



Health & Human Services

IPC Topic: Legionella

Intro^{1,2}: Legionella bacteria can cause a serious type of lung infection called Legionnaires' disease and Pontiac fever, known as legionellosis a less serious illness¹. Legionella can make people sick when the bacteria grow in water and spread in droplets small enough for people to breathe in. Legionella grows best in warm water that is not moving or that does not have enough disinfectant to kill the bacteria.

What is the risk?^{6,2,1} Most of the time, the germs in tap water aren't a problem for healthy people, but they can cause illness in patients with very weak immune systems. People at greatest risk include²:

- People 50 years or older
- Current or former smokers
- People with a chronic lung disease (like chronic obstructive pulmonary disease or emphysema)
- People with weak immune systems or who take drugs that weaken the immune system (like after a transplant operation or chemotherapy)
- People with cancer
- People with underlying illnesses such as diabetes, kidney failure, or liver failure

Highlights:

- Where does Legionella grow^{2,7}?
 - Showers and faucets.
 - grow in and spread through showerheads if a building's water has low disinfectant levels.
 - Cooling towers, which are parts of large, centralized air conditioning systems.
 - When disinfectant levels are low, cooling tower fans can spray contaminated water droplets.
 - Hot tubs.
 - the warm temperature supports growth of Legionella, which can spread through water jets.
 - Disinfect and clean jets and tub per manufactures guidelines.

- Decorative fountains and water features.
 - the warm areas of a fountain and splashing can spread this contaminated water.
 - Medical devices (such as CPAP machines, hydrotherapy equipment, bronchoscopes,)
 - Clean regularly and replace filters per manufacturer recommendations.
 - Ice machines
 - Clean regularly and replace filters per manufacturer recommendations.
 - Consider routine Legionella testing of ice machines in settings that serve people at increased risk of Legionnaires' disease.⁸
 - Humidifiers
 - Tanks on humidifiers should be emptied and cleaned daily.
 - Use distilled water only.
 - Hot water tanks and heaters
 - Large, complex plumbing systems
- How does Legionella spread²?
 - After *Legionella* grows and multiplies in a building water system, water containing *Legionella* can spread in droplets small enough for people to breathe in. People can get Legionnaires' disease or Pontiac fever when they breathe in small droplets of water in the air that contain the bacteria.
 - Less commonly, people can get sick by aspiration of drinking water containing *Legionella*. This happens when water accidentally goes into the lungs while drinking. People at increased risk of aspiration include those with swallowing difficulties.
 - What can we do as health care workers to prevent legionella growth²?
 - Environmental, engineering, and maintenance workers will perform most of these actions, but all healthcare workers should be aware.
 - Keeping hot water temperatures within range of facility policy and a correct temperature log.
 - Making sure disinfectant levels are monitored per facility policy.
 - Keeping water flowing (preventing stagnation).

- Operating and maintaining equipment to prevent slime (biofilm), organic debris, and corrosion.
- Monitoring factors external to buildings, such as construction, water main breaks, and changes in municipal water quality.
- Avoid placing decorative fountains and fish tanks in patient-care areas-if used, ensure scheduled proper disinfection. (1)

- Prevention for facilities³
 - The key to preventing Legionnaires' disease is maintenance of the water systems in which Legionella may grow. If Legionella is found in a healthcare facility's water system, the facility should work to eliminate the bacteria, this will be handled by maintenance and engineering services but refer to your manager on who is to perform these duties in your facility.
 - Water management programs should be developed by facilities and properly managed.
 - More information on water management systems can be found at <https://www.cdc.gov/legionella/wmp/control-toolkit/index.html>

- Summary: Healthcare workers can prevent Legionella by identifying legionella hazards in the workplace. It is also important that facilities develop a water management program focused on preventing legionella growth.

For more information on recognizing risk for Legionella and related Project Firstline materials, see References below:

- 1.) [Legionnaires Disease, Pontiac Fever Fast Facts | CDC](#)
- 2.) [Legionnaires Disease Cause and Spread | CDC](#)
- 3.) [2016-06-vitalsigns.pdf \(cdc.gov\)](#)
- 4.) [What Clinicians Need to Know about Legionnaires' Disease. \(cdc.gov\)](#)
- 5.) [Water Management in Healthcare Facilities for Legionella | CDC](#)
- 6.) [Legionella Toolkit-Version 1.1-June 24, 2021 \(cdc.gov\)](#)
- 7.) [Germs live in water and on wet surfaces \(cdc.gov\)](#)
- 8.) [Toolkit for Controlling Legionella in Common Sources of Exposure \(Legionella Control Toolkit\) \(cdc.gov\)](#)
- 9.) [Preventing Occupational Exposure to Legionella \(cdc.gov\)](#)
- 10.) [Legionnaires' Disease Prevention Providing a Home for Guests, not Legionella \(cdc.gov\)](#)