

Canine Influenza Virus Update

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There are currently two viral strains primarily responsible for causing influenza (flu) in dogs. These Canine Influenza Viruses (CIVs) are H3N8 and H3N2.

Overview

H3N8 is a previously-known strain of CIV that was first identified in 2004, and caused outbreaks of dog flu in the NoVa region in 2009. It is a variant on an equine (horse) strain of flu that gained the ability to infect dogs. A vaccine for this strain has been on the market for several years, and is currently offered here at Deepwood. For more information about H3N8, you can visit [this Veterinary Partner website](#).

The new CIV is H3N2; you may have seen newspaper articles or TV reports about it over the last few months. H3N2 is an avian (bird) strain that has gained the ability to infect dogs and to transmit between dogs.

There is currently an outbreak of H3N2 in the United States; it began in Chicago in March, 2015, following the transport of an infected dog from South Korea to Chicago via O'Hare Airport. The majority of the outbreak has been confined to the Chicago area, but some spread has been seen. According to the CIV Surveillance Networks, as of February 2, 2016, dogs have tested positive in Illinois, Indiana, Michigan, Wisconsin, Washington (state), Pennsylvania, New Jersey, and Texas. As of Feb 2, no animals have tested positive in the Maryland/Virginia/DC area. However, the most up-to-date information is available [via this link to the Cornell School of Veterinary Medicine](#).

Transmission and Symptoms

CIV is primarily transmitted through close contact with a dog who is infected. This usually occurs in confined spaces such as animal shelters, boarding kennels, grooming facilities, training classes, dog shows, or doggie day care centers. Infected dogs do not shed large quantities of virus, so casual contact is less likely to spread the disease, but dogs frequently exposed to other dogs at dog parks are at higher risk than those who do not socialize regularly. However, the virus can survive for 24-48 hours in the environment, and can be transmitted via food and water bowls, clothing, and human hands from one dog to another. Age and breed have not been shown to affect the odds of infection. As most dogs have never been exposed to CIV before, they do not have immunity to it and are likely to become infected if exposed to the virus. Dogs with suppressed immune

symptoms due to age, medical condition, or treatment with immunosuppressive medications (steroids, cyclosporine, chemotherapy, etc.) are at increased risk of infection.

Clinical symptoms typically appear 2-3 days after infection, although some dogs take longer to develop signs. Peak virus shedding occurs 3-4 days post-infection, meaning that dogs who are not yet showing symptoms of illness could still potentially be shedding virus particles. Dogs may continue to be contagious for up to 2-3 weeks after initial appearance of symptoms.

There are two clinical categories that have been seen in dogs infected with CIV: a mild form of disease, and a more severe illness, often accompanied by pneumonia.

- *Mild form* - May be asymptomatic. Other possibilities include a cough that persists for 10-30 days (usually soft and moist but may be harsh and hacking), lethargy, decreased appetite, clear ocular / nasal discharge, and mild to moderate fever. Thick nasal discharge from secondary bacterial infection may also be present. Medical treatment may be needed depending upon symptoms.
- *Severe form* - High fever, cough, lethargy, lack of appetite, increased respiratory rate and effort. Vomiting and diarrhea have also been reported. Secondary bacterial infection may cause pneumonia. Prompt medical care is warranted, and some pets may require hospitalization and intensive veterinary care. Fatal cases have been reported, but the mortality rate is less than 10% and most dogs will recover in 2-3 weeks.

Testing and Treatment

PCR testing is available for CIV, but it should be performed within one or two days of the onset of symptoms for maximum accuracy.

As with all upper respiratory infections, treatment for mild cases is generally supportive, and may include expectorants/cough suppressants if needed. These pets will typically recover fine on their own without significant intervention. Treatment for more serious cases generally involves hospitalization with IV fluid therapy, broad-spectrum antibiotics for secondary infection, and respiratory/oxygen support if needed.

Risk Prevention

There are two vaccines (under conditional license from the USDA) currently available for the H3N2 strain of CIV. At this time it is believed that vaccination against the previous CIV strain (H3N8) will **not** provide protection from the new strain, and vice-versa. If you are trying to decide whether vaccinating your dog against the new strain is right for you, please let us know.

Our region is not currently experiencing an H3N2 outbreak. However, should one occur, the best prevention will be to minimize contact with other dogs. This entails avoiding places such as dog parks, boarding facilities, dog day care, group get-togethers, grooming facilities, and training classes. Walking your dog by his or herself should be fine.

If your dog develops respiratory signs, such as coughing, hacking, gagging or difficulty breathing, please promptly schedule an appointment. When calling to schedule, let us know that your dog has respiratory signs, so that we can take appropriate precautions to minimize the possibility of contaminating the hospital. When you get to the clinic, please stay in the car with your dog and call us from your cell phone - we'll take it from there!

Other Species

At this time, there is no evidence to suggest that either CIV strain (the new H3N8 or the old H3N2) is infectious to people. Data from studies done in Asia does indicate that transmission of H3N8 from dogs to cats is possible (though limited), but as of this time no cases in cats have been diagnosed in the U.S.