

# Study supports strong link between respiratory and digestive diseases in dogs

August 24 2023, by Brian Consiglio

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Credit: Karen Clifford, University of Missouri College of Veterinary Medicine

While the respiratory and digestive systems of canines have previously been studied independently, researchers at the University of Missouri College of Veterinary Medicine (CVM) have been investigating the

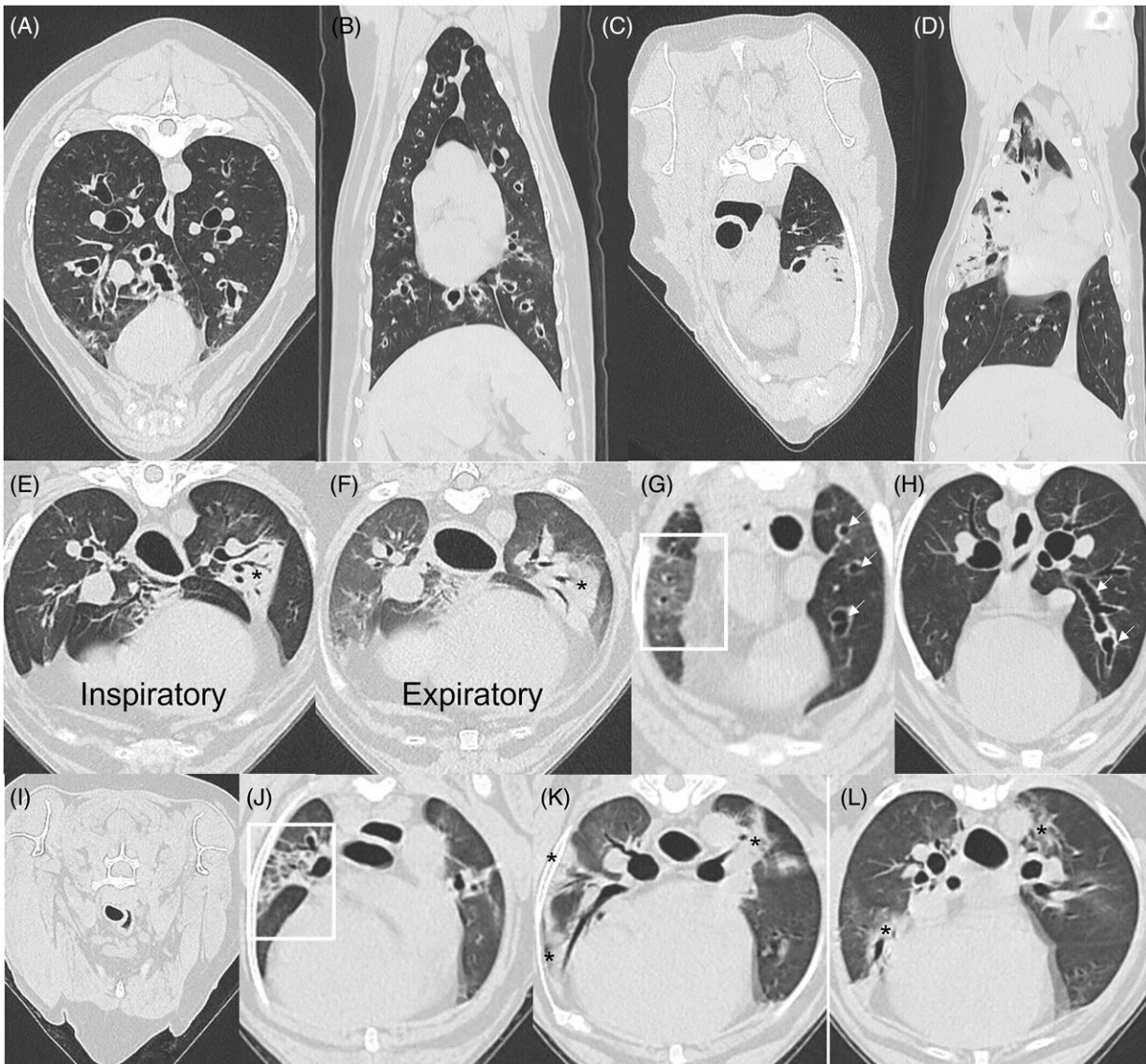
interplay between disorders in either of these systems for the last decade. One of their most recent studies supports a strong link between the two systems, finding that 75% of dogs with respiratory disease lacking gastrointestinal (GI) signs had one or more co-existing digestive system abnormalities.

