Extreme Heat and Other Weather-Related Procedures for Student Safety
DeKalb County School System

Due to the unpredictability of weather in Georgia, the following procedures are in place to protect students and staff. The weather is monitored each day, and if necessary, weather alerts are sent by emergency text message and e-mail to all principals.

Precautions related to extreme heat must be followed carefully when temperatures are in the 90's or when the Heat Index is in the 90's (daily weather updates will be provided during the season). Please remember to closely monitor all students during extreme weather conditions. When the Heat Index is **90** degrees or higher, based on the "heat bulb", all outdoor activity will be discontinued.

(Note: the term "activity" includes all sports practices, physical education classes, clubs, band, cheerleading and other outdoor activities.)

1. Have fluids (water or Power Aid and ice) on hand and easily accessible during all activities.

2. Take frequent fluid and rest breaks.

3. Schedule activities in the coolest part of the day – early morning or late afternoon.

4. In the case of severe thunderstorms, move students into the building when lightning is first noticed or when a weather alert is sent. Do not wait until the storm is breaking to move inside.

5. Be sure you have first aid kits and emergency cards at each activity. It is also important to have some means of communication at every activity (walkie-talkie, cellular telephone, etc.).

6. Be prepared to cancel the activity or modify the activity schedule when extreme temperatures exist.

7. Remove equipment such as helmets and pads or heavy clothing when not participating.

8. Do not use salt tablets.

9. Be attentive to heat illness and dehydration symptoms in students and treat them appropriately.

10. Encourage students to drink fluids in the hours before the activity (no soft drinks or beverages containing caffeine).

Heat-Related Illnesses

During the early stages of heat-related illnesses, the student may experience cool, moist, pale, ashy or flushed skin. Often there are complaints of headache, nausea, dizziness, weakness, exhaustion, and heavy sweating. During the late states of the onset of heat-related illnesses, the student's skin tone may change, (for example, it may appear red in some athletes). The skin may feel hot and dry, and the student may experience changes in level of consciousness. It is not uncommon for the student to experience vomiting.

Dehydration

Dehydration occurs when students fail to drink enough liquids to replace fluids lost through perspiration or urine output. Other causes include:

1. Inadequate fluid intake.
2. Profuse sweating.
3. Reduced electrolyte intake, such as potassium found in some foods (e.g. fruit) and fluids.
4. Injection of hypertonic solutions, such as intravenous solutions while under medical care.
5. Ingestion of diuretic substances (e.g. salt, caffeine).

Guidelines to Prevent Dehydration in students participating in sports, bands, cheerleading, etc.

1. 2 to 3 hours before a workout or competition: Drink 2 cups of fluid.
2. 1 hour before a workout or competition: Drink 1 cup of fluid.
3. 15 minutes before a workout or competition: Drink 2 cups of fluid.
4. Before a workout or competition: Weigh each student.
5. Every 10 to 20 minutes during a workout or competition: Drink 2 cups of fluid.
6. After a workout or competition: Weigh each student and drink 2 cups of fluid for every pound of weight lost.

Guidelines for Re-hydration

1. Drink large amounts at one time.
2. Drink cool fluids, such as water.
3. Drink 4-8 ounce glasses of fluid per 1000 calories expended.
4. Do not drink soft drinks containing caffeine.

Care for Athletes with Heat-Related Illnesses

1. Move student to a cool place. Offer a drink of cool water as soon as possible.
2. Loosen tight clothing.
3. Remove wet clothing. Cover with a blanket or appropriate covering, but not heavy or thick cover.
4. Cool down the student by fanning him/her.

If the athlete refuses water, vomits or starts to lose consciousness:

1. Call 911 immediately.
2. Place student on his/her side.
3. Cool with ice or cold packs on wrists, ankles, groin, neck and armpits.
4. Monitor breathing and pulse carefully.
5. If choking - check airway for obstruction.

