reactive airways dysfunction syndrome (RADS). This asthma-like condition results from a high level exposure to a toxic gas, fume, or vapor and has been reported after exposures to sulfuric acid, floor sealants, spray paints, bleach, hydrochloric acid, sulfur dioxide, isocyanates, smoke, paint fumes, ether, formaldehyde, glacial acetic acid, welding fumes, and cleaning products. The exposure is often the result of an accident or spill. Symptoms are usually rapid in onset (minutes to hours) making temporal identification of the precipitating event relatively straightforward. Workers usually seek immediate medical attention and may even need to be hospitalized.

Many substances are directly toxic to the respiratory tract and can cause irritant lung reactions. Most workers who survive a brief exposure to a toxic substance may have transient asthma-like symptoms, but usually recover completely without sequelae. The subset of patients who go on to develop RADS, on the other hand, experience persistent asthmatic symptoms, generally defined as lasting three months or longer following this initial event. The average duration of symptoms is 3 years after initial exposure and some patients experience symptoms permanently.

It is important to emphasize that RADS originates with the exposure. Individuals with preexisting asthma may suffer exacerbations after exposure to similar irritants but this is not RADS. Patients with RADS do not develop recurrence of symptoms after re-exposure to low levels of the substance that initiated the problem. Patients can return to their place of work if measures are taken to limit the level of exposure below the level that provokes symptoms. Airway reactivity is increased in these patients, presumably as a result of the acute toxic injury and not a specific sensitivity to the inciting substance. Nevertheless because of airway reactivity, once RADS is established, a patient will respond to other nonspecific environmental triggers such as cigarette smoke, cold air, perfumes, and household chemicals.

The diagnosis depends on a compatible history and demonstration of airflow obstruction or bronchial hyperreactivity. The American College of Chest Physicians defines a case of RADS as:

1. Onset of symptoms after a single exposure to an irritating gas, fume, or vapor in high concentrations;
2. Onset of symptoms within 24 hours of exposure and persistence of symptoms for more than 3 months;
3. Asthma like symptoms of cough, wheeze, and dyspnea;
4. Documentation of airflow obstruction or nonspecific bronchial hyperreactivity;
5. Absence of preceding respiratory conditions or symptoms;
6. Exclusion of other pulmonary diseases.

The treatment of RADS is no different from that used for asthma and is aimed at controlling bronchoconstriction and airway inflammation with bronchodilators and corticosteroids, as well as reducing subsequent exposures to irritants.