

## Heat Stress and Athletic Participation

Spring practices may be conducted in hot, humid temperatures. During hot weather conditions the athlete is at risk for the following:

**HEAT CRAMPS** - Painful cramps involving abdominal muscles and extremities caused by intense, prolonged exercise in the heat and depletion of salt and water due to profuse sweating.

**HEAT SYNCOPE** - Weakness fatigue and fainting due to loss of salt and water in sweat and exercise in the heat. Predisposes to heat stroke.

**HEAT EXHAUSTION (WATER DEPLETION)** - Excessive weight loss, reduced sweating, elevated skin and core body temperature, excessive thirst, weakness, headache and sometimes unconsciousness.

**HEAT EXHAUSTION (SALT DEPLETION)** - Exhaustion, nausea, vomiting, muscle cramps, and dizziness due to profuse sweating and inadequate replacement of body salts.

**HEAT STROKE** - An acute medical emergency related to thermoregulatory failure. It is associated with nausea, seizures, disorientation, and possible unconsciousness or coma; it may occur suddenly without being preceded by any other clinical signs. The individual is usually unconscious with a high body temperature and a hot dry skin (heat stroke victims, contrary to popular belief, may sweat profusely).

It is believed that the above-mentioned heat stress problems can be controlled or avoided provided certain precautions are taken:

1. Ensure the athlete is well hydrated prior to the start of any and all activity.
2. Acclimatization is the process of becoming adjusted to heat and it is essential to provide for gradual acclimatization to hot weather.
3. The most important safeguard to the health of the athlete is the replacement of water. Water must be on the field and readily available to the athletes at all times. It is recommended that a minimum 10-minute water break be scheduled for every twenty minutes of heavy exercise in the heat. Check to make sure athletes are drinking sufficient amounts of water.
4. Athletes should weigh each day before and after practice and weight charts checked. Generally a 3 percent weight loss through sweating is safe.
5. Observe athletes carefully for signs of trouble, particularly athletes who lose significant weight and the eager athlete who constantly competes at his/her capacity.
6. Some trouble signs are nausea, incoherence, fatigue, weakness, vomiting, cramps, weak rapid pulse, visual disturbance and unsteadiness.
7. Warn your athletes about the use of any products that contain ephedra. Ephedra speeds metabolism, increases body heat, and constricts blood vessels in the skin preventing the body from cooling itself. By making the user feel more energetic it keeps him/her exercising longer when the he/she should stop.

### WHAT TO DO IN AN EMERGENCY

Heat Stroke - A Medical Emergency - Delay Could Be Fatal. Immediately cool body while waiting for transfer to a hospital. Remove clothing and immerse torso in ice/cold water. Immersion therapy has the best cooling rates. A plastic baby pool can be available at all practices and games, and can always be ready for immersion procedures. If not available apply ice packs in armpits, groin and neck areas. Continue cooling efforts until EMS arrives.

Heat Exhaustion - Obtain Medical Care At Once. Cool body as you would for heat stroke while waiting for transfer to hospital. Give fluids if athlete is able to swallow and is conscious.

### SUMMARY

The main problem associated with exercising in the hot weather is water loss through sweating. Water loss is best replaced by allowing the athlete unrestricted access to water. Water breaks two or three times every hour are better than one break an hour. Probably the best method is to have water available at all times and to allow the athlete to drink water whenever he/she needs it. Never restrict the amount of water an athlete drinks, and be sure the athletes are drinking the water. The small amount of salt lost in sweat is adequately replaced by salting food at meals. Talk to your medical personnel concerning emergency treatment plans.

## Air Quality

In the event of a high fire season and air quality is compromised, the IHSAA Sports Medicine Committee recommends that students be monitored closely, especially those with respiratory issues. All schools must have an air quality check site. For game situations, both administrations will meet before the game to determine what air quality site to use. The host school's administration will have the official site for this. The site [airnow.gov](http://airnow.gov) is recommended. It is suggested that in instances where the Air Quality Index is over 150, the games be suspended or cancelled.

## Lightning

*NFHS GUIDELINES ON HANDLING PRACTICES AND CONTESTS DURING LIGHTNING or THUNDER DISTURBANCES*

National Federation of State High School Associations (NFHS) Sports Medicine Advisory Committee (SMAC)

These guidelines provide a default policy to those responsible or sharing duties for making decisions concerning the suspension and restarting of practices and contests based on the presence of lightning or thunder. The preferred sources from which to request such a policy for your facility would include your state high school activities association and the nearest office of the National Weather Service. Proactive Planning:

1. Assign staff to monitor local weather conditions before and during practices and contests.
2. Develop an evacuation plan, including identification of appropriate nearby safe areas.
3. Develop criteria for suspension and resumption of play:
  - a. When thunder is heard or a cloud-to-ground lightning bolt is seen, the leading edge of the thunderstorm is close enough to strike your location with lightning. Suspend play for thirty minutes and take shelter immediately.
  - b. Thirty-minute rule. Once play has been suspended, wait at least 30 minutes after the last thunder is heard or flash of lightning is witnessed prior to resuming play.
  - c. Any subsequent thunder or lightning after the beginning of the 30-minute count will reset the clock and another 30-minute count should begin.
4. Review annually with all administrators, coaches and game personnel.
5. Inform student athletes of the lightning policy at start of season.