

Information sheet about pathogens in humans

What are legionella?

Legionella are bacteria that usually cause pneumonia in humans. Legionella are common environmental microbes that exist around the world and occur naturally in moist biotopes and waterways in small numbers. It is particularly relevant for humans that they occur in technical water systems, such as drinking water installations, cooling plants and sewage treatment plants.

Legionella proliferate best at temperatures between 25 °C and 45 °C. They are usually killed off at temperatures above 60 °C and typically do not reproduce at temperatures below 20 °C. Artificial water systems such as water pipes in buildings offer an environment that fosters the growth and spread of the pathogen if temperatures are right.

How are legionella transmitted?

The pathogens are transmitted through finely atomised, misted water (aerosols). The aerosols containing the pathogen can spread through the air and be inhaled. Possible sources of infection include showers, whirlpools, humidifiers or taps, as well as industrial plants such as evaporative coolers and sewage treatment plants.

When drinking water containing pathogens, there is usually no risk of infection, as the legionella in the stomach are killed by stomach acid. In rare cases, the infection occurs when contaminated water accidentally enters the trachea when swallowed.

Legionella are not transmitted from person to person.

What symptoms do the sufferers show?

Legionella cause two different symptoms in people:

Legionnaires' disease

Legionnaires' disease is a severe form of pneumonia (legionella pneumonia). Symptoms include coughing, chills, headaches, feeling severely ill and a high fever. This can also lead to stomach pain, diarrhea or confusion. Treatment with suitable antibiotics offers a good chance of recovery. If left untreated or if treated incorrectly, the pneumonia will often take a severe course and can become life-threatening.

Pontiac fever

Pontiac fever manifests itself in the form of a feverish infection without pneumonia. Most often, mild flu-like symptoms occur as well as headaches, chest pain, aching limbs and a dry cough. Pontiac fever usually clears up itself without treatment within a few days.

What's the incubation period – and how long are you contagious?

The first symptoms of Legionnaires' disease occur about 2 to 10 days after contact with the pathogen, usually 5 to 6 days.

The time between infection and the onset of Pontiac fever is about 5 hours to around 3 days, usually 8 to 24 hours.

Irrespective of the symptoms, sufferers are not contagious.

Who is particularly at risk?

People who smoke are particularly at risk of developing Legionnaires' disease. In addition, people with a weakened immune system are particularly at risk. Medications that suppress the body's immune system can also contribute to this. Underlying diseases such as diabetes or chronic heart and lung diseases also increase the risk of illness or a severe case of the disease. Older people are particularly often affected as are middle-aged adults. Men fall ill more often than women.

What should I do if I fall ill?

- ▶ Contact your doctor if you suspect that you have an infection. When legionella-induced pneumonia occurs, it is important to identify the pathogen early and to treat it with the appropriate antibiotics.
- ▶ Since there is generally no fear of transmission from person to person, no special hygiene measures are required beyond basic hygiene. Only very rarely will you contract the disease if you stand close to a person. The onset of the disease depends on individual factors that are not well understood.
- ▶ The health authority will usually contact affected persons to help with a survey and possibly sampling to find out if a possible source of infection can be identified, so that measures can be taken to prevent further diseases in the future.
- ▶ In the case of Pontiac fever, treatment that relieves the symptoms is usually sufficient.

How can I protect myself?

There are special technical rules for drinking water installations. Water samples taken from large commercial facilities, such as apartment blocks and public buildings, are examined on a regular basis. If a certain concentration of legionella is detected, this must be reported to the health authority. It will examine whether countermeasures need to be taken.

The following safety measures can help prevent mass reproduction of legionella in the home:

- ▶ Water pipes should be used regularly and unused sections in the pipe system should be avoided.
- ▶ In a house with a central water heating system and a central hot water tank, the controller temperature for the drinking water heater should be set to at least 60 °C. Water temperatures in the pipe system should never drop below 55 °C at any point.
- ▶ If drinking water in cold water pipes is heated due to a lack of insulation or by the summer heat, legionella will also proliferate there. Cold water pipes should therefore be thermally insulated and used regularly.
- ▶ Water atomizing devices such as humidifiers or inhalers should be cleaned thoroughly on a regular basis and kept dry.

There is no vaccination against legionella. The most important individual protection measure is not to smoke.

Where can I get more information?

Your local health authority can provide you with further advice. Since legionella infections must be reported, it has information on the latest situation and a wealth of experience in dealing with the disease.

More (specialist) information is also available online from the Robert Koch Institute (www.rki.de/legionellen).

For more information on how hygiene can guard against infection, please visit the Federal Centre for Health Education website (www.infektionsschutz.de).



STEMPEL

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