

To Your HEALTH Fresno County

Highlighting public health issues and ways to improve personal, family, neighborhood and community health.



Beware the Fungus Among Us

August 15, 2017

Of all the factors rather unique to our valley that negatively impact our health and well-being (such as concentrated poverty, consistently poor air quality, low health care provider to population ratios, etc.) one of the most unique is a fungal threat known as coccidioidomycosis or Valley fever.

The fungal organism *Coccidioides* lives in the soil in many parts of Mexico, Central and South America and southwestern U.S. It is particularly abundant in the soil in the western part of the central and southern San Joaquin Valley.

When soil containing the hyphae of the fungus is disturbed, these hyphae break up into very tiny arthroconidia, which are easily suspended in the surrounding air and can be spread over long distances by winds. The arthroconidia are breathed into an individual's lungs where they change to a form called spherules. These spherules enlarge and break open to release large numbers of endospores into the lung, and sometimes into other areas of the body. Each of these endospores is capable of becoming a spherule (continuing the multiplication).

Sixty percent of individuals infected in this manner will not experience any symptoms of illness. The forty percent that do develop symptoms will experience any combination of fatigue, cough, fever, shortness of breath, night sweats, muscle aches, and rash from one to three weeks after exposure. These symptoms can last a few weeks to a few months. As many as 5 to 10 % of infected individuals do not recover completely and develop complications of chronic pulmonary disease. A smaller percentage (1%) develop severe disseminated disease with involvement of other tissues of the body such as bones and joints, other organs, and the nervous system.

Certain individuals are at higher risk for these severe disseminated forms of Valley fever and include:

- People with weakened immune systems
- Pregnant women
- People with diabetes

- People who are Black or Filipino

Individuals with Valley fever are not infectious to other except in the very rare event of inhaling spores from a wound infected with *Coccidioides*. Valley fever can also be contracted through organ transplantation from an infected donor.

Once infected, individuals are thought to be immune from future infection although illness relapses can occur.

The California Department of Public Health recently released its Epidemiologic Summary of Coccidioidomycosis in California, 2016 which notes 5,372 new cases of Valley fever in the state last year (Fresno County accounted for 601 of those). This is the highest number of new cases in California in any year since the reporting of this illness began in 1995, and is a 71% increase over 2015.

A number of factors may play a role in this increase in cases including: an increase in the number of non-immune individuals in the areas where exposure is high, and an increase in health care provider testing for the illness. However, climate and environmental factors play a major role as *Coccidioides* is thought to grow best in soil after heavy rainfall and then disperse into the air more easily during hot, dry conditions. How the change in climate may be affecting the number of Valley fever infections, as well as the geographic range of *Coccidioides* needs further study.

Protecting yourself and your loved ones from this often serious and debilitating illness is critical. Although they have not been proven to prevent the illness, the following steps are recommended by the Centers for Disease Control and Prevention (especially for those at higher risk for severe disease noted previously):

- Try to avoid areas with a lot of dust such as construction or excavation sites (and if you can't avoid these areas, wear a properly fitted N95 respirator mask)
- Stay indoors during dust storms with windows closed
- Avoid activities that involve close contact with dirt or dust, including yard work, gardening, and digging
- Use air filtration measures indoors

I would close with the further recommendation that if you or a loved one have any combination of symptoms of Valley fever (noted above) for two weeks or longer, you should speak to your health care provider as soon as possible.

Here's to your health!



Dr. Ken Bird, Fresno County Health Officer
ToYourHealth@co.fresno.ca.us

Please join me on Facebook where I will keep the community informed on all Public Health issues and ways to improve personal, family, neighborhood and community health.

Click on the link and like my page below!

