In this issue of the Environmental Health and Safety (EHS) Listserv – May 7, 2025

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1. Heat Illness Prevention

The United States Occupational Health and Safety Administration (OSHA) and the National Weather Service team up to encourage everyone to recognize the warning signs for heat illness. Heat exhaustion and dehydration due to heat are some of the leading weather-related killers in the United States and result in dozens of fatalities and thousands of heat-related illnesses each year in the United States.

We often associate heat-related illness with outdoor operations such as farm work, landscaping, and research “in the field.” However, EHS routinely reviews injury reports from employees working INSIDE an unconditioned building (e.g., warehouse, storeroom) or areas of a building prone to heat build-up (e.g., kitchens, laundry, autoclave rooms, etc.).

Working in the heat stresses the body and can lead to illness or even death in severe cases. Exposure to heat can also increase the risk of other injuries because of sweaty hands, fogged-up safety glasses, dizziness, and burns from hot surfaces. Most heat-related health problems can be prevented or the risk of developing them can be reduced.

The following are two main categories of risk factors workers should evaluate when contemplating activities in the heat:

- **Weather Conditions.** The risk of heat stress is relative to temperature, humidity, sunlight, and wind speed. High temperature, high humidity, direct sunlight and low wind speed make the worst combination. If possible, schedule strenuous work for the cooler parts of the day.

- **Personal Factors and Physical Demands**. The risk of heat stress increases with physical demands. For example, a worker who is walking is at higher risk than a worker who is riding in a vehicle. Older workers, obese workers, and people taking certain types of medication, such as antihistamines, are at greater risk for heat illness.

It may not always be possible to work only in cooler parts of the day. The risk of heat-related illness can be reduced by:

- **Acclimation.** Build up tolerance to heat by short exposures before undertaking longer periods of work in a hot environment.
- **Appropriate clothing.** Choose light, loose clothing and a hat.
- **Hydration.** Drink 8-16 ounces of water before working in the heat. Drink 4-8 ounces of water every 15-20 minutes while working in the heat. AVOID alcohol, coffee, tea, or soda pop, which further dehydrates the body.
- **Adequate Rest Periods.** Work at a steady pace. Take breaks when your body signals you need one, preferably in shaded or cool areas.
- **Education.** Heat stress can manifest itself in a number of ways, all to be taken seriously, and some requiring medical assistance to avoid permanent aftereffects. Workers should know the signs and symptoms of these conditions so they can take proper action if they or their co-workers are affected.

OSHA in collaboration with the Centers for Disease Control and Prevention (CDC) and National Institute for Occupational Safety and Health (NIOSH) developed a free smartphone **Heat Safety Tool** that calculates the heat index, identifies the associated risk level and provides reminders about protective measures that should be taken to protect workers from heat-related illness. The free app is available for either Android or iPhone.

Further recommendations from NIOSH for those working in hot environments include:

- Limit time in the heat and/or increase recovery time in a cool environment.
- Use a buddy system so workers can observe each other for signs of heat intolerance.
- Have adequate amounts of cool, potable water near the work area and encourage each other to drink frequently.

While we think of summer as the “hot” time of year outdoors, sometimes temperatures and humidity levels in the spring or fall can reach dangerous levels as well. In addition, certain indoor work areas may be “hot” year-around. Remember to practice heat safety wherever you are and with whatever tasks you are doing. Heat-related illness and death are preventable.

Resources

- VIDEO. 60-Second Video Message on Heat Illness Prevention. USDepartmentofLabor. Duration: 1:02 minutes. https://www.youtube.com/watch?v=ipWmbc0d_Lc
- VIDEO. 7 Ways to Beat the Heat – Hot Weather Hazards – Preventing Illness & Deaths in Hot Environments. Safety Memos. Duration: 3:28 minutes. https://www.youtube.com/watch?v=WYnj1G94e6Y
- Extreme Heat: Forecast and Safety https://www.weather.gov/rah/heat
- OSHA Health and Safety Topics: Heat http://www.osha.gov/SLTC/heatstress/
- OSHA-NIOSH Heat Safety Tool App https://www.cdc.gov/niosh/topics/heatstress/heatapp.html
- OSHA Heat Illness Prevention https://www.osha.gov/heat/
- EHS **Heat Stress** SOP https://go.unl.edu/heat-stress-sop
- National Institute for Health & Safety (NIOSH) Safety & Health Topics: *Heat Stress* http://www.cdc.gov/niosh/topics/heatstress/
- Heat Safety Tips and Resources https://www.weather.gov/safety/heat

2. Heat Illness Awareness & Myths

Injury/Illness reports to OSHA show that severe injuries due to heat-related cases comprised 91.9% of exertional injuries from 2015 to 2020, as well as 87.6% of exertion-related fatalities from 2017 to 2020. On average, extreme heat caused more deaths than other weather phenomena. Taking steps to prevent heat illness is the best policy but sometimes those steps are not enough. Therefore, it is crucial you are aware of signs of heal illness and dehydration that can lead to heat illness.

