

Gilbert Unified School District

Heat Illness Awareness and Prevention Plan

Athletes that participate in fall sports (football, cross country) are placed at greater risk and are more prone to heat illness than those playing at any other time throughout the year. Heat stress problems occur when: 1) Prolonged perspiration causes dehydration and electrolyte depletion, and 2) External conditions, high air temperature and humidity, impair the body's natural mechanisms for dissipating heat. The heat stress problems predominantly seen in athletics are: **Heat Cramps, Heat Exhaustion and Heat Stroke.**

SIGNS AND SYMPTOMS:

Heat Cramps

- *Muscle twitching*
- *Muscle Cramps*
- *Sweating*

Heat Exhaustion

- *Sweating profusely*
- *Weak and rapid pulse*
- *Cool and clammy skin (pale)*
- *Excessive thirst*
- *Dry tongue and mouth*
- *Fatigue (weakness)*
- *Shallow respiration's*
- *Elevated core body temp. (98.6 deg. F. - 104 deg F.)*

Heat Stroke (Medical Emergency)

- *Possible absence of sweating*
- *Increase in pulse (strong and rapid)*
- *Hot and dry skin (flush skin color)*
- *Sensation of burning up inside*
- *Dizziness (mental confusion)*
- *Abrupt onset of headache, fatigue*
- *Labored respiration's*
- *Elevated core body temp. (105 deg. F. - 109 deg. F.)*

*Those supervising athletes should be able to recognize these basic signs and symptoms of dehydration. A conscious, cognizant, dehydrated athlete without gastrointestinal distress can aggressively rehydrate orally, while one with mental compromise from dehydration or gastrointestinal distress should be transported to a medical facility (activating EMS/911).

• PREVENTING HEAT STRESS PROBLEMS

1) Ensure pre-exercise hydration

Remember fluids throughout the day. Student athletes should have a water bottle or sports drink with them throughout the day. They should drink up to 64 oz a day before athletic activity.

2) Fluid replacement during exercise

Fluid replacement should approximate sweat and urine losses and at least maintain hydration at less than 2% body weight reduction. This generally requires 200 to 300 ml (7 to 10 fl oz) every 10 to 20 minutes.

3) Post exercise hydration

Ideally completed within 2 hours, rehydration should contain water to restore hydration status, carbohydrates to replenish glycogen stores and electrolytes to speed rehydration.

4) Acclimatization

Heat acclimatization induces physiologic changes that may alter individual fluid--replacement considerations. It is suggested that a graduated physical conditioning program be used and that 80 percent acclimatization can be expected to occur after the first 10 days. ***Sweat rate generally increases after 10 to 14 days of heat exposure, requiring a greater fluid intake for a similar bout of exercise.

5) Adequate rest breaks during exercise – Intensity of exercise increases metabolic heat production, which elevates core body temperature. Rest Breaks every 15-20 minutes for 3-5 minutes can help lower core body temperature.

6) Practice modifications – Depending on temperature, practice modifications (Ex. Reduce equipment, and running etc) can assist with the body's ability maintain safe core temperature and allow the body a better opportunity to cool during exercise.

*****One of the most important things a coach can do is to educate his/her athletes about the signs and symptoms of heat illness and dehydration and the proper steps to take (Steps 1-3 above) to reduce the risk of occurrence.**

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Prevention of Heat related injuries is the best way to keep them from occurring. In order to ensure that student safety is met in times of intense heat each school must adhere to the following protocol:

ACCLIMITIZATION

- This can be accomplished by gradually increasing the duration and intensity over 10 days of supervised activity
 - Begins the first day of AIA permissive week.
 - Following AIA practice guidelines, if permitted under Safe Competition Protocol
 - First 3 **Days** Helmets only, **Days** 4-6 Helmets and Shoulder Pads Only
 - Practices will be conducted -
 - **5:00pm – 5:30pm – No Helmets or Shoulder Pads (Pants only)**
 - **5:30pm – 6:00pm – Half Pads**
*** (Helmet and Pants or Helmet and Shoulder Pads)
 - **6:00pm – Full Pads**
 - Morning practices must meet safe competition protocol, and be concluded by 10am.
 - Practices that involve physical activity, must not exceed **3 Hours**
 - Cross Country
 - Alternating Days of Morning Practices/Indoors and Afternoon/After school reduced running distance (ON CAMPUS)
 - ✓ Example :
 - M, W, F – Morning Practices
 - T, Th -- After School reduced running distance
- Educate coaches, athletes, and parents regarding heat illness and hydration
 - The Athletic Trainer will provide guidelines for heat illness and proper hydration
- Coaches must ensure:
 - Each athlete is allowed water at anytime
 - Planned water breaks on practice schedule
 - Allow athletes a minimum of 3 minutes during planned water breaks, to reduce metabolic heat production and encourage evaporative cooling
***Remove helmets during breaks

SAFE COMPETITION PROTOCOL

Example: $111 \text{ deg. F.} + 20\% \text{ RH} = 131$ (Critical zone) WBGT (90 deg. F.)

Below Danger Zone (120 and below) WBGT (86 and below)

- Practice/competition as normal
 - Full pads
 - Regular running schedule (football, cross country)
 - Water breaks every 15 minutes or as needed by the individual

Danger Zone (121 – 130) WBGT (87 – 89)

- Practice/competition with modifications.
 - Reduced amount of equipment worn and/or adjust start time until readings return Below Danger Zone
 - ✓ Start practice without Pads
 - ✓ Medical staff will inform coaches if and when Half Pads can be used for contact drills
 - *** (Helmet and Shoulder Pads)
 - ✓ Reduced conditioning, without pads
 - Reduced running schedule – (Cross country practice on campus with reduced running schedule)
 - Water breaks every 10 – 15 minutes or as needed by the individual

Critical Zone (131 and above) WBGT (90 and above)

- Practices modified (No Helmet / Pads, and no running); competition postponed or cancelled / rescheduled
 - Adjust start time until readings return Below Critical Zone – recommendation:
 - ✓ Practice moved indoors
 - ✓ Practice or competition moved to a later date or time