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FACT SHEET

Rocky Mountain Spotted Fever

Cause: Rocky Mountain Spotted Fever (RMSF) is the most commonly fatal tickborne illness in the United States. It is a rickettsial disease caused by the bacterium *Rickettsia rickettsia* and is transmitted by the bite of an infected tick. It can result in a systemic, febrile illness which is potentially fatal. <https://www.cdc.gov/rmsf/index.html>

Symptoms: Symptoms of Rocky Mountain Spotted Fever include the sudden onset of a moderate to high fever (which can last two to three weeks if untreated), muscle pain, severe headache, and chills. A rash occurs in about half of the cases. It starts with the extremities and soon spreads to the palms of the hands and soles of the feet, then quickly spreads to the trunk and rest of the body.

Spread: Rocky Mountain Spotted Fever is spread through the bite of an infected tick. Several ticks are responsible for the spread of this disease, and these vary by geographic region. The dog tick, *Dermacentor variabilis*, is the most common reservoir for this organism in Nebraska. Rocky Mountain Spotted Fever is not directly transmitted from person to person.

Incubation: The organism becomes infectious after the tick has been attached to the skin for at least four to six hours. It can also be transmitted in the process of tick removal if the tick becomes crushed, allowing infectious material to escape. Incubation is from 3 to 14 days.

Contagious Period: It is not directly transmitted from person to person. The tick remains infective for life, commonly as long as 18 months.

Diagnosis and Treatment:

RMSF is challenging for healthcare providers to diagnose and treat because symptoms vary from patient to patient and can easily resemble other, more common diseases. Treatment for this disease is most effective at preventing death if started in the first five days of symptoms. Diagnostic tests for this disease, especially tests based on the detection of antibodies, will frequently appear negative in the first 7-10 days of illness. There is no test available at this time that can provide a conclusive result in time to make important decisions about treatment therefore the diagnosis of RMSF must be made based on clinical signs and symptoms, and can later be confirmed using

specialized confirmatory laboratory tests. Treatment should never be delayed pending the receipt of laboratory test results, or be withheld on the basis of an initial negative finding for *R. rickettsii*.

Healthcare providers may find important information in the patient's history and physical examination that may aid clinical suspicion. Information such as recent tick bites, exposure to high grass and tick-infested areas, contact with dogs, similar illnesses in family members or pets, or history of recent travel to areas of high incidence can be helpful in making the diagnosis. Also, information about the presence of symptoms such as fever and rash may be helpful. The healthcare provider may also look at routine blood tests, such as a complete blood cell count or a chemistry panel. Clues such as a low platelet count (thrombocytopenia), low sodium levels (hyponatremia), or elevated liver enzyme levels are often helpful predictors of RMSF but may not be present in all patients. After a suspect diagnosis is made on clinical suspicion and treatment has begun, specialized laboratory testing should be used to confirm the diagnosis of RMSF.

<https://www.cdc.gov/rmsf/symptoms/index.html>

Prevention:

The most effective measures to reduce the risk for RMSF (particularly in children) are to:

- limit exposure to ticks during periods of peak tick activity (i.e., April--September);
- inspect the head, body, and clothes for ticks thoroughly after being in wooded or grassy areas, especially along the edges of trails, roads, or yards;
- remove attached ticks immediately by grasping them with tweezers or forceps close to the skin and pulling gently with steady pressure.

<https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5319a1.htm>

How should a tick be removed?

To remove an attached tick, grasp the tick by its head as close as possible to the attachment site with tweezers or forceps. Pull the tick upward and out with firm and steady pressure. If tweezers are not available, use fingers shielded with tissue paper or rubber gloves. Do not twist the tick out or apply petroleum jelly, a hot match, alcohol, or any other irritant to the tick in an attempt to get it to back out. Do not handle the tick with bare hands.

Be careful not to squeeze, crush or puncture the body of a tick which may contain infectious fluids. After removing the tick, thoroughly disinfect the bite site and wash hands. See a doctor if there is a concern about incomplete tick removal. It is important that a tick be removed as soon as possible.

https://www.cdc.gov/ticks/removing_a_tick.html