Management of Heat Injuries

TYPES	HEAT STRESS	HEAT EXHAUSTION	HEAT STROKE
SYMPTOMS: SKIN	Flushed	Pale, cool Clammy	Hot, dry, red
SWEAT	Sweating	Sweating Profusely	May not be sweating
PULSE/BPI	Weak, rapid pulse	Narrow pulse Pressure	Rapid pulse
CONSCIOUSNESS	Clear, lucid	Usually conscious	Confused or unconscious
GENERAL	Weakness Tiredness Dizziness Faintness Hot	Extremely weak Exhaustion Thirst Giddiness Delirium Nausea	Faintness Dizziness Staggering Headache Nausea Disorientation Incoherent Speech
TREATMENT	Cessation of activity Remove from direct sunlight Oral fluids Ice towels	Cooling of body Fluid replacement Hospitalization, if unconscious	Rapid cooling of body Fluid replacement If possible, immediate transport to emergency room

Each Head Football Coach on both the High and Middle School Levels should have four items of importance related to the Heat Protocols:

1. 2011-2012 Summary of Heat Protocols Package

2. Digital Pocket Psychrometer – which is used to read Heat Index

3. Heat Index Charts

4. Hand outs related to Dehydration and Hydration

Do's – As it relates to Heat Protocols:

1. Take heat index reading every 30 minutes beginning 30 minutes before practice and continuing through out the practice.

2. Coaches should monitor the air quality index on a daily basis.

3. When the air quality index is orange you should conduct practice early morning or late evening.

4. When the Heat Index Reading is 95 or higher; provide water breaks every 30 minutes for 10 minutes duration and ice-down towels for cooling.

5. Always provide ample amounts of water. Athletes should be able to take in as much water as they desire.

6. Designate an Assistant Coach to keep water rotations going during practice. **NEVER RUN OUT OF WATER.**

7. Water break every 30 minutes.

8. Limit your outdoor practice sessions in the heat to 3 hours total.

9. An AED must be present at all practices.

10. Always watch and monitor athletes carefully for danger signs due to extreme heat.

Don't:

1. No outdoor practice is allowed once the Heat Index Reading reaches **103** degrees or higher.

2. No outdoor practice is allowed when the air quality index is **red**.

3. Do not conduct practice before you review your state required emergency action plans with your coaching staff.

Parents' and Coaches' Guide to Dehydration and Other Heat Illnesses in Children

These guidelines were developed to help parents and coaches increase the safety and performance of children who play sports in hot weather. Children who play sports or are physically active in hot weather can be at risk for heat illnesses. The good news is heat illnesses can be prevented and successfully treated.

Children sweat less than adults. This makes it harder for children to cool off. Parents and coaches must make sure that children take it slow to be sure they can get used to the heat and humidity gradually.

There are other reasons why a child may become ill from a heat illness. Those who have a low level of fitness, who are sick, or who have suffered from dehydration or heat illness in the past should be closely watched. A medical professional such as a certified athletic trainer (ATC) should be on site to monitor the health and safety of all participants during games and practice, especially when it is very hot and humid.

Dehydration

Children get dehydrated if they do not replace body fluids lost by sweating. Being even a little dehydrated can make a child feel bad and play less effectively. Dehydration also puts children at risk for more dangerous heat illnesses.

Signs and Symptoms

- Dry mouth
- Thirst
- Being irritable or cranky
- Headache
- Seeming bored or disinterested
- Dizziness
- Cramps
- Excessive fatigue
- Child not able to run as fast or play as well as usual

Treatment

- Move child to a shaded or air-conditioned area.
- Give him or her fluids to drink.

"When can I play again?"
A child may be active again as soon as he or she is symptom-free. However, it's important to continue to watch the child.

National SAFE KIDS Campaign®

National Athletic Trainers' Association

Heat Cramps

Heat cramps are a mild heat illness that can be easily treated. These intense muscle spasms usually develop after a child has been exercising for a while and has lost large amounts of fluid and salt from sweating. While heat cramps are more common in children who perform in the heat, they can also occur when it's not hot (for example, during ice hockey or swimming).

Children who sweat a lot or have a high concentration of salt in their sweat may be more likely to get heat cramps. Heat cramps can largely be avoided by being adequately conditioned, getting used to the heat and humidity slowly, and being sure a child eats and drinks properly.

Signs and Symptoms

- Intense pain (not associated with pulling or straining a muscle)
- Persistent muscle contractions that continue during and after exercise

Treatment

- The child should be given a sports drink to help replace fluid and sodium losses.
- Light stretching, relaxation and massage of the cramped muscles may help.

"When can I play again?"

A child may be active again when the cramp has gone away and he or she feels and acts ready to participate. You can help decrease the risk of recurring heat cramps by checking whether the child needs to change eating and drinking habits, become more fit, or get better adjusted to the heat.

