For heat stroke victims, cool first, then transport

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New guidelines stress the importance of immediate cooling for athletes.

(HealthDay)—As the hottest months of the year approach, experts are urging coaches and paramedics to change how they treat athletes suffering from heat stroke.

New guidelines released Friday by the National Athletic Trainer's Association (NATA) say heat stroke victims need immediate cooling before they are taken to a hospital.

"We're trying to get people to realize that's how you save people's lives from heat stroke," said Douglas Casa, director of athletic training education at the University of Connecticut.

"That's a paradigm shift in medicine. Heat stroke is the only medical condition that you can think of where we're telling people to treat the person first on site before you transfer them to the hospital," said Casa,

who is also the chief operating officer of the Korey Stringer Institute.

Korey Stringer was an NFL player for the Minnesota Vikings who collapsed and died from heat stroke in 2001 during a preseason practice. His wife donated money she received in a settlement from the NFL to start a foundation aimed at saving others from his fate.

In heat stroke, a person's core body temperature rises above 104 degrees. Their skin feels hot, and their behavior is altered. They may seem agitated, aggressive or confused. They could also experience a headache, nausea or vomiting, according to NATA.

Casa says that if you can get a person's core temperature down within 30 minutes of their collapse, you can save their life. But too often, the wait for an ambulance and ride to the hospital delays this cooling.

He recommends that all high school teams keep an inexpensive Rubbermaid tub filled with ice and water on the sidelines for players who get into trouble during practice. So far, only one state, Arkansas, has mandated use of such immersion tubs. Arkansas' mandate was prompted by recent heat stroke deaths.

Exertional heat stroke is heat stroke that strikes after physical activity, and it typically affects people who labor in the heat like farmworkers and highway crew members. It also strikes athletes going into intense preseason practices who may not be used to sizzling summer temperatures, according to the NATA.

"A lot of the high school sports programs are getting more and more serious. A lot of times they mimic college programs, but a lot of time they don't have the safety precautions in place," Casa said.

And Casa says modern life means many kids spend their summer in the

comfort of air conditioning before hitting record hot temperatures for hours at a stretch.

"These are kids who are never outside during the summer time. They're not heat-acclimatized. They live completely and do most of their working out in air-conditioned environments. So when they take the field in August, it's their first warm weather workout in the last 11 months," he said.

In addition to the 'cool first, transport second' rule, the new guidelines urge coaches to start preseason workouts slowly, in minimal gear, allowing for frequent water breaks to reduce the chances of heat emergencies.

And there are some new technologies coming that may one day help athletes beat punishing temperatures, such as special gloves and shirts to help control body temperatures.

Researchers at the University of Connecticut tested the effects of a new hand-cooling gloves. Thirteen healthy males in their 20s walked quickly on a treadmill in full football gear for 90 minutes.

Every 15 minutes or so, some of the volunteers took a break to wear the new hand cooling gloves. The devices, really more like rubber sleeves, have a vacuum pump to help bring blood to the surface of the skin while cold water circulates through the sleeve to cool it. They wore the gloves for three minutes at a stretch. The study was designed to mimic the kind of breaks athletes might get on the playing field.

At the end of the session, the men who had worn the cooling gloves had core body temperatures that were lower than the men who hadn't had any cooling. The results were strongest in guys who'd also received replacement fluids during their hand-cooling sessions.

"We saw a whole degree Fahrenheit of difference between the hand-cooling with fluid group and the control group," said lead researcher Michael Sundeen, who is now an assistant athletic trainer for the Denver Broncos. He was a graduate student at the University of Connecticut at the time of the study.

"That's pretty significant in the realm of performance," Sundeen said, noting that men who'd done the hand-cooling scored about 8 percent better on measures of performance than those who had not.

Another study tested the effects of a special shirt that circulates cold water over the torso through sewn-in tubes. Compared to a cotton t-shirt, the cooling shirt didn't lower core body temperature, but it did reduce how much water athletes lost through sweat, which study authors think might help people better withstand hot weather workouts.

The new research, along with the new guidelines, were to be presented Friday at the National Athletic Trainers Association annual meeting in Indianapolis. Findings presented at meetings are viewed as preliminary until published in a peer-reviewed journal.

More information: For more information on exertional heat stroke, visit The Kory Stringer Institute at the University of Connecticut.