Belmont University Athletics
Athletic Training / Sports Medicine

Exertional Heat Illnesses

Most heat illnesses are preventable with the proper awareness and execution of a few simple preventative measures. The following defines the different types, signs and symptoms, and guidelines to preventing exertional heat illness for Belmont University Athletics. These guidelines are based on the practices of the Belmont University Sports Medicine Department, Vanderbilt University Sports Medicine, and the National Athletic Trainers' Association Position Statement: Exertional Heat Illnesses. To provide the safest environment possible to all of Belmont University's student-athletes it is imperative that everyone in the athletic department understands and is able to manage environments where potential heat illness may occur.

Prevention

1. **Pre-participation physicals and screening:** Identification of athletes predisposed to heat illnesses is done through the pre-season health packets and physicals. Athletes are screed for the following risk factors: past history of heat illness, family history of heart disease, obesity, poor physical condition, prescription drugs or supplement use. All athletes must be required to turn these documents in **ON TIME.**

2. **Acclimitization:** Should be done with gradual increase of practice length and intensity over a 10-14 day period. Practices should build up to training 1-2 hours under similar conditions they will be competing in.

3. **Hydration:** Proper hydration is key to preventing all exertional heat illnesses. See Hydration guidelines for a more detailed outline of proper hydration.

4. **Adequate Rest:** Athletes should sleep at least 6-8 hours every evening. Rest periods between training sessions for mealtime should allot 2-3 hours for food, fluids, nutrients, and electrolyte replacement and digestion.

5. **Proper Diet:** Athletes should be encouraged to eat a balanced diet based on the food pyramid to replenish nutrients and electrolytes. Sports drinks are also recommended to be incorporated into the daily diet to ensure electrolyte replacement.

6. **Heat Index:** Is a rating based on ambient air temperature, relative humidity, air motion, and the amount of radiating heat from the sun and other sources. This will be monitored by the athletic training staff using a sling psychrometer and indications for athletic participation will be based on the following scale:

WBGT	Level of Risk	Comments
<65°F	Low Risk	low but may exist on the basis of risk factors
65–73°F	Moderate Risk	level increases as event progresses through the day
73–82°F	High Risk	Everyone should be aware of injury potential; individuals at risk should not compete
>82°F	Extreme risk	Consider rescheduling or delaying the event until safer conditions prevail; if the event must take place, be on high alert

7. **Practice/Training Schedule:** Avoid scheduling session during the hottest time of day.

Work-to-Rest ratio	extreme risk	1:1
	High risk	2:1
	Moderate risk	3:1
	Low risk	4:1

Rest breaks should be in the shade if possible, encourage rehydration during every break.

8. **Monitor Weight Loss:** No more than 2-3% of body weight should be lost during a practice session. For every kilogram of body weight lost 16 oz of water should be consumed. The first hour after practice is the most ideal time for rehydration.

9. **Appropriate Clothing:** Minimize the amount of clothing and equipment worn. Wear loose fitting, absorbent, light colored clothing. Mesh and Dri-fit materials are best to promote cooling.

10. **Prevention Tools on site at Practice and Games:** This will be supplied and monitored by the athletic training staff. In the event an Athletic Trainer is not available, the coach must ensure the athletes have access to these supplies during all practices:
    - Cold water and/or sports drinks
    - Ice
    - Ice Towels
    - Cold Tubs
    - Thermometer
    - Phone
    - Emergency Numbers

11. **Drug/Supplement Use:** Some supplements and prescription drugs may predispose an athlete to dehydration. The athletic training staff should be made aware of all drug and supplement use by all athletes before the athlete begins taking the substance.

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Summary of Exertional Heat Illnesses

Illness	Definition	Signs and Symptoms	Treatment
Heat Cramps	Exercise associated muscle cramps	Acute, painful, involuntary muscle contraction, dehydration	Stop activity, stretch, massage muscles, rehydrate
Heat Syncope	Dizziness or fainting in high temperatures	During first 5 days of acclimatization, dizziness, pale, tunnel vision, sweaty, decreased pulse, normal temperature	Move to shaded area, monitor vital signs, elevate the legs and rehydrate
Heat Exhaustion	Inability to continue exercising in combination of heavy sweating, dehydration, and energy loss	Persistent muscle cramps, urge to defecate, weakness, fainting, pallor, dizziness, headache, hyperventilation, nausea, anorexia, diarrhea, decrease urine output, body temperature between 97°F-104°F	Remove excess clothing, move into AC or shade, cool athlete with fans, ice bags, ice towels, rehydrate, call athletic trainer and physician
Heat Stroke	An elevated core temperature greater than 104°F associated with signs of organ system failure	Increased heart rate, and sweating, decreased blood pressure, hyperventilation, altered mental status, vomiting, diarrhea, seizures, and coma	Remove clothes and equipment, immerse the body into a pool or tub of cold tub. Monitor temperature. Call EMS, athletic trainer, physician
Hyponatremia	Serum-sodium level less than 130 mmol/L	Usually occurs when activity exceeds 4 hrs, disorientation, altered mental status, headache, vomiting, lethargy, swelling of extremities, seizures	Call EMS, athletic trainer and team physician

**** In the event a heat illness occurs at a practice where a Certified Athletic Trainer is not present, call 911 and then the Head Athletic Trainer immediately.**
**** Do not give any disoriented athlete anything to eat or drink**
**** Athlete can only return to play after cleared by a physician and the athletic trainer**