



NEW YORK CITY DEPARTMENT OF
HEALTH AND MENTAL HYGIENE
Mary T. Bassett, M.D., M.P.H.
Commissioner

2017 ALERT # 12

Investigation of a Cluster of Legionnaires' Disease in the Lenox Hill area of Manhattan

- Providers should have a high index of suspicion for *Legionella* when evaluating patients with respiratory illness or sepsis who live in, work in, or recently visited the Lenox Hill area of Manhattan. Please report suspect cases to the Health Department.
- In patients with suspected pneumonia, test for *Legionella* infection. Testing should be done using both urine antigen and culture of sputum or other respiratory secretions.
- When ordering culture, specify the intent to identify *Legionella*, as laboratory procedures for identifying this organism are different from standard respiratory specimen cultures.
- Empiric treatment of pneumonia should include a macrolide or quinolone that has activity against *Legionella*.

Please Share this Alert with All Primary Care, Family Medicine, Emergency Medicine, Internal Medicine, Infectious Disease, Pulmonary Disease, Intensive Care, Laboratory Medicine and Infection Control Staff in Your Facility

June 16, 2017

Dear Colleagues,

The New York City (NYC) Health Department is investigating a cluster of seven cases of Legionnaires' disease among persons who reside in the Lenox Hill area of Manhattan. The onset dates for these patients ranged from May 22 to June 8, 2017. Four (57%) were male and the median age is 83 years (range 65 to 98). All persons were hospitalized, and there has been one death in a person in their 90s who had significant underlying medical conditions. There are no common sources of exposure among these patients other than living in the same area of the city. The Department is currently testing all cooling towers in the affected area for *Legionella pneumophila* to determine the source of exposure.

The DOHMH is requesting that providers test for *Legionella* when evaluating adults with symptoms of pneumonia, especially if they report residing, working or visiting the Lenox Hill area of Manhattan since May 22nd. Testing for *Legionella* guides clinical treatment of the patient and assists the Health Department with detecting outbreaks, and linking cases to potential environmental sources of *Legionella pneumophila*. This is especially critical for persons at the highest risk for Legionnaires' disease, including persons ≥ 50 years old, cigarette smokers, and persons with chronic lung disease, or persons with immunocompromising conditions. The case-fatality rate is estimated to be 9% for community-acquired Legionnaires' disease; recommended treatment options include macrolide or quinolone antibiotics.

Diagnostic Testing

Culture of the organism from respiratory secretions or tissues is the gold standard for diagnosis. Culture has the added benefit of being able to compare clinical isolate(s) to environmental isolates to identify a potential source of infection in the setting of a potential outbreak. Please note the following regarding the diagnosis of legionellosis:

- *Legionella* culture requires specialized media (buffered charcoal yeast extract agar {BCYE}). The best specimens for culturing *Legionella* are sputum or bronchoalveolar lavage fluid. Please specifically order a sputum culture for *Legionella* (not a general respiratory bacterial culture) and alert your microbiology laboratory that legionellosis is in your differential diagnosis.
- Urine antigen testing (UAT) is widely available as a rapid method for detecting *Legionella*. UAT is most sensitive for detecting *L. pneumophila* serogroup 1. Although *L. pneumophila* serogroup 1 accounts for most *Legionella* cases, a negative UAT does not rule-out infection due to other *Legionella* species and serotypes. Furthermore, UAT does not allow for molecular comparison of organisms to help determine the environmental source. Providers should also obtain respiratory specimens for culture to diagnose legionellosis.
- Serologic diagnosis is less useful for diagnosing acute infection and requires paired sera, collected 3–4 weeks apart to detect a fourfold rise in antibody titer to a level > 1:128. A single antibody titer is not diagnostic for legionellosis; convalescent serum must be obtained for comparison.

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

Recommendations for Providers

To help the NYC Health Department identify cases of Legionnaires' disease:

- Maintain a high index of suspicion for legionellosis among all adults with pneumonia, whether community-acquired or nosocomial.
- Specifically request both respiratory culture and UAT for *Legionella* detection.
- Send all *Legionella* isolates to the NYC DOHMH Public Health Laboratory for serotyping and molecular testing. Send isolates and a laboratory test request form (available at <http://www1.nyc.gov/assets/doh/downloads/pdf/labs/testing-services.pdf>) to:

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

If you have any laboratory related questions, please call the Public Health Laboratory Microbiology Section at [212-447-6783](tel:212-447-6783).

As always, we appreciate our ongoing collaboration with NYC healthcare providers to help us address infectious disease concerns in the city.

Sincerely,

A handwritten signature in black ink, appearing to read "Demetre Daskalakis". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Demetre Daskalakis, MD, MPH
Deputy Commissioner, Division of Disease Control