Lyme Disease Fact Sheet

Lyme disease overview
Lyme disease is the most common tick-borne disease in Maryland and the United States. It is caused by the bacterium *Borrelia burgdorferi* and transmitted through the bite of an infected black-legged tick (deer tick). Common symptoms of Lyme disease include fever, headache, fatigue, and a skin rash called erythema migrans. If untreated, infection can spread to joints, the nervous system, and the heart. Lyme disease is diagnosed based on symptoms, physical findings (e.g. rash) and the possibility of exposure to an infected tick. Prompt treatment (within 6 weeks of the bite) of Lyme disease with appropriate antibiotics can reduce the long-term health effects of the disease. Pictures of the rash may help clinicians diagnose and treat Lyme disease in its earliest stages. Laboratory blood tests are also helpful in diagnosing Lyme disease if used correctly and performed with validated methods. A small percentage of individuals who receive proper treatment may experience continued symptoms known as Post-Treatment Lyme Disease Syndrome (PTLDS). Ticks that transmit Lyme Disease can also carry other organisms, sometimes causing "co-infections" such as Erlichia, Babesiosis, Anaplasmosis, and Rocky Mountain Spotted Fever (Centers for Disease Control and Prevention).

How Lyme disease is spread
Lyme disease is spread when the bacterium *Borrelia burgdorferi* enters the body through the bite of an infected tick. Ticks can attach to any part of the human body and are often found in hard-to-see areas such as the groin, armpits, and scalp. In most cases, a tick must be attached for 36 to 48 hours or more for transmission to occur. Most people are infected when bitten by immature ticks called nymphs. Nymphs are tiny (less than 2 mm) and difficult to see. Nymphs feed during the spring and summer months. Adult ticks can also transmit Lyme disease, but are larger and more likely to be found before they have had time to transmit the bacteria. Adult ticks are most active during cooler months. Black-legged ticks search for host animals from leaf litter on the forest floor or from the tips of grasses and shrubs. Ticks crawl onto animals or people as they brush against them. The risk of exposure to ticks is highest in the woods and in the area between a person’s lawn and the woods. Ticks may also be carried by animals and pets into a person’s lawn, garden, or house. People who spend time in heavily wooded areas where ticks are infected with Lyme disease are at higher risk for exposure (Centers for Disease Control and Prevention).

Where Lyme disease is found
Nationally, cases of Lyme disease are heavily concentrated in the Northeast and upper Midwest. Maryland is one of 14 states from which around 95% of confirmed Lyme disease cases are reported. Cecil County is considered to be an area of high Lyme disease incidence (Centers for Disease Control and Prevention).
Lyme disease in Cecil County and Maryland

From 2012 to 2016 there were 7,815 reports of confirmed and probable cases of Lyme disease in Maryland, of which 342 were in Cecil County. For Maryland, the incidence of confirmed and probable Lyme disease cases increased from 28.1 cases per 100,000 population in 2012 to 31.0 cases per 100,000 population in 2016, a 10.3% increase in incidence. Over this same period of time the incidence of confirmed and probable Lyme disease cases in Cecil County decreased by 21.6%, from 84.6 cases per 100,000 population in 2012 to 66.3 cases per 100,000 population in 2016. Although the incidence of Lyme disease in Cecil County decreased over the last several years, it remains significantly higher than the state average.

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<th>Lyme Disease Confirmed and Probable Cases and Incidence Rates per 100,000 Population, Cecil County and Maryland, 2012-2016</th>
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<td><strong>Years</strong></td>
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Data sources: National Electronic Disease Surveillance System (NEDSS) database. Maryland Department of Health, Prevention and Health Promotion Administration.

Underreporting of Lyme disease is a problem. It is believed that the true incidence of Lyme disease in the United States is around ten times higher than what is reported (Centers for Disease Control and Prevention).

What you can do to prevent Lyme disease

- **Avoid tick-infested areas.** Ticks are most active in the late spring through early fall. When hiking, you should walk in the center of the trail and avoid overgrown grass, brush, and leaf litter at the edge of the trail.
- **Use Insect Repellent.** Use insect repellent containing DEET on clothes and exposed skin. You can also treat clothes with the insecticide permethrin.
- **Wear appropriate clothing.** Wearing long pants and long sleeves helps to keep ticks off of your body. Tucking shirts into pants and pants into socks helps to keep ticks on the outside of clothing. Light colored clothing also makes ticks easier to spot.
- **Check for ticks daily.** Always check for ticks after being outdoors, even in your own yard. Remember to check your children and pets after they have been outside.
- **Protect your pets.** Talk to your veterinarian about tick control products for pets.

More information about Lyme disease is available through the Cecil County Health Department (http://cecilcountyhealth.org/community-health-services/lyme-disease/), Maryland Department of Health (https://phpa.health.maryland.gov/OIDEOR/CZVBD/Pages/lyme-disease.aspx), and the Centers for Disease Control and Prevention (http://www.cdc.gov/lyme/index.html).

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