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Valley Fever in Dogs

What is Valley Fever?

Valley Fever is a disease caused by a fungus known as *Coccidiodes immitis*. Although the proper name for this disease is "coccidioidomycosis", it is most often called Valley Fever, "California disease", "Desert rheumatism", or "San Joaquin Valley Fever".

Where is Valley Fever found?

This soil-dwelling fungus has adapted to survive in desert climates and is prevalent in certain parts of Arizona, California, Nevada, New Mexico, Texas, Utah, northwestern Mexico and parts of Central and South America. Infectious rates vary greatly by county, and not all the factors that contribute to the rate of infection in an area have been determined. Valley Fever tends to occur during certain seasons.

"...Valley Fever is reaching epidemic proportions in Arizona."

At the current time, Valley Fever is reaching epidemic proportions in Arizona. A study conducted at the University of Arizona showed that more one out of every four puppies raised in Maricopa or Pima counties will be exposed to Valley Fever within 2 years of birth. It is estimated that four out of every 100 dogs in our area will become sick as a result of a Valley Fever infection each year. In Arizona, the highest prevalence of infections occurs during June and July and from October through November.

What species can be infected with Valley Fever?

This disease is common in humans, and has been isolated in dogs, cattle, horses, deer, elk, mules, llamas, apes, monkeys, kangaroos, wallabies, tigers, bears, badgers, otters, fish and marine mammals.

Dogs appear to be very susceptible to infections with Valley Fever, probably because they sniff the ground and dig in the dirt, potentially inhaling large numbers of spores at a time.

How is Valley Fever spread?

Like many fungi, *Coccidioides immitis* has a complex life cycle. It has two completely different forms, depending on whether it is in the environment or has entered a host animal. When it is in the environment, it exists as a mold. During dry spells, the mold goes dormant in the soil, and can remain dormant for prolonged periods of time. Once the rains come, the

fungus grows and produces long filaments of mold that contain infectious spores. The tiny spores readily become airborne when the soil is disturbed by winds or by construction, farming, or digging. If the spores are inhaled, they transform into a yeast-like organism that infects the lungs.

"...an animal with Valley Fever is not contagious to other pets or your family members."

The disease is contracted by inhaling fungal spores. The disease cannot be directly transmitted from person to person, nor can it be transmitted from people to animals. In other words, an animal with Valley Fever is not contagious to other pets or your family members.

What are the symptoms of Valley Fever in dogs?

Once the spores are breathed into the lungs, they develop into larger structures called 'spherules'. In a healthy adult dog, the dog's immune system will wall off the organisms in the spherules and there will be no further problems. In these cases, the symptoms of disease are usually very mild, and often the dog does not even become visibly ill.

But in dogs that have a weak immune system because of age or underlying illness, serious illness can develop. Thus, both very young puppies and old dogs are more susceptible to illness from Valley Fever. In these patients, the spherules continue to grow and eventually burst, releasing more infectious organisms to spread throughout the lungs or to other organs in the body where the cycle repeats itself over and over.

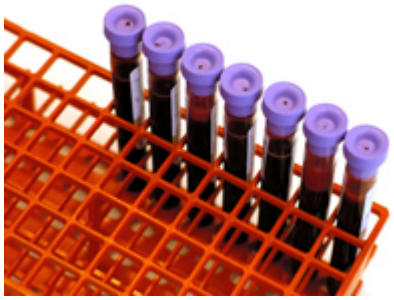
Valley Fever can take two main forms of disease in the dog, the Primary Disease and the Disseminated Disease.

The **Primary Disease** is limited to the lungs. Symptoms of Primary Valley Fever include a harsh dry cough, a fever, a lack of appetite, and lethargy or depression. These symptoms usually occur about 3 weeks after infection.

In the **Disseminated Disease** the fungus has disseminated or spread to other parts of the body. The bones and joints are most commonly infected, and lameness is the most common symptom. The joints may become swollen and painful. Other symptoms are non-specific and may include lack of appetite, lethargy or depression, a persistent fever, and weight loss. In rare cases, the fungus invades the brain, resulting in seizure activity.

How is Valley Fever Diagnosed?

If you live in an area where this disease is prevalent and your dog is showing any symptoms that are consistent with Valley Fever, your veterinarian will recommend diagnostic testing to determine whether or not your dog has this infection. This testing will most certainly include a **'titer test'** to determine whether your dog has Valley Fever antibodies. Depending on your dog's symptoms and the severity of illness, your veterinarian may also recommend additional blood tests and diagnostic x-rays of the chest and any affected legs. The fungus can also be detected by microscopic examination of samples of fluids or infected tissue.



Veterinarians in other parts of the country seldom if ever see cases of Valley Fever. Therefore, if your dog has spent any time in an area where this disease is prevalent, it is important to let your veterinarian know about this travel history should your dog develop symptoms that are consistent with Valley Fever.

What is the treatment for Valley Fever?

At the present time, dogs that develop Valley Fever require lengthy treatment with antifungal medications. The duration of treatment will depend on the severity of infection. In many cases treatment will be required for 6-12 months. If the fungus has invaded the nervous system, the dog may require antifungal medication for life.

There are a number of antifungal medications that are effective against the disease. The most commonly prescribed medications are fluconazole, ketoconazole, and itraconazole. Although the treatment is prolonged, the dog usually begins to feel better within 1-2 weeks after the treatment begins.

The most common side effects of these medications include vomiting and loss of appetite. Since they can be toxic to the liver, your veterinarian will recommend periodic blood tests to monitor liver function.

What is the prognosis for recovery?

A small number of dogs, usually those that develop disseminated disease, will die from Valley Fever. However, the majority of dogs that are treated appropriately will recover from this disease. Your veterinarian will periodically repeat the antibody titer test to determine when the antifungal medication can be stopped.

This client information sheet is based on material written by: Cheryl Yuill, DVM, MSc, CVH

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