

**Animal Health Advisory: Locally acquired histoplasmosis in 18 cats and 6 dogs
in Los Angeles County from 2009-2024
5.29.2024**

Key Points:

- There have been 24 reported cases of histoplasmosis in 18 cats and 6 dogs in Los Angeles (LA) County between 2009 and May 2024.
- In 18 cases (75%), the pet either died or was euthanized due to severe illness.
- All cases appear to have had locally acquired infection within LA County.
- Veterinarians should include histoplasmosis in their differential diagnoses for pets in LA County that have compatible clinical signs, including indoor-only cats.
- Veterinarians in LA County are legally required to report cases of histoplasmosis to Veterinary Public Health.

Dear Veterinary Colleagues:

Histoplasmosis is a fungal infection that is presumed to occur predominantly in the eastern half of the USA. LA County veterinarians may be unaware that cases can occur locally.

There were 24 reported cases of histoplasmosis, in 18 cats and 6 dogs, in LA County between 2009 and May 2024. In 18 cases (75%), the pet either died or was euthanized due to severe illness. Five of these cases were reported since the beginning of 2024.

Clinical signs were highly variable:

- 18 cases in cats: the majority had weight loss followed by respiratory signs and/or visible lesions in lungs seen on thoracic radiographs, 5 had ocular signs, 3 had bone lesions and 1 had skin lesions. Only a few had a documented fever. Just under half were tested for feline leukemia (FeLV) and feline immunodeficiency (FIV) viruses and were mostly negative, although one cat had an equivocal result on an FIV test.
- 6 cases in dogs: 5 had a documented fever, 4 had gastrointestinal signs, 3 had respiratory signs, 2 had skin lesions, and 1 had bone lesions.

It is unclear how these animals were exposed to the fungus. None of the pets had any travel to the eastern half of the USA, and most pets had no reported travel at all. There were no reported bat roosts linked to the cases. In a few cases, pets did have direct or indirect access to wild bird feces. In several cases there was a tree-trim near the house in the month before illness occurred, and it is possible that fungal spores were aerosolized from bat or bird feces in

the trimming process, but the significance of this exposure is not known. One of the more striking findings was that 13 of the 18 cat cases (72%) occurred in **indoor-only** cats.

The cases were reported from a wide geographic range, including in the San Fernando Valley, and the Crescenta Valley, the San Gabriel Valley, Southeast LA County, and the South Bay area.

There were three household clusters involving cats:

- In the South Bay area in 2009, two indoor cats in a multi-cat household became infected – one died and one recovered. In 2013, a third in the same household became infected and died. Several other indoor cats in the home remained healthy. Both times the illnesses were preceded by a tree trimming or removal a few weeks prior to onset.
- In the Crescenta Valley area in 2009, two infected outdoors cats from the same household developed weight loss and dyspnea in the same month and were euthanized.
- In the San Gabriel Valley in 2014, an outdoor feral cat outside of a home died with respiratory distress. A major trimming of a tree that contained a pigeon roost then occurred. In the following few months, 3 out of 7 indoor cats inside of the same home became infected and died as well.

What is Histoplasmosis?

Histoplasmosis is an illness in humans and animals caused by an infection with the fungus *Histoplasma capsulatum*. Infection most typically occurs when fungal spores in aerosolized soil, dried bird feces, bat feces, or potentially decayed wood are inhaled into the lungs. It is not transmissible directly from an infected animal to another animal or to a person. Cats are considered to be more susceptible to infection than dogs.

This fungus is found in the environment worldwide. However, in the USA, infections and illness caused by *Histoplasma* are most commonly reported in states in the eastern half of the USA. Risk of infection is higher in environments contaminated with bat or dried bird feces, or where soil is enriched with such feces. There is evidence that exposure to aerosolized decayed wood might cause infection.

Diagnosis can be difficult because the clinical signs mimic those of many other diseases. Clinical signs in dogs and cats are variable, and may include loss of appetite, difficulty breathing, fever, weight loss, bone lesions, intraocular or periocular lesions, diarrhea, tarry or bloody stool, and skin lesions. Gastrointestinal signs such as chronic diarrhea may be more common in dogs than in cats. The speed and severity of clinical signs vary depending on the species of animal (cats more susceptible than dogs), the amount of fungus that was inhaled, and the immune system of the infected animal. The majority of infections are thought to be subclinical. Illness can be acute, with clinical signs worsening over days, or chronic, with signs lasting weeks or months. After successful treatment, relapse is possible.

