

Valley Fever Information Sheet

What is Valley Fever?

Valley Fever is primarily a disease of the lungs that is common in the southwestern United States and northwestern Mexico. It is caused by the fungus *Coccidioides immitis*, which grows in soils in areas of low rain fall, high summer temperatures and moderate winter temperatures. These fungal spores become airborne when the soil is disturbed by winds, construction, farming and other activities. In susceptible people and animals, infection occurs when a spore is inhaled. Within the lung, the spore changes into a larger, multi-cellular structure called a spherule. The spherule grows and bursts, releasing endospores which develop into spherules. Valley Fever symptoms generally occur within three weeks of exposure. Valley Fever is not a “contagious” disease, meaning it is not passed from person to person. Second infections are rare.

Valley Fever derives its name from its discovery in the San Joaquin Valley of California, where it was also referred to as “San Joaquin Valley Fever”, “desert fever”, or “desert rheumatism”. The medical name for Valley Fever is coccidioidomycosis (often shortened to “cocci”, pronounced KOK-SEE), meaning a fungal infection (“mycosis”) caused by the fungus *Coccidioides*.

Who gets Valley Fever?

Valley Fever is prevalent in the San Joaquin and Central Valleys of California, and in the hot, desert regions of southern Arizona (especially in the Phoenix and Tucson areas), southern Nevada, southern Utah, southern New Mexico, western Texas (especially around El Paso), and Mexico (in the states of Sonora and Chihuahua). In addition, *Coccidioides immitis* is found in semiarid and arid soils in Central and South America.

People working in certain occupations, such as construction, agricultural work, work involving disturbance of desert soils, and archaeology have an increased risk of exposure and disease. The fungal spores of *Coccidioides immitis* are often found in abundance in the soil around rodent burrows, Indian ruins and burial grounds. In these settings, infections are more likely to be severe because of intensive exposure to a large number of spores. Many infections, however, occur in persons without occupational risks. Exposure to wind-storms or recently disrupted soils may increase the chances of infection.

What are the Symptoms?

Most cases of Valley Fever are very mild. It is thought that over 60% of infected people have either no symptoms or experience flu-like symptoms and never seek medical attention. Of those patients seeking medical care, the most common symptoms are fatigue, cough, chest pain, fever, rash, headache and joint aches. Some people develop painful bumps on their shins or elsewhere that gradually turn brown (the medical term for these is “erythema nodosum”). These symptoms are not unique to Valley Fever and can be caused by other illnesses. Therefore, identifying Valley Fever as the cause of illness requires specific laboratory tests.

MOST COMMONLY REPORTED SYMPTOMS:

Fatigue
Cough
Chest Pain
Fever
Rash
Headache
Joint Aches

How is Valley Fever Diagnosed?

A diagnosis of coccidioidomycosis is suspected only if a patient is known to have had exposure to the disease through travel or residence in an endemic area. Diagnosis can be confirmed by (1) microscopic identification of the fungal spherules in an infected tissue, sputum or body fluid sample, (2) growing a culture of *Coccidioides immitis* from a tissue specimen, sputum or body fluid and (3) detection of antibodies (serological tests specifically for Valley Fever) against the fungus in blood serum or other body fluids. Valley Fever skin tests (called coccidioidin or spherulin) indicate prior exposure to the fungus, but because reactivity is lifelong, skin tests are not particularly helpful in diagnosing a current infection. Commonly a routine chest x-ray will detect Valley Fever cavities in a person with no symptoms and who may be unaware of ever having had Valley Fever. While positive blood test (serological) results almost always mean that a patient has Valley Fever, a third or more patients with Valley Fever may actually have negative results. Therefore, it may be necessary to repeat the serologies periodically.

What are the Treatments?

Most patients with Valley Fever recover with no treatment and will have life-long immunity. In severe cases, especially in those patients with rapid and extensive primary illness, those who are at risk for dissemination of disease and those who have disseminated disease, antifungal drug therapy is used. The type of medication used and the duration of drug therapy are determined by the severity of disease and response to the therapy. The medications used include ketoconazole, itraconazole, and fluconazole in chronic, mild-to-moderate disease; and amphotericin B, given intravenously or inserted into the spinal fluid, for rapidly progressive disease. Although these treatments are often helpful, evidence of disease may persist and years of treatment may be required. Surgical removal of cavities in the lung from Valley Fever is sometimes necessary. Surgical drainage of Valley Fever abscesses in bones or joints is also commonly performed.