Heat Exhaustion

Heat exhaustion is a moderate heat illness that occurs when a child continues to be physically active even after he or she starts suffering from ill effects of the heat, like dehydration. The child's body struggles to keep up with the demands, leading to heat exhaustion.

Signs and Symptoms

- Child finds it hard or impossible to keep playing
- Loss of coordination, dizziness or fainting
- Dehydration
- Profuse sweating or pale skin
- Headache, nausea, vomiting or diarrhea
- Stomach/intestinal cramps or persistent muscle cramps

Treatment

- Move child to a shaded or air-conditioned area.
- Remove any extra clothing and equipment.
- Cool the child with cold water, fans or cold towels (replace towels frequently).
- Have child lie comfortably with legs raised above heart level.
- If the child is not nauseated or vomiting, have him or her drink chilled water or sports drink.
- The child's condition should improve rapidly, but if there is little or no improvement, take the child for emergency medical treatment.

"When can I play again?"

A child should not be allowed to return to play until all symptoms of heat exhaustion and dehydration are gone. Avoid intense practice in heat until at least the next day, and if heat exhaustion was severe, wait longer. If the child received emergency medical treatment, he or she should not be allowed to return until his or her doctor approves and gives specific return-to-play instructions.

Parents and coaches should rule out any other conditions or illnesses that may predispose the child for continued problems with heat exhaustion. Correct these problems before the child returns to full participation in the heat, especially for sports with equipment.

Exertional Heat Stroke

Heat stroke is a severe heat illness that occurs when a child's body creates more heat than it can release, due to the strain of exercising in the heat. This results in a rapid increase in core body temperature, which can lead to permanent disability or even death if left untreated.

Signs and Symptoms

- Increase in core body temperature, usually above 104°F/40°C (rectal temperature) when the child falls ill
- Central nervous system dysfunction, such as altered consciousness, seizures, confusion, emotional instability, irrational behavior or decreased mental acuity

Other possible indicators include:

- Nausea, vomiting or diarrhea
- Headache, dizziness or weakness
- Hot and wet or dry skin
- Increased heart rate, decreased blood pressure or fast breathing
- Dehydration
- Combativeness

Treatment

If there are no on-site medical personnel:

- Call emergency medical services for immediate transport to the nearest emergency medical facility. Begin cooling the child while waiting for and during transport to the emergency facility.

If there are on-site medical personnel:

- Locate medical personnel immediately. Remove extra clothing or equipment. Begin aggressive whole-body cooling by immersing the child in a tub of cold water. If a tub is not available, use alternative cooling methods such as cold water, fans, ice or cold towels (replaced frequently), placed over as much of the body as possible.
- Call emergency medical services for transport to the nearest emergency medical facility.

"When can I play again?"

No child who has suffered heat stroke should be allowed to return until his or her doctor approves and gives specific return-to-play instructions. Parents should work with the child's doctor to rule out or treat any other conditions or illnesses that may cause continued problems with heat stroke. The child should return to physical activity slowly, under the supervision of an ATC or other qualified health care professional, especially for sports with equipment.

Parents: How Much Should Your Child Drink When Active?

- Before activity in the heat, record your child's body weight. (Remember if your child has already been exercising in the heat, he or she may already be dehydrated.)
- Weigh your child again, after the activity is over.
- Compare your child's pre-activity body weight to his or her post-activity body weight.

If post-activity weight is less than pre-activity weight, your child is not drinking enough fluids while active. A loss of as little as 1 percent of body weight can cause a decrease in performance. Because scientists have proven that children replace less of their fluid losses when drinking water, you may want to offer a flavored sports drink to increase the amount of fluid your child consumes.

Tips for Parents

- Before your child starts playing a sport, he or she should have a physical examination that includes specific questions about any history of heat illness.
- Tell your child's coach about any history of heat illness.
- Make sure your child is properly hydrated before he or she heads out the door to practice or a game. Give your children their own water bottles.
- Make sure your child's coach has your emergency contact numbers.
- Check that your child's league/team has an emergency action plan.

Tips for Coaches

- Be aware of temperature and humidity levels. Change practice length, intensity and equipment use as the levels rise.
- It should be easy for children to drink fluids during practice, and you should remind them to drink regularly. Fluid breaks should be scheduled for all practices and become more frequent as the heat and humidity levels rise.
- Every athletic organization should have an emergency action plan for obtaining emergency medical services if needed.
- Always have contact information for parents available.

