

# Plague – fact sheet – the basics

As of 26 October 2017, an outbreak of plague in Madagascar with a large proportion of pneumonic cases was ongoing, with cases reported since 1 August 2017. Refer to the [World Health Organization situation updates](#) for the latest information.

## Summary

In recent years, cases of plague in humans have occurred in a small number of countries in tropical Africa, the Americas and Asia.

Plague usually occurs in wild rats, but humans can get infected from flea bites. Untreated cases can develop septicemic or pneumonic plague. Pneumonic plague spreads more easily from person-to-person than the other forms and can lead to large outbreaks.

Early diagnosis and treatment with antibiotics is important to prevent severe illness and possibly death.

## Symptoms

There are three forms of plague that differ based on the part of the body that is infected, but all are caused by *Yersinia pestis* bacteria. These three forms and associated symptoms are:

- **Bubonic plague:** Sudden onset of fever, headache, chills, and weakness and swollen, tender and painful lymph nodes (buboes).
- **Septicemic plague:** Fever, chills, extreme weakness, abdominal pain, shock, and possibly bleeding into the skin and other organs. Skin and other tissues may turn black and die.
- **Pneumonic plague:** Fever, headache, weakness, and a rapidly developing pneumonia with shortness of breath, chest pain, cough, and sometimes bloody or watery mucous.

## How it spreads

Plague usually occurs in wild rodents, spreading from one animal to another through the bite of an infected flea.

Humans usually catch it through the bite of an infected flea. This causes bubonic plague or less commonly, septicemic plague. Person-to-person spread of bubonic plague is sometimes possible if there is close contact with the person or with bodily fluids, especially with the pus from buboes.

Pneumonic plague may be caught from another person with pneumonic plague, or may develop from untreated bubonic or septicemic plague after the bacteria spread to the lungs. Pneumonic plague can spread between people by inhaling infectious droplets. This can lead to large outbreaks of pneumonic plague.

Septicemic plague may develop from untreated bubonic plague, from a flea bite or from handling an infected animal where the infection may enter through broken skin.

It takes between 1-3 days to get sick if the person inhales infected respiratory droplets or between 2-7 days to get sick following the bite of an infected flea.

## **People at risk**

Travellers in rural areas of a place where plague occurs may be at risk, particularly if camping or hunting or if contact with rodents takes place. People living in rural areas that have a seasonal risk of human cases of plague are at highest risk of acquiring bubonic plague from flea bites.

The countries with the highest risk of human cases are Madagascar (with 60% or more of the worlds cases every year between 2010 and 2015)<sup>i</sup> the Democratic Republic of the Congo, and Peru.

There may also be a risk to people in areas where plague occurs in animals, but there have been no recent human cases. These areas include central, eastern and southern Africa, South America, the western part of North America and in large areas of Asia, but not in Australia. Refer to the [WHO map](#).

Outbreaks of pneumonic plague may spread in urban areas as well as in areas with a seasonal risk of plague. Travellers to affected areas may be at risk as well as residents.

People who have been in contact with someone with plague could be at risk, particularly healthcare workers who have not used personal protective equipment.

## **Preventing infection**

To protect yourself while travelling:

- Use insect repellents containing DEET and Picaridin as protection against fleabites.
- Avoid direct contact with sick or dead animals
- Avoid close contact with sick people, particularly with anyone who may have plague. It is safe to have contact after the case has completed a course of prescribed antibiotics.
- Avoid crowded areas where cases of pneumonic plague have been recently reported

Refer to the [CDC website](#) for information about reducing the risk in areas where plague occurs

Antibiotics can be used to prevent infection in people who may have had contact with a case

There is no vaccine available for prevention of plague.

Infection control in healthcare settings is very important. Healthcare workers should follow appropriate infection prevention for the different forms of plague.

### **How it is diagnosed**

Plague can be diagnosed in the laboratory, using a blood sample, pus from a bubo (bubonic form) or sputum (pneumonic form) to find the bacteria that cause plague. A rapid diagnostic test may be used by health authorities.

### **How it is treated**

People with plague can be severely ill and can die if they don't get early treatment.

Antibiotics are used to treat plague, along with supportive care in a hospital.

### **How will health authorities prevent its spread in Australia**

It is unlikely that someone with plague will arrive and become ill in Australia; but our health system is prepared to safely manage them if they do.

Plague is a Listed Human Disease under the Biosecurity Act. Seriously ill travellers are screened for these illnesses by staff at the border and taken to hospital for treatment.

Antibiotics are available in Australia to treat plague.

People who become sick after arrival in Australia can be diagnosed by a general practitioner or at an emergency department.

Healthcare workers will follow appropriate infection prevention for the different forms of plague. Suspected cases may be asked to put on a mask and may be put into a separate room.

### **What should I do if I think I might have plague?**

If you think you might have plague, or have had close contact with someone with plague or possible plague, you should see a doctor as soon as possible. Avoid direct physical contact with any other person until you have been told it is okay to do so. Always wash your hands carefully. Tell your doctor your travel history or contact with someone with plague or possible plague.

Doctors can give you antibiotics to prevent you from getting plague if you had contact with someone who had it, so don't delay seeking help.

Early diagnosis and treatment with antibiotics is important to prevent severe illness and possibly death. Don't wait to see a doctor until you get back to Australia.

## Further information

A fact sheet provided by the United States Centers for Diseases Control and Prevention provides more information about how to reduce the risk for people living in areas where plague is present in local rodent population, refer to the [CDC website](#).

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<sup>i</sup> Between 2010 and 2015, Madagascar had between 60% and 87% for the cases reported in the world.  
<http://www.who.int/wer/2016/wer9108.pdf?ua=1>