SCUC ISD COLD WEATHER GUIDELINES

Cold weather is defined as any temperature that can negatively affect the body's regulatory system. These do not have to be freezing temperatures. The following temperature guidelines have been established for SCUC ISD Athletic Department practices and games.

Cold Weather Caution: When temperature or wind chill (which is lower than actual temperature) is from 40° F- 30° F

- No modification of practice, but a warning will be given to coaches and athletes - Coaches and Athletic Trainers emphasizing the importance of following UIL Cold Weather Illness Recommendations.
- Watching those "high risk" athletes

Cold Weather Warning:

When temperature or wind chill is from 30° F - 20° F, there may be a modified outside participation of 45 minutes.

- warm-up to be started indoors (stretching, etc.) to not take away from 45 min.
- a practice that keeps individuals moving, try to avoid working up a big sweat in the first 20 minutes, having them be wet, and then sit around watching.
- Wearing a hat that covers the ears, and some sort of gloves to cover the hands are required.
- Keeping a very close eye on those "high risk" athletes - If available, a cool-down indoors.

Cold Weather Termination: When temperature or wind chill reaches 20° F and below, there may be a termination of outside practices and games.

UIL Cold Weather Illness Information

Hypothermia: Hypothermia is a decrease in core body temperature.

1. Mild Hypothermia - shivering, cold sensation, goose bumps, numb hands.
2. Moderate Hypothermia - intense shivering, muscle incoordination, slow and labored movements, mild confusion, difficulty speaking, signs of depression, withdrawn.
3. Severe Hypothermia - shivering stops, exposed skin is bluish and puffy, inability to walk, poor muscle coordination, muscle rigidity, decrease in pulse and respiration rate, unconsciousness.

Management:

- *Remove* athlete from cold environment.
- *Remove* wet clothing and replace with dry clothing and/or blankets.
- *Refer* all moderate cases to the emergency room once safe to transport.
- *Treat* severe hypothermia as a medical emergency! Wrap the athlete in an insulated blanket and see emergency medical care immediately.

FROSTBITE: Thermal injury to the skin caused by cold exposure.

1. Frostnip - skin appears white and waxy or gray and mottled; possible numbness and pain.
2. Superficial Frostbite - skin appears white, mottled or gray; feels hard or rubbery but deeper tissue is soft, insensitive to touch.
3. Deep Frostbite - skin is white and has a wooden feel, numbness and anesthesia. Management:
   - Do not rub the area.

• Gently rewarm the area by blowing warm air onto the area, placing the area against a warm body part, or placing the affected area into warm (101 - 108 degrees F) water for several minutes.

• If not absolutely certain that the tissue will stay warm after rewarming, do not rewarm it.

*Refreezing newly thawed frostbitten tissue can cause extensive tissue damage!

If a person is also suffering from hypothermia, the first concern is core rewarming.

Prevention: The best method of management is prevention.

- Dress in layers.
- Cover the head to prevent excessive heat loss from the head and neck.
- Stay dry by wearing a wicking fabric next to the body and a breathable, water repellent outer layer.
- Stay adequately hydrated.
- Eat regular meals.
- Avoid alcohol, caffeine and nicotine.
- Educate participants, coaches, officials and administrators in recognition of cold-related illnesses.
- Consider cancellation of athletic events if weather conditions warrant.
- If unsure whether an athlete is hypothermic, err on the side of caution and treat accordingly.

RECOGNITION, MANAGEMENT AND PREVENTION OF COLD EXPOSURE SIGNIFICANCE:

Although excessive and prolonged exposure to cold may be an infrequent problem in high school athletics, the prevention, recognition and management of cold-related conditions are still an important consideration for coaches, administrators and athletic trainers.

The human body's mechanisms of heat retention are significantly less efficient than our ability to dissipate heat. Epidemiological research suggests that even in otherwise innocuous environmental conditions, hypothermia can occur. During the day, the temperature may be moderate and the sun shining, but as the sun sets and the temperature begins to fall, when coupled with conditions of exhaustion, dehydration and wet clothing associated with physical activity, the risk of cold-related pathology can increase.

Understanding the mechanisms of heat retention and production are essential to the prevention and management of cold-related illnesses and injuries:

- ***Vasoconstriction*** - Decreases blood flow to the periphery to prevent loss of body heat.
- ***Shivering*** - While involuntary shivering generates heat through increased muscle activity, it may also hinder an athlete's sport performance and ability to perform behavioral tasks to aid in heat retention.
- ***Activity increase*** - Increases heat production through a general increase in metabolic activity. Quick bouts of intense activity can generate incredible amounts of heat.
- ***Behavioral responses*** - Adjusting the number and type of clothing layers will result in heat regulation by controlling the amount of heat lost by the body.

There are two cold-related pathologies that coaches, administrators and athletes should be aware of: hypothermia and frostbite.

- ***Hypothermia*** is defined as a decrease in the core body temperature to at least 95 degrees F. It occurs when the heat loss is greater than the metabolic and heat production. Hypothermia can be categorized in three stages: mild, moderate and severe, based on core body temperature.
- ***Frostbite*** is a thermal injury to the skin, which can result from prolonged exposure to moderate cold or brief exposure to extreme cold. The body areas most prone to frostbite are the hands, feet, nose, ears and cheeks. Frostbite can be classified into three basic categories: frostnip, superficial frostbite and deep frostbite.

RECOGNITION OF COLD-RELATED ISSUES

There are several factors influencing one's susceptibility or risk of cold related injury or illness. These factors can be additive. Thus, it is essential to appreciate each of these factors, along with the associated signs and symptoms of hypothermia and frostbite. For example, exposure to 30 degrees - 50 degrees temperature under wet and windy conditions can be equivalent to sub-zero temperatures with no wind or moisture.

Risk factors

- ***Low air temperature*** - When cold exposure exceeds or overwhelms the body's ability to compensate for heat loss due to the external environment.
- ***Wind chill*** - Figure 1 provides a wind-chill index chart that identifies the risks associated with the interaction of the wind speed and air temperatures.
- ***Moisture*** - Wet skin freezes at a higher temperature than dry skin.
- ***Exposed skin*** - Heat loss occurs primarily through convection and radiation to the external environment, but may also include evaporation if the skin is moist. This is a concern for those exercising and sweating in cold environments.
- ***Insulation*** - The amount of insulation from cold and moisture significantly affects thermoregulation.
- ***Dehydration*** - Negatively influences metabolism and thermoregulation.
- ***Caffeine*** - Acts as a diuretic, causing water loss and dehydration
- ***Tobacco*** - Acts as a vasoconstrictor; increasing the risk of frostbite.

See Chart for Signs & Symptoms
(Alaska DHSS EMS Cold Injuries Guidelines June 2014.pdf)