

L E P T O S P I R O S I S

WHAT IS LEPTOSPIROSIS?

Leptospirosis is a bacterial disease of humans and animals. It is caused by *leptospira* bacteria that are found in infected animal urine and animal tissues.

WHAT ARE THE SYMPTOMS?

Common initial symptoms of leptospirosis are fever, severe headache, sore muscles, chills, vomiting, and red eyes. These symptoms can mimic other diseases, such as influenza, and diagnosis is often difficult. Some people do not have all of these symptoms.

Some people with leptospirosis go on to develop severe disease. This can include Weil's disease, which is kidney failure, jaundice (yellow colouration of the skin which indicates liver disease), and haemorrhage into skin and mucous membranes. Meningitis (inflammation of the lining of the brain) and bleeding in the lungs can also occur. Most people who develop severe disease require hospitalisation and severe leptospirosis can sometimes be fatal.

WHAT ARE THE LONG-TERM EFFECTS?

Recovery from leptospirosis infection can be slow. People can have a chronic-fatigue-like illness that lasts for months. Others can have persistent headache or depression. Occasionally the bacteria can persist in the eyes and cause chronic eye inflammation.

HOW IS IT TRANSMITTED?

Leptospira bacteria usually enter the body through skin cuts or abrasions, and occasionally through the lining of the mouth, nose, and eyes. Many different animals can harbour *leptospira* bacteria in their kidneys. Transmission can occur after contact with infected animal urine or flesh. Soil, mud, or water that has been contaminated with animal urine can be the source of infection. Eating contaminated food or drinking contaminated water has occasionally been responsible for transmission.

WHAT ANIMALS ARE COMMONLY AFFECTED?

Many different mammals can carry *leptospira* bacteria. In Australia, these are most commonly rats and mice, dogs, cattle, native animals, pigs (both domestic and feral), horses, cats, and sheep. Infected animals may have symptoms of the disease or may be completely well.

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.

Some occupations are at higher risk (for example: farmers, vets, abattoir workers, and sugar cane and banana farmers). Some recreational activities that involve contact with contaminated water or soil can also allow leptospirosis to be transmitted (for example: 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 northeastern NSW and Queensland. About 200 cases are diagnosed nationally each year, although there are likely to be many more undiagnosed cases. Men are affected more often than women.

HOW IS IT DIAGNOSED?

A doctor may suspect leptospirosis in someone who develops symptoms usually one to two weeks after exposure. Confirmation of leptospirosis is usually by a blood test that shows exposure to *leptospira* bacteria. In general, two blood tests taken more than two weeks apart are required to make the diagnosis. Occasionally, the bacteria can be grown from blood, cerebrospinal fluid, and urine.

IS THERE A TREATMENT?

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.

HOW CAN LEPTOSPIROSIS BE 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;
- Vaccinate livestock as recommended by your vet.

For other people:

- Avoid swimming in water where there is a possibility of contamination with animal urine.
- 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 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.
- Do not feed raw offal to dogs.
- Wash hands with soap, as *leptospira* bacteria are quickly killed by soap, disinfectants, and drying.

WHAT DO I DO IF I BECOME SICK?

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.

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IS THERE A VACCINE?

There is no human vaccine against leptospirosis licensed for use in Australia. Vaccines are available to prevent leptospirosis in animals (cattle, pigs and dogs) but vaccinated animals are still susceptible to other strains of the organism that are not covered by the vaccine.

CAN SOMEONE BE INFECTED MORE THAN ONCE?

Because there are many different strains of *leptospira* bacteria, it is possible for someone to be infected with another strain and develop leptospirosis again.

ARE PEOPLE WITH LEPTOSPIROSIS INFECTIOUS TO OTHER PEOPLE?

Rarely, leptospirosis can be transmitted from person-to-person (for example, through sexual transmission, and transmission in breast milk). The *leptospira* bacteria can be transmitted in urine for months following infection.

For more information contact your doctor, local public health unit, or community health centre: See under NSW Government at the front of the White Pages.

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