	Division of Environmental Health and Communicable Disease Prevention	
	<b>Section: 4.0 Diseases and Conditions</b>	Updated 7/03
	Subsection: Tularemia	Page 1 of 17


## Tularemia Table of Contents

**Tularemia**

**Fact Sheet**

**Suspect Tularemia Case Investigation Form (For use only if bioterrorism is suspect)**

**Investigation of Tularemia (VPH-5)**

	Division of Environmental Health and Communicable Disease Prevention	
	<b>Section: 4.0 Diseases and Conditions</b>	Updated 7/03
	Subsection: Tularemia	Page 2 of 17

## Tularemia

### **Overview** <sup>(1,2)</sup>

For a complete description of tularemia, refer to the following texts:

- Control of Communicable Diseases Manual (CCDM).
- Red Book, Report of the Committee on Infectious Diseases.

**NOTE:** Tularemia is a potential bioterrorism weapon. **If the case has no remarkable history of natural exposure (e.g., tick bite), a bioterrorism event should be considered.** If you suspect that you are dealing with a bioterrorism situation, contact your Regional Communicable Disease Coordinator immediately.

### **Case Definition** <sup>(3)</sup>

#### *Clinical description*

An illness characterized by several distinct forms, including the following:

- Ulceroglandular (cutaneous ulcer with regional lymphadenopathy)
- Glandular (regional lymphadenopathy with no ulcer)
- Oculoglandular (conjunctivitis with preauricular lymphadenopathy)
- Oropharyngeal (stomatitis or pharyngitis or tonsillitis and cervical lymphadenopathy)
- Intestinal (intestinal pain, vomiting, and diarrhea)
- Pneumonic (primary pleuropulmonary disease)
- Typhoidal (febrile illness without early localizing signs and symptoms)

Clinical diagnosis is supported by evidence or history of a tick or deerfly bite, exposure to tissues of a mammalian host of *Francisella tularensis*, or exposure to potentially contaminated water.

#### ***Laboratory criteria for diagnosis***

##### *Presumptive:*


- Elevated serum antibody titer(s) to *F. tularensis* antigen (without documented fourfold or greater change) in a patient with no history of tularemia vaccination or
- Detection of *F. tularensis* in a clinical specimen by fluor escent assay

##### *Confirmatory:*

- Isolation of *F. tularensis* in a clinical specimen or
- Fourfold or greater change in serum antibody titer to *F. tularensis* antigen

#### ***Case classification***

***Confirmed:*** a clinically compatible case with confirmatory laboratory results

	Division of Environmental Health and Communicable Disease Prevention	
	<b>Section: 4.0 Diseases and Conditions</b>	Updated 7/03
	Subsection: Tularemia	Page 3 of 17

*Probable:* a clinically compatible case with laboratory results indicative of presumptive infection

### **Information Needed for Investigation**

- **Verify the diagnosis.** Determine what laboratory tests were conducted and the results.
- **Establish the extent of illness.** Determine if household or other close contacts are, or have been, ill by contacting the health care provider, patient or family member.
- **Maintain a high index of suspicion** regarding any cluster of cases of pneumonia diagnosed as being due to *F. tularensis*. This should be reported promptly to the Regional Communicable Disease Coordinator because of the potential use of this organism as a biowarfare agent.

### **Case/Contact Follow Up And Control Measures**

#### **If terrorist activity is suspected:**

- Contact appropriate law enforcement authorities.
- Contact the Regional Communicable Disease Coordinator.
- Complete the “Missouri Department of Health and Senior Services, Suspect Tularemia Case Investigation Form.” This form is included in this Section.

#### **General follow-up:**


Determine the source of infection. Tularemia is not transmitted person -to-person. However, shared activities or exposures should be investigated for cases among families and friends.

#### **Control Measures**

See the Control of Communicable Diseases Manual, Tularemia, “Methods of control.”

See the Red Book, Tularemia, “Control Methods.”

- Avoid bites of deerflies, mosquitoes, and ticks.
- Use insect repellents.
- Wear light-colored clothing so ticks can be easily observed and removed.
- Wear shirts with long sleeves and pants to reduce exposure to ticks, mosquitoes, and deerflies; tuck pants into socks or tall boots.
- Conduct body checks for ticks frequently and remove ticks promptly.
- Avoid drinking, bathing, swimming, or working in untreated water, particularly in areas where tularemia is known to be endemic.

