

Maine Health Alert Network (HAN) System

PUBLIC HEALTH ADVISORY

To: Healthcare Providers
From: Dr. Siiri Bennett, State Epidemiologist
Subject: **Human Powassan Cases**
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Abstract:

Maine CDC has identified two human cases of Powassan encephalitis in adult Maine residents who reside in the Mid Coast area of the state. Both individuals were symptomatic in late April and hospitalized. Both individuals were confirmed through testing at CDC Fort Collins. Both individuals were discharged from the hospital and are recovering.

Powassan virus is transmitted to humans through the bite of an infected tick. Signs and symptoms can include fever, headache, vomiting, weakness, confusion, seizures, and memory loss. Long-term neurologic problems may occur. Symptoms can begin anytime from one week to one month after the tick bite. There is no specific treatment, but people with severe Powassan virus illness often need to be hospitalized.

Human Powassan Cases

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Powassan was first discovered in Powassan, Ontario in 1958. There are two type of Powassan virus in the United States. The first type, often called lineage 1 POW virus is associated with *Ixodes cookei* or the woodchuck tick. Lineage 2 POW, sometimes called Deer tick virus, is associated with *Ixodes scapularis* or the deer tick. Both can cause human disease. Powassan encephalitis is rare in the United States with an average of 7 cases reported each year. Maine has identified nine Powassan cases since 2000: 2 in 2000, 1 in 2001, 1 in 2004, 1 in 2013, 1 in 2015, 1 in 2016, and 2 in 2017.

Prevention:

Transmission time from tick bite to infection is shorter than for other tickborne diseases so the best way to prevent Powassan encephalitis is to prevent tick bites. Maine CDC recommends the No Ticks 4 ME approach:

1. Wear protective clothing
 - a. Wear light colored clothing to make ticks easier to see, wear long sleeves and pants
2. Use an EPA approved repellent
 - a. Apply repellents to bare skin according to label instructions. Permethrin is a good option to treat clothing and gear and will remain protective through several washings
3. Use caution in tick infested areas
 - a. Avoid wooded and bushy areas with high grass and stay in the middle of trails whenever possible
4. Perform daily tick checks
 - a. Check for ticks immediately after exiting high risk areas. Bathe or shower (preferably within 2 hours after being outdoors) to wash off and find ticks on your body. Conduct a full-body tick check. Also examine clothing, gear, and pets.

Testing:

There is no commercial testing available for Powassan virus. Maine's Health and Environmental Testing Laboratory (HETL) can perform PCR testing and can assist in coordinating serologic testing on symptomatic individuals. A HETL requisition and Arboviral submission form are required for testing.

Reporting:

Powassan disease is reportable in Maine. All suspect cases, and positive laboratory reports should be reported by phone to the 24/7 disease reporting and consultation line at 1-800-821-5821 or by fax to 1-800-293-7534

Additional information:

- Maine CDC Powassan webpage <http://www.maine.gov/dhhs/mecdc/infectious-disease/epi/vector-borne/powassan/index.shtml>
- Federal CDC Powassan webpage <https://www.cdc.gov/powassan/>

- Tick identification is available free of charge through the University of Maine Cooperative Extension <https://extension.umaine.edu/ipm/tickid/>
- Disease consultation and reporting available through Maine CDC at 1-800-821-5821
- HETL requisition www.mainepublichealth.gov/lab