



DATE:	05/06/2015
TO:	Health Alert Network
FROM:	Karen M. Murphy, PhD, RN, Acting Secretary of Health
SUBJECT:	Lyme Disease and other tickborne diseases in Pennsylvania
DISTRIBUTION:	Statewide
LOCATION:	Statewide
STREET ADDRESS:	Statewide
COUNTY:	Statewide
MUNICIPALITY:	Statewide
ZIP CODE:	Statewide

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

HOSPITALS: PLEASE SHARE WITH ALL MEDICAL, PEDIATRIC, INFECTION CONTROL, 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

The Pennsylvania Department of Health (PADOH) recommends:

1. Recognition that Pennsylvania (PA) has one of the highest incidences of Lyme Disease (LD) in the nation over the last five years and that the blacklegged tick or deer tick is in all 67 counties. Please recognize that from May through August the aggressive nymph stage of the deer tick is active. Nymphs are very small, about the size of a poppy seed and easy to miss unless they become engorged with blood.
2. When signs and symptoms of LD are present, act quickly. Diagnosis and treatment of early LD when erythema migrans or other rash is present may be based solely on clinical suspicion because diagnostic serologies (including IgM) may not yet be positive.
3. Prevention of disease through use of DEET insect repellent, wearing long pants and sleeves outdoors, and most importantly daily tick checks followed by prompt removal of any ticks.
4. Awareness that recent reports of sudden cardiac death attributed to LD carditis highlight the importance of prompt diagnosis and treatment of LD.

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

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

Please note:

Diagnosis and treatment of LD during pregnancy is very important. If left untreated, LD can be dangerous to an unborn child.

The PADOH is reporting that the deer tick has been found in all 67 counties in PA per research done by the Department of Environmental Protection. The deer tick carries LD and other tickborne diseases.

Lyme disease (*Borrelia burgdorferi*), babesiosis (*Babesia microti* and other species), anaplasmosis (*Anaplasma phagocytophilum*), and Powassan virus and other tickborne diseases are transmitted by the bite of the deer tick (*Ixodes scapularis*), also known as the blacklegged tick. All Pennsylvanians and those traveling into PA should take precautions to prevent themselves from being infected by LD and other tickborne diseases.

Clinical Presentation: LD is caused by the bacteria *Borrelia burgdorferi* and the incubation period is 3-30 days after tick exposure. In approximately 60-80% of patients, illness first manifests with a red rash that expands slowly, often with central clearing (erythema migrans [EM] or bulls eye rash). Sometimes, many rashes appear, varying in shapes and sizes. Common sites are the thighs, groin, trunk, and armpits. The rash may be warm, but it usually is not painful.

Early systemic manifestations may include:

- malaise
- fatigue
- fever and chills
- headache
- stiff neck
- muscle and joint pains
- swollen lymph nodes or lymphadenopathy

At this stage, serologic testing may be negative and treatment should be based on clinical diagnosis. Early treatment generally leads to complete and rapid recovery, and may prevent seroconversion (so that later testing is negative). Patients who are not treated at this stage of infection may develop any of a number of syndromes and without treatment, a patient may develop chronic symptoms weeks to years after onset.

In 2013, CDC released a report of three Lyme disease carditis cases in the northeastern United States that resulted in sudden cardiac death. While rare, these cases highlight the importance of prompt diagnosis and treatment for LD. Healthcare providers should ask patients with suspected LD about cardiac symptoms and obtain an EKG if indicated.

Healthcare providers should also ask patients with unexplained heart block about possible exposure to infected ticks. The full report on this rare clinical presentation is available at:

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6249a1.htm>

The risk of exposure to ticks is greatest in the woods and in the edge area between lawns and woods; however, ticks can also be carried by animals onto lawns and gardens and into houses by pets. Most *B. burgdorferi* infections are thought to result from exposure to ticks around the home during property maintenance, recreation, and leisure activities. Thus, individuals who live or work in residential areas

surrounded by woods or overgrown brush are at risk of getting LD. In addition, persons who participate in recreational activities away from home such as hiking, camping, fishing and hunting in tick habitat, and persons who engage in outdoor occupations, such as landscaping, brush clearing, forestry, and wildlife and parks management in endemic areas are also at risk of getting LD. Individuals can reduce their risk of LD by avoiding tick-infested habitats. The risk of being bitten by an infected tick can be decreased by using the following precautions:

- 1) Use insect repellent containing low concentrations (10 to 30%) of diethyltoluamide (DEET) on clothing and exposed skin (not face)
 - a. Apply DEET sparingly on exposed skin; do not use under clothing.
 - b. Do not use DEET on the hands of young children;
 - c. Avoid applying to areas around the eyes and mouth.
 - d. Do not use DEET over cuts, wounds or irritated skin. Wash treated skin with soap and water after returning indoors; wash treated clothing.
 - e. Avoid spraying in enclosed areas; do not use DEET near food.
- 2) Avoid tick-infested areas;
- 3) Wear light colored clothing so ticks can be spotted more easily
- 4) Tuck pant legs into socks or boots, and shirts into pants;
- 5) Tape the areas where pants and socks meet;
- 6) Wear a hat, long sleeved shirt, and long pants for added protection; be aware of heat related issues and hydrate accordingly
- 7) Walk in the center of trails to avoid overhanging brush; and
- 8) Check yourself, family members and pets for ticks after leaving potentially tick infested areas and promptly remove any ticks detected.
- 9) Shower within 2 hours of being outdoors.

If a tick is found attached to the skin, there is no need to panic. There are several tick removal devices on the market, but a plain set of fine-tipped tweezers will remove a tick quite effectively. Prompt and proper tick removal is very important for preventing possible disease transmission. Please see http://www.cdc.gov/ticks/removing_a_tick.html

The early diagnosis and proper treatment of LD are important strategies to avoid the costs and complications of late-stage illness.

Some signs and symptoms of LD may not appear until weeks or months after a tick bite:

- Arthritis is most likely to appear as brief bouts of pain and swelling, usually in one or more large joints, especially the knees.
- Nervous system symptoms can include numbness, pain, nerve paralysis (often of the facial muscles, usually on one side), and meningitis (fever, stiff neck, and severe headache).
- Irregularities of the heart rhythm may occur.
- Problems with memory or concentration, fatigue, headache, and sleep disturbances sometimes persist after treatment.

Different people exhibit different signs and symptoms of LD. Some people never develop a bulls-eye rash. Some people only develop arthritis, and for others nervous system problems are the only symptom of Lyme disease.

Many of the symptoms of LD are similar to those of other diseases. The fever, muscle aches, and fatigue of LD can be mistaken for viral infections, such as influenza or infectious mononucleosis. Joint pain can be mistaken for other types of arthritis, such as juvenile rheumatoid arthritis, and neurologic signs can mimic those caused by other conditions, such as multiple sclerosis.

More information may be found from CDC at: <http://www.cdc.gov/Lyme/>

Please share this information with appropriate personnel in your facility or practice.

Cases of infection, confirmed or suspected, should be entered into Pennsylvania's web-based electronic disease surveillance system, PA-NEDSS: <https://www.nedss.state.pa.us/nedss/default.aspx>.

CDC just released an app available for iOS and Android that is designed specifically as a quick reference for healthcare providers::

<http://www.cdc.gov/mobile/applications/MobileFramework/tickborne-diseases.html>

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; no immediate action necessary.

This information is current as of May 6, 2015, but may be modified in the future. We will continue to post updated information regarding the most common questions about this subject.
