



IOWA HIGH SCHOOL ATHLETIC ASSOCIATION

P.O. BOX 10, BOONE, IA 50036-0010
(515) 432-2011 FAX (515) 432-2961
www.iahsaa.org

RICHARD WULKOW, IHSAA Executive Director

DAVID ANDERSON, Assistant Executive Director

TODD THARP, Assistant Executive Director

CHAD ELSBERRY, Comm & Marketing Director

ALAN BESTE, Assistant Executive Director

ROGER BARR, Director of Officials

BUD LEGG, Information Director

WELLNESS UPDATE, AUGUST 2008

PREVENTING HEAT-RELATED ILLNESSES

According to the American Academy of Pediatrics Committee on Sports Medicine, all heat-related illnesses are preventable. Heat cramps, heat exhaustion and heat strokes are either the result of extreme fluid loss over a period of a few hours or fluid loss over a period of several days that is never completely replaced causing the fluid debt to grow. 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 the 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 worn during practice and the intensity & duration of practice.**

ACCLIMATIZATION OR “GETTING USED TO THE HEAT”

MOST HEAT ILLNESSES OCCUR IN THE FIRST FOUR DAYS OF PRESEASON PRACTICE IN ATHLETES WHO HAVE NOT ACCLIMATED THEMSELVES TO THE HEAT. To acclimate themselves, athletes should exercise or work outdoors 4-5 days a week at a high enough intensity to maintain a steady sweat. Athletes should begin this type of exercise at least two weeks before the first official practice begins. 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 two-a-day fall practices.

DRINK PLENTY OF FLUIDS

DRINKING PLENTY OF FLUIDS BEFORE, DURING AND AFTER EXERCISE IS THE MOST IMPORTANT THING ATHLETES CAN DO TO PREVENT 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. As one becomes accustomed to the heat, the need for fluids **INCREASES** because the body

sweats more, which helps the athlete stay cooler.

Update, August 2008 page 2

Sports drinks have a clear advantage over water during hot, humid, two-a-day practices held in the late summer. 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.

WEIGH IN BEFORE AND AFTER EVERY PRACTICE

COACHES SHOULD CLOSELY MONITOR THE WEIGHT OF EACH ATHLETE AND PAY PARTICULAR ATTENTION TO ANY 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, an athlete should drink at least 24 ounces (3 cups) of water within 6 hours of the practice or contest. If an 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 illness during the second practice session on that same day.

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. athlete, or 6 lbs. for a 200 lb. 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 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. If the temperature and humidity are extremely high, practicing without football equipment, or postponing practice until the outside temperature is cooler, should be strongly considered.

USE THE “BUDDY” SYSTEM

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 illnesses.

COOL THE BODY IMMEDIATELY AND HAVE AN EMERGENCY PLAN

IF HEAT ILLNESS IS SUSPECTED, THE BODY MUST BE COOLED IMMEDIATELY AND EMERGENCY MEDICAL SERVICES MUST BE CALLED IMMEDIATELY.

The following are signs of possible heat illness:

- athlete does not feel well,
- poor performance,
- disorientation,
- confusion,
- staggering gait,
- irrational or unusual behavior,
- hyperventilation,
- nausea, vomiting, diarrhea.

If any of these signs are noticed, the athlete must be cooled immediately with cold water. This can be accomplished by placing the athlete into a tub, a child's size swimming pool, or on a shower curtain or other piece of plastic which is held at the corners AND spraying them with cold water, AND covering them with ice bags or ice towels, AND moving them to an air-conditioned area.

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

**HAVING AN EMERGENCY MEDICAL PLAN IS ESSENTIAL
TO THE SURVIVAL OF AN ATHLETE SUFFERING FROM**

HEAT STROKE.

Update August 2008 page 4

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, 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 Sports Medicine. "New Guidelines Released for Heat Stress in Youth Football," August 18, 2005; Armstrong, Lawrence, E. "What Is Known About the Cause and Treatment of Heat Cramps," National Strength and Conditioning Association Journal, Volume 12, Number 3, 1990; Armstrong, Lawrence, E., Performing in Extreme Environments, Human Kinetics, 2000; Arnheim, Daniel, D. Modern Principles of Athletic Training, St. Louis:Times Mirror/Mosby College Publishing, 1989; Bergeron, Michael, Ph. D. "Sodium: The Forgotten Nutrient," Gatorade Sports Science Exchange, Volume 13, 2000; Berning, Jackie, Ph.D, RD. "Football Players' Guide to Heat Illness and Hydration," Gatorade Sports Science Institute; "Cooling Off When the Heat is On," From the Gym to the Jury, June 2004; DeCarlo, Mark, PT, MHA, CSCS, ATC. "Heat-Related Illness," Report to NFHS Football Committee, January 2005; "Experts Say Proper Hydration is Critical for Performance," Gatorade Sports Science Institute, 2004; Gisolfi, Carl, V. "Preparing Your Athletes for Competition in Hot Weather," Gatorade Sports Science Institute; Godek, Sandra, et. al. "Thermal Responses in Football and Cross Country Athletes During Their Respective Practices in a Hot Environment," Journal of Athletic Training, Volume 39, 2004; Hardy, Stephen, C. "Heat Stroke: Identifying the Individual Risk," Sidelines, National Youth Sports Safety Foundation, Needham, MA; "Heat Illness: This Common Condition Is More Serious Than You May Think," The First Aider, Summer, 1990; "Heat Stroke Fatalities Fan Discussion," The Physician and Sports Medicine, Volume 32, Number 9, September 2004; "Hot Weather Performance," Athletic Care Newsletter, Johnson and Johnson Consumer Products, Inc., New Brunswick, New Jersey, Volume 6, Number 2, 1990; Maughan, Ronald, Ph.D. & Shirreffs, Susan, Ph.D. "Preparing Athletes for Competition in the Heat: Developing an Effective Acclimatization Strategy," Gatorade Sports Science Exchange, Volume 10, 1997; McGowen, Susan, "Temperature's Rising," Athletic Management, February/March, 1995; Mueller, Frederick, O., Ph.D. "Heat Stress and Athletic Participation," University of North Carolina, 1999; Mueller, Frederick, PhD. Special Report to the National Federation of State High School Associations, November 8, 1995; Murphy, Robert, MD. "Heat Illness and The Athlete," The American Journal of Sports Medicine, Volume 12, Number 4, 1984; Murray, Bob, Ph.D. "Fluid Replacement: The American College of Sports Medicine Position

Stand," Sports Science Exchange, Volume 9 (1996), Number 4 (supplement); "NATA Position Statement: Fluid Replacement for Athletes," Journal of Athletic Training, *Update August 2008* *page 5*

June 2000, Volume 35, Number 2; "Preventing Whole Body Cramps," Professional Football Athletic Trainer, Winter 2000, Volume 18, Number 2; Raven, Peter, PhD. "Heat Stress and Athletic Performance: Medical Concerns," Sports Medicine Digest, May, 1995; Roberts, William, O. MD. "Managing Heatstroke: On-site Cooling," The Physician and Sports Medicine, Volume 20, Number 5, May, 1992; Rockwell, Michelle, MS, RD. "Fluid Dynamics," Training and Conditioning, June 2006; Stamford, Bryant, PhD. "How to Avoid Dehydration," The Physician and Sportsmedicine, Volume 18, Number 7, July, 1990; "Water the Most Important Nutrient," International Center for Sports Nutrition, Omaha, Nebraska.

