Introduction

In accordance with Washington Administrative Code (WAC) 296-62-09560, Eastern Washington University (EWU) has developed an Outdoor Heat Exposure Program. This program is designed to prevent heat-related illnesses in EWU employees who perform work outside in hot weather.

EWU employees who work outside between May 1st and September 30th may be exposed to excessive temperatures that require additional precautions while working. All employees who work outside during these months, and their supervisors, are required to attend annual training on how to prevent, recognize, and respond to heat-related illnesses, and work practices for hot weather.

Employees who work outside for less than 15 minutes in any hour are exempt from this program.

Responsibilities

Both employees and supervisors must be aware of the signs of heat-related illnesses and the importance to stop work immediately if any symptoms are observed.

Environmental Health & Safety is responsible for:

- Providing annual Heat Exposure Training
- Updating the Outdoor Heat Exposure Program to comply with any changes to the WAC

Employees are responsible for:

- Drinking enough water to remain hydrated while working outside in hot temperatures, at least one quart of water per hour should be consumed while working outside in the heat
- Looking out for signs of heat-related illness in themselves and their coworkers
- Removing all PPE during breaks to ensure maximum cooling
- Attending annual Heat Exposure Training

Supervisors are responsible for:

- Ensuring employees have access to adequate supplies of drinking water
- Making sure employees are provided with frequent breaks to allow for hydration and cooling off
- Attending annual Heat Exposure Training
- Applying the points of this program to employees for their safety.

Heat Warning Temperatures

The table below indicates the temperatures at which employees and supervisors need to be aware of signs of heat-related illnesses based on the PPE that the employee is required to wear. The more PPE that is required, the lower the warning temperature will be.

Required PPE	Warning Temperature
Non-breathable clothes including vapor barrier clothing or PPE such as chemical resistant suits	52°F
Double-layer woven clothes (any PPE that will put two layers of clothing on the employee) including coveralls, jackets and sweatshirts.	77°F
All other clothing	89°F

Anyone working at or above the warning temperature for their required PPE must comply with the responsibilities and practices set forth in this program.

Environmental Factors

Heat Index 130° or Higher
Heat Stroke or Sun Stroke imminent

Heat Index 105°-129°
Sun Stroke, heat cramps and heat exhaustion likely. Heat stroke possible with prolonged exposure and physical activity

Heat Index 90°-100°
Sun Stroke, heat cramps and heat exhaustion are possible with prolonged exposure and physical activity.

How To Use Heat Index

1. Across top (Air Temperature) locate today's predicted high temperature.
2. Down left side (Relative Humidity) locate today's predicted humidity.
3. Follow across and down to find "Apparent Temperature" or "What it feels like"

Heat Index Values were devised for shady, light wind conditions. Exposure to full sun can increase values by up to 15°. Strong winds, particularly with hot, dry air can be extremely hazardous.

Source: Centers for Disease Control and Prevention.

Air Temp.	70°	75°	80°	85°	90°	95°	100°	105°	110°
Relative Humidity	Apparent Temperature (Degrees Fahrenheit) →								
0%	64°	69°	73°	78°	83°	87°	91°	95°	99°
10%	65°	70°	75°	80°	85°	90°	95°	100°	105°
20%	66°	72°	77°	82°	87°	93°	99°	105°	112°
30%	67°	73°	78°	84°	90°	96°	104°	113°	123°
40%	68°	74°	79°	86°	93°	101°	110°	122°	137°
50%	69°	75°	81°	88°	96°	107°	120°	135°	150°
60%	70°	76°	82°	90°	100°	114°	132°	149°	
70%	70°	77°	85°	93°	106°	124°	144°		
80%	71°	78°	86°	97°	113°	136°	157°		
90%	71°	79°	88°	102°	122°	150°	170°		
100%	72°	80°	91°	108°	133°	166°			

When it becomes hot, your body's ability to cool off is lessened. Temperature and relative humidity affect the worker environment by providing or removing heat to the body. At 50% relative humidity 90°F is like 96°F to the body.

Work Practices for Hot Weather

Employees who work outside during hot weather must be provided with enough break time to keep their core body temperature at a safe level and enough water (or other appropriate beverage) to remain hydrated. Employees must take at minimum the mandatory cool-down rest periods at the following temperatures.

Air Temperature	Mandatory cool-down rest periods
At or above 90°F	10 minutes/2 hours
At or above 100°F	15 minutes/1 hour

The cool-down rest period must be provided in the shade or using other equally or more effective means to reduce body temperature. The mandatory cool-down rest period may be provided concurrently with any meal or rest period required

EWU cannot force employees to consume liquids to maintain hydration, employees must monitor themselves to ensure they are staying safe.

