In this issue of the Environmental Health and Safety (EHS) Listserv – November 3, 2021

1. Winter Walking & Working Safety

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 or use of a cart.
- 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, think 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**. Clothing layered 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 enable you 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:

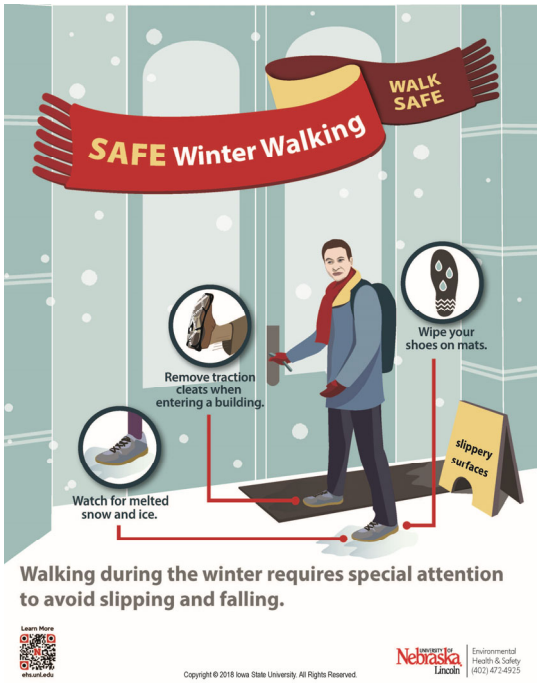
- Lacerations or amputations from improperly attempting to clear jams in snow removal equipment. Make certain all powered equipment is properly guarded, isolated from power sources, and all parts have stopped moving before performing maintenance or attempting to clear a jam.
- Strains and sprains from the prolonged or improper use of shovels or other snow removal equipment. Keep in mind body movement and positioning. Avoid overexertion.

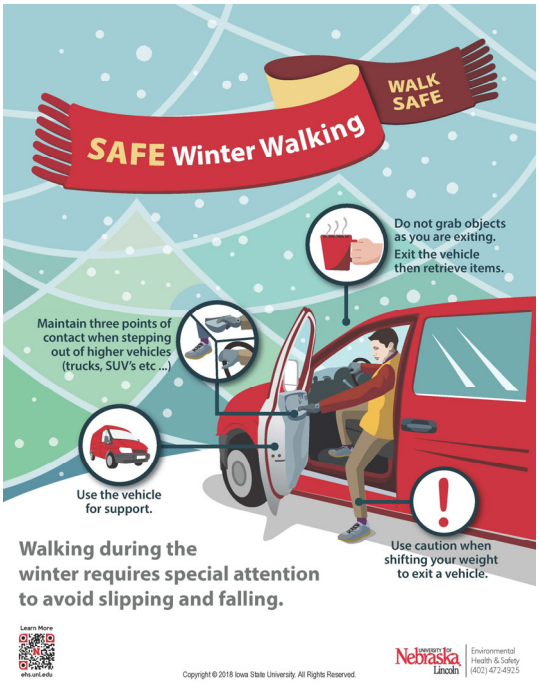
Resources Specific to Winter Outdoor Safety:

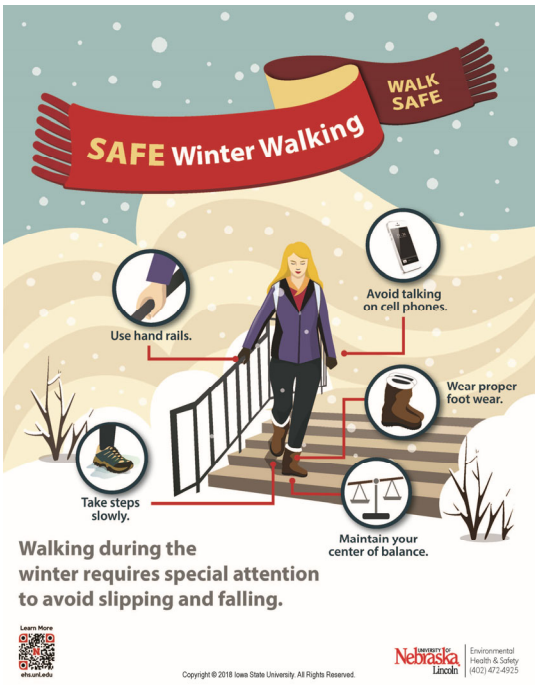
- EHS Safe Operating Procedure ***Cold Stress*** https://ehs.unl.edu/sop/s-cold_stress.pdf
- National Weather Service (NWS) Wind Chill Chart https://www.weather.gov/safety/cold-wind-chill-chart
- OSHA. "*Cold Stress Quick Card: Protecting Workers from Cold Stress* https://www.osha.gov/Publications/OSHA3156.pdf
- OSHA "Winter Weather: Plan. Equip. Train." https://www.osha.gov/dts/weather/winter_weather/hazards_precautions.html
- 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

