

## What to know about the “Dog Flu”: Info for pets and their parents

### What is “Dog Flu”

- Dog Flu is a contagious respiratory virus that causes disease ranging from mild upper respiratory infections to severe pneumonia
- Dog Flu is caused by an influenza virus called Canine Influenza Virus (CIV)
- The virus may also be referred to by the strain of the flu virus; either H3N8 or H3N2
  - ★ CIV H3N8 strain first originated from equine influenza and infections in dogs were first reported in racing greyhounds in Florida
  - ★ H3N2 is the strain of CIV responsible for the recent outbreak in the Midwest
    - The CIV H3N2 was first documented from dogs in Asia; it is unclear how his virus came to the US to start the current canine flu epidemic

### How the virus is transmitted

- Canine Influenza Virus (CIV) can be spread via:
  - Aerosolized viral particles transmitted through coughing or sneezing
  - Direct dog-to-dog contact with oral secretions from an infected dog
  - Contaminated objects (food and water bowls, collars, leashes) and through human contact from one infected dog to another
- The virus can remain alive in the environment for:
  - ★ Up to 48hrs on contaminated surfaces (counters, bowls, etc)
  - ★ Up to 24hrs on clothing
  - ★ Up to 12hrs on hands
- Dogs are most contagious right after becoming infected, which is 2-4 days *before* they start showing symptoms. Dogs continue to be contagious for up to 10 days *after* they start showing signs of illness
- 20-25% of dogs exposed to CIV will not show symptoms but can still transmit virus

### What to watch for

- Most dogs develop mild clinical illness
  - Signs of mild disease include:
    - ★ Coughing (either soft wet cough or loud harsh cough)
    - ★ Sneezing/Nasal and ocular discharge (clear to yellow/green)
    - ★ Mild fever
    - ★ Lethargy
    - ★ Decreased appetite
- Up to 10-20% of dogs can develop severe clinical disease, progressing to pneumonia
  - Signs of severe disease include:
    - ★ High fever
    - ★ Increased respiratory rate or respiratory effort/difficulty breathing
    - ★ Cyanosis (blue or purple tongue/gums)
  - Severe disease occurs not only because of CIV induce pneumonia but also because of secondary bacterial infections that occur in the lungs
- ★ CIV is a highly contagious disease, but rarely fatal (mortality rate approx 5%)

### How to test

- Serology (antibody) testing
  - ★ This is a blood test that measures the amount of antibodies against the virus
  - ★ It takes the body about 7 days to form antibodies, so this test may be negative in the early stages of disease. Because of this a second antibody blood test is performed 2 weeks later to measure the increase in antibody production. A rise in the antibody titer confirms the presence of the disease
- Polymerase Chain Reaction (PCR) testing
  - ★ This is a test that detects shedding virus from a nasal and throat swab
  - ★ The highest amount of viral shedding occurs during day 2-4 of infection (before signs appear) and stops by day 7 of infection
  - ★ This test is performed on patients that have been sick for *less than* four days
  - ★ If positive, it confirms the presence of CIV; If negative it does not rule out CIV
  - ★ A negative PCR test result can occur if the dog does not have the infection or because the period of virus shedding is over

### Treatment

- There is no specific treatment for CIV
- Antiviral drugs used in people have unknown or no efficacy or safety in dogs
- Treatment is supportive
  - ★ Maintaining good food intake and hydration
  - ★ Nebulization/coupage
  - ★ Oxygen therapy if needed
  - ★ Antibiotics if secondary bacterial infections occur
  - ★ Good husbandry (keeping environment clean, avoid exposure to other dogs)
- With supportive care most dogs recover from the illness within 2-3 weeks
- In dogs requiring aggressive care for severe pneumonia, referral to a 24-hr specialty center may be recommended by your veterinarian

### Prevention

- Avoid high risk areas including areas where many dogs come into direct contact
  - dog parks, doggie day care, pet stores, grooming facilities, dog shows, etc
- You can prevent transmission through regular hand washing and decontaminating the environment (using 10% diluted bleach or ammonia-based cleaning products)
- There is an approved vaccine against the H3N8 strain; currently no vaccine for H3N2 strain
  - Vaccination does not prevent disease but decreases the severity of illness and decreases amount of virus shed
  - Unknown if current vaccine is effective against the current H3N2 strain
    - May be some cross-reactivity for some protection against H3N2
  - ★ Be sure to talk to your family veterinarian about your dog's risks and if vaccination is right for your dog

*Alicia Dudley, DVM, MS, DACVIM (SAIM)  
VCA Internal Medicine*