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HOT TIPS #96 DATE 11/16/2017

Please copy and distribute to ALL physicians at your location.

HEALTH ADVISORY

Legionellosis Associated with Travel to or Living in Anaheim, CA

Key Messages:

- A multi-state cluster of legionellosis cases has been reported associated with travel to or living in Anaheim, CA
- CDPH requests health care providers to ask about travel to Anaheim or Disneyland for any patients with legionellosis reported between August and November 2017 and to report any such cases to their local health department as soon as possible. <http://www.vchca.org/for-health-care-providers-cmr-tb-forms>
- Timely identification and reporting of confirmed and suspect legionellosis cases is mandated by Title 17 of the California Code of Regulations for health care providers and laboratories and is critical for an effective public health response

Current Situation:

The California Department of Public Health (CDPH), in coordination with the Orange County Health Care Agency, other local and state health departments, and the CDC, is investigating a multistate cluster of legionellosis associated with travel to or residence in Anaheim, California. Of eleven patients identified to date, eight have visited Disneyland during their incubation period. The exact source of illness is unknown and is under active investigation.

As of November 8, 2017, eleven persons who either visited or lived in Anaheim during their incubation period have laboratory-confirmed *Legionella*. Six are California residents from four local health jurisdictions (LHJs); and five are non-California residents. Reported illness onset dates have ranged from September 4 to 30, 2017. Case-patients have ranged in age from 52 to 94 years (median age 67 years); eight are female. Among the eleven case-patients, ten have been hospitalized and there has been one death reported. Patient interviews revealed that eight of eleven case-patients visited Disneyland during September 2017. However, there is no ride or place (e.g., restaurant, shop) that has been identified as a common exposure; and there is no common hotel among these patients.

Symptoms:

Legionella infection can present as two distinct clinical pictures, Legionnaires' disease and Pontiac fever. Legionnaires' disease is a serious illness characterized by pneumonia, while Pontiac fever is a milder, self-limited influenza-like illness without pneumonia. Symptoms of Legionnaires' begin 2 to 10 days post-exposure. Patients infected with *Legionella* may experience cough, shortness of breath, high fever, chills, muscle aches, and headaches; patients can also present with diarrhea, nausea, fatigue, and confusion. Legionnaires' disease has a high rate of hospitalization with a case-fatality rate of approximately 10%. Individuals older than 50 years

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of age and those with a weakened immune system or other chronic conditions are at high risk for Legionnaires' disease. The symptoms of Pontiac Fever start 1 to 3 days post-exposure and may include fever, headaches, and muscle aches, but no pneumonia.

Recommendations to providers:

CDPH requests health care providers to ask about travel to Anaheim or Disneyland for any patients with legionellosis reported between August and November 2017 and to report any such cases to their local health department as soon as possible. <http://www.vchca.org/for-health-care-providers-cmr-tb-forms>

Testing:

CDPH recommends for any newly identified cases of legionellosis in a person with travel history to Anaheim or Disneyland during their incubation period, a Legionella respiratory culture of lower respiratory secretions (e.g., sputum, bronchoalveolar lavage) be performed to allow for comparison to potential environmental samples and to link to other case-patients through molecular testing. Respiratory specimens and isolates can be sent to the Ventura County Public Health Laboratory and forwarded to the CDPH Microbial Diseases Laboratory.

Best practice is to obtain both sputum culture and the urinary antigen test concurrently. Sputum should ideally be obtained *prior* to antibiotic administration, but antibiotic treatment should not be delayed to facilitate this process. The urinary antigen test can detect *Legionella* infections in some cases for days to weeks after treatment.

Other indications for Legionnaires' Disease Testing

1. Patients who have failed outpatient antibiotic treatment for community-acquired pneumonia
2. Patients with severe pneumonia, in particular those requiring intensive care
3. Immunocompromised patients with pneumonia*
4. Patients with a travel history (patients who have traveled away from their home within 10 days before the onset of illness)
5. All patients with pneumonia in the setting of a Legionnaires' disease outbreak
6. Patients at risk for Legionnaires' disease with healthcare-associated pneumonia (pneumonia with onset \geq 48 hours after admission)

*May also consider testing for Legionnaires' disease in patients with other risk factors for Legionnaires' disease as listed here: <https://www.cdc.gov/legionella/clinicians/disease-specifics.html>

Treatment:

If your patient has Legionnaires' disease, please see the most recent [IDSA-ATS guidelines for treatment of community-acquired pneumonia\[46 pages\]](#) and the most recent [IDSA-ATS guidelines for treatment of hospital-acquired pneumonia\[51 pages\]](#). First line treatment does not always include Legionella-directed antibiotics (e.g., macrolides and respiratory fluoroquinolones). While it is preferred that diagnostic testing be obtained before antibiotic administration, antibiotic treatment should not be delayed to facilitate this process.

In milder cases, patients can be treated in an outpatient setting with oral antibiotics, including doxycycline, tigecycline, azithromycin, and a respiratory quinolone, are preferred, because they are more active against LD and have superior pharmacokinetic properties (e.g., better bioavailability, better penetration into macrophages, longer half-life). For severe disease, a fluoroquinolone is recommended. For patients who are hospitalized and treated with IV antibiotics, start oral antibiotics while in the hospital and observe the patients for continued response. Continue oral antibiotics on an outpatient basis for 14-21 days, depending on the

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severity of the presenting illness. Patients should receive close follow-up care to ensure complete resolution of their respiratory symptoms. Patients should complete the full course of antibiotics, whether the treatment is initiated in the outpatient setting or in the hospital.

Additional Resources

- CDPH Legionellosis:
[https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Legionellosis\(Legionnaires' Disease PontiacFever\).aspx](https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Legionellosis(Legionnaires'_Disease_PontiacFever).aspx)
- U.S. Centers for Disease Control and Prevention:
<https://www.cdc.gov/legionella/about/index.html>
- Legionnaires' Disease Fact Sheet for Clinicians
<https://www.cdc.gov/legionella/downloads/fs-legionella-clinicians.pdf>
- Legionnaires' Disease Fact Sheet for Patients
English
<https://www.cdc.gov/legionella/downloads/fs-legionnaires.pdf>
Spanish
<https://www.cdc.gov/legionella/downloads/fs-legionnaires-sp.pdf>

This bulletin is intended to improve the public health in our county by keeping physicians and nurses informed of noteworthy diagnoses, disease trends and other events of medical interest. Another goal of a public health department is to educate. We hope that you will use this information to increase your awareness. Please allow us to continue in our role of speaking to the press so that we may maximize the educational message to the benefit of all citizens of Ventura County.

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