



NEW YORK CITY DEPARTMENT OF
HEALTH AND MENTAL HYGIENE
Mary T. Bassett, MD, MPH
Commissioner

2015 Alert #38: Legionnaires' Disease Cluster in East Bronx

- **During September, the NYC Health Department has received seven reports of Legionnaires' disease in persons who are linked to the Morris Park section of the Bronx.**
- **Providers should consider Legionnaires' disease when evaluating patients presenting with pneumonia.**
 - **Request cultures for *Legionella* from sputum or bronchoalveolar lavage specimens for adult patients with suspected community-acquired pneumonia. Notify your lab to ensure that they use the appropriate culture media to test for *Legionella*.**
 - **Urinary antigen testing is also recommended but should be accompanied by an attempt to isolate *Legionella* by culture.**
- **Report cases promptly to the NYC Health Department and submit all *Legionella* isolates to the Health Department's Public Health Laboratory for serogrouping and molecular typing.**

Please Distribute to All Clinical Staff in Internal Medicine, Geriatrics, Primary Care, Infectious Diseases, Emergency Medicine, Family Medicine, Critical Care, Laboratory Medicine and Infection Control.

September 28, 2015

Dear Colleagues,

Since September 21st, seven laboratory-confirmed cases of Legionnaires' disease have been reported to the NYC Health Department in persons who lived in, worked in, or visited the Morris Park neighborhood of the East Bronx. Patients range from 45-75 years in age and have underlying health conditions that place them at increased risk for the disease. All have been hospitalized; none have died. The Health Department is actively investigating whether the patients had a common exposure to *Legionella*. Health care providers should test for *Legionella* when evaluating patients who live or work in East Bronx and who have suspected community-acquired pneumonia. All confirmed Legionnaires' disease cases should be reported promptly to the Health Department.

Legionnaires' disease is caused by the *Legionella* bacterium. It is characterized by pneumonia occurring 2-14 days after exposure to an environmental source. *Legionella* is a ubiquitous aquatic organism that grows in warm environments (77°-108°F). Exposure occurs through inhalation of contaminated aerosols from devices such as cooling towers, whirlpool spas, showers, and faucets or through aspiration of contaminated water. Groups at high risk include the elderly; cigarette smokers; persons with chronic lung, kidney or liver disease; persons with diabetes, malignancy, or immune-compromising conditions; and persons receiving immune-suppressive medications.

Diagnostic Testing

Culture of the organism from respiratory secretions or tissues is the gold standard for diagnosis. Culture has the added benefit of producing bacterial isolates for molecular typing. With molecular typing of isolates, a patient's isolate(s) can be compared to isolates from environmental sources and other patients to identify a potential source of infection.

Please note the following regarding the diagnosis of Legionnaires' disease:

- *Legionella* culture requires specialized media (Buffered Charcoal Yeast Extract medium). Please alert your microbiology laboratory that you are considering Legionnaires' disease in your patient. The best specimens for culturing *Legionella* are sputum or bronchoalveolar lavage fluid. When feasible, primary respiratory specimens should be collected before antibiotic administration.
- Urine antigen testing is widely available as a rapid method for detecting *Legionella*, though it is most sensitive for *L. pneumophila* serogroup 1. It is important for providers to remember that if a patient with suspected Legionnaires' disease is tested with a rapid urine antigen assay, primary respiratory specimens also should be collected and submitted for *Legionella* culture.
- Serologic diagnosis requires paired sera, 3-4 weeks apart to detect a fourfold rise in antibody titer to a level > 1:128. A single antibody titer of any level is not diagnostic of *Legionella* infection. We do not recommend serology as a method of diagnosis.

Treatment

Empiric treatment of community-acquired pneumonia should include adequate coverage for *Legionella* with either a macrolide (e.g., azithromycin) or a fluoroquinolone (e.g., levofloxacin). Full detail on treatment regimens is available on the Infectious Diseases Society of America website:

http://cid.oxfordjournals.org/content/44/Supplement_2/S27.full.pdf+html.

Recommendations for Providers

To help the Health Department investigate this Legionnaires' disease cluster, providers should:

- Maintain a high index of suspicion for Legionnaires' disease among all patients with community-acquired pneumonia who live or work in the East Bronx.
- Specifically request both culture and urine antigen testing for *Legionella* when indicated.
- Report all Legionnaires' disease cases to the Health Department by calling the Provider Access Line at 1-866-692-3641.
- Send all cultured *Legionella* isolates to the Health Department's Public Health Laboratory for serotyping and molecular testing. Send isolate and laboratory test request form to:

Public Health Laboratory
455 First Ave, Room 136
New York, NY 10016

If you have any laboratory related questions, please call John Kornblum, Chief of Microbiology, at 212-447-6783.

Additional information about Legionnaires' disease is available at the Centers for Disease and Control and Prevention's Legionellosis Resource Site at <http://www.cdc.gov/legionella/index.htm>

As always, we appreciate our ongoing collaboration with healthcare providers in New York City to help us address emerging infectious disease concerns.

Sincerely,

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