

What is Rocky Mountain spotted fever (RMSF)?

Rocky Mountain spotted fever (RMSF) is a tick-borne disease caused by the bacterium *Rickettsia rickettsii*. It is transmitted to humans through the bite of infected tick species. In the United States, possible carriers include the American dog tick, Rocky Mountain wood tick, and brown dog tick.

What are the symptoms?

The first symptoms of RMSF typically begin 2-14 days after the bite of an infected tick. A tick bite is usually painless and about half of the people who develop RMSF do not remember being bitten. The disease frequently begins as a sudden onset of fever and headache. Due to non-specific early symptoms, several doctor visits may occur before correct diagnosis and treatment. The following is a list of common RMSF symptoms. The number and combination of symptoms varies greatly from person to person.

- Fever
- Headache (less common in children)
- Nausea, vomiting, and/or lack of appetite
- Muscle pain
- Abdominal pain (may mimic appendicitis or other causes of acute abdominal pain)
- Conjunctival injection (red eyes)
- Rash (typically occurs 2-5 days after fever, pink, non-itchy, present in about 90% of cases)
 - Late stage, petechial rash (typically occurs 6+ days after onset of symptoms, red/purple spotted, develops in 35-60% of RMSF cases) is a sign of progression to severe disease.
- Other symptoms occasionally seen include cough, sore throat, and diarrhea

How is Rocky Mountain spotted fever diagnosed and treated?

The diagnosis of RMSF must be made based on clinical signs and symptoms, as well as the patient's recent activity (travel, contact with high-risk areas, etc.), and can later be confirmed using specialized laboratory tests. RMSF diagnostic tests, especially those based on the detection of antibodies, will frequently appear negative in the first 7-10 days of illness. However, RMSF is a serious illness that can be fatal if treatment is not started within the first 5 days of symptoms. Therefore, 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. rickettsia*. Patients who are treated early may recover quickly on outpatient medication (doxycycline, an oral antibiotic), while those who experience a more severe infection may require intravenous antibiotics, prolonged hospitalization or intensive care.

The most effective way to prevent Rocky Mountain spotted fever is to prevent tick bites:

- Before spending time outdoors, apply repellents that contain 20-30% DEET on exposed skin and clothing, and/or treat clothing and gear with repellents containing 0.5% permethrin.
- Avoid wooded and brushy areas with high grass and leaf litter, and walk in the center of trails.
- Examine your entire body, as well as gear and pets, after returning indoors. Promptly remove any attached ticks with a pair of fine-tip tweezers.

For more information on RMSF, please visit the CDC RMSF website:

- <http://www.cdc.gov/rmsf/index.html>