

## Quick Tips on Coccidioidomycosis (Valley Fever) for Healthcare Providers

- Coccidioidomycosis (also known as “cocci” or Valley Fever) is a fungal infection caused by inhaling dust containing spores of the fungus *Coccidioides* spp. This fungus is endemic in the southwest U.S., including California, and it is especially prevalent in the soil of the San Joaquin Valley.
- Cases of coccidioidomycosis have been increasing in California since 2000.

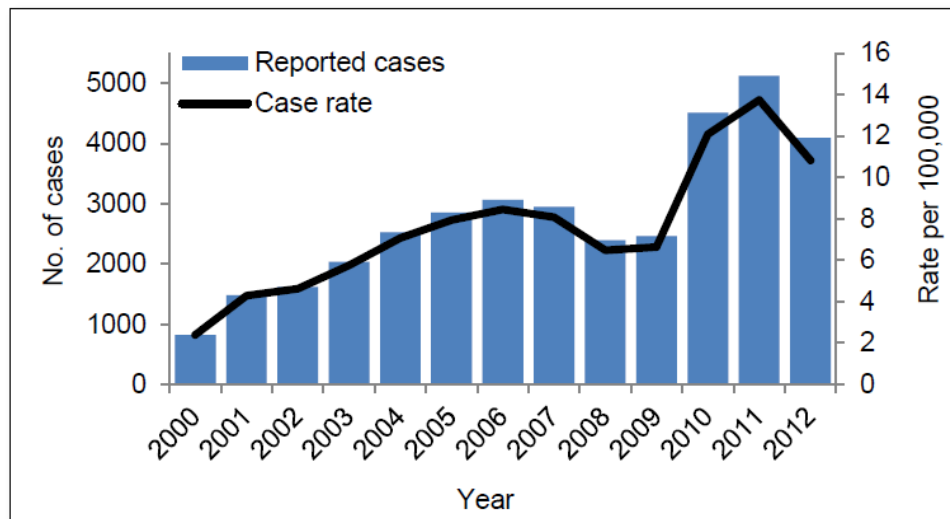
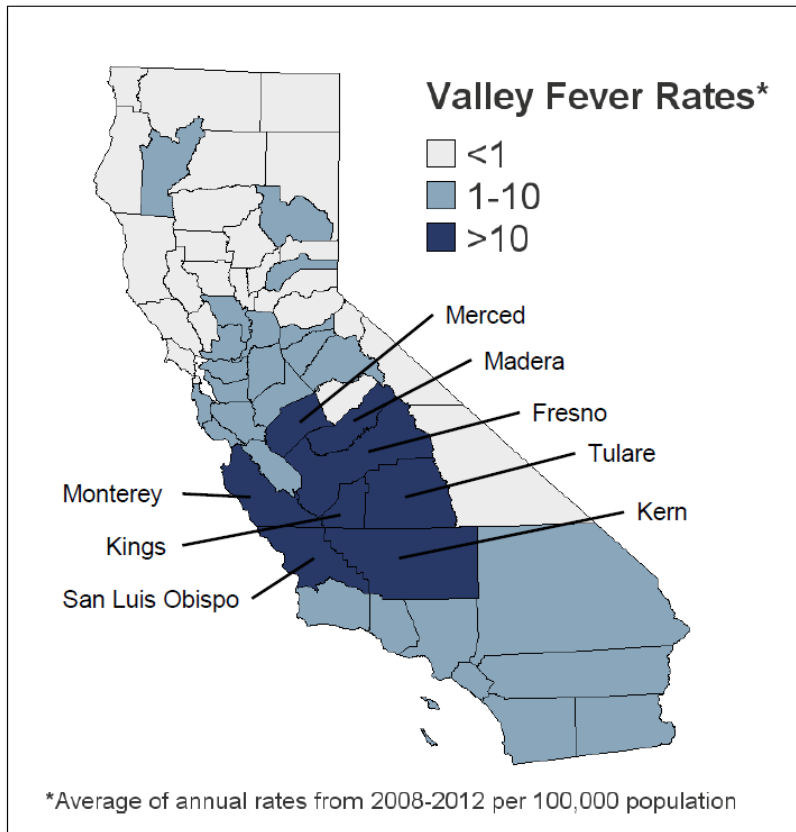


Figure 1. Numbers and rates of reported cases of coccidioidomycosis in California from 2000 through 2012. Rates calculated per 100,000 population. (Source of data: Surveillance and Statistics Section, Infectious Diseases Branch, California Department of Public Health)

- Since 2000 there has been a five-fold increase in reported cases of coccidioidomycosis in California, with more than 4,000 cases reported in 2012.
- The map below displays the rates of coccidioidomycosis by county in California. Patients with coccidioidomycosis have been reported from most counties in the state, with a majority of cases reported from a few endemic counties in the southern San Joaquin Valley. Since anyone working or traveling through the Valley may be exposed, you may encounter a patient with “cocci”.



