

Know the FACTS

Legionella (Legionnaires' Disease)

Legionnaires' disease is a serious, sometimes deadly type of pneumonia caused by Legionella bacteria. These bacteria live in natural water but become dangerous when they grow in human-made systems like plumbing, cooling towers, fountains, or hot tubs, where they can infect people.

How Legionella spreads

Legionella occurs naturally in the environment at quantities that generally are too low to cause illness. In human spaces, the bacteria commonly spreads through devices that use water and produce mist, allowing people to breathe in tiny droplets containing the bacteria. Legionella routinely is kept at bay in chlorinated environments but becomes a health concern when it multiplies in water at 77-124°F and spreads in:

- showerheads
- sink faucets
- hot tubs
- decorative fountains
- theme parks and water parks
- large, complex plumbing systems
- commercial cooling towers that use water and fans in a building
- industrial air-cooling systems



Symptoms of Legionnaires' disease

Legionnaires' disease symptoms usually develop 2-14 days after exposure and are **similar to pneumonia**. Symptoms can include:

- cough
- fever
- headaches
- muscle aches
- shortness of breath

Most healthy people exposed to Legionella are not at a high risk of getting sick. However, people over age 50, current or former smokers, and those with certain health conditions or weakened immune systems have a higher risk of developing illness from exposure.

Preventing Legionnaires' disease at home

Regularly flush unused faucets or showerheads, especially after periods of low water use or reduced water pressure, until the water runs hot and clear. Follow manufacturer instructions to use, clean, maintain, and store all water-using devices—such as humidifiers, CPAP machines, nasal rinses, showerheads, faucet aerators, water filters, and water heaters—to help prevent bacterial growth.

Preventing Legionnaires' disease at work

Preventing exposure to Legionella in the workplace starts with understanding where it can grow and properly maintaining water systems to prevent and detect bacterial growth.

Activity records should be kept to ensure proper maintenance of all water operating systems. Additionally, employers should provide and encourage the use of appropriate PPE for workers performing maintenance, cleaning, or disinfection on water systems that may contain Legionella, including domestic water systems, cooling towers and HVAC equipment.



Controlling Legionella in commercial cooling towers

Understanding commercial cooling tower design components is critical for Legionella control.

Scale, corrosion, sediment controls and system cleanings are critical for cooling tower operations and Legionnaires' disease prevention. Legionella can grow and spread in both open and closed circuit cooling tower systems. If Legionella is present, the aerosolized water can spread the bacteria over miles.

To lower the risk of illness, clean and disinfect according to manufacturer recommendations:

- before commissioning
- prior to startup
- during idle periods
- after shut down

Perform an offline disinfection and cleaning at least annually.

Additional resources

- **HCPH plumbing division:** 513-946-7854
- **HCPH environmental health division:** 513-946-7847
- **Ohio Department of Health:** tinyurl.com/ODHLegionella