

'Drink when thirsty' to avoid fatal drops in blood sodium levels during exercise

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Credit: George Hodan/public domain

For hikers, football players, endurance athletes, and a growing range of elite and recreational exercisers, the best approach to preventing potentially serious reductions in blood sodium level is to drink when

thirsty, according to an updated consensus statement on exercise-associated hyponatremia (EAH). The recommendations appear in the June issue of the *Clinical Journal of Sport Medicine*.

"Using the innate thirst mechanism to guide fluid consumption is a strategy that should limit drinking in excess and developing hyponatremia (low blood sodium) while providing sufficient fluid to prevent excessive dehydration," according to recommendations developed at this year's 3rd International Exercise-Associated Hyponatremia Consensus Development Conference. Tamara Hew-Butler, DPM, PhD, of Oakland University, Rochester, Mich., is lead author of the updated report.

EAH Deaths Are Preventable "If We Just Listen to Our Bodies"

The Consensus Panel reconvened to revise previous recommendations in response to the largely preventable deaths of two high school football players from dilutional EAH last summer. "Our major goal was to re-educate the public on the hazards of drinking beyond thirst during exercise," Dr. Hew-Butler comments.

The updated statement emphasizes a more balanced approach to hydration—especially during the summer months, when exercising in the heat increases the risk for developing dangerously low blood sodium levels associated with overdrinking. Dr. Hew-Butler adds, "The release of these recommendations is particularly timely, just before sports training camps and marathon training begins within the United States—where the majority of EAH deaths have occurred." The full statement is now available as a free download on the journal website: <http://www.cjsportsmed.com/>.

Exercise-associated hyponatremia—sometimes called "water intoxication"—refers to reductions in the body's [sodium level](#) occurring during or up to 24 hours after physical activity. Especially before the drop in sodium level becomes too severe, EAH may have no or only mild symptoms.

When symptoms occur, they typically include headache, vomiting, and confusion or seizures, resulting from swelling of the brain (cerebral edema). Without immediate treatment, severe EAH can be rapidly fatal. One large study found that symptomatic EAH occurred in one percent of athletes in endurance events. Asymptomatic EAH developed in another six percent of participants.

Sustained, excessive intake of water, sports drinks, or other fluids—exceeding the body's ability to eliminate fluids in the form of sweat and urine—is the major risk factor for EAH. The excess fluid dilutes the body's sodium level, interfering with normal regulatory processes.

Since drinking too much is the main cause of EAH, the most effective prevention is drinking less. "The safest individualized hydration strategy before, during and immediately following exercise is to drink palatable fluids when thirsty," according to the Consensus Panel.

Some athletes may drink too much because they've heard advice to "drink before they get thirsty" in order to avoid dehydration. The authors note that drinking when thirsty will not only prevent EAH, but also prevent possible drops in performance due to dehydration.

The statement includes recommendations for healthcare professionals—emphasizing that EAH treatment should be guided by the severity of symptoms, not just the individual's sodium level. It also highlights the need for education on measures to reduce excessive fluid

intake, targeting athletes and support teams.

Athletes and coaches must recognize the need for balanced hydration before, during and immediately following exercise to prevent further morbidity and mortality associated with 'forced hydration' practices," Dr. Hew-Butler adds. "Every single EAH death is tragic and preventable, if we just listen to our bodies and let go of the pervasive advice that if a little is good, than more must be better."

More information: "Statement of the Third International Exercise-Associated Hyponatremia Consensus Development Conference, Carlsbad, California, 2015" [DOI: 10.1097/JSM.0000000000000221](https://doi.org/10.1097/JSM.0000000000000221)

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