

environmental hygiene

Water Baby

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Do you love the lake as much as I do? Or do you prefer being in a river or a creek on a hot summer's day? The fresh water is one of my favorite places, but I don't like to stay there for long. I would rather travel and live comfortably within the water systems of different buildings. In fact, as a gram-negative bacterium, that's how I best cause infection in my hosts. For decades, I was able to make individuals sick without anyone discovering who I was. But during a 1976 outbreak, I was discovered after causing the deaths of 36 individuals and sickening 221. All I wanted to do was to live peacefully in the cooling towers of that hotel. It was so comfortable for me there.

Because there's no vaccine to protect against me, the best option is to reduce the risk I will enter and grow in building environments.

I like to travel from the vastness of fresh waters to the coolness of a building system and finally to the lungs of an unsuspecting passerby. They may be showering or walking through an air-conditioned room when I enter their lungs through their breath. That's right; you breathe me in. I float through the air, traveling in aerosolized water droplets, just waiting to catch a breath into someone's lungs. I'll sit there

for a couple of weeks, replicating off their alveolar macrophages. Eventually, they may begin to suspect that something is not quite right. At best, I may cause them fever and muscle aches after a few days that resolve on their own within a week or so. At worst, after a week or two, they may begin to experience flu-like symptoms such as fever, chills, headache, shortness of breath, and cough progressing to pneumonia. Occasionally, I may cause nausea, diarrhea, and confusion. Left unmanaged, I can quickly progress to severe forms

of pneumonia, potentially resulting in multiorgan failure and death.

Thanks to antibiotics, the pneumonia I cause is manageable when caught early. Urine tests and lower respiratory cultures can quickly isolate and identify me as the causative agent of infection. A chest x-ray will reveal pneumonia and guide clinicians to appropriate treatments. Healthy individuals usually have no

To discover who I am, visit [InfectionControlToday.com/view/dec-2022-bug-month](https://www.infectioncontroltoday.com/view/dec-2022-bug-month)

trouble recovering from the havoc I wreak on their body, but 1 in 10 individuals infected with my pneumonia will die. In health care facilities, that statistic can quickly become 1 in 4 individuals because patients in the hospital are already sick and may have weakened immune systems.

Although I would prefer they not know, it is easy to prevent me from entering building water systems where I pose a threat of infection by keeping them maintained. Because there's no vaccine to protect against me, the best option is to reduce the risk I will enter and grow in building environments. I love to sit in unused pipes where the water from the tap sits stagnant. With no disinfectant or chlorination to remove me, I continue to grow, awaiting my release. When the water begins flowing again, I can travel with it through the pipes and out of faucets, showerheads, and waterspouts, where aerosolized droplets carry me to my next target. Building owners and health care facilities would be especially wise to have plans to reduce my proliferation.

Legionella pneumophila □