



Leptospirosis

Disease Fact Sheet

What is leptospirosis and what are its symptoms?

Leptospirosis is a zoonotic (transmitted from animals to humans) disease of worldwide distribution that is quite uncommon in Wisconsin. It is caused by several strains of a bacterium called *Leptospira*. Illness can range from mild to severe. The illness is often characterized by the abrupt onset of fever, chills, myalgia (muscle pain), and headache, and may include conjunctivitis, abdominal pain, vomiting, diarrhea, and skin rashes. Less frequently, it can result in meningitis, liver or kidney problems, pulmonary involvement or mental confusion. Severe cases occur more commonly in older people and can result in death.

How is it spread?

Many species of wild and domestic animals (including dogs, cattle, horses, swine, rodents, raccoons and deer) are susceptible to leptospirosis and can excrete the bacteria in their urine. Their urine can then contaminate water, moist soil or vegetation with the *Leptospira* bacteria. Humans can acquire the infection if these contaminated materials contact abraded skin, mucous membranes, or are ingested. Infected humans can also pass the bacteria in their urine, so person-to-person transmission is possible but rare.

Who is at risk of contracting leptospirosis?

Although all people are susceptible, this uncommon infection occurs mainly in those whose occupation brings them into contact with animals or with material contaminated with animal urine. Farmers, veterinarians, slaughterhouse workers, sewer workers and miners are at greater risk of exposure. Although rare, exposures can also occur during recreational activities such as camping or swimming, when there may be contact with or ingestion of contaminated water. Leptospirosis occurs most often in the summer and in warm climates, and is common in Central America and Hawaii.

How is leptospirosis diagnosed?

Following symptom onset (usually 5 to 14 days after exposure - with a range from 2 to 30 days) culturing the *Leptospira* bacterium from body fluids (first 7 days), from cerebrospinal fluid (days 4 to 10) or from urine (after the 10th day), using special media can make the diagnosis. Diagnosis can also be made by detection of rising antibody titers using specific tests such as the microscopic agglutination test (MAT). An ELISA test that detects IgM antibody may have greater sensitivity earlier in infection than other test methods. Because of non-specific signs and symptoms during early infection, leptospirosis is frequently not considered as a diagnosis until later in illness. This can delay outbreak recognition and disease control.

What is the treatment for leptospirosis?

Mild infections can be treated with oral doxycycline, while more severe infections generally require intravenous penicillin. Prompt specific treatment, as early in the illness as possible, is essential. Some severely ill patients may require kidney dialysis.

If someone has had leptospirosis previously, can they become re-infected?

Once a person has leptospirosis, they will be immune to another infection with that same strain of *Leptospira*. However, infection can occur with a different strain and illness may again result.

What can be done to prevent the spread of leptospirosis?

For people in high-risk occupations, the use of protective clothing, boots and gloves will minimize exposure. Similar protection should also be worn when disposing of dead animals and when gutting (cleaning) animal carcasses. Recognizing and avoiding potentially contaminated water and soil during recreational activities, and controlling rodents in areas where humans and domestic animals live, can also reduce the risk of exposure. If you have open cuts or sores, avoid swimming or wading in freshwater streams, ponds or lakes. Avoid taking water into your mouth when swimming in freshwater streams, ponds or lakes. Do not drink stream, pond or lake water without boiling, filtering or chemical treatment. Drain areas that have stagnant or standing water.