

**In this issue of the Environmental Health and Safety (EHS) Listserv,  
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## **1. Walking and Working: Ice and Cold**

Walking and working in snowy/icy/cold conditions are the focus of this article. Let's begin by reviewing suggestions for "walking." Walking around campus or from your vehicle/bus to your workplace during the winter can be hazardous. Every winter, slip/trip/fall injuries at UNL attributed to snow and ice account for approximately 3% of the overall number of injuries in a given year. That may not sound like much...until YOU are one of the injured.

**Winter Walking.** Just like winter driving, winter walking requires anticipation. Think "defensive walking." Follow these guidelines to help avoid injury:

- Use **appropriate footwear** for the surface/conditions. Avoid slick-soled shoes. Wear boots/shoes/overshoes with grip soles such as rubber or neoprene composite.
- Plan ahead to give yourself **sufficient time** to reach your destination.
- Plan your route and **watch where you walk**. Avoid routes that have not been cleared or appear glazed over.
- **Avoid carrying** large/heavy/awkwardly-shaped objects that can obstruct your view or affect your balance or center of gravity.
- Use special care in **parking lots**. Try to park in areas free of ice. When entering/exiting your vehicle, use your vehicle for support.
- Think about the **walking surface** whenever you move about campus, especially on days that are sunny. Some areas previously cleared may have partially thawed and refrozen, especially near the edges, leaving a glaze of ice.
- Use caution when **entering a building** as any snow left on your footwear will thaw with the building heat. Notice if the floor is wet from previous entrants. Avoid such indoor wet areas and if they cannot be avoided, traverse them the same as you would walk on ice. Contact Custodial Services to inquire about equipping areas prone to track-in with walk-off mats.
- **Pay complete attention** to your walking. Don't talk on the phone or text, search for items in your purse/briefcase, get distracted by

greetings/conversation, thinking ahead to events of the upcoming day, etc.

- Always use “**defensive walking**” techniques. Watch for hazards like black ice.

If you must walk on slippery surfaces:

- Take short steps or shuffle your feet. Walk more slowly so you can react quickly to a change in traction.
- Bend slightly as you walk to keep your center of gravity over your feet. Curl your toes under and walk as “flat-footed” as possible.
- Test potentially slick areas by tapping your foot on them before proceeding.
- Avoid uneven areas and stepping up/down on icy areas such as curbs.
- Keep your hands out of your pockets. Use your arms for balance. Imagine you are going to “walk like a penguin.”

### **Resources Specific to Winter Walking:**

- Snow & Ice Management Association “Safe Winter Walking”  
<http://www.sima.org/discover-sima/public-safety/safety-tips/safe-winter-walking>
- Bourassa, Sarah. "Stay Safe on the Ice by Walking like This Animal." *TODAY.com*. TODAY, 26 Jan. 2015. Web. 07 Nov. 2016 (graphic following). <http://www.today.com/health/stay-safe-ice-walk-penguin-2D12108872>
- UNL Emergency Preparedness “Really Obvious: On Ice”  
<https://www.youtube.com/watch?v=5Gv6QNZytF8>

The following helpful posters are available in PDF format from the Iowa State University Environmental Health and Safety department’s article “*Helpful Hints When Walking on Snow or Ice,*” <https://www-ehs.sws.iastate.edu/prep/weather/winter/walking>.

Download these posters and share in your facility/department/area.



At Iowa State University...  
**45% of slip and fall injuries on ice occur while walking to work.**

Walking during the winter requires special attention to avoid slipping and falling. The National Safety Council estimates that falls cause more than 1,500 deaths and 300,000 injuries per year.



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At Iowa State University...  
**20% of slips and fall injuries occurred in parking lots.**

Walking during the winter requires special attention to avoid slipping and falling. The National Safety Council estimates that falls cause more than 1,500 deaths and 300,000 injuries per year.



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**Winter Working.** Next, let's look at "working outdoors." There are a number of hazards associated with working outside in cold weather. Be aware of potential hazards, their warning signs, and how to avoid the hazard so you can safely navigate this winter season.

- **Hypothermia.** In cold weather, your body may lose heat faster than it is produced. Prolonged exposure will eventually use up all your body's stored energy, resulting in an abnormally low body temperature. If low body temperature affects your brain, you may not be able to think clearly or realize you are in trouble. Warning signs include shivering, fatigue, and loss of coordination.
- **Frostbite.** Frostbite is an injury caused by freezing, characterized by reduced blood flow, leading to lack of feeling and color in the affected body parts. Most often the body parts affected are nose, fingers, toes, ears, cheeks or chin. Warning signs include numbness, aching, tingling or stinging, bluish or pale skin, and skin that feels unusually firm or waxy.
- **Chilblains.** Repeatedly exposing skin to cold temperatures can cause permanent damage to groups of small blood vessels in the skin, characterized by redness and itching that return with subsequent exposures. Body parts most often affected are cheeks, ears, fingers, and toes. Warning signs include redness, itching, blistering/ulcers, and inflammation.

