

A chicken-flavored electrolyte drink could help sniffer dogs stay hydrated

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The first comparison of three common hydration methods for sniffer dogs shows that while all are effective, dogs drink more and are more hydrated when given a chicken-flavored electrolyte drink compared to plain water or when injected with electrolytes under the skin. The study, published in open-access journal *Frontiers in Veterinary Science*, also shows that the dogs did not suffer from a buildup of electrolytes from the drink, suggesting that electrolyte drinks are a safe hydration alternative for sniffer dogs, who are at risk of heat stroke in hot weather.

Working [dogs](#), such as search and rescue dogs or police dogs, are crucial assistants when authorities respond to disasters or check for contraband at border crossings. These dogs often work in challenging environments, and can sometimes exert themselves to the point of exhaustion and heat stroke. In fact, hot weather can be dangerous for working dogs, as dogs don't sweat much and rely on panting to cool themselves, meaning they can overheat easily.

The risk of [heat stroke](#) increases with dehydration, so one effective way to help working dogs stay safe is to keep them hydrated. However, there are different ways to do this. "People use different techniques to hydrate working dogs," says Cynthia Otto of the University of Pennsylvania, who was involved in the study. "Dog handlers disagree about the most effective method, and since there was no data on the safety or effectiveness of each technique, we wanted to provide some clarity."

The classic hydration technique is to provide free access to plain

[drinking](#) water. A second technique involves delivering water and electrolytes through a needle under the skin, which is known as subcutaneous hydration. Drinks containing electrolytes, such as sodium and potassium, are a third option, but these are controversial. Such drinks make sense as a rehydration aid for humans, as we lose electrolytes when we sweat. However dogs sweat very little, leading critics to say that the drinks could cause an unhealthy buildup of electrolytes in dogs.

The research team investigated these three common hydration strategies in a group of Border Patrol sniffer dogs who inspect vehicles at the Texas border, during the hot summer months. The team took a variety of measurements for each dog, including their hydration levels, fluid intake and work performance.

Happily, all three hydration strategies appear to be effective, and the dogs showed similar behavior, body temperature, and work performance regardless of the way they were hydrated. "In this controlled setting, all the hydration techniques were safe and effective," says Otto.

However, dogs receiving a chicken-flavored [electrolyte](#) drink drank significantly more fluid and had greater hydration levels. Interestingly, these dogs did not suffer from a buildup of sodium, a component of electrolyte drinks that could have negative effects in the body in large quantities. The dogs who drank electrolytes excreted the sodium in their urine, meaning their blood levels remained normal. Overall, the dogs handled the electrolytes well, suggesting they are a safe and effective hydration method.

These results surprised the researchers, as a previous study had reported that dogs who were offered a non-flavored electrolyte drink, drank very little of it. The chicken flavoring may have been key, making the dogs think they were having a tasty treat, but the team will need to investigate

this further.

"If a dog is reluctant to drink, then a highly palatable flavored electrolyte solution may give them a boost," says Otto. "However, these are healthy dogs in a controlled environment, and we don't know if all electrolyte or flavoring approaches are created equal, so we will need to do further work."

More information: Cynthia M. Otto et al, Evaluation of Three Hydration Strategies in Detection Dogs Working in a Hot Environment, *Frontiers in Veterinary Science* (2017). [DOI: 10.3389/fvets.2017.00174](https://doi.org/10.3389/fvets.2017.00174)

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