2. Get Your Safe Winter Walking Display NOW

EHS has a developed a number of safety posters of relevance to the campus community. The three posters highlighted this month serve as handy reminders about different aspects of winter surface navigation: going into and out of buildings, getting into and out of vehicles, walking around campus including navigation of steps. It is recommended that you post all three.







Ask for your FREE posters today. Contact ehs@unl.edu or 402.472.4925 with your name, campus mailing address including Zip Plus4, and quantity desired. These are also available in format suitable for digital display through the UNL Content Library or upon request to EHS.

Resources

- Safety Posters https://ehs.unl.edu/safety-posters

3. Carbon Monoxide: The Silent Killer

Each year more than 400 Americans die of carbon monoxide poisoning. 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. Also 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 as a substitute for central heating.
- Never burn charcoal indoors.
- Never leave a vehicle idling in a garage, even if the garage door is open.
- Know the source. All of the following can produce carbon monoxide: gasoline, natural gas, oil, propane, coal and wood.

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

Resources

- Safety+Health Magazine. (2021, August 20). *Carbon monoxide: The silent killer*. Safety+Health Magazine. Retrieved October 21, 2021, from https://www.safetyandhealthmagazine.com/articles/21630-carbon-monoxide-the-silent-killer?utm_source=safetytips-topic&utm_medium=email&utm_campaign=topic
- Safety+Health Magazine. (2019, July 26). *Carbon monoxide: Know the facts*. Safety+Health Magazine. Retrieved October 21, 2021, from https://www.safetyandhealthmagazine.com/articles/18669-carbon-monoxide-know-the-facts
- 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
- Cedars Sinai "Carbon Monoxide Poisoning" https://www.cedars-sinai.org/health-library/diseases-and-conditions/c/carbon-monoxide-poisoning.html

4. Electrical Safety in the Office

Throughout most offices there are various wires, outlets, cables and other electrical equipment workers tend to take for granted. Electrical equipment and associated hazards require awareness and vigilance to ensure appropriate use, storage and maintenance. Improper use can lead to fires, shock and electrocution. Following are tips to help keep your office area safe:

Extension cords

- Use only a UL- or FM-approved extension cord that is of the proper gauge for the current it will carry and of the shortest length possible.
- Extension cords are for temporary use only and must be plugged into a permanently installed outlet.
- Never run flexible extension cords under carpet or through doorways or walls. Do not attach to walls/floors with staples or clips.
- Inspect extension cords prior to use to ensure there are no cracks or breaks in the insulation, plug has not pulled away from the cord, and the plug has intact prongs.

Power strips

- Use only a UL- or FM-approved power strips and plug into a permanently installed outlet.
- Power strips are designed for low power use only. Anything with a heating element such as coffee or hot pots, toasters, microwaves are not low power. Follow manufacturer's directions on maximum number of amps for the device.
- In positioning a power strip, do not secure to a surface in a manner that a tool is required to remove the restraint device.

Flexible electrical cords (on equipment)

Do not run the flexible electrical cord of a piece of equipment under carpet or other combustible covers. Covered cords can overheat leading to fire. Covered cords could be damaged by heavy or sharp objects resting on them, moving across them, or dropped on them.

Electrical equipment

Before using any electrical equipment read and become familiar with the contents of the owner's manual, manufacturer's recommendations and precautions for electrical safety including maintenance and service.

Resources

- Safety+Health Magazine. (2021, April 13). *Electrical equipment in the office: Do's and don'ts*. Safety+Health Magazine. Retrieved October 21, 2021, from https://www.safetyandhealthmagazine.com/articles/20873-electrical-equipment-in-the-office-dos-and-donts
- EHS **General Electrical Safety** Safe Operating Procedure https://ehs.unl.edu/sop/s-electricalsafety.pdf

- EHS **General Electrical Safety Awareness** Web-Based Training https://ehs.unl.edu/web-based-training#ElectricalSafety

5. Time for a Flu Shot

Influenza is a contagious respiratory illness often referred to as seasonal "flu." It can cause mild to severe illness and at times can lead to death. An average of 8% of the U.S. population is sickened by influenza 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 on healthcare systems still responding to Covid-19.

