LEGIONELLA 101

Legionella pneumophila, one of more than 60 varieties of *Legionella*, is the leading cause of bacterial pneumonia called Legionnaires' disease and the flu-like Pontiac Fever. *Legionella* is found in natural water sources and soil but grows best in warm water found in many manufactured environments such as commercial and residential plumbing systems.

What is Legionnaires' Disease?

Legionnaires' disease, otherwise known as Legionellosis, is a severe type of lung infection or pneumonia. According to the CDC, between 8,000 and 18,000 people suffer from *Legionella* infection every year. U.S. health departments reported nearly 10,000 cases of Legionnaires in 2018 alone. However, Legionnaires' cases are underdiagnosed. The disease likely affects many more people than reports suggest and approximately 10% of those infected die from the infection.

History of Legionnaires' Disease

Legionella pneumophila was first identified by the CDC in 1976 after an outbreak of pneumonia-like symptoms was reported by American Legion conference attendees in Philadelphia. Three days after the conference, the first death occurred. Less than a week later, 130 people, most of whom were men, were hospitalized. Twenty-five succumbed to the disease. All had attended the convention and stayed at the same hotel. This outbreak led to the name of both the bacteria and the illness it caused.

Legionnaires' Disease Transmission

Legionnaires disease is typically contracted through microscopic water droplet inhalation in the form of vapor or mist. Infection can also occur via aspiration of contaminated ice or water, especially in hospital patients, and via water births. Outbreaks have been connected to many sources, including:

- Poorly Maintained Water Systems
- Ice Machines
- Cooling Towers
- Drinking Fountains
- Hot Tubs
- Swimming Pools
- Birthing Pools
- Portable Water Systems
- Decorative Fountains

What are the Symptoms of Legionnaires' Disease?

Typically, Legionnaires' disease takes between two to 10 days to develop. It often starts with mild signs and progresses to more severe symptoms. Early signs of the disease usually include:

- Muscle Aches
- Headaches
- Fever Above 100 F

After a few days, symptoms will get worse and often include:

- Chest Pain
- Shortness of Breath
- Wet Cough with Mucus or Blood
- Vomiting
- Diarrhea
- Confusion
- Mental Changes

Sometimes, people exposed to *legionella* contract a less deadly form of Legionnaires' disease called Pontiac fever. Symptoms include chills, headache, muscle aches, and fever. Unlike its more harmful counterpart, Pontiac fever won't infect your lungs, and symptoms often clear up on their own.

Who Is Most at Risk of Legionnaires' Disease?

It's possible for anyone to contract Legionnaires' Disease. However, generally, immunocompromised adults have the highest risk of infection. Other risk factors include:

- Adults Over 50 Years of Age
- Current or Former Smokers
- People with Chronic Lung Diseases Like Emphysema
- People with Weak Immune Systems
- People Suffering from Diabetes, HIV, or Cancer
- People Who Drink to Excess Often
- Heart and Kidney Transplant Recipients

Currently, there is no known cure for Legionnaires' disease. However, doctors can treat the symptoms with antibiotics, which can help clear up the infection. With the emergence of multidrug-resistant organisms (MDRO's), reducing the risk of initial infection should be a top priority.

What is the Economic Impact of Legionnaires' Disease?

The economic burden of Legionnaires cannot be understated. In 2014 alone, the estimated medical costs totaled $402 million. In terms of national productivity, 995 premature deaths caused by Legionnaires' disease caused about $412 million in productivity losses. According to the National Library of Medicine, the total economic burden in 2014 was $835,035,255. This surprisingly high number may have been minimized with proactive water management plans.

Legionnaires' Disease Prevention

Today, preventing Legionnaires' disease outbreaks is possible. But prevention requires adherence to a comprehensive Water Management Plan in accordance with ANSI/ASHRAE guidelines and the Joint Commission's new standard for water management plans, EC.02.05.02 (EPs 1 through 4). Whether you're concerned for your family in a residential setting, or you have industrial water safety issues, your Water Management Plan should include:

- Develop a team to oversee your water management program
- Describe your building's water systems with flow and text diagrams
- Pinpoint problem areas where Legionella may grow
- Identify where control measures need to be applied and how the team monitors those measures
- Develop strategies to intercede if control limits aren't met
- Ensure your Water Management Plan is efficient and effective
- Document all activity

The bottom line is that your water supply must not have any *Legionella,* and if it does, comprehensive action must be taken to prevent infection. Fresh water is crucial, especially for those with compromised immune systems.

Trust AquaMedix for Clean Water

If you have concerns about your facility's water quality or have a *Legionella emergency* in your commercial building or residential property, it's time to consider a comprehensive water filtration system. Some of the most effective products to prevent Legionnaires' disease include shower filtration systems, inline water filters, and faucet water filter systems.

AquaMedix designs, manufactures, and distributes water filtration systems to control of waterborne pathogens found in potable water. Contact Us today to learn more about our POU and Bacteria Control Water filters.

SOURCES

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About AquaMedix

AquaMedix develops, manufactures, and distributes point-of-use (POU) and inline filtration systems designed to protect against waterborne bacteria. Proprietary filters trap potentially lethal pathogenic bacteria such as Legionella, Pseudomonas, Acinetobacter, Nontuberculous Mycobacterium, and Stenotrophomonas. In addition to selling a complete line of CleanSpray POU and inline filtration systems, AquaMedix is the U.S. Master Distributor for Baclyser POU and inline filters by Aqua *free*.

Our products include shower and faucet filters as well as standard and specialty inline filters to protect water used in ice machines, coffee machines, dental office sprayers, and other appliances. AquaMedix products are easy to install and maintain without large capital expenses or the need for costly chemicals, machinery, or special training. With filters installed nationwide in healthcare facilities, AquaMedix is positioned to address infection control concerns with a variety of innovative and cost-effective products.

For Use In: hospitals, clinics, and other medical facilities such as skilled nursing and adult care facilities. Recommended for areas at high-risk for hospital-acquired infections (HAIs) such as ICU, neonatal, oncology, burn, and transplant units.