

WHAT DO YOU NEED TO KNOW?

PREVENTING LEGIONELLA

in Building Water and HVAC Systems

In an effort to prevent disease outbreaks and to protect public health, the Orange County Health Care Agency is committed to providing education, technical assistance and resources to area facilities that have cooling towers or other potential sources of Legionella.

WHAT IS LEGIONNAIRES' DISEASE?



- Legionnaires' disease is a type of pneumonia caused by the *Legionella* bacteria. *Legionella* pneumonia generally causes hospitalization, and death occurs in 10% of cases.
- *Legionella* bacteria can grow in warm man-made water sources, including cooling towers, hot tubs/spas, decorative fountains, misters, air conditioners,

water heaters and tanks, and large plumbing systems that are not well maintained.

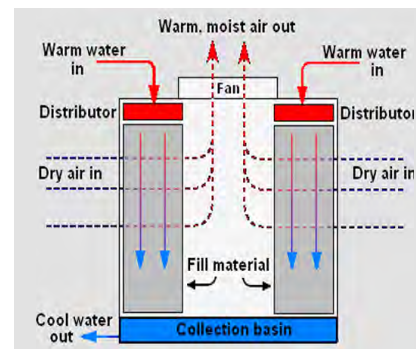
- *Legionella* is not spread from person to person, but rather by inhaling a mist or water vapor containing the bacteria (i.e. aerosolization).

WHAT IS A COOLING TOWER?

A cooling tower is a unit that recirculates water to make the inside of a building cooler. It is often part of a building's heating, ventilation and air conditioning (HVAC) system. Units called evaporative coolers and fluid coolers are also considered cooling towers.

Benefits of proper cooling tower maintenance:

- Increases heat transfer efficiency
- Minimizes maintenance and cleaning
- Minimizes corrosion
- Controls pathogenic organisms such as *Legionella*, non-tuberculosis mycobacterium and fungi



HOW DO I REDUCE THE RISK OF LEGIONELLA TRANSMISSION ON MY PROPERTY?

- Develop and follow a Water Management Plan for understanding your building water system. This plan should describe:
 - ▶ How water flows through your building
 - ▶ Areas where *Legionella* or other bacteria could grow
 - ▶ Any control and monitoring measures that will be applied
 - ▶ Interventions to be implemented when controls are not met
 - ▶ Process for documenting these activities
- Specific elements of a Water Management Plan should include system maintenance, water treatment, shutdown and start-up procedures, and disinfection. The plan should identify responsible persons for every step of the Water Management Plan which likely includes a multidisciplinary team of experts.
- The plan should address whether testing for *Legionella* will be routinely performed to assess the effectiveness of disinfection and maintenance of the cooling towers, or what triggers will be used to determine the need for *Legionella*-specific testing.
- Refer to the [ASHRAE](#) (formerly known as the American Society of Heating, Refrigerating, and Air-Conditioning Engineers) or the [Cooling Technology Institute \(CTI\)](#) guidelines for details.
- Follow the manufacturer's maintenance guidelines for cooling towers and related equipment on your property.
- If your property has a pool and/or spa, they should be operated and maintained in accordance with original equipment manufacturer (OEM) requirements or if regulated as a public pool, follow [applicable codes](#).
- If your property has an ornamental fountain and open water features, they should be included in the above-mentioned management plan (refer to the ASHRAE standards).
- The Centers for Disease Control (CDC) also has [various resources](#), including: [Developing a Water Management Program](#) and a [Legionnaires' Disease Fact Sheet](#).