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HEAT ILLNESS PREVENTION & TREATMENT

According to medical experts, all heat-related illnesses, if not preventable, are survivable. Heat cramps, heat exhaustion, and heat stroke are the result of either extreme fluid loss over a period of a few hours or continued fluid loss over a period of several days. Any athlete, in any sport, outdoor or indoor, can suffer from heat-related illnesses. The primary reasons football players seem more susceptible to overheating are their uniform, the environment, and the intensity and duration of practice. **Coaches do not have control over the environment, but they DO have direct control over the uniform, the intensity of workouts, and the duration of practice!**

COACHES DO NOT HAVE CONTROL OVER THE ENVIRONMENT, BUT THEY DO HAVE DIRECT CONTROL OVER THE UNIFORM, THE INTENSITY OF WORKOUTS, AND THE DURATION OF PRACTICE! THERE IS NO WAY TO ACCELERATE ACCLIMATION TO THE HEAT – IT TAKES TIME!

USE THE “BUDDY” SYSTEM TO HELP PREVENT HEAT-RELATED ILLNESS

ASSIGN PLAYERS A “BUDDY” AND HAVE THEM MONITOR EACH OTHER FOR SIGNS AND SYMPTOMS OF HEAT-RELATED PROBLEMS. Require them to report to a coach immediately at the first sign of a heat-related problem. Be sure they know the signs and symptoms of heat-related illnesses.

Signs and symptoms of heat exhaustion:

- Dehydration
- Headache
- Loss of coordination, dizziness, fainting
- Nausea, vomiting, diarrhea
- Persistent muscle cramps
- Profuse sweating or pale skin
- Stomach/intestinal cramps

IF HEAT STROKE IS SUSPECTED, COOL THE BODY IMMEDIATELY AND FOLLOW THE EMERGENCY PLAN TO CONTACT EMS

IF HEAT STROKE IS SUSPECTED, THE BODY MUST BE COOLED IMMEDIATELY AND EMERGENCY MEDICAL SERVICES CALLED IMMEDIATELY. THE KEY TO SURVIVING HEAT STROKE IS TAKING APPROPRIATE ACTION TO COOL THE BODY IN THE FIRST 5-10 MINUTES!

COOLING CAN BE ACCOMPLISHED BY PLACING THE STUDENT-ATHLETE INTO A CHILD'S SIZE PLASTIC SWIMMING POOL WITH ICE AND COLD WATER, OR ON A SHOWER CURTAIN OR OTHER PIECE OF PLASTIC THAT IS HELD AT THE CORNERS AND CAN BE FILLED WITH ICE AND COLD WATER. FOR FOOTBALL PLAYERS, REMOVE THEIR PADS FIRST!

To expedite this process, have the pool filled half way with cold water and have coolers of ice nearby.

The following are signs of possible heat stroke:

- Altered consciousness, i.e., semi-conscious, confused, irrational behavior
- Combative
- Headache, dizziness, and weakness
- Hot skin – with or without sweating
- Increased heart breathing rates
- Nausea, vomiting, or diarrhea

If any of these signs are noticed, the student-athlete must be cooled immediately.

COOLING AN OVERHEATED STUDENT-ATHLETE AND CALLING 911 MUST BE THE PRIORITIES.

HAVING AN EMERGENCY MEDICAL PLAN IS ESSENTIAL TO THE SURVIVAL OF A STUDENT-ATHLETE SUFFERING FROM HEAT STROKE.

THE SAFETY AND PERFORMANCE OF THE STUDENT-ATHLETE ARE CLOSELY LINKED WHEN IT COMES TO HEAT-RELATED ILLNESSES. TAKING MEASURES TO PROTECT THE STUDENT-ATHLETE FROM THE HEAT WILL ALSO IMPROVE THEIR PERFORMANCE! THE TWO MOST IMPORTANT FACTORS ARE ACCLIMATIZATION AND DRINKING PLENTY OF FLUIDS!

