Rocky Mountain Spotted Fever (RMSF)

Rocky Mountain Spotted Fever (RMSF) is the oldest known tick-borne disease of people in the United States. This disease was named because it was first described among people in the Rocky Mountain area who had an illness characterized by a rash with red-purple-black spots. This disease is caused by a rickettsia (*Rickettsia rickettsii*), a bacteria carried by the tick.

Rocky Mountain Wood Tick

The Rocky Mountain wood tick and the American dog tick, acquire and transmit the RMSF bacteria (pictures NOT actual size). When a larval, nymphal or adult tick feeds on an infected rodent or larger animal, the tick can become infected. Infected adult ticks then feed on people who may then get RMSF. The tick transmits the disease to humans during a prolonged period of feeding that lasts many hours, days or even a couple weeks. The bite is painless and frequently goes unnoticed. An infected female tick may also pass the rickettsial bacteria to her eggs that then may mature to be infected adult ticks.

The rickettsia that causes RMSF can also get into a person's body through damaged skin. A tick bite is not necessary. People can get RMSF if they crush a tick and get it's blood or body fluids on their skin through a small cut or sore.

American Dog Tick

DIAGNOSIS AND TREATMENT

Diagnosis is made by laboratory tests. Treatment is with *antibiotics* (medications that kill rickettsia and other bacteria). Immediate treatment usually prevents death.

GEOGRAPHIC RANGE

This disease was reported only in the Rocky Mountains until 1931. RMSF has more recently been described among individuals in all states except Alaska, Hawaii and Maine. The highest reported incidences of RMSF now occur among residents of Oklahoma, Arkansas, Tennessee and the Carolinas.

TIME OF YEAR

Most cases are diagnosed during late spring and summer when ticks are most active. However, especially in the warmer southern states, a few cases occur during the winter.

SYMPTOMS

- Symptoms of RMSF begin from 2 to 14 days after a tick bite. The most common early symptoms are fever, muscle aches and headache followed by *nausea* (feeling sick to your stomach) or vomiting.
- The RMSF rash is typically delayed until 3 or more days after symptom onset, and eventually develops in 9 of 10 infected patients by the 5th day of illness.

If the disease is not treated it can cause death. If you get a fever, headache, muscle aches, rash, nausea or vomiting within 2 weeks of a possible tick bite or exposure **you should see your caregiver immediately**.

PREVENTION AND CONTROL

Ticks prefer to hide in shady, moist ground litter. They can often be found above the ground clinging to tall grass, brush, shrubs and low tree branches. They also inhabit lawns and gardens, especially at the edges of woodlands and around old stone walls. Within the areas where ticks generally live, no naturally vegetated area can be considered completely free of infected ticks. The best precaution against RMSF is to avoid contact with soil, leaf litter and vegetation as much as possible in tick infested areas. For those who enjoy gardening or walking in their yards, clear brush and mow tall grass around houses and at the edges of gardens. This may help reduce the tick population in the immediate area. Applications of chemical insecticides by a licensed professional in the spring (late May) and Fall (September) will also control ticks, especially in heavily infested

areas. Treatment will never get rid of all the ticks. Getting rid of small animal populations that host ticks will also decrease the tick population. When working in the garden, pruning shrubs, or handling soil and vegetation, wear light-colored protective clothing and gloves. Spot-check often to prevent ticks from reaching the skin. Ticks cannot jump or fly. They will not drop from an above-ground perch onto a passing animal. Once a tick gains access to human skin it climbs upward until it reaches a more protected area. For example, the back of the knee, groin, navel, armpit, ears or nape of the neck. It then begins the slow process of embedding itself in the skin.

Campers, hikers, field workers, and others who spend time in wooded, brushy or tall grassy areas can avoid exposure to ticks by using the following precautions:

- Wear light-colored clothing with a tight weave to spot ticks more easily and prevent contact with the skin.
- Wear long pants tucked into socks, long-sleeved shirts tucked into pants and enclosed shoes or boots along with insect repellent.
- Spray clothes with insect repellent containing either DEET or Permethrin. Only DEET can be used on exposed skin. Follow the manufacturer's directions carefully.
- Wear a hat and keep long hair pulled back.
- Stay on cleared, well-worn trails whenever possible.
- Spot-check yourself and others often for the presence of ticks on clothes. If you find one, there are likely to be others. Check thoroughly.
- Remove clothes after leaving tick-infested areas. If possible, wash them to eliminate any unseen ticks. Check yourself, your children and any pets from head to toe for the presence of ticks.
- Shower and shampoo.

You can greatly reduce your chances of contracting RMSF if you remove attached ticks as soon as possible. Regular checks of the body, including all body sites covered by hair (head, armpits, genitals), allow removal of the tick before rickettsial transmission. To remove an attached tick, use a forceps or tweezers to detach the intact tick without leaving mouth parts in the skin. The tick bite wound should be cleansed after tick removal. **Remember the most common symptoms of RMSF are fever, muscle aches, headache and nausea or vomiting with a later onset of rash.** If you get these symptoms after a tick bite and while living in an area where RMSF is found, **RMSF should be suspected**. If the disease is not treated, **it can cause death. See your caregiver immediately** if you get these symptoms. Do this even if not aware of a tick bite.

Document Released: 04/01/2002 Document Re-Released: 12/06/2010
ExitCare® Patient Information ©2011 ExitCare, LLC.