



LEGIONELLA

A WHO collaborating centre and ILO / CIS national centre

WHAT IS *LEGIONELLA*?

Members of the genus *Legionella* are bacteria that are commonly present in warm, humid environments. There are more than forty known *Legionella* species. Although the majority of infections are caused by *L. pneumophila*, at least half the other species have also been implicated in disease.



WHERE IS *LEGIONELLA* FOUND?

Legionella species are found in most natural and man-made water sources, including municipal water, at low levels that are not harmful to healthy individuals. It is in systems that store water where these bacteria can grow and multiply to dangerous levels.

WHAT CAN CAUSE *LEGIONELLA* TO MULTIPLY IN THESE SYSTEMS?

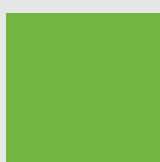
- Temperatures between 20°C and 45°C
- Pipes that are old and contain areas of low flow (deadlegs)
- Plumbing materials that are made of certain materials, eg. rubber and natural fibres in washers and seals
- Water heaters and hot water storage tanks
- Scale, sediment and biofilm in plumbing and distribution systems



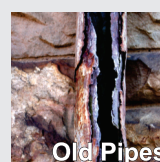
Garden Features



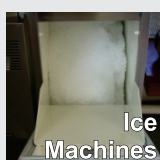
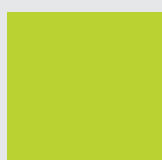
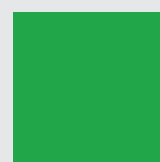
Crop
Irrigation
Systems



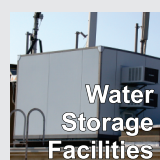
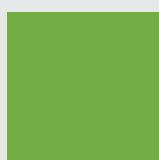
Cooling
Towers



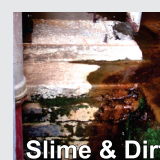
Old Pipes



Ice
Machines



Water
Storage
Facilities



Slime & Dirt

WHY IS IT IMPORTANT TO TEST FOR LEGIONELLA?

Infections caused by *Legionella* species are collectively known as legionellosis and include two types of infection, Legionnaires' disease and Pontiac fever. Legionnaires' disease is a very serious condition that usually starts with fever, chills, headache and muscle pain which is followed by a dry cough and breathing difficulties that may develop into severe pneumonia. Although Legionnaires' disease can be fatal, it can be treated successfully if the correct antibiotics are used for therapy early on in the disease. The second type of infection, Pontiac fever, is less severe and usually does not require treatment with antibiotics.

If a patient suspects that he/she may have been exposed to *Legionella* bacteria in the 2-10 days prior to the symptoms developing, it is very important to mention this to his/her health care practitioner so that the appropriate antibiotics can be prescribed timeously.

HOW CAN YOU GET LEGIONNAIRES' DISEASE?

Breathing in air containing the *Legionella* bacteria in an aerosol that is not visible to the naked eye is the most common way of contracting Legionnaires' disease. These aerosols can be formed from fine droplets generated from water containing the bacteria, for example by running a tap or shower, from saunas, cooling towers and evaporative condensers (even if they are situated on the roof of a building), or from breathing in air from a contaminated air conditioning system.

AM I LEGALLY REQUIRED TO TEST FOR LEGIONELLA?

According to the South African Regulations for Hazardous Biological Agents (HBA), promulgated in 2001 as part of the Health and Safety Act (Act No. 85 Of 1993) every employer has a legal responsibility to test the water distribution systems in their facilities for the presence of *Legionella* bacteria every two years.

WHAT DOES THE NIOH HAVE TO OFFER?

The Waterborne Pathogens Unit (Immunology/Microbiology Section) offers the following services related to *Legionella* bacteria:

- Assistance with reporting of cases
- Consultations
- Facility walkthroughs, risk assessments and follow-up assessments
- Sample collection and testing
- Recommendations
- *Ad hoc* presentations as part of awareness initiatives



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