

## In this issue of the Environmental Health and Safety (EHS) Listserv – November 4, 2020

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### 1. Winter Walking, Winter Working, & Carbon Monoxide Danger

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/awkward-shaped objects that can obstruct your view or affect your balance or center of gravity. Consider a backpack instead.
- 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 surfaces** whenever you move about campus, especially following sunny days. 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 onto icy areas such as from 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”  
<https://www.sima.org/about/public-safety/safety-tips/safe-winter-walking>
- UNL Emergency Preparedness “Really Obvious: On Ice”  
<https://www.youtube.com/watch?v=5Gv6QNZytF8>
- Walk Like a Penguin (AHSChannel, duration 1:37)  
<https://www.youtube.com/watch?v=LHaWGibGwyk>

**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 that certain 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.

### **Resources Specific to Working Outdoors:**

- EHS Safe Operating Procedure **Cold Stress** [https://ehs.unl.edu/sop/s-cold\\_stress.pdf](https://ehs.unl.edu/sop/s-cold_stress.pdf)
- National Weather Service (NWS) Wind Chill Chart <https://www.weather.gov/safety/cold-wind-chill-chart>
- 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/>
- Iowa State University Environmental Health and Safety “Winter Driving”  
<https://www-ehs.sws.iastate.edu/publications/handouts/WinterDriving.pdf>

**Carbon Monoxide = Danger!** Carbon monoxide (CO) is an odorless, colorless gas that can cause sudden illness or death. It is found in fumes produced by burning fuel in cars, trucks, gas grills, furnaces...and other engines. Most common symptoms of CO exposure are headache, dizziness, weakness, upset stomach, vomiting, chest pain and confusion. These symptoms are like the flu. Too much CO can make you pass out or kill you.

Some tips to prevent CO poisoning:

- Do not operate fuel-burning tools/equipment/machines (e.g., camp stoves, heaters, forklifts, power washers, generators, etc.) indoors. Use battery or electric powered alternatives.
- 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 or gasoline-powered equipment in garages or near buildings where the air-intake may allow exhaust to enter the building.
- Install a CO detector and regularly test the unit/change batteries.
- Have your gas-powered home heating system serviced by a qualified technician yearly.
- Make sure gas-powered appliances are vented properly.
- Never use a gas range/oven for heating.
- Never burn charcoal indoors.
- Never leave a vehicle idling in a garage, even if the garage door is open.

NOTE: Seek prompt medical attention if you suspect CO poisoning and are feeling dizzy, light-headed, or nauseous.

### Resources Specific to Carbon Monoxide

- CDC “Frequently Asked Questions: Carbon Monoxide”  
<http://www.cdc.gov/co/faqs.htm>
- OSHA (Carbon Monoxide) Fact Sheet  
[https://www.osha.gov/OshDoc/data\\_General\\_Facts/carbonmonoxide-factsheet.pdf](https://www.osha.gov/OshDoc/data_General_Facts/carbonmonoxide-factsheet.pdf)

- Cedars Sinai “Carbon Monoxide Poisoning” <https://www.cedars-sinai.org/health-library/diseases-and-conditions/c/carbon-monoxide-poisoning.html>

## 2. Had Your Flu Shot Yet?

Influenza is a contagious respiratory illness. It can cause mild to severe illness and at times can lead to death. On average 8% of the U.S. population is sickened by the flu annually, but the incidence can be much higher.

The Centers for Disease Control encourages everyone to get a flu shot. This year it is more important than ever to protect yourself and the people around you from influenza and to help reduce the strain of healthcare systems responding to the Covid-19 pandemic.

Influenza can cause mild to severe illness. Symptoms include:

- Fever or feeling feverish/chills
- Cough
- Sore throat
- Runny or stuffy nose
- Muscle or body aches
- Headaches
- Fatigue (tiredness)
- Some may have vomiting or diarrhea, although this is more common in children than adults

**Vaccination Who: Everyone** 6 months of age or older

**Vaccination When: Now.** The flu season typically begins in the United States in mid-October. It takes two weeks after getting the vaccine for your body to build up enough antibodies to protect against the flu.