## Symptoms and Signs

- Patients may present with cough, shortness of breath, fever, and fatigue that last for longer than a week. Other symptoms may include night sweats, weight loss, myalgias, or arthralgias. Occasionally, erythema nodosum or erythema multiforme may be present. Chest x-ray can vary and may initially have an infiltrate, hilar adenopathy, or pleural effusions. Chest x-ray may later show one or more cavity or nodule.
- Rarely someone may develop disseminated disease which can present as meningitis, osteomyelitis, extrathoracic lymphadenopathy, or skin lesions. African Americans, Filipinos, Hispanics, persons 60 years and older, pregnant women, and persons with diabetes, HIV, or other immunocompromising conditions are at increased risk of developing severe or disseminated infection.

## Diagnosis and Treatment

- Early diagnosis of coccidioidomycosis is important. Accurate diagnosis eliminates the need for further diagnostic testing and reduces inappropriate administration of antibiotics.

- Since symptoms of coccidioidomycosis resemble those of other illnesses, it can be difficult to diagnose coccidioidomycosis on clinical signs alone. Order coccidioidomycosis serology testing if you suspect Valley Fever infection in a patient. Since development of antibodies takes time, serology tests may be negative early in the course of infection.
- Fungal cultures of respiratory secretions or biopsied tissue and microscopy (e.g., of lung tissue or skin lesion) are also diagnostic.
- Review the latest coccidioidomycosis treatment guidelines from the Infectious Diseases Society of America (IDSA) and the American Thoracic Society (ATS). Some patients with an uncomplicated infection may be managed without antifungal medication.
- For questions about diagnosis and management, consult with an infectious diseases or pulmonary specialist.

### **Remember to Report**

- As per Title 17 of the California Code of Regulations, coccidioidomycosis is a reportable disease in California.
- Clinicians and laboratories are mandated to report cases to the local public health department.

### **Information About Valley Fever to Share with Your Patients**

- Advise all patients, but especially those at higher risk for severe disease, to avoid breathing in dirt or dust in areas where Valley Fever is common. They should stay indoors when it is windy and dusty outside.
- Information on Valley Fever, general fact sheets, and fact sheets for specific at-risk populations are available at the [California Department of Public Health's \(CDPH\) Valley Fever website](https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Coccidioidomycosis.aspx) (<https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Coccidioidomycosis.aspx>) and the [U.S. Centers for Disease Control and Prevention Valley Fever website](http://www.cdc.gov/fungal/coccidioidomycosis/) (<http://www.cdc.gov/fungal/coccidioidomycosis/>).
- Resources for preventing work-related Valley Fever are available at [CDPH's occupational health Valley Fever website](https://www.cdph.ca.gov/Programs/CCDC/DEODC/OHB/Pages/Cocci.aspx) (<https://www.cdph.ca.gov/Programs/CCDC/DEODC/OHB/Pages/Cocci.aspx>).

## **Additional Resources for Providers**

[IDSA treatment guidelines](http://cid.oxfordjournals.org/content/41/9/1217.full): <http://cid.oxfordjournals.org/content/41/9/1217.full>

[ATS treatment guidelines](http://www.thoracic.org/statements/resources/tb-opi/treatment-of-fungal-infections-in-adult-pulmonary-critical-care-and-sleep-medicine.pdf):

<http://www.thoracic.org/statements/resources/tb-opi/treatment-of-fungal-infections-in-adult-pulmonary-critical-care-and-sleep-medicine.pdf>

[Free On-line CME on Valley Fever](https://www.vfce.arizona.edu/clinicians/FreeOnlineCME.aspx):

<https://www.vfce.arizona.edu/clinicians/FreeOnlineCME.aspx>

[Valley Fever Tutorial for Primary Care Physicians](http://www.vfce.arizona.edu/resources/pdf/Tutorial_for_Primary_care_Physicians.pdf):

[www.vfce.arizona.edu/resources/pdf/Tutorial\\_for\\_Primary\\_care\\_Physicians.pdf](http://www.vfce.arizona.edu/resources/pdf/Tutorial_for_Primary_care_Physicians.pdf)

[MMWR on Increase in Reported Coccidioidomycosis — United States, 1998–2011](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6212a1.htm?s_cid=mm6212a1_w):

[http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6212a1.htm?s\\_cid=mm6212a1\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6212a1.htm?s_cid=mm6212a1_w)

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