

PENNSYLVANIA DEPARTMENT OF HEALTH
2019– PAHAN –449 – 06-11 - ADV
Seasonal Increase in Legionellosis Cases



DATE:	June 11, 2019
TO:	Health Alert Network
FROM:	Rachel Levine, MD, Secretary of Health
SUBJECT:	Seasonal Increase in Legionellosis Cases
DISTRIBUTION:	Statewide
LOCATION:	Statewide
STREET ADDRESS:	n/a
COUNTY:	n/a
MUNICIPALITY:	n/a
ZIP CODE:	n/a

This transmission is a “Health Advisory” provides important information for a specific incident or situation; may not require immediate action.

HOSPITALS: PLEASE SHARE WITH ALL MEDICAL, PEDIATRIC, INFECTION CONTROL, NURSING AND LABORATORY STAFF IN YOUR HOSPITAL
EMS COUNCILS: PLEASE DISTRIBUTE AS APPROPRIATE
FQHCs: PLEASE DISTRIBUTE AS APPROPRIATE
LOCAL HEALTH JURISDICTIONS: PLEASE DISTRIBUTE AS APPROPRIATE
PROFESSIONAL ORGANIZATIONS: PLEASE DISTRIBUTE TO YOUR MEMBERSHIP

Summary

- The Pennsylvania Department of Health (PADOH) is alerting health care providers to an anticipated seasonal increase in *Legionella* infections.
- Health care providers should maintain a high index of suspicion in adult patients with pneumonia.
- The preferred diagnostic tests for Legionnaires’ disease are culture of lower respiratory secretions (e.g., sputum, bronchoalveolar lavage) on selective media and the *Legionella* urinary antigen test. Submit *Legionella* isolates to the PADOH Bureau of Laboratories for serotyping.
- Report all legionellosis cases to the health department via PA-NEDSS or by calling PADOH (877-PA-HEALTH) or the local health department.

Background

Legionellosis cases follow a seasonal pattern in Pennsylvania with the majority of cases occurring between May and November each year. The Pennsylvania Department of Health (PADOH) is anticipating that this trend will continue in 2019. Since 2000, the number of reported legionellosis cases has been increasing in both Pennsylvania and the United States overall. In 2018, Pennsylvania had a record-setting year for legionellosis with 638 cases (10-year average = 416 cases/year). Early indications are that 2019 will be an exceptional year as well.

Legionellosis can manifest as Legionnaires’ disease or Pontiac fever.

- Legionnaires’ disease is a severe illness with pneumonia. Symptoms include cough, shortness of breath, fever, muscle aches, and headaches. Some patients also experience diarrhea, nausea, and confusion. Most patients are hospitalized, and treatment is required. The case-fatality rate is

about 10% for community-acquired Legionnaires' disease and about 25% for healthcare-acquired disease.

- Pontiac fever is a milder illness, frequently characterized by fever and muscle aches. Patients with Pontiac fever do not develop pneumonia, do not require treatment, and typically recover within a week.

Risk factors for *Legionella* infection include:

- Male sex
- Age \geq 50 years
- Current or past cigarette smoking
- Underlying conditions such as chronic lung disease, cancer, diabetes, renal disease, or immunocompromising conditions

Legionella infection occurs when a person inhales aerosolized water containing the bacteria. Potential sources include cooling towers, whirlpool spas, showers, faucets, and decorative fountains. Patients may also be infected through aspiration of contaminated drinking water. Legionellosis is not transmitted person-to-person except in extremely rare circumstances. Most *Legionella* infections are sporadic, but outbreaks can occur.

Testing

The preferred diagnostic tests for Legionnaires' disease are the *Legionella* urinary antigen test AND culture of lower respiratory secretions.

- ***Legionella* urinary antigen test**

The most commonly used laboratory test for diagnosis of Legionnaires' disease is the urinary antigen test, which detects a molecule of the *Legionella* bacterium in urine. The test can remain positive for a few weeks after infection, even with antibiotic treatment. The urinary antigen test detects the most common cause of Legionnaires' disease, *L. pneumophila* serogroup 1.

However, other species and serogroups of *Legionella* are pathogenic, so a patient with a negative urinary antigen result could have Legionnaires' disease caused by other *Legionella* species and serogroups.

- **Culture of lower respiratory secretions (e.g., sputum, bronchoalveolar lavage) on selective media**

Culture can detect *Legionella* species and serogroups that the urinary antigen test does not, and it allows for comparison of clinical and environmental isolates in the event of an outbreak. When specimens are submitted for culture, laboratories must be informed that *Legionella* is suspected because it requires the use of specialized media (Buffered Charcoal Yeast Extract [BCYE] agar). *Legionella* isolates should be forwarded to PADOH Bureau of Laboratories for serotyping.

- Ship isolates at room temperature. Slanted media is preferred. If plates are sent, please seal with parafilm. Package as Category B sample and ship (Monday through Thursday only) to:

PA Department of Health, Bureau of Laboratories
110 Pickering Way
Exton, PA 19341
610-280-3464

Best practice is to obtain both the urinary antigen test and sputum culture concurrently. Sputum should ideally be obtained prior to antibiotic administration, but antibiotic treatment should not be delayed to facilitate this process.

Serologic assays can be nonspecific and are not recommended in most situations.

Treatment

For patients with Legionnaires' disease, follow the IDSA-ATS guidelines for treatment. *Legionella*-directed antibiotics include macrolides and respiratory fluoroquinolones. While it is preferred that

diagnostic testing specimens are obtained before antibiotic administration, antibiotic treatment should not be delayed to facilitate this process.

Patients with Pontiac fever should not be prescribed antibiotic treatment. It is a self-limited illness that does not benefit from antibiotics and patients usually recover within 1 week.

Report all legionellosis cases through the health department's web-based reportable disease surveillance system, PA-NEDSS (<https://www.nedss.state.pa.us/nedss/default.aspx>), or call the local health department or PADOH (877-PA-HEALTH).

Any questions or concerns regarding these recommendations should be directed to the local health department or PADOH (877-PA-HEALTH).

Further information on legionellosis is available at:

Pennsylvania Department of Health: www.legionellosis.health.pa.gov

Centers for Disease Control and Prevention (CDC): <https://www.cdc.gov/legionella/index.html>.

CDC's *Legionella* information for clinicians: <https://www.cdc.gov/legionella/clinicians.html>

Categories of Health Alert messages:

Health Alert: conveys the highest level of importance; warrants immediate action or attention.

Health Advisory: provides important information for a specific incident or situation; may not require immediate action.

Health Update: provides updated information regarding an incident or situation; unlikely to require immediate action.

This information is current as of June 11, 2019 but may be modified in the future.
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