Lyme disease prophylaxis and diagnosis algorithm for clinicians

**Patient with known/suspected blacklegged tick or deer tick bite (Ixodes scapularis)**

**Symptomatic patient?**

- **NO**
  - Exposure to risk areas (Box 1)

- **YES**
  - Low risk of Lyme disease transmission

**Low risk of Lyme disease transmission**

- **NO**
  - Tick attached >24 hours

- **YES**
  - Low risk of Lyme disease transmission

**Tick attached >24 hours**

- **NO**
  - < 72 hours since tick removed

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- **NO**
  - Watch for signs/symptoms 30 days post-exposure

- **YES**
  - Early localized disease (<30 days)

**Early localized disease (<30 days)**

- **Erythema migrans (EM)**
- **Bull’s eye rash (~70% prevalence)**
- **Fever, malaise, headache, myalgia, neck stiffness, fatigue, arthralgia**
- **Early treatment is effective and should be provided in absence of blood tests if clinical suspicion present**
- **Lab testing of limited value in early localized disease**
- **Consider serology if diagnosis uncertain. If initial tests negative AND symptoms persist, may repeat in 4 weeks**

**Consider post-exposure prophylaxis if person was exposed in an area where ecologic information indicates that the rate of infection of ticks is >20%. Currently in Toronto this includes Rouge Valley and Morningside Park*. Please see the IDSA Guidelines.**

**Early disseminated disease (<3 months)**

- **Multiple EM**
- **Cranial nerve palsies**
- **Lymphocytic meningitis**
- **Conjunctivitis, arthralgia, myalgia, headache, fatigue, carditis**
- **Order serologic testing**
- **Work up differential diagnosis**
- **Consider initiating treatment if clinical suspicion high**
- **Consultation with ID specialist, and/or other specialists, as appropriate, strongly recommended**

**Late disseminated disease (>3 months)**

- **Anrythmias, heart block, myopericarditis**
- **Recurrent arthritis affecting large joints**
- **Central nervous system manifestations – meningitis; encephalopathy**
- **Peripheral neuropathy**
- **Fatigue**

*Note: These areas may change. Visit toronto.ca/health/professionals for updates.

**Box 1: Risk Areas**

- Ontario Lyme Disease Risk Map
- Canadian risk areas
- USA Lyme disease data & statistics
- European tick surveillance maps

May 2018