
Leptospirosis

Summary

- Leptospirosis is a disease spread from animals to humans, caused by infection with the bacteria *Leptospira*.
 - The most common sources of infection are contact with infected animal urine and/or contaminated soil or water. Outbreaks may occur following periods of heavy rain or flooding.
 - Leptospirosis occurs worldwide, but is more common in tropical and sub-tropical areas with high rainfall. In Australia, Leptospirosis is most common in north-eastern NSW and Queensland.
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What is leptospirosis?

Leptospirosis is a disease that spreads from animals to humans, caused by infection with the bacteria *Leptospira*.

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What are the symptoms of leptospirosis?

People with leptospirosis have a wide range of symptoms:

- flu-like symptoms – such as fever, chills, headaches, muscle aches (especially in the legs) and red eyes
- vomiting
- diarrhoea
- abdominal pain
- cough
- sore throat.

The illness generally lasts from a few days to three weeks, but may occasionally last longer.

Between 5 and 15 per cent of infected individuals may develop severe symptoms and need to go to hospital. In this group of people, the disease can be fatal.

Severe symptoms include:

- jaundice (yellow skin and eyes)
- kidney failure
- liver failure
- bleeding into skin and mucous membranes
- breathing problems
- heart disease
- meningitis (inflammation of the membranes surrounding the brain and spinal cord)

Symptoms of leptospirosis generally start around ten days after exposure, but may start anywhere between two and twenty-nine days after exposure.

Where does leptospirosis come from?

Many mammals carry the *Leptospira* bacteria without showing symptoms of the disease. In Australia, this includes livestock (cattle, pigs, sheep, goats, deer), pets (dogs, horses, cats), wildlife (native animals, such as possums) and pests (rats and mice).

Soil, mud and water contaminated by the urine of infected animals can harbour the bacteria. Warm humid climates, marshy/wet areas and regions with alkaline soils allow the bacteria to survive in the environment.

The most common source of human infection in Victoria comes from working with cattle, particularly on dairy farms. Other common sources of infection include overseas travel where people participate in recreational activities associated with rivers, lakes, waterways and marshy areas.

How does leptospirosis spread?

Human infection can occur directly from infected animals (through contact with urine, milk, vaginal discharge, placenta and aborted foetuses) or indirectly through contact with contaminated soil and water.

The bacteria from infected animals or environmental sources can enter the body by three main routes:

- Direct contact – Bacteria enters through a break in the skin surface or intact mucus membranes, for example, an open wound exposed to contaminated water or soil.
- Eating or drinking – for example, ingestion of bacteria when eating contaminated food, or from unwashed contaminated hands.
- Inhalation – for example, breathing in aerosolised urine from infected cattle or rats and mice.

Although person-to-person transmission is rare, it has been documented previously through sexual intercourse and breastfeeding.

Recurrent infections with different strains of the bacteria can cause repeated illness in humans.

Am I at risk of leptospirosis?

There is a risk of infection for people who have had contact with infected animals or soil/water where the bacteria are present.

Occupations at higher risk of infection include:

- farmers (especially dairy farmers)
- veterinarians
- abattoir workers.

Activities associated with a higher risk of infection include:

- swimming
- other water sports (e.g. white water rafting)
- camping
- gardening.

Diagnosis of leptospirosis

Leptospirosis is generally diagnosed by a blood test. Two blood tests (taken more than 2 weeks apart) are often required to make a diagnosis.

What is the treatment for leptospirosis?

Treatment with appropriate antibiotics as early as possible in the course of the illness is recommended to avoid the development of severe disease.

There is no vaccine available for use in humans.

How can I avoid getting leptospirosis?

General measures to avoid leptospirosis include:

- Avoid contact with water which may be contaminated by animal urine.
- Wear appropriate footwear when outdoors, especially when walking in mud or moist soil.
- Cover wounds and abrasions with waterproof dressings if contact with contaminated animal urine, soil or water is likely.
- Control rodents by cleaning up rubbish and removing food sources that are close to housing.
- Use gloves when gardening.
- Wash hands with soap and water before eating.
- Avoid feeding raw offal to dogs.

For livestock owners and people working with animals:

- Wear personal protective equipment (face mask, gloves, overalls) when working with potentially infected animals, especially if working closely with urine and birth products as the bacterial load is higher in these products.
- Vaccinate cattle, pigs and dogs. Vaccination covers two of the most common strains. Whilst vaccination will prevent disease in animals, it does not prevent excretion of the bacteria.
- Practice good on-farm hygiene to reduce environmental contamination and rodent numbers.
- Prevent livestock contact with contaminated bodies of water and with neighbouring livestock or wildlife that could potentially be infected (for example, through fencing).
- Purchase Leptospira-free livestock.

Where to get help

- Your GP
- DHHS Communicable Disease Prevention & Control: 1300 651 160

This page has been produced in consultation with and approved by:

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