



Leptospirosis affects people and animals



Leptospirosis is caused by the bacteria *Leptospira interrogans* and has many *Leptospira* strains, or serovars, that can infect a variety of wild and pet animal species worldwide. Picture: <https://urgentpetcareomaha.com>

A killer in our midst

LEPTOSPIROSIS is a disease that is caused by spirochete bacteria in the genus *Leptospira*. There are 10 pathogenic species, and more than 250 pathogenic serovars.

While leptospirosis occurs worldwide, it is more common in tropical or subtropical climates and very much common in our country.

During an outbreak last year January, Fiji recorded a total of 98 cases in a five week period.

Outbreaks of leptospirosis tend to occur after heavy rainfall or flooding in endemic areas, especially areas with poor housing and sanitation conditions.

How is it spread

The bacteria that cause leptospirosis are spread through the urine of infected animals, which can get into water or soil and can survive there for weeks, even months.

Many different kinds of wild and domestic animals carry the bacterium.

These can include, but are not limited to:

- Cattle;
- Pigs;
- Horses;
- Dogs;
- Mongoose;
- Rodents; and
- Wild animals.

When these animals are infected, they may have no symptoms of the disease.

Infected animals may continue to excrete the bacteria into the environment continuously or every once in a while for a few months up to several years.

- Humans can become infected through:
- Contact with urine (or other body

fluids, except saliva) from infected animals;

- Contact with water, soil, or food contaminated with the urine of infected animals;

The bacteria can enter the body through skin or mucous membranes (eyes, nose, or mouth), especially if the skin is broken from a cut or scratch; and

Drinking contaminated water can also cause infection. Outbreaks of leptospirosis are usually caused by exposure to contaminated water, such as floodwaters. Person to person transmission is rare.

Signs and symptoms

In humans, Leptospirosis can cause a wide range of symptoms, including:

- High fever;
- Headache;
- Chills;
- Muscle aches;
- Vomiting;
- Jaundice (yellow skin and eyes);
- Red eyes;
- Abdominal pain;
- Diarrhoea; and
- Rash.

Many of these symptoms can be mistaken for other diseases. In addition, some infected persons may have no symptoms at all.

The time between a person's exposure to a contaminated source and becoming sick is two days to four weeks. Illness usually begins abruptly with fever and other symptoms. Leptospirosis may oc-

cur in two phases:

After the first phase (with fever, chills, headache, muscle aches, vomiting, or diarrhoea) the patient may recover for a time but become ill again.

If a second phase occurs, it is more severe; the person may have kidney or liver failure or meningitis.

The illness lasts from a few days to three weeks or longer. Without treatment, recovery may take several months.

Diagnosis

The clinical diagnosis of leptospirosis should be based on an appropriate exposure history combined with any of the protean manifestations of the disease.

Returning travellers from endemic areas usually have a history of recreational freshwater activities or other mucosal or percutaneous contact with contaminated surface waters or soil.

For non-travellers, recreational water contact and occupational hazards that involve direct or in-

direct animal contact should be explored. Otherwise bloods, blood culture and urine samples are collected for testing.

Treatment

Early treatment may decrease the severity and duration of disease.

In patients with a high clinical suspicion of leptospirosis, initiating antibiotic treatment as soon as possible without

waiting for laboratory results is recommended.

For patients with mild symptoms, doxycycline is the drug of choice (100mg orally, twice daily), if not contraindicated.

Other options include azithromycin (500mg orally, once daily), ampicillin (500-750mg orally, every six hours), amoxicillin (500mg orally, every six hours).

For patients with severe disease, IV penicillin is the drug of choice (1.5 MU IV, every six hours), and ceftriaxone (1g IV, every 24 hours) can be equally effective.

How do I reduce my risk of catching Leptospirosis?

The risk of acquiring leptospirosis can be greatly reduced by not swimming or wading in water that might be contaminated with animal urine, or eliminating contact with potentially infected animals.

Protective clothing or footwear should be worn by those exposed to contaminated water or soil because of their job or recreational activities.

To avoid becoming infected:

- You must store your food safely away from animals;

- You must always wear protective clothing and protective footwear around animals and agricultural areas; and

- Never swim in contaminated waters.

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