

# What dog owners should know about leptospirosis

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Emmanuelle Butty, med.vet., DACVIM (SAIM), assistant clinical

professor at Cummings School of Veterinary Medicine, sometimes treats dogs with leptospirosis, an infection that can lead to kidney failure and even death.

"It's heartbreaking when we see these cases," Butty said, because an efficient vaccine for [leptospirosis](#) has been available for the past 20 years.

Leptospirosis is an illness caused by a bacteria called leptospira that can be present in soil and stagnant water. Rodents and other wildlife carry the bacteria and spread it through their urine.

Both humans and dogs can become sick with leptospirosis, while cats are considered disease-resistant. For both people and dogs, the result of infection can range from mild to deadly serious.

## **How is leptospirosis transmitted?**

Most dogs become infected by drinking water from puddles or lakes, or by entering stagnant water when they have an open wound.

People, on the other hand, are more likely to become infected after a natural disaster such as a hurricane or flooding that disperses contaminated soil and water far and wide.

Dogs with an active infection can also transmit the disease to other dogs in the household, so Butty recommends that [pet owners](#) ask their vet about treating other pets with preventative antibiotics if their pet is diagnosed with leptospirosis.

Owners of infected pets should also reach out to their primary care physicians. "It's a zoonotic disease," Butty said. "It can be transmitted from animals to humans."

## Is my dog at risk?

"Every dog that has access to the outdoors is at risk of getting leptospirosis," Butty said.

Butty said that leptospirosis is prevalent in New England, with the infection being most common in spring and fall.

A dog with leptospirosis will seem unwell and lethargic. They may vomit, have a decreased appetite, or refuse to eat. They may seem very thirsty, or their eyes and skin may appear yellow (a sign of jaundice). But because the symptoms are nonspecific, Butty said a trip to the vet is in order to get an official diagnosis.

## What if my dog gets leptospirosis?

Many dogs recover with antibiotics, but a subset will develop serious complications. Many organs can be affected, with the kidneys and liver topping the list.

Dogs that experience complete [kidney failure](#) can sometimes be saved by undergoing several sessions of [dialysis](#). Taking over the function of the kidneys can keep the dog alive until they are able to recover from the infection. "If we buy time," Butty said, "we have a chance that the body will recover."

The strategy works for some dogs, but not all. Butty recently [published](#) the results of a study in the *Journal of Veterinary Internal Medicine* that she and her colleagues conducted to gain a deeper understanding of how often dialysis saves these dogs, with the goal of helping owners and vets make informed decisions about treatment.

She found that among 22 dogs with leptospirosis who experienced kidney failure and underwent dialysis, 16 survived. "All of them would have died without dialysis because their kidneys were completely shut down," she said, "but almost 75% of them were able to get out of the hospital. Even if things look really bad, there is a decent chance we will be able to save this animal."

The study showed that survival was less likely if multiple organ systems were affected by the infection.

Cummings School of Veterinary Medicine has dialysis equipment for dogs large and small, located in Henry and Lois Foster Hospital for Small Animals. (There are about three dozen pet dialysis centers across the United States.)

Dialysis for dogs is not cheap, though, so Butty recommends that dog owners consider pet insurance. "It can definitely save a life," she said.

Even dogs that don't require dialysis can have chronic health problems after a leptospirosis infection. "It's sad when dogs have [chronic kidney disease](#) at one or two years old," Butty said. "Their lifespan is going to be reduced significantly."

## **How to prevent leptospirosis**

The leptospirosis vaccine is the easiest way to protect dogs from infection, but many dogs don't receive it. Butty would like to change that.

"We have a good way to prevent the disease and to prevent the most severe cases of the disease, and that is the vaccine," Butty said.

The leptospirosis vaccine consists of an initial two-shot series spaced 4

weeks apart, which can be started in puppies at 12 weeks of age, followed by yearly booster shots. The timing of the yearly boosters is important. "If the booster is not on time, they are not considered vaccinated anymore and have to be restarted with the first two doses," Butty said. "Owners absolutely have to be on top of this and get an appointment with the vet before the due date." These guidelines are part of the updated consensus statement on leptospirosis in [dogs](#) published in 2023.

Dogs may feel a little under the weather for a day or two after the vaccine, but serious reactions are extremely rare.

"I'll take the vaccine reaction any day over ending up on dialysis because of complete kidney failure," Butty said. "Dogs need to be vaccinated."

**More information:** Antonia Da Fonseca Ioannou et al, Retrospective evaluation of 22 dogs with leptospirosis treated with extracorporeal renal replacement therapies (2018-2021), *Journal of Veterinary Internal Medicine* (2024). [DOI: 10.1111/jvim.16998](https://doi.org/10.1111/jvim.16998)

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