

Is it Worse than Just Thirst? Prevent Heat Illness

By Chris Thein, MS, ATC, NREMT

Heat, humidity and dehydration take a toll on the hardiest of athletes. Heat cramps, heat exhaustion and heat stroke are some of the most common and most preventable conditions on the athletic field.

Soccer players are especially vulnerable. Practices and games are held outside on large fields, often with little access to shelter from the sun. Limited breaks during games don't leave enough time for players to rest and rehydrate and hot, humid weather increases the risk of heat illness.

Coaches and other adults can help prevent heat illness by monitoring fluid consumption and controlling the play environment. Watch for signs of heat related distress and be proactive to help keep athletes cool and avoid overheating.

About Heat Illness

When the body becomes dehydrated, or without enough water to sweat, it loses the ability to cool and release built-up heat resulting in heat illness. Heat cramps are usually the first sign that the body is becoming dehydrated. As symptoms become more serious athletes can suffer from heat exhaustion and although less common, can progress to heat stroke.

Symptoms of heat related illnesses

Heat cramps – Heat cramps are best addressed by drinking plenty of water to avoid dehydration leading to heat exhaustion.

- Severe, sometimes disabling, cramps that typically begin suddenly in the hands, calves or feet
- Hard, tense muscles
- Nausea
- Faintness
- Weakness
- Dizziness

Heat exhaustion – Heat exhaustion requires immediate attention to avoid heat stroke but is not usually life-threatening.

- Fatigue
- Nausea
- Headache
- Excessive thirst
- Muscle aches and cramps
- Weakness
- Confusion or anxiety, agitation
- Drenching sweats, often accompanied by cold, clammy skin
- Slowed or weakened heartbeat
- Dizziness
- Fainting

continued

Heat stroke – Heat stroke is a **medical emergency** and can be life threatening. Seek professional help immediately.

- Nausea and vomiting
- Headache
- Dizziness or vertigo
- Fatigue
- Hot, flushed, dry skin
- Rapid heart rate
- Decreased sweating
- Shortness of breath
- Decreased urination
- Blood in urine or stool
- Increased body temperature (104 to 106 degrees Fahrenheit)
- Confusion, delirium or loss of consciousness
- Convulsions

Treatment

- Call 911 if heat stroke is suspected
- Move to a cool place, rest, remove or loosen tight clothing
- Give fluids only if patient is alert enough to swallow and is not vomiting
- Cool the athlete's body aggressively with iced towels placed at pulse areas (neck, underarms, inner thighs)
- Monitor vital signs
- Transport to a medical center immediately

Prevention

Youth are more susceptible to heat illnesses because the body's cooling mechanism does not work as efficiently as in adults and because youth have a greater surface area compared to their mass, absorbing more heat in a shorter period of time.

To compensate, ensure appropriate fluid intake to maintain sweat and to replenish essential electrolytes lost in the sweating process. Electrolytes stimulate thirst to encourage fluid intake, help the body retain fluids, prevent muscle cramps and maintain sodium levels in the blood.

Suggested Beverages

Water is a good and inexpensive choice and all that is necessary in most cases to avoid dehydration. Youth may prefer the taste of sport drinks or flavored non-carbonated beverages which may help them consume more. Sports drinks may be useful to people who exercise for more than 90 minutes to replace electrolytes lost in sweating.

Tips to Prevent Heat Illness

- Practice sessions and games should be held during cooler times of day, such as dawn or dusk.
- Consume 12 to 16 oz. of fluid 30 minutes prior to play.
- Consume fluid every 15 - 20 minutes, even if not thirsty. Players less than 90 lbs. should drink 5 oz. of fluid, players who weigh more should drink 9 oz.
- Avoid beverages that contain caffeine or sugar to help prevent dehydration.
- Monitor urine color. If yellow like lemonade, the body is sufficiently hydrated. If dark like apple juice, the body is dehydrated.
- Wear lightweight, light-colored clothing to facilitate sweat evaporation.
- Schedule breaks in a shaded area, especially during tournaments or consecutive games or practices.
- Schedule 45-60 minute practices for eight to 10 days prior to intense practice or tournament to acclimate athletes to the hot or humid environment.
- Follow regulations about safe temperatures. Relax competitive rules during very hot or humid weather.

Chris Thein, MS, ATC, NREMT, is a certified athletic trainer with the Institute for Athletic Medicine, part of Fairview's family of orthopedic services. Chris earned his MS degree in Athletic Training in 1988 from Illinois State University and completed his BS degree in Athletic Training in 1987 from North Dakota State University. He provides athletic training services for Wayzata High School.