Rocky Mountain Spotted Fever and Human Monocytic Ehrlichiosis Quick Reference

<table>
<thead>
<tr>
<th>Rocky Mountain Spotted Fever (RMSF)</th>
<th>Human Monocytic Ehrlichiosis (HME)</th>
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<tbody>
<tr>
<td>Causative agent</td>
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<tr>
<td><em>Rickettsia rickettsii</em></td>
<td><em>Ehrlichia chaffeensis</em></td>
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<td>Tick Vectors</td>
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<tr>
<td><em>Dermacentor variabilis</em></td>
<td><em>Amblyomma americanum</em></td>
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<td>American dog tick</td>
<td>Lone star tick</td>
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RMSF and HME are transmitted by tick bites.

**Epidemiology**

RMSF and HME are the two most common tick-borne diseases in Georgia.

- The tick vectors must be attached for at least 4 hours to transmit disease.

- Reportable in Georgia since 1933.
- Most cases occur in the southeastern and south-central U.S.
- Two-thirds of cases are in children under the age of 15.
- The case fatality rate is 3-5%.
- Only 1-3% of ticks carry the bacteria that cause RMSF.
- To prevent tick bites, wear light-colored clothing, tuck shirt into pants and pants into socks, wear an insect repellent containing DEET on skin and permethrin on clothing, and do a full-body tick check at the end of the day.

- Discovered in 1986.
- Most cases occur in the southeastern and south-central U.S.
- White-tailed deer host all life stages of the tick and are probably the major reservoir for the bacteria.
- Severe complications and death have occurred, but most infections are thought to be sub-clinical.
- Elderly and immunocompromised persons are at particular risk for severe manifestations.

- Published hospitalization fatality rates of 2-5% are probably overestimates.

**Clinical Presentation**

- You do not always get a rash.

- Symptoms are very similar to other diseases and may be difficult to differentiate.

- Incubation period is 3-14 days.
- Initial symptoms may include: fever, severe headache, muscle aches, nausea, vomiting, and loss of appetite.
- Later symptoms: rash (2-6 days after onset of fever), abdominal pain, joint pain, and diarrhea.
- Rash usually starts (as small, flat, pink spots that do not itch) on wrists and ankles and then spreads.
- Can lead to encephalitis, meningitis, myocarditis, respiratory failure, renal dysfunction, and death.

- Incubation period is 5-21 days.
- Symptoms usually include fever, fatigue, headache, and muscle aches.
- Other symptoms include nausea, vomiting, diarrhea, cough, joint pain, confusion, rash (often absent, more common in children).
- Severe manifestations include disseminated intravascular coagulopathy, encephalitis, meningoitis, acute respiratory distress syndrome, renal failure, seizures, coma, and death.

**Treatment**

- RMSF and HME can be cured with antibiotics.

- It is not necessary to seek health care for a tick bite unless you become ill. If you get sick, your doctor will take 2 blood samples (one at your first visit and one a few weeks later) to test for tick-borne diseases.
- Suspect cases should be treated based on symptoms and exposure history without waiting for laboratory results.
- Tetracyclines are the drugs of choice, with improvement within 24-72 hrs.
- Chloramphenicol is an alternative therapy for some patients with RMSF, but the efficacy is undefined for HME.

Adapted from the Centers for Disease Control and Prevention. [http://www.cdc.gov/ticks/index.html](http://www.cdc.gov/ticks/index.html)