



COMMUNICABLE DISEASE CONTROL  
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*"Partnering to promote, protect and preserve health in our community."*

## HEALTH ALERT NETWORK HEALTH DISTRICT 4

### PLAGUE ADVISORY FOR HEALTH CARE PROVIDERS

Plague (*Yersinia pestis*) Likely to Confirm in Ground Squirrels Outside of Boise; Central District Health Department Asks Providers to be Alert for Cases through June

May 27, 2016

Preliminary positive plague results were reported in ground squirrels in an area south of Boise extending into western Elmore County. Confirmatory tests are expected next week. Limited ground squirrel die-offs have been detected in an area from south Boise to the Snake River and east of Boise, just north of the Stage Stop. (This is almost the same affected area as last year.) No human cases have been detected at this time.

Plague is a cause of die-offs of rodents and has previously been found in Ada County. When infected animals die, fleas leave the carcass to find another host and spread the disease. Most human plague cases result from the bites of infected fleas. Less commonly people are infected by direct contact with body fluids or tissues from infected animals including pets.

#### **Clinical Recognition**

Symptoms of plague include sudden onset of high fever, muscle pain, malaise, nausea and vomiting, or a general feeling of being ill 2 to 8 days after being bitten by an infected flea. Individuals with bubonic plague will develop a large, swollen, painful lymph node, called a bubo, most typically in the nodes draining the area of the flea bite. The bubo is 1-10 cm in diameter and often has marked surrounding erythema and edema. If the patient is not promptly treated with antibiotics, plague bacteremia frequently occurs and can lead to secondary septicemic plague.

In primary septicemic plague, no detectable bubo is found and there are no specific features by which it can be distinguished from community-acquired sepsis of other etiologies. Unless treated early, endotoxemia quickly develops. Patients with bubonic and septicemic plague may develop metastatic foci in lungs or meninges; the latter condition has features of acute bacterial meningitis.

Primary plague pneumonia is infrequent. Patients have symptoms of severe bronchopneumonia, chest pain, dyspnea, cough, and hemoptysis. Some patients have prominent gastrointestinal symptoms.

## Laboratory Testing

There are no widely available rapid tests for plague. Diagnostic testing should be confirmed by the Idaho Bureau of Laboratories (IBL). All plague specimens tested by IBL must be arranged by calling IBL at 208-334-2235.

Bacterial culture confirms the diagnosis. Specimens must be collected before antibiotics are administered, but treatment should not be delayed. Blood in septicemia cases, CSF in meningitis cases, sputum or BAL in pneumonic cases, material from draining lesions, and bubo aspirates are appropriate specimens for culture. *Y. pestis* may be identified by microscopic examination of stained smears of peripheral blood, sputum, or lymph node specimens. **Acute serology alone is not beneficial for diagnosis**; acute and convalescent samples preferably 3–4 weeks apart are required and serologic testing is only available by special request.

## Treatment

Plague is a severe infection (with high case fatality rate if not treated early and appropriately). Antibiotics should be started **immediately** once diagnostic specimens are collected. Consultation with an infectious disease physician is recommended.

For more information about laboratory testing, diagnosis and treatment, see <http://www.cdc.gov/plague/healthcare/clinicians.html>

## Precautions

Standard precautions and droplet isolation should be initiated when there is a suspect plague case. Droplet isolation should be continued until after 48 hours of appropriate antibiotic therapy with clinical improvement unless there is evidence of plague pneumonia.

**Plague or suspected plague is an immediately reportable disease in Idaho.** If you suspect plague, contact Central District Health Department at 208-327-8625 or the Idaho Bureau of Communicable Disease Prevention at 208-334-5939 during regular business hours or through Idaho State Communications at 800-632-8000 after hours and on holidays.

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