

Rocky Mountain Spotted Fever (*Rickettsia rickettsii*)

DISEASE IN ANIMALS

Reporting: Because ticks are the vectors of Rocky Mountain Spotted Fever (RMSF) for both human and animal disease, lab confirmed cases in animals are encouraged to be voluntarily reported to the [local health department](#) (LHD).

Clinical signs: In dogs, the clinical picture is associated with vasculitis including high fever, abdominal pain, depression, anorexia, lethargy, petechial hemorrhages in the oral mucosa, nystagmus, loss of appetite and arthritis. Other animals with documented infection include opossum, fox, rabbits and many species of rodents.

Transmission: Ticks are both the reservoir and vector of RMSF. The main vector in Ohio is *Dermacentor variabilis*, the American Dog Tick. The tick must be attached several hours for disease transmission to occur.

Diagnostics:

- Serology: titer, either antibody-capture ELISA and/or IFA (IgM and IgG). ELISA is usually a screening test and may give a false positive result. Other members of the Spotted fever group of rickettsia will cross react on some ELISA tests.
- PCR
- Immunofluorescence: from lesion or tissue
- Culture

Case classification:

- Suspected: a clinical case with signs consistent with RMSF and exposure to ticks or a probable or confirmed case.
- Probable: a clinically suspect case with laboratory evidence from a screening or unvalidated test.
- Confirmed: a case that meets confirmatory testing criteria determined by a state or federal diagnostic laboratory.

DISEASE IN HUMANS

Reporting: Report by the end of the business week any suspected human illness or positive laboratory result to the LHD where the patient resides. If unknown, report to the LHD of the health provider or laboratory.

Human illness: Disease onset averages one week following a tick bite. Age specific illness is highest for children and older adults. Illness is characterized by acute onset of fever, and may be accompanied by headache, malaise, myalgia, nausea/vomiting, or neurologic signs; a macular or maculopapular rash is reported in most about 80% of patients four to seven days post-onset, and a rash is often present on the palms and soles. RMSF is fatal as many as 20 percent of untreated cases, and severe fulminant disease is possible.

Personal protection: Animals cannot directly transmit Lyme disease to people, but they may carry infected ticks. Precautions for preventing tick bites include protective footwear, clothing and insect repellents. Persons handling tick-infested dogs or entering tick habitats should check themselves frequently for ticks and remove them as soon as possible. Acaricides can be used on pets and livestock and products are available to treat barns and kennels.

FOR MORE INFORMATION

Disease in Animals

[AVMA Zoonoses Update: Rocky Mountain Spotted Fever](#)
[Iowa State University Center for Food Security and Public Health Animal Disease Factsheets](#)

Disease in Humans

[ODH Infectious Disease Control Manual](#)
[ODH Zoonotic Disease Program: Tick-borne Diseases](#)
[Rocky Mountain Spotted Fever, CDC](#)