



Alberta Public Health Disease Management Guidelines

Echinococcosis (Alveolar)



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Health and Wellness Promotion Branch

Public Health and Compliance Branch

Alberta Health

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Case Definition

Confirmed Case

Reference (1) applies to this section.

Laboratory confirmation of infection:

- Typical organ lesion detected by imaging techniques (e.g., MRI, CT scan or ultrasound)

AND

- Histopathology compatible with Alveolar Echinococcus

AND

- Detection of *Echinococcus multilocularis* serum-specific antibodies by high-sensitivity serological tests and confirmed by a high-specificity serological test (i.e., two tests)

OR

- Detection of *E. multilocularis* nucleic acid sequence(s) in an appropriate clinical specimen

Reporting Requirements

Laboratories

All laboratories shall report all positive laboratory results (including histological/pathological reports) by mail, fax or electronic transfer within 48 hours (two business days) to the MOH (or designate) of the zone and the Chief Medical Officer of Health (CMOH) (or designate).

Alberta Health Services and First Nations and Inuit Health Branch

Laboratory surveillance only. Completion of a Notifiable Disease Report form is not required.

Epidemiology

Etiology

Alveolar echinococcosis (AE) in humans is caused by the larval stage of *Echinococcus multilocularis*.⁽²⁾

Clinical Presentation

Individuals with AE are usually asymptomatic until the cysts overcome the body's ability to handle them.⁽¹⁾ Lesions usually begin in the liver then metastasize to other organs.⁽²⁾ Symptoms range from jaundice to abdominal pain to fatigue and weight loss and can be confused with hepatic carcinoma or cirrhosis.^(1,2) If AE is left untreated, almost all cases are fatality; however earlier diagnosis and treatment can greatly increase life expectancy.^(1,3)

Reservoir

The adult form of the tapeworm can be found in coyotes, foxes, dogs and cats.^(2,4)

Transmission

The larvae are transmitted to people via the ingestion of food or water contaminated with tapeworm eggs.⁽⁴⁾ For example, people may gather berries, herbs or greens from locations that have been contaminated by the stool of infected foxes or coyotes.⁽⁵⁾ In addition, household pets that go outdoors may consume infected animals, shedding the tapeworm eggs in their stool, or roll around in contaminated feces, getting the eggs in their fur.⁽²⁾ People may then pet the animals and touch food or the mouth before hand washing.

Echinococcus multilocularis eggs are resistant to cold up to -50°C and can remain viable for up to one year in a moist environment.⁽⁶⁾ They are sensitive to desiccation (drying out), high temperatures and temperatures colder than -50°C.

Incubation Period

The incubation period ranges from 12 months to years, depending on the number of larvae ingested, the location of the cysts and how fast they grow.⁽²⁾

Period of Communicability

Echinococcus multilocularis is not transmitted person to person.⁽²⁾

Host Susceptibility

AE most often affects adults.⁽²⁾ Those with immunosuppression are at increased risk for the occurrence and progression of AE.⁽⁷⁾

Incidence

Echinococcus multilocularis is considered endemic in North America, with increasing reports of the parasite in humans and animals in many parts of Russia, Asia, western Europe, northern Japan, Alaska and Canada.⁽²⁾

AE has been laboratory notifiable in humans in Alberta since 2018. A recent study has documented 17 cases in Alberta between 2013 and 2020).⁽⁸⁾

Refer to the myhealth.alberta.ca website for more information on *E. multilocularis*.

Appendix 1: Revision History

Revision Date	Document Section	Description of Revision
November 2021	General	<ul style="list-style-type: none">• Updated Template• Updated web link

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