



POWASSAN VIRUS (POW)

What is Powassan virus?

Powassan virus is spread to people by the bite of an infected tick. Powassan virus can cause infection of the brain (encephalitis) or the membranes around the brain and spinal cord (meningitis).

Although still rare, the number of reported cases of people sick from Powassan virus has increased in recent years. Most cases in the United States occur in the northeast and Great Lakes regions from late spring through mid-fall when ticks are most active.

How do people get Powassan virus?

Powassan virus is spread to people by the bite of an infected tick. Ticks become infected when they feed on groundhogs, squirrels, mice, or other rodents that have the virus in their blood. Infected ticks can then spread Powassan virus to people and other animals by biting them. People do not transmit Powassan virus.

Three types of ticks spread Powassan virus and are primarily found in the eastern half of the United States:

- *Ixodes cookei* (groundhog tick)
- *Ixodes marxi* (squirrel tick)
- *Ixodes scapularis* (blacklegged or deer tick).

What are the signs and symptoms of Powassan virus?

Many people infected with Powassan virus do not have symptoms. For people with symptoms, the time from the tick bite(s) to feeling sick ranges from one week to one month. Initial symptoms can include fever, headache, vomiting, and weakness.

When do symptoms appear?

Symptoms typically appear one to four weeks after a bite from an infected tick.

How is Powassan virus diagnosed?

Health care providers diagnose Powassan virus infection based on these signs and symptoms:

- History of living in or traveling to an area where Powassan virus is known to circulate
- History of possible exposure to the ticks that can carry Powassan virus
- Laboratory testing of blood or spinal fluid.

Your health care provider can order tests to look for Powassan virus infection and other infections that can cause similar symptoms.



How is Powassan virus treated?

- There are no medications to prevent or treat Powassan virus infection. Antibiotics do not treat viruses.
- Rest, fluids, and over-the-counter pain medications may relieve some symptoms.
- People with severe disease often need to be hospitalized to receive support for breathing, staying hydrated, or reducing swelling in the brain.

Who is at risk for Powassan virus?

Anyone bitten by a tick in an area where the virus is commonly found can be infected with Powassan virus. The risk is highest for people who live, work, or recreate in brushy or wooded areas because of greater exposure to potentially infected ticks.

What are the complications of Powassan virus?

Powassan virus can cause severe disease, including infections of the brain (encephalitis) or the membranes that surround the brain and spinal cord (meningitis).

Symptoms of severe disease can include:

- Confusion
- Loss of coordination
- Difficulty speaking
- Seizures.

Approximately one out of 10 people with severe disease die. Approximately half of the people who survive severe disease have long-term health problems such as recurring headaches, loss of muscle mass and strength, and memory problems.

How can Powassan virus be prevented?

Powassan virus is spread to people by the bite of an infected tick. There is no vaccine to prevent Powassan virus infection. Reduce your risk of getting sick by:

- Know where to expect ticks and avoid contact with them. When going outdoors, treat clothing and gear with products containing 0.5% permethrin.
- On skin, use Environmental Protection Agency (EPA)-registered insect repellents containing DEET, picaridin, IR3535, Oil of Lemon Eucalyptus (OLE), para-menthane-diol (PMD), or 2-undecanone.
- Check your clothing for ticks.
- Examine gear and pets. Ask your veterinarian which tick prevention product is best for your dog.
- Bathe or shower within two hours after coming indoors.
- Look for ticks on your body and remove them.

Resources

Centers for Disease Control and Prevention, <https://www.cdc.gov/powassan/>

Office of Infectious Disease Epidemiology
24/7 Emergency Contact Number: 1-888-295-5156