Task force turns up heat on prevention

July 21, 2003

BY DOUGLAS CASA
UNIVERSITY OF CONNECTICUT

Helpful Links
Email this article
Print this article
Link to this page

The Inter-Association Task Force on Exertional Heat Illnesses was formed to address the impact the hot and humid temperatures of the summer months can have on the physically active. As evidenced in recent years, these factors can present an inherent danger, sometimes with devastating consequences.

While tips to prevent, recognize and treat heat illnesses exist, the information may differ from one document to the next or emphasize only one phase of care (that is, prevention only).

With this in mind, the National Athletic Trainers' Association (NATA) invited representatives of prestigious medical and health-related organizations to form a task force that was charged with identifying the safest and most appropriate ways to prevent, recognize and treat dehydration, exertional heat stroke (EHS), heat exhaustion, heat cramps and exertional hyponatremia.

The result is a cutting-edge, comprehensive and user-friendly consensus statement that promotes safety and could ultimately enhance performance.

The NCAA contributed information from its Sports Medicine Handbook, NCAA News articles and other relevant documents previously distributed to member institutions on the topic of heat illness to the task force in the development of this statement. Although the NCAA was not a primary member of the task force, it supports the efforts of the NATA to provide guidance to sports-medicine personnel, coaches and athletics administrators in preventing exertional heat illness and responding with appropriate medical care. The NCAA recommends that member institutions reference the NCAA Sports Medicine Handbook and this consensus statement to reduce the risk of exertional heat illness among NCAA student-athletes.

The complete task force consensus statement (including a list of all participating organizations) can be downloaded at www.nata.org and is excerpted here. (More information about each heat illness, including dehydration and heat cramps, appears in the complete document.)

Prevention

The good news is that heat illnesses can be prevented. If one or more of these conditions do occur, most can be successfully treated if on-site medical personnel recognize the condition and implement care in a timely manner.

To do this, organizations should:

Establish and put into practice a comprehensive emergency action plan.

Encourage proper education on the risk factors (that is, hydration, acclimatization, work/rest ratios, etc.) of exertional heat illnesses.

Provide on-site medical services of a certified athletic trainer (ATC), emergency medical technician (EMT) or physician. These personnel should have authority to pull an individual from activity or to alter work/rest ratios, practice schedules and/or amount of equipment based on weather conditions.

Be sure all pre-participation exams include questions about medication use and history of heat illnesses.

Be aware of underlying fundamental factors that might put athletes at higher risk, such as a history of heat illness, inadequate heat acclimatization, lower level of fitness status, higher percent of body fat and more.

External factors also can increase the risk of heat illnesses. Examples include intense or prolonged exercise with minimal breaks, high temperature/humidity/sun exposure over consecutive days, inadequate work/rest ratios based on environmental conditions and more.

Exertional heat stroke

Heat stroke is a severe heat illness that occurs when an athlete's body creates more heat than it can release because of the strain of exercising in the heat. This results in a rapid increase in core body temperature, which can lead to permanent disability or or death if not treated.

Signs and symptoms

Increase in core body temperature, usually above 104Â°F/40Â°C (rectal temperature).

Central nervous system dysfunction, such as altered consciousness, seizures, confusion, emotional instability, irrational behavior or decreased mental acuity.

Nausea, vomiting or diarrhea.

Headache, dizziness or weakness.

Hot and wet or dry skin.

Increased heart rate, decreased blood pressure or fast breathing.

Dehydration.

Combativeness.

Treatment

Aggressive and immediate whole-body cooling is the key to optimizing treatment.

If untreated, hyperthermia-induced physiological changes resulting in fatal consequences may occur within vital organ systems (muscle, heart, brain, etc.). Due to superior cooling rates, immediate whole-body cooling (cold water immersion), is the best treatment for EHS and should be initiated within minutes post-incident. If adequate emergency medical care is available on-site, it is recommended to cool first via cold-water immersion, and then transport second. Immediate transport to the nearest medical facility is essential if on-site medical personnel or whole-body cooling are not available.

"When can I play again?"

The athlete's physician should devise a return-to-play strategy to be implemented with the assistance of a qualified health care professional.

Heat exhaustion

Heat exhaustion is a moderate heat illness that occurs when an athlete continues to be physically active even after the first signs of ill effects from heat appear, like dehydration. The athlete's body struggles to keep up with the demands, leading to heat exhaustion.

Signs and symptoms

Athlete finds it hard or impossible to keep playing.

Loss of coordination, dizziness or fainting.

Dehydration.

Profuse sweating or pale skin.

Headache, nausea, vomiting or diarrhea.

Stomach/intestinal cramps or persistent muscle cramps.

Treatment

Remove athlete from play and immediately move to a shaded or air-conditioned area.

Remove excess clothing and equipment.

Cool athlete until rectal temperature is approximately 101Â°F (38.3Â°C)

Have athlete lie comfortably with legs propped above heart level.

If the athlete is not nauseated or vomiting, have him or her drink chilled water or sports drink.

Monitor heart rate, blood pressure, respiratory rate, core temperature and CNS status.

Transport to an emergency facility if rapid improvement is not noted with prescribed treatment.

"When can I play again?"

Physician clearance is recommended. Athlete should be symptom free and fully hydrated and any underlying conditions predisposing the athlete to continued problems should be ruled out. Intense practice in heat until at least the next day should be avoided.

Exertional hyponatremia

When an athlete's blood sodium levels decrease, either due to overhydration or inadequate sodium intake, or both, medical complications can result. Hyponatremia may be completely avoided if fluid consumption during activity does not exceed fluid losses.

Signs and symptoms

Excessive fluid consumption before, during and after exercising (weight gain during activity).

Increasing headache.

Nausea, vomiting (often repetitive).

Swelling of extremities (hands and feet).

Treatment

If blood sodium levels cannot be determined on-site, hold off on rehydrating athlete (may worsen condition) and transport immediately to a medical facility.

"When can I play again?"

Physician clearance is strongly recommended in all cases.

To obtain a complete copy of the Inter-Association Task Force on Exertional Heat Illnesses Consensus Statement, including information on dehydration and heat cramps and a list of all participating organizations, log on to www.nata.org.

Douglas Casa is the director of athletic training education at the University of Connecticut and served as chair of the Inter-Association Task Force on Exertional Heat Illnesses.