

Coccidioidomycosis in Dogs

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Coccidioidomycosis is a fungal infection, often called "Valley Fever," which is more common in the Southwestern United States. The fungus, *Coccidioides immitis*, can cause mild to severe respiratory disease in dogs, cats, and people. The mild form of disease is more common and can be easily treated; the more severe form of the disease can be life threatening.

Where is it found?

Coccidioides lives in the soil and has a unique set of conditions required for its survival and reproduction. It thrives in areas with sandy alkaline soils, very high temperatures, low rainfall, and low elevation. These conditions are found in several areas in the world. In North America, the Sonoran life-zone that includes Southwestern United States, Mexico, and parts of Central America are the primary areas where this fungus is found. In the U.S., coccidioidomycosis is most prevalent in southern California, Arizona, and southwestern Texas. However, cases have occurred throughout the Southwest.

How do pets get the infection?

The main route of infection in pets and people is by inhalation of the fungus. As few as 10 of the tiny pieces of fungus need to be inhaled to create an infection. After the fungus is inhaled, most infections will occur within 1 to 3 weeks. Studies indicate that most people that live in endemic areas will become infected, however, most infections do not cause symptoms or only cause mild signs of disease. A small percentage of animals or people will develop more severe symptoms that will require treatment. Animals that have a suppressed immune system are much more likely to develop the more severe form of the disease.

What are the symptoms in dogs?

The most common symptom in dogs is an upper respiratory cough and pneumonia-like symptoms. Many dogs will also have a fever, loss of appetite, and weight loss. In severe cases, the infection can disseminate (spread) to other parts of the body. Dogs with the disseminated form will often have additional symptoms of lameness, swollen lymph nodes, and draining skin lesions. The draining skin lesions are often present over the sites of infected bones. The disease can often become chronic and untreated dogs with the disseminated form will often die from the disease.

How is coccidioidomycosis diagnosed?

Diagnosis is based on a combination of history, symptoms, x-rays of the lungs, identification of the organism, and blood testing. X-rays will often show a somewhat characteristic pattern in the lungs. If a draining lesion is present, a small sample can be taken from the area and examined under a microscope in an attempt to find the fungus. Blood testing to identify circulating antibodies to *Coccidioides* is often used as a presumptive test if a diagnosis can not be made through biopsy or a sample from a draining lesion.

How is it treated?

Treatment consists of long-term administration of oral antifungal agents. The most common antifungal agent for dogs and cats is ketoconazole. The length of treatment is variable but may be as long as a year in dogs that have the more severe disseminated bone lesions. Another oral antifungal drug that is often used and may have fewer side effects than ketoconazole is [itraconazole](#). This drug is more expensive than ketoconazole but some good results have been achieved. Treatment in mild cases is usually successful, and many respiratory cases would probably resolve on their own without treatment. With aggressive long-term treatment, some of the more severe disseminated cases can still be cured but the prognosis is much more guarded.

How can it be prevented?

Prevention consists of avoidance of areas known to have *Coccidioides* in the soil. No vaccine is currently available. Avoiding the use of immunosuppressive drugs and treating immunosuppressive diseases can also help reduce the risk of contracting this disease.