

Canine Influenza Testing Guidelines for the NC Veterinary Diagnostic Lab System

April 22, 2015

Canine influenza is reported to be a highly contagious virus that has recently been incriminated in causing respiratory disease outbreaks in several Midwestern states and has raised concerns for many dog owners and veterinarians in our state. Two strains of Group A influenza (H3N8 and H3N2) have apparently been identified in this latest outbreak. To date, there have been no reported cases in North Carolina. Canine influenza virus (CIV) can be spread to other dogs via direct contact with aerosolized respiratory secretions from infected dogs or contact with contaminated objects. Outbreaks are commonly seen with groups of animals in close contact with each other, such as in shelters, kennels and boarding facilities. Approximately 80% of H3N8 infected animals will display symptoms characteristic of acute respiratory infection (cough, nasal discharge, sneezing, lethargy, anorexia, high-grade fever and pneumonia). There has been no evidence to date that CIV causes disease in humans. Dog owners are encouraged to work closely with their veterinarian to rule out other potentially infectious causes of acute respiratory infection.

The Rollins Animal Disease Diagnostic Lab in Raleigh has the capability to identify and diagnose Group A influenza viral infections via antigen capture ELISA, virus isolation and PCR tests. The following guidelines should be used when submitting samples from dogs suspected of having CIV:

- Collect nasal swabs **within 2-4 days of onset** of symptoms
 - o Use swabs made of sterile polyester or Dacron (synthetic). Do not use swabs with wooden shafts or calcium alginate swabs.
 - o Place swabs into a sterile tube containing 2-3ml of either sterile nutrient broth (BHI, TBTB) or saline.
 - o Do not use bacterial transport swabs (swabs in gel medium).
 - o Keep samples cool (not frozen) and send them to the laboratory via FedEx or UPS overnight express delivery.

- If an animal is euthanized or dies, submit the entire body for necropsy.
 - o Lung and tracheal tissues will be used to isolate the virus.

Because CIV infection resembles canine infectious tracheobronchitis ("kennel cough"), diagnostics to rule out other causes of respiratory disease should also include transtracheal washes submitted for bacterial cultures.

- CIV may also be diagnosed through serological testing which is available at several veterinary diagnostic laboratories.
 - o Dogs showing signs of CIV for greater than 7 days should be tested using an antibody test, as antigen detection methods will be difficult at this stage of the illness.
 - o Acute and convalescent sera are collected 2-3 weeks apart in order to demonstrate an increase in antibody titers which is indicative of recent exposure to the virus.

Please feel free to contact our veterinary virologists, Dr. Richard Mock or Dr. Chad Cecil, if you have any questions at (919) 733-3986.

For additional information, please visit the following websites:

AVMA FAQ: <https://www.avma.org/KB/Resources/FAQs/Pages/Control-of-Canine-Influenza-in-Dogs.aspx>

AVMA Info Sheet:

<https://www.avma.org/KB/Resources/Reference/Pages/Canine-Influenza-Backgrounder.aspx>

AVMA Pet Owners' Guide:

<https://www.avma.org/public/PetCare/Pages/CanineInfluenza.aspx>

CDC Key Facts about Canine Flu:

<http://www.cdc.gov/flu/canine/index.htm>

CDC Update on Canine Influenza Outbreak Reported in Chicago Area:

<http://www.cdc.gov/flu/news/canine-influenza-update.htm>

Cornell University Press Release:

<http://mediarelations.cornell.edu/2015/04/12/midwest-canine-influenza-outbreak-caused-by-new-strain-of-virus/>