	Division of Environmental Health and Communicable Disease Prevention	
	<b>Section: 4.0 Diseases and Conditions</b>	Updated 7/03
	Subsection: Tularemia	Page 4 of 17

## **Laboratory Procedures**

The State Public Health Laboratory (SPHL) conducts testing for *F. tularensis*.

**These specimens may be highly infective. 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: Tissue samples from humans (or animals) must be submitted frozen ( -30 to -70 degrees C). Best samples for testing include liver, spleen, lungs or lymph node. If pneumonic tularemia is suspected, collect a sputum or bronchial/tracheal wash. Specimens can be placed in any sterile container that seals well. Blood can also be cultured, but is seldom positive.
- Reference cultures: The SPHL can also confirm or identify any organism isolated from another laboratory that is suspected of being *F. tularensis*. Reference cultures should be submitted on an enriched chocolate slant.
- Environmental samples: At this time, environmental sampling, if performed, would be situation-specific. No standardized testing procedures are available. Consult the SPHL.


- **Testing available**: Culture, isolate identification, DFA and rapid antigen detection by TRF.
- **Reporting**: All reporting times are the minimum time. Any individual specimen could take longer. *F. tularensis* is a very slow-growing organism. Primary isolation from a clinical specimen may take three to five days. The SPHL can perform an FA and TRF directly on tissue specimens. This could be completed within two to three hours after receipt of the specimen at the laboratory. Confirmation of a suspect organism isolated at another laboratory by direct FA and TRF can be completed within one to two hours of receipt at the SPHL.

Additional information on laboratory procedures can be obtained from the Regional Communicable Disease Coordinator or from staff at the SPHL. The SPHL telephone number is 573 -751-0633 and the web site is: <http://www.dhss.state.mo.us/Lab/index.htm>. (3 June 2003)

## **Reporting Requirements**

Tularemia is a Category I(B) disease and shall be reported to the local health authority or to the Missouri Department of Health and Senior Services (DHSS) within 24 hours of first knowledge or suspicion by telephone, facsimile or other rapid communication.

1. For all cases, complete a “Disease Case Report” (CD-1).
2. For non-bioterrorism cases, complete an “Investigation of Tularemia” (VPH-5).

	Division of Environmental Health and Communicable Disease Prevention	
	<b>Section: 4.0 Diseases and Conditions</b>	Updated 7/03
	Subsection: Tularemia	Page 5 of 17

3. Entry of the completed CD-1 into MOHSIS negates the need for the paper CD-1 to be forwarded to the Regional Health Office.
4. Send the completed secondary investigation form to the Regional Health Office.
5. For cases suspected of being part of a bioterrorist event, complete a “Suspect Tularemia Case Investigation Form”
6. All outbreaks or “suspected” outbreaks must be reported as soon as possible (by phone, fax or e-mail) to the Regional Communicable Disease Coordinator. This can be accomplished by completing the Missouri Outbreak Surveillance Report (CD-51).
7. Within 90 days from the conclusion of an outbreak, submit the final outbreak report to the Regional Communicable Disease Coordinator.

## **References**

1. Chin, James, ed. “Tularemia (Rabbit fever, Deer -fly fever, Ohara disease, Francis disease).” Control of Communicable Diseases Manual. 17<sup>th</sup> ed. Washington, DC: American Public Health Association, 2000:532-535.
2. American Academy of Pediatrics. “Tularemia.” In: Pickering LK, ed. 2000 Red Book: Report of the Committee on Infectious Diseases. 25<sup>th</sup> ed. Elk Grove Village, IL. 2000: 618-620.
3. Centers for Disease Control and Prevention. Case Definitions for Infectious Conditions Under Public Health Surveillance. MMWR 1997: 46 (No. RR-10). “Tularemia,” 1999, [http://www.cdc.gov/epo/dphsi/casedef/tularemia\\_current.htm](http://www.cdc.gov/epo/dphsi/casedef/tularemia_current.htm) (3 June 2003)

