

## Weil's Disease

- Weil's disease is spread by animals including rats and cattle.
- You can be infected via cuts or eyes, nose or throat.
- If you are infected, you have a 1 in 20 chance of dying if not treated promptly.

### Symptoms

- Symptoms usually develop between 7 and 21 days after infection.
- Symptoms include severe headache, chills, muscle aches and vomiting.
- Later symptoms may include:
  - Fever
  - Jaundice
  - Red eyes
  - Abdominal pain
  - Diarrhoea
  - Rash
- If you suspect you are infected, see your GP immediately and give them this e-leaflet.
- Treat with antibiotics as soon as possible.
- Diagnosis confirmed by blood test.

### Prevention

The following measures can help reduce your risk of contracting the disease:

- Cover cuts.
- Wear protective clothing.
- Shower after caving.
- Avoid stagnant or slow-moving water.
- Drinking or diving in contaminated water heightens your chance of infection.

Remember there are other waterborne diseases that you want to avoid, so these measures are wise regardless of the Weil's disease risk.

## BCA Weil's Disease Card

### WEIL'S DISEASE

Weil's Disease is a bacterial infection spread by animal urine which can contaminate cave waters. It enters the body through breaks in the skin or via the eyes, nose, or throat.

The disease kills around 5% of people infected in England and Wales.

Symptoms usually develop 7 to 21 days after initial infection, and resemble common flu. Early symptoms can include: severe headache, chills, muscle aches and vomiting. Later symptoms may include: return of fever, jaundice, red eyes, abdominal pain, diarrhoea, or a rash.

**WEIL'S DISEASE CAN BE A FATAL ILLNESS IF UNTREATED.**

If you become ill after caving and have any of the above symptoms, **CALL YOUR GP IMMEDIATELY**. Tell your doctor you may have been in contact with Weil's Disease and show this card.

**IF SUSPECTED, ADMINISTER ANTIBIOTICS IMMEDIATELY.**

*Information for Doctors:* To confirm illness send a blood sample to the UKHSA's Rare and imported pathogens laboratory using Form P1:

- Tel: 01980 612348
- Form P1: [www.gov.uk/government/publications/rare-and-imported-pathogens-testing-form-to-submit-sample](http://www.gov.uk/government/publications/rare-and-imported-pathogens-testing-form-to-submit-sample)

[british-caving.org.uk/weils](http://british-caving.org.uk/weils)

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## **Leptospirosis and Weil's Disease – More detailed information**

### **Background**

Leptospirosis is an infection that can be transmitted from animals to humans. Leptospirosis is caused by spiral-shaped bacteria of the genus *Leptospira*, which infect a variety of wild and domestic animals. The bacteria exist as several different strains. The bacterium is a naturally aquatic organism found in fresh water, damp soil, vegetation, and mud. It is more common in tropical areas of the world but is also found in temperate areas. In general, leptospirosis is uncommon in the UK.

### **Animal Reservoir**

Almost all animals can be affected by leptospirosis but the commonest sources of infection in the UK are rats and cattle. They can excrete the bacteria in their urine for some time, and spread infection to other animals or humans coming into direct or indirect contact with the urine.

### **Transmission**

An infection may be acquired by direct or indirect contact with infected animal urine, tissues or secretions, or water contaminated with infected animal urine. The bacteria enter the body through cut or damaged skin, but may also pass across damaged or intact mucous membranes, and via the eyes. The main risk groups for leptospirosis in the UK are farm workers and people who have recreational contact with water e.g. canoeists, divers, fishermen, windsurfers, cavers and those who swim in lakes or rivers. About half of infections reported in the UK are acquired through recreational activities. Leptospirosis can also be acquired abroad, particularly in travellers on adventure holidays with water contact, such as rafting or fishing.

### **Occurrence**

There are usually 50-60 cases of leptospirosis reported per year in England and Wales - about one case per million of the population per year. However, two to three people in England and Wales die every year from leptospirosis, which is a 5% risk of death if you catch the disease.

### **Symptoms**

Infection can cause no symptoms at all, a mild flu-like illness, or severe illness, the presentation of which is called Weil's disease, with jaundice and kidney failure. Symptoms usually develop seven to twenty-one days after initial infection, though rarely the incubation period can be as short as two to three days or as long as thirty days.

Leptospirosis is an acute two-phase illness. The symptoms commonly seen during the initial phase are severe headache, chills, muscle aches and vomiting. This phase may resolve without treatment but these symptoms can also be quite severe. In some cases, a second, 'immune' phase (Weil's Disease) may follow with a return of fever, jaundice (yellow skin and eyes), red eyes, abdominal pain, diarrhoea, or a rash.

More severe cases can occur directly from the first phase which is known as Weil's Disease. This can lead to failure of some organs, commonly the kidney and the liver or signs and symptoms of meningitis. Generally, cases will recover fully within two to six weeks but some may take up to three months.

After infection, immunity develops against the infecting strain, but this may not fully protect against infection with unrelated strains. Complete recovery is the usual outcome after leptospirosis and there are unlikely to be any long-term effects.

## **Treatment**

Treatment with antibiotics should be initiated as soon as the diagnosis of leptospirosis is suspected and preferably before the fifth day after the onset of illness.

## **Diagnosis**

The National Leptospirosis Service (NLS) recommend that because many of the symptoms of leptospirosis are similar to those seen in a number of other infections, diagnosis should be based on clinical suspicion and subsequent confirmation by laboratory testing of blood samples. The NLS is the specialist reference laboratory for leptospirosis in the UK, which can be consulted by health care personnel. Contact:

Rare and imported pathogens laboratory (RIPL)

UK Health Security Agency Manor Farm Road  
Porton Down  
Wiltshire  
SP4 0JG

Email [ripl@phe.gov.uk](mailto:ripl@phe.gov.uk)

Telephone 01980 612 348

Leptospirosis is no longer a notifiable disease in the UK, although laboratories will still be expected to report diagnoses.

## **Prevention**

No effective human leptospirosis vaccine is available in the UK. If you come into contact with water or with rats and cattle, these simple precautions can reduce your risk:

- Cover cuts, scratches or sores with a waterproof plaster and thoroughly clean cuts or abrasions received during activities;
- Wear appropriate protective clothing, gloves or protective footwear;
- Wash or shower promptly after caving;
- Avoid stagnant or slow moving water;
- Drinking or diving in contaminated water heightens the risk of catching Weil's disease.

It is unwise to rely on the immunity which might have been gained by a previous infection. And it should be remembered that there are other water-borne diseases which can infect you.

## **Links**

NLS - <https://www.gov.uk/leptospira-reference-unit-services>

WHO - <https://apps.who.int/iris/rest/bitstreams/912038/retrieve> &  
[http://whqlibdoc.who.int/hq/2003/WHO\\_CDS\\_CSR\\_EPH\\_2002.23.pdf](http://whqlibdoc.who.int/hq/2003/WHO_CDS_CSR_EPH_2002.23.pdf)

CDG - <https://cavedivinggroup.org.uk/weils-disease-cave-diving-hazard/>

## **Acknowledgements**

This document was broadly based on the LRU User Manual, the predecessor of NLS.