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

<table>
<thead>
<tr>
<th>Disease</th>
<th>Incubation Period</th>
<th>Presentation</th>
<th>Laboratory Investigation</th>
<th>Initial Treatment</th>
</tr>
</thead>
</table>
| Anaplasmosis         | 5 to 21 days      | • 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. | • Serological evidence of a 4-fold change in IgG antibody titre in paired serum samples (2 – 4 weeks apart). Titre in convalescent sample ≥ 1:128. | • Doxycycline 100mg PO BID for 2 weeks, unless contraindicated. |
| Babesiosis           | 1 to 6 weeks (may be up to 6 months following transfusion with infected blood products) | • 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. | • Detection of parasites in blood smear by microscopy, OR  
       • Serological evidence of IgG antibody titre of ≥ 1:256.  
       • Note 4-fold rise in antibody titre between acute and convalescent sera confirms recent infection.  
       • Titres ≥ 1:1024 suggest recent or active infections, those ≤ 1:64 suggest previous infection. | • Does not include Doxycycline.  
       • Consultation with an infectious diseases specialist is strongly recommended at an early stage for suspected clinical cases. |
| Lyme disease (LD)    | Early localized LD – 3 to 30 days | • Erythema migrans (EM) and non-specific flu-like symptoms (i.e. fatigue, fever, headache, mildly stiff neck, arthralgia or myalgia and lymphadenopathy). | • 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. | • Doxycycline 100mg PO BID for 2 – 3 weeks, unless contraindicated. |
|                     | Early disseminated LD – days to months | • Multiple EM, CNS (lymphocytic meningitis, and rarely, encephalomyelitis) & PNS (radiculopathy, cranial neuropathy, and mononeuropathy multiplex) symptoms and cardiac (intermittent atrioventricular heart block, myoepicarditis) symptoms. | • 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 | • Intermittent recurring arthritis (usually monoarticular) and neurological symptoms. | • A single sera sample is sufficient. | • Doxycycline 100mg PO BID for 4 weeks, OR;  
       • Ceftriaxone 2g IV for 2 – 4 weeks. |

**Symptoms, incubation period, laboratory diagnostics and treatments vary depending on the stage**

- **Treatments 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](http://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.