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 receiving the vaccine for your body to build up enough antibodies to protect against the flu.

Preventative steps even if you got the flu shot:

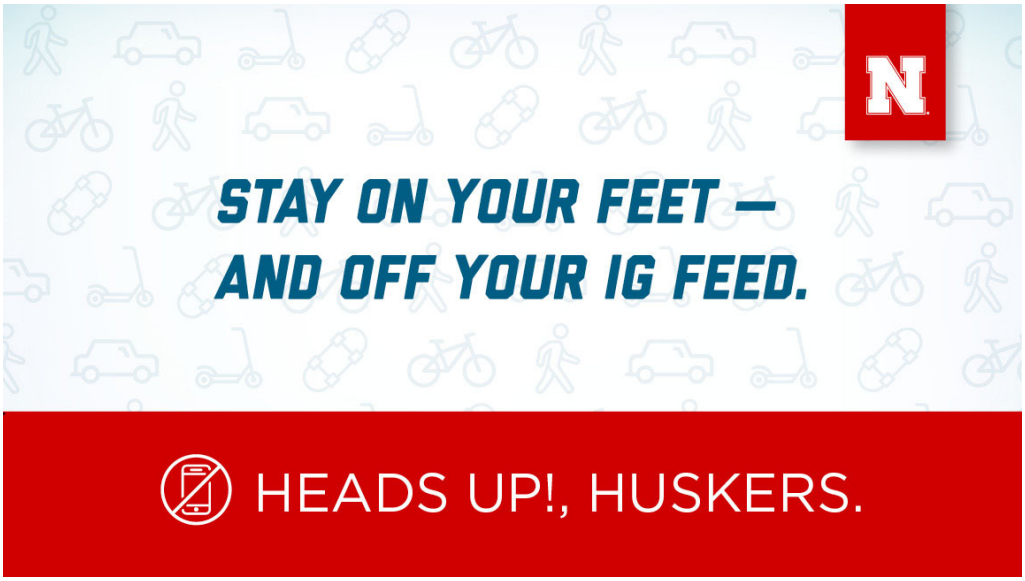
- Avoid close contact with people who are sick & if you are sick limit contact with others
- Cover coughs and sneezes
- Wash your hands often with soap and water
- Avoid touching your eyes, nose and mouth
- Clean and disinfect surfaces and object that may be contaminated

