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PUBLIC HEALTH ADVISORY

To: Health Care Providers
From: Dr. Siiri Bennett, State Epidemiologist
Subject: **2019 Lyme and other Tickborne Disease Information**
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Abstract:

Lyme disease is the most common vectorborne disease in Maine. Ticks are already out and we expect the number of Lyme disease cases to increase as the weather continues to get warmer. **May is Lyme Disease Awareness Month in Maine** and we want to encourage Mainers to use the “Tick Aware and Tick Alert” strategies to stay tick free.

The purpose of this advisory is to:

- Provide general information regarding ticks and Lyme disease
- Remind providers to report cases of Lyme disease, including those diagnosed by erythema migrans
- Provide resources on diagnosis and treatment of Lyme disease
- Remind providers that anaplasmosis, babesiosis and other tickborne diseases are also increasing in Maine

2019 Lyme and other Tickborne Disease Information

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Background:

Lyme disease is a bacterial infection that is carried by *Ixodes scapularis* (the deer tick). Cases increased over the last decade in Maine, and occur in all 16 counties. Providers reported over 1,400 cases of Lyme disease statewide in 2018. Lyme disease is most common among school age children and mature adults over the age of 65. Most infections occur during the summer months, and as the weather continues to warm up, more ticks will be out in the open increasing the risk for tickborne diseases. Providers are already reporting cases in 2019, and the number will rise as we enter the summer months.

Ixodes scapularis (the deer tick) can also carry the bacteria that cause anaplasmosis and the parasites that cause babesiosis. Both anaplasmosis and babesiosis are also increasing in Maine, and individuals bitten by the deer tick can acquire more than one infection.

Symptoms:

The most common early symptom of Lyme disease is an expanding red rash (erythema migrans) that occurs 3-30 days after being bitten. Fever, joint and muscle pains may also occur. Untreated infections can lead to clinical findings in skeletal, cardiac, and nervous systems. Disseminated manifestations of disease include: arthritis characterized by recurrent, brief attacks of joint swelling; lymphocytic meningitis; cranial neuritis (such as Bell’s palsy); encephalitis; and second or third degree atrioventricular block. Lyme disease is treatable, and the majority of patients recover after receiving appropriate therapy.

What to do after a tick bite:

- Remove the tick properly, ideally using tweezers or a tick spoon.
- Identify the tick and the engorgement level, or length in time of attachment. Tick identification is available for free through the Tick Lab at the University of Maine Cooperative Extension and more information can be found at www.ticks.umaine.edu.
- Clean the area around the bite, and instruct the patient to watch for signs and symptoms for 30 days.
- Testing of the tick is not routinely recommended because even if the tick tests positive for Lyme, that does not mean it was attached long enough to transmit the disease. Even if the tick tests negative that does not mean it was a patient’s only exposure.
 - While testing ticks for clinical purposes is not recommended, data from tick testing is very helpful for surveillance purposes and determining tick infection rates in the state. The Tick Lab now can test deer ticks for Lyme disease, anaplasmosis, and babesiosis

with a three-day turnaround time. This service is \$15 and only available to Maine residents. More information can be found at www.ticks.umaine.edu. However, clinical decisions should not be made based off the results of this service.

- Prophylaxis after a tick bite is **not** routinely recommended, but can be considered under specific circumstances including:
 - Tick is identified as an engorged deer tick that was attached for over 24 hours
 - Exposure occurred in an area where there is a high rate of infected ticks. Areas south of Bangor have the highest rate of infected ticks in the state. There are limited data from the more northern counties on the rate of infection among ticks.
 - Prophylaxis can be started within 72 hours. **Even if prophylaxis is used, Maine CDC recommends monitoring for symptoms for 30 days.**
- There are no data showing if prophylaxis is effective in preventing anaplasmosis, and a single dose of doxycycline will not have an effect on babesiosis. Therefore, **even if prophylaxis is used, Maine CDC recommends monitoring for symptoms for 30 days.**

If Providers suspect Lyme disease:

- Preferred laboratory testing is a two tier method, with an EIA or IFA test followed by Western Blot for both IgG and IgM
- IgM is only considered reliable in the first month after exposure
- IDSA guidelines for assessment, treatment, and prevention of Lyme disease are available at <http://cid.oxfordjournals.org/content/43/9/1089.full>
- Consider testing for other tickborne diseases as well if warranted

What to report:

Lyme disease is a reportable condition in the state of Maine. Report all diagnosed erythema migrans rashes and all positive lab diagnoses. Cases can be reported by fax at 1-800-293-7534 or by phone at 1-800-821-5821.

Other tickborne diseases:

Other diseases that can be transmitted by ticks in Maine include anaplasmosis, babesiosis, *Borrelia miyamotoi*, and Powassan. Symptoms of anaplasmosis include: fever, headache, malaise and body aches. Symptoms of babesiosis include: extreme fatigue, aches, fever, chills, sweating, dark urine, and possibly anemia. Symptoms of *B. miyamotoi* include: fever, chills, headache, body and joint pain, and fatigue. Symptoms of Powassan include: fever, headache, vomiting, weakness, confusion, loss of coordination, speech difficulties, seizures, and encephalitis and meningitis. Preferred testing for anaplasmosis, babesiosis, *B. miyamotoi*, and Powassan is by PCR. Testing for anaplasmosis, babesiosis, and Powassan can be performed at Maine's Health and Environmental Testing Laboratory (HETL), and many reference and commercial laboratories offer testing for anaplasmosis, babesiosis, and *B. miyamotoi*.

In 2018, providers reported 476 cases of anaplasmosis, 101 cases of babesiosis, and eight cases of *B. miyamotoi*. There were no cases of Powassan in 2018. Current case count data can be found on the Maine Tracking Network Near-Real Time dashboard.

Anaplasmosis, babesiosis, ehrlichiosis, Powassan, and Rocky Mountain spotted fever are all reportable in Maine; however, ehrlichiosis and Rocky Mountain spotted fever are uncommon in the state. *B. miyamotoi* is currently reportable under the unusual illnesses of infectious causes.

A Physician's Reference Guide is available and describes the most common tickborne diseases in Maine. This guide can be found on our website at: www.maine.gov/dhhs/vectorborne under Resources. Paper copies can be requested through disease.reporting@maine.gov.

Additional information:

- Lyme disease, anaplasmosis, and babesiosis data, plus near real-time reports of tick exposures in Maine emergency departments, are available on Maine CDC's website at www.maine.gov/lyme by navigating to "Maine Tracking Network: Tickborne diseases" on the left navigation pane.
- For more information on tickborne diseases including Lyme: www.maine.gov/dhhs/vectorborne OR www.maine.gov/dhhs/tickfaq
- For IDSA Lyme disease treatment guidelines: <http://cid.oxfordjournals.org/content/43/9/1089.full>
- To order Lyme educational materials: www.maine.gov/dhhs/mecdc/infectious-disease/epi/order-form-wn.shtml
- Maine CDC Disease Consultation and Reporting Line: **1-800-821-5821**
- HETL requisition: www.mainepublichealth.gov/lab