

Treatment

- Early treatment and prophylaxis with streptomycin or gentamicin antibiotics, or the tetracycline or fluoroquinolone classes of antimicrobials is advised.
- In a community experiencing a pneumonic plague epidemic, all persons who develop a fever or new cough should promptly begin antibiotic treatment.
- Persons having household, hospital, or other close contact with persons with untreated pneumonic plague should receive postexposure antibiotic treatment (preferred - doxycycline) for 7 days. (Close contact is defined as contact with a patient at less than 2 meters.)
- The use of disposable surgical masks is recommended to prevent the transmission of pneumonic plague to persons in close contact with cases.

**Michigan Department of Community Health
Community Public Health Administration**
3423 N. MLK Blvd.; P.O. Box 30195
Lansing, MI 48909

Bioterrorism Emergency Notification

Actual or Threatened Terrorist Event

Business Hours: (517) 335-8024

After Hours: (517) 335-9030

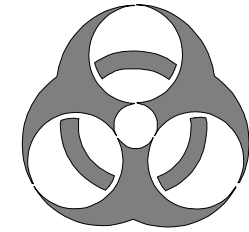
General Information

Communicable Disease/Immunization: (517) 335-8165

Laboratory: (517) 335-8063

Plague

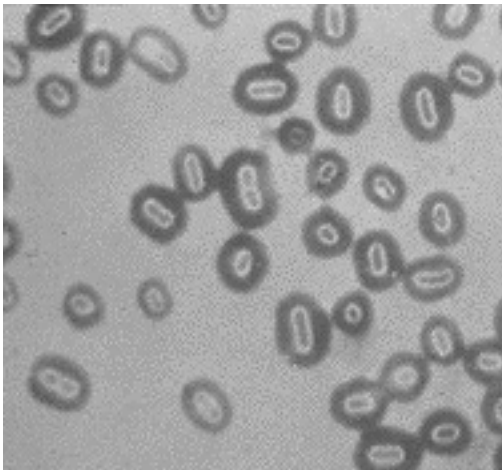
And Bioterrorism



Michigan Department of Community Health
Bureau of Epidemiology
Division of Communicable Disease and
Immunization

Biological Weapon

- , A weapon designed to aerosolize the plague bacterium could cause a rapidly severe and fatal disease in exposed persons.
- , *Yersinia pestis*, the causative agent of plague, is found in rodents and their fleas in many areas around the world. *Y. pestis* can be grown in large quantities and disseminated by aerosol, the result could be an epidemic of the pneumonic form with the potential for secondary spread of cases.
- , A bioterrorism attack would be characterized by pneumonic cases occurring simultaneously in persons 1 to 6 days following a common exposure, and in a secondary wave in unprotected case contacts.
- , There are no effective environmental warning systems to detect an aerosol release of plague bacilli.



Yersinia pestis

The Disease

- , Although pneumonic plague is an uncommon form of the disease, large outbreaks of pneumonic plague have occurred (none in the United States).
- , The patient typically experiences fever, prostration and rapidly developing pneumonic symptoms (shortness of breath, chest pain, and cough), often accompanied by gastrointestinal symptoms (nausea, vomiting, abdominal pain and diarrhea).
- , The first signs of illness are expected to be fever, headache, weakness and cough with bloody, sometimes watery sputum. In 2 to 4 days the illness leads to septic shock and, without early treatment, high mortality.
- , Before antibiotic treatment, nearly 100 percent of cases were reported to be fatal.
- , A pneumonic plague outbreak would initially resemble an outbreak of other severe respiratory illnesses, but would quickly be distinguished by the rapid development of life threatening respiratory failure, sepsis, and shock.
- , Antibiotics need to be given within 24 hours of first symptom presentation to prevent high mortality.

The Risk

- , Primary pneumonic plague results from the inhalation of plague bacilli.
- , Person-to-person transmission of pneumonic plague occurs through respiratory droplets, which can only infect those who have direct and close (within 6 feet) exposures to the patient.
- , *Yersinia pestis* is very sensitive to the action of sunlight and does not survive long outside the host. Research suggests it may only survive in the environment for up to one hour.
- , Immediate notification of suspected plague to local or state health departments is essential for rapid investigation and control activities, and for definitive tests through the state reference laboratory.
- , Confirmatory testing for *Yersinia pestis* usually takes from 24 to 48 hours; presumptive identification by fluorescent antibody testing takes less than 2 hours.
- , Few physicians in the United States have ever seen a case of pneumonic plague.
- , Vaccine against plague does not prevent the development of primary pneumonic plague, and is not presently available in the U.S.
- , The fatality rate of patients when treatment is delayed more than 24 hours after symptom onset is extremely high.