

Plague

Frequently Asked Questions

What is plague?

Plague is a disease caused by the bacterium *Yersinia pestis*.

There are three major forms of plague: bubonic, septicemic and pneumonic.

- Bubonic plague affects the lymph nodes.
- Septicemic plague affects the blood.
- Pneumonic plague affects the lungs.

How many cases of plague occur in the U.S.?

Between 5 and 15 cases of plague are reported in the U.S. each year. Most cases are bubonic (pronounced boo-bon-ik). These cases are usually scattered and occur in rural to semi-rural areas of the Southwest. Naturally occurring pneumonic plague is uncommon, although small outbreaks do occur. Both types of plague are readily controlled by standard public health response measures.

How is pneumonic plague different from bubonic plague?

Both are caused by the same bacteria, but they are transmitted differently and their symptoms differ. Pneumonic (pronounced new-mon-ik) plague can be transmitted from person to person; bubonic plague cannot. Pneumonic plague affects the lungs and is passed to other people when an infected person coughs. Bubonic plague symptoms include swollen, tender lymph glands called buboes (pronounced boo-boze). Buboes are not present in pneumonic plague. If bubonic plague is not treated, however, the bacteria can spread through the bloodstream and infect the lungs, causing a secondary case of pneumonic plague.

What are the signs and symptoms of pneumonic plague?

Patients usually have fever, weakness, headache and rapidly developing pneumonia with shortness of breath, chest pain and cough. Sometimes they cough up bloody or watery mucus. Nausea, vomiting and abdominal pain may also occur. Without early treatment, pneumonic plague may lead to respiratory failure, shock and rapid death.

How quickly would someone get sick if they breathe in plague bacteria?

Someone exposed to plague bacteria could become ill within one to six days.

How is plague diagnosed?

The first step is evaluation by a health care provider. If the healthcare provider suspects pneumonic plague, samples of the patient's blood, mucus from the lungs, or fluid from the lymph nodes are sent to a laboratory for testing.

Can a person exposed to pneumonic plague avoid becoming sick?

Yes, if they receive preventive treatment right away. People should avoid close contact with an infected person. If, following exposure, an individual has **not** shown symptoms, they can greatly reduce the chance of becoming sick if they begin preventive treatment within seven days of exposure. Preventive treatment consists of taking antibiotics for at least seven days. Several types of antibiotics are effective in preventing plague symptoms.

Is a vaccine available to prevent pneumonic plague?

Plague vaccine is not currently available in the United States.

Can pneumonic plague be treated?

It is important that antibiotics be given immediately, ideally within the first 24 hours of the first sign of symptoms. Immediate treatment is necessary to reduce the risk of dying from plague. Several kinds of antibiotics can cure plague. Some antibiotics come in pill form. Some must be injected or given intravenously.

Why are we concerned about pneumonic plague as a bioweapon?

If it were intentionally released into the air, *Y. pestis* could cause cases of the pneumonic form of plague. One to six days after becoming infected with the bacteria, people can develop pneumonic plague. Once people have symptoms, the bacteria can be spread to others through close contact.

Would enough medication be available in the event of a bioterrorism attack involving pneumonic plague?

The State of New Jersey maintains supplies of antibiotics for use in public health emergencies, which can be sent quickly to any region in the state. Also, the U.S. Strategic National Stockpile has a large supply. These medications can be sent anywhere in the U.S. within 12 hours.

How long can plague bacteria exist in the environment?

Y. pestis is easily destroyed by sunlight and drying. The bacterium can survive for up to one hour after release into the air, depending on environmental conditions.

How can someone reduce the risk of getting pneumonic plague from another person or giving it to someone else?

People having direct and close contact with someone with pneumonic plague should wear tightly fitting disposable surgical masks. Patients with the disease should be isolated for at least the first 72 hours of antibiotic treatment. People who come in contact with an infected person and are not wearing a surgical mask can be protected from developing plague by receiving prompt antibiotic preventive treatment.

People with symptoms can reduce the chance of spreading plague to others by covering the mouth and nose with a tissue or surgical mask when coughing or sneezing.

How dangerous is plague?

The Centers for Disease Control and Prevention (CDC) classifies agents with recognized bioterrorism potential into three categories: A, B and C. Plague is a Category A agent.

Category A agents

- pose the greatest possible threat to the public's health
- may spread across a large area
- require advance planning to protect the public's health.

What is the public health system in New Jersey doing to prepare for a possible biological attack?

New Jersey and the CDC are working together to prepare for all potential health hazards, including bioterrorism. Activities include:

- Developing plans and procedures to respond to biological attacks
- Training and equipping emergency response teams, gathering samples and performing tests to help state and local governments control infection
- Educating healthcare providers, the media, and the general public about what to do in the event of an attack
- Working closely with local health departments, veterinarians and laboratorians to watch for suspected cases of bioterrorism
- Working with hospitals, laboratories, emergency response teams, and healthcare providers to make sure they have the supplies they need in case of an attack.

Where can I get more information?

- Your healthcare provider
- Your local department of health
- New Jersey Department of Health
Website – www.nj.gov/health
Communicable Disease Service at (609) 826-5964
- CDC
www.cdc.gov/plague
1-800-CDC-INFO (4636) for assistance in English and Spanish
TTY 1-888-232-6348
E-mail: cdcinfo@cdc.gov

This information is intended for educational purposes only and is not intended to replace consultation with a healthcare professional. Adapted from the Centers for Disease Control and Prevention.