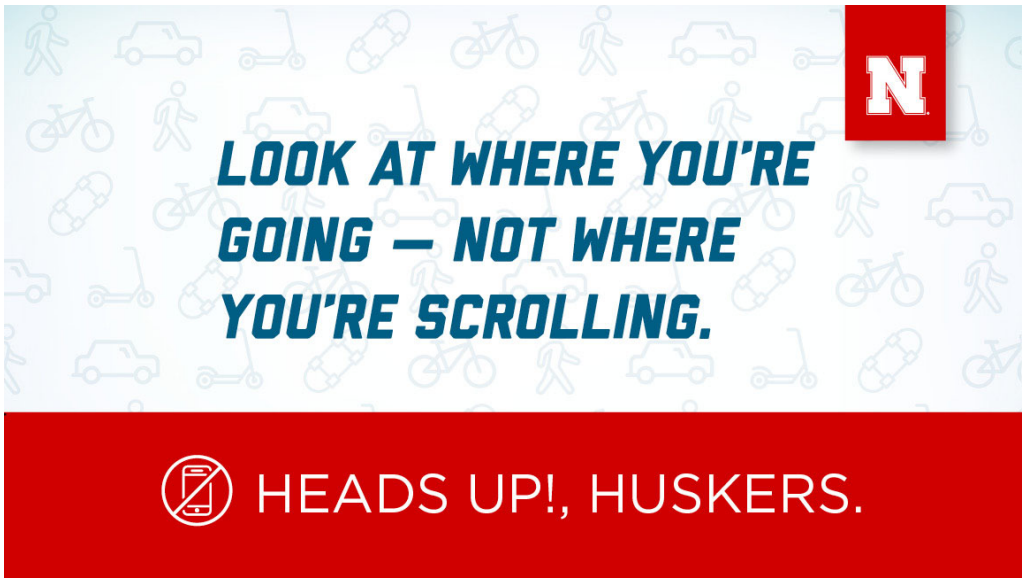
Resources

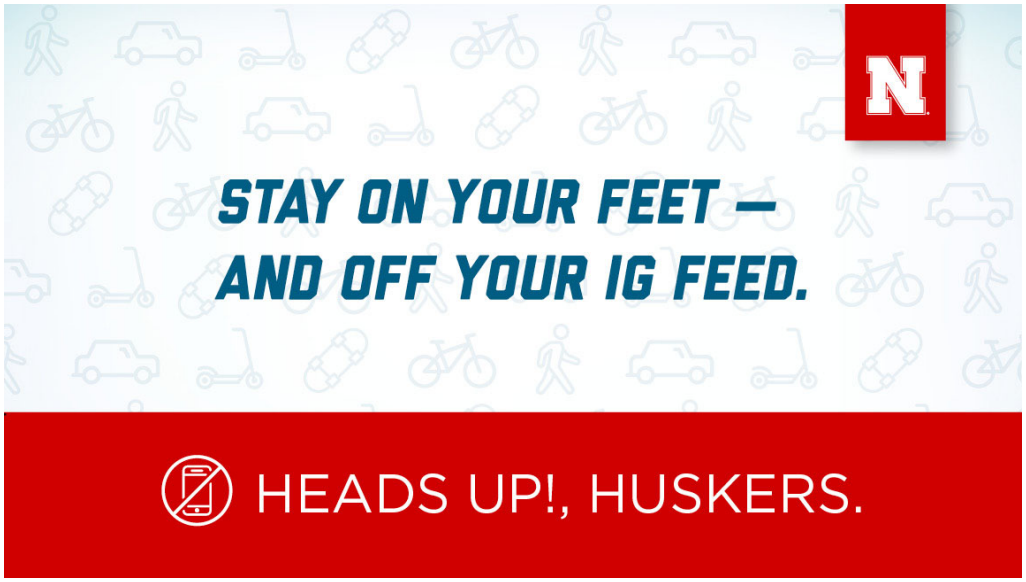
- CDC “Key Facts About Seasonal Flu Vaccine” https://www.cdc.gov/flu/prevent/keyfacts.htm
- CDC “Prevent Seasonal Flu” https://www.cdc.gov/flu/prevent/index.html
- CDC “Similarities and Differences Between Flu and COVID-19” https://www.cdc.gov/flu/symptoms/flu-vs-covid19.htm

6. Situational Preparedness – Heads Up!

The Chancellor's University Safety Committee commissions graphics as reminders for the campus community to safely walk/bike/drive to avoid injury. The images show the November/December reminders to share with your friends, colleagues, safety committee/team, etc.







Look over these new graphics. If any might be "you," now is the time to make a change in your behavior. Graphics can be downloaded/printed from the EHS website for display in your area or inclusion in any department/area/facility communication.

Do you have Digital Signage in your area? All graphics are available through the UNL Digital Content Library or from EHS upon request in a format suitable for digital signage (ehs@unl.edu or 402.472.4925).

Resources

- Heads Up! Resources https://ehs.unl.edu/heads-up-marketing-materials
- Heads Up! Graphics https://ehs.unl.edu/heads-up-graphics

7. Revised Safe Operating Procedure

- **Dosimetry Program** https://ehs.unl.edu/sop/s-dosimetry.pdf
  The term for analytical x-ray users has changed to "radiation generating device users." Removed the whole-body badge requirement for this group. Changed Diocles Laser Accelerator term to "Laser Accelerator" to encompass other laser accelerators.

- **Non-Healing Arts Radiation Generating Devices**
  https://ehs.unl.edu/sop/s-analytical_x-ray_equip.pdf
  This SOP replaces the previous "Analytical X-Ray Equipment and Other Common Radiation Generating Equipment." Definition changes to a "radiation generating device" per the new state of Nebraska rules and streamlined within the EM, XPS and Cabinet X-Ray sections.

- **On-the-Job and Student Injuries**
  https://ehs.unl.edu/sop/s-injury.pdf
  A link to HR forms added. Emergency number for fire and life safety/emergency calls changed from UNL Operator to University Police.

- **Safety Protocol: ^{241} Am (Be) Neutron Probe**
  https://ehs.unl.edu/sop/SP_SOP_241Am(Be)NeutronProbe.pdf
  Updated contact phone numbers in the SOP and the shipping papers. Minor edits within the SOP for clarification.

THINK SAFETY – DON'T LEARN BY ACCIDENT!

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