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What is Lyme disease?

Lyme disease is a tick-borne illness caused by infection with the bacteria *Borrelia burgdorferi* and was first diagnosed in the town of Lyme, Connecticut. The Lyme disease agent is transmitted to persons only through the bite of an infected blacklegged tick. Lyme disease is the most common tick-borne illness in Virginia.

Who gets Lyme disease?

People of any age can get Lyme disease, but the illness is most common in persons under 16 years of age or persons older than 30 years of age. Anyone who spends time outdoors, especially in forests near suburban areas, is likely to come across ticks and may have a higher risk of getting bitten. The peak transmission season occurs in May and June but may potentially occur throughout the year.

How is Lyme disease spread?

The bacteria that cause Lyme disease are only transmitted through the bites of infected blacklegged ticks (a.k.a. deer ticks). Blacklegged ticks have four life stages: egg, larva, nymph, and adult. The tiny nymphs cause most cases of infection because they are active in the late spring and summer when people are more active outdoors. Blacklegged tick nymphs are tiny (about the size of a poppy seed), and their bites cause very little or no itch or irritation. This is why most people never realize they have been bitten unless the tick attaches to a part of the body in plain sight. Lyme disease is not transmitted from one person to another.

What are the symptoms of Lyme disease?

Most patients (>75%) will see the development of a red rash or a "bull's-eye" rash (erythema migrans) around a tick bite site within days or weeks of the tick bite. This rash expands up to 12 inches in diameter and often clears around the center. The rash does not itch or hurt, so it may not be noticed if it is on a person's back-side or scalp. The initial illness may cause fatigue, fever, headache, muscle and joint pains, and swollen lymph nodes.

How soon after exposure do symptoms appear?

The EM rash can appear from 3 to 30 days after tick exposure (usually by seven days); other symptoms begin to appear at the time of the rash.

How is Lyme disease diagnosed?

Lyme disease diagnosis is based primarily on the patient's signs and symptoms. Laboratory tests for Lyme disease antibodies may be done on a patient's blood to confirm presence of Lyme. However, blood that is collected too early during the illness may not develop a detectable antibody response. If

laboratory confirmation is desired, re-testing may be necessary.

If Lyme Disease isn’t treated early, people can end up with some serious health problems later on. Some of these problems can include rashes on their skin, pain and swelling in big joints like the knees, and weakness in their face. They might also feel heart palpitations, have headaches, a stiff neck, or sharp pains and numbness in their hands and feet. Sometimes, people may even have memory issues months or years after they got sick. About 60% of those who don’t get treated will have pain and swelling in their larger joints, and around 5% might have nerve problems. Arthritis and nerve issues can last for several years after the infection.

What is the treatment for Lyme disease?

Lyme disease can be easily treated when detected early with an appropriate antibiotic (e.g., doxycycline).

Should contacts of individuals with Lyme Disease be tested and treated?

Lyme disease is not spread from person to person, so you cannot get it by touching, kissing, or having sex with someone who has it. You get Lyme disease only from the bite of an infected blacklegged tick.

How can Lyme disease be prevented?

There is currently no vaccine available to prevent Lyme disease. Avoiding being bitten by blacklegged ticks and quickly removing any attached ticks are the only ways to prevent Lyme disease. Blacklegged ticks prefer shady forest habitats and forest leaf litter. They can sometimes be found in grass along shady forest edges or in any vegetation shaded by trees. When working or playing in these habitats, it is advised to wear light-colored clothing and tuck pants into socks and shirts into pants. Additionally, clothing, shoes, and socks can be treated with permethrin (do not put on skin). Please read labels carefully for the proper application of repellents or insecticides. Other repellents such as DEET, Picaridin, oil of lemon eucalyptus, Bio-UD, or IR3535 can be applied to exposed skin, such as at the elbows of your arms to prevent bites. If you are wearing shorts, apply repellents to the skin on your legs at and below the knees. Always follow the guidance provided on product labels. Shower with soap and hot water and check body surfaces carefully to remove ticks as soon as possible after spending time in tick habitats.

How should a tick be removed?

Remove the attached ticks as soon as possible. Lyme disease transmission increases the longer a tick has been attached (at least 30 hours). Use fine-tipped tweezers to grab the tick's head as close to the skin as possible and exert a steady pull until the tick lets go on its own. Do not jerk, twist, or squeeze the tick's body when removing it, as this can increase the risk of infection. Identifying the tick species provides knowledge about the diseases it might have carried. It is advised to save the tick

for identification by placing it in a jar or plastic bag and preserve the tick by adding alcohol or freezing it. This will preserve the tick so that it can be identified later. Illness signs or symptoms can develop in the days or weeks after tick attachment.

How can I learn more about Lyme disease?

- If you have concerns about Lyme disease, contact your healthcare provider.
- Call your local health department. You can find your local health department at vdh.virginia.gov/health-department-locator/
- Visit the CDC page on Lyme disease at cdc.gov/lyme/ for more information.

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External link will open in new window. Click link to exit Virginia Department of Health Website.