What is Legionnaires' disease (Legionellosis)?

Legionnaires' disease (Legionellosis) is a serious and sometimes fatal form of pneumonia. More cases are now being identified because of recent improvements in testing for Legionnaires' disease.

Legionnaires' disease is caused by infection with *Legionella* bacteria. There are over forty strains of Legionella but few cause disease in humans. The strains that are most commonly associated with human cases are *Legionella pneumophila* and *Legionella longbeachae*.

Although not all cases of Legionnaires' disease are severe, up to ten percent of cases are fatal.

How do you get Legionnaires' disease?

*Legionella* bacteria are found naturally in the environment and thrive in warm water and warm damp places. They are commonly found in lakes, rivers, creeks, hot springs and other bodies of water, and also in soil and potting mix.

People usually get Legionnaires' disease by breathing in *Legionella* bacteria in very fine droplets of water called aerosols.

Man-made water systems sometimes provide environments that let *Legionella* bacteria increase to large numbers. *Legionella* can then be spread by aerosols. These man-made systems include showers, spa pools, fountains, and also cooling towers associated with air conditioning and
industrial cooling processes.

The evaporative units sometimes used in home air conditioning units have not been known to cause Legionnaires' disease.

Some cases of Legionnaires' disease have been associated with the use of potting mix. Gardeners should take special precautions when working with potting mix.

You cannot catch Legionnaires' disease from another person, nor from drinking water contaminated by *Legionella* bacteria.

**What are the symptoms of Legionnaires' disease?**

The early symptoms of Legionnaires' disease are often like a severe 'flu' infection, and include:

- Fever (up to 40ºC).
- Headache (often severe).
- Shortness of breath.
- Sometimes a dry cough.
- Chills, muscle aches and pains.

In severe cases, other systems of the body may be affected, leading to diarrhoea, vomiting, mental confusion and even kidney failure.

**How long does it take for Legionnaires' disease to develop?**

From the time of infection with *Legionella* bacteria, it takes 2-10 days for symptoms to appear. In most cases, symptoms begin after 5-6 days.

**Who is at risk for Legionnaires' disease?**

Most people exposed to *Legionella* bacteria do not become infected. The risk of disease increases with age, especially amongst smokers. People
with chronic medical conditions that weaken the body's immune system (such as cancer, lung disease, diabetes, and transplant recipients) may be at increased risk of Legionnaires' disease.

Young people, especially children, rarely get Legionnaires' disease. Pregnant women are not at any greater risk than the general population.

**How is Legionnaires' disease diagnosed?**

For people who already have symptoms of the infection, there are three main tests for diagnosing Legionnaires' disease. These are:

- **Sputum tests** - where *Legionella* bacteria are grown from sputum (lung secretions).

- **Blood tests** - where there is an increase in the body’s reaction to *Legionella* in two blood specimens taken at least four weeks apart.

- **Urine test** - where a urine specimen is tested for signs of *Legionella* infection (for the *Legionella pneumophila* serogroup 1 strain only). Urine tests cannot confirm Legionnaires' disease until at least three days after symptoms begin. There are no tests to show that somebody is incubating Legionnaires' disease, so there is no point in being tested unless you are ill.

**How is Legionnaires' disease treated?**

Most people with Legionnaires' disease need to be treated in hospital. Some people need intensive care treatment. Legionnaires' disease is treated with antibiotics, such as erythromycin and ciprofloxacin. The earlier that treatment is begun, the better the outcome.

**What happens when a case of Legionnaires' disease occurs?**

Doctors and laboratories must notify the Department of Human Services whenever a case of Legionnaires' disease occurs. Health officers investigate every case and may check a variety of places where the disease may have been contracted.

Workplaces are routinely visited. In some circumstances public buildings, shopping centres, and even homes are visited to make sure that there is
no continuing risk of other people contracting Legionnaires' disease.

Samples are collected from possible sources of infection and tested for *Legionella*. The results of *Legionella* testing can take at least eight days, as the bacteria are usually slow to grow.

**Can you prevent Legionnaires' disease?**

Owners of premises that have **cooling towers, public spa pools, or warm water systems** (for example in hospitals) are required by law to conduct regular maintenance of this equipment to reduce the risk of *Legionella* contamination and spread. Maintenance of cooling towers and spa pools usually includes chemical disinfection.

**Smokers** are more likely to get Legionnaires' disease and can reduce their risk by quitting smoking.

There is **no vaccine** currently available for the prevention of Legionnaires' disease.

Because *Legionella* bacteria are commonly found in **soils and potting mix**, gardeners should:

- Always wear a face mask when using compost and potting mix.
- Open potting mix bags carefully to avoid breathing in airborne dust.
- Moisten the contents of potting mix bags to avoid creating dust.
- Always wear gloves when working with potting mix.
- Always wash hands after handling potting mix.

When handling compost and potting mix, always follow the manufacturer's instructions.

**Relevant publications by the Department of Human Services**

- [A Guide to Developing Risk Management Plans for Cooling Tower Systems](file:///Q|/phd/legionnaires/thefacts.htm)
Legislation (Law) about Legionnaires' disease

- **Health (Infectious Diseases) Regulations 2001**
- **Building (Legionella) Act 2000**
- **Building (Cooling Tower Systems Register) Regulations 2001**
- **Building (Legionella Risk Management) Regulations 2001**
- **Health (Legionella) Regulations 2001**
- **Plumbing (Cooling Towers) Regulations 2001**

Further Information

Language assistance may be gained through the Translating and Interpreting Service (TIS), for the cost of a local call, on 131450.

For further information contact:

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