

# Lyme Disease Fact Sheet

## What is Lyme disease?

Lyme disease is an illness caused by a bacteria, *Borrelia burgdorferi*. These bacteria are spread to humans from the bite of an infected tick. Lyme disease may affect the skin, nervous system, heart, and joints.

## Who gets Lyme disease?

Lyme disease is found mostly in the eastern and mid-west regions of the United States. Most people who have Lyme disease in Utah were actually bitten by a tick from another state. Utah does have a tick species that can carry Lyme disease, however, studies done on these ticks in Utah over 20 years ago showed that they were not infected. These studies have not been repeated in recent years, so it is not currently known if there has been an increase in Lyme disease carrying ticks. It does appear that a small number of individuals diagnosed with Lyme disease in recent years may have acquired the disease in Utah. Public health is working with partner agencies to evaluate if changes have occurred in the tick population and/or presence of disease in Utah. It is important to remember that anyone can get Lyme disease, especially campers, hikers, and others who frequent wooded, brushy, and grassy places where ticks are found.

## How does Lyme disease spread?

- People get Lyme disease from the bite of an infected tick.
- Usually, the bacteria which causes Lyme disease will only be transferred from an infected tick if it is attached to your skin for at least 24 hours. Persons who do not remove the tick immediately have a higher chance of getting Lyme disease.
- Some people become ill after crushing a tick with their hands because the tick's body fluids get into cuts or scratches in the skin.
- There is no evidence of natural person-to-person transmission. However, it has been reported that pregnant women have transferred the bacteria to their fetus. No negative effects on the fetus have been found when the mother receives appropriate antibiotic treatment. No cases from blood transfusions have been reported; however, scientists have found that the Lyme disease bacteria can live in blood that is stored for donation. Individuals being treated for Lyme disease with an antibiotic should not donate blood.

## What are the symptoms of Lyme disease?

Lyme disease is difficult to recognize because the symptoms mimic those of other diseases. The illness usually starts with a characteristic circular red rash at or near the site of the tick bite. The rash may expand to a large size. Often there may be a clearing in the center of the rash that makes it look like a target. Along with the rash, other "influenza-like" symptoms may appear such as fever, headache, fatigue, stiff neck, muscle, and joint pain. The joints, nervous system,

and heart may be affected weeks to months after the initial tick bite. A small number of people with Lyme disease may develop symptoms during later stages of the disease without having had the earlier skin rash. If you suspect that you have Lyme disease, you should see your doctor.

### **How soon do symptoms usually appear?**

The rash or "influenza-like" symptoms usually begin within a month after a tick bite.

### **How is Lyme disease diagnosed?**

Diagnosis of Lyme disease relies primarily on evaluation of symptoms (or "clinical picture") by a physician. The most characteristic symptom for diagnosing Lyme disease is the "bull's eye" rash, or "erythema migrans" (EM), that appears in 60-80% of cases. Described under "symptoms", this rash is a circular red rash that appears at or near the site of the tick bite, and is at least 2 inches in diameter. Other characteristic symptoms include fever, headache, fatigue, and muscle aches.

When EM is present, along with history of a tick bite (or of being in an area where ticks known to carry disease are present), diagnosis of Lyme disease is often accurately made by clinicians based on clinical picture alone. Serologic laboratory testing for Lyme disease is usually not needed in this situation, and is often not used since serologic testing tends to be insensitive (meaning, a negative result doesn't necessarily rule out Lyme disease).

Laboratory testing is needed to make the diagnosis when EM is not present and in later stages of the disease. Often, a clinician will use a combination of a sensitive (almost always positive with infection) initial test and a specific confirmatory (rarely positive in absence of infection) test.

Depending on when a person develops symptoms, a doctor may look at the results from serologic tests, such as ELISA and Western Blot. These tests check for a person's response to infection. Most of the time, the IgG Western Blot must be positive in order to indicate potential infection with Lyme disease. Often, a person will be asked to have follow-up testing in 4-6 weeks to better determine and interpret what may be happening. A negative IgG test is strong evidence that a person does not have Lyme disease later in the course of disease.

Laboratory testing should only be done on a person who has symptoms that are consistent with Lyme disease. If testing is performed on a person without symptoms, the test results are not meaningful.

### **What is the treatment for Lyme disease?**

- Doctors treat patients with Lyme disease with antibiotics.
- Intravenous medication may be required for more seriously affected persons.

### **Can a person get Lyme disease more than once?**

Yes. One infection with Lyme disease does not stop a person from getting it again.

### **How should a tick be removed?**

- You should immediately remove any attached tick gently with tweezers.
- Do not remove ticks with your bare hands!
- Apply tweezers as close to your skin as possible.
- Do not crush the tick's body when removing it.
- Avoid leaving any part of the tick on your skin.
- Protect your hands with gloves, a cloth or tissue and be sure to wash your hands after removing a tick.

### **How can Lyme disease be prevented?**

- Remove attached ticks immediately.
- Avoid tick infested areas, especially during the months of May, June, and July.
- Wear light colored clothing so ticks can be easily seen. Wear a long sleeved shirt, hat, long pants, and tuck your pant legs into your socks.
- Walk in the center of trails to avoid overhanging grass and brush.
- Check your body daily for ticks when you spend a lot of time outdoors where ticks can live.
- Ticks are most often found on the thigh, arms, underarms and legs.
- Ticks can be very small (no bigger than a pinhead). Look carefully for new "freckles".

Use insect repellents containing DEET on your skin or permetherin on clothing. Be sure to follow the manufacturer's label.

### **Where can I get more information?**

- Your personal doctor
- Your local health department, listed in your telephone directory
- The Utah Department of Health, Bureau of Epidemiology (801) 538-6191

**The Utah Department of Health  
Bureau of Epidemiology  
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