## **Other Sources of Information**

1. Hornick, Richard B. “Tularemia.” Bacterial Infections of Humans Epidemiology and Control. 3<sup>rd</sup> ed. Eds. Alfred S. Evans and Philip S. Brachman. New York: Plenum, 1998: 823-837.
2. Cross, J. Thomas Jr. and Robert L. Penn. “*Francisella tularensis* (Tularemia).” Principles and Practice of Infectious Diseases. 5<sup>th</sup> ed. Eds. Gerald L. Mandell, John E. Bennett, and Raphael Dolin. New York: Churchill Livingstone, 2000: 2393-2401.
3. The Merck Veterinary Manual. 8<sup>th</sup> Ed. Ed. Susan E. Aiello. Whitehouse Station, NJ: Merck & Co., Inc., 1998: 494, 2166, 1394. <http://www.merckvetmanual.com/mvm/index.jsp> (search “tularemia”). (3 June 2003)

## **Web Sources of Information**

U.S. Army Institute of Infectious Diseases, “Biological Agent Information Papers - Tularemia.” <http://www.nbc-med.org/SiteContent/MedRef/OnlineRef/GovDocs/BioAgents.html#TULAREMIA> (3 June 2003).

# **Tularemia**

## **FACT SHEET**

### **What is tularemia?**

Tularemia is a bacterial disease (*Francisella tularensis*) that infects both humans and animals. Although many wild and domestic animals have been infected, the rabbit is most often involved in disease outbreaks.

### **Who gets tularemia?**

People who spend a great deal of time outdoors are at greater risk of exposure to tularemia than people with other occupational or recreational interests. People at risk also include those who come in contact with flesh or blood of infected animals, such as: laboratory workers, farmers, veterinarians, hunters, trappers, those who cook/handle wild game, and spouses of hunters or other household members.

### **How is tularemia spread?**

Many routes of human exposure are known to exist, including:

- The bite of an infected tick or biting fly.
- Contact of the skin or mucous membranes with contaminated water or blood/tissue while handling, dressing, or skinning infected animals.
- Handling or eating insufficiently cooked meat of infected animal hosts (e.g., rabbits).
- Drinking contaminated water.
- Inhalation of dust from contaminated soil, grain, or hay.
- Handling contaminated paws or pelts of animals.
- Rarely, from bites of coyotes, squirrels, skunks, hogs, cats, and dogs whose mouths presumably were contaminated from eating an infected animal.

Tularemia is not spread from person-to-person.

### **What are the symptoms of tularemia?**

The symptoms of tularemia depend on whether the bacteria enter through the skin, gastrointestinal tract, or lungs. When these bacteria are introduced into the skin (e.g., tick bite), symptoms usually consist of an ulcerative skin lesion and swollen glands. Ingestion of the organism in food or water may produce a throat infection, abdominal pain, diarrhea, and vomiting. Inhalation of the organism in dust may produce a fever alone or combined with a pneumonia-like illness.

### **How soon do symptoms appear?**

Symptoms generally appear within 1 to 14 days, but usually within 3 to 5 days.

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

Certain antibiotics are effective in treating tularemia, such as streptomycin and gentamicin.

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

Long-term immunity will follow recovery from tularemia. However, reinfection has been reported, particularly in laboratory workers.

## **How can tularemia be prevented?**

1. Rubber gloves should be worn when skinning or handling animals, especially rabbits.
2. Wild game, especially rabbit, muskrat, and squirrel, should be cooked thoroughly before eating.
3. Avoid drinking, swimming, or working in untreated water where infection may prevail among wild animals.
4. Avoid bites of flies and ticks.
5. Avoid tick-infested areas, especially during the warmer months.
6. Wear light colored clothing so ticks can be easily seen and removed. Wear a long sleeved shirt, hat, long pants, and tuck your pant legs into your socks.
7. Walk in the center of trails to avoid overhanging grass and brush.
8. Check your body every few hours for ticks when you spend a lot of time outdoors in tick - infested areas. Ticks are most often found on the thigh, arms, underarms, and legs or where tight fitting clothing has been.
9. Use insect repellents containing DEET on your skin and permethrin on your clothing. Be sure to follow the directions on the container and wash off repellents when going indoors. Carefully read the manufacturer's label on repellents before using on children.
10. Ticks should be removed promptly and carefully by using tweezers and applying gentle, steady traction. Do not crush the tick's body when removing it. Apply the tweezers as close to the skin as possible to avoid leaving tick mouthparts in the skin. Do not remove ticks with your bare hands. Protect your hands with gloves, cloth, or tissue and be sure to wash your hands after removing a tick.
11. After removing the tick, disinfect the skin with soap and water or other available disinfectants.
12. Universal precautions pertaining to protection from drainage/secretions from infected individuals should be followed.