The incubation period in dogs and cats is approximately 2-3 weeks. In some cases, the immune system may control the initial infection, but leave the animal latently infected. Such animals can become ill when the immune system is later suppressed. In those animals, it is possible for the apparent incubation period to be several years.

How is histoplasmosis diagnosed?

Histoplasmosis is diagnosed by a combination of reviewing the clinical signs, clinical course, and response to any treatments already attempted. The primary modes of testing are:

- Antigen testing of urine and serum. Detects part of the fungus and is one of the more sensitive and least invasive tests.
- Antibody testing of serum. Less useful for diagnosis as it only indicates previous exposure to the fungus.
- Cytology or biopsy of affected tissues. The organism can often, but not always, be seen in affected tissues. Special staining techniques may be needed.
- Culture of affected tissues is possible but presents risk to laboratory workers and results make take several weeks. Warn your veterinary laboratory if histoplasmosis is suspected in a sample sent for culture.

How is histoplasmosis treated?

- **Supportive care.** Severely ill animals often need extensive supportive care. For example, animals with severe lung lesions typical require oxygen supplementation.
- **Antifungal medication.** Amphotericin B treatment may be needed for initial treatment of severe cases. Itraconazole is considered the first choice for treatment in most patients. Other azole drugs may be used although occasional resistance to fluconazole has been noted.
- Treatment is often prolonged. Monitoring for response to treatment, tolerance of the antifungal drug used, and *Histoplasma* urine antigen is helpful. Relapse is possible.

Can humans get histoplasmosis?

- Yes, humans can inhale fungal spores and become ill. However, illness typically occurs primarily in immunosuppressed individuals. Healthy people typically do not become ill after being exposed.

Can histoplasmosis be prevented?

- There is currently no reliable way of preventing histoplasmosis, and there is no way to completely eliminate *Histoplasma* from the environment.
- Since the fungal spores may be present in higher amounts in bat and bird feces, it is strongly recommended to take precautions when cleaning up bat or bird feces, especially if they are in a closed in, poorly ventilated area. In such situations, prevent

aerosolization of the feces - do not sweep, vacuum, or kick dust into the air. Wear a high level of respiratory protection and use wet cleaning methods such as spraying disinfectant on the area before cleaning.

- Although risk of exposure has not yet been definitively linked to tree trimming, it is recommended to never inhale aerosolized wood and bark fragments, especially wood that is decayed or potentially contaminated with bird or bat feces.

Reporting Animal Cases of Histoplasmosis in Los Angeles County

- Veterinarians practicing in Los Angeles County are required to report cases of Histoplasmosis. Complete the form in the link below and send it, along with the medical records and laboratory results, to vet@ph.lacounty.gov, or fax to 213-481-2375.
- Animal Disease or Death Reporting Form – Los Angeles County - <http://ph.lacounty.gov/vet/docs/Forms/AnimalDiseaseDeath.pdf>

Veterinarians in LA County are strongly encouraged to stay informed about histoplasmosis.

Additional resources:

- Centers for Disease Control and Prevention (CDC) – Histoplasmosis: <https://www.cdc.gov/histoplasmosis/>
- Reagan KL and Sykes, JE. (2021). Chapter 81: Histoplasmosis. In *Greene's Infectious Disease of the Dog and Cat* (5th ed., pp. 1003-1013). Elsevier.
- Benedict, K., Derado, G., Mets, M. B., & Wheat, L. J. (2021). Revising conventional wisdom about histoplasmosis in the United States. *Open Forum Infect Dis*, 8(7), ofab306. <https://doi.org/10.1093/ofid/ofab306>
- Thompson GR et al. (2022). Endemic Mycoses: Underdiagnosed and Underreported. *Ann Int Med*, 175(12): doi.org/10.7326/M22-2371. <https://doi.org/10.7326/M22-2371>

Veterinary Public Health is available if you have questions or concerns. Please reach out to us by phone at 213-288-7060 (Monday – Friday, 8am-5pm) or email at vet@ph.lacounty.gov.

Sincerely,

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