

# Lyme Disease Field Guide



**National Farm Medicine Center**

1000 North Oak Avenue  
Marshfield, WI 54449

10507-001

## Precaution, Not Panic

There's no need to panic. No need to cancel the vacation, stay inside, shrink-wrap the dog and house-arrest the kids. The risk of Lyme disease is no reason to stop your outdoor activities.

The fact is, even in areas where the disease-carrying blacklegged (deer) tick is most common, you are ten-times more likely to suffer harm from a bicycle\* than from Lyme disease.

Although Lyme disease is potentially serious, it can be avoided or successfully treated. All it takes is your common sense and a little awareness.

\*National Safety Council statistics

## Remember the Facts

**Lyme disease is carried by the blacklegged (deer) tick.**

This minute pest lives in wooded, grassy or marshy areas. It prefers mice and deer (primarily the white-footed mouse and white-tailed deer) as hosts, but will substitute other animals or humans when a meal is needed.

The tick lives for two years and feeds three times during its entire life, once during each life stage. When young, the tick is black and about the size of a pinhead. As adults, females are brown or rust colored with a black spot near its head and males are all black. They are slightly larger than a sesame seed.

**Lyme disease is transmitted during a tick's bite.**

The bacterium (*Borrelia burgdorferi*) that causes Lyme disease is carried by the tick and passes it to its host during one of the tick's three lifetime feedings. To feed, the tick bites the host and begins drawing blood. This process can take 24 - 48 hours and the bacterium usually enters the host late in the bite/feeding cycle. Remember, not all ticks are infected with the bacterium that causes Lyme disease and only an infected tick can transmit the disease.

**Lyme disease can cause many different problems.**

Lyme disease is an infection which can start with flu-like symptoms and a "bull's eye" rash within a few weeks after the

**The risk is higher in some areas.**

Where there are more mice and deer there will be more ticks. Lyme disease has spread into 43 states with the highest concentration being reported in the Northeast, upper Midwest and along the northern California coast. In all areas, the tick is most active from early spring through late fall.

**Lyme disease can be treated and cured.**

If you have been bitten by a tick or have been in an area where ticks live, watch for flu-like symptoms or an unusual rash to appear a week or so later. If either occur, consult your physician. Lyme disease can be cured with antibiotics, but the cure may become more difficult the longer the disease is allowed to go untreated. If ignored long enough, Lyme disease can occasionally cause permanent damage.

ticks' bite. Weeks or months after the first-stage problems, untreated Lyme disease can reappear causing dizziness, weakness, difficulty in sleeping or concentrating and other nervous and cardiovascular-system disorders. If treatment continues to be ignored, chronic arthritis and other problems may result.

Tick images © Herberto Verdugo M. & Darby S. Murphy



## It's Simple: Don't Give Ticks Time

**You have time to stop the disease from starting.** Once a tick lands on a host, it begins crawling (usually upward) until it finds a feeding area. This search for a favorite eating spot (scalp, armpits, groin, back) may take several hours. After settling in with a bite, the feeding process can last as long as two days or even longer. It is believed that the disease-causing bacteria are only transferred near the end of the tick's meal. In other words, if you're cautious, you have plenty of time to stop an infected tick from infecting you.

**Take time before going out.** When venturing out into a suspected tick environment during the early spring through late fall, wear: tightly-woven fabrics, pants tucked into your socks, long-sleeved shirt, shirt with a collar (ticks crawl up, not down), and white or light colors (easier to see ticks). Use quality insect repellents: on your skin and clothing, one that contains 30% DEET; on your clothing, one with .5% permethrin (Permanone). Caution: too much DEET can cause seizures, especially in children.

**Take time when you come back.** Brush yourself off before going inside and then carefully check yourself for ticks. Pay special attention to the scalp, armpits, groin and back. Enroll the help of a loved one to check in these hard to see places. Scrub off well in a shower and check again in a few hours.

**Spend some time around the house.** Keep your yard neat and closely trimmed. Mouse-proof your house and remove any outdoor materials which might make good homes for mice. If you live in an area frequented by deer, consider contacting a professional exterminator about ways to help control ticks in your yard.

**Don't be late in checking pets.** If your pet goes outdoors, brush and check it regularly for ticks. Check with your veterinarian about effective tick repellents (tick collars only work within a few inches of the collar) or if your pet shows any symptoms (lameness, fever, poor appetite).

## Special Care for Special People

**Pregnant women:** Lyme disease, especially in the first three months of pregnancy, can cause miscarriage, birth defects or be passed on to the unborn child. If you are pregnant, or suspect you might be, contact your doctor regarding any tick bite.

**Farmers:** Farming now includes tick repellents, proper clothing and nightly checks during tick season (early spring through late fall). Dairy farmers should check with their veterinarian about preventing Lyme disease from causing damage to their dairy herd.

**Hunters:** Even though deer ticks prefer deer, they can be found on nearly all game species. Hunting gear should include proper clothing, tick repellents and gloves for field dressing game. Before loading game into your vehicle, allow it to cool thoroughly so the ticks will drop off the carcass instead of riding home with you.

**Fishermen:** Ticks can't swim, but they can ride in boats, drop off overhanging vegetation or wait for you on shore. Wear proper clothing, use repellents and check for ticks daily.

**Outdoor workers:** When the job calls you to a tick-infested area, your required tools are proper clothing, tick repellents and a day-ending tick check.

**Parents:** Kids love to go where ticks love to be. You don't have to stop the fun if you insist on proper clothes, tick repellents and after-play tick checks.

## What If...

**A tick bites?** Don't panic; remember that the chances of becoming infected only occur near the end of the 24 - 48 hour tick feeding cycle. But don't waste time with ineffective remedies such as nail polish, petroleum jelly or a hot match head. Remove the tick. Wash the bite area with soap and water, apply an antiseptic. Save the tick in a jar with a piece of damp tissue paper. Should you develop symptoms of Lyme disease, take the tick with you to the doctor.

**What is the best way to remove an embedded tick?** Grasp it firmly with a tweezers as close to the skin as possