

## **Lyme Disease (Lyme Borreliosis)**

### **What is it?**

It is a disease which can cause skin, joint, heart and nervous system problems. It may affect people of all ages, possibly continuing months or years if not adequately treated. It was named after the town of Lyme, Connecticut where it was first described in 1976. In 1984, the disease was found to be present in Texas and is now the most frequently diagnosed tick/insect-borne disease in the country. Illness usually begins in the spring or summer and is typically divided into three different stages, often with apparent recovery between stages. The different stages may overlap but can occur independently.

### **What causes it?**

It is caused by a specialized type of bacteria called a spirochete. It is usually transmitted by the bite of an infected tick or flea, although other insects which feed on animal blood may be involved.

### **Symptoms**

#### **STAGE I (Skin Lesions and Associated "Flu-Like" Symptoms)**

**"Flu-Like" Symptoms** - A variable time (as few as 3 days or as many as 28 days) after exposure, symptoms which mimic the common "flu" appear. They may include many of the following: **fatigue/lethargy; headache; fever and chills; stiff neck; myalgias** (generalized muscle aches, sometimes with severe cramping); **joint pain; backache; sore throat; enlarged lymph nodes; abdominal pain; nausea; vomiting; dizziness and non-productive cough**. Except for the fatigue and lethargy, which are often constant and can be incapacitating, the symptoms tend to be intermittent and changing. Fever is usually of a low grade, but sometimes becomes high, especially in children. This stage of the disease may last for months with one set of symptoms predominating for a while only to change to another very different manifestation.

**Primary Skin Lesion(s)** - Along with the "flu-like" symptoms, many victims (about 35%) develop an unusual skin lesion. The small red area around the insect bite begins to expand. The generally circular area may be as large as 14 inches, but often is smaller than 1 inch. The lesion may become lighter colored in the center leaving a red ring on the outside, and may be confused with "ringworm". Sometimes the center remains intensely red and hard, occasionally even forming blisters which later burst and form a heavy dark

scab. This type lesion could easily be mistaken for a spider bite. Sometimes the lesion does not expand at all but fails to heal and repeatedly scabs and drains for several weeks.

**Secondary Skin Rashes** - Nearly 80% of people with Lyme disease develop other rashes. The secondary rash may appear at the same time as a primary skin lesion or may appear later. Often these rashes recur periodically. The character of the rash may vary from one time to another and can often change in appearance rather quickly. The rash may at times look like hives, poison ivy, chicken pox, or insect bites. The rash may also appear as splotchy areas, circular areas or irregular areas of redness.

## **STAGE II (Nervous System and Heart Involvement)**

**Nervous System** - Early Lyme disease is often manifested by excruciating attacks of headache and neck pain or stiffness sometimes lasting for hours. About 15% of infected people develop more severe neurological problems such as: **sleep disturbances; difficulty concentrating; poor memory; emotional instability; irritability; double vision; numbness/weakness in extremities or face; eye pain** and/or **ear pain**.

**Heart** - Within several weeks of infection about 10% will have heart involvement which is usually temporary (one to six weeks) and rarely recurs. Most commonly this involves episodes of an unusually forcible, rapid or irregular heart beat.

## **STAGE III (Joint and Nervous System Involvement)**

**Joint Involvement** - About 60% will develop arthritis evident as intermittent joint pain, usually involving larger joints. Onset of arthritis may be weeks or months (rarely up to 2 years) after initial infection. Attacks last for a few days, and may recur a few weeks later. In about 10% of cases, the arthritis becomes chronic.

**Nervous system involvement** - Some patients may develop neurologic symptoms such as chronic fatigue, psychiatric problems or a multiple sclerosis-like illness.

## **Disease Spread**

Lyme disease is spread by tick or flea bites. Tick or flea infestations may result in more than one person becoming ill at the same time. A pregnant woman can transmit the disease to her unborn child.

## **Diagnosis**

- The appearance of a typical primary skin lesion (an expanding lesion with a lighter colored center following a tick or flea bite) is considered diagnostic for Lyme disease.
- Without a primary lesion the diagnosis must be made on clinical signs and symptoms plus positive results from a blood test available from the Texas Department of Health in Austin.

## **Treatment**

If you think you may have Lyme disease, see your doctor immediately. Treatment is more successful when initiated early.

## **Prevention**

- Keep your pets free of fleas and ticks.
- Eliminate unwanted animals (rats, mice and stray dogs and cats). This reduces the number of possibly infected animals for insects to feed on.
- Take protective measures when engaged in outdoor activities.

## **Protective Measures**

Wear light-colored clothing so ticks can be easily seen. Tuck pant legs into boots or socks. Use an approved insect repellent. Inspect yourself frequently. Prompt removal of attached ticks may prevent disease transmission.

## **How to remove an attached tick.**

- If possible, use tweezers to grasp the tick at the surface of the skin.
- If tweezers are not available, use a tissue to protect your fingers. (Exposure to the tick's body fluids may lead to transmission of disease.)
- With a steady motion, pull the tick straight out.

## **What to do if you have a tick attached.**

Notify the nearest Texas Department of Health [Zoonosis Control Office](#).