

# Tularemia

## Reporting Obligations

Tularemia is designated as a disease of public health significance and is reportable under the *Ontario Health Protection and Promotion Act*. Report all suspect and confirmed cases within **one business day** to the health unit.

### REPORTING FORM

## Epidemiology

### Aetiologic Agent:

Tularemia (also known as rabbit fever) is a zoonotic bacterial disease caused by the bacterium *Francisella tularensis* (*F. tularensis*), which is a small, Gram-negative nonmotile coccobacillus. May be used as a potential bioterrorism agent.

### Clinical Presentation:

Abrupt onset of fever, chills, myalgia, and headache. Illness usually conforms to one of several tularemic syndromes, including the following:

- Ulcero-glandular – cutaneous ulcer with regional lymphadenopathy at the entry site (most common)
- Glandular – regional lymphadenopathy with no ulcer
- Oculo-glandular – 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

### Modes of transmission:

Many routes of human exposure to tularemia are known to exist; the common routes include inoculation of the skin or mucous membranes with blood or tissue of animals, while handling infected animals; bites from infected deerflies or ticks; and handling or eating insufficiently cooked meat of infected animals. Less common means of spread include drinking contaminated water, inhaling dust from contaminated soil, contact with contaminated animal pelts or paws, and handling sick domestic pets.

### Incubation Period:

Related to size of inoculum; usually 3 – 5 days with a range of 1 – 14 days.

### Period of Communicability:

No person to person spread; unless treated, infectious agent may be found in blood during first 2 weeks of disease and in lesions for a month; flies infective for 14 days and ticks throughout lifetime (two years); frozen rabbit meat has remained infective for more than three years.

## Risk Factors/Susceptibility

All ages are susceptible, and long-term immunity follows recovery; re-infection is extremely rare.

- History of tick or deerfly bite in last 14 days
- Contact with animals or animal products (i.e., veterinarian, pet industry worker, hunter, trapper, laboratory worker)
- Consumption of contaminated water
- Contact with rodents or lagomorphs
- Consumption of game meat

## Diagnosis & Laboratory Testing

Either of the following will constitute a confirmed case of Tularemia:

- Isolation of *Francisella tularensis* from an appropriate clinical specimen (e.g., blood, sputum)
- A significant (i.e., fourfold, or greater) rise in serum antibody titre to *F. tularensis* antigen

### TESTING INFORMATION & REQUISITION

## Treatment & Case Management

Treatment is under the direction of the attending health care provider.

Provide education about the illness and how to prevent the spread (avoiding bites of deerflies, mosquitoes, and ticks; using insect repellent, wearing light colored clothing, long sleeved shirts and pants, and checking for ticks frequently; cooking game meat thoroughly and using impermeable gloves when dressing game).

Public Health will follow up as needed.

## Patient Information

### PATIENT FACT SHEET

## References

1. [Ontario. Ministry of Health. Infectious Diseases Protocol. Appendix 1: Tularemia.](#) Toronto: Queen's Printer for Ontario; 2022 [effective 2023 May] [cited 2024 Mar 12].

## Additional Resources

1. [Tularemia. Toronto: PHO; 2023 Dec 15.](#) [cited 2024 Mar 12].