**Missouri Department of Health and Senior Services  
Section for Communicable Disease Prevention  
Phone: (866) 628-9891 or (573) 751-6136**

**MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES  
SUSPECT TULAREMIA CASE INVESTIGATION FORM**

**Today's date:** \_\_\_/\_\_\_/\_\_\_ **ID :** \_\_\_\_\_

**Patient name** First \_\_\_\_\_ Last \_\_\_\_\_

**Sex:**  Male  Female **Date of birth:** \_\_\_/\_\_\_/\_\_\_ **Age:** \_\_\_\_\_

**Home address:** \_\_\_\_\_ **Zip:** \_\_\_\_\_ **Phone 1:** \_\_\_\_\_

**City/Borough:** \_\_\_\_\_ **County::** \_\_\_\_\_ **Phone 2:** \_\_\_\_\_

**Employer:** \_\_\_\_\_ **Occupation:** \_\_\_\_\_ **Work location:** \_\_\_\_\_

**Work address:** \_\_\_\_\_ **Zip:** \_\_\_\_\_ **Phone:** \_\_\_\_\_

**City/Borough** \_\_\_\_\_ **County:** \_\_\_\_\_

**Any recent travel outside of MO?** Y N Unknown **If yes, where and when:** \_\_\_\_\_

**MEDICAL HISTORY:** \_\_\_\_\_ **Dr.'s name and contact info:** \_\_\_\_\_

Has patient experienced any of the following symptoms for the first time since \_\_\_\_\_?  
(Circle one answer for each symptom)

**New onset skin lesions (i.e., rash, papule, ucler, vesicle, pustule, purpuric lesions)?**  
Y N Unknown **Onset date:** \_\_\_/\_\_\_/\_\_\_

Location of lesion(s):		Initial description:		Progression:	
		Date	Notes	Date	Notes
Itchy	Y N Unk				
Swollen	Y N Unk				
Tender	Y N Unk				
Oozing	Y N Unk				
Satellite blisters	Y N Unk				
Eschar	Y N Unk				
Surrounding Edema	Y N Unk				

