
Powassan Virus

What is Powassan virus?

Powassan virus is a rare tick-borne viral infection that occurs in northern areas of North America. It is named after Powassan, Ontario, Canada where it was first discovered. There are two known types of the virus.

How does someone get Powassan virus?

Powassan virus infection is caused by an arbovirus, which is similar to the mosquito-borne West Nile virus, but it is transmitted to people by the bite of an infected tick. Approximately 60 cases of the disease have been detected in the U.S. and Canada since its discovery in 1958.

How is Powassan virus spread?

In New Hampshire, *Ixodes scapularis*, or the blacklegged tick or more commonly known as the deer tick, is capable of transmitting the virus to people. *I. scapularis* is the same tick that transmits Lyme disease, human anaplasmosis, and babesiosis. There are several other tick species in North America, including other *Ixodes* species and *Dermacentor andersoni*. A tick needs to be attached to a person for a sufficient amount of time before it can cause disease. The exact time interval for Powassan virus is not known, but it is likely much shorter than the time needed for Lyme disease (24–36 hours) or anaplasmosis (12–24 hours).

Who is most at risk of Powassan virus?

It is not known what percentage of the blacklegged tick population is infected with

Powassan virus, so it is possible people are at risk of infection anywhere the blacklegged tick is found, which includes New Hampshire. This tick is most active from spring until mid-summer and again in the fall. It is believed the risk in New Hampshire is low but people should take precautions against tick bites to prevent all diseases transmitted by ticks, including Lyme disease, which is very common.

What are the symptoms of Powassan virus?

Symptoms generally develop 7–14 days (range 8–34 days) following infection. Some people who are infected may experience mild illness or no symptoms. Symptoms of illness usually begin with acute onset of fever and may include headache, muscle weakness, nausea, vomiting, stiff neck, fatigue, confusion, paralysis, speech difficulties, and memory loss. Powassan virus infects the central nervous system and can cause brain inflammation (encephalitis) and inflammation of the membranes surrounding the brain and spinal cord (meningitis).

How is Powassan virus infection diagnosed?

Because the symptoms of Powassan virus are similar to other illnesses caused by other arboviruses, such as West Nile virus, it can be difficult to diagnose and differentiate. Blood tests can determine if someone has been infected with Powassan virus. The New Hampshire Public Health Laboratories does not perform testing for this virus, but can send samples if requested to the Centers for

Disease Control and Prevention (CDC) for testing.

What is the treatment for Powassan virus infection?

Currently, there are no specific medications available for the treatment of Powassan virus infection, but supportive care can be used to manage and alleviate symptoms.

Is there a vaccine for Powassan virus?

There is no vaccine available to prevent people from becoming infected with Powassan virus.

What precautions can people take to prevent Powassan virus infection?

The most effective way to prevent Powassan virus infection is to avoid tick bites. Repellents are the best tool in preventing tick-borne illnesses. When outdoors in potentially tick-infested areas, such as woods, grassy areas, or yards and gardens, it is important to use a repellent that contains 30% DEET or permethrin. Wear long pants and light-colored clothing to prevent tick bites and to make the ticks easier to see. Do a thorough tick check every time you return from spending time in tick-infested areas.

What is the best way to remove a tick from the skin?

Grasp the mouthparts with a tweezer as close as possible to the attachment (skin) site. If tweezers are not available, use fingers shielded with tissue or rubber gloves. Do not handle a tick with bare hands. Be careful not to squeeze, crush, or puncture the body of the tick, which may contain infectious fluids. It is important that a tick be removed as soon as it is discovered. After removing the tick, thoroughly disinfect the tick site with rubbing alcohol or an antibacterial wash and then wash hands with hot water and soap. See or call a doctor if there are concerns about incomplete tick removal. Do not attempt to

remove ticks by using petroleum jelly, lit cigarettes, or other home remedies because they may actually increase the chance of contracting a tick-borne disease.

For specific concerns or questions about Powassan virus, call the NH Department of Health and Human Services at 603-271-4496. For further information, refer to the Centers for Disease Control and Prevention website at www.cdc.gov.