

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

Disease: *Echinococcus multilocularis* infection

Effective: February 2019

***Echinococcus multilocularis* infection**

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 Definition

Laboratory confirmation of infection with clinically compatible signs and symptoms, based on:

- Demonstration of antibodies to *Echinococcus multilocularis* (*E. multilocularis*) in blood or serum sample
- OR**
- Demonstration of larval stages of *E. multilocularis* in histopathology samples from tissue biopsies

3.2 Probable Case

Laboratory confirmation in the absence of clinical signs of alveolar echinococcosis, based on:

- Demonstration of antibodies to *E. multilocularis* in blood or serum sample

4.0 Laboratory Evidence

4.1 Laboratory Confirmation

The following will constitute a confirmed case of *E. multilocularis* infection (in the presence of clinically compatible signs and symptoms):

- Demonstration of antibodies to *E. multilocularis* in blood or serum sample (See Section 4.2)
- OR**
- Demonstration of larval stages of *E. multilocularis* in histopathology samples from tissue biopsies

4.2 Approved/Validated Tests

Serologic testing for antibodies to *E. multilocularis* is performed at the Institute of Parasitology, University of Berne, Switzerland, using a combination of the following assays:

- Em2-antigen enzyme-linked immunosorbent assay (ELISA)
- II/3-10-antigen ELISA
- Em2Plus-antigen ELISA

Additional confirmatory techniques include direct immunofluorescence and/or *Echinococcus* polymerase chain reaction (PCR) of tissue biopsies.

5.0 Clinical Evidence

Infection of humans with *E. multilocularis* is characterized by an initial asymptomatic incubation period of 5 to 15 years.

Proliferation of the larval stage of *E. multilocularis* produces a highly invasive, destructive disease called alveolar echinococcosis. Once clinical signs develop, lesions are usually found in the liver; because the growth of these lesions is not restricted by a thick laminated cyst wall, they expand at the periphery to produce solid, tumour-like masses. Metastases can result in secondary cysts and larval growth in other organs. Clinical manifestations depend on the size and location of cysts, but are often confused with hepatic carcinoma and cirrhosis.

6.0 ICD 10 Code(s)

B67.5 *Echinococcus multilocularis* infection of liver

B67.6 *Echinococcus multilocularis* infection, other and multiple sites

B67.7 *Echinococcus multilocularis* infection, unspecified

7.0 Sources

Eckert J, Gemmell MA, Meslin F-X, Pawlowski ZS, editors. WHO/OIE Manual on Echinococcosis in Humans and Animals: a Public Health Problem of Global Concern. Paris, France: World Organisation for Animal Health and World Health Organization; 2001.

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
March 2018	Entire appendix developed.	<i>E. multilocularis</i> was designated as a disease of public health significance effective May 1, 2018.
February 2019	3.0	Replaced “Confirmed Outbreak Definition” with “Confirmed Case Definition”

