



### Diseases Fact Sheet - Plague

#### South Dakota Department of Health

**Office of Disease Prevention Services - 605-773-3737 -(1-800-592-1861 in South Dakota only)**

This material is provided for informational purposes only and is not a substitute for medical care. We are not able to answer personal medical questions. Please see your health care provider concerning appropriate care, treatment or other medical advice.

#### What is it?

Plague is a severe disease caused by the bacteria *Yersinia pestis* that is normally found in rodents and transmitted to humans by fleas. Plague can exist in different forms, bubonic and pneumonic plague. Pneumonic plague requires strict isolation and disinfection, and treatment procedures. The disease is relatively rare in the United States, limited to western part of the country.

#### Who gets plague?

People working with or visiting areas with infected rodents are at greater risk for contracting plague. Pets may get plague from infected rodents and then transmit the disease to humans.

#### How is plague spread?

Plague is most commonly spread by exposure to infected fleas. Other important sources include the handling of tissues from infected animals (especially rabbits or rodents), airborne droplets from humans or household pets with plague pneumonia or by laboratory exposure. Plague has the potential to be used as a bioterrorism agent. It could be mass produced, aerosolized, and disseminated. This has the potential to infect many people with a pneumonic form of plague with the possibility of person to person transmission.

#### What are the symptoms of plague?

The initial symptom of bubonic plague would be a swollen, inflamed and tender lymph gland in the body near the site where the infected flea bit the person. Fever is usually present as well as malaise, myalgia, nausea, prostration, headache, and chills. The disease may progress to a generalized blood infection called septicemic plague. Septicemic plague can spread the bacteria throughout the body and create further complications, leading to pneumonic plague, the bleeding into the skin and other organs, septic shock, and/or death.

Pneumonic plague symptoms include weakness, a rapidly developing pneumonia with shortness of breath, chest pain, cough, and bloody or watery sputum. Nausea, vomiting, and

abdominal pain are also common. Without early and rapid treatment, the symptoms progress to respiratory failure, shock and can eventually lead to death.

Plague is 50% fatal in untreated bubonic plague, whereas untreated pneumonic and septicemic plague are nearly always fatal.

### **How soon do symptoms occur?**

The incubation period for bubonic plague is generally one to seven days. Pneumonic plague's incubation period is between one to four days.

### **Does past infection with plague make a person immune?**

Immunity after plague recovery is variable, and may not provide complete protection. Currently there is no licensed vaccine available for plague.

### **What is the treatment for plague?**

The treatment of plague is a regimen of antibiotics for a minimum of seven days. A variety of antibiotics have been effective against plague. It is extremely important for antibiotics to be given to those exposed as quickly as possible to help prevent the more serious symptoms and death from occurring.

### **What types of animals can harbor plague?**

Since 2004 plague has been detected in southwestern South Dakota rodents and caused die-offs in local prairie dog colonies. Other animals have also been implicated in the transmission of plague to humans: rock squirrel, wood rat, rabbit, ground squirrel, tree squirrel.

### **What can be done to prevent the spread of plague?**

The patient, his/her clothing and baggage should be treated to kill all fleas that may be attached. Patients with pneumonic plague should be quarantined until three full days of antibiotic treatment have been administered. Close contacts of the patient should be closely monitored and given antibiotics for seven days. When human or animal cases have been identified, efforts to control the fleas with insecticides, followed by the control of rodents where people live, work and play may be necessary.

### **Related Sites:**

- South Dakota Department of Health
  - [Bookmark - Human Prevention](#)
- [Centers for Disease Control and Prevention](#)



## SOUTH DAKOTA PUBLIC HEALTH LABORATORY

---

Environmental Health Testing | Forensic Chemistry | Medical Microbiology