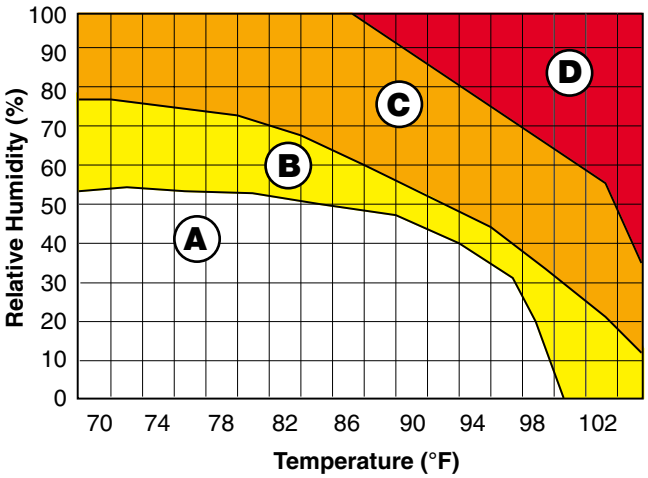
Activity Guidelines

Fluid breaks should be scheduled for all practices and become more frequent as the heat and humidity levels rise.

Add 5°F to the temperature between 10:00 a.m. and 4:00 p.m. from mid-May to mid-September on bright, sunny days.

A. Children should receive a 5-10 minute rest and fluid break after every 25 to 30 minutes of activity.

B. Children should receive a 5-10 minute rest and fluid break after every 20 to 25 minutes of activity. Children should be in shorts and t-shirts (with helmet and shoulder pads only, not full equipment, if worn for activity).



C. Children should receive a 5-10 minute rest and fluid break after every 15 to 20 minutes of activity. Children should be in shorts and t-shirts only (with all protective equipment removed, if worn for activity).

D. Cancel or postpone all outdoor practices/games. Practice may be held in an air-conditioned space.

This document was adapted from: *Inter-Association task force on exertional heat illnesses consensus statement.* June 2003. National Athletic Trainers' Association. The full document can be obtained at www.nata.org/industryresources/heatillnessconsensusstatement.pdf.

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Summary of Heat Protocols

Due to the unpredictability of weather in Georgia, certain precautions must be taken to avoid serious illness and possible death during outdoor activities in times of extreme heat. Included in our heat protocol standards are examples of hydration stations and tips on when to discontinue all outdoor activities in DeKalb County. Please adhere to these guidelines for the protection and safety of student athletes and staff. ***(Note: the term "activity" includes all sports practices, physical education classes, clubs, band, cheerleading and other outdoor activities.)***

Temperature/Heat Index:

- ✓ Coaches must take daily Heat Index readings from the Digital Pocket Psychrometer which is provided to all HS and MS Football Coaches.
- ✓ Readings must be taken every 30 minutes beginning 30 minutes before practice and continuing throughout the practice. Document all readings for each practice during the extreme heat periods.
- ✓ When the Heat Index reading from the psychrometer is lower than 95 degrees, provide water breaks every 30 minutes for 10 minutes duration. Provide ice-down towels for cooling.
- ✓ When the Heat Index reading is 95 or higher, **always** provide water breaks every 30 minutes for 10 minutes duration and ice-down towels for cooling. Helmets and other possible equipment should be removed when not involved in contact. Reduce the time of outdoor activity and consider adjusting practice times to cooler times of the day such as early morning or late evening.
- ✓ When the Heat Index reading is 100 to 102 degrees, **always** provide water breaks every 30 minutes for 10 minutes duration and ice-down towels for cooling. Reduce the time of outdoor activity. Adjust practice times to cooler times of the day such as early morning or late evening. Alter uniforms by removing items if possible. Allow for changes to dry t-shirts and shorts. Helmets and other possible equipment should be removed when not involved in contact.
- ✓ When the Heat Index reading reaches 103 degrees, practice must be suspended. **No Outdoor Practice is allowed** once the Heat Index reading reaches 103 degrees or higher.
- ✓ Coaches should monitor the Air Quality Index (AQI) on a daily basis. When the (AQI) is Orange, the air is unhealthy for sensitive individuals including all children under the age of 18.