The findings, which can advance the diagnosis and treatment of diseases in canines, indicate that both [dog owners](#) and clinicians should attempt to identify and closely monitor for potential digestive issues in [dogs](#) with respiratory disease, even when the dogs do not appear to have trouble swallowing, regurgitate, or vomit.

"Dogs that come into our clinic with signs of respiratory disease, such as coughing or difficulty breathing, may often have issues in their upper aerodigestive tract," said Carol Reinero, a professor in the CVM who led the study. "This makes sense because it is in that area where those pathways cross, a healthy dog should breathe in and not swallow or swallow and not breathe in, but when that goes haywire they can develop disease, including the potential for swallowing too much air or getting food or water into the lungs."

In the study, which included 45 dogs with respiratory clinical signs without GI signs and 15 healthy dogs as a [control group](#), a video X-ray was taken while each dog was eating and drinking in a natural position (while standing) to look for abnormalities in swallowing or movement of material into or back out of the animal's stomach.

The findings showed that the dogs with respiratory disease were far more likely to have abnormalities such as accidental breathing of food or fluid into the lungs, a condition known as aspiration, gastroesophageal or extraesophageal reflux, and trouble swallowing than control dogs.



Use of thoracic computed tomography to aid in classification of final diagnosis in dogs with respiratory disease based on airway, parenchymal or mixed airway and parenchymal involvement. Credit: *Journal of Veterinary Internal Medicine* (2023). DOI: 10.1111/jvim.16685

Studies such as this one highlights the fact that this link between the respiratory and GI disorders, also known as aerodigestive disorders, has been underrecognized for many years.

These patients are one of the reasons why Reiner and Aida Vientós-Plotts, who are both veterinarians with specialty training in internal medicine, co-founded The BREATHE Clinic in 2022. BREATHE, an acronym for Bringing Respiration and Aerodigestion Toward Health, is a subspecialty clinic within the CVM that aims to help patients with both respiratory and aerodigestive disorders.

"When patients come in for evaluation, we ask very specific questions about a pet's environment, diet, whether or not their cough is associated with eating or drinking, or if their pet drops food when they eat, among others," said Vientós-Plotts. "The answers to these questions can help inform our recommendations for additional diagnostic tests that allow us to provide a comprehensive plan for each individual patient."

The doctors explained that depending on the situation, management strategies that can help improve the quality of life for patients can include changes in diet, water alternatives, surgery, or recommendations to gain or lose weight.

"Sometimes we might recommend switching from kibble to canned foods or adjusting the macronutrients for more or less proteins or fats," said Vientós-Plotts.

Vientós-Plotts added that French bulldogs and other flat-faced or 'squashed'-faced breeds are far more likely to have both respiratory and GI issues than most dog breeds.

"This is because their respiratory tissues are squashed in a much smaller area, so the holes to bring air in are smaller," Reiner said. "As they struggle to breathe, this can cause reflux or herniation of their stomach, and they also tend to get very excited about eating so they may forget to breathe until they are mid-swallow, potentially causing food or liquid to get into their lungs."

According to the American Kennel Club, the French bulldog was recently ranked as the most popular dog breed in the United States, overtaking the Labrador retriever, which held the top ranking for the previous 31 years.

While this study assessed a wide variety of small and large breeds with different facial conformations and found a global connection between respiratory and digestive disorders, it underscores that aerodigestive disorders appear to be common and could occur in any pet dog.

The study is published in the *Journal of Veterinary Internal Medicine*.

**More information:** Jennifer Howard et al, Videofluoroscopic swallow study abnormalities identify aerodigestive disorders in dogs with respiratory disease versus healthy controls, *Journal of Veterinary Internal Medicine* (2023). [DOI: 10.1111/jvim.16685](https://doi.org/10.1111/jvim.16685)

Provided by University of Missouri

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