Dehydration. Dehydration occurs when your body loses more fluid than is being consumed. Hydration is important but hydration alone cannot prevent heat illness. Warning signs of dehydration are:

- Headache
- Poor concentration
- Dry mouth
- Constipation
- Muscle cramps
- Reduced urination
- Lethargy and fatigue
- Thirst

- Dry skin and lips
- Increased heart rate

Warning Signs of Heat Illness. The key to treatment and survival of heat illness is being able to recognize the symptoms early. Be prepared to act quickly and seek medical attention for any of these warning signs.

- Cramping
- Increased or rapid pulse rate
- Heavy sweating
- Skin that is red in color and hot to the touch
- Dizziness
- Confusion
- Nausea
- Vomiting

Deadly Myths. There are many myths surrounding heat illness. The following are a few myths debunked.

- Myth: If a person is sweating it is not an emergency. Fact: People experiencing heat stroke will stop sweating.
- Myth: People know when they are experiencing heat illness. Fact: Disorientation is a sign of heat illness so people may not recognize their own symptoms. Watch out for others with you in an environment that may lead to heat illness.
- Myth: Someone suffering from a heat illness could be harmed if their bodies are cooled too quickly. Fact: Rapid cooling is the most effective for treatment of heat stroke. Stop the cooling if the individual starts to shiver. Make sure the person is sipping cool water or a sports drink while cooling off.
- Myth: Heat illness only occurs at certain temperatures. Fact: While most cases occur when temperatures are over 90 degrees, heat illness can occur at lower temperatures. In addition to the environment, the level of exertion as well as acclimatization, hydration, and individual risk factors play a role.

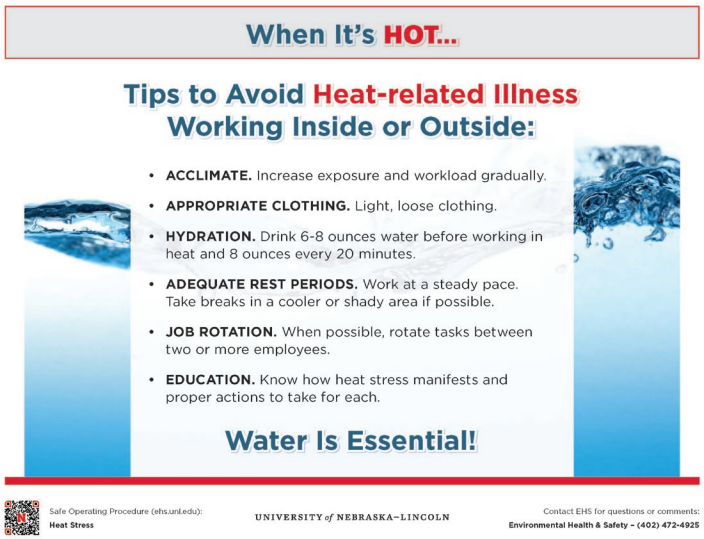
Resource

- *Heat awareness*. (n.d.). U.S. Customs And Border Protection. https://www.cbp.gov/employee-resources/health-wellness/healthiercbp/heat-awareness

- Most exertion-related injuries and deaths attributable to heat: study. (2023, May 18). *Safety+Health*. https://www.safetyandhealthmagazine.com/articles/23956-most-exertion-related-injuries-and-deaths-attributable-to-heat-study?utm_source=daily&utm_medium=email&utm_campaign=daily)
- Keep workers hydrated. (2024, April 22). *Safety+Health*. https://www.safetyandhealthmagazine.com/articles/25349-keep-workers-hydrated?utm_source=sfmc&utm_medium=email&utm_campaign=dailymay14&utm_content=

3. Heat Stress Poster + QR Codes Update

EHS has developed a number of safety posters available at no charge. This month you might consider the poster "When It's HOT…Tips to Avoid Heat-related Illness…" to post in your area:



Requests may be made by phone (402.472.4925) or email (ehs@unl.edu). Posters may be picked up at the EHS offices in Warehouse 1 or delivered via campus mail. To use campus mail please provide your name, building, room number and zip code including the 4 numbers after the dash. This poster is also available in electronic format for display on digital signage.

