

Ministry of Health
Infectious Diseases Protocol

Appendix B: Provincial Case Definitions for Diseases of Public Health Significance

Disease: Trichinosis
Effective: February 2019

Trichinosis

1.0 Provincial Reporting

Confirmed and probable cases of disease

2.0 Type of Surveillance

Case-by-case

3.0 Case Classification

3.1 Confirmed Case

Laboratory confirmation of infection with clinically compatible signs and symptoms:

- Demonstration of *Trichinella* spp. in a muscle biopsy
OR
- Positive serology

3.2 Probable Case

Clinically compatible signs and symptoms in a person with an epidemiologic link to a laboratory-confirmed case or to a confirmed food source (e.g., meat containing *Trichinella* larvae, by visual inspection or laboratory confirmation).

4.0 Laboratory Evidence

4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of trichinosis:

- Demonstration of *Trichinella* larvae in tissue obtained by muscle biopsy
OR
- Positive serologic test for *Trichinella*

4.2 Approved/Validated Tests

- Microscopic examination of muscle biopsy pressed between 2 glass plates for *Trichinella* larvae
- Microscopic examination of enzyme digested biopsy material for *Trichinella* larvae
- Serological tests (i.e., enzyme immunoassay [EIA])

4.3 Indications and Limitations

- Presence of larvae in biopsies indicates definitive evidence of infection but microscopy is time consuming, especially in a mild infection, and a negative result is not conclusive.
- Only serum samples are suitable for serology. During acute trichinosis, serologic tests may be negative due to prolonged seroconversion. Serum antibody titres

rarely become positive before the second week of illness. Thus, convalescent serologic testing (~6-12 weeks following symptom onset) is recommended if acute serology is negative. Low reactive values on serologic assays may reflect: remote prior infection; false positivity due to cross-reactivity with other helminth infections; or, very low burden *Trichinella* infection.

- Skeletal muscle biopsy taken more than 10 days after infection (most often positive after the fourth or fifth week of infection) frequently provides conclusive evidence of infection

5.0 Clinical Evidence

The disease has variable clinical manifestations and may be asymptomatic in some cases. Common signs and symptoms among symptomatic persons include eosinophilia, fever, myalgia, and periorbital edema.

6.0 ICD 10 Code(s)

B75 Trichinellosis

7.0 Sources

Acha P, Szyfres B. Zoonoses and Communicable Diseases Common to Man and Animals. Vol. 3. 3 ed. Washington, DC: Pan American Health Organization; 2003.

Centers for Disease Control and Prevention. National Notifiable Disease Surveillance System: Trichinellosis / Trichinosis (*Trichinella* spp.) - 2014 Case Definition [Internet]. Atlanta, GA: U.S. Department of Health & Human Services; 2014 [cited February 21, 2018]. Available from: <https://wwwn.cdc.gov/nndss/conditions/trichinellosis/case-definition/2014/>

Committee on Infectious Diseases, American Academy of Pediatrics. Section 3: Summaries of Infectious Diseases: Trichinellosis. In: Kimberlin DW, Brady MT, Jackson MA, Long SS, editors. Red Book: 2018 Report of the Committee on Infectious Diseases. 31 ed. Itasca, IL: American Academy of Pediatrics; 2018.

Heymann DL, editor. Control of Communicable Diseases Manual. 20 ed. Washington, D.C: American Public Health Association; 2015.

8.0 Document History

Table 1: History of Revisions

Revision Date	Document Section	Description of Revisions
December 2014	General	New template. Title of Section 8.0 changed from “References” to “Sources”. Section 9.0 Document History added.
December 2014	3.1 Confirmed Case	Addition of “or without” in first sentence.

Revision Date	Document Section	Description of Revisions
December 2014	4.2 Approved/Validated Tests	In fourth (last) bullet, removal of “(i.e. complement fixation [CF])” and addition of “(i.e. enzyme immunoassay [EIA])”.
December 2014	4.3 Indications and Limitations	In first bullet, removal of “...especially in a low infection...” and addition of “...especially in a mild infection...” Addition of third (last) bullet: “Skeletal muscle biopsy takes more than 10 days...”
December 2014	5.0 Clinical Evidence	Removal of prior first sentence “A disease caused by ingestion of <i>Trichinella</i> larvae”. Addition of the following at the end of current first sentence: “...and may be asymptomatic in some cases.”
December 2014	8.0 Sources	Updated.
February 2019	General	Minor revisions were made to support the regulation change to Diseases of Public Health Significance.

