UPDATE ON CANINE INFLUENZA IN TENNESSEE

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Dog Influenza, possibly H3N2 confirmed in Tennessee

by Adrian Mojica | Tuesday, June 6th 2017

Two cases of Type A Influenza in dogs have been confirmed in the Knoxville area according to the University of Tennessee College of Veterinary Medicine. PHOTO: MGN

KNOXVILLE, Tenn. (WZTV) -- Two cases of Type A Influenza in dogs have been confirmed in the Knoxville, Tennessee area, according to the University of Tennessee College of Veterinary Medicine.
What is Canine Influenza?

• Highly contagious respiratory infection of dogs
• Caused by influenza A virus
  • H3N8
  • H3N2
• Not seasonal
• Vaccines available
• No evidence of transmission from dogs to humans
History

• H3N8
  • First reported in 2004 in Florida in racing Greyhounds
  • This strain developed from an equine H3N8 influenza strain
  • Endemic in some shelters in the Northeast US

• H3N2
  • Spring 2015: >1000 dogs were affected in midwest US
  • Asian origin – likely arose through direct transfer of avian influenza
  • Infected thousands of dogs in more than 30 states
  • Recent outbreak from Florida/Georgia began in May 2017
Who is susceptible?

- All dogs, regardless of breed, age, or health status, are susceptible due to lack of immunity
  - Especially if not previously vaccinated for canine influenza
  - Risk depends on lifestyle
    - Group event participation
    - Housed in communal facilities
Transmission

- CIV is spread through aerosolized respiratory secretions and direct contact or fomites
  - Aerosolized respiratory secretions can travel up to 20 feet from coughing, barking, and sneezing
  - Contributes to rapid increase in coughing dogs in shelters
- Virus is viable on surfaces for 48 hours, clothing for 24 hours and hands for 12 hours
Clinical Signs

- Fever
- Cough
- Sneezing
- Nasal discharge
- Loss of appetite, lethargy

- Virtually all exposed dogs will become infected, 80% show clinical signs
- Most dogs recover in 2-3 weeks
- Can progress to life-threatening pneumonia, due to secondary bacterial infections
Diagnosis

• Collect nose and throat swabs to submit for Respiratory PCR testing at diagnostic lab
  • Collect swabs from dogs that have been sick for less than 4 days
Treatment

• **ISOLATION**
  • Viral infection = supportive care
  • Secondary bacterial infections are very common
    • Treated with broad spectrum antibiotics
  • Fluid therapy, nutritional support, anti-inflammatories
  • Most dogs recover within 2 weeks without complications
  • About 20% of infected dogs can progress to pneumonia
    • Can be life-threatening
    • May require hospitalization
Vaccination

• Lifestyle vaccine – intended for dogs at risk ("social dogs")
  • Boarding/Daycare
  • Dog shows
  • Similar risk profile to Bordetella/"Kennel Cough"
• Vaccines available for both strains
• Killed vaccine, requires 2 doses
  • Immunity develops over 3-5 weeks
• Vaccination reduces the severity and duration of clinical illness
Sanitation

- Routine infection control precautions are key to preventing spread of viral disease within shelters
- CIV is easily killed by disinfectants
- Shelters should implement protocols for routine sanitation of kennels, bowls, surfaces, floors, ACO trucks, and all fomites (handling equipment, medical equipment, scales, etc.)
  - Good opportunity for a “sanitation audit” – shadow your staff
- Require proper hand sanitation by staff and volunteers
- Routine laundering of clothing, bedding, and toys
Outbreak Management

- **Diagnosis and Isolation:** Isolate all sick dogs for 4 weeks
  - Incubation time < 1 week
  - Shedding or contagious time = 3 to 4 weeks
  - Most, if not all, dogs become infected if exposed
  - Most sick dogs recover in about 2 weeks with no further health complications

- **Identification and Management of Exposed Animals:**
  - Quarantine all exposed dogs for at least 1 week, preferably 2 weeks

- **Environmental Decontamination:**
  - CIV is readily killed by common disinfectants

- **Protection of Newly Admitted Animals:** Prevent exposure of new dogs to sick dogs and dogs already exposed (quarantine population)

- **Documentation and Communication**
This sounds like “kennel cough”?

• Clinical signs are identical to other respiratory pathogens
  • “Kennel cough” or canine infectious respiratory disease, is caused by one or more bacterial or viral infections, including *Bordetella bronchiseptica* and parainfluenza virus

• Laboratory diagnosis is required

• Be suspicious if you experience a rapid increase in sick dogs in your population
  • Sick dogs make up more than 50% of population
  • Some dogs develop high fevers and pneumonia
  • Shelter staff may report their dogs at home are coughing
  • Stay in touch with other shelter directors, boarding kennels, and veterinarians in your area about case incidence
  • Monitor media reports
What about cats?

- H3N2 has caused infection and respiratory illness in cats but less frequently.
  - Some evidence that guinea pigs and ferrets can become infected
- Signs of infection are similar to those seen in dogs.
  - Upper respiratory signs, lethargy, lip smacking, salivation
Canine flu is not reportable, but all animal disease outbreaks are reportable to the Tennessee Department of Agriculture at (615) 837-5120.

https://www.tn.gov/assets/entities/agriculture/attachments/Canine_Influenza_Veterinarians_Final.pdf
• Canine Influenza FAQ
• Instructions for diagnostic PCR swab collection
• General information on disease outbreak management
Questions?

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