

Lyme and Co-infections Chart

Coinfections	Vector	Causative Agent	Endemic Area	Symptoms
Lyme disease (also called STARI or Masters' Disease)	Deer tick Pacific black-legged tick Lone star tick	<i>Borrelia burgdorferi</i> <i>Borrelia lonestari</i> Other <i>Borrelia</i> ?	Throughout US	Off season "flu" Rash (bull's-eye or other) Constitutional symptoms Musculoskeletal symptoms Wide range of neurologic symptoms, including Bell's palsy
Babesiosis	Deer tick Pacific black-legged tick	<i>Babesia microti</i> WA-1 New strain	Northeast West Coast	Fever Hemolytic anemia Constitutional symptoms Possible death
Ehrlichiosis	Deer tick Pacific black-legged tick American dog tick Lone star tick	<i>Anaplasma phagocytophila</i>	Northeast Upper Midwest	Fever Headache Constitutional symptoms Possible death
Colorado tick fever	Rocky Mtn wood tick	Colorado tick fever virus	Western US	Fever with remission Second bout of fever
Tick-borne relapsing fever	Relapsing fever tick (soft tick)	<i>Borrelia hermsii</i> <i>Borrelia parkeri</i> <i>Borrelia turicata</i>	Western US	Sudden onset high fever, recurrent fevers Petechial rashes Joint and muscle aches
Q-fever	Brown dog tick Rocky Mtn wood tick Lone star tick	<i>Coxiella burnetii</i>	Throughout US	Acute fever Chills Sweats
Powassan viral encephalitis	Woodchuck tick	Flavivirus	Eastern and Western US	Fever Meningoencephalitis 10% fatality rate 50% neurologic sequelae
Rocky Mountain spotted fever	American dog tick Rocky Mtn wood tick Relapsing fever tick (soft ticks)	<i>Rickettsia</i>	Throughout US	Sudden fever Maculopapular rash on soles of hands and feet that spreads over the entire body 3 to 5% fatality rate
Tick paralysis	American dog tick Rocky Mtn wood tick Lone star tick	Neurotoxin excreted from tick's salivary gland	Throughout US	Fatigue Flaccid paralysis Tongue and facial paralysis Convulsions Death
Tularemia	American dog tick Rocky Mtn wood tick Lone star tick	<i>Francisella tularensis</i>	Throughout US	Indolent ulcers Swollen lymph nodes Deaths can occur
Bartonella	Cats Ticks Fleas	<i>Bartonella quintana</i> <i>Bartonella henselae</i>	Worldwide	Fever Mild neurologic signs Granulomatous lymphadenitis Red papular lesion