



PLAGUE

Agent information:

Yersinia pestis is a gram-negative bacterium that can cause pneumonic, bubonic, or septicemic infection. It occurs naturally throughout the world, including the United States. Pneumonic plague is the most likely form that would be encountered after a bioterrorist attack.

Transmission:

Plague bacteria may be transmitted to humans three ways:

- Bite of an infected flea. Fleas may first become infected by feeding on plague-infected animals (rodents, dogs, or cats). This type of transmission would most likely result in bubonic or septicemic plague.
- Contact with contaminated fluid or tissue when handling a plague-infected animal. This type of transmission would most likely result in bubonic or septicemic plague.
- Infectious droplets produced when a person with pneumonic plague coughs. Another person may become infected by breathing in these droplets. Pneumonic plague is the **only** form of plague that is spread from person to person.

Septicemic plague may develop as a complication from untreated bubonic plague. Pneumonic plague may develop from untreated bubonic or septicemic plague.

Signs and symptoms:

Incubation period generally is one to six days. General symptoms for all types of plague include fever, chills, weakness, and headache. Specific symptoms for each type:

Pneumonic: Rapidly developing pneumonia (24 to 36 hours from onset of illness) with shortness of breath, chest pain, cough, and hemoptysis. *The combination of a rapidly progressive influenza-like-illness (ILI) with bloody sputum is highly suspicious of pneumonic plague.*

Bubonic: One or more swollen lymph nodes or buboes.

Septicemic: Abdominal pain, shock, and bleeding into the skin and organs, causing skin and other tissues to turn black and die – specifically on fingers, toes, and nose.

Emergency Medical Services and Preparedness Section
24/7 Emergency Contact Number: 1-888-295-5156
Contact Number: 302-223-2999

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Emergency Medical Services

**Protective
measures:**

Follow appropriate Body Substance Isolation (BSI) precautions, with use of Personal Protective Equipment (PPE).

Standard Precautions: Hand washing before and after all patient contacts and contact with patient care equipment.

Contact Precautions: Use of gloves, gown, and eye protection.

Airborne Precautions: In addition to standard precautions, a mask with respiratory protection (i.e., N-95, N-100 particulate respirator) or Powered Air Purifying Respirator (PAPR) should be worn by providers and a surgical mask placed on the patient when not in their hospital room. If equipment is visibly soiled or significant contact has been made with the patient, remove the protective clothing **BEFORE** entering areas that are not contaminated to prevent transmission of material. Maintain patients in negative pressure isolation rooms. Victims presenting immediately after aerosolized exposure require decontamination.

**Decontamination
for PPE and
equipment:**

Decontamination of protective equipment and clothing is an important precaution to remove any particles that might have settled on the outside of protective equipment before taking off gear. Follow decontamination sequences currently used for hazardous material emergencies as appropriate for the level of protection employed. Equipment can be decontaminated using soap and water. Also, a 0.5% hypochlorite solution (one part household bleach to 10 parts water) can be used as appropriate or if gear was visibly contaminated. Note that bleach may damage some types of firefighter turnout gear (one reason why it should not be used for biological agent response actions). After removing gear, response workers should shower using copious quantities of soap and water.

Prophylaxis:

There is no vaccine available in the United States. Antibiotic treatment for seven days will protect people who have had direct, close contact with infected persons.

Treatment:

Immediate: Antibiotics must be given within 24 hours of first symptoms to reduce mortality.

Reporting:

Immediately report any suspect cases to the Division of Public Health, Office of Infectious Disease Epidemiology:
1-888-295-5156.

**Additional
information:**

Visit the Centers for Disease Control and Prevention website:
www.cdc.gov/plague/.

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