

**MIDDLE AND HIGH SCHOOL
HEAT ILLNESS PROCEDURES**

PREVENTION OF HEAT ILLNESS

- 1. Preventing Heat Illness is the key to success.** The ability to recognize and assess signs of heat illness is the key to preventing heat related injuries. All coaches, athletic trainers, and staff working with student-athletes need to be knowledgeable in recognizing the signs and symptoms of heat illnesses.
- 2. Coaches, trainers, and student-athletes should be aware that most adverse heat reactions occur in the first few days of practice and when the heat index is the highest, which is usually between 1:00 – 7:00 PM.** Due to the region in which we live, our relative humidity to temperature ratio will cause the heat index to be in the high to very high category. In turn, we must adjust and accommodate changes to conditioning programs.
- 3. Gradual acclimatization.** This simply means to build up the amount of time spent outside. Acclimatization should occur well before the start of the competitive season and should gradually increase over the first two weeks. For football, workouts should begin in shorts and t-shirts, followed by the addition of helmets, proceeding to shoulder pads, and finally to full equipment. Documentation of attended practices and preseason workouts for each athlete should be maintained. This will allow coaches to more accurately keep track of athletes that may be more at risk because of missing workouts.
- 4. Wear lightweight clothing.** This will allow the skin to breathe. The body will be able to more easily eliminate heat with lightweight clothing. The clothing also needs to be light in color so as not to attract and absorb excess amounts of heat.
- 5. Hydration. Hydration is the greatest prevention to heat illness.** Hydration and fluid replacement is a daily process. Athletes should hydrate themselves **before, during, and after** practice. Meals should include an appropriate amount of fluid intake in addition to a healthy diet. It is very important to remember that any athlete who is going to be outside for any length of time will need access to cold water or other appropriate fluids. The easiest way for an athlete to check his/her level of hydration is by urine color. Urine that is darker in color indicates that the athlete is dehydrated, and they need to consume more of the proper fluids. Clear, light colored urine means that the athlete is well hydrated, and they should maintain their current habit of replenishing lost fluids.
- 6. Monitor weight loss.** Athletic participants will be strongly encouraged to weigh in before and after practice to help determine if they are becoming dehydrated. For every pound of weight lost during practice, the athlete should consume 16 fluid ounces of water or sports drink to replenish the fluid lost
- 7. Give adequate rest periods.** Coaches will follow the recommendations in the *Fluid Replacement Chart* listed below as to the frequency of water breaks based on the heat index at practice. Because exposed skin cools more efficiently, equipment and appropriate clothing should be removed when needed. Adjustments such as lengthening the duration of breaks, increasing the number of breaks, and monitoring the intensity of practice should be made by the coach and trainer.
- 8. Monitor environmental factors.** The air temperature and humidity are very important factors in determining when heat related illnesses are more likely to occur.
A psychrometer shall be used by the coach or trainer to measure the environmental factors and to compute an accurate heat index or Wet Bulb Temperature (WBT) reading. These measurements should be taken at the practice or activity site and recorded.
- 9. Educate the athlete.** Athletes will be instructed to let the athletic trainer or coaching staff know if they feel overheated. If an athlete has symptoms of any heat illness, he/she will be removed from the activity and given reasonable and prudent immediate care by the trainer and/or coaching staff. In cases of heat exhaustion, the athlete's parent/guardian will be contacted and advised that if conditions worsen to seek medical attention.

FLUID REPLACEMENT CHART

(From the NATA)

<u>Weight Lost During Workout</u>	<u>Fluid Amount Needed to Refuel</u> (water or sports drink)
2 pounds	32 ozs (1 quart)
4 pounds	64 ozs (1/2 gallon)
6 pounds	96 ozs (3 quarts)
8 pounds	128 ozs (1 gallon)

GUIDELINES FOR HYDRATION DURING EXERCISE

(From the NATA)

1. Drink 16-24 oz. of fluid 1 to 2 hours before the workout or activity.
2. Drink 4-8 oz. of water or sports drink during every 20 minutes of exercise.
3. Drink before you feel thirsty. When you feel thirsty, you have already lost needed fluids.

WBGT READING ACTIVITY GUIDELINES & REST BREAK GUIDELINES

UNDER 82.0 Normal activities --Provide at least three separate rest breaks each hour of minimum duration of 3 minutes each during workout

82.0 -86.9 Use discretion for intense or prolonged exercise; watch at-risk players carefully; Provide at least three separate rest breaks each hour of a minimum of four minutes duration each.

87.0 – 89.9 Maximum practice time is two hours. For Football: players restricted to helmet, shoulder pads, and shorts during practice. All protective equipment must be removed for conditioning activities. For all sports: Provide at least four separate rest breaks each hour of a minimum of four minutes each

90.0--92.0 Maximum length of practice is one hour, no protective equipment may be worn during practice and there may be no conditioning activities. There must be 20 minutes of rest breaks provided during the hour of practice.

OVER 92 No outdoor workouts; Cancel exercise; delay practices until a cooler WBGT reading occurs

GUIDELINES FOR HYDRATION AND REST BREAKS

1. Rest time should involve both unlimited hydration intake (water or electrolyte drinks) and rest without any activity involved
2. For football, helmets should be removed during rest time
3. The site of the rest time should be a "cooling zone" and not in direct sunlight.
4. When the WBGT reading is over 86:
 - a. ice towels and spray bottles filled with ice water should be available at the "cooling zone" to aid the cooling process.
 - b. Cold immersion tubs must be available for practices for the benefit of any player showing early signs of heat illness.

HEAT ILLNESS SYMPTOMS AND TREATMENTS

(As Recommended by the National Athletic Trainers Association, July 1999)

Heat illness is used to define several types of afflictions suffered when an individual experiences a rising body temperature and dehydration. Following are the different forms identified by the NATA.

<u>CONDITION</u>	<u>SYMPTOMS</u>	<u>TREATMENT</u>
Heat Cramps	<ul style="list-style-type: none">- Muscle spasms caused by an imbalance of water and electrolytes in muscles- Usually affects the legs and abdominal muscles	<ul style="list-style-type: none">- Rest in a cool place- Drink plenty of fluids- Proper stretching and massaging- Application of ice in some cases
Heat Exhaustion	<ul style="list-style-type: none">- Can be a precursor to heat stroke- Normal to high temperature- Heavy sweating- Skin is flushed or cool and pale- Headaches and dizziness- Rapid pulse, nausea, weakness- Physical collapse may occur- Can occur without prior symptoms, such as cramps	<ul style="list-style-type: none">- Get to a cool place immediately and out of the heat- Drink plenty of fluids- Remove excess clothing- In some cases, immerse body in cool water
Heat Stroke	<ul style="list-style-type: none">- Body's cooling system shuts down- Increased core temperature of 104° F or greater- If untreated it can cause brain damage, internal organ damage, and even death- Sweating stops- Shallow breathing and rapid pulse- Possible disorientation or loss of consciousness- Possible irregular heartbeat and cardiac arrest	<ul style="list-style-type: none">- Call 911 immediately- Cool bath with ice packs near large arteries, such as neck, armpits, groin- Replenish fluids by drinking or intravenously, if needed