



DATE:	March 8, 2022
TO:	Health Alert Network
FROM:	Keara Klinepeter, Acting Secretary of Health
SUBJECT:	Powassan Virus Identified in Ticks
DISTRIBUTION:	Statewide
LOCATION:	Statewide
STREET ADDRESS:	Statewide
COUNTY:	Statewide
MUNICIPALITY:	Statewide
ZIP CODE:	Statewide

This transmission is a “Health Advisory”: provides important information for a specific incident or situation; may not require immediate action.

HOSPITALS: PLEASE SHARE WITH ALL MEDICAL, PEDIATRIC, NURSING AND LABORATORY STAFF IN YOUR HOSPITAL; **EMS COUNCILS:** PLEASE DISTRIBUTE AS APPROPRIATE; **FQHCs:** PLEASE DISTRIBUTE AS APPROPRIATE **LOCAL HEALTH JURISDICTIONS:** PLEASE DISTRIBUTE AS APPROPRIATE; **PROFESSIONAL ORGANIZATIONS:** PLEASE DISTRIBUTE TO YOUR MEMBERSHIP; **LONG-TERM CARE FACILITIES:** PLEASE SHARE WITH ALL MEDICAL, INFECTION CONTROL, AND NURSING STAFF IN YOUR FACILITY

The Department of Environmental Protection (DEP) has confirmed higher than expected rates of Powassan (POW) virus in ticks located in multiple Pennsylvania counties during the 2021 surveillance season including Clearfield, Centre, Wyoming, Bradford and Schuylkill counties. POW virus is spread to people through the bite of an infected deer tick, and although no human POW virus cases were reported in Pennsylvania in 2021, ten cases of POW virus have been reported since surveillance started in 2011. This health advisory provides healthcare providers with background information on POW virus disease including transmission, clinical signs and symptoms, diagnosis, and prevention as DEP closely monitors these hot spot areas.

Summary:

POW virus disease is a rare, but serious arboviral illness transmitted by infected ticks.

Healthcare providers should be aware of the following:

1. POW virus disease is a reportable disease in Pennsylvania and suspected cases should be reported to PA-NEDSS, the Department’s electronic reportable disease surveillance system or your local health department.
2. Healthcare providers should consider the diagnosis of POW virus disease in patients with meningitis, encephalitis or other non-specific febrile illness occurring when ticks are active, especially if the patient has a history of tick exposure or bite.
3. POW virus disease cannot be clinically distinguished from other arboviral diseases. The most common diagnostic approach is detection of POW virus-specific IgM antibodies.
4. Please call PA DOH at 1-877-PA-HEALTH (1-877-724-3258) or your local health department for assistance with POW virus disease diagnostic testing.

POW virus is transmitted by the bite of an infected tick. More than 150 cases have been documented in the United States, mostly in the northeast and Great Lakes regions. The deer tick (*Ixodes scapularis*), also known as the blacklegged tick, is capable of being infected with and transmitting POW virus. This tick species is also the primary vector of Lyme disease and several other tickborne pathogens, and deer ticks can be found throughout Pennsylvania.

While the state Powassan infection rate for the fall 2020/winter 2021 deer tick collections were consistent with previous findings at 0.6%, Powassan hot spots with higher than expected rates were found in the following counties: Wyoming (67%), Clearfield (48%), Centre (40%), Bradford (11%) and Schuylkill (4%). While tickborne diseases such as Lyme require an infected deer tick be attached for over 24 hours to transmit the disease, studies have shown significantly less time may be needed to transmit POW virus.

Most people infected with POW virus are asymptomatic. Illness, if it develops, appears one week to one month after the tick bite. Symptoms are typical of neuroinvasive arboviral disease and include (but are not limited to) fever, headache, vomiting, weakness, altered mental status, loss of coordination, speech difficulties, memory loss, encephalitis and meningitis. Non- neuroinvasive POW virus disease has been documented and manifests as a febrile flu-like illness. Infection can be fatal in about 10% of neuroinvasive cases.

There is no specific treatment, such as antivirals, for POW virus disease and supportive care is appropriate. The best way to prevent POW virus disease is to prevent tick bites. Effective strategies include avoiding tick habitat such as wooded and bushy areas with high grass; consistently using an effective insect repellent such as DEET when outdoors; and treating outdoor gear and clothes with an insecticide such as permethrin. In addition, after spending time outdoors make sure to shower or bathe along with a full-body tick check in order to remove questing ticks. Any attached ticks should also be removed immediately. Deer ticks may be very small (nymphs are the size of a poppy seed), so careful scrutiny is required.

Health care providers should consider the diagnosis of POW virus disease in patients with meningitis, encephalitis, or other non-specific febrile illness occurring during the warmer months of the year, especially if the patient has a history of tick exposure or bite. POW virus disease cannot be clinically distinguished from other arboviral diseases and requires testing to confirm the diagnosis. POW virus disease is most often diagnosed through identifying the presence of antibodies in CSF or serum. Specimens can be sent to the state Bureau of Laboratories (BOL) for POW testing. The BOL specimen submission form and instructions for diagnostic testing for POW virus and other causes of arboviral encephalitis can be found on the PA DOH vectorborne webpage [HERE](#). Please contact your local health department or PA DOH for assistance with testing.

POW virus disease is reportable in Pennsylvania. Suspected cases should be reported to your local health department or to PA-NEDSS, the Department's electronic reportable disease surveillance system. Please call PA DOH at 1-877-PA-HEALTH (1-877-724-3258) or your local health department for assistance with POW virus disease diagnostic testing.

Categories of Health Alert Network messages:

Health Alert Requires immediate action or attention; highest level of importance

Health Advisory May not require immediate action; provides important information for a specific incident or situation

Health Update Unlikely to require immediate action; provides updated information regarding an incident or situation

HAN Info Service Does not require immediate action; provides general public health information

This information is current as of March 8, 2022 but may be modified in the future. We will continue to post updated information regarding the most common questions about this subject.