

Canine Influenza Facts

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What type of canine influenza do we have in Georgia?

On May 19, 2015, the Athens Veterinary Diagnostic Laboratory determined that H3N2, a new strain of canine influenza responsible for an outbreak in the Midwest, was the cause of illness for a dog that had been diagnosed with canine influenza on May 15.

There are two strains of canine influenza in North America: H3N8, which was first documented in dogs in North America in 1999, and H3N2, which is the strain responsible for the 2015 outbreak in the Midwest. A third strain, H5N2, is currently limited to China and spreads from dog-to-dog, but there has been no sustained spread of H5N2 through pet populations in China.

There is evidence, from serological tests, that the H3N8 strain was identified in dogs from Georgia as early as about 2004, which predates the vaccine introduced in 2009 for protection against the H3N8 strain of canine influenza. (Serological tests look for antibodies, which would be present in vaccinated dogs or in unvaccinated dogs that contracted canine influenza.)

Why is it important for people to understand that there are three strains of canine influenza? And, can these viruses be transmitted to other animals or to people?

All influenza viruses are prone to recombination in co-infected hosts (termed “antigenic shift”), and this tendency is likely to continue to impact the emerging diversity of canine influenza strains. So over time, the influenza viruses are adapting to their hosts and combining with other flu strains (which are innate to wild bird populations and other domestic animals) to create new strains of canine influenza virus.

Currently, there is no documentation of dog-to-human spread of H3N8, H3N2 or H5N2.

H3N8 is the type of influenza that is endemic to horses in the United States, and these horses are the original source of the type of H3N8 influenza we now see in dogs. There are no documented cases of H3N8 being transmitted from horses to humans.

In studies done in China, the H3N2 strain of canine influenza has been shown to infect cats, but it is not yet clear how likely this is under normal household circumstances. We do encourage pet owners with sick animals to be diligent about washing their hands, as well as their pet's bedding, bowls, toys, etc.

What dogs are at risk of contracting canine influenza? Will my dog get sick if it is exposed to the virus?

All dogs are at risk of contracting canine influenza, because dogs do not have a native immunity to influenza. H3N8 was first documented in dogs in North America in 1999. The first cluster of H3N2 cases in North America was documented this year, with the 2015 outbreak in the Chicago area.

Current evidence suggests that at least 80% of healthy adult dogs exposed will contract the flu. The incubation period for the onset of clinical signs is 2 to 4 days after exposure, however, dogs are shedding contagious virus during this incubation period. About 25% of dogs exposed to the disease will never show clinical signs of the virus, but they may still shed the virus.

The dogs most at-risk of serious illness and/or other complications from the infection are the very old, the very young, or those that have been previously unhealthy or have a chronic condition (e.g., those dogs undergoing treatment for cancer, or that have diseases that suppress the immune system, or that require immune-suppressive medications such as prednisone for chronic conditions, etc.).

How does canine influenza spread?

Like other respiratory illnesses, canine influenza spreads through respiratory secretions — droplets of mucus, from sneezing or coughing, that cling to both the air and surfaces. The virus does not live long in the environment, and it can be easily killed by common disinfectants. Canine influenza lives up to two days on surfaces in a climate-controlled environment, a shorter time outside in the sun and heat, and it may survive up to a day on unwashed skin.

Just like when people contract the flu, pet owners with sick dogs should be diligent about washing their pet's bedding, toys, food and water bowls, and other surfaces that may come into contact with your animal.

You can disinfect bedding and other items by washing them in common disinfectants, including bleach and quaternary ammonium compounds (QACs or Quats). Most Lysol products have benzalkonium chloride as an active ingredient,

which is a QAC. There are also commercial or hospital versions of these products, which contain higher concentrations of these compounds.

What are the typical symptoms for canine influenza?

As noted above, the majority of dogs will show clinical signs of the disease within 2 to 4 days after exposure to it, and these dogs will shed virus during the incubation phase of the illness. About 25% of exposed dogs will not show clinical signs, but they can shed the virus, meaning they can infect other dogs.

