COLD EXPOSURE

Cold exposure in general can affect many body systems. Physiological factors such as strength, power, endurance and aerobic capacity are reduced by a drop in muscle temperature or body core temperature. The combination of cold air and the deep breathing of exercise can trigger an asthma attack (bronchospasm). When the body and clothing are wet (whether from sweat, rain, or snow or immersion), the cooling is even more pronounced due to evaporation of the water held close to the skin by wet clothing. There are two primary issues that we get concerned with when we think of cold exposure...hypothermia and frostbite.

HYPOTHERMIA

The severity of hypothermia can vary, depending on how low the core body temperature gets. Hypothermia frequently occurs at temperatures above freezing. The condition worsens as the core body temperature lowers. Some simple signs of hypothermia are as follows: Involuntary shivering, inability to perform complex motor functions, slurred speech, violent shivering, dazed consciousness, loss of fine motor coordination, dilated pupils, pale skin, decreased pulse rate, and muscle rigidity develops. Some unique predisposing factors to hypothermia are individuals who are diabetic and those that have an active infection of some sort. Others include being exposed to rain, wind, or increased sweatiness.

FROSTBITE

Frostbite is the freezing of superficial tissues, usually of the face, ears, fingers and toes. In conditions of prolonged cold exposure, your body sends signals to the blood vessels in your arms and legs telling them to constrict. The beginning stage of frostbite is frostnip. Frostnip is accompanied by discoloration of the skin, along with burning and/or tingling sensations, partial or complete numbness, and possibly intense pain. Some factors that predispose someone to frostnip/frostbite are: wet skin, wind chill, women, dehydration, the use of beta-blockers, African-Americans, hypotensive individuals, anemia, diabetes, and those with sickle cell disease.

Gettysburg College Athletics Cold Exposure Guidelines

We will alert the coaches, athletes, and A.D. if temperatures fall within the three categories below, and let them know whether the practice may be a “Caution,” “Warning” or “Termination.”

Cold Weather Alert: When temperature or wind chill is 30°F or below. Wearing a hat that covers the ears, and some sort of gloves to cover the hands are required. Be aware of the potential for cold injury and notify appropriate personnel of the potential.

Cold Weather Caution: When temperature or wind chill is 25°F or below, provide additional protective clothing; cover as much exposed skin as practical; provide opportunities and facilities for re-warming if needed.

Cold Weather Warning: When temperature or wind chill is 15°F or below, consideration of modifying activity to limit exposure or to allow more frequent chances to re-warm. Modification is no “pre-practice”, then 45-60 minutes of activity with a 10-15 minute period inside and then another 45-60 minute period outside. Stress keeping everyone moving and not just sitting around on sideline.

Cold Weather Termination: When temperature or wind chill reaches 0°F and below, there may be a termination of outside practices/activity.

Ways to Decrease Your Chance of Cold Exposure

In addition to the above guidelines it is recommended that additional directives are given to student athletes.

• Cold exposure/activity requires more energy from the body. Additional calorie intake may be required.
• Cold exposure can be affected by poor hydration. Dehydration affects the body’s ability to regulate temperature and increases the risk of frostbite.
• 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!
• Student athletes should be instructed on signs of cold stress (wind chill, frostbite and hypothermia). Fatigue, confusion, slurred speech, red or painful extremities, swollen extremities, blurred vision, red watery eyes, dizziness, headache, numbness, tingling of skin and extremities, shivering, uncontrollable shivering etc. are a few warning signs of cold stress. * In cold weather temperatures proper layered clothing should be worn and encouraged by Gettysburg College Athletics department staff and coaches. Clothing should be layered to allow adjustments as activity level may increase and decrease within a practice which may elevate or drop body temperature. The first layer of clothing should wick sweat and moisture away from the body. Equipment managers can identify what clothing works best for this. The top layers should act as insulators to trap heat and block wind. These include:
  • Several layers around the core of the body, especially for those individuals that are not very active.
  • Long pants designed to insulate. On very cold days a nylon shell or wind pant can be worn on top of them for wind break.
  • Long sleeve shirt/sweatshirt/coat designed to insulate and break the wind.
  • Gloves, ear protection/hat or helmet, face protection
  • Wicking socks that do not hold moisture inside. Wool is excellent. Cotton absorbs and holds in moisture.

Revised 2/2015