



# Spotted Fever Rickettsiosis (SFR)

includes Rocky Mountain Spotted Fever (RMSF)

## Definition:

Spotted fever rickettsioses (SFR), which captures cases of Rocky Mountain spotted fever (RMSF), *Rickettsia parkeri* rickettsiosis, Pacific Coast tick fever, and others, are a group of diseases caused by spotted fever group *Rickettsiae* (SFGR). RMSF, caused by *R. rickettsii*, is well recognized as the most severe rickettsial illness. However, these pathogens are rarely seen in Maine.

## Signs and symptoms:

SFGR can cause acute febrile illnesses, with headache, malaise, thrombocytopenia, rash, and occasionally eschars (dark necrotic scabs at the site of tick or mite bite). It can be difficult to distinguish between RMSF and other spotted fevers, especially during early stages of these diseases. Most people who get sick with a spotted fever other than RMSF will have an eschar (dark scab at the site of tick or mite bite), fever, headache, and rash.

The incubation period of RMSF is 3-12 days. The initial symptoms consist of fever, nausea, vomiting, muscle pain, lack of appetite, and severe headache. Rash, abdominal pain, joint pain, and diarrhea may develop later. This can be a severe, life-threatening illness and most patients are hospitalized. RMSF is a rapidly progressive disease and without early administration of doxycycline can be fatal within days.

## Transmission:

The organisms that cause spotted fevers are transmitted to humans by the bite of infected ticks or mites. The American dog tick, brown dog tick and Rocky Mountain wood tick transmit RMSF in the United States. RMSF is rarely seen in Maine and over half the reported cases come from five states (North Carolina, Oklahoma, Arkansas, Tennessee, and Missouri).

## Diagnosis:

SFR is diagnosed through a combination of clinical signs and symptoms as well as laboratory tests.

## Role of the School Nurse:

### Prevention

- Provide education to students and staff regarding tick prevention:
  - Wearing protective clothing
  - Using an EPA-approved repellent
  - Using caution in tick infested areas
  - Performing daily tick checks.
- Encourage the use of EPA-approved repellents when outside (following label instructions).
  - School nurses can apply an EPA-approved repellent with parental permission.
- Encourage tick checks when returning indoors at school.
- If a tick is found, the school nurse should remove the tick using tweezers or a tick spoon.
  - Whole ticks, placed in a sealed container, may be given to the parents.
- Identification of the tick may be useful.
  - Tick cards and other materials may be ordered freely from: [www.maine.gov/dhhs/order](http://www.maine.gov/dhhs/order)
- Testing of the tick is not recommended for clinical diagnosis.

### Treatment Recommendations

- Treatment with antibiotics, usually doxycycline, should be initiated based on clinical and exposure information. Treatment should not be delayed waiting for laboratory confirmation.

**Exclusions**

- No exclusions are recommended for students or staff with SFR.

**Reporting Requirements**

- SFR, including RMSF, are reportable diseases – report to Maine CDC at 1-800-821-5821.

**Resources:**

- CDC RMSF website: [www.cdc.gov/rmsf](http://www.cdc.gov/rmsf)
- CDC Other SFGR website: [www.cdc.gov/other spotted fever](http://www.cdc.gov/other spotted fever)
- EPA Repellent Finder website: [www.epa.gov/insect-repellents/find-insect-repellent-right-you](http://www.epa.gov/insect-repellents/find-insect-repellent-right-you)
- Tickborne Diseases of the United States Reference Manual: [www.cdc.gov/ticks/tickbornediseases](http://www.cdc.gov/ticks/tickbornediseases)
- UMaine Tick ID Services: [ticks.umaine.edu](http://ticks.umaine.edu)