Prevention is always the best policy to avoid cold stress. Here are some precautions workers should take if they must work in extreme cold:

- **Wear appropriate clothing.** Layered clothing, loose and not too tight, provides insulation yet allows good blood circulation. Wear footwear designed for cold, wet conditions.
- **Cover your head** to reduce body heat loss. Protect ears, face, hands, and feet.
- **Try to schedule work** for the warmest/driest/least windy part of the day. Take regular breaks in a warm, dry, and protected area. Limit the total amount of time outside during extremely cold weather.
- **Do not touch** cold metal surfaces with bare skin.
- **Stay hydrated** by drinking plenty of fluids, especially warm fluids. Avoid drinks with sugar and/or caffeine.
- **Avoid exhaustion or fatigue**, because energy is necessary to keep muscles warm.
- **Be aware of any medications you are taking might make you more susceptible** to cold stress. Certain medical conditions also increase your risk: diabetes, high blood pressure, or cardiovascular disease.
- **Monitor your physical condition** and that of your co-workers. You may not be aware of warning signs that a co-worker would be able to observe.

A National Weather Service Wind Chill Chart will help you evaluate temperature/wind combinations to work more safely outdoors when the weather is cold.

Other wintertime hazards, often related to snow cleanup, but also applicable in other outdoor work situations are:

- Lacerations or amputations from improperly attempting to clear jams in snow removal equipment. Make certain all powered equipment is properly guarded, isolated from power sources, and all parts have stopped moving before performing maintenance or attempting to clear a jam.
- Strains and sprains from the prolonged or improper use of shovels or other snow removal equipment. Keep in mind-body movement and positioning. Avoid overexertion.
- Carbon monoxide poisoning can result from idling vehicles or use of gasoline or kerosene-powered heaters or generators in an inadequately ventilated area. Avoid idling vehicles in garages or near buildings where the air-intake may allow exhaust to enter the building. Do not use gasoline/kerosene burning devices indoors without proper ventilation of exhaust fumes.

NOTE: Carbon monoxide (CO) is a colorless, odorless, tasteless gas that can cause sudden illness or death. Seek prompt medical attention if you suspect CO poisoning and are feeling dizzy, light-headed, or nauseous.

## Resources Specific to Working Outdoors:

- National Weather Service (NWS) Wind Chill Chart & Calculator  
[http://www.nws.noaa.gov/om/cold/wind\\_chill.shtml](http://www.nws.noaa.gov/om/cold/wind_chill.shtml)
- OSHA. “Cold Stress Quick Card: Protecting Workers from Cold Stress”  
<https://www.osha.gov/Publications/OSHA3156.pdf>
- OSHA “Winter Weather: Plan. Equip. Train.”  
[https://www.osha.gov/dts/weather/winter\\_weather/hazards\\_precautions.html](https://www.osha.gov/dts/weather/winter_weather/hazards_precautions.html)
- Centers for Disease Control & Prevention (CDC). “Cold Stress.”  
<http://www.cdc.gov/niosh/topics/coldstress/>
- CDC “Frequently Asked Questions: Carbon Monoxide”  
<http://www.cdc.gov/co/faqs.htm>
- Iowa State University Environmental Health and Safety “Winter Driving”  
<https://www-ehs.sws.iastate.edu/publications/handouts/WinterDriving.pdf>

## 2. Revised DOT/IATA Training – Infectious Substances Category A

Recently we highlighted the change in approach to DOT/IATA training for those employees who, in accordance with both Department of Transportation (DOT) regulations and International Air Transport Association (IATA) standards, are considered “hazmat” employees. “Hazmat” employees are those who are engaged in any pre-transport or transport function of hazardous materials/dangerous goods.

***Infectious Substances, Category A, with or without Dry Ice and/or Dangerous Goods in Excepted Quantities*** training is now available online.

When an employee is initially assigned the task to prepare and ship packages containing Infectious Substances, Category A, they **MUST** contact EHS for an instructor-led training. The web-based training serves **ONLY** as recurrent training, to be taken every three years.

Under the new approach to comprehensive training, before taking this training, employees **MUST** successfully complete the “Dry Ice/Dangerous Goods in Excepted Quantities” training course as a prerequisite to either initial instructor-led or recurrent web-based training.