Preventative steps even if you got the flu shot:

- Avoid close contact with people who are sick & if you are sick limit contact with others
- Cover coughs and sneezes
- Wash your hands often with soap and water
- Avoid touching your eyes, nose and mouth
- Clean and disinfect surfaces and object that may be contaminated

### Resources

- CDC “Protect Your Health This Season” <https://www.cdc.gov/flu/season/protect-your-health.html>

- CDC “Key Facts About Seasonal Flu Vaccine”  
<https://www.cdc.gov/flu/prevent/keyfacts.htm>
- CDC “Prevent Seasonal Flu” <https://www.cdc.gov/flu/prevent/index.html>
- CDC “Similarities and Differences Between Flu and COVID-19”  
<https://www.cdc.gov/flu/symptoms/flu-vs-covid19.htm>

### 3. Situational Preparedness – Rules for Staying Safe on the Road

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. Distracted driving remains one of the primary causes of injury incidents.

Here are five rules to follow:

- Let calls go unanswered while driving.
- Pull over to make emergency phone calls.
- Make check-in texts or calls after arriving at a destination.
- Get directions or look at a map before starting the car.

Read over these “myths versus reality” tidbits and commit to follow the ‘reality’ not the ‘myth.’



**MYTH '1 Drivers can multitask**

**REALITY**

The human brain **cannot do two things at the same time** – like watch tv and hold a phone conversation.



The same is true when **driving** and talking on your phone. The brain switches between the two tasks which **slows reaction time**.

..... **BOTH THINKING TASKS** .....



**MYTH '2 Talking on a cell phone is just like speaking to a passenger**

**REALITY**

Backseat drivers are good for you. **Adult passengers help the driver and alert drivers to traffic problems.**



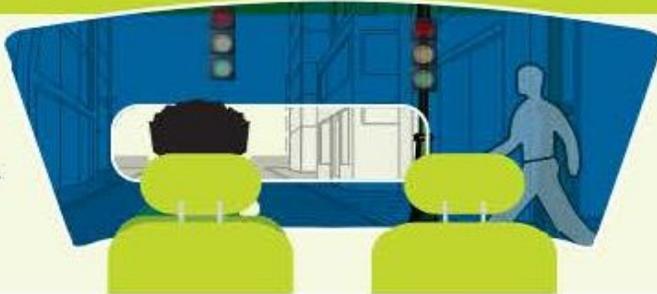
People on the other end of phones **can't see what's going on!**



**MYTH '3 Speaking hands-free is safe to use while driving**

**REALITY**

Drivers talking on cell phones can miss seeing up to 50% of their driving environments, including pedestrians and red lights.



**MYTH '4 I only use my phone at stop lights so it's ok**

**REALITY**

Even at stop lights, it is important to remain an attentive driver. For example, a recent AAA study shows that people are **distracted up to 27 seconds** after they finish sending a voice text.

**27 SECONDS**





Take distraction-free driving seriously! Download the poster and share:  
<https://files.constantcontact.com/0056d453001/0ab691bb-f5b7-4409-b164-a9f5b4ead38f.pdf>

Information courtesy of the National Safety Council.

