

Leptospirosis is a bacterial disease of humans and animals. It is caused by *Leptospira* bacteria that are excreted in the urine of infected animals. Leptospirosis is treated with antibiotics.

Leptospirosis

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What is leptospirosis?

Leptospirosis is a bacterial disease of humans and animals. It is caused by *Leptospira* bacteria that are excreted in urine from infected animals including mice, rats, cattle, pigs and dogs.

What are the symptoms?

- Common initial symptoms of leptospirosis include fever, severe headache, sore muscles, chills, vomiting and red eyes. Symptoms usually come on suddenly. These symptoms can mimic other diseases, such as influenza, and diagnosis is often difficult. People with leptospirosis may have some, or all of these symptoms. Some people can also develop long lasting effects following leptospirosis infection.
- Some people with leptospirosis go on to develop severe disease. This can include kidney failure, jaundice (yellow colouration of the skin and eyeballs which indicates liver disease), and bleeding and respiratory complications. Other complications including meningitis (inflammation of the lining of the brain and spinal cord) can occur. Most people who develop severe disease require hospitalisation and severe leptospirosis can sometimes be fatal.
- Symptoms usually develop after 5 to 14 days (can range from 2 to 30 days) following infection and last from a few days to 3 weeks or longer.

How is it spread?

- *Leptospira* bacteria usually enter the body through skin cuts or abrasions, and occasionally through the lining of the mouth, nose, and eyes.
- Infections are usually associated with exposure to water, soil or mud contaminated with the urine from infected animals.
- Many different animals can harbour *Leptospira* bacteria in their kidneys.
- Eating contaminated food or drinking contaminated water has occasionally been responsible for transmission.
- Leptospirosis is not generally spread from person to person.

Who is at risk?

- People at risk are those who have close contact with animals or who are exposed to water, mud, soil, or vegetation that has been contaminated with animal urine.
- Cases of leptospirosis can increase after tropical cyclones or floods when people may have to wade through contaminated water or use it for drinking or bathing. Activities that increase your risk of leptospirosis include:
 - Drinking from potentially contaminated water sources, including floodwater, streams, rivers, or unsafe tap water.
 - Bathing or wading in floodwater or contaminated fresh water, especially when putting your head underwater, or if you have an open wound or scratch.

- Eating food that has been exposed to contaminated water or potentially urinated on by rodents.
- Certain occupations are at higher risk of infection, including those who work outdoors or with animals. At risk groups include farmers (especially sugar cane and banana farmers), fish workers, sewer workers, veterinarians and abattoir workers.
- People engaging in recreational activities that involve contact with potentially contaminated water or soil can be at risk of leptospirosis. This includes camping, gardening, bushwalking, white water rafting, and other water sports.
- Although leptospirosis is relatively rare in Australia, it is more common in warm and moist regions such as north-eastern NSW and Queensland.
- Because there are many different strains of *Leptospira* bacteria, it is possible for someone to be infected with another strain and develop leptospirosis again.

How is it prevented?

There are a number of ways to prevent leptospirosis.

For people who work with animals:

- Cover cuts and abrasions with a waterproof dressing.
- Wear protective clothing (for example, gloves, eye shields or goggles, aprons and boots) when working with animals that could be infected, especially if there is a chance of contact with urine.
- Wear gloves when handling cattle placentas or stillborn or aborted calves or carcasses.
- Shower after work and wash and dry hands after handling potentially infected material.
- Do not eat or smoke while handling animals that may be infected. Wash and dry hands before smoking or eating.

For other people:

- Treat water to make it safe to drink by boiling or using an appropriate chemical treatment, especially if collecting from a source that could be contaminated by floodwater runoff.
- Avoid swimming or wading in water, or swallowing floodwater or any fresh water source where there is a possibility of contamination with animal urine or floodwater runoff.
- Cover cuts and abrasions with waterproof dressings, especially before coming into contact with soil, mud or water that may be contaminated with animal urine.
- Wear waterproof protective clothing and footwear outdoors, especially when walking in mud or moist soil.
- Wear gloves when gardening.
- Control rodents by cleaning up rubbish and removing food sources that are close to housing.
- Avoid eating food that rodents may have had access to.
- Do not feed raw offal to dogs.
- Wash hands with soap, as *Leptospira* bacteria are quickly killed by soap, disinfectants, and drying.

How is it diagnosed?

A doctor can diagnose leptospirosis through a blood test. The bacteria can also sometimes be detected in cerebrospinal fluid (the fluid lining the brain and spinal cord) and urine. Often, two blood tests taken more than two weeks apart are required to make the diagnosis.

If you become sick in the weeks following possible exposure to animal urine or a contaminated environment, it is important to tell your doctor about the exposure.

How is it treated?

Leptospirosis is commonly treated with antibiotics such as doxycycline or penicillin. Because the testing can take some time and the disease can be severe, a doctor may choose to start antibiotics prior to confirming the diagnosis with tests. Antibiotic treatment is thought to be most effective if started early in the disease. However, some people recover spontaneously without antibiotics.

What is the Public Health response?

Laboratories are required to notify cases of leptospirosis to the local public health unit. Where cases may be linked, public health staff will investigate to determine common exposures and ways to contact the source of infection.

For further information please call your local public health unit on 1300 066 055 or visit the New South Wales Health website www.health.nsw.gov.au