

Spotted Fever Group Rickettsioses

Frequently Asked Questions

What are spotted fever group rickettsioses (spotted fevers)?

Spotted fever group rickettsioses (spotted fevers) are a group of diseases caused by closely related bacteria. These bacteria are spread to people through the bite of infected mites and ticks. The most serious and commonly reported spotted fever group rickettsiosis in the United States is Rocky Mountain spotted fever (RMSF). Spotted fevers can range from mild to life-threatening.

Other causes of spotted fever group rickettsioses (spotted fevers) in the United States include:

- *Rickettsia parkeri* rickettsiosis, caused by *R. parkeri*
- Pacific Coast tick fever, caused by *Rickettsia philipii*
- Rickettsialpox, caused by *Rickettsia akari*

How do people get spotted fever group rickettsioses?

People get spotted fevers through the bite of an infected tick or mite. Spotted fevers are **not** contagious from person to person.

- *Rickettsia parkeri* rickettsiosis is caused by infection with the bacteria *R. parkeri* and is spread by the bite of infected Gulf Coast ticks, which are found in the southeastern United States.
- Pacific Coast tick fever is caused by the bacteria *R. philipii* and is spread by the bite of infected Pacific Coast ticks, which are found along the western coastline in California, Oregon, and Washington.
- Rickettsialpox is caused by the bacteria *R. akari* and is spread through the bite of infected mouse mites. Cases occur occasionally throughout the United States, and are most often reported in the northeastern United States, particularly New York City.

What are the symptoms of spotted fever group rickettsioses?

The first sign of many spotted fevers (including *Rickettsia parkeri* rickettsiosis, Pacific Coast tick fever, or rickettsialpox) is generally a dark scab at the site of tick or mite bite, known as an eschar. Eschars usually develop a few days to a week following the bite of an infected tick or mite.

Several days after an eschar develops, patients can develop other signs and symptoms, including:

- Fever
- Headache
- Rash
- Muscle aches

R. parkeri rickettsiosis, Pacific Coast tick fever, and rickettsialpox are less severe than RMSF; however, it can be difficult to distinguish between RMSF and other spotted fevers, especially during early stages of these diseases.

How are spotted fever group rickettsioses diagnosed?

The signs and symptoms of spotted fevers are similar to those of many other diseases. See your health care provider if you develop the signs or symptoms of spotted fevers. Be sure to tell your health care provider if you become ill and have recently been bitten by a tick, exposed to mice, or have spent time in areas where ticks or mice may be found.

What is the treatment for spotted fever group rickettsioses?

Some spotted fevers are not life-threatening and can resolve over time, even without treatment. For others, especially RMSF, early treatment with the antibiotic doxycycline can be lifesaving. Doxycycline is the recommended antibiotic treatment for all spotted fevers, including RMSF in adults and children of all ages. Since it frequently takes many days for blood tests to show positive results, treatment usually begins before test results are available. (NOTE: It is very important to finish your antibiotics even if you begin to feel better, unless otherwise directed by your health care provider.)

Can people with spotted fever group rickettsioses pass the illness to others?

Spotted fevers are spread only through the bite of an infected tick or mite. Infected persons cannot pass the disease to other people.

What spotted fever group rickettsioses occur outside of the United States?

Spotted fevers occur worldwide and cause a wide range of illnesses, from relatively mild to life-threatening. The most commonly reported spotted fever found among United States patients after traveling outside of the country is African tick bite fever, caused by *Rickettsia africae*. Almost 90% of travel-related spotted fevers occur among travelers to sub-Saharan Africa. Another frequently identified spotted fever is Mediterranean spotted fever, caused by *Rickettsia conorii*. For more information about tickborne spotted fevers found outside of the United States visit: <https://www.cdc.gov/otherspottedfever/imported/index.html>.

How can spotted fever group rickettsioses be prevented?

There are no vaccines to prevent spotted fever infections. Prevent illness by preventing tick bites, preventing ticks on your pets, and preventing ticks in your yard:

- Know where ticks are: ticks live in or near wooded or grassy areas. Always walk in the center of trails to avoid contact with ticks.
- Keep your yard clean: mow lawns, clear brush and remove leaf litter.
- Repel ticks: use EPA-registered repellent with DEET, picaridin, IR3535, Oil of Lemon Eucalyptus (OLE), or 2-undecanone on skin and permethrin on clothing, boots and gear. Most repellents can be used on children older than 2 months. Products containing OLE should not be used on children under 3 years. Always follow product label instructions.
- Cover up: wear long sleeves and pants tucked into socks to prevent ticks from getting under clothes.
- Shower: showering within two hours after being outside (ideally, as soon as possible) can help find and wash off unattached ticks.
- Inspect: check your entire body—and your children's—for ticks after being outside and use a mirror to view hard-to-see areas. Remove attached ticks with tweezers.
- Protect pets: keep pets safe by checking for ticks daily and using tick control products as recommended by your veterinarian.

What should I do if I find a tick?

- If the tick is not attached (if it has not bitten you), grab it with a tissue.

- If the tick has bitten you, remove it as soon as possible.
- Use fine-tipped tweezers to grab the tick close to the skin. Do not twist or jerk the tick—this may cause the mouth parts to break off and remain in the skin. If this happens, remove the mouth parts with tweezers if possible. If not, leave them alone and let your skin heal.
- With a steady motion, gently pull straight up until all parts of the tick are removed.
- Do not use petroleum jelly, hot matches, nail polish remover or other products to remove a tick.
- After removing the tick, clean your skin with soap and warm water.
- Contact a healthcare provider if you develop a fever and/or rash within a few weeks and tell the provider about the tick bite.

How should I dispose of a tick?

Submerge the tick in rubbing alcohol, place the tick in a sealed bag or container, or wrap the tick tightly in tape. Never crush a tick with your fingers.

Where can I get more information on spotted fever group rickettsioses?

- Your health care provider
- Your local health department
- NJ Department of Health www.nj.gov/health/cd/topics/rocky.shtml
- Centers for Disease Control and Prevention www.cdc.gov/otherspottedfever

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