

Agent Specific Information Sheet

Agent Name: *Francisella tularensis*

Prepared by: Jonathan Warawa (Modified by Thomas Cremer; Clarissa Cowan)

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1. What is the natural mode of transmission?

Vector borne, ingestion, inhalation, exposure of mucosa and skin wounds.

2. What is the potential route of exposure in the lab?

Self-inoculation or aerosol.

3. What is the infectious dose?

5 - 10 organisms by respiratory route; 10⁶ – 1-8 organisms by ingestion.

4. Can this infection be transmitted directly from person-to-person?

Not widely recognized, but possible.

5. How long after exposure until the onset of symptoms?

3-5 days typically, but can be 1-14 days.

6. What are the symptoms of infection?

Pneumonia and septicemia symptoms. The illness usually starts suddenly, and may continue for several weeks after symptoms begin.

Fever (can get up to 104^o), chills, eye irritation, headache, joint stiffness, muscle pains, red spot on the skin growing to become a sore (ulcer), shortness of breath, sweating, and weight loss.

7. How stable is this organism in the environment?

Can survive in small animals and arthropod vectors. May survive 1-8 days when on a dried metal surface when starting with $\geq 1 \times 10^6$ organisms (Sinclair et al, Appl. Environ. Microbiol. 2008).

8. What are some effective inactivation methods for this agent?

2% Micro-Chem Plus[®], 10% Bleach, Amphyl (phenolyic disinfectant), autoclaving.

9. Is a vaccine available for this agent?

No licensed vaccines are available in the US.

10. Which antibiotics/antivirals are effective treatments for infection with this agent?

Streptomycin, gentamicin, amikacin, chloramphenicol, tetracycline, erythromycin, ciprofloxacin (10 mg 2x daily for 14 days), levofloxacin, cefotaxime, ceftriaxone, and rifampin.

F. tularensis is naturally resistant to penicillins and first-generation cephalosporins.

References:

[Pathogen Safety Data Sheet: Francisella tularensis](#), [Francisella tularensis Fact Sheet: UPMC Center for Health Security](#)

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 M-F, 7AM-11PM. 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, **Warawa (502-381-2535)**.
 - 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.
 - j. 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 **Warawa** 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).
 - ii. 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 BSL-3 with *F. tularensis* in use within the last 14 days)

Consider the following:

1. Record body temperature for monitoring of fever in addition to other symptoms.
2. Alert supervisor, **Warawa (502-381-2535)**.
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 21 days.
 - b. Entries into BSL3 or ABSL3 laboratories for the previous 21 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 21 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.
9. 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