

HEAT & COLD INJURIES

HEAT INJURIES

Heat injuries, also referred to as heat-related illness, is a spectrum of injuries due to increased body temperature. It can be caused by either environmental conditions or by exertion.

HEAT CRAMPS

SYMPTOMS :

Severe, sometimes disabling cramps: muscles will be hard and tense with notable contractions

ACTION :

- 1 Remove the athlete from play and give fluids
- 2 Athlete can massage the cramp
- 3 Athlete can return to play when symptoms improve
- 4 If cramping continues, remove athlete for the rest of the day for proper re-hydration

HEAT SYNCOPE (sing-kuh-pee)

HEAT SYNCOPE is caused by inadequate blood flow to the brain

SYMPTOMS :

Fainting while out in the hot weather

ACTION :

- 1 Remove the athlete from play to a cooler, shaded area
- 2 Monitor vital signs and give fluids
- 3 Have the athlete examined by a medical professional

HEAT EXHAUSTION

SYMPTOMS :

Fatigue, nausea, headache, weakness, confusion, dizziness, fainting, drenching sweat with cold and clammy skin, slow or weakened heartbeat

ACTION :

- 1 Quickly remove the athlete from play; move them to a cooler, shaded area
- 2 Elevate legs, give fluids, cool with ice bags or cool towels in the armpits and groin
- 3 Activate EMS if the athlete does not improve quickly, and have the athlete examined by a medical profession before any return to sport

HEAT STROKE

HEAT STROKE occurs when the body moves through heat exhaustion while the body's temperature continues to rise

SYMPTOMS :

Same as Heat Exhaustion except :Athlete will have stopped sweating, have hot, dry, flushed skin, temperature over 104°, and a rapid heart rate

ACTION :

- 1 IMMEDIATELY cool athlete by removing clothing, immersing in an ice bath or placing ice bags on armpits and groin
- 2 Activate EMS
- 3 Monitor vital signs until EMS arrives

PREVENTION OF HEAT ILLNESS

Activity modification zones are based on the Wet Bulb Globe Temperature (WBGT). This is different from both the standard temperature and the heat index. Prior to a competition or practice, a reading should be obtained using a WBGT device. Readings should be taken every 30 minutes and adjustments made to activities as required.

ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5
WBGT <79.7°F	WBGT 79.8–84.6°F	WBGT 84.7–87.6°F	WBGT 87.8–89.7°F	WBGT >89.8°F
Normal activities	Three 4-minute breaks per hour	Practice max two hours	Practice max one hour	No outdoor workouts
Three 3-minute breaks per hour	Remove helmets and equipment while not directly competing, drilling, or practicing	Four 4-minute breaks per hour	No additional conditioning	No indoor workouts unless air conditioned
		Limited to helmet, shoulder pads, and shorts during practice	No helmets, shoulder pads, or other equipment	
		Consider post-poning practice to later in the day	Consider post-poning practice to later in the day	
		Change to dry shirts and shorts regularly	Change to dry shirts and shorts regularly	

COLD INJURIES

FROST BITE

FROSTBITE is the freezing of any part of the body where ice crystals form within or between the cells. Red blood cells and platelets clump and restrict blood flow, especially in ears, nose, and fingers which are generally the first areas affected.

SYMPTOMS :

Feeling of "pins and needles" which progresses to numbness**
Frostbitten skin is hard, pale, cold, and has no feeling

** Because frostbite causes numbness instead of pain, athletes may not recognize the frostbite in time to prevent serious damage

ACTION :

- 1 Treat mild frostbite by gradually warming the affected areas

HYPOTHERMIA

HYPOTHERMIA is the lowering of body temperature below 95°. It results from prolonged cold exposure where the body loses heat faster than it can produce it.

SYMPTOMS :

Shivering, confusion, loss of coordination, exhaustion, slurred speech, and memory loss

ACTION :

- 1 Move the athlete to a warmer environment
- 2 Wrap the athlete in blankets and give warm beverages

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