

TICK-BORNE DISEASE QUICK REFERENCE *(correction made re: Early localized LD treatment July 28, 2017)*

Disease	Incubation Period	Presentation	Laboratory Investigation	Initial Treatment
Anaplasmosis	5 to 21 days	<ul style="list-style-type: none"> Acute onset of fever, chills, headache, arthralgia, nausea and vomiting often in association with leukopenia, thrombocytopenia and/ or elevated liver enzymes. Severe manifestations are rare, though more common in older patients (> 60 years of age) and those with co-morbidities. 	<ul style="list-style-type: none"> Serological evidence of a 4-fold change in IgG antibody titre in paired serum samples (2 – 4 weeks apart). Titre in convalescent sample \geq 1:128. 	<ul style="list-style-type: none"> Doxycycline 100mg PO BID for 2 weeks, unless contraindicated.
Babesiosis	1 to 6 weeks (<i>may be up to 6 months following transfusion with infected blood products</i>)	<ul style="list-style-type: none"> Can be life threatening, particularly in older adults (> 50 years of age) and those with co-morbidities. Gradual onset of malaise and fatigue accompanied by intermittent fever. Additional symptoms may include: chills, drenching sweats, anorexia, headache, myalgia, nausea, non-productive cough, arthralgia and generalized weakness. Severe manifestations can include: acute respiratory distress syndrome, disseminated intravascular coagulation, hemodynamic instability, congestive heart failure, renal failure, hepatic compromise, myocardial infarction, severe hemolysis, splenic rupture and death. 	<ul style="list-style-type: none"> Detection of parasites in blood smear by microscopy, OR Serological evidence of IgG antibody titre of \geq 1:256. Note 4-fold rise in antibody titre between acute and convalescent sera confirms recent infection. Titres \geq 1:1024 suggest recent or active infections, those \leq 1:64 suggest previous infection. 	<ul style="list-style-type: none"> Does not include Doxycycline. Consultation with an infectious diseases specialist is strongly recommended at an early stage for suspected clinical cases.
Symptoms, incubation period, laboratory diagnostics and treatments vary depending on the stage				
Lyme disease (LD)	Early localized LD – 3 to 30 days	<ul style="list-style-type: none"> Erythema migrans (EM) and non-specific flu-like symptoms (i.e. fatigue, fever, headache, mildly stiff neck, arthralgia or myalgia and lymphadenopathy). 	<ul style="list-style-type: none"> Acute & convalescent sera are recommended (3-4 weeks apart). Serological tests may be negative within 1st 6 weeks of infection. Some individuals treated early (within 6 weeks) may not sero-convert and hence never meet Western Blot positivity criteria. 	<ul style="list-style-type: none"> Doxycycline 100mg PO BID for 2 – 3 weeks, unless contraindicated.
	Early disseminated LD – days to months	<ul style="list-style-type: none"> Multiple EM, CNS (lymphocytic meningitis, and rarely, encephalomyelitis) & PNS (radiculopathy, cranial neuropathy, and mononeuropathy multiplex) symptoms and cardiac (intermittent atrioventricular heart block, myocarditis) symptoms. 	<ul style="list-style-type: none"> Some individuals treated early (within 6 weeks) may not sero-convert and hence never meet Western Blot positivity criteria. 	<ul style="list-style-type: none"> Early localized LD oral regimen, OR; Ceftriaxone 2g IV for 2 – 4 weeks for those with neuro or cardiac Sx.
	Late LD – months to years	<ul style="list-style-type: none"> Intermittent recurring arthritis (usually monoarticular) and neurological symptoms. 	<ul style="list-style-type: none"> A single sera sample is sufficient. 	<ul style="list-style-type: none"> Doxycycline 100mg PO BID for 4 weeks, OR; Ceftriaxone 2g IV for 2 – 4 weeks.

- Treatment should be initiated based on clinical suspicion of disease. Where above treatments are contraindicated consult the communicable disease management protocols available at www.gov.mb.ca/health/publichealth/cdc/tickborne/index.html for additional options.
- Co-infection should be considered if there is a more severe clinical presentation, if symptoms persist or there is a poor response to recommended therapies. Consultation with an infectious diseases specialist is strongly recommended for all complex tick-borne diseases including co-infections.
- Additional information can be found in the disease specific communicable disease management protocols.