

University of Georgia Sports Medicine
Exertional Heat Illness Protocol
Revised June 30, 2005

Recognition of Heat Stroke

The ability to rapidly and accurately assess core body temperature and CNS functioning is critical to the proper evaluation of exertional heat stroke. Medical staff should be properly trained and equipped to assess core temperature via rectal thermometer when feasible.

Most critical criteria for determination are 1) hyperthermic (rectal temperature > 104F) immediately post-incident and 2) CNS dysfunction (altered consciousness, coma, convulsions, disorientation, irrational behavior, decreased mental acuity, irritability, emotional instability, confusion, hysteria, apathy).

Other possible salient findings include nausea, vomiting, diarrhea, headache, dizziness, weakness, hot and wet or dry skin (important to note that skin may be wet or dry at time of incident), increased heart rate, decreased blood pressure, increased respiratory rate, dehydration, and combativeness.

Aggressive and immediate whole-body cooling is the key to optimizing treatment of exertional heat stroke. The duration and degree of hyperthermia may determine adverse outcomes. If untreated, hyperthermia-induced physiologic changes resulting in fatal consequences may occur within vital organ systems (e.g., muscle, heart, brain, etc.).

Emergency Treatment of Heat Stroke

Immediate whole-body cooling is the best treatment for exertional heat stroke and should be initiated within minutes post-incident. It is recommended to cool first and transport second if onsite rapid cooling is possible. Cooling can be successfully verified by measuring rectal temperature. If onsite cooling is not an option, the athlete should be immediately transferred to the nearest medical facility.

The following procedures are recommended if exertional heat stroke is suspected:

- 1) remove clothing and equipment
- 2) move athlete immediately to air-conditioned facility or shaded area
- 3) cool athlete immediately by:
 - a. place ice bags or ice over as much of body as possible, cover body with cold towels (replace towels frequently), fan body or spray with cold water
or
 - b. immerse athlete in tub of cold water
or
 - c. place athlete in Emergency Cold Containment System (ECCS);
ice bags or ice may additionally be used with this system

- 4) monitor ABCs, core temperature, and CNS (cognitive, convulsions, orientation, consciousness, etc.)
- 5) place an intravenous line using normal saline (if appropriate medical staff is available)
- 6) cease aggressive cooling when core temperature reaches approximately 101F; continue to monitor
- 7) transport athlete to nearest emergency medical facility

Recognition of Heat Exhaustion

Most critical criteria for determination are 1) athlete has obvious difficulty continuing intense exercise in heat, 2) lack of severe hyperthermia (usually < 104F) and 3) lack of severe CNS dysfunction. If any CNS dysfunction is present, it will be mild and symptoms will subside quickly with treatment and as activity is discontinued.

Other possible salient findings include physical fatigue/dizziness, dehydration and/or electrolyte depletion, ataxia and coordination problems, syncope, profuse sweating, pallor, headache, nausea, vomiting, diarrhea, stomach/intestinal cramps, persistent muscle cramps, and rapid recovery with treatment.

Emergency Treatment of Heat Exhaustion

The following procedures are recommended if heat exhaustion is suspected:

- 1) remove athlete from play and immediately move to an air-conditioned or shaded area
- 2) remove excess clothing and equipment
- 3) cool athlete
- 4) have athlete lie comfortably with legs propped above heart level
- 5) if athlete is not nauseated, vomiting, or experiencing any CNS dysfunction, rehydrate orally with chilled electrolyte drink or water. If athlete is unable to take oral fluids, implement intravenous line using normal saline (if appropriate medical staff is available).
- 6) Monitor heart rate, blood pressure, respiratory, core temperature, and CNS status
- 7) Transport to nearest emergency medical facility if rapid improvement is not noted with prescribed treatment.

Approved by: _____ *Medical Director* *Date:* _____
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