

COLD WEATHER PROTOCOLS

Cold weather is defined as any temperature that can negatively affect the body's regulatory system. It is important to remember that temperatures do not have to be freezing to have this effect.

- Individuals engaged in sports activities in cold, wet or windy conditions are at risk for environmental cold injuries.
- The Wind Chill is the temperature your body feels when the air temperature is combined with the wind speed. It is based on the rate of heat loss from exposed skin caused by the effects of wind and cold. As the speed of the wind increases, it can carry heat away from your body much more quickly, causing skin temperature to drop.

SYMPTOMS AND PRESENTATION:

Recognition of cold injuries

Hypothermia: Body Core Temperature below 95°F

- Shivering
- Lethargy, amnesia
- Impaired motor control
- Pale, cold face and extremities
- Decreased heart rate
- Slurred speech
- Impaired mental function

Treatment: remove wet clothing, warm with dry insulating blankets, cover the head, and get to a warm environment. Provide warm beverages, avoid friction, avoid warming extremities initially

Frostnip/Frostbite: Frostnip is superficial cooling of body tissues. Frostbite is actual freezing of body tissues which can result in cellular destruction. Most susceptible are fingers, toes, earlobes, and nose.

- Dry, waxy skin
- Swelling
- Burning, tingling
- Limited movement
- White/blue/gray patches
- Aching, throbbing, shooting pain

Treatment: rewarm slowly in warm water (not hot); avoid friction/rubbing tissue

Chilblain: an exaggerated or uncharacteristic inflammatory response to cold exposure

- Red or blue lesions
- Swelling
- Tenderness
- Itching, numbness, burning
- Increased temperature

Treatment: wash, dry area, elevate, cover with loose clothing/blankets, and avoid friction and applying lotion

Recommended Preventative Strategies:

Know and Recognize General Signs/ Symptoms of Cold Stress:

- Uncontrollable shivering
- Fatigue
- Swollen Extremities
- Confusion
- Blurred Vision
- Slurred Speech
- Headache, dizziness
- Red or Painful extremities
- Numbness/tingling of skin

Competition/Practice Modifications

- Coach's should be vigilant and monitor player's physical condition and mental status
- Consider abbreviated introductions/Consider extended half-times to allow for rewarming
- Provide access to a warm building
- Ensure/mandate proper clothing (hats, gloves, pants)

Safety Tips

- Cold exposure/activity requires more energy from the body. Additional calorie intake may be required.
- Cold exposure/activity requires similar hydration to room temperature; however, the thirst reflex is not activated. Conscious efforts before and after practice to hydrate should be initiated.
- Never train alone. A simple ankle sprain in cold weather may become life threatening
- Appropriate clothing must be closely monitored and mandated (see below)

Clothing:

In cold weather conditions appropriate clothing should be worn to prevent cold exposure. Both the Athletic Trainer(s) and coaches should require the student-athletes to implement the following:

- Wear several layers around the core of the body (especially those who are not very active).
 - The first layer should wick moisture away from the body
 - The top layers should trap heat, block the wind (fleece, wind block)
 - No cotton as inside layer.
 - Outside layer should be water resistant/waterproof
- Long pants designed to insulate.
 - Fleece or synthetic pants are a good choice.
 - On cold/and or windy days wind pants/nylon shell should be worn on the surface layer to break the wind.

Head/Feet

- Gloves, Hat or helmet to protect the ears/break wind
- Face protection
- Moisture wicking socks (preferably wool blend) -It is important that athletes avoid wearing multiple layers of cotton. When the body sweats the cotton will become dense and permeated with sweat.

STEPS FOR MONITORING COLD WEATHER:

- Wind and moisture (rain) *dramatically* increase heat loss from the body.
- Weather should be monitored by designated athletic department personnel (if a Certified Athletic Trainer is not present) and an advisory should be issued to school coaching staff when applicable.
- Temperature, wind speed, and wind chill will be monitored.

The Wind Chill Index considers effects of temperature and wind speed (see below)

- The chart is available at:
<http://www.noaa.gov/om/winter/windchill.shtml>
- Based on information from the National Weather Service, local weather stations and local/on-site Cold Index measurements, determine the risk of potential danger to participants.

RISK

Temp/Wind-Chill

MODIFICATION S#		
<i>Low Risk</i>	<i>30°F & above</i>	<i>Outside participation allowed w/appropriate clothing</i>
<i>Moderate Risk</i>	<i>29°F – 20°F</i>	<i>Mandate additional protective clothing (hat, gloves) Provide re-warming facilities</i>
<i>High Risk</i>	<i>19°F – 10°F</i>	<i>Outside participation limited to 45 minutes* All participants must have appropriate clothing Provide re-warming facilities</i>
<i>Extreme Risk</i>	<i>9°F or below</i>	<i>Termination of all outside activities #</i>

***Frostbite can occur in 30 minutes.**

References:

<http://www.nata.org/news-publications/pressroom/statements/position;>

<http://www.nws.noaa.gov/om/winter/windchill.shtml> Provided by the National Weather Service