

Legionnaires' Disease: Minimizing the Risk

Legionnaires' is not rare. It is perceived as rare only because most cases are never detected, and not all detected cases are reported to public health authorities. Because under-diagnosis and under-reporting make incidence of the disease difficult to estimate, figures have varied widely.

The (U.S.) Centers for Disease Control and Prevention (CDC), has estimated that the disease infects 10,000 to 15,000 persons annually in the United States. The Occupational Safety and Health Administration, OSHA, estimates that over 25,000 cases of the illness occur each year and cause more than 4,000 deaths.



Legionnaires' is preventable through the use of an active Legionella control program.

What is Legionnaires' disease? Legionnaires' disease is a serious form of pneumonia which kills between 5 and 15 percent of those infected and is caused by Legionella bacteria. It can also cause less serious illness such as Pontiac fever. Illness usually develops three to six days after infection, but may take longer.

How is Legionnaires' disease caught? Legionnaires' disease is caught through breathing in air containing the bacteria in an aerosol that may not be visible.

Legionella bacteria do not appear to multiply below 68 F (20 C) and are killed within a few minutes at temperatures above 140 F (60 C). They may, however, remain dormant in cool water and multiply when temperatures reach a suitable level. Chlorination of water supplies does not guarantee elimination of Legionella bacteria.

Reducing the risk: The risk of Legionnaires' disease can be minimized. Hotels that do not have an active program to control the growth of Legionella bacteria may be negligent in ensuring the safety of its workers, visitors, guests and others.

European Legionnaires' Disease Surveillance Network (ELDSNet) Operating Procedures – Technical Document and ELDS net 14 point plan OSHA.Gov: http://www.osha.gov/dts/osta/otm/legionnaires/disease_rec.html

Hotel Security and Safety Assessment, American Hotel and Lodging Association (AHLA) in collaboration with the US Department of State overseas Security Advisory Council (OSAC).

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Potential risk areas in hotels:

- Showers and taps
- Spa baths, whirlpool baths and hot tubs
- Turkish baths and saunas
- Cooling towers and evaporative condensers
- Ornamental fountains, particularly indoors
- Humidified food displays

Where Legionella bacteria multiply:

- Hot and cold water systems including storage tanks/cisterns
- Any system or part of a system where the water is warm, i.e. between 68 F to 113 F (20 C to 45 C), and particularly when above 86 F (30 C)
- Pipes with little or no water flow (this includes unoccupied rooms)
- Dead legs/redundant pipework where water can stagnate
- Slime (biofilm) and dirt on pipes feeding showers and taps and tank surface
- Rubber and natural fibers in washers and seals
- Flexible hoses and artificial rubber seals
- Water heaters and hot water storage tanks
- Scale and corrosion in storage vessels, pipes, showers and taps

Legionella Safety Checklist

Property _____ Date _____

Person Completing Checklist _____ Position Held _____

Legionella Management

	Yes	No
The property has a formal Legionella prevention and control program.	<input type="checkbox"/>	<input type="checkbox"/>
There is a named person responsible for Legionella Control.	<input type="checkbox"/>	<input type="checkbox"/>
The named person has received specific training in the control of Legionella.	<input type="checkbox"/>	<input type="checkbox"/>
Property water is maintained at a temperature of 122 F to 140 F (50 C to 60 C) for hot taps.	<input type="checkbox"/>	<input type="checkbox"/>
Property operation standards ensure taps and showers in guest rooms are run for 5 minutes at least once a week when they are unoccupied and always prior to occupation.	<input type="checkbox"/>	<input type="checkbox"/>

Shower Heads and Taps

	Yes	No
Shower heads are cleaned at least on a quarterly basis.	<input type="checkbox"/>	<input type="checkbox"/>
Shower heads are kept free from scale.	<input type="checkbox"/>	<input type="checkbox"/>
Cooling towers and associated pipes used in air conditioning systems are cleaned and disinfected at least twice a year.	<input type="checkbox"/>	<input type="checkbox"/>
Cleaning records of the cooling towers and associated pipes are retained.	<input type="checkbox"/>	<input type="checkbox"/>

Water Heaters (Calorifiers) and Filters

	Yes	No
Water heaters are cleaned at least once a year.	<input type="checkbox"/>	<input type="checkbox"/>
Water heaters are disinfected at least once a year.	<input type="checkbox"/>	<input type="checkbox"/>
There is documentation that the hot water system is disinfected with high-level (50mg/l) chlorine for 2 – 4 hours.	<input type="checkbox"/>	<input type="checkbox"/>
System disinfection is done at least annually.	<input type="checkbox"/>	<input type="checkbox"/>
Disinfection is done following any maintenance work on water heaters.	<input type="checkbox"/>	<input type="checkbox"/>
There is documentation that water filters are cleaned regularly (every 1 to 3 months).	<input type="checkbox"/>	<input type="checkbox"/>
Water storage tanks, cooling towers, and visible pipe work are inspected monthly.	<input type="checkbox"/>	<input type="checkbox"/>

Cold Water Tanks

	Yes	No
There is documentation that cold water tanks are inspected at least once a year.	<input type="checkbox"/>	<input type="checkbox"/>
There is documentation that cold water tanks are disinfected with (50mg/l) chlorine at least twice a year.	<input type="checkbox"/>	<input type="checkbox"/>
There is documentation that cold water tanks are cleaned at least on an annual basis.	<input type="checkbox"/>	<input type="checkbox"/>

Fountains and Decorative Features Not applicable

	Yes	No
Fountains and decorative features are regularly cleaned, at least twice per year.	<input type="checkbox"/>	<input type="checkbox"/>
Fountains and decorative features are chlorinated daily with records retained.	<input type="checkbox"/>	<input type="checkbox"/>

Spa Pools (Whirlpool Spas, Jacuzzis and/or Spa Tubs) Not applicable

	Yes	No
Spa pools are continuously treated with either 2 – 3 mg/l chlorine or 3 – 5 mg/l bromine.	<input type="checkbox"/>	<input type="checkbox"/>
The chemical levels of the spa pools are monitored at least 3 times a day.	<input type="checkbox"/>	<input type="checkbox"/>
At least half of the water is replaced each day.	<input type="checkbox"/>	<input type="checkbox"/>
Whole system is cleaned and disinfected at least weekly.	<input type="checkbox"/>	<input type="checkbox"/>
Written records are kept of all water treatment readings such as temperature, pH and chlorine concentrations with corrective measures taken.	<input type="checkbox"/>	<input type="checkbox"/>

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