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


### 8.0 Document History

#### Table 1: History of Revisions

<table>
<thead>
<tr>
<th>Revision Date</th>
<th>Document Section</th>
<th>Description of Revisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 2018</td>
<td>Entire appendix</td>
<td><em>E. multilocularis</em> was designated as a disease of public health significance effective May 1, 2018.</td>
</tr>
<tr>
<td>February 2019</td>
<td>3.0</td>
<td>Replaced “Confirmed Outbreak Definition” with “Confirmed Case Definition”</td>
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