



Legionella and Legionnaire's Disease

EPIC Fact Sheet

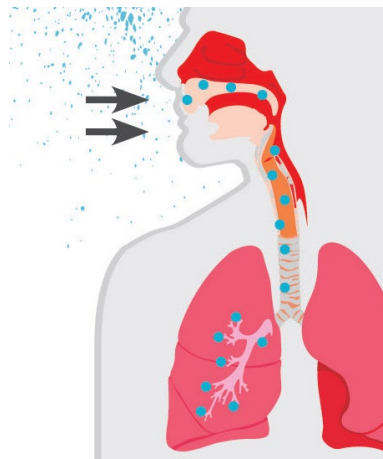
Background

In nature, *Legionella* bacteria live in fresh water and rarely cause illness. In man-made water environments, *Legionella* bacteria can grow and flourish in the right conditions if the water source is not properly maintained. These man-made water sources become a health problem when small droplets of water that contain the bacteria get into the air and people breathe them in (see example photo below from CDC CS267416-A document). Some common ways water becomes aerosolized in health care settings include: showers, humidifiers, aerators, nebulizers, spas, misting systems, cooling towers and decorative water fountains.

Prevention

In health care settings the primary way to prevent *Legionella* bacteria growth is to maintain your water sources properly. Steps to maintaining your building water sources include:

- Store hot water above 140°F with a minimum delivered temperature of 124°F. Health care settings must consider scalding issues and regulatory requirements for maximum delivered temperatures. If maintaining high temperatures is not feasible, consider periodic temperature spikes followed by flushing.
- Cold water should be stored and distributed at 68°F or lower. This may not be feasible in hot locations such as central Arizona.
- Evaluate water piping systems and eliminate dead legs where water may sit for prolonged periods before mixing with delivered water. For example, a drinking fountain that has been taken out of service may serve as a dead leg for water to stagnate.
- Health care settings are notorious for low water turnover, which results in chlorine in the standing water losing its potency. Without new chlorinated water being pulled through the system, stagnation occurs. Periodically thoroughly flush all plumbing supply fixtures. Don't forget to flush water through infrequently utilized fixtures (e.g. safety showers, eye wash stations, etc.).



The Disaster Ready Emergency Preparedness Infection Control (DR EPIC) program provides education and technical assistance for skilled nursing providers throughout the state. Individual providers will need to exercise their independent discretion in how to apply this information and technical assistance to the unique operation of each facility. For that reason, a facility's exercise of its professional judgment and due diligence in utilizing the program for infection control and risk management practices is solely within the facility's control for which it is entirely responsible.

- Clean and maintain cooling tower systems regularly. Periodic physical removal of scale/slime buildup and use of a biocide are recommended.
- Use sterile water to fill and/or clean respiratory devices (e.g. humidifiers, nebulizers, etc.). Isopropyl alcohol may also be used for cleaning and disinfecting these items followed by thorough drying.
- Clean/disinfect on a regular basis, mechanical devices that are connected to a water source and that may be prone to the accumulation of dirt, scale or biological material. Examples include sink aerators, humidifiers, decorative fountains, shower heads, mister system heads, etc.
- Contract a third party industrial hygiene firm to perform periodic testing within facilities to help monitor for the presence of *Legionella* bacteria in your water systems.
- Develop a water management plan (WMP) to track and schedule these recurring maintenance operations. This plan should be in compliance with ANSI/ASHRAE Standard 188-2018, *Legionellosis: Risk Management for Building Water Systems*.

More Information

- For more guidance on maintaining buildings to help prevent *Legionella* growth, consult the *ASHRAE Guideline 12-2000 Minimizing the Risk of Legionellosis Associated with Building Water Systems* and ANSI/ASHRAE Standard 188-2018, *Legionellosis: Risk Management for Building Water Systems*.
- Legionellosis Investigation Form Arizona Department of Health Services
 - <https://www.azdhs.gov/documents/preparedness/epidemiology-disease-control/disease-investigation-resources/legionellosis-investigation-form.pdf>
- View the IAQTV video “Legionnaires' Disease: What You Need to Know” at <https://youtu.be/HB7g81JxCq0>
- View the IAQTV video on Legionella & Monitoring Building Water at https://youtu.be/F_Ggg_uAL_s
- **QSO-17-30- Hospitals/CAHs/NHs**
- [QSO17-30-Hospital,CAH, NH REVISED \(PDF\)](#)
- Additional EPIC resources
 - If you have additional questions:
 - Leave a message on the Emergency Preparedness Infection Control (EPIC) hotline at 602-241-4644,
 - Email at EPIC@AZHCA.org, or
 - Visit the EPIC Web Resource Pages at www.EPIC.Disasterreadyaz.org

The Disaster Ready Emergency Preparedness Infection Control (DR EPIC) program provides education and technical assistance for skilled nursing providers throughout the state. Individual providers will need to exercise their independent discretion in how to apply this information and technical assistance to the unique operation of each facility. For that reason, a facility's exercise of its professional judgment and due diligence in utilizing the program for infection control and risk management practices is solely within the facility's control for which it is entirely responsible.