

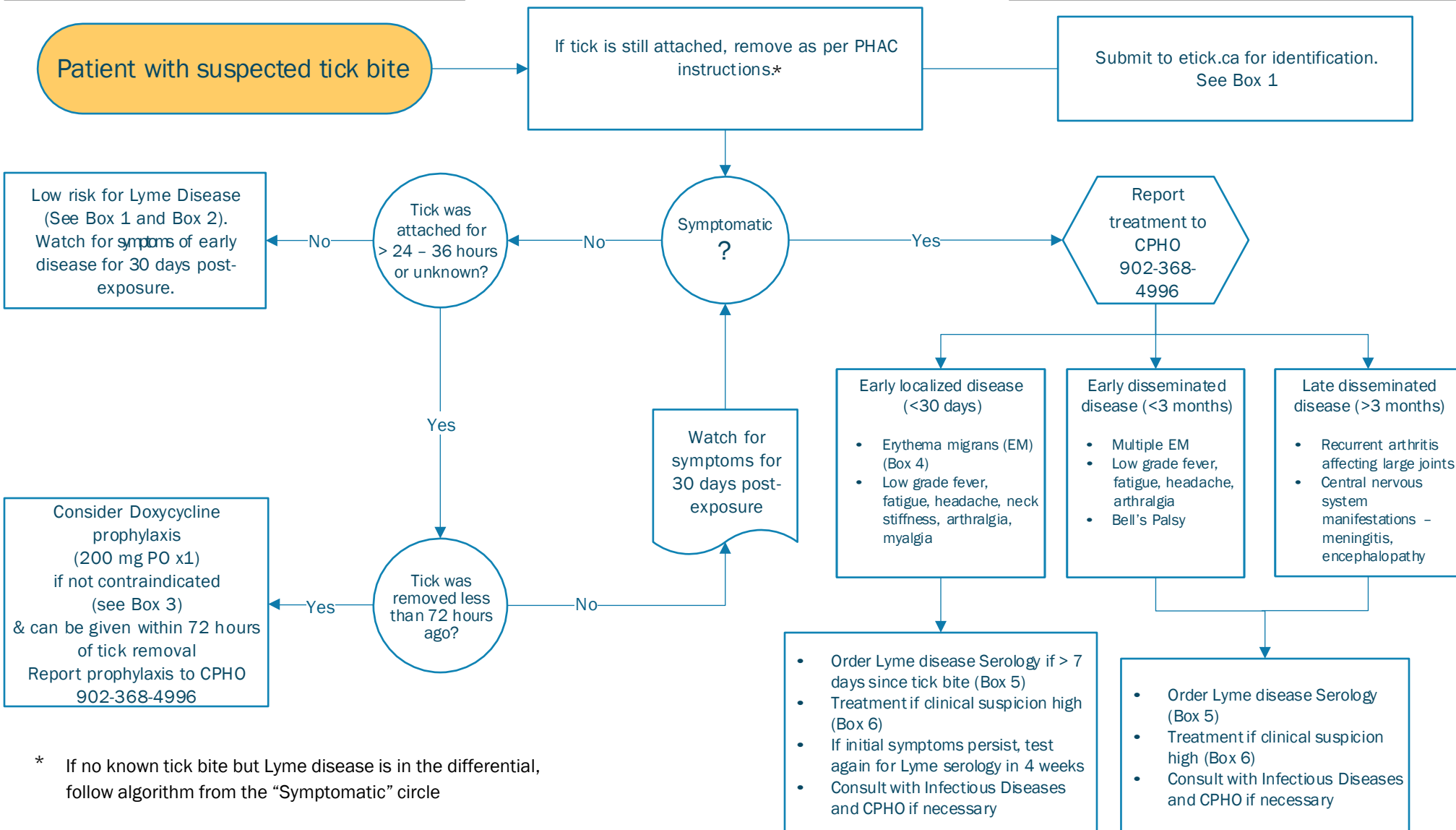


Ixodes (black-legged deer) ticks in various fed stages:
A) Nymphal Female B) Adult Female

Prince Edward Island Lyme Disease Algorithm for Clinicians



Example of an Erythema migrans (EM) rash. Often develops a central clearing (bull's eye shape).



Box 1. Lyme Disease Risk

- Most people who are bitten by a tick do not get Lyme disease.
- Ticks must carry the Lyme bacteria and be attached for >24 to 36 hours for transmission to occur.
- In PEI, only the black-legged tick can carry Lyme disease.
- Although PEI is not considered an endemic/high risk area for Lyme disease, ticks carrying Lyme-causing bacteria may be present.
- Higher risk areas for Lyme include northeastern US and Wisconsin, southern Ontario, southern N.B., and most of Nova Scotia.

Box 2. Other Tick-Borne Diseases

Contact Infectious Disease consultant if febrile after 7 days and history of tick bite, as this could be a few different tick transmitted illnesses.

Other Tick Associated Diseases include:

Black legged / Deer Ticks: Tick Borne Fever (*Borrelia miyamotoi*), Anaplasmosis, Powassan Virus infection, Babesiosis, and Tularemia

Dog Tick or Lone Star Tick: Ehrlichiosis, Rocky Mountain Spotted Fever

Box 3. Post exposure prophylaxis

For Lyme disease after a black-legged tick bite:

Adults: Doxycycline 200mg PO x 1 dose

Children ≥8 years: Doxycycline 4 mg/kg, up to maximum dose of 200mg

Doxycycline is contraindicated in pregnancy and for children <8 years No further testing/treatment required following post-exposure prophylaxis.

Box 4. Erythema migrans

- Single or multiple *erythema migrans* (EM) rash is present in most but not all cases (60-85% of cases).
- EM begins as red macule/papule at site of tick bite. Rapidly enlarges to diameter ≥ 5 cm. Often develops central clearing (bull's eye shape).

Box 5. Lyme Disease Serology

- Serology is not helpful if done within 7 days of a tick bite unless patient has had previous Lyme disease (very rare).
- Lyme disease serology is performed by Modified Two Tier Testing (MTTT) algorithm using 2 enzyme immunoassays (EIAs) at QEII HSC Microbiology Laboratory.
- It has a specificity at 99.6%.
- It is more sensitive for detecting early infection (formal evaluation showed that the MTTT approach detected 28% more cases of early infection)
- Contact with Infectious Disease Consultant for assistance in interpreting lab results from private and/or labs in the USA. **Over 40% of healthy (non-infected) individuals will react falsely to private lab criteria.**

European or Asian Lyme disease requires specialized testing. Please add travel history or contact the Infectious Disease Consultant.

Age Category	Line	Drug	Dosage	Frequency	Maximum	Duration
Adults	1 st	Doxycycline	100 mg orally	Twice/day	N/A	21*
	2 nd	Cefuroxime axetil	500 mg orally	Twice/day	N/A	21*
		Amoxicillin	500 mg orally	Three times/day	N/A	21*
Children (< 18 yrs)	1 st	Doxycycline	4 mg/kg orally	Daily, 2 divided doses	100 mg per dose	21*
	2 nd	Amoxicillin	50 mg/kg orally	Daily, 3 divided doses	500 mg per dose	21*
		Cefuroxime axetil	30 mg/kg orally	Daily, 2 divided doses	500 mg per dose	21*

*https://cep.health/media/uploaded/CEP_EarlyLymeDisease_Provider_2020.pdf