Hydration

The replacement of body fluids lost through sweating, exhaling, and eliminating waste is hydration. Urine color is a clue to hydration. In the chart below, light color is over hydrated. Urine color to the right of the red line means you are dehydrated. The further to the right the more dehydrated you are.

Employees are strongly encouraged to consume one quart of water preferability with electrolytes every hour they spend outside. Whenever possible employees should avoid working alone in hot locations. If an employee must work by themselves in a location where heat-related illness is a possibility, the supervisor should designate a person to check on the employee at least every two hours to look for signs of heat-related illness and to ensure the employee has access to adequate drinking water.

Heat-related Illnesses, Symptoms, and Response

Illness	Signs and Symptoms	Response
Heat Rash	• Red, blister-like bumps/eruptions • Itching	• Rest in a cool place • Allow the skin to dry • Monitor for infection
Heat Cramps	• Painful spasms • Abnormal body posture • Grasping the affected area	• Rest in a cool place • Drink water or diluted electrolyte drink (like Gatorade) • Seek medical attention if cramping is severe or does not go away
Heat Exhaustion	• Headaches, • Dizziness, light-headedness, or fainting • Weakness, • Mood changes, irritability or • confusion • Feeling sick to your stomach and/or vomiting • Extreme sweating • Decreased and dark-colored urine • Pale clammy skin	• Move the person to a cool, shaded area. Don't leave the person alone. If the person is dizzy or light-headed, lay them on their back and raise their legs about 6-8 inches. If the person is sick to their stomach, lay them on their side. • Loosen and remove heavy clothing. • Have the person drink some cool water (a small cup every 15 minutes) if they are not feeling sick to their stomach. • Try to cool the person by fanning them. Cool the skin with a cool spray mist of water or wet cloth. • If the person does not feel better in a few minutes call 911. **If heat exhaustion is not treated, the illness may advance to heat stroke.**

Heat-related Illnesses, Symptoms, and Response cont.

Illness	Signs and Symptoms	Response
Heat Stroke	• Dry, pale skin, • Sweating may still be present • Nausea and vomiting • Hot, red skin (looks like sunburn) • Mood changes, irritability, confusion, and not making any sense • Seizures or fits • Collapse (will not respond) • High temperature (104° F or higher)	• Call 911. • Move the person to a cool, shaded area. Don't leave the person alone. Lay them on their back and if the person is • having seizures, remove objects close to them. If the person is sick to their stomach, lay them on their side. • Remove heavy and outer clothing. • Have the person drink small amounts of cool water if they are alert enough to drink anything and not feeling sick to their stomach. • Try to cool the person by fanning them. Cool the skin with a cool spray mist of water, wet cloth, or wet sheet. • If ice is available, place ice packs in armpits and groin area.

Stop work immediately if any of the following are experienced:

- ✓ Lightheaded
- ✓ Confused
- ✓ Weak
- ✓ Faint
- ✓ Pounding heart
- ✓ Trouble breathing

Definitions

Administrative Controls: control used through break interviews, changing job duties, rotation of workforce, scheduling work in nonpeak heat times, extra breaks.

Double-layer woven clothing: normal, breathable clothing worn in two layers (e.g. coveralls worn on top of regular work clothing)

Drinking water: potable water that is suitable to drink and not too hot. Bottled water and electrolyte beverages (sports drinks) that do not contain caffeine are acceptable.

Engineering controls: devices used to reduce exposure to heat/sun and aid in cooling (e.g. air conditioning, awnings, tents, fans, misters,)

Environmental factors for heat-related illness: working conditions that increase susceptibility for heat-related illness such as air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload (heavy, medium, low) and duration, and PPE work by employees.

Heat-related illness: a medical condition resulting from the body's inability to cope with a particular heat load. This includes, but is not limited to: heat cramps, heat rash, heat exhaustion, fainting, and heat stroke. .

Outdoor environment: an environment where work activities are conducted outside. Work environments such as inside vehicle cabs, sheds, and tents or other structures may be considered an outdoor environment if the environmental factors affecting temperature are not managed by engineering controls. Construction activity is considered to be work in an indoor environment when performed inside a structure after the outside walls and roof are erected.

Vapor barrier clothing: clothing that significantly inhibits or completely prevents sweat produced by the body from evaporating into the outside air. Such clothing includes encapsulating suits, various forms of chemical resistant suits used for PPE, and other non-breathing clothing.