

# More salt doesn't mean better performance for endurance athletes

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In a recent study, Saint Louis University researchers found that salt pill consumption neither hurt nor helped performance for endurance athletes. Edward Weiss, Ph.D., assistant professor of nutrition and dietetics at Saint Louis University, cast doubts on the popular idea that salt consumption can help endurance athletes during competition in the *Journal of Sports Science and Medicine* paper.

Conscious of recommendations to replace [sodium](#) losses due to sweat during exercise, some endurance athletes have taken that idea a step further. Athletes sometimes consume large quantities of [salt](#) or other electrolyte supplements containing sodium during training and competition under the theory that it could help improve performance. The sodium found in many sports beverages and foods is generally not of concern. However, the use of salt and electrolyte pills or powdered additives for drinks can result in excessive sodium intakes.

Some have hypothesized that the added salt would lead to more sweat, which in turn would offer benefits to performance. This idea is based on the principle of thermoregulation, the body's processes that help to maintain its core temperature. Efficient thermoregulation is linked to better athletic performance. Sweat is one mechanism that the body uses to cool off when its core temperature becomes too high.

To determine the effects of high-dose sodium supplementation on thermoregulation and related measures, 11 endurance athletes participated in a double-blind study in which they underwent two hours

of endurance exercise at 60 percent [heart rate](#) reserve (the difference between maximum heart rate and resting heart rate) followed by an exercise [performance](#) test. The exercise resulted in more than two liters of water loss in the form of sweat. During one session, the athletes received 1800 mg of sodium supplementation and during the other, they received a placebo.

Weiss and fellow researchers found that sodium supplementation did not appear to impact thermoregulation.

The investigators calculated sweat rate, perceived exertion, heat stress, cardiovascular drift (increased heart rate after a period of exercise even when exertion remains constant), skin temperature and dehydration. None of the measures showed significant statistical difference between trials.

When these findings are considered together with the known health concerns associated with too much [salt consumption](#), Weiss urges a conservative interpretation of guidelines calling for sodium replenishment for athletes.

"While moderate sodium consumption is perfectly reasonable and should be encouraged, high sodium intake is associated with health concerns, like hypertension," Weiss said. "Many Americans already consume too much salt on a daily basis."

"I recommend that athletes use caution with sodium supplementation, especially when daily intakes already exceeds the upper safe limit of 2300 mg/day for most Americans."

**More information:** *Journal of Sports Science and Medicine*, [www.jssm.org/abstresearch.php?id=jssm-14-172.xml](http://www.jssm.org/abstresearch.php?id=jssm-14-172.xml)

Provided by Saint Louis University

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