Western Connecticut State University Sports Medicine

Cold Weather Policy

Following standards established by the NATA Position Statement on environmental cold weather injuries and the NCAA Sports Medicine Handbook, Western’s Athletic Department has put in place specific guidelines to ensure the safety of student athletes and staff.

Monitoring Weather

The Sports Medicine Staff along with in season coaches will monitor weather conditions to ensure that protocols in place are followed. The use of local weather information, the National Weather Service and Weather Sentry are among the services which will be used to follow current conditions.

The certified athletic trainer will make the final determination on practice/game status and inform all appropriate athletic personnel. In the event that a certified athletic trainer is not available, it is the responsibility of the head coach to adhere to established protocols.

Home Events

During the cold season, Western’s Sports Medicine Staff will monitor both current and future weather conditions in advance of all home games. In the event that cold weather conditions become a concern, the Athletic Director and Head Coach will notify the visiting school’s appropriate personnel and discuss our cold weather protocols. On the day of competition, the Sports Medicine Staff will monitor weather conditions and make the appropriate decision based on these protocols.

Wind Chill

Temperatures that are listed in the Cold Weather Guideline take into consideration wind chill. The National Weather Service Wind Chart will be used as a reference when determining the actual “feels like temperature”.

![Wind Chill Chart](image-url)
Cold Weather Guidelines for practice and competition

<table>
<thead>
<tr>
<th>Wind-Chill Temperature</th>
<th>Action Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 deg. F - 25 deg. F</td>
<td>* Appropriate Dress</td>
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</table>
| 25 deg. F - 15 deg. F | * Appropriate Dress (Cover exposed skin)  
* Offer re-warming every 20 minutes for at least 10 minutes. No penalties attached.  
* Total exposure time: 90-120 minutes |
| 15 deg. F - 0 deg. F  | * Consider limiting activity to limit exposure  
* Appropriate Dress  
* Offer re-warming every 15 minutes for at least 10 minutes. No penalties attached  
* Total exposure time: 60 minutes |
| < 0 deg. F            | * Cancel practice./Reschedule home events |

Prevention from Cold Related Injuries

Appropriate Clothing

Coaches and Athletic Trainers should advocate that student athletes wear appropriate clothing when exposed to cold weather conditions.

- Wear several layers of clothing that cover the entire body. The first layer should always be a material that wicks water away from the body. Polypropylene garments and wool are recommended. Look for gear that has moisture wicking properties. Avoid cotton which can trap moisture.
- Additional layers of lightweight fleece or wool can be added for extra protection. The outer layer should be wind and water resistant/proof. Long pants designed for activity while providing a layer of insulation along with moisture wicking socks are recommended.
- Covering the head and neck can reduce heat loss up to 40%. Consider the many options available to provide adequate coverage of the neck, face and head. When wearing a helmet, cover the ear holes with tape.

Energy/Hydration

- Maintain energy levels via the use of meals, energy snacks and sports drinks. Stay hydrated, fluids are as important in the cold as in the heat. Avoid caffeine, nicotine and other drugs that cause water loss, vasodilation or vasoconstriction of skin vessels.

Fatigue/Exhaustion

- Fatigue and exhaustion deplete energy reserves. Exertional fatigue and exhaustion increase the susceptibility to hypothermia, as does sleep loss.
Warm-up

- Warm-up and keep warm throughout the practice or competition. Time warm-up to the actual start of activity. After activity add clothing to avoid rapid cooling. Warm extremely cold air with a mask or scarf.

Partner

- Always train with a partner in cold weather. An injury or delay in recognizing early cold exposure symptoms could become life-threatening.

Common Cold Injuries

- The NATA position statement (2008) states that injuries from cold exposure are due to a combination of low air or water temperatures and the influence wind has on the body’s ability to maintain a normothermic core temperature, due to localized exposure of extremities to cold air or surface. The variance in the degree, signs and symptoms of cold stress may also be the result of non-environmental factors. These factors include but are not limited to previous cold weather injury, race, ambient temperature, medications, clothing, fatigue, hydration, age, activity, body size, fitness level, acclimatization and low caloric intake.
- Early recognition of cold stress is important. Shivering means the body is trying to generate heat and is an early sign. Excessive shivering contributes to fatigue and makes performance and motor skills more difficult. Other signs include numbness and pain in the fingers and toes or a burning sensation in the ears, nose or exposed skin.
- As exposure continues, the core temperatures drops. When the cold reaches the brain, a victim may exhibit sluggishness, disorientation and poor judgement. Speech becomes slow and slurred, movements become clumsy and the participant may want to lie down. This is a medical emergency.

