

# Powassan virus

## What is Powassan virus?

Powassan virus causes a rare, but often serious disease, and is spread by the bite of tiny, infected black-legged (deer) ticks. There are two types of Powassan virus in the United States. One type is found in ticks that normally feed on woodchucks (groundhogs); the second type is carried by black-legged (deer) ticks, the same ticks that can also carry the germs that cause Lyme disease, babesiosis and anaplasmosis.

## Where do cases of Powassan virus disease occur?

Although approximately 100 cases of Powassan infection have been reported in the last 10 years in the United States, most of those cases have occurred in the Northeast and the Great Lakes region. There have been 16 cases of Powassan virus infection in Massachusetts since 2013.

## How is Powassan virus spread?

Powassan virus is spread by the bite of an infected tick. In Massachusetts, the black-legged (deer) tick is the type of tick most likely to carry this infection. While ticks must be attached for a certain length of time before they can spread most infections, there is some evidence that Powassan virus can spread from the tick into a person after only a short time of attachment.

## When am I at risk from Powassan virus?

Cases of Powassan virus disease can occur any time ticks are active. Young ticks (nymphs) are most active during the warm weather months between May and July. Adult ticks are most active during the fall and spring, but may also be out searching for a host any time that winter temperatures are above freezing.

## How soon do symptoms of disease appear after a tick bite?

Symptoms of disease usually begin between one week and one month after the bite of an infected tick.

## What are the symptoms of Powassan virus disease?

Although most people who are exposed to Powassan virus likely never feel ill, others may become severely ill with meningitis (inflammation of the covering of the brain and spinal cord) or encephalitis (inflammation of the brain). Signs and symptoms include fever, headache, vomiting, weakness, confusion, loss of coordination, speech difficulties and seizures. Approximately 10% of people with this severe form of the disease will die and survivors may have long-term health problems.

## Is there treatment for Powassan virus disease?

There is no specific treatment once infection with Powassan virus has occurred. Treatment consists of supportive care, rest and fluids to prevent dehydration.



You don't have to be a hiker on Cape Cod to worry about ticks. In Massachusetts, you can be bitten in your own back yard. There are lots of things you can do around your own backyard to make it less inviting for ticks! Visit the MDPH Tick-borne Disease Website at <http://www.mass.gov/dph/tick> for suggestions.

**Prevention begins with you!** Take steps to reduce your chances of being bitten by any tick. Ticks are most active during warm weather, generally late spring through fall. However, ticks can be out any time that temperatures are above freezing. Ticks cling to vegetation and are most numerous in brushy, wooded or grassy habitats. When you are outside in an area likely to have ticks (e.g. brushy, wooded or grassy places), follow these simple steps to protect yourself and your loved ones:

- Use a repellent with **DEET** (the chemical N-N-diethyl-meta-toluamide) or **permethrin**. Repellents containing DEET should not be used on children less than 2 months of age and should be used in concentrations no higher than 30% on older children. Permethrin products are intended for use on items such as clothing, shoes, bed nets and camping gear and should not be applied to skin. Other repellents, such as picaridin, oil of lemon eucalyptus and IR 3535, have also been found to provide protection against ticks. More information on choosing a repellent and how to use repellents safely is included on the MDPH Public Health Fact Sheet on Tick Repellents at <http://www.mass.gov/dph/tick>.
- Wear long, light-colored pants tucked into socks or boots, and a long-sleeved shirt. This may be tough to do when the weather is hot, but it will help keep ticks away from your skin and help you spot a tick on your clothing faster.
- Stay on trails when walking or hiking, avoiding the edge habitat where ticks are likely to be.
- Showering immediately after potential tick exposure may help remove unattached ticks.
- Talk to your veterinarian about tick control options (tick collars, repellents) for your pets.

**After spending time in an area likely to have ticks, check yourself, your children and pets for ticks.** Young ticks, called nymphs, are the size of a poppy seed. Adult black-legged ticks are the size of a sesame seed. Both nymph and adult ticks can spread diseases ticks carry; however, nymphs are often of more concern. They are aggressive feeders and so tiny that it can be difficult to see them on the body, unless you are looking carefully. When doing a tick check, remember that ticks like places that are warm and moist. Always check the back of the knees, armpits, groin, scalp, back of the neck and behind the ears. If you find a tick attached to your body, remove it as soon as possible using fine-point tweezers. Do not squeeze or twist the tick's body, but grasp it close to your skin and pull straight out with steady pressure.

**Know the symptoms of tick-borne disease.** If you develop symptoms of any disease carried by ticks, see your health care provider right away.

## Where can I get more information?

- **For questions about your own health**, contact your doctor, nurse, or clinic
- **For questions about diseases spread by ticks**, contact the MDPH at (617) 983-6800 or toll free at (888) 658-2850 or online at [www.mass.gov/dph/tick](http://www.mass.gov/dph/tick). You may also contact your local Board of Health (listed in the telephone directory under "Government").
- **Health effects of pesticides**, MDPH, Bureau of Environmental Health at 617-624-5757.





**Massachusetts Department of Public Health Tick-borne Disease Website**



<http://www.mass.gov/dph/tick>

