ENVIRONMENTAL COLD INJURIES

**Hypothermia**
- **Symptoms:**
  - Mild: Vigorous shivering, increased blood pressure, fine motor skill impairment, lethargy, apathy and mild amnesia
  - Moderate or severe: No more of shivering, very cold skin, depressed vital signs, impaired mental function, slurred speech, unconsciousness and gross motor skill impairment

**Frostbite**
- **Symptoms:**
  - Mild: Swelling, redness or mottled gray skin appearance, stiffness and momentary tingling or burning
  - Deep: Edema, mottled gray skin appearance, tissue that feels hard and does not rebound, blisters and numbness or loss of sensation

**Chilblain**
- **Symptoms:** Small red bumps, swelling, tenderness, itching and pain

**Immersion Foot**
- **Symptoms:** Burning, tingling or itching, loss of sensation, bluish or blotchy skin, swelling, pain or sensitivity, blisters, skin fissures and maceration

**WHAT TO DO:**

- **Hypothermia**
  - Remove wet or damp clothing then insulate the body, including the head, with warm, dry clothing or blankets.
  - Move the athlete to a warm shelter, protected from wind and rain.
  - Apply heat only to the trunk and heat transfer areas of the body, such as armpits, chest wall and groin.
  - Don’t rewarm the extremities – it could send cold blood to the core and lead to a drop in core temperature, which may cause cardiac arrhythmias and death.
  - Don't rewarm the extremities – it could send cold blood to the core and lead to a drop in core temperature, which may cause cardiac arrhythmias and death.
  - Provide warm fluids and foods.
  - Avoid applying friction massage to tissue, which can increase damage if frostbite is present.

- **Frostbite**
  - Rule out the presence of hypothermia.
  - Rewarm the tissue if there isn’t a chance of refreezing.
  - Immerse the affected tissue into a warm bath of gently circulating water for 15 to 30 minutes.
  - Rewarming should be done slowly, so water temperature shouldn’t exceed 98 degrees.
  - Thawing will be complete when the tissue is pliable and color and sensation have returned.
  - Note that rewarming can be painful, so a physician may prescribe pain medication.

- **Chilblain**
  - Remove wet or constrictive clothing.
  - Gently wash and dry the area.
  - Elevate the area and cover with warm, loose, dry clothing or blankets.
  - Don’t disturb the blisters or apply friction massage.
  - Avoid lotions, creams or high levels of heat.
  - Avoid any weight bearing on the affected area.

- **Immersion Foot**
  - Thoroughly clean and dry the feet.
  - Apply warm packs or soak the affected area in warm water for approximately five minutes.
  - Put on clean dry socks.
  - Allow footwear to dry before reusing.

**WHAT TO DO:**

- **Staying warm, staying safe**
  - Wear insulated clothing that also allows moisture to evaporate.
  - Dress in layers that can be adjusted with changes in the weather.
  - Use external heaters.
  - Take regular indoor breaks.
  - Maintain a well-balanced diet
  - Stay hyrdrated with water or sports drinks.
  - Have extra shoes, socks and gloves available to replace wet clothing.
  - Athletes who are young, old, diabetic, women or African-American should take extra precaution as they are at greater risk.

Source: National Athletic Trainers’ Association