**Fever** Y N Unknown **If yes, max temp:** \_\_\_\_\_ F **Onset date:** \_\_\_/\_\_\_/\_\_\_

**Chills** Y N Unknown **Onset date:** \_\_\_/\_\_\_/\_\_\_

**Malaise** Y N Unknown **Onset date:** \_\_\_/\_\_\_/\_\_\_

**Muscle aches** Y N Unknown **Onset date:** \_\_\_/\_\_\_/\_\_\_

**Headache** Y N Unknown **Onset date:** \_\_\_/\_\_\_/\_\_\_

**Pharyngitis/Tonsillitis** Y N Unknown **Onset date:** \_\_\_/\_\_\_/\_\_\_

**Diaphoresis** Y N Unknown **Onset date:** \_\_\_/\_\_\_/\_\_\_

**Weight loss** Y N Unknown **Onset date:** \_\_\_/\_\_\_/\_\_\_

**MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES  
SUSPECT TULAREMIA CASE INVESTIGATION FORM**

<b>Pulse-temperature dissociation</b>	Y N Unknown		<b>Onset date:</b> ____/____/____
<b>Cough</b>	Y N Unknown <input type="checkbox"/> Productive <input type="checkbox"/> Bloody <input type="checkbox"/> Purulent		<b>Onset date:</b> ____/____/____
<b>Chest pain/discomfort</b>	Y N Unknown		<b>Onset date:</b> ____/____/____
<b>Shortness of breath</b>	Y N Unknown		<b>Onset date:</b> ____/____/____
<b>Pneumonia</b>	Y N Unknown		<b>Onset date:</b> ____/____/____
<b>Respiratory distress</b>	Y N Unknown		<b>Onset date:</b> ____/____/____
<b>Abdominal pain</b>	Y N Unknown		<b>Onset date:</b> ____/____/____
<b>Nausea/vomiting</b>	Y N Unknown		<b>Onset date:</b> ____/____/____
<b>Diarrhea</b>	Y N Unknown <input type="checkbox"/> Bloody		<b>Onset date:</b> ____/____/____
<b>Lymphadenopathy</b>	Y N Unknown <input type="checkbox"/> Painful	If yes, where? _____	<b>Onset date:</b> ____/____/____
<b>Conjunctivitis</b>	Y N Unknown	If yes, where? _____	<b>Onset date:</b> ____/____/____
<b>Sepsis</b>	Y N Unknown		<b>Onset date:</b> ____/____/____
<b>Meningitis</b>	Y N Unknown <input type="checkbox"/> Hemorrhagic		<b>Onset date:</b> ____/____/____

**Other signs/symptoms:**

<b>Care:</b>	<b>Name and Location</b>	<b>Date of visit/consult:</b>	<b>Comments</b>
<input type="checkbox"/> Admitted to hospital:	_____		
<input type="checkbox"/> Seen by PMD:	_____		
<input type="checkbox"/> Seen by ID:	_____		
<input type="checkbox"/> Other	_____		
<b>Antibiotics given?</b>	Y N Unknown	<b>Other Treatment given?</b>	Y N Unknown
<b>If yes, give name:</b>	_____	<b>If yes, describe:</b>	_____
<b>Dose:</b>	_____		
<b>Start date:</b>	_____	<b>Stop date:</b>	_____

**MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES  
SUSPECT TULAREMIA CASE INVESTIGATION FORM**

<b>Current clinical status</b>	<input type="checkbox"/> Improved	<input type="checkbox"/> No change	<input type="checkbox"/> Worsened	<input type="checkbox"/> Back to baseline
<b>Describe progression:</b>				
<b>Disposition</b>	<input type="checkbox"/> Discharged	<input type="checkbox"/> Admitted to ward	<input type="checkbox"/> Admitted to ICU	<input type="checkbox"/> Outpatient
	<input type="checkbox"/> Died			
	If died, date of death _____/_____/_____			
<b>Current diagnosis</b>	<input type="checkbox"/> Tularemia			
	<input type="checkbox"/> Pneumonic	<input type="checkbox"/> Typhoidal	<input type="checkbox"/> Ulceroglandular	
	<input type="checkbox"/> Glandular	<input type="checkbox"/> Oculoglandular	<input type="checkbox"/> Oropharyngeal	
	<input type="checkbox"/> Non-Specific Febrile Illness			
	<input type="checkbox"/> Pneumonia of Unknown Etiology			
	<input type="checkbox"/> Other (specify) _____			
	_____			

<b>LABORATORY SPECIMENS OBTAINED:</b>				
<b>Blood/serum</b>	Y	N	Unknown	Status: <input type="checkbox"/> at hospital <input type="checkbox"/> sent to SPHL <input type="checkbox"/> sent to CDC
<b>Tracheal/lung aspirate</b>	Y	N	Unknown	Status: <input type="checkbox"/> at hospital <input type="checkbox"/> sent to SPHL <input type="checkbox"/> sent to CDC
<b>Sputum</b>	Y	N	Unknown	Status: <input type="checkbox"/> at hospital <input type="checkbox"/> sent to SPHL <input type="checkbox"/> sent to CDC
<b>Skin biopsy or skin lesion material</b>	Y	N	Unknown	Status: <input type="checkbox"/> at hospital <input type="checkbox"/> sent to SPHL <input type="checkbox"/> sent to CDC
<b>Conjunctival exudate</b>	Y	N	Unknown	Status: <input type="checkbox"/> at hospital <input type="checkbox"/> sent to SPHL <input type="checkbox"/> sent to CDC
<b>Pharyngeal exudate</b>	Y	N	Unknown	Status: <input type="checkbox"/> at hospital <input type="checkbox"/> sent to SPHL <input type="checkbox"/> sent to CDC
<b>CSF</b>	Y	N	Unknown	Status: <input type="checkbox"/> at hospital <input type="checkbox"/> sent to SPHL <input type="checkbox"/> sent to CDC
<b>Other</b>	<b>Describe:</b>			
<b>Specimens available now?</b>	Y	N	Unknown	
	If yes, what is available and where?			

**MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES  
SUSPECT TULAREMIA CASE INVESTIGATION FORM**

<b>LAB RESULTS:</b>					
<b>Specimen</b>	<b>Date Obtained</b>	<b>Test Ordered</b>	<b>Laboratory</b>	<b>Result</b>	<b>Current Location of Specimen</b>
Blood/serum					
Tracheal/lung aspirate					
Sputum					
Skin biopsy or skin lesion material					
Conjunctival exudate					
Pharyngeal exudate					
CSF					
Other, specify					
Other, specify					
Other, specify					

<b>OTHER DIAGNOSTIC TESTS:</b>	
Chest x-ray	Y N Unknown If yes, describe findings:
Other	Describe:

<b>ENVIRONMENTAL SAMPLING/TESTING</b>			
<b>Location of Specimen</b>	<input type="checkbox"/> Residence	<input type="checkbox"/> Work Place	<input type="checkbox"/> Other, specify _____
Type of Specimen(s)			
Where was specimen(s) collected			
Date(s) collected			
Type of test(s) performed			
Result(s) of test(s)			
Date(s) of test result(s)			
Name of laboratory performing test(s)			
Address of Laboratory performing test(s)			
Telephone number of laboratory performing test(s)			





**MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES  
SUSPECT TULAREMIA CASE INVESTIGATION FORM**

**POTENTIAL RISK EXPOSURES**

YES	NO	UNK	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Contact With Animals If yes, describe _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Occupational Associated With Animals If yes, describe _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Own Pets If yes, describe _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Contact With Rats, Mice, Ground Squirrels, Rabbits, Prairie Dogs, Chipmunks or Other Small Mammals If yes, describe _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Presence of Rats, Mice, or Other Small Mammals in Home or Place of Work If yes, describe _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hobbies If yes, describe _____

**OTHER POTENTIAL RISK EXPOSURES IN THE 3 WEEKS PRIOR TO ONSET OF  
SIGNS/SYMPTOMS**

YES	NO	UNK	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Presence of Rats, Mice, or Other Small Mammals in Any Locations Visited in the 3 Weeks Prior to Onset of Signs/Symptoms If yes, describe _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Contact With Ticks, Mosquitoes, or Biting Flies If yes, describe _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hunting Trips If yes, describe _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Trap Animals If yes, describe _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Butcher Animals If yes, describe _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hiking Trips If yes, describe _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Camping Trips If yes, describe _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Contact With Hay or Straw If yes, describe _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Contact With Unusual Powders, Dusts, or Aerosols If yes, describe _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Any Unusual Occurrences If yes, describe _____

**MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES  
SUSPECT TULAREMIA CASE INVESTIGATION FORM**

**ASSOCIATED CASES**

YES NO UNK

**Contact (within 3 weeks of onset of illness) With Persons With a Febrile, Flu-Like, and/or Respiratory Illness, or an Ulcerated Skin Lesion**

Name(s) \_\_\_\_\_

Address(es) or Other Locating Information \_\_\_\_\_

Description of Illness(es) \_\_\_\_\_

Date(s) of Onset (if known) \_\_\_\_\_

**Patient/Family Aware of Other Persons With a Febrile, Flu-Like, and/or Respiratory Illness or an Ulcerated Skin Lesion**

Name(s) \_\_\_\_\_

Address(es) or Other Locating Information \_\_\_\_\_

Description of Illness(es) \_\_\_\_\_

Date(s) of Onset (if known) \_\_\_\_\_

**Other Associated Cases**

Number \_\_\_\_\_

Describe Association With Patient \_\_\_\_\_

Name of person completing form:

Phone:

