

Work environment – **Indoor environment**

15.02.02

Legionnaires' disease >

This information bulletin is prepared to provide information about Legionnaires' Disease and advice on reducing the risk of Legionnaires' Disease in the workplace.

Identification

Legionnaires' Disease was first identified after an outbreak of pneumonia among American service veterans attending a convention in Philadelphia in 1976.

The legionella bacterium is mainly found growing in air-conditioning cooling towers and water systems such as water-wash spray booths that are not adequately maintained. These systems can produce an environment suitable for legionella colonization, growth and dispersal into the air.

If an air conditioned system transfers bacteria from a source, eg. a cooling tower, into an indoor workplace, people in the building will be potentially at risk.

Who is most at risk of contracting the disease?

People who are most at risk are the elderly, smokers, heavy drinkers and those with underlying medical problems, eg. Immunosuppressed.

Workers who maintain cooling towers or similar installations are also at risk.

How can you contract Legionnaires' Disease?

Legionnaires' Disease is caused when water droplets containing the legionella bacterium are inhaled.

Exposure to the bacterium will not necessarily lead to disease. However the risk of infection is increased as dose rate increases, or the level of health decreases.

The transmission of Legionnaires' Disease from person-to-person or by other means has, to date, not been documented to occur. Neither does drinking and washing in water containing low numbers of legionella appear to result in infection.

Symptoms of Legionnaires' Disease

Legionnaires' Disease appears as a form of pneumonia and has an incubation period of about 2 -10 days. It is usually associated with a low attack rate (up to 5%), but then has a mortality rate of 15-20%. Symptoms include high fever, chills, headache and severe muscular ache. This is followed by a dry cough and difficulty with breathing.

The diagnosis of Legionnaires' Disease is confirmed in a laboratory by culturing legionella bacterial colonies from samples of sputum, bronchial washing, lung tissue or blood.

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Can Legionnaires' Disease be prevented?

We must accept that many water systems are colonized with legionella and it will rarely be possible to completely and permanently prevent this. The task is to prevent multiplication, production of aerosol mists and therefore, the chance of inhalation of the water droplets. This can be achieved by:

- carrying out inspection of water systems and cooling towers every month for build-up of slimes and micro organisms and regularly treating them to keep them clean;
- eliminating the drift of potentially contaminated droplets from cooling towers with adequate shrouding;
- providing appropriate respiratory protection to workers inspecting or working in or on cooling towers where aerosols might be created and inhaled.

The Territory Health Service - Environmental Health Department have testing facilities and can be contacted for more technical information.

Treating Legionnaires' Disease

Legionnaires' Disease is a pneumonia type illness, and often requires hospitalization. Prompt and appropriate antibiotic therapy is effective in reducing the mortality rate.

Information on maintaining air conditioning systems can be found in Australian / New Zealand Standard [AS/NZS 3666](#).

NT WorkSafe >

GPO Box 1722

Darwin NT 0801

Telephone: 1800 019 115
Facsimile: (08) 8999 5141
Email: ntworksafe@nt.gov.au
Website: worksafe.nt.gov.au