

Agent-Specific Information Sheet

**Agent Name: *Yersinia pestis* (plague)**

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1. What is the natural mode of transmission?  
*Insect bite (flea) (Bubonic and septicemic plague).*  
*Aerosols (Pneumonic plague).*  
*Eating contaminated food (GI plague).*
2. What is the potential route of exposure in the lab?  
*Self-inoculation, mucosal splash, aerosols. Person to person transmission is possible.*
3. What is the infectious dose?  
*Bubonic/septicemic = 1 bacteria (cfu).*  
*Pneumonic = 100 bacteria (cfu).*
4. Can this infection be transmitted directly from person-to-person?  
*Yes, through aerosols and blood.*
5. How long after exposure until the onset of symptoms?  
*Bubonic 1-7 days, Septicemic 1-3 days, Pneumonic 1-3 days.*
6. What are the symptoms of infection?  
*Fever, flu-like symptoms, swollen lymph nodes (in bubonic infection only, called buboes)*  
*Rapid progression of disease.*
7. How stable is this organism in the environment?  
*Poor stability, < 24hrs on stainless steel.*
8. What are some effective inactivation methods for this agent?  
*Thermal: autoclaving*  
*Chemical disinfectants (10% Bleach, 2% Micro-Chem Plus®, 1:200 dilution Amphyl, UV).*
9. Is a vaccine available for this agent?  
*No FDA-approved vaccine.*
10. Which antibiotics/antivirals are effective treatments for infection with this agent?  
Antibiotics include Gentamicin (5mg/kg IM/IV QD), Streptomycin (1g IM BID), Doxycycline (100 mg IV BID), or Ciprofloxacin (400 mg IV BID).

## Medical Response Protocols

### Known Exposure Event

(High or low risk of exposure is documented in an incident report, see below)

1. Request assistance from (a) others present in lab and/or (b) call via yellow call box in BSL3/ABSL3 or phone CPM Security 502-852-1181 7AM-11PM, M-F. Between 11PM-7AM, M-F, and weekends 852-1181 transfers to ULPD-Comm, 502-852-6111. For emergency call 911.
  - a. Location in the facility (Room #).
  - b. Nature of injury and/or exposure (e.g. needlestick, left thumb, agent name OR sprained ankle, no agent).
  - c. Status: Acute, Severe, Minor/ambulatory, non-ambulatory.
  - d. Request call tree notification for a potential release/exposure:
    - i. Supervisor, **Lawrenz (502-216-1891)**.
    - ii. **RO, T. Hopp (281-782-4373)** or **ARO, C. Cowan (502-457-8649)**, **C. Hildreth (502-417-8406)**.
2. Wash the affected area with soap and water for 15 minutes if a puncture injury.
3. Follow normal decontamination and exit procedures for BSL3/ABSL3 and await further instruction in the anteroom:
  - a. Doff potentially contaminated scrubs and undergarments (collect for autoclaving).
  - b. Don new scrubs.
4. Seek medical evaluation, **RO and Supervisor call for medical consult:**
  - a. High risk of exposure (E.g., Needle stick with agent or release of agent from primary containment with PPE failure)
    - **UofL Hospital Emergency Department: 502-562-3015 (24/7 Availability, main ER area).**  
530 S Jackson St Louisville, KY 40202  
24/7 UofL Infectious Disease Consult: 1-800-717-6963.
    - Event based serology with follow-up as directed by the attending physician.
    - Alert to local and state public health authorities as required.
  - g. Low risk of exposure (E.g., release of agent from primary containment with functional PPE)
    - **UofL Campus Health Services: 502-852-6446 (answering service after business hours)**  
401 East Chestnut Street, Suite 110  
Louisville, KY 40202
    - i. Serology and/or prophylactic treatment may be directed by the attending physician.
5. Report the injury/exposure:
  - a. Supervisor **Lawrenz** completes First Report of Injury, IA-1 Form, <https://louisville.edu/riskmanagement/workerscomp>.
  - b. Notify CDC: **RO, T. Hopp (281-782-4373)** or **ARO, C. Cowan (502-457-8649)**, **C. Hildreth (502-417-8406)**.
    - i. RO initiates an internal and external incident report (e.g. CDC DSAT Form 3).
      - An initial report (phone/email) must be made in 1 day and a formal written report in 7 days.

### Laboratory Worker Exhibiting Symptoms Without Known Exposure Event

(E.g., Fever and entry into a A/BSL3 with *Y. pestis* in use within the last 7 days)

Consider the following:

1. Record body temperature for monitoring of fever in addition to other symptoms.
  2. Alert supervisor, **Lawrenz (502-216-1891)**.
  3. Alert **RO, T. Hopp (281-782-4373)** or **ARO, C. Cowan (502-457-8649)**, **C. Hildreth (502-417-8406)**.
  4. In-home self-quarantine may be directed on a voluntary basis.
    - a. Consider if any household contacts are immunocompromised and respond accordingly.
  5. The symptomatic individual shall document the following occupational activities.
    - a. Identity of infectious organism manipulated for the previous 14 days.
    - b. Entries into BSL3 or ABSL3 laboratories for the previous 14 days.
    - c. Experimental procedures conducted and equipment used.
    - d. Work performed by others in a shared laboratory.
    - e. Any possible event that may have resulted in exposure to viable infectious materials (e.g. breach in PPE)
    - f. Recent changes in health status (e.g., recently use of an immune suppressing medication)
  6. The symptomatic individual shall document the following social history activities.
    - a. Personal contacts for the previous 14 days.
    - b. Public locations visited or use of public transportation in the previous 14 days.
    - c. History of recent travel.
  7. Precautions to be followed by the symptomatic individual.
    - a. Limit skin-to-skin contact with others.
    - b. Wash hands frequently.
  8. The RO and Supervisor may consult **Campus Health Services: 502-852-6446** or **UofL Infectious Disease ID) 1-800-717-6963** or **ID Physician Forest Arnold (502-649-7274)**
    - a. Serology and/or prophylactic treatment may be directed by the attending physician.
    - b. Diagnostic tests to confirm the causative agent of illness may be directed.
- If it is probable or confirmed that the illness is due this agent, notifications will be made to the CDC, state health department, and local health department.