Persons who ship materials classified as Infectious Substances, Category A, and materials classified as Biological Substances, Category B, or Patient Specimens (human/animal) must complete **all three** training modules, with the Infectious Substances, Category A training taken last.

If your job tasks qualify you as a “hazmat” employee and you have not taken DOT/IATA training or if you have questions on this topic or the changes being implemented, contact Tony Lloyd, [alloyd4@unl.edu](mailto:alloyd4@unl.edu), 402-472-4942.

## Resources:

- EHS **Shipping** SOPs <http://ehs.unl.edu/sop/shipping>
- United States Department of Transportation, Pipeline, and Hazardous Materials Administration <https://www.phmsa.dot.gov>
- International Air Transport Association <http://www.iata.org/>

## 3. Extensive Kidde Fire Extinguisher Recall

The Consumer Product Safety Commission (CPSC) is charged with protecting the public from unreasonable risks of injury or death associated with the use of thousands of types of consumer products under the agency's jurisdiction. They recently announced the recall of about 40 million Kidde fire extinguishers due to reports they may not function properly in an emergency. The recall applies to 134 models of Kidde fire extinguisher manufactured between January 1, 1973, and August 15, 2017, including models previously recalled in March 2009 and February 2015. The plastic handle and push-button extinguisher can fail to activate during a fire emergency due to clogs or requiring excessive force to discharge. The nozzle can detach with enough force to pose an impact hazard.

Here is a picture of the extinguishers:



More information on specific model numbers can be found at the US CPSC web site. Consumers who have purchased one of the recalled extinguisher models should contact Kidde immediately on how to return the recalled unit and request a free replacement. Consumer Contact information is on the CPSC as well as the Kidde web site.

## Resources

- “CPSC Announces Recall of 37 Million Kidde Fire Extinguishers.” *Occupational Health & Safety*, 3 Nov. 2017, <https://ohsonline.com/articles/2017/11/03/kidde-fire-extinguisher-recall.aspx>
- United States Consumer Product Safety Commission. <https://www.cpsc.gov/Recalls/2017/kidde-recalls-fire-extinguishers-with-plastic-handles-due-to-failure-to-discharge-and>
- Kidde Fire Safety <http://www.kidde.com/home-safety/en/us/>

## 4. *Salmonella Typhimurium* Outbreaks Linked to Clinical and Teaching Labs

The Centers for Disease Control (CDC) investigation notice posted on July 19, 2017, reported that there was a multi-state outbreak of *Salmonella Typhimurium* linked to clinical, commercial and college microbiology teaching laboratories. There were twenty-four people infected with the outbreak strain in 16 states. While six people were hospitalized, no deaths were reported.

DNA fingerprinting on *Salmonella* bacteria isolated from ill people was used to identify illnesses that were part of this outbreak. The same strain of *Salmonella Typhimurium* has previously been associated with infections linked to microbiology laboratory exposure in 2011 (<https://www.cdc.gov/salmonella/2011/lab-exposure-1-17-2012.html>) and 2014 (<https://www.cdc.gov/salmonella/typhimurium-labs-06-14/index.html>). These outbreaks highlight the potential risk of *Salmonella* infection associated with working in microbiology laboratories.

While none of the outbreaks were associated with UNL, the incidents underscore the importance of proper biosafety training for students and staff working in microbiology laboratories. The CDC recommends the use of either nonpathogenic or attenuated bacterial strains when possible, especially in teaching laboratories. The CDC has published “Advice to Students and Employees in Microbiology Laboratories,” a link to which is provided within the informational article reporting the outbreak.

The American Society for Microbiology has also published guidance documents developed specifically for *Salmonella* and other similar human pathogens utilized in teaching laboratories: <http://www.asmscience.org/docserver/fulltext/jmbe/14/1/jmbe-14-78.pdf?expires=1507122775&id=id&accname=guest&checksum=295601542CE6DB93F36697B9107D4D0B>

UNL EHS Biosafety training is online at <http://ehs.unl.edu/web-based-training>. Review the **Training Needs Assessment for EHS-Related Topics** to determine which training is required. Instructor-led training is available upon

request. Contact [ehs@unl.edu](mailto:ehs@unl.edu) or call 402-472-4925 to request instructor-led training or for more information about biosafety training at UNL.

## Resources

- CDC Human *Salmonella Typhimurium* Infection Linked to Exposure to Clinical and Teaching Microbiology Laboratories  
<https://www.cdc.gov/salmonella/typhimurium-07-17/index.html>
  - “Advice to Students & Employees in Microbiology Laboratories”  
<https://www.cdc.gov/salmonella/typhimurium-07-17/advice.html>
  - “Key Resources” <https://www.cdc.gov/salmonella/typhimurium-07-17/key-resources.html>
- Emmert, Elizabeth A.B., and the ASM Task Committee on Laboratory Biosafety. “Biosafety Guidelines for Handling Microorganisms in the Teaching Laboratory: Development and Rational.” *Journal of Microbiology & Biology Education*, vol. 14, no. 1, May 2013, pp. 178-183., doi:10.1128/jmbe.v14i1.531.  
<http://www.asmscience.org/content/journal/jmbe/10.1128/jmbe.v14i1.531>

## 5. Situational Preparedness – Drowsy Driving

Situational preparedness is so important that we will be looking at various aspects over time, as well as providing resources to assist you to “be prepared” for whatever situations you may encounter at UNL.

The National Sleep Foundation has designated November 5-12, 2017, Drowsy Driving Prevention Week toward the goal of educating the public about the risks of drowsy driving and improving safety on the roads. Those who drive while sleep deprived are responsible for more than 64,000 deaths annually. The Resource Center for Drowsy Driving Week provides a wide variety of materials for use, from Key Messages and Talking Points to PDF Handouts and more. Drowsy Driving impairs judgment, performance and reaction time like alcohol and drugs. Surveys report that approximately 20% of drivers have actually fallen asleep at the wheel in the previous year! The Fact Sheet available through their website tells the signs of sleepiness to watch for in yourself or others.

## Resources

- Drowsy Driving Facts <http://drowsydriving.org/wp-content/uploads/2009/10/DDPW-Drowsy-Driving-Facts.pdf>
- National Sleep Foundation Drowsy Driving Prevention Week  
<http://drowsydriving.org/2017/11/drowsy-driving-prevention-week-november-5-12-2017/>

- Drowsy Driving Prevention Week Infographic  
<http://drowsydriving.org/wp-content/uploads/2017/11/DDPW-2017-Logo-02.png>
- Drowsy Driving Week Prevention Resource Center  
<http://drowsydriving.org/resources/drowsy-driving-prevention-week-toolkit/>
- Heads Up! Marketing Materials <https://ehs.unl.edu/heads-up-marketing-materials>

## 6. Would You Tell EHS?

Environmental Health and Safety is committed to excellent customer service and offers a *Customer Satisfaction Survey* as an easy method for the campus community to provide feedback on our services and staff. By taking a few moments to complete the survey, you will be helping us to identify areas where we might need to focus our attention.

In order to effectively evaluate potential areas for improvement, please provide specific information or examples and your name and contact information. The Director, Brenda Osthus, follows up on all submissions. We greatly appreciate your participation. Take the online survey here: *Customer Satisfaction Survey* <https://ehs.unl.edu/survey>.

Please feel free to contact Brenda Osthus, EHS Director, at 402-472-4927 or [bosthus1@unl.edu](mailto:bosthus1@unl.edu) if you would rather communicate outside the parameters of this survey.

## 7. Download the REVISED Bloodborne Pathogen Exposure Control Plan (ECP)

The UNL Exposure Control Plan has been updated to:

- Reflect changes in exposure incident follow-up procedures;
- Clarify roles in exposure determinations, exposure incident follow-up, and recordkeeping;
- Provide improved guidance on PPE selection;
- Revise the Exposure Determination for employee job titles and tasks listed in Appendix B

**If you or your staff are enrolled in the Bloodborne Pathogens Program,** please download a new copy of the ECP for reference and review, <https://ehs.unl.edu/programdocuments/BBP.pdf>

**Be sure to review** the new procedure on obtaining post-exposure prophylactic medication on page 13.

## 8. Revised Safe Operating Procedures

- **Packaging and Shipping Hazardous Materials/Dangerous Goods** [https://ehs.unl.edu/sop/s-ship\\_hazmat\\_dangerousgoods.pdf](https://ehs.unl.edu/sop/s-ship_hazmat_dangerousgoods.pdf)  
Updated to reflect current names of DOT/IATA training modules and clarify that initial and recurrent training may be taken online by all except those shipping Infectious Substances, Category A, which must initially be taken in an instructor-led format.
- **Hot Work Permit Operations** <https://ehs.unl.edu/sop/s-hotwork.pdf>  
Added language to clarify that UNL's Code Official is the Authority Having Jurisdiction to oversee and enforce compliance with hot work requirements. Added information on appropriate PPE and additional detail on a pre-operational review of work.

**Remember...SAFETY IS AN ATTITUDE!**

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