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| DATE: | 6/2/2020 |
| TO: | Health Alert Network |
| FROM: | Rachel Levine, MD, Secretary of Health |
| SUBJECT: | Lyme Disease and Other Tickborne Diseases in Pennsylvania |
| DISTRIBUTION: | Statewide |
| LOCATION: | n/a |
| STREET ADDRESS: | n/a |
| COUNTY: | n/a |
| MUNICIPALITY: | n/a |
| ZIP CODE: | n/a |

This transmission is a “Health Advisory”: provides important information for a specific incident or situation; may not require immediate action.

HOSPITALS: PLEASE SHARE WITH ALL MEDICAL, PEDIATRIC, NURSING AND LABORATORY STAFF IN YOUR HOSPITAL; **EMS COUNCILS:** PLEASE DISTRIBUTE AS APPROPRIATE; **FQHCs:** PLEASE DISTRIBUTE AS APPROPRIATE **LOCAL HEALTH JURISDICTIONS:** PLEASE DISTRIBUTE AS APPROPRIATE; **PROFESSIONAL ORGANIZATIONS:** PLEASE DISTRIBUTE TO YOUR MEMBERSHIP; **LONG-TERM CARE FACILITIES:** PLEASE SHARE WITH ALL MEDICAL, INFECTION CONTROL, AND NURSING STAFF IN YOUR FACILITY

Summary

- Tick bite-related emergency department visits have increased recently in Pennsylvania.
- Health care providers should have a heightened clinical suspicion for tickborne diseases in persons with clinically compatible symptoms.
- Rare tickborne diseases, including *B. miyamotoi* and Powassan virus, have been found in ticks in multiple Pennsylvania counties
- Providing healthcare and treating persons for tickborne illnesses should not be delayed due to the COVID-19 pandemic.
- For questions, please call 1-877-PA-HEALTH (1-877-724-3258) or your local health department for more information.
- The Pennsylvania DOH has released a Lyme and Other Tickborne Diseases webinar on TRAIN PA for continuing education credits.

The Pennsylvania Department of Health (PA DOH) has identified recent sustained increases in tick bite-related emergency department visits in nearly all regions of the state. This trend is expected, as tick exposures in Pennsylvania generally increase during spring and summer months and serves as an important reminder that tickborne diseases occur annually in Pennsylvania. In addition, due to the stay at home orders, residents may be spending more time outdoors. Seeking medical care for tickborne illness should not be delayed due to the COVID-19 pandemic. From April through September, health care providers should have a heightened clinical suspicion for tickborne diseases.

Report all tickborne diseases, confirmed or suspected, to the PA DOH web-based electronic disease surveillance system, PA-NEDSS:

<https://www.nedss.state.pa.us/nedss/default.aspx>

PENNSYLVANIA TICK SURVEILLANCE DATA

Recent tick collections in 2019-2020 by the Pennsylvania Department of Environmental Protection (DEP) documented the presence of *Ixodes scapularis* (known commonly as the blacklegged tick or deer tick) infected with *Borrelia burgdorferi* (the bacterium that causes Lyme disease) in all 67 Pennsylvania counties.

EPIDEMIOLOGY OF TICKBORNE DISEASES IN PENNSYLVANIA

In Pennsylvania, Lyme disease (LD) is the most commonly reported tickborne disease and is usually seen during the months of May through September throughout the commonwealth. Pennsylvania ranked fourth nationally in LD incidence rate (79.7 per 100,000 persons) in 2018. All 67 counties in Pennsylvania reported LD, ranging from 10 cases in Montour county to 678 cases in Chester county. Incidence ranged from 12.0 cases/100,000 persons in Philadelphia county to 485.8 cases/100,000 persons in Jefferson county.

Several other non-Lyme tickborne diseases are also reported annually in Pennsylvania, including anaplasmosis, babesiosis, ehrlichiosis, and spotted fever rickettsiosis. Additionally, human cases of Powassan virus disease, a tickborne arbovirus, were documented in 2011, 2017, and 2018. Results from the DEP tick studies conducted during 2019-2020 found additional evidence of Powassan in three more counties.

Although not yet identified in Pennsylvania, cases of Heartland and Bourbon viruses have been identified following Lone Star tick bites in the United States. Lone Star ticks are established in some areas of Pennsylvania.

Additionally, the DEP tick studies conducted in 2019-2020 found about 4% of adult *I. scapularis* ticks in Pennsylvania are infected with *Borrelia miyamotoi*. *B. miyamotoi* was found in ticks in 39 Pennsylvania counties. *B. miyamotoi* disease should also be considered in persons presenting with symptoms of TBDs. More information on *B. miyamotoi* disease can be found here:

<https://www.cdc.gov/relapsing-fever/miyamotoi/index.html>

DIAGNOSIS AND TREATMENT OF TICKBORNE DISEASES

The CDC has produced a reference manual for health care providers that provides comprehensive information on tick identification, disease distribution, clinical signs and symptoms, laboratory testing, and treatment for the tickborne diseases that are endemic to North America. This manual is freely available at:

<https://www.cdc.gov/lyme/resources/TickborneDiseases.pdf>

TICK BITE PREVENTION AND TICK REMOVAL

Individuals with exposure to wooded and brushy areas with high grass and leaf litter are at greatest risk of tick exposure. It is important to remind patients to reduce the likelihood of a tick bite by:

- walking in the center of trails and avoiding areas with high grass and leaf litter;
- using repellent that contains at least 20% DEET on exposed skin and use products that contain 0.5% permethrin on clothing;
- wearing light-colored clothing, which will make it easier to see crawling ticks;
- conducting full-body tick checks (including pets) after spending time in tick habitat; and
- bathing or showering within 2 hours after coming indoors.

If an attached tick is found, it should be promptly removed using fine-tipped tweezers. The tick should be grasped as close to the skin's surface as possible and pulled upward with steady, even pressure. CDC's directions for tick removal can be found here:

<https://www.cdc.gov/lyme/removal/index.html>.

It is common for individuals who remove a tick to want it tested. However, testing of individual ticks is discouraged because of the following reasons:

- If the tick tests positive for disease-causing organisms, that does not necessarily mean that the bitten individual has been infected.
- If the bitten individual has been infected, they are likely to develop symptoms before results of the tick test are available. Patients with symptoms should not wait for tick testing results before beginning appropriate treatment.
- Negative results can lead to false assurance. For example, the individual may have been unknowingly bitten by a different tick that was infected.

LYME AND OTHER TICKBORNE DISEASES WEBINAR

The Pennsylvania DOH has released a Lyme and Other Tickborne Diseases webinar on TRAIN PA. Continuing education credits (CME, CEU) are available upon completion of the webinar. If you do not already have a Train username and password, you must register for TRAIN PA and register for the course.

<https://www.train.org/main/course/1087944/>

For questions, please call your local health department or the Pennsylvania Department of Health at 1-877-PA HEALTH (1-877-724-3258).

Categories of Health Alert messages:

Health Alert: conveys the highest level of importance; warrants immediate action or attention.

Health Advisory: provides important information for a specific incident or situation; may not require immediate action.

Health Update: provides updated information regarding an incident or situation; unlikely to require immediate action.

This information is current as of June 2, 2020 but may be modified in the future. We will continue to post updated information regarding the most common questions about this subject.