

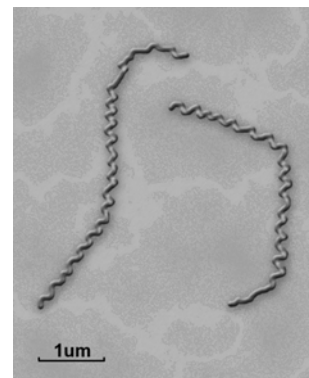
## Weil's disease (Leptospirosis)

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Weil's disease is a form of a bacterial infection also known as Leptospirosis that is carried by animals, most commonly in rats and cattle. It can be caught by humans through contact with rat or cattle urine, most commonly occurring through contaminated fresh water. Although human infection in the UK is minimal it is still worth taking some preventative measures to decrease the possibility of contracting it.

### What is it?

Weil's disease is a secondary phase of a form of a bacterial infection also known as Leptospirosis. Leptospirosis can infect almost any animal where it is harboured in the kidneys, but most commonly it is found in rats and cattle, and is spread by their urine. It is not known to cause any noticeable illness in rats, so populations are unaffected by high levels of infection. It is one of the most widespread zoonosis (disease spread from animals to humans) in the world, where it is most common in tropical and subtropical environments. Those who participate in water sports, come into contact with untreated water, and work in or near water are at a higher risk than others as it is most commonly passed to humans through water contaminated by rat urine.



Leptospirosis under the microscope

Image taken from Leptospirosis information Centre <http://www.leptospirosis.org>

### Statistics

According to the Health Protection Agency there are usually less than 40 cases of leptospirosis throughout England and Wales per year reported in humans. In 2006 there were 44 laboratory confirmed cases of leptospirosis in England and Wales. It is more common in countries where the climate is more tropical or subtropical, reported cases for 2005 in Australia were 141, and France, 212. This is worth being aware of if illness occurs after travel.

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Scotland</b>	0	1	1	0	0	0	3	0	2	4	3
<b>England &amp; Wales</b>	22	39	29	41	54	48	54	28	29	41	44
<b>N. Ireland</b>	2	3	4	1	0	0	1	0	1	1	3
<b>UK Total</b>	<b>24</b>	<b>43</b>	<b>34</b>	<b>42</b>	<b>54</b>	<b>48</b>	<b>58</b>	<b>28</b>	<b>32</b>	<b>46</b>	<b>50</b>

(Source: Leptospirosis Reference Laboratory, as shown on Health Protection Agency website)

### Infection

Infection of humans usually occurs where open wounds are immersed in relatively stagnant water contaminated with rat or cattle urine. It can be contracted from contact with any fresh or untreated water including ponds, canals, lakes and rivers, as well as flood waters that are contaminated.

- Those most at risk of infection are open water swimmers who expose their whole body to possible infection.
- Activities that occur in or near fresh water such as fishing, water skiing, sailing and kayaking also present a risk.

- Activities that can cause open wounds or that take place near the water's edge where rat urine is more likely to be found increase the risk of contracting the disease.
- People who have previously had leptospirosis develop immunity to the particular strain that they were infected with and others closely related for up to ten years. They are not immune to other strains and may become infected again if continuing in activities where it is a risk.
- It does not usually result from swallowing water or rat bites.
- The bacteria are unable to survive in salt water, so there is no risk of infection of Weil's disease from swimming in the sea.

The risk of contracting the disease varies according to the size of the local rat population, which unfortunately is very hard to assess. Landowners, local authority environmental health departments, and in agricultural areas, DEFRA, may be able to provide assistance for operators who may need to assess the risk.

## **Symptoms**

Symptoms can occur between 3 and 21 days from the time of infection. There can be two distinct phases of leptospirosis.

### **The first phase**

- Symptoms are similar to those of the flu, including high fever, severe headache, chills, muscle aches, and vomiting, and may also include a rash.
- May last between 3 to 5 days before recovery.
- In mild cases the patient will recover after just the first phase but they can suffer fatigue and depression for some time afterwards.

### **The second phase**

- Initial symptoms will reoccur.
- Further symptoms can vary according to severity and may include jaundice (yellow skin and eyes), red eyes, abdominal pain, and diarrhoea.
- Symptoms can be similar to those of meningitis.
- Severe cases can also cause the failure of kidneys or liver.
- Death can occur due to heart, liver or respiratory failure.

## **Preventative Measures**

The best prevention is to understand where and how Weil's disease can be caught and taking precautions based on this knowledge. If you know you may come into contact with untreated water such as flood waters, canals, ponds and rivers you can reduce the risk of infection by taking the following precautions:

- Cover any open wounds such as cuts and scratches with waterproof plasters.
- Wear protective clothing such as gloves.
- Wash thoroughly and as soon as possible if you have entered the water.
- Assess the risk of the likelihood of contamination if contemplating entering fresh water, particularly be aware of stagnant water.
- Carefully clean any open wounds obtained during time at fresh water.

## **Working near water**

- Employers have a duty to employees to inform them about the risks of their work environment and to decrease the risk as far as is reasonably practicable. This includes PPE provision and policy implementation based on risk assessment.
- Employees that work near water should be provided with a workers card that can be presented to their doctor if symptoms appear. This means they can be diagnosed and treated quickly, reducing the likelihood of severity of infection.

**If symptoms occur**

Seek medical treatment and explain to the practitioner that you have been in contact with open water. If you are an employee, show them your workers card. Early diagnosis and treatment of Leptospirosis can prevent more severe cases of infection.

**Further Information**

HSE Leptospirosis Leaflet <http://www.hse.gov.uk/pubns/indg84.pdf>

Health Protection Agency

[http://www.hpa.nhs.uk/infections/topics\\_az/zoonoses/leptospirosis/gen\\_info.htm](http://www.hpa.nhs.uk/infections/topics_az/zoonoses/leptospirosis/gen_info.htm)

DEFRA [http://www.defra.gov.uk/animalh/diseases/vetsurveillance/az\\_index.htm#l](http://www.defra.gov.uk/animalh/diseases/vetsurveillance/az_index.htm#l)

Patient.co.uk <http://www.patient.co.uk/showdoc/40000444/>

Leptospirosis Information Centre <http://www.leptospirosis.org>

US Centers for Disease Control and Prevention (please be aware this is not a UK information page) [http://www.cdc.gov/ncidod/dbmd/diseaseinfo/leptospirosis\\_g.htm](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/leptospirosis_g.htm)

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