



Legionnaire's Disease Information Sheet

NORAD-USNORTHCOM/SG

What is Legionnaire's disease?

Legionellosis is an infection caused by the bacterium *Legionella pneumophila*. Legionnaires' disease acquired its name in 1976 when an outbreak of pneumonia occurred among persons attending a convention of the American Legion in Philadelphia. Later, the bacterium causing the illness was named *Legionella*.

Why are we concerned with Legionnaire's as a bio-weapon?

Death occurs in 5%-30% of LD cases: a substantially higher proportion of fatal cases occur during outbreaks among a group of hospitalized patients as they are usually already immuno-compromised. Since the disease is spread by inhalation, weaponization is very possible.

Does this disease occur naturally?

Yes, in water supplies. It has been identified throughout North America as well as in Australia, Africa, South America and Europe.

Are there different forms of this disease?

The disease has two distinct forms: Legionnaires' disease, the more severe form of infection which includes pneumonia, and Pontiac fever, a milder illness.

Is the disease seasonal in its occurrence?

When outbreaks do occur, they are usually recognized in the summer and early fall, but cases may occur year-round.

How does it spread?

Outbreaks of legionellosis have occurred after persons have breathed mists that come from a water source (e.g., air conditioning cooling towers, whirlpool spas, showers) contaminated with *Legionella* bacteria. Persons may be exposed to these mists in homes, workplaces, hospitals, or public places. Legionellosis is not passed from person to person, and there is no evidence of persons becoming infected from auto air conditioners or household window air-conditioning units. Person to person transmission has not been documented.

What is the risk of catching Legionnaire's?

People of any age may get Legionnaires' disease, but the illness most often affects middle-aged and older persons, particularly those who smoke cigarettes or have chronic lung disease. Also at increased risk are persons whose immune system is suppressed by diseases such as cancer, kidney failure requiring dialysis, diabetes, or AIDS. Those that take drugs that suppress the immune system are also at higher risk.

Pontiac fever most commonly occurs in persons who are otherwise healthy.

What are the symptoms of Legionnaire's?

Patients with Legionnaires' disease usually have fever (102-105°F), chills, and a cough, which may be dry or may produce sputum. Some patients also have muscle aches, headache, tiredness, loss of appetite, and, occasionally, diarrhea. Laboratory tests may show that these patients' kidneys are not functioning properly. Chest X-rays often show pneumonia. It is difficult to distinguish Legionnaires' disease from other types of pneumonia by symptoms alone; other tests are required for diagnosis.

Persons with Pontiac fever experience fever and muscle aches and do not have pneumonia. They generally recover in 2 to 5 days without treatment.

How soon after exposure do people get sick?

The time between the patient's exposure to the bacterium and the onset of illness for Legionnaires' disease is 2 to 10 days; for Pontiac fever, it is shorter, generally a few hours to 2 days.

How is Legionnaire's diagnosed?

The diagnosis of legionellosis requires special tests not routinely performed on persons with fever or pneumonia. Therefore, a physician must consider the possibility of legionellosis in order to obtain the right tests.

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Several types of tests are available. The most useful tests detect the bacteria in sputum, find *Legionella* antigens in urine samples, or compare antibody levels to *Legionella* in two blood samples obtained 3 to 6 weeks apart.

Is a vaccine available to prevent Legionnaire's?

No.

Can Legionnaire's be treated?

Erythromycin is the antibiotic currently recommended for treating persons with Legionnaires' disease. In severe cases, a second drug, rifampin, may be used in addition. Other drugs are available for patients unable to tolerate erythromycin. Pontiac fever requires no specific treatment.

Where will the medications/immunizations to treat infected individuals come from?

Local resources or national stockpiles as the situation directs.

Are there contraindications to antibiotic therapy or other treatments (ie. pregnancy, immunosuppression, etc)?

Both drugs are dangerous to human fetuses. The risks of the disease must be weighed against the risk to the fetus.

How long can Legionnaire's exist in the environment?

Legionella organisms can be found in many types of water systems. However, the bacteria reproduce to high numbers in warm, stagnant water (90°-105° F), such as that found in certain plumbing systems and hot water tanks, cooling towers and evaporative condensers of large air-conditioning systems, and whirlpool spas. Cases of legionellosis have been identified throughout the United States and in several foreign countries. It is believed to occur worldwide.

What should someone do if they suspect they or others have been exposed to Legionnaire's?

See your health care provider immediately.

What can I do to reduce the risk of getting Legionnaire's or giving it to someone else?

Keep items such as humidifiers, vaporizers and other equipment that transmits or retains vaporized water cleaned and disinfected. Keep hot water systems at 50°F or higher to reduce the risk of transmission. Person to person transmission has not been documented.

References:

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