



Disease Control and Epidemiology

Legionnaire's Disease Associated with a Local Pool and Hot Tub

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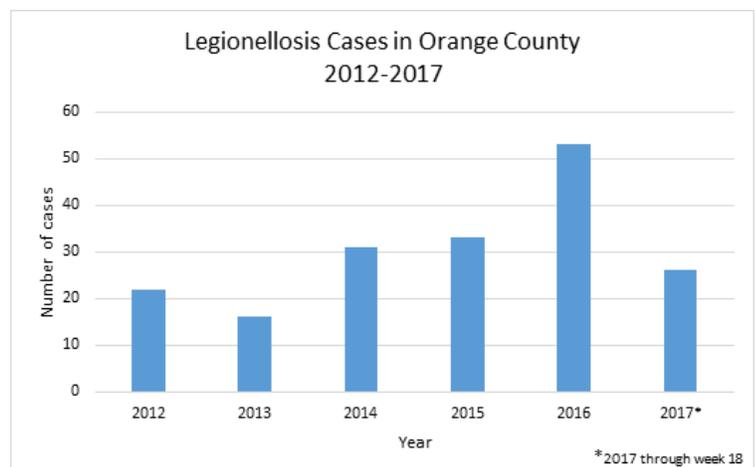
Two persons have been diagnosed with Legionnaires' disease in the last 60 days after using the Foothill Ranch Community pool and hot tub, located at 27021 Burbank in Foothill Ranch. Both infections occurred in adults and resulted in hospitalization. The pool and hot tub are currently closed. The Orange County Health Care Agency is working with the facility to assure that any possible *Legionella* source is addressed before the pool reopens.

Providers Should:

- Consider Legionnaire's disease in any patient who develops illness with pneumonia following exposure to this facility.
- Report any suspect or confirmed case of Legionnaire's disease immediately to Orange County Public Health at 714-834-8180 (after hours call 714-628-7008 to speak to the Health Officer on Call).

Background:

Legionellosis refers to illness caused by *Legionella* bacteria and usually results from exposure to contaminated water aerosols or from aspirating contaminated water. Over twenty *Legionella* species have been implicated in human disease. But *Legionella pneumophila* is the most common cause of infection, and the majority of *L. pneumophila* infections are caused by serogroup 1. The annual case report count for Legionnaires' disease in Orange County over the last five years has ranged from 16-53 (see graph). Case counts have increased in the County over that time, similar to increased counts seen throughout California. The cause for these increases is unclear.



Legionellosis presents in two distinct illness patterns:

- Legionnaires' disease is a progressive pneumonia with a 2-10 day incubation period. The disease can also cause cardiac, renal and gastrointestinal involvement.
- Pontiac fever is a self-limited, influenza-like illness without pneumonia that has a 1-2 day incubation period caused by an inflammatory response to *L. pneumophila*-produced endotoxin.

Patients at particular risk include those who are:

- Immunocompromised
- Have chronic lung disease.
- 50 years of age or older

Diagnosis:

Legionellosis can be diagnosed by testing for *Legionella* antigen in the urine of infected patients, and most cases are diagnosed in this fashion. Note that urine antigen testing only identifies *L. pneumophila* serogroup 1, not other serogroups. *Legionella* of all species and serogroups can also be identified by culturing from bronchoalveolar lavage samples. Sputum culture can also be utilized, but is less sensitive than culture of the lower respiratory tract. Special media is necessary to isolate *Legionella*.

Testing for legionellosis should be considered particularly in patients who have failed outpatient antibiotic therapy for community-acquired pneumonia and patients with severe pneumonia, such as those requiring intensive care.

Treatment:

Azithromycin or levofloxacin can be utilized to treat Legionnaires' disease. Levofloxacin (or another fluoroquinolone) is the drug of choice for immunocompromised adults.

Environmental Sources of Legionella:

Legionella species are naturally occurring, ubiquitous aquatic organisms. Hot tubs are a common source of *Legionella*; proper hot tub maintenance is vital in preventing potential exposure. Other common sources include household showers, decorative fountains and cooling towers (parts of centralized air-conditioning systems for large buildings). Healthcare associated legionellosis cases can occur and are related to contamination of the facility's hot water supply. Any healthcare associated infection requires assessment for potential ongoing risk.

Additional Information:

For additional information on diagnosis, treatment, or prevention of Legionellosis:
<https://www.cdc.gov/legionella/clinicians/diagnostic-testing.html>.

For additional information on water system maintenance:
<https://www.cdc.gov/legionella/water-system-maintenance.html>.

For questions or concerns please contact the Epidemiology and Assessment Program at 714-834-8180.