

# Facts:

*from the Colorado Department of Public Health and Environment*



## Plague: questions and answers

### What is plague?

Plague is a bacterial disease that causes a high death rate in untreated cases. It killed millions of Europeans during the Middle Ages, when sanitation was poor and treatment was unavailable.

### What are the symptoms of plague?

Plague symptoms include fever, chills, headache, malaise, myalgia, nausea, weakness, and headache. Often, lymph nodes in the groin area become tender and swollen.

### What is the difference between bubonic, septicemic, and pneumonic plague?

- The typical and most common form of plague is **bubonic** plague, commonly identified by a swollen and very tender lymph gland. The swollen lymph gland is called a “bubo” and that is where the term “bubonic plague” comes from.
- Plague bacteria can invade the bloodstream (**septicemic** plague), which can spread the infection to other organs throughout the body.
- **Pneumonic** plague occurs when the bacteria infects the lungs, resulting in a severe respiratory illness. This form of plague is especially dangerous because it can be transmitted person-to-person by coughing and sneezing.

### How is plague treated?

Since plague is a bacterial disease, it is treated with antibiotic medications.

Patients typically are hospitalized and isolated.

### How is plague transmitted?

Fleas become infected by feeding on rodents, such as the chipmunks, prairie

dogs, rabbits, ground squirrels, rock squirrels, tree squirrels, mice, rats, and other mammals that are infected with the bacteria.

Infected fleas, which feed on mammals, transmit the plague bacteria to humans and other mammals during the feeding process. The plague bacteria are in the blood systems of rodents.

Cats that have plague from hunting infected rodents, also can spread the disease through scratching, biting, or coughing, as well as carrying infected fleas into a home. The best way to protect your cat and yourself is to keep your cat indoors so they can't hunt infected rodents. The use of flea powder or other insecticide formulation also may be recommended. Consult your veterinarian.

Although dogs are more or less immune to plague, like cats, they also can transport infected fleas into a home.

### Could you get plague from another person?

Yes, in rare instances. When a person has the pneumonic form of plague, person-to-person transmission of plague bacteria is possible from the airborne droplets created by coughs and sneezes and breathed in by another person.

### What is the incubation period?

A person usually becomes ill with plague two to six days after being infected.

### What is the mortality rate of the disease?

About 14 percent, or one in seven, of all plague cases in the United States are fatal. If untreated, the mortality rate from plague rises to between 50 and 60 percent.

### Is the plague seasonal?

No. Plague can be acquired at any time of the year. Most cases occur between May and September, the summer months, when people and their pets spend more time outdoors.

### Who is at risk of getting plague?

In the United States, anyone who is exposed to infected rodent fleas, rabbit hunters, and, increasingly, pet owners who live near wild rodent habitat (e.g., where prairie dogs, chipmunks, ground squirrels, and similar animals live).

Most cases occur in the southwestern states of New Mexico, Arizona, Colorado, and California.

In the ten-year period from 1990 to 1999, the U.S. averaged about 8.5 human plague cases per year, primarily in rural areas.

The highest plague rates have been documented in native Americans, especially Navajos, primarily due to the areas of the country in which they live. Other risk groups include hunters, veterinarians, campers, and hikers entering areas with outbreaks of animal plague.

### Is there a vaccine for plague?

Yes, however, plague vaccine is no longer readily available. It may be advantageous for researchers or people working with plague-infected animals to be vaccinated but it is not necessary for the general public.

## What precautions should be taken to prevent exposure to plague ?

- Do not attempt to hold, feed, or attract any rodent or rabbit species into your yard or near your house.
- Avoid contact with sick and dead rodents.
- Note the presence of flies or dead-animal odor as evidence of animals that have died from the disease.
- Report the areas where such animals are found to your local health department, to the Colorado Department of Health and Environment, or to the appropriate campground office.
- Watch cats that spend time outdoors for plague symptoms, such as lack of appetite, fever, lethargy, a swollen neck, coughing, or difficulty breathing. Seek professional veterinary care for cats that are ill. Do not handle suspiciously sick pets without gloves and face protection.
- When hiking, treat pants, socks, shoe tops, arms, and legs with insect repellents.
- Eliminate potential rodent shelters, such as piles of lumber, broken cement, trash, and weeds around the home or recreational cabin.
- Make certain that houses and out-buildings are as rodent-proof as

possible. Keep foundations in good repair and eliminate overhanging trees from roof and windows.

- Do not catch, play with, or attempt to hand-feed wild rodents.
- Keep all dogs leashed or better yet, leave them at home when hiking or camping. It also is wise to restrain cats and dogs from roaming at all times.
- Insecticide powders or shampoos should be used on cats and dogs every few days while in plague-infested areas.

## Why isn't a plague-infested rodent population destroyed?

If authorities attempt to kill large rodent populations, fleas leave the dead animals and cause additional risk to humans and domestic pets as they seek new hosts.

Closing plague-infested campgrounds and restricting access to hazardous areas may be warranted in cases when active animal plague is observed.

A better approach is to kill the fleas. For relatively small areas with plague-infected rodents, the use of insecticide dusting powder to kill fleas on rodents is effective. The powder is inserted directly into the rodent burrow or in bait station tubes so that rodents, attracted by food, are dusted as they run through the tube.

## Reliable sources of information

### Colorado HELP hotline

[www.cohelp.us](http://www.cohelp.us)  
1-877-462-2911 (toll-free)  
M-F 7 a.m. – 11 p.m.; S-S 9:30 a.m. – 8 p.m.

### Centers for Disease Control and Prevention (CDC)

[www.cdc.gov/ncidod/diseases/submenus/sub\\_plague.htm](http://www.cdc.gov/ncidod/diseases/submenus/sub_plague.htm)  
1-800-311-3435 (toll-free)

### Colorado Department of Public Health and Environment

[www.cdph.e.state.co.us/dc/zoonosis/plague/plaguefacts.html](http://www.cdph.e.state.co.us/dc/zoonosis/plague/plaguefacts.html)  
303-692-2700  
1-800-866-7689 (toll-free)



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