

## Frequently Asked Questions about Canine Influenza H3N2

### 1. **How was H3N2 first discovered in North America?**

In March 2015, veterinarians in and around the Chicago area began to notice an increase in the number of dogs presented to their clinics for respiratory illness. The dogs had signs involving the respiratory system including coughing, nasal and ocular discharge, and lethargy. Initial diagnostic testing was found to be inconclusive. In order to help support the veterinary community, Merck Animal Health sponsored a diagnostic sampling program with Chicago area veterinary clinics.

### 2. **What are the results of Merck Animal Health's Testing program?**

In this program, nasal and pharyngeal swabs were taken from sick dogs to help identify the causative agent. Samples were forwarded to the New York State Veterinary Diagnostic Laboratory at Cornell University. Over 350 samples were finalized between March 10 and April 23, 2015, and of these 198 dogs tested positive for Canine Influenza. At first, it was presumed that the Canine Influenza strain was H3N8, however, after further evaluation by Cornell and the University of Wisconsin, the strain has been identified as H3N2. This is the first time this strain of Canine Influenza has been found in North America. Further testing has shown that this form of H3N2 is nearly identical to H3N2 found in dogs in Korea.

Diagnostic testing through nasal or pharyngeal swabs taken within 3 days of illness is the best method for diagnosis for both types of Canine Influenza. Serology is also an option for diagnosis in recovered animals. Samples for serology should be taken at least 2 weeks post illness.

### 3. **What other pathogens causing infectious respiratory disease were found?**

Other pathogens were found in less frequency included parainfluenza (24 cases), adenovirus type 2 (3 cases), bordetella (9 cases), pneumovirus (27), and respiratory coronavirus (29). Vaccines are available for protection of parainfluenza, adenovirus, and bordetella. There are no vaccines commercially available in the United States for pneumovirus or respiratory coronavirus.

### 4. **What is the difference between H3N2 and H3N8?**

Both H3N8 and H3N2 are influenza viruses that cause respiratory infections in dogs. H3N8 was first discovered in Florida in 2004 and is of equine influenza origin. Avian origin H3N2 influenza virus was found in China in 2006 and in Korea. While H3N8 is shed by infected dogs for 5 days, H3N2 can be shed intermittently for up to 24 days,

### 5. **Can humans get H3N2 canine influenza?**

To date, there is no evidence of transmission of canine influenza viruses (H3N2 or H3N8) from dogs to people.

### 6. **Does H3N2 affect cats?**

H3N2 can affect cats.



**7. What clinical signs would a cat show that has an H3N2 infection?**

According to data from cases of H3N2 infection in cats in Asia, signs seen in cats would be similar to those seen in dogs and would include lethargy, coughing, fever, sneezing, and potentially pneumonia.

**8. Have any cats been confirmed with H3N2 in the North American outbreak?**

As of July 2015 there has been one reported case H3N2 in a cat in New York. .

**9. What areas have been affected?**

The first cases of Canine Influenza H3N2 in North America were identified by IDEXX from two samples that were tested on March 4, 2015. One of the dogs was from Chicago Illinois and the other was from Grand Rapids, Michigan. Within 4.5 months, H3N2 has spread to 20 additional states including Alabama, California, Colorado, Georgia, Idaho, Indiana, Iowa, Kentucky, Maine, Massachusetts, Minnesota, North Carolina, New Jersey, New York, Ohio, Pennsylvania, , South Carolina, South Dakota, Texas, Wisconsin.. As of August 1, 2015 22 states have had confirmed positive cases of H3N2. Due to the highly infectious nature of the disease, it is expected to continue to spread to other regions of the country. For regular updates, please visit [www.doginfluenza.com](http://www.doginfluenza.com) .

The University of Georgia's Athens Veterinary Diagnostic Laboratory identified the first positive H3N2 case in Georgia on May 15<sup>th</sup>, 2015. This first positive case originated in the metro-Atlanta area. As of July 14, 2015, the Athens Veterinary Diagnostic Laboratory has tested 293 dogs for Canine influenza virus (H3N2), resulting in 88 confirmed positives (30%).

**10. What clinical signs are seen with H3N2 in dogs?**

Clinical signs of H3N2 in dogs including coughing, fever, and lethargy. More severe signs including pneumonia can be seen in more severe cases. Necropsy reports from two dogs with confirmed H3N2 infection revealed severe, acute, locally extensive necrohemorrhagic interstitial pneumonia with epithelial necrosis.

**11. How did H3N2 get in the US?**

It is not known how the virus was brought into the United States. The virus has been identified as related to the Korean strain of H3N2.

**12. How infectious is H3N2?**

According to clinical data studies (currently under peer review) at the University of Wisconsin, this new strain of Canine Influenza likely has a longer, up to 24 days, contagious period- making it more of a concern.

### **13. What about vaccinations?**

Currently, there is no approved vaccination specifically for Canine Influenza H3N2 in the United States. Nobivac<sup>®</sup> Canine Flu H3N8 was introduced to the market in 2009 and is recommended as an aid in the control of disease associated with the H3N8 canine influenza virus infection. The Canine Influenza H3N8 virus has been found in 40 states nationwide, since being isolated in Florida in 2004. The H3N8 type of Canine Influenza is considered endemic in New Jersey, New York, Pennsylvania, and Colorado. The vaccine has been demonstrated to reduce the incidence and severity of lung lesions, as well as the duration of coughing and viral shedding.

While vaccines may provide a certain amount of cross-protection against different strains of the same virus, it is not known if the current vaccine will provide any protection from this new virus.

### **14. How safe is Nobivac Canine Influenza Vaccine H3N8?**

There were no side effects in the vaccine field safety trial, which included 746 dogs of various ages and breeds. As with any vaccine, allergic reactions may occur in a small percentage of animals. Adverse events reported since the product was launched in 2009 are comparable to those seen for other canine viral vaccines.

### **15. Can Nobivac Canine Influenza Vaccine H3N8 be used in cats?**

Nobivac Canine Influenza Vaccine is only labeled for use in dogs.

### **16. What can be done to help stop the spread of the disease?**

Both the scientific literature and what has been seen during the outbreaks suggests that H3N2 is highly infectious. The virus spreads rapidly, especially at boarding facilities, groomers, doggy day cares, dog parks and other spots where dogs co-mingle. Canine influenza virus can be spread by direct contact with respiratory discharge from infected dogs, through the air via a cough or sneeze, and by contact with contaminated objects such as dog bowls and clothing, or by people moving between infected and uninfected dogs. Dog owners whose dogs are coughing or showing other signs of respiratory disease should not participate in activities or bring their dogs to facilities where other dogs can be exposed to the virus.

**17. What do pet owners need to know about H3N2?**

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- Canine influenza virus can be spread by direct contact with respiratory discharge from infected dogs, through the air via a cough or sneeze, and by contact with contaminated objects such as dog bowls and clothing, or by people moving between infected and uninfected dogs.
- Dog owners whose dogs are coughing or showing other signs of respiratory disease should not participate in activities or bring their dogs to facilities where other dogs can be exposed to the virus.
- Clothing, equipment, surfaces, and hands should be cleaned and disinfected after exposure to dogs showing signs of respiratory disease.
- Contact your veterinarian if your dog has the following symptoms:
  - Coughing
  - Discharge from the nose or eyes
  - Loss of appetite
  - Lethargy/lack of energy
- Treatment consists mainly of supportive care, such as fluids and medication to help a dog be more comfortable. With severe illness, hospitalization is necessary.
- More information about Canine Influenza Virus is available at <http://www.doginfluenza.com/>.



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