



HEAT ILLNESS

Avoiding Heat Illness by Being S.M.A.R.T.



Protecting your health during physical activity in hot climates is as simple as remembering to keep cool and using common sense. Exposure to heat can lead to serious, even life-threatening, illness, as witnessed by the deaths of elite athletes during sports training and competition and by the deaths of hundreds of persons during heat waves around the world. Heat illness is preventable in most cases! Follow the basic tips below and avoid heat injuries by being S.M.A.R.T.

Schedule workouts carefully to avoid the highest temperatures. Limit your workouts to morning and evening hours to avoid peak summer heat.

Monitor high risk athletes. Coaches, athletes, athletic trainers, and athletes should learn the signs and symptoms of serious heat-related illnesses and be on the lookout for those who might be at risk. Athletes who have been recently ill, for example, with the flu or a muscle injury, who have a prior history of heat illness, who are unacclimated to exercise in the heat, and who are highly motivated to succeed in their sports are at the greatest risk.

Warning signs and symptoms of exertional heat illness (modified from Binkley et al. (2002) and Department of the Army and Air Force (2003).

Signs of Possible Heat Exhaustion

- Rapid pulse
- Rectal temperature usually <104 degrees F (40.0 degrees C)
- Headache
- Dizziness/fainting
- Nausea/vomiting
- Unsteady walk
- Weakness
- Muscle cramps
- Chills/Goosebumps

Signs of Possible Heat Stroke

- Weak and rapid pulse
- Rectal temperature usually >105 degrees F (40.5 degrees C)
- Central nervous system changes
 - Conusion/disorientation
 - Agitation/aggressiveness
 - Blank stare/apathy
 - Irrational behavior
 - Staggering gait
 - Delirium
 - Convulsions
 - Unresponsiveness, coma
- Hot and wet or dry skin
- Vomiting
- Involuntary bowel movement
- Hyperventilation

Acclimate and Adjust workouts and clothing to the environment. Become acclimated to the heat for at least 8-14 days by gradually increasing exercise time and intensity in the heat. Reduce work intensity and time of heat exposure in extremely hot, humid conditions. Wear light-colored and loose-fitting clothing.

Recover and Replenish. Recover in cool conditions for a long enough time to reduce body temperature, and remember to drink during exercise to replenish fluids and electrolytes. Sports beverages can help replace the fluids and minerals that you lose through sweat.

Think about emergency procedures to cool athletes who may suffer heat illness. Have plans ready to rapidly administer effective body cooling procedures, especially by immersing the athlete in cold water or ice water.

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