

Physician Reference: Common Tick-Borne Diseases



	Incubation	Signs and Symptoms	Rash	Laboratory	Diagnosis	Treatment
Lyme disease <i>Borrelia burgdorferi</i>	3–30 d	<i>Localized</i> Malaise Headache Fever Myalgia Arthralgia Lymphadenopathy <i>Disseminated</i> Rheumatologic signs Neurologic signs Cardiac signs	Erythema migrans rash <i>Not present in all cases</i>	Prolonged erythrocyte sedimentation rate Elevated hepatic transaminases Microscopic hematuria or proteinuria	Standard two-tier testing: EIA or IFA followed by IgM/IgG immunoblot (serum) Modified two-tier testing: two different sequential FDA-approved EIAs (serum) NAAT (any clinical specimen) IHC staining (tissue specimen)	Adults and children: ¹ Doxycycline Amoxicillin Cephalosporins <i>Alternative:</i> Azithromycin
Ehrlichiosis <i>Ehrlichia chaffeensis</i> <i>Ehrlichia ewingii</i>	5–14 d	Fever, chills Headache Malaise Myalgia GI symptoms Altered mental status Confusion	Maculopapular rash <i>More common in kids</i>	Thrombocytopenia Leukopenia Anemia Elevated hepatic transaminases	PCR (whole blood) IFA assay (paired sera) IHC staining (tissue specimen)	Adults and children: Doxycycline ² Begin without delay. Do NOT wait for lab results.
Rocky Mountain Spotted Fever <i>Rickettsia rickettsii</i>	3–12 d	<i>Early (Days 1–4)</i> High fever Severe headache Malaise Myalgia Edema (eyes, hands) GI symptoms <i>Late (Day 5+)</i> Cerebral edema ARDS Tissue necrosis Multiorgan failure Coma	<i>Early (Days 2–5)</i> Maculopapular rash (wrists, arms, ankles first; then trunk, palms, soles) <i>Not present in all cases</i> <i>Late (Day 6+)</i> Petechial rash	Thrombocytopenia Elevated hepatic transaminases Hyponatremia	PCR (whole blood, biopsy of rash lesion) IFA assay (paired sera) IHC staining (tissue specimen)	Adults and children: Doxycycline ² Begin without delay. Do NOT wait for lab results.

¹ Treatment regimens vary depending on clinical presentation and disease severity. See the Infectious Diseases Society of America's [Clinical Practice Guidelines](#).

² Doxycycline is the drug of choice for treatment of rickettsial tick-borne diseases in children. Use of doxycycline for this indication is [not expected to cause tooth staining](#).