- 1. Phone and Fax numbers at Missouri Department of Health and Senior Services (MDHSS): Ph: 1-800-392-0272, FAX: 573-751-6041**
- 2. If further information becomes available on this patient, ask them to call the Division of Environmental Health and Communicable Disease Prevention (573-751-6000) during business hours, or after hours, call Department Emergency Response Management Center (1-800-392-0272) and ask for the on call officer**
- 3. If there are any questions by the provider re: prophylaxis or specimen preparation, refer them to or fax them the appropriate MDHSS Alert**

# Missouri Department of Health and Senior Services

## INVESTIGATION OF TULAREMIA

Patient's Name			Age	Sex	Race
Street Address or RFD			City or Town	County	
Place Employed or School Attended			Occupation		
Date of Onset	Date Reported	How did you first learn of this case?			Date
		Lab. Rpt.	PHN	Physician Interview	
Patient Hospitalized? <input type="checkbox"/> No <input type="checkbox"/> Yes		Date	Attending Physician		
Name of Hospital			Hospital Physician		

Site of Initial Lesion: \_\_\_\_\_

Source of Infection:      Tick Bite \_\_\_\_\_    Infected Animal \_\_\_\_\_    Species \_\_\_\_\_    Unknown \_\_\_\_\_

Date of Exposure \_\_\_\_\_      Location and Circumstances of Exposure: \_\_\_\_\_

**Clinical Symptoms:**

Fever (degree) \_\_\_\_\_      Headache \_\_\_\_\_      Back & extremity pain \_\_\_\_\_  
 Ulcer \_\_\_\_\_      Chills \_\_\_\_\_      Vomiting \_\_\_\_\_  
 Enlarged lymph nodes \_\_\_\_\_      Sweats \_\_\_\_\_      Other \_\_\_\_\_  
 Conjunctivitis \_\_\_\_\_      Prostration \_\_\_\_\_

Medication: \_\_\_\_\_

### DIAGNOSTIC LABORATORY TESTS ON PATIENT

Date Collected	Type of Specimen	Results	Name of Laboratory
	Acute Blood		
	Convalescent Blood		
	Lesion Culture		
	Other (Specify)		

Final Diagnosis:      Tularemia \_\_\_\_\_      Not Tularemia \_\_\_\_\_      Other Diagnosis \_\_\_\_\_

**Type of Tularemia:**

Ulceroglandular \_\_\_\_\_      Oculoglandular \_\_\_\_\_      Glandular \_\_\_\_\_      Typhoidal \_\_\_\_\_      Other \_\_\_\_\_

Comments: \_\_\_\_\_

Source of Information \_\_\_\_\_

Name of Investigator: \_\_\_\_\_      Date: \_\_\_\_\_

# Supplemental Tularemia Investigation of Risk, Outcome, and Exposure

## Clinical questions:

Date of Interview  
 \_\_\_/\_\_\_/\_\_\_

If hospitalized, how many nights?	_____ nights
Date first seen by medical person	___/___/___
Time from onset until tularemia diagnosis	_____ days
Duration of antibiotic treatment	_____ days
After finishing the first course of antibiotic treatment, did you get additional antibiotics for tularemia due to return of or worsening symptoms?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Still on first course of antibiotics
Immunocompromised?	<input type="checkbox"/> Organ/tissue immunotherapy <input type="checkbox"/> Chemotherapy or steroid therapy <input type="checkbox"/> Immunodeficiency disorder <input type="checkbox"/> Diabetes <input type="checkbox"/> Heart disease <input type="checkbox"/> Other _____ <input type="checkbox"/> No <input type="checkbox"/> Unknown
Outcome	<input type="checkbox"/> Recovered, no complications <input type="checkbox"/> Recovered, with complications: _____ <input type="checkbox"/> Recovered, complications unknown <input type="checkbox"/> Died (date: ___/___/___) <input type="checkbox"/> Unknown illness outcome

## Exposure questions:

***In the two weeks before illness onset:***

	Yes	No	Unknown	Details
Tick or biting fly bite	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Drinking untreated water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lawn mowing/brush cutting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hunting/butchering animals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Animal bite/scratch (wild or domestic)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other contact with a sick or dead animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Noticed unusual animal die-offs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	