QR Codes Update. QR codes on all EHS safety posters you may have in your area reflect the applicable SOP web address prior to the recent university-wide website system update which changed all SOP web addresses. To remedy that situation of incorrect QR codes, you either can black out the QR code on any EHS safety posters you already have or let us know and we can provide a replacement poster with a blank sticker obscuring the incorrect QR code.

Resources

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

4. National Motorcycle Safety & National Bike Safety Month

Situational preparedness is so important that this listserv provides resources to promote safe navigation of roadways, whatever the method of transportation.

Motorcyclists and bicyclists are more vulnerable to crashes than other vehicles on the road. Per mile travelled, motorcyclists are 27 times more likely than people in passenger cars to die in a traffic crash. The number of bicycle incidents in the United States has increased 29% over a recent eight-year period.

With more riders on the roads as the weather improves, the need for additional precautions arises. The National Highway Traffic Safety Administration (NHTSA) has designated May as Motorcycle Safety Awareness Month, and the League of American Bicyclists recognizes May as National Bicyclist Safety Month. The National Safety Council (NSC) supports both of these efforts.

Remember that both motorcycles and bicycles are relatively small, and thus drivers often do not see these modes of transportation. Some safety tips that apply to both motorcycle and bicycle riders are:

- Be sure your bicycle or motorcycle is “ride ready”. Check tire pressure, brakes, etc.
- Know and follow the rules of the road.
- Wear bright or reflective clothing that is durable with arms and legs covered, sturdy shoes or boots, and a helmet that conforms to the appropriate design standards.

- Assume you are invisible to other motorists and position yourself to be seen.

- Signal every turn or lane change.

- Drive defensively in the same direction as traffic. Pay special attention at intersections where half of all collisions occur. Always look out for cars turning or backing out of driveways.

- Don't weave in and out of lanes, or ride on the shoulder or between lanes.

- Watch for hazards like potholes, manhole covers, oil slicks, puddles, debris, railroad tracks and gravel.

- Wear a helmet designed specifically for your activity – bicycling or riding a motorcycle.

The best way to reduce your odds of dying or being severely injured in a crash is to get educated. The following are a number of training resources.

- The Motorcycle Safety Foundation (https://www.msf-usa.org/library.aspx#ridercourse-materials-link) offers safety booklets, downloadable Rider Course handbooks, videos, quick tips, white papers and more. They can also help you find a motorcycle safety course near you.
- RideApart (https://www.rideapart.com/features/254912/10-common-motorcycle-accidents-and-how-to-avoid-them/) publishes a list of the 10 most common causes for motorcycle crashes and how to avoid them, complete with videos. Many of the tips at this site apply equally to bicyclists.
- UNL's Campus Recreation department provides resources including clinics related to safe bicycling, maintenance and more. The Bike Shop can provide information on upcoming classes/clinics. (https://crec.unl.edu/activities/bike-shop/)
- A core activity of the League of American Bicyclists is education. Find smart bicycling tips and videos at https://bikeleague.org/ridesmart

Get educated and ride safely so you do not become a statistic!

General Resources

- CPSC (Consumer Product Safety Commission) Which Helmet for Which Activity? (reference chart on helmet standards)

https://www.cpsc.gov/safety-education/safety-guides/sports-fitness-and-recreation-bicycles/which-helmet-which-activity/

- MAY IS BIKE MONTH, The League of American Bicyclists https://bikeleague.org/bikemonth
- Bike Safely and Enjoy Your Ride, NSC https://www.nsc.org/home-safety/tools-resources/seasonal-safety/summer/bicycles
- Bicycle Safety, NHTSA https://www.nhtsa.gov/road-safety/bicycle-safety
- Motorcycle Safety, NHTSA https://www.nhtsa.gov/road-safety/motorcycle-safety
- Walter, L. (2012, May 15). 6 Tips for Motorcycle Safety Awareness Month. Retrieved April 30, 2024, from https://www.ehstoday.com/safety/article/21915121/6-tips-for-motorcycle-safety-awareness-month

5. UNL Biosafety Guidelines Notice

The University of Nebraska-Lincoln (UNL) Biosafety Guidelines has been recently updated primarily to add information regarding the USG DURC/PEPP policy and IRE process; to advise that approved IBC meeting minutes will be posted to the UNL IBC website (starting July 2025); added clarification regarding commercially available GMO seed and plants needing IBC protocols for research performed in a lab, greenhouse, or growth/ environmental chamber. However, there were also other changes so all labs for which the Biosafety Guidelines apply should review the updated document.

- Biosafety Guidelines https://ehs.unl.edu/sites/unl.edu.business-and-finance.university-operations.ehs/files/media/file/Biosafety%20Guidelines.pdf

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