

# Canine Influenza

## Information for the practicing veterinarian



### BACKGROUND

Canine influenza is a newly recognized infectious agent in dogs. The virus, an H3N8 strain of influenza, is similar to a well established influenza virus that causes disease in horses. It is different from the human flu virus or the avian influenza (H5N1) that is causing illness and death in people and animals in Asia.

An isolate was made from a greyhound that died from a then unknown respiratory disease in 2003. The virus is now found in several states and may be expected to spread.

### SIGNS OF DISEASE

Infection by this virus is novel in the dog population. Therefore, all dogs are susceptible to infection because there is no prior, naturally-acquired immunity. Florida reports that nearly 100% of exposed dogs become infected.

**Mild syndrome:** It is currently thought that about 80% of the dogs with signs of the disease will have a mild illness with signs including a cough that persists for 10 - 21 days. Most dogs have a soft, moist cough but others will have a dry cough. The cough continues despite treatment with antibiotics and cough suppressants. Many dogs have a purulent nasal discharge and a low-grade fever. It is possible that the nasal discharge results from a secondary bacterial infection and may resolve as a result of antibiotic therapy.

**More severe syndrome:** A smaller percentage of dogs develop a more severe disease such as a higher grade fever and clinical signs of pneumonia including an increased respiratory rate and effort. Radiographs may show consolidation of lung lobes. Some animals in this group may die.

### FATALITY RATE

Because our knowledge of the disease is still evolving, there is contention about the true rate. At this time evidence shows that it is probably less than 8%. The actual rate may be lower.

### INCUBATION & SHEDDING PERIOD

The incubation period is 2 - 5 days after exposure until clinical signs of disease appear. Infected dogs may shed virus for 7 - 10 days from the onset of clinical signs of disease. A significant percentage of dogs will not show signs of disease yet shed the virus and spread the disease.

### **Important facts:**

1. *Not all kennel cough is canine influenza.*
2. *At this time, the majority of infections with canine influenza appear to be subclinical. Only a small percentage of those dogs that become ill develop life-threatening disease.*
3. *Influenza vaccine designed for horses should not be used on dogs.*
4. *There is no evidence to date that dogs with canine influenza pose a risk to their owners.*
5. *Practitioners should work with their usual diagnostic laboratory or Cornell to confirm the most current guidelines for diagnostic testing.*

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## DIAGNOSIS

At this time, a rapid test, the Directigen Flu A antigen detection kit manufactured by the Becton Dickinson company has shown to be of diagnostic value. It has high specificity to confirm type A influenza viruses and the new canine influenza is a type A virus.

On a fee basis, the Rollins Laboratory of the North Carolina Veterinary Diagnostic Laboratory System, located in Raleigh, also has a PCR test to rapidly confirm if a dog is infected. Currently, there will be a \$10 charge for this test. It requires pharyngeal swabs taken from dogs with high fevers and minimal clinical signs. Samples must be obtained very early in the infection. If the samples are positive they will be used for virus isolation. To be accepted for testing, the submissions must meet the following criteria:

Swabs should be collected from febrile dogs with temperatures of 103-104 F. Typically, the dogs will be coughing and have a clear nasal discharge at that time. Mucopurulent discharges occur after the virus has cleared and secondary bacterial infection has occurred. Pharyngeal swabs collected several days after the onset of clinical signs are not useful for canine influenza detection, either for PCR detection or antigen-capture ELISA tests. The Virologist at the Rollins lab will reserve the right whether to test a sample based on his or her interpretation as to its diagnostic value. It would be advisable to call ahead for consultation if there are questions.

Serological testing can be obtained through the Cornell University diagnostic laboratory at the link below.

## PREVENTION AND CONTROL

If an animal has signs compatible with the flu, it should be confined, away from other animals until at least 10 days after the onset of signs of disease. People handling the animal should be aware that they should wash their hands and change clothes before having contact with other dogs. The virus is likely killed by routine disinfectants or a solution of 10% bleach.

## LINKS

Science: <http://www.sciencemag.org>

ProMed-mail: <http://www.promedmail> (to keep updated)

Florida Dept. of Agriculture & Consumer Services: <http://www.doacs.state.fl.us/ai/>

NCVMA: <http://www.ncvma.org/>

CDC: <http://www.cdc.gov/>

Cornell VDL: <http://www.diaglab.vet.cornell.edu/issues/civ.asp>

NCVDLS: <http://www.ncvdl.com/>

This publication was designed to provide the practicing veterinarian with information about this new disease. Canine influenza is relatively new and our knowledge of the virus, its transmission and the treatment of the disease is changing rapidly. The information in this document is subject to change.

Most of the information included in this publication was previously released in a Veterinary Advisory from the University of Florida College of Veterinary Medicine.

We offer our heartfelt thanks to Dr. Chris Olsen, UW-Madison, for sharing his knowledge and insights.

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