Cold Injury Classification

Cold injuries can be classified into three categories: freezing of extremities, non-freezing of extremities and hypothermia.

1. Frostbite – Frostbite can appear in three distinct phases: frostnip, mild frostbite and deep frostbite. Frostnip is a precursor to frostbite. The most common symptom is a loss of sensation. Frost bite is the actual freezing of skin or body tissues. Signs and symptoms include edema, redness or mottled skin and tingling and burning.
2. Hypothermia – Hypothermia is a significant drop in body temperature (below 95 Deg.) as heat loss exceeds its production. Depending on the degree of hypothermia (mild, moderate, severe), signs and symptoms can vary. An individual can exhibit changes in motor function, cognitive processing and loss of consciousness, renal symptoms, hyperventilation, and or cessation in shivering. Signs and symptoms can also vary dependent on non-environmental factors.
3. Chilblain and Immersion (Trench) Foot – This is a non-freezing cold injury associated with extended cold and wet exposure at temperatures under 50 degrees F. Chilblain may be observed in exposure to cold, wet conditions extended beyond one hour. Hands and feet are usually affected.
**Treatment/Referral**

Report all athletic related injuries to a member of the Athletic Training Staff. If none are present call and refer the athlete to the O’Neill Athletic Training Room (203-837-9063) or the WAC Athletic Training Room (203-837-9016). If no training staff is available and Health Services is closed (203-837-8594) and medical evaluation in necessary, activate EMS and follow the Emergency Action Plan.

**Frostbite (Superficial) Frostnip**
- **Signs/symptoms** – Dry waxy skin, patchy redness of the skin, edema, transient tingle/burning, mottled skin, cold and firm to touch, limited movement to affected area.
- **Treatment** - Rewarm slowly, if no rewarming protect from further damage, avoid friction massage, do not allow tissue to be refrozen, refer to health care professional.

**Frostbite (Deep)**
- **Signs/Symptoms** – In addition to superficial frostbite signs, skin cold and hard to the touch, vesicles present, aching/throbbing/shooting pain, poor circulation to affected area and loss of motor/sensory function (feeling and movement).
- **Treatment** – **Note:** Rule out hypothermia (evaluate core temperature) and if suspected follow hypothermia protocols. Deep frost bite suspected; rewarm in water bath at 98-104 degrees x 15-30 min, remove constricting clothing, do not use dry or steam heat, protect from additional damage due to further tissue temperature decreases, avoid friction massage, refer to health care professional.

**Hypothermia (Mild)**
- **Signs/Symptoms** – Core body temperature in the range of 95-98.6 degree’s, amnesia, lethargy, vigorous shivering, impaired fine motor control, cold extremities, BP within normal limits, pallor, rhinorrhea
- **Treatment** – Remove wet clothing, insulate with warm, dry blankets including head, move to a warm area, and apply heat only to trunk and other areas of heat transfer, warm non-alcoholic fluids and foods containing carbohydrates.

**Hypothermia (Moderate and severe)**

Note: Because signs and symptoms can overlap both of these conditions will be treated the same.

- **Signs/symptoms** - Core temperature below 95 degrees. Depressed respiration and pulse, cardiac arrhythmias, cyanosis, cessation of shivering, impaired mental function, slurred speech, impaired motor function, potential loss of consciousness, muscle rigidity, dilated pupils, BP decrease, very cold skin on palpation.
- **Treatment** – Primary survey to determine if CPR necessary, Activate EMS, move to a warm location, remove wet clothing, insulate with dry blankets, cover head, monitor vitals.
**Chilblains**
- Signs/Symptoms – Exposure to cold and wet for more than 60 minutes. Red or cyanotic lesions, swelling, tenderness, itching, numbness, burning, tingling, skin necrosis, skin sloughing.
- Treatment – Activate EMS, remove wet clothing, wash and dry area gently, elevate, cover with warm loose and dry clothing, do not disturb blister, maintain non-weight bearing.

**Immersion (Trench) Foot**
- Signs/Symptoms – burning, tingling, itching, loss of sensation, cyanotic or blotchy skin, swelling, pain, blisters, skin fissures.
- Treatment – gently clean and dry feet, apply warm pack or soak in warm water (102 Degree’s), cover with clean, dry clothing, refer to health care professional.