ACCLIMATIZATION - "GETTING USED TO THE HEAT"

MOST HEAT ILLNESSES OCCUR IN THE FIRST THREE DAYS OF PRESEASON PRACTICE. THIS IS A RESULT OF STUDENTS DOING TOO MUCH, TOO HARD, TOO SOON, FOR TOO LONG, WITH TOO MUCH EQUIPMENT, in the case of football! To acclimate themselves, athletes should exercise or work outdoors 4-5 days a week for two weeks at a high enough intensity to maintain a steady sweat. Starting with a minimum of 15-20 minutes the first day, they should increase outdoor activity 5-10 minutes daily to prepare themselves for the heat and humidity that may occur during fall practices.

DRINK PLENTY OF FLUIDS

STUDENT-ATHLETES DRINKING PLENTY OF FLUIDS BEFORE, DURING, AND AFTER EXERCISE ARE EXTREMELY IMPORTANT TO PREVENTING HEAT-RELATED ILLNESSES. Coaches must teach their athletes to drink fluids and insist all athletes drink even when they are not thirsty!

UNLIMITED AMOUNTS of fluids should be available during all practices. Sports drinks have an advantage over plain water during hot; humid, two-a-day practices held in the late summer and early fall. The use of sports drinks:

- 1) encourages student-athletes to drink more fluids because of the added flavor,
- 2) decreases urine output which allows more fluid to cool the body,
- 3) helps maintain the thirst drive, which encourages athletes to drink more,
- 4) helps restore electrolytes lost through sweat, and,
- 5) helps replenish energy stores used to fuel athletic performance.

Having clear, or pale, urine on a regular basis means an athlete is drinking an adequate amount of fluids. Yellow urine shows a need to drink more fluids.

THERE IS NO WAY TO ADAPT TO DEHYDRATION! ATTEMPTING TO DO SO IS FUTILE AND DANGEROUS!

WEIGH IN BEFORE AND AFTER EVERY PRACTICE

COACHES SHOULD MONITOR THE WEIGHT OF EACH STUDENT-ATHLETE

AND PAY PARTICULAR ATTENTION TO ANY STUDENT-ATHLETE LOSING EXCESSIVE WEIGHT DURING A PRACTICE OR OVER A PERIOD OF SEVERAL DAYS. For every pound of weight lost during a practice, or contest, a student-athlete should drink at least 24 ounces (3 cups) of water within 6 hours of the practice or contest. If a student-athlete has NOT gained back at least 90% of the weight lost in the first practice session of a day, they should be monitored very carefully for signs of heat-related illness during the second practice session on that same day.

Student-athletes losing 3%, or more, of their body weight over a period of 2-3 days should be monitored very carefully for heat-related illnesses. A 3% weight loss is equivalent to 4.5 lbs. for a 150 lb. student-athlete, or 6 lbs. for a 200 lb. student-athlete.

MONITOR TEMPERATURE AND HUMIDITY

COACHES SHOULD CLOSELY MONITOR THE TEMPERATURE AND HUMIDITY DURING PRACTICES. The National Weather Service recommends the following precautions during extremely hot, humid weather: **"On particularly hot and humid days, strenuous activity should be rescheduled for the mornings (before 10:00am) or evenings (after 4:00pm) to avoid peak heat of the afternoon. A good benchmark for determining 'hot and humid days' is a predicted heat index of 100 degrees or higher, or a temperature above 95 degrees."**

TAKE BREAKS DURING PRACTICE

COACHES SHOULD SERIOUSLY CONSIDER TAKING ONE 10-MINUTE FLUID BREAK EVERY 30 MINUTES WHEN THE TEMPERATURE IS ABOVE 80 DEGREES.

The higher the temperature and/or humidity, the more frequently breaks should be scheduled and the longer the breaks should be. Football players should remove their helmets and shoulder pads during breaks. On particularly hot and humid days, coaches should consider practicing without football equipment, or postponing practice until the outside temperature is cooler, should be strongly considered.

Questions and/or comments about heat illness or other areas dealing with student-athlete's wellness are welcome and encouraged. They should be directed to Alan Beste, ATC, LAT, Assistant Executive Director, Iowa High School Athletic Association, PO Box 10, Boone, IA 50036. (515) 432-2011. <abeste@iahsaa.org>

SOURCES: Almquist, Jon, ATC. "Prevention and Emergency Readiness for Heat Illness Scenarios," presentation at NIAAA meeting, December 10, 2006; American College of

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