

Update - Canine Influenza Virus (Canine Flu or CIV)

New Jersey Department of Health and Senior Services, June 2010

SITUATION: Canine influenza virus (CIV) was first recognized in racing greyhounds in Florida in January 2004 and has since been documented in 30 states, including New Jersey. This highly contagious virus causes a clinical syndrome in dogs that mimics “kennel cough” and is frequently mistaken for infections caused by the Bordetella bronchiseptica/parainfluenza virus complex. There is no evidence that CIV can be transmitted from dogs to humans.

TRANSMISSION AND CLINICAL SIGNS: Dogs of any breed or age are susceptible to infection, although it is likely, but unproven, that some dogs that have recovered from infection retain some immunity to re-infection. CIV is most likely to spread in facilities where dogs are housed together and where there is a high turnover of dogs in and out of the facility, such as shelters, boarding and training kennels, day care kennels, pet shops, dog shows and grooming parlors. Household pets that are not boarded are at low risk. The virus is spread via respiratory secretions, contaminated objects (bowls, surfaces, etc.) and people moving from infected dogs to uninfected dogs. The virus can remain viable on surfaces for up 48 hours, on clothing for 24 hours, and on hands for 12 hours.

If the virus enters a kennel setting, virtually 100 percent of exposed dogs become infected and nearly 80 percent develop clinical signs. Although most dogs will have a milder form of CIV and recover without complications, some may develop severe pneumonia, which can be life-threatening.

In the milder disease, the most common clinical sign is a cough that persists for 10 to 21 days despite therapy with antibiotics and cough suppressants. Most dogs have a soft, moist cough, while others have a dry cough similar to that induced by Bordetella bronchiseptica/parainfluenza virus infection. Many dogs have purulent nasal discharge and a low-grade fever, indicative of a secondary bacterial infection.

In the more serious form, some dogs will develop pneumonia with clinical signs of a high fever (104⁰F to 106⁰F) and increased respiratory rate and effort. Thoracic radiographs may show consolidation of lung lobes. Dogs with pneumonia often have a secondary bacterial infection and may require aggressive medical intervention. The fatality rate for the serious form has been between 1 - 5%.

INCUBATION/SHEDDING PERIOD: The incubation period is 2 - 5 days after exposure before clinical signs appear in infected dogs. The highest amounts of viral shedding occur during this time; therefore, dogs are most contagious during this period when they are not exhibiting signs of disease. Virus shedding decreases dramatically during the first 4 days of illness but continues for up to 10 days from the initial day of clinical signs. Nearly 20% percent of infected dogs will not display clinical signs and become silent shedders of the virus.

PREVENTION: Disinfectants commonly used in animal facilities, such as quaternary ammonium compounds and bleach, will kill the CIV. All animal cages, floors, surfaces in contact with animals, food and water bowl, and other objects in contact with animals should be thoroughly cleaned and disinfected daily. Facility staff and veterinarians should institute infection control practices to avoid inadvertent spreading of the virus on

contaminated clothing, shoes, and other fomites. Staff should wash their hands with soap and water before and after handling each dog; after coming into contact with urine, feces or other animal secretions; after cleaning cages; and upon arriving and before leaving the facility. There have been reports of spread from an infected facility to the workers household pets through contaminated clothing or hands.

Because the virus is highly contagious, veterinarians, boarding facilities, shelters, pounds and pet stores should institute rigorous isolation protocols for all dogs showing signs of upper respiratory disease or “kennel cough.” Sick dogs should be isolated from other dogs for a minimum of 14 days after the first day of clinical illness. All exposed dogs in a facility should be quarantined for a minimum of 14 days from last exposure. If possible, quarantined dogs should be separated by a physical barrier and strict infection control (hand washing, change shoes/clothes, etc.) to prevent spread into or out of the quarantined area.

In May 2009, the U.S.D.A. approved the licensure of a CIV vaccine developed by Intervet/Schering Plough Animal health Corp. Although the vaccine may not prevent infection all together, it may reduce the severity and duration of clinical illness. In addition, the vaccine reduces the amount of virus shed and shortens the shedding interval; therefore vaccinated dogs that become infected develop less severe illness and are less likely to spread the virus to other dogs.

DIAGNOSIS: Veterinarians can submit diagnostic specimens from suspect cases to the New Jersey Department of Agriculture (NJDA), Animal Health Diagnostic Laboratory for diagnostic testing (serology and PCR). More information on CIV laboratory testing is available here:

(<http://www.nj.gov/agriculture/divisions/ah/pdf/CanineinfluenzaJune09.pdf>) or by calling 609-292-3965.

Suspected or confirmed outbreaks of CIV should be reported to the New Jersey Department of Health and Senior Services (NJDHSS), Infectious and Zoonotic Disease Program (IZDP).

TREATMENT: Treatment for CIV is primarily supportive, including good nutrition, adequate ventilation, and reducing stress. Clinically ill animals should be monitored closely and seriously ill animals evaluated for pneumonia by auscultation and radiographs. Pneumonia in severely ill animals responds best to a combination of broad spectrum bactericidal antibiotics to combat secondary bacterial pneumonia and intravenous fluid therapy to maintain hydration. Most dogs recover within 2 -3 weeks.

FOR MORE INFORMATION/REPORTS/CONSULTATIONS: Contact Dr. Faye Sorhage or Dr. Colin Campbell, NJDHSS, IZDP via phone (609)-826-4872 or email: faye.sorhage@doh.nj.state.us or colin.campbell@doh.state.nj.us .

This information was adapted from resources developed by Dr. Cynda Crawford from the University of Florida, College of Veterinary Medicine.