

Valley Fever (Coccidioidomycosis)



General Background

Archaeologists are at risk for contracting Valley fever (also known as coccidioidomycosis), a fungal infection caused by inhaling *Coccidioides* spores. The disease is common in certain areas of the Southwest and Western United States (see map). About 30% to 60% of people who live in these areas are exposed to the fungus at some point in their life. Most of the time, the disease is mild and resolves on its own. Serious complications occur in about 5% of infected people.

Transmission

Coccidioides spores travel through the air when soil is disturbed, such as by screening dirt or shoveling. Wind and dust storms can also carry the spores. People breathe the spores into their lungs, where the spores can undergo changes and cause illness. Valley fever cannot be transmitted from person to person, from animal to animal, or between animals and people.

Symptoms

60% of people exposed to *Coccidioides* spores do not develop symptoms. Those who become ill usually get flu-like symptoms such as fever, cough, headache, fatigue, and muscle aches. A rash on the chest, back, arms, or legs can also occur. More serious forms of the disease include pneumonia and complications where the fungus spreads to the brain, joints, bone, or other organs. Symptoms usually develop one to three weeks after exposure and can last longer than six months.

Risk for Complications

Anyone with Valley fever can develop complications, but pregnant women in their third trimester, people with weakened immune systems (e.g. diabetes or HIV), and people receiving steroids or chemotherapy are at greatest risk. People of African-American and Filipino descent may also be at risk for complications.

Testing and Treatment

If you think you might have Valley fever, see a healthcare provider for evaluation. Symptomatic individuals can be tested (blood antibody test) to confirm the diagnosis. Treatment is usually not necessary for mild infections, which often resolve on their own. For individuals with moderate to severe symptoms or people who are at risk for complications, anti-fungal medications are recommended and may be effective.



Prevention

Safety precautions are recommended for archeologists and other high-risk occupations. These precautions are based on common sense and have not been scientifically studied. No vaccine is currently available. Commonly recommended prevention measures include:

- Educate everybody working at archeological dig sites in endemic areas about Valley fever
- Control dust, where possible, by wetting soil, working upwind, and/or wearing a fit-tested N95 or greater respirator (one that is personally fitted and filters 95% of airborne particles)
- Minimize use of blowers and maintain safe rules for their use (i.e. don't blow dust toward others)
- Exercise additional caution when digging near animal burrows or Native American pre-historic sites
- Wash field clothes and disinfect equipment promptly as spores can survive on surfaces. Wear an N95 respirator when cleaning dusty artifacts in the laboratory
- Before starting field activities, ask participants where they have lived or traveled and if they have health concerns. If individuals are from non-endemic areas or are at risk for complications, limit their exposure to dusty conditions
- Seek healthcare promptly if you become ill, inform your provider about potential exposures, and ask to be tested for Valley fever

Photos: Tessa Branjan Courtesy of Desert Archaeology, Inc.