This includes those with respiratory and cardiac conditions. Outdoor exertion for all children and sensitive adults should be limited in duration and intensity. Begin activities prior to 12 noon (early morning is recommended) or after 6 p.m. (late evening). These times of the day are when pollutants are lowest.

- ✓ When the (AQI) is Red, the air is unhealthy for everyone. **No Outdoor Practice is allowed** when the AQI is Red.

- ✓ **Always provide ample amounts of water.** This means that water should always be available and athletes should be able to take in as much water as they desire.

- ✓ A shaded water area must be provided and must include ice water coolers and cups with injury ice available. It is recommended that a cooler for Powerade is made available. Powerade provides a perfect oral hydrating solution for electrolyte balance and carbohydrates for energy.

- ✓ Water stations should be available around the field perimeter. For example, stations can be set up on both end zones on each side of the field and at the 50 yard line on each side of field. This will provide six areas where several water bottles are available. (These are in addition to the shaded water area.)

- ✓ Designate an Assistant Coach to keep water rotations going during practice. NEVER run out of water during practice.

- ✓ We recommend official water breaks every 30 minutes. These should be conducted near the shaded water/Powerade station.

- ✓ Limit your outdoor practice sessions in the heat to 3 hours total. This includes warm-up, practice, instruction, breaks and cool-down.

- ✓ Encourage light-colored clothing with shorts. Remove helmets and shoulder pads during instructional periods.

- ✓ An AED (Automated External Defibrillator) must be present at all practices.

- ✓ **ALWAYS** watch and monitor athletes carefully for danger signs due to extreme heat. Please see the list of possible heat disorders:

- ✓ **Heat Index Reading:**
    - 80 – 90 degrees – Fatigue is possible with prolonged exposure and/or physical activity.
    - 90 – 105 degrees – Sunstroke, muscle cramps, and/or heat exhaustion is possible with prolonged exposure and/or physical activity.
    - 105 – 129 degrees – Sunstroke, muscle cramps, and/or heat exhaustion is likely. Heatstroke is possible with prolonged exposure and/or physical activity.
    - 130 degrees – Heat stroke or sunstroke is likely.

Heat Related Illnesses

As a deterrent to heat related illnesses, please utilize the correspondence as a guide for your program on extremely hot weather days. Furthermore, please note the following tips as a part of your first aid procedures:

1. Please have a first aid kit on hand at all rehearsals (inside and outside).

2. Any student that gets extremely ill during rehearsal should not be allowed to come back without a doctor's permit.

3. Medical History Forms should be distributed to each student and signed by a parent. This form should note any allergies, asthma, allergic reactions, etc.

4. Form a first aid committee of parents that are certified medical personnel. Have them to attend practices, performances, trips, etc. as much as possible.

5. If at all possible the entire band staff should receive training in CPR.

6. Make certain that water is readily available at all rehearsals.

7. If a student, staff, etc. becomes ill and you do not know how to care for them, CALL 911 IMMEDIATELY!!

HEAT-RELATED ILLNESS: WHAT YOU CAN DO TO PREVENT IT

What causes heat-related illness?

Heat-related illnesses, such as "heatstroke" and "sunstroke," occur when your body can't keep itself cool. As the air temperature rises, your body stays cool when your sweat evaporates. On hot, humid days, the evaporation of sweat is slowed by the increased moisture in the air. When sweating isn't enough to cool your body, your body temperature rises, and you may become ill.

What does the "heat index" mean?

The heat index tells you how hot it feels outside in the shade. It is not the same as the outside temperature. The heat index is a measurement of how hot it feels when relative humidity is combined with the effects of the air temperature. When you are standing in full sunshine, the heat index value is even higher. A heat index of 90 degrees or above is dangerous.

Signs of heat-related illness

- Headache
- Dizziness
- Muscle weakness or cramps
- Nausea and vomiting

How can I prevent heat illness?

When the heat index is high, stay indoors in air-conditioned areas when possible. If you must go outside, take these precautions:

- Wear lightweight, light-colored, loose-fitting clothes.
- Protect yourself from the sun by wearing a hat or using an umbrella. Don't forget the sunscreen!
- Drink plenty of water before starting an outdoor activity. Drink extra water all day. Drink less tea, coffee, cola and alcoholic beverages.
- Schedule vigorous outdoor activities for cooler times of the day—before 10 a.m. and after 6 p.m.
- During an outdoor activity, take frequent breaks and drink water or other fluids even if you don't feel thirsty. If you have clear, pale urine, you are probably drinking enough fluids.
- If you have a chronic medical problem, ask your doctor about how to deal with the heat and about drinking extra fluids and about your medicines.

What should I do if I have signs of heat illness?

Go to a shady, cooler area right away. Remove any excess clothing and begin sponging your body with lukewarm tap water. Slowly sip water or other fluids.

Get medical help right away if you have these warning signs:

- Hot, dry skin, but not sweaty.
- Confusion or loss of consciousness.
- Frequent vomiting.
- Shortness of breath or trouble breathing.

Source, "American Academy of Family Physicians"
(Created 9/00)
(Updated 3/02)

(Taken from www.ghsa.net)
Heat Illness Update

Submitted by webmaster on Fri, 08/01/2008 - 11:41am.

The NATA and the National Safe Kids Campaign have prepared guidelines for use by parents and coaches for combating heat-related illness, including an activity schedule based on temperature and humidity levels:

Parent and Coaches Guide to Heat

With the record-breaking heat wave that has recently swept the south, athletes and coaches need to take extra precautions when exercising outdoors. As the temperatures remain in the 90s and the humidity is high, the risk of suffering a heat related illness increases. In addition to football players, athletes involved in other sports like cross country, summer baseball, softball, lacrosse, soccer and marching band members are also at risk.

The main mechanism the body cools itself is by evaporation through sweating. Exercising muscle produces heat that needs to leave the body through evaporation of sweat. If the humidity is high, and the air is already saturated with water, the sweat will not evaporate effectively and the body's cooling system is inefficient. Heavy pads, hats and helmets, as well as heavy clothing already saturated can also hinder evaporative cooling.

Hydration status is also vital to maintaining cooling efficiency. As the body's fluid stores become depleted, the ability to get fluid to the skin surface for evaporation decreases, and body heat builds up.

When the body's ability to dissipate heat and cool itself fails, heat illness results.

Heat illness can be categorized based on severity or the symptoms

Dehydration – the earliest and most mild form of heat related illness, but still serious. Symptoms include:

- Thirst
- Dry mouth
- Nausea
- Headache
- Dizzy or disoriented
- Muscle or abdominal cramps

Treatment for dehydration is immediate removal from exercise and placement in the shade or air-conditioned environment, removal of equipment and unnecessary clothing and very close observation for progression of symptoms.

Heat Exhaustion – the body's cooling mechanisms begin to fail as exercise continues. Symptoms include:

- Excessive thirst
- Profuse sweating
- Headache, abdominal pain, nausea, vomiting
- Dizziness and disorientation
- Fainting or passing out

Immediate treatment for heat exhaustion is the same for dehydration with arrangements to be made to transport to an Emergency Department. While awaiting transport, elevate the legs and cool rapidly with cold water, wet towels, ice packs in armpits and neck, or fans. Monitor very closely for deterioration.

Heat Stroke – the body's cooling mechanism has failed and the core body temperature begins to rapidly rise. This condition is life-threatening.

- Nausea, vomiting, diarrhea
- Disorientation, headache
- Hot skin (wet or dry)
- Rapid heart rate, rapid breathing
- Seizures
- Coma

Treatment consists of rapid cooling, calling 911, support with CPR until ambulance arrives.

Heat related illness is a preventable condition that, when it does occur, requires immediate recognition and treatment. The most effective way to treat heat illness is to prevent it. Below are some guidelines for heat illness prevention.

1. Schedule frequent water breaks, as often as every 20-30 minutes, with removal of equipment, including shoulder pads.
2. Schedule workouts during cooler times of the day.
3. Allow overweight or non-acclimated kids to adjust to the heat through shorter, less strenuous workouts.
4. Encourage kids to drink water or Gatorade throughout the day during school to maintain their hydration. Encourage school administration to allow players to carry water bottles with them in school.
5. Implement a "buddy system" where each player is assigned to keep an eye on a teammate to recognize early signs or heat illness.
6. Follow the guidelines set forth by the National Athletic Trainers' Association (NATA) for altering outdoor practice length, intensity and equipment use based on the temperature and humidity (heat index).
7. Have an emergency action plan posted.
    a. AED location and knowledge of use
    b. Charged cell phone
    c. Specific directions for ambulance (unlock gates)
    d. Parent contact information for all players
    e. Locate shade and have ice bags available for rapid cooling