PUBLIC HEALTH FACT SHEET

Lyme Disease

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What is Lyme disease?

Lyme disease is caused by bacteria (germs) that are spread by tiny, infected deer ticks. Both people and animals can have Lyme disease.

Where do cases of Lyme disease occur?

In the United States, Lyme disease most commonly occurs in the Northeast and mid-Atlantic regions and in the upper Midwest. In Massachusetts, Lyme disease occurs throughout the state.

How is Lyme disease spread?

Lyme disease is spread by the bite of an infected deer tick. The tick usually must be attached to a person for at least 24 hours before it can spread the germ. Deer ticks in Massachusetts can also carry the germs that cause babesiosis and human granulocytic anaplasmosis (also known as human granulocytic ehrlichiosis). Deer ticks are capable of spreading more than one type of germ in a single bite.

When can I get Lyme disease?

Lyme disease can occur during any time of the year. The bacteria that cause Lyme disease are spread by infected deer ticks. Young ticks (nymphs) are most active during the warm weather months between May and July. Adult ticks are most active during the fall and spring but may also be out searching for a host any time that winter temperatures are above freezing.

How soon do symptoms of Lyme disease appear after a tick bite?

Symptoms of early Lyme disease, described below, usually begin to appear from 3 to 30 days after being bitten by an infected tick. If untreated, symptoms of late Lyme disease may occur from weeks to years after the initial infection.

What are the symptoms of Lyme disease?

Early stage (days to weeks): The most common early symptom is a rash (erythema migrans) where the tick was attached. It often, but not always, starts as a small red area that spreads outward, clearing up in the center so it looks like a donut. Flu-like symptoms, such as fever, headache, stiff neck, sore and aching muscles and joints, fatigue and swollen glands may also occur.

Even though these symptoms may go away by themselves, without medical treatment, some people will get the rash again in other places on their bodies, and many will experience more serious problems. ***Treatment during the early stage prevents later, more serious problems.***

Later stages (weeks to years): If untreated, people with Lyme disease can develop late-stage symptoms even if they never had a rash. The joints, nervous system and heart are most commonly affected.

- About 60% of people with untreated Lyme disease get arthritis in their knees, elbows and/or wrists. The arthritis can move from joint to joint and become chronic.
- Many people who don't get treatment develop nervous system problems. These problems include meningitis (an inflammation of the membranes covering the brain and spinal cord), facial weakness (Bell's palsy) or other problems with nerves of the head, and weakness or pain (or both) in the hands, arms, feet and/or legs. These symptoms can last for months, often shifting between mild and severe.
- The heart also can be affected in Lyme disease, with slowing down of the heart rate and fainting. The effect on the heart can be early or late.

Is there treatment for Lyme disease?

People who are diagnosed with Lyme disease can be treated with antibiotics. **Prompt treatment during the early stage of the disease prevents later, more serious problems.**

What can I do to lower my chances of getting Lyme disease, or any other disease, from ticks?

Prevention begins with you! Take steps to reduce your chances of being bitten by any tick. Ticks are most active during warm weather, generally late spring through fall. However, ticks can be out any time that temperatures are above freezing. Ticks cling to vegetation and are most numerous in brushy, wooded or grassy habitats. They are not found on open, sandy beaches, but may be found in grassy dune areas. When you are outside in an area likely to have ticks (e.g. brushy, wooded or grassy places), follow these simple steps to protect yourself and your loved ones:

- Use a repellent with **DEET** (the chemical N-N-diethyl-meta-toluamide) or **permethrin** according to the instructions given on the product label. DEET products should not be used on infants under two months of age and should be used in concentrations of 30% or less on older children. Permethrin products are intended for use on items such as clothing, shoes, bed nets and camping gear, and should not be applied to skin. More information on choosing a repellent and how to use repellents safely is included in the MDPH Public Health Fact Sheet on Tick Repellents at www.mass.gov/dph/cdc/factsheets/factsheets.htm. If you can't go online, contact the MDPH at (617) 983-6800 for a hard copy.
- Wear long, light-colored pants tucked into your socks or boots, and a long-sleeved shirt. This may be difficult to do when the weather is hot, but it will help keep ticks away from your skin and help you spot a tick on your clothing faster.
- Stay on cleared trails when walking or hiking, avoiding the edge habitat where ticks are likely to be.
- Talk to your veterinarian about tick control options (tick collars, repellents) for your pets.

Did you know?

You don't have to be a hiker on Cape Cod to worry about ticks. In Massachusetts, you may be bitten in your own backyard. There are lots of things you can do around your own backyard to make it less inviting for ticks! Visit the MDPH Tickborne Disease Website at www.mass.gov/dph/cdc/epii/lyme/lymehp.htm for suggestions.

After spending time in an area likely to have ticks, check yourself, your children and pets for ticks. Young ticks, called nymphs, are the size of a poppy seed. Adult deer ticks are the size of a sesame seed. Both nymph and adult deer ticks can spread the bacteria that cause Lyme disease; however, nymphs are of more concern. They are aggressive feeders and so tiny that it can be difficult to see them on the body, unless you are looking carefully. When doing a tick check, remember that ticks like places that are warm and moist. Always check the back of the knees, armpits, groin, scalp, back of the neck and behind the ears. If you find a tick attached to your body, remove it as soon as possible using a fine-point tweezers. Do not squeeze or twist the tick's body, but grasp it close to your skin and pull straight out with steady pressure.

Know the symptoms of Lyme disease as described in this fact sheet. If you have been someplace likely to have ticks and you develop symptoms of Lyme disease, or any other disease carried by ticks, see your health care provider right away.

Where can I get more information?

- **For questions about your own health**, contact your doctor, nurse, or health care clinic.
- **For questions about Lyme disease or other diseases spread by ticks**, contact the MDPH at (617) 983-6800 or toll free at (888) 658-2850 or online at http://www.mass.gov/dph. You may also contact your local Board of Health (listed in the telephone directory under "Government").
- **For questions about tick repellents**, read the MDPH Public Health Fact Sheet on Tick Repellents at www.mass.gov/dph/cdc/factsheets/factsheets.htm. If you can't go online, you may ask for hard copies of MDPH fact sheets by calling the MDPH number above.

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