Plague
(*Yersinia pestis*)
Revision 05-26-15

Missouri Dept of Health and Senior Services (800) 392-0272 (24 hours)
State Public Health Laboratory (573) 751-3334 or (573) 522-1444

Remember that these samples may be highly infectious! Extreme caution should be taken in collecting, preparing for shipment and transporting any material suspected of being contaminated with a biological agent.

Specimen collection and transport

Clinical:

Specimens best suited for culturing include: fluid aspirated from bubo, sputum and blood (multiple). Also, lymph node, bone marrow and lung tissues are suitable, but may be available only at autopsy. The specimens may be placed into Cary-Blair [enteric] transport media or, if that's unavailable. The Missouri State Public Health Laboratory (MSPHL) does not routinely accept clinical specimens for identification. Exceptions can be made with prior approval from the DHSS and the MSPHL.

Reference cultures:

Any culture may be submitted to the MSPHL for confirmation/identification. Cultures suspected of being *Yersinia pestis* can be submitted on a blood or chocolate agar slant.

Environmental samples:

Plague is enzootic in some southwestern states and the risks of acquiring the disease are associated with conditions that provide food and shelter near human dwellings for plague-susceptible rodents and their attendant fleas. If environmental sampling is indicated, consult the MSPHL for guidelines on sample selection and submission.

Testing available:

Culture, isolate identification, and PCR.

Reporting:

All reporting times are the minimum time. Any individual specimen could take longer.

Yersinia pestis is not fastidious and may grow in 24-48 hours from clinical or environmental specimens. PCR can be performed on isolates upon receipt at the MSPHL, with results in 4-6 hours.

A specimen could be reported "presumptive positive" in 4-6 hours. If culture is isolated, identification and positive confirmation can be completed in 72 hours.

For raw clinical specimens a "presumptive negative" could be reported in as little as 4-6 hours. However, clinical specimens are routinely held for a total of 48 hours before a final negative report is issued.