Managing Heat and Heat Illness

Wet Bulb Globe Temperature

These requirements represent minimum standards that IHSA member schools must follow for all athletic activities and competitions, both outdoors and indoor facilities that are not airconditioned. Schools with more restrictive guidelines are not expected to modify any pre-existing guidelines in order to meet this policy. These guidelines will also be used by managers or their designees at all IHSA state series events when the Wet Bulb Globe Temperature (WBGT) is above 80 degrees Fahrenheit. Decisions to suspend and resume activity will be in accordance with these guidelines.

Pre-Practice Preparation:

1. Thirty minutes prior to the start of an activity, and minimally every 30 minutes after the start of the activity, temperature and humidity readings will be taken at the site of the activity. Using a Wet Bulb Globe Thermometer is required.

a. Record the readings in writing and maintain the information in files of the tournament manager and/or host school administration. Tournament managers may designate someone other than themselves to take these readings.

2. Provide cooling stations such as shade, ice towels, misting fans, etc. for before, during, and after activity.
3. Provide ample amounts of water. This means water should always be available and athletes should be able to take in as much water as they desire.

Use the Table 1 (see below) with an on-site WBGT reading for appropriate exercise modifications during exercising in the heat:

Cat 2	Activity Guidelines
< 79.9	Normal Activities – Provide at least three separate rest breaks each hour with a minimum duration of 3 min each during the workout.
80.0 - 84.5	Use discretion for intense or prolonged exercise; Provide at least three separate rest breaks each hour with a minimum duration of 5 min each. Cold Water Immersion must be available. (see below)
84.6- 87.5	Maximum practice time is 2 h. Contests may conclude if the temperature moves to orange mid-game with the required breaks provided. No new contests may be started if the temperature is in this range. For Football: players are restricted to helmet, shoulder pads, and shorts during practice. If the WBGT rises to this level during practice, players may continue to work out wearing football pants without changing to shorts. For All Sports: There must be 20 min of rest breaks distributed throughout each hour of practice. Cold Water Immersion must be available. (see below)
87.6 - 89.9	Maximum practice time is 1 h. For Football: No protective equipment may be worn during practice, and there may be no conditioning activities. For All Sports: There must be 20 min of rest breaks distributed throughout the hour of practice. Cold Water Immersion must be available. (see below) Consider postponing games or practices until a cooler time of day.
> 89.9	No outdoor workouts. Delay practice until a cooler WBGT is reached.

Table 1 (all temperature readings as measured by WBGT devise)

Treatment of Exertional Heat Stroke and Cold-Water Immersion:

In the event of potential Exertional Heat Stroke (EHS), each school participating in interscholastic sports shall be properly prepared and equipped to activate EMS and initiate rapid whole-body cooling using an evidence-based cooling modality. The current best practice for the treatment of exertional heat stroke is rapid whole-body cooling via Cold Water Immersion (CWI) on-site followed by transport to advanced medical care (Cool first transport second). If whole-body CWI is not readily available, alternate evidence-based whole-body cooling techniques can be utilized (e.g. TACO method). The best practices shall be carried out by a licensed athletic trainer, designated healthcare provider, or EMS provider. In the event that these medical providers are not available and heat illness is suspected, cooling should be initiated until advanced medical personnel arrives.

The cooling modality shall be ready for immediate use when WBGT is at or above 80F. At WBGT temperatures below 80F the cooling modality should be readily available.

Cooling Methods Due to Heat Related Illness

Exertional heat stroke (EHS) is relatively uncommon among exercise associated medical conditions, but is a frequent cause of exercise related death. The majority of evidence shows that early institution of body cooling is the most effective method of decreasing mortality in EHS. The following contains recommendations regarding the methods of body cooling, including tubs, ice bags, iced towels (towels with water that have been frozen) water, fans, and shade. The recommendations are classified as essential (foundational to the implementation of treatment, should have resources and personnel directed towards implementation), and desirable (important in maximal implementation, should have resources and personnel directed towards implementation as budget and resources allow). The recommendations are only guidelines, are not intended as a standard of care, and should not be considered as such. These guidelines should only be considered in the care of athletes who can be expected to be at risk of EHS due to the sport or the environmental situation of the activity. Sports especially at risk include football with and without equipment, soccer, and long distance track. Other sports and activities, such as cycling, golf, baseball, tennis, track and field, and band, may also be at risk due to long duration exposure to extreme environmental conditions.

It is essential that member schools and school administrators/officials:

- Establish a written plan coordinated with local EMS for emergency treatment of EHS that includes transport to a hospital and conduct drills in the implementation of the plan as practicable.
- Know how to assess environmental conditions and determine when extreme conditions exist.
- Identify a specific spot at the athletic facility that has shade.
- Have immediate access to ice and bags to contain ice.
- Have access to water, and provide water breaks as outlined in the IHSA Managing Heat and Humidity Policy.
- Know the most effective sites for application of ice to the body.
- Obtain and use, when environmental conditions are determined to be extreme, a tub or pool, filled with water and ice before activity begins, to be used in body immersion for maximal cooling, and have personnel trained in this technique.

It is desirable that member schools and school administrators/officials:

- Have a certified athletic trainer (ATC) on staff, as budget and resources allow, to develop and implement these guidelines.
- Have immediate access to water.
- Provide shade breaks.
- Provide fans when environmental conditions are determined to be extreme.
- Have close access to an air conditioned room.
- Have access to and use iced towels that can be rotated to appropriate areas of the body, including the axilla, groin, and back of the neck.

Resources

1. *Procedure for Avoiding Heat Injury/Illness through Analysis of Heat Index and Restructuring of Activities and Recommendations for Cooling Methods Due to Heat Related Illness.* Kentucky Medical Association/Kentucky High School Athletic Association. 2010.
2. Binkley HM et al. NATA Position statement: *Exertional heat illness.* J Ath Training 2002; 37: 329-343.
3. Casa DJ et al. *Survival strategy: Acute treatment of exertional heat stroke.* J Strength Conditioning Res 2006; 20: 462.
4. Armstrong LE et al. *ACSM position stand: Exertional heat illness during training and competition.* Med Sci Sports Exerc 2007; 41: 556-572.
5. *Model Policy for Managing Heat & Humidity.* Michigan High School Athletic Association. 2013.