The typical clinical signs are fever, coughing, sneezing and malaise, which are indistinguishable from more classic causes of canine infectious tracheobronchitis, also known as “kennel cough” or ITB.

Things to watch for that may point to canine influenza include a rapid spread of infection through a population of otherwise healthy and/or vaccinated adult dogs, and potentially higher rates of fever.

If my dog contracts canine influenza, how is the disease likely to progress?

Most dogs will recover within 2 to 3 weeks after the onset of clinical signs of the illness. In most cases, the illness will resolve without treatment, though some dogs will need supportive care (e.g., fluids or therapeutics as prescribed by a veterinarian).

Very old dogs, very young dogs, and dogs that have been recently unhealthy or that are under treatment for chronic disease are the dogs at greatest risk of complications from canine influenza. The most dangerous complication would be pneumonia.

Can my dog die from canine influenza?

The majority of dogs that contract the disease will recover from it, but a small percentage will die from canine influenza.

Current available data suggests that 1 to 5% of dogs that contract H3N8 will die from the disease or from complications that arise from the disease.

While the recent Chicago outbreak garnered a lot of media attention, there is no evidence that the H3N2 strain responsible for this outbreak is more severe than the H3N8 strain that has circulated in North America since 1999. If popular press reports about the 2015 Chicago outbreak are accurate, more than 1500 dogs were diagnosed with H3N2, and 6 deaths were reported, which would equal a mortality rate of 0.4%.

How do I protect my dog? Should my dog be vaccinated for canine influenza, and if it is, will the vaccination protect against H3N8 and H3N2?

There is an approved vaccine that has been available since 2009 (Nobivac® Canine Flu H3N8, Merck Animal Health) for protection against the H3N8 strain, which is given as a two-dose initial series with an annual booster.

Currently, this vaccine is considered a non-core vaccine for dogs, and is recommended for dogs that travel, board (day boarding or long-term boarding), show or are regularly exposed to new dogs.

In our opinion, the risk factors for *Bordetella* infection and canine influenza are the same in any region of North America. It only takes a single infected dog to bring the virus into a new area, and most dogs are asymptomatic, while still shedding the virus, for a period of time during the infection.

For more information about the vaccine, or whether your dog should be vaccinated, contact your veterinarian.

Are the other animals in my house at risk? What if I have birds for pets?

The H3N2 strain of canine influenza has been shown to infect cats in studies conducted in China, but it is not yet clear how likely this is under normal household circumstances. We do encourage pet owners with sick animals to be diligent about washing their hands, as well as their pet's bedding, bowls, toys, etc.

Various species of wild birds are permissive hosts of many strains of flu, meaning that they can harbor more than one strain of flu and allow antigenic shift to occur. Oftentimes, the birds themselves do not exhibit signs of the flu that they are carrying. H3N8 has not been known to infect poultry or other birds and it is also unknown if the new canine-adapted strain H3N2 can infect pet birds.

Where can I send my veterinarian for more information about canine influenza in Georgia?

The UGA Veterinary Diagnostic Laboratories in Athens and Tifton are the official veterinary diagnostic labs for the state of Georgia and are closely following the H3N2 outbreak in the Midwest as well as canine influenza infections in Georgia and the surrounding states. All updates on reported cases as well as information for veterinarians can be found at t.uga.edu/1x0.

The DLABs recommend a Canine Respiratory PCR Panel to confirm suspicious cases. For information on cost, turn-around time, and samples to collect for testing, veterinarians can refer to t.uga.edu/1x0 or call 706-542-5568.

Veterinarians who want to request a consultation with the UGA Veterinary Teaching Hospital's Small Animal Internal Medicine service should complete our online

consultation request form (http://vet.uga.edu/hospital/rdvm_resources) or call 800-861-7456 for more information.

Where can I go for more information?

For more information about canine influenza virus, the vaccine, or whether your dog should be vaccinated, contact your veterinarian. If you believe you have a dog that may have become infected with canine influenza virus, contact your veterinarian.

You may also find information on the American Veterinary Medical Association's website at <http://tinyurl.com/kg6jwb6>.