

# News Release

July 29, 2009

## **Two more diseases from ticks found in Minnesota**

*Powassan disease, Rocky Mountain spotted fever are rare but severe tick-borne illnesses, warn health officials*

Powassan encephalitis and Rocky Mountain spotted fever, two serious tick-borne diseases, have been identified in Minnesota residents, state health officials said today. More commonly occurring tick-borne diseases in Minnesota include Lyme disease, anaplasmosis, and babesiosis.

### **Powassan cases**

Two northern Minnesota residents were the first reported cases of Powassan (POW) disease in the state, said Minnesota Department of Health (MDH) officials. A Cass County child was diagnosed with POW encephalitis in 2008, and a second case of POW encephalitis was identified in a Cass County adult in 2009. Both individuals were hospitalized with severe neurological symptoms and have made some improvement but are requiring ongoing care. They likely acquired their infections after tick bites in Cass County.

Since POW virus was first identified in 1958 in Powassan, Ontario, about 50 cases have been identified in the United States and Canada. The patients in Minnesota represent the western-most human cases identified in North America.

Molecular testing on the virus from the 2008 POW case confirmed that the virus was a type carried by the blacklegged tick (also called the deer tick). In June 2009, the MDH Public Health Laboratory identified POW virus in blacklegged ticks collected from northern and eastern Minnesota. This tick species also carries Lyme disease, anaplasmosis, and babesiosis in Minnesota.

"The identification of POW virus in both tick and human specimens confirms that POW virus can be acquired from tick bites in Minnesota," said Melissa Kemperman, an epidemiologist specializing in tick-transmitted diseases at MDH. "This is now a fourth disease that people can get from blacklegged ticks in Minnesota."

### **Rocky Mountain spotted fever case**

Rocky Mountain spotted fever (RMSF), a disease carried by a different type of tick, caused the death of a young child in July 2009. The child was a Dakota County resident who most likely was bitten by an infected tick within the county. Sporadic cases of RMSF have been reported from various parts of Minnesota in prior years. RMSF is considered to be very rare in Minnesota, but 2,000 cases are reported annually in other parts of the United States. The 2009 case was the first Minnesota fatality due to RMSF reported to MDH.

RMSF, caused by the bacteria *Rickettsia rickettsii*, is one type of tick-borne spotted fever. It is most common in eastern, southern, and western states. The American dog tick, the Rocky Mountain wood tick, and the brown dog tick can all carry the bacteria. "Here in Minnesota, the American dog tick—also called the wood tick—is very common throughout the state, and it often bites people," warned Kemperman. "Rocky Mountain spotted fever is quite rare in Minnesota compared to southeastern states, but this recent fatality and the high numbers of American dog ticks in our state underscore the need to be aware of this serious disease and to prevent bites from any kind of tick."

### **Signs, symptoms of POW, RMSF**

Signs and symptoms of POW disease or RMSF arise within two weeks of an infectious tick bite. Many patients never see the tick that bit them. Both diseases can result in severe or even fatal illness.

Infection with POW virus can cause encephalitis (swelling of the brain) or meningitis (swelling of the lining of the brain and spinal cord). People with POW encephalitis or meningitis may have fever, headache, vomiting, weakness, confusion, loss of coordination, speech difficulties, and memory loss. Long-term problems are common, and about 10 percent of reported cases have died from their illness. Medical providers can offer supportive care to reduce the severity of the illness.

Signs and symptoms of RMSF include high fever, headache, and a rash. The rash usually appears two to five days after the onset of fever. The typical rash first appears as spots on the wrists and ankles which then spread to the trunk, face, palms, and soles. Patients may also have muscle pain, joint pain, malaise, nausea, vomiting, and loss of appetite. About 5 percent of RMSF patients

die from their infection. Specific antibiotic treatment soon after signs develop is important to prevent organ failure or death.

### **Tick disease risks, prevention**

"In addition to Lyme disease, anaplasmosis, and babesiosis, we are concerned about people becoming ill from Powassan virus or Rocky Mountain spotted fever from ticks in Minnesota," said Dr. Ruth Lynfield, Minnesota's State Epidemiologist. "Although we believe that the overall risk of these two diseases is low in our state, they can cause severe illness. It is really important to take measures to prevent tick bites and to seek prompt medical care if you develop illness soon after spending time in tick habitat."

In Minnesota, blacklegged ticks are most common in wooded areas of northern, eastern, and southeastern counties. They are also common in wooded areas of Wisconsin and eastern states. American dog ticks are found in grassy or wooded areas in all parts of Minnesota and in many other states.

The risk of tick-borne diseases in Minnesota is greatest from late spring through mid-summer, the season of greatest blacklegged tick and American dog tick activity. During autumn, blacklegged ticks are active again and present some risk of POW disease, Lyme, anaplasmosis, and babesiosis.

To prevent tick-borne diseases, always use tick repellents containing DEET (up to 30 percent concentration) or permethrin when spending time in tick habitat. Products with DEET can be used on the skin or clothing. Permethrin-based products, which are only applied to clothing, are highly effective and can last through several washings. Since ticks climb up from the ground, focus repellent use below the waist or knees. Also, wear long pants and light-colored clothing to help detect and remove ticks before they've had time to bite. Details on tick-borne disease prevention are available at [www.health.state.mn.us/divs/idepc/dtopics/tickborne/prevention.html](http://www.health.state.mn.us/divs/idepc/dtopics/tickborne/prevention.html).

After returning from outdoors, check your body carefully for ticks and promptly remove any you find. Blacklegged ticks are smaller and darker in color than American dog ticks. They also lack the dog tick's characteristic white markings, and the back end of the female blacklegged tick is reddish-orange in appearance. To remove a tick, use tweezers to grasp it by its head close to the skin and pull it out gently and steadily.

More information about Minnesota's tick-borne diseases, including pictures of ticks, is available on the MDH Web site at [www.health.state.mn.us/divs/idepc/dtopics/tickborne/index.html](http://www.health.state.mn.us/divs/idepc/dtopics/tickborne/index.html) or by calling MDH at 651-201-5414.

**-MDH-**

*For more information, contact:*

**Doug Schultz**  
**MDH Communications**  
**651-201-4993**

**Melissa Kemperman**  
**Vector-borne disease**  
**651-201-5414**

You can update or cancel your subscription at any time by [editing your personal profile](#). All you will need are your e-mail address and your password (if you have selected one).

This service is provided free of charge by: [Minnesota Department of Health](#).

P.S. If you have any questions or problems please contact [support@govdelivery.com](mailto:support@govdelivery.com) for assistance.