### **Sources by National Safety Council:**

- Governors Highway Safety Association –cell phone laws: <http://www.ghsa.org/state-laws/issues/Distracted-Driving>
- The Children's Hospital of Philadelphia Research Institute –teen driver statistics: [http://www.teendriversource.org/stats/support\\_teens/detail/64](http://www.teendriversource.org/stats/support_teens/detail/64)
- Insurance Information Institute –distracted driving statistics: <https://www.iii.org/fact-statistic/facts-statistics-distracted-driving#:~:text=Fatal%20Crashes%20Involving%20Distracted%20Drivers%2C%202018,-Crashes&text=Distraction%20was%20a%20factor%20in,fatal%20crashes%20reported%20in%202017.>
- National Highway Traffic Safety Association –texting while driving 55 mph: <https://www.nhtsa.gov/risky-driving/distracted-driving>

## **4. Laboratory Near Miss with Ethanol**

Following is a report on an incident in a laboratory provided by the University of California Center for Laboratory Safety. Remember that the hand sanitizer

stations around campus and disinfectant containers contain a product composed of 70% ethanol. These products are flammable.

### What Happened?

A researcher was preparing his bench for sterile work by wiping it down with 70% ethanol and a paper towel. He was alone in the lab at the time. The ethanol-soaked paper towel was not thrown away as usual practice but was placed on the desk adjacent to the lab bench with the bunsen burner. When the researcher lit the bunsen burner, the paper towel caught fire. The researcher moved the towel to the lab bench with his hand and smothered the small fire with an empty Pyrex beaker and water.

Extinguishing the fire generated enough smoke to set off the fire alarm. The researcher cleaned up the area and evacuated the lab to join other lab members at their designated meeting point outside. He then looked for fire responders to let them know that the fire had been extinguished. At the time of the incident, the researcher was not wearing a flame-resistant lab coat, but a regular white lab coat. Fortunately, no one was hurt in this incident.

### What Was the Cause?

The ethanol-soaked paper towel left near the bunsen burner caught fire.

### What Corrective Actions Were Taken?

- Generate a SOP for use of the bunsen burner including potential risks and emergency procedures
- Use flame-resistant lab coats when handling flammables
- Perform a fire drill with emergency procedures including immediate lab evacuation

### How Can Incidents Like This Be Prevented?

- Keep all flammables including flammable liquids and any type of paper away from heat sources and open flames.
- After wiping down the bench with 70% ethanol, make sure all ethanol has evaporated before lighting the bunsen burner (or introducing other ignition source). After wiping down the bench with 70% ethanol, also make sure all ethanol has evaporated from your gloves or don new gloves.
- Turn off the bunsen burner once you have finished your experiment.

### Resources

- EHS Fire Extinguisher web-based training <https://ehs.unl.edu/web-based-training#FireExt>

- EHS Hands-On Fire Extinguisher training (upon request after successful completion of the EHS web-based Fire Extinguisher training – contact [ehs@unl.edu](mailto:ehs@unl.edu))
- UC Center for Lab Safety: Lessons Learned <https://cls.ucla.edu/lessons-learned/lessons-learned-fire/174-glass-reactor>
- **Fire Safety in the Lab** (UCLA, Duration 12:03 minutes – good information despite some specific to UCLA) <https://www.youtube.com/watch?v=OauxaRXQ2IM>

## 5. Near Miss or Near Hit?

The Chancellor’s University Safety Committee (CUSC) is reaffirming their goal to focus more intensely on Near Miss/Close Call reporting and to also encourage reporting of unsafe practices. To support that effort, the EHS “*Near Miss/Close Call Incident Reporting Form*” allows for reporting of unsafe practices.

By reporting all of these circumstances, near misses or unsafe practices, you are contributing to a safer and healthier campus environment. Information reported is shared throughout the University for educational/awareness purposes. Specific identifying information (e.g., names, departments, etc.) is not included in informational publications. Participation will benefit the entire campus community. Be assured that there is no risk of repercussions for reporting a situation or hazard.

A “near miss” can also be viewed as a ‘near hit!” Next time you see something and think, “This could have ended up very badly,” report that online to help your fellow workers throughout the university.

### Resources

- *Near Miss/Close Call Incident Reporting Form* <https://ehs.unl.edu/near-missclose-call-incident-reporting-form>

## Remember...SAFETY IS AN ATTITUDE!

### Environmental Health and Safety

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