



## Spotted Fever Group *Rickettsia* including Rocky Mountain Spotted Fever and Pacific Coast Tick Fever Fact Sheet

### What are spotted fever group (SFG) *Rickettsia*?

SFG *Rickettsia* are a family of bacteria transmitted by ticks that cause diseases often associated with a rash (“spots”). There are two known SFG *Rickettsia* that infect humans in California. Pacific coast tick fever is caused by *Rickettsia philipii*, a recently identified SFG *Rickettsia*. Rocky Mountain spotted fever, caused by *Rickettsia rickettsii*, is the more common SFG *Rickettsia* disease in California.

### What is Rocky Mountain spotted fever (RMSF)?

RMSF is a bacterial disease caused by *Rickettsia rickettsii*. Contrary to its name, most cases of RMSF occur in the southeastern and south-central United States. Cases occur most frequently between April and September. In California, only a few cases are reported each year.

### How do you get RMSF?

RMSF bacteria are transmitted by the bite of an infected tick. In California, the American dog tick (*Dermacentor variabilis*), the Pacific coast tick (*Dermacentor occidentalis*) and the brown dog tick (*Rhipicephalus sanguineus*) may transmit the bacteria to people and dogs. A tick must be attached to the skin for at least four to six hours before it can infect a person. A person can also become infected if crushed tissues or feces from the tick enter a break in the skin or mucous membranes.

### Can I get RMSF from my dog?

Although dogs may get RMSF, you cannot get RMSF directly from a dog. However, a dog may bring infected ticks into the home. The American dog tick and Pacific coast tick do not live very long in homes and suburban yards. In contrast, the brown dog tick prefers areas where there are dogs and can live easily in homes and yards. Information on the brown dog tick and how to control it can be found here:

[http://www.tickencounter.org/tick\\_notes/tick\\_notes\\_ticks\\_crawling\\_up\\_walls](http://www.tickencounter.org/tick_notes/tick_notes_ticks_crawling_up_walls)

### What are the symptoms of RMSF?

Symptoms of RMSF include sudden onset of moderate to high fever, 2-14 days after a tick bite. If not treated, the fever can last for two to three weeks and lead to other symptoms, such as weakness, deep muscle pain, severe headache, chills, blood-shot eyes, and a painful abdomen. In at least half of the reported cases in California, a rash appears that rapidly spreads to much of the body, including the palms of the hands and soles of the feet. Severe cases can result in kidney failure and death.

### How is RMSF diagnosed?

Early diagnosis of RMSF relies on symptoms and history or suspicion of a tick bite. Blood tests are not useful within the first week of illness. During the early stages of the disease, the bacteria may also be seen microscopically in skin or in blood. Blood tests later in the illness can show the body’s immune response to infection with the RMSF bacteria.

### **How is RMSF treated?**

RMSF patients are treated with antibiotics. Up to 25 percent of untreated patients may die from RMSF.

### **What is Pacific Coast Tick Fever (PCTF)?**

PCTF is caused by infection with *Rickettsia philipii* and is transmitted by the bite of an infected Pacific coast tick (*Dermacentor occidentalis*). Symptoms appear to be similar but milder than those seen with RMSF. Most commonly, PCTF may cause a small open wound about ¼ inch in size that turns into a dark scab (called an eschar). Treatment and prevention measures are the same as with RMSF.

### **How can I prevent getting RMSF and PCTF?**

The best way to avoid getting RMSF and PCTF is to avoid tick bites.

- When in tick habitat, stay in the middle of the trail; avoid grassy areas, the leafy areas under trees, contact with logs, tree trunks, and fallen branches or tree limbs in forests.
- Use an EPA registered repellent for use against ticks. Repellents containing at least 20% DEET will repel ticks and are applied to the skin and clothing. Always follow directions on the container and be especially careful when applying to children.
- Apply Permethrin to clothing (only) to kill ticks.
- Keep pets on veterinarian-recommended tick-bite prevention “spot-on” medications.
- Shower or bathe as soon as possible after returning from tick habitat.
- Thoroughly check yourself and others for ticks during and up to three days after activities in tick habitat.
- Before washing, place clothing worn while in tick habitat in a hot dryer for 10 minutes to kill ticks crawling on clothing.
- If a local brown dog tick infestation is present, a professional pest control company may need to be consulted.

### **What should I do if I find an attached tick?**

- Remove the tick promptly.
- Using tweezers, grasp the tick’s mouthparts as close to the skin as possible.
- Gently pull the tick straight out, using a firm steady motion.
- Wash your hands and the bite site with soap and water. Apply an antiseptic to the bite site.
- See your Healthcare provider if you develop any symptoms within 30 days of the tick bite.

### **Where can I find more information on RMSF and SFG *Rickettsia*?**

The California Department of Public Health has more information on their webpage: <http://www.cdph.ca.gov/HealthInfo/discond/Pages/RockyMountainSpottedFever.aspx>

The U.S. Centers for Disease Control and Prevention has information available on their webpage: <http://www.cdc.gov/rmsf/>

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