

MANAGING RISK: PREVENTING LEGIONELLA

What's at risk?

Legionella is a type of bacterium found naturally in fresh water. When people are exposed to the bacterium, it can cause illness (Legionnaires' disease and Pontiac fever). This bacterium grows best in warm water, like the kind found in:

- Hot tubs
- Cooling towers
- Hot water tanks
- Large plumbing systems
- Decorative fountains



People are exposed to Legionella when they breathe in a mist or vapor (small droplets of water in the air) containing the bacteria. Each year, 8,000–18,000 people in the United States are hospitalized with Legionnaires' disease. According to the U.S. Centers for Disease Control and Prevention, between 5% and 30% of those afflicted with the disease die.

What are your legal obligations?

More than 120 people in the South Bronx contracted Legionnaires' disease between early July and early August 2015, 12 of whom died. A hotel cooling tower was implicated in the outbreak.

Property owners and managers have a common law duty to exert a high level of care for its employees and visitors to its facilities. Legionella has the potential to surface at any building. Many facilities harbor the bacteria in small quantities without issue, but maintaining proper standards and preventative maintenance of cooling towers and plumbing systems is imperative to keep legionella at bay and help lower risk of an outbreak.

Ongoing testing and upkeep is essential as there is no water treatment and maintenance system guaranteed to fully and permanently eradicate the organism.

If your property resides in New York the NYSDOH put in place emergency regulations, which are directed towards owners of cooling towers, hospitals and residential health care facilities.

How can you better protect your organization?

For some suggestions designed to assist you in developing sound policies and procedures for your organization, please turn this document over and review the attached checklist.

CHECKLIST: CONTROLLING EXPOSURES TO LEGIONELLA

- Disinfect cooling towers regularly. At a minimum twice-yearly washout and cleaning programs should be in place, including oxidizing disinfections.
- Disinfect ice storage chests in ice machines regularly.
- Store domestic hot water at 140°F and deliver it at a minimum of 122°F. High temperatures effectively kill the bacteria. Unfortunately, even a few degrees below 122°F, legionella thrives and multiplies quickly, so it's imperative that temperatures stay in a safe range.
- If cold water tanks are located in direct sunlight insulate them in order to keep temperatures below 68; avoid locating them in sunlight if possible.
- Maintain anti-corrosion and scale prevention programs. Legionella thrives in scale and mineral deposits in water lines – especially warm water lines – so be sure that those lines remain clean. Use scale inhibitors where appropriate.
- Install and maintain high-efficiency mist eliminators on cooling towers. According to early reports, it appears that those who contracted the disease were not in the impacted buildings at all, rather they were exposed to the mist that rained down to the street from the cooling towers.
- Adopt a comprehensive water treatment program and Maintain stringent recording policies to ensure preventative measures are taken in a timely manner. This can include activities like cleanings, biocide addition, etc.
- Control pH levels; pH between 5.0 and 8.5 are most at risk and regularly check the cooling tower for evidence of biofouling (accumulation of microorganisms, plants, algae, or animals on wetted surfaces). Legionella often use common amoebae or protozoa as host organisms, so by controlling the overall microbiological population, you can inhibit legionella growth.
- Create an interdisciplinary response team. Responding to Legionella and other infectious waterborne pathogens found in your water system requires a team effort. This team should include someone in your organization with knowledge of safety and health issues, your water treatment company representative, a laboratory with Legionella expertise, and a Legionella risk management professional. The team can provide a proactive plan for prevention as well as develop an emergency action plan to follow if needed.

New York State Department of Health Emergency Regulations:

The NYSDOH put in place emergency regulations, effective August 17, 2015 which were directed towards owners of cooling towers, hospitals and residential health care facilities all across New York State. The NYSDOH regulations are a more stringent than the NYC order and require:

- Registration of cooling towers.
- Samples to be obtained from the cooler tower and analyzed for Legionella cultures.
- Disinfection and treatment for the cooler tower depending on sampling results.
- Certification to be completed annually indicating that the cooling tower has been inspected, tested, cleaned and disinfected. Implementation of an annual maintenance program including routine sampling and analysis.