

## Valley Fever (Coccidiomycosis)

Like people, dogs are very susceptible to Valley Fever. Dogs primarily contract Valley Fever in the low desert regions of Arizona, New Mexico and southwestern Texas and the central deserts of California. Dogs accompanying people traveling through these areas or wintering in these warm climates have about the same chance of their owners of being exposed. Valley Fever is **not contagious**, but is acquired from the environment by dogs and humans alike. Dogs contract Valley Fever by inhaling spores distributed by wind and construction, and probably by digging and poking their curious noses into rodent burrows. Many dogs become infected with Valley Fever but do not become visibly ill or have only mild symptoms that are overlooked by owners and go away on their own.

*What are the symptoms of Valley Fever in dogs?* Early symptoms commonly associated with **primary** disease are cough, fever depression and lack of appetite. Symptoms typically occur about 3 weeks post infection, although can wait 2-3 months. Primary disease is limited to the lungs and may go away on its own, or the dog may become sick enough to require medication. In dogs, Valley Fever commonly spreads to other parts of the body. When it occurs, the dog has **disseminated** disease and few will recover without treatment. Symptoms associated with dissemination of the infection are often related to the organs affected, but commonly include lethargy, lack of appetite, weight loss, and persistent fever. In disseminated disease, the joints and bones are the most frequent targets, causing lameness. Occasionally the fungus may invade the brain and seizures can result.

*How is Valley Fever diagnosed?* Diagnostic testing includes blood tests, x-rays of the chest and painful or swollen bones and joints, and culture of body fluids and/or tissue for the fungus. Blood tests are performed to look for antibodies to the fungus, changes in blood cell counts and involvement of body organs other than the lungs. Antibody tests, which are called serologies, cocci tests or cocci titers, may be negative early in the disease and repeating them in 3-4 weeks is sometime necessary. Culturing the fungus out of body fluids or organs is a highly specific means of diagnosis although it is usually difficult. Sometimes all the tests come back negative and more tests may have to be done in order to rule out other diseases. Persistence may be required to confirm a diagnosis.

*What is the treatment for Valley Fever in dogs?* In most cases, a dog ill enough from Valley Fever to be seen by a veterinarian will require treatments with antifungal medication. Courses of medication are usually extensive averaging 6-12 months. Dogs with bone disease or central nervous system (brain or spinal cord) involvement may require a lifetime treatment with medication to keep symptoms from recurring.

The most common medication prescribed is fluconazole. Side effects include inappetance (can be hard to distinguish from the disease itself) and vomiting. Occasionally, a dog will have an adverse reaction to the drug, affecting the liver. Other forms of the drug are ketoconazole (an older drug with more side effects that is less effective) and itraconazole (a newer and MUCH more expensive form that is often required for cats).

Very ill dogs may require hospitalization and intravenous antifungal therapy. Amphotericin B, an excellent antifungal drug, is only available for intravenous use, but has the possible drawback for toxicity to the kidney.

*Will my dog recover from Valley Fever?* The good news is that most dogs, with adequate antifungal therapy, do recover from this disease. The majority are able to get off medication and live a normal life. They are probably immune for the rest of their lives from a new infection, although sometimes an animal will have an old infection become active again. A small portion of animals must take medication for life, and another small portion, unfortunately, will die of Valley Fever in spite of drug treatment. This most commonly happens with the disseminated infections.

*When do you stop treatment?* Treatment of the Valley Fever in your dog is monitored by rechecks with your veterinarian and cocci serology tests every 2-4 months, if he/she is responding to the medication and feeling better. It is very important to continue medicating your dog as directed until the veterinarian confirms the blood tests are negative and tells you to stop medication. If you stop treating too soon, symptoms may recur. If symptoms recur after your dog is taken off medication, your veterinarian will probably recommend resuming treatment and may suggest the dog remain on medication for life.

*Valley Fever in other companion animal species?* Valley Fever is a clinically important disease primarily in the dog, but cats are affected occasionally. Symptoms are very similar, but unfortunately often do poorly despite medication. Birds are not susceptible.

Thank you to the Valley Fever Center for Excellence for this handout. <http://www.vfce.arizona.edu/>