

Legionnaires' disease: managing the risks associated with chilled water and ice machines in care facilities

Investigations into cases of Legionnaires' disease in South Australia have indicated that the water lines in ice machines and chilled water devices can provide suitable conditions for the growth of *Legionella* bacteria, the organism that causes Legionnaires' disease.

This fact sheet has been developed to inform operators of care facilities such as supported residential facilities (SRFs), retirement villages, residential aged-care facilities, hospitals and respite facilities of recommended protocols for managing *Legionella* risks associated with these machines.

Disease transmission

Legionella bacteria must be inhaled deep into the lungs to cause illness. It is thought that most cases of Legionnaires' disease occur following the inhalation of fine aerosols or airborne mists of water droplets containing the bacteria.

Most people exposed to *Legionella* do not become ill. Legionnaires' disease usually only occurs in the elderly and people with severe chronic disease or suppressed immune systems, smokers and it is more prevalent in men.

It is thought that Legionnaires' disease can occur following micro-aspiration, the unintentional breathing in of small amounts of water from consumed ice or chilled drinking water. Consuming ice or chilled water from these devices is not believed to pose an elevated Legionnaires' disease risk to most people; however, some patients in care facilities are at higher than normal risk of micro-aspiration including the elderly and immune-compromised.

Legionella in ice machines and chilled water dispensing machines

Legionella has been detected in high concentrations in water and ice dispensed from these machines. Cases of Legionnaires' disease in individuals with severely compromised immune systems have been linked to consumption of ice or water from these machines. Warmth generated by the chiller compressor is thought to be responsible for providing temperatures suitable for growth of the bacteria in the incoming cold water lines of these machines.

Chilled water dispensing machines may have a chilled water outlet or a combined tap that dispenses chilled and boiling water. The boiling water from combined devices does not present a *Legionella* risk.

Failure to manage *Legionella* in a care facility constitutes causing a risk to public health, an offence under the *South Australian Public Health Act 2011* (The Act). It is also an offence to not comply with the requirements of the *South Australian Public Health (Legionella) Regulations 2013*.

It is recommended that operators of care facilities that use ice machines and chilled water devices implement protocols to protect high risk patients.

Recommended risk management protocols

Ice and water given to patients should be subject to similar controls applied to other environmental conditions (e.g. air and food quality). Patients provided with increased protection from infection (e.g. HEPA filtered air and low bacteria food) should not be provided with ice or chilled water from these machines.

Ice and chilled water from machines should not be provided to patients with high risk of micro-aspiration and susceptibility to *Legionella*. Instead, pre-boiled tap water should be chilled or frozen in conventional style fridges or freezers for these patients. Ice and chilled water can be provided to other patients from these machines. However, carbon filters should not be used on the inlets of these machines in care facilities.

All internal wetted surfaces of ice and chilled water machines (pipes, tanks and hoses) should be cleaned and disinfected at least once a year (ideally every 3-6 months) to remove any *Legionella*, and other organisms, that may be present. This may require the use of heat and or chemicals. In any case, the machine manufacturer's advice should be sought to determine appropriate cleaning and *Legionella* decontamination methods.

Further information on Legionnaires' disease

Further information is available on SA Health's *Legionella* website:

www.sahealth.sa.gov.au/legionella

For more information

Health Protection Programs
SA Health
Telephone: 08 8226 7100
www.sahealth.sa.gov.au/legionella

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