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What is Spotted Fever Rickettsiosis (SFR)?

Spotted Fever Rickettsiosis (SFR) refers to a group of related illnesses caused by bacteria called *Rickettsia*. The two most common SFR illnesses in Virginia are Rocky Mountain spotted fever, caused by *Rickettsia rickettsii*, and *Rickettsia parkeri* rickettsiosis, caused by *Rickettsia parkeri*. Rocky Mountain spotted fever can be transmitted to humans by the bites of infected American dog ticks, Rocky Mountain wood tick, or brown dog ticks. *Rickettsia parkeri* rickettsiosis can be transmitted to people primarily by the Gulf Coast tick.

Who gets SFR?

Anyone who has been exposed to an infected tick can get an SFR infection. The disease is most often reported in adult males, children under the age of 10, or people who are immunocompromised. People who frequently interact with dogs or who reside near and spend time in wooded areas or areas with brush and tall grass are more likely to come in contact with ticks.

How is SFR spread?

SFR illnesses are transmitted by the bites of infected ticks. It can also be transmitted by contamination of a skin wound with the bodily fluids from an infected tick. SFR illnesses cannot be transmitted from one person to another.

What are the symptoms of SFR infection?

Symptoms of Rocky Mountain spotted fever (RMSF) can include onset of fever, headache, muscle pain, chills and a rash. The RMSF rash usually begins on the ankles and wrists and spreads to the rest of the body including the trunk and sometimes the soles of the feet and palms of the hands. If left untreated, RMSF can be fatal. *Rickettsia parkeri* rickettsiosis is usually less severe and its symptoms include fever, headache, muscle aches, a rash and an eschar (dry, dark scab). People with *Rickettsia parkeri* rickettsiosis usually have a rash with widely separated spots and always develop an eschar at the site of the tick bite. The eschar starts as a puss-filled pimple and then ruptures and scabs over.

How soon after exposure do symptoms appear?

Symptoms usually appear within two weeks of the bite of an infected tick.

How is SFR diagnosed?

SFR illnesses can be diagnosed by using laboratory tests for *Rickettsia* DNA in the patient's whole blood samples. If the patient has a rash or eschar, DNA testing can also be done on a skin biopsy or swab specimen.

What is the treatment for SFR?

Doxycycline is the treatment of choice for all suspected SFR infections. Treatment is most effective at preventing severe illness when doxycycline is started within the first 5 days of symptoms. Doxycycline antibiotics should be used in both children and adults.

How can SFR be prevented?

The best way to reduce the risk for SFR and other tickborne infections is to avoid tick habitats, such as leaf litter, tall grass and vegetation along shaded forest edges and tree lines. If you do spend time outdoors in such tick habitats, including your backyard, take precautions to keep ticks off the skin. Walk on cleared trails and stay in the center of the trail to avoid contact with leaf litter or low vegetation. If you visit potential tick habitats, a highly effective way to prevent tick bites is to wear long pants, socks and shoes or boots that have been treated with permethrin and tucking pant legs into socks and/or into boots. Wear light-colored clothing so that ticks are easier to see and remove. If wearing shorts, apply tick repellent containing DEET, oil of lemon eucalyptus or picaridin on your skin around your knees and around your elbows. Conduct tick checks on yourself, your children, and your pets after spending time in an area likely to have ticks.

What should I do if I find a tick attached to the skin?

Remove attached ticks as soon as possible by grabbing the tick with firm, pointed (fine-tipped) tweezers as close to the skin as possible and pulling the tick straight out by applying steady outward pressure. After removing the tick, thoroughly, wash the wound site and your hands. More information about tick removal and identification can be found on the VDH Ticks page at vdh.virginia.gov/ticks/.

How do I perform a tick check?

After being outdoors, in tick habitats, search your entire body for ticks. Blacklegged tick nymphs are about the size of a poppy seed, and adult blacklegged ticks are about the size of a sesame seed. When checking your body, remember that ticks like places that are warm and moist. Be sure to check the armpits, groin, scalp, in and around the ears, and around the waist. Remember to check yourself, your children, and your pets for ticks. For more information about performing tick checks, see the CDC's page on Preventing Tick Bites at cdc.gov/ticks/prevention/index.html.

Does past infection with SFR make a person immune?

Depending on the particular SFR bacteria a person is infected with, it is possible that person could be protected from reinfection for a period of time.

How can I get more information about SFR?

- If you have concerns about SFR, contact your healthcare provider.

Spotted Fever Rickettsiosis (including Rocky Mountain Spotted Fever) Fact Sheet

- Call your local health department. You can find your local health department at vdh.virginia.gov/health-department-locator/.
- Visit the CDC page on Rocky Mountain spotted fever at cdc.gov/rmsf/index.html or the CDC page for other spotted fevers at cdc.gov/other spotted fever/.

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External link will open in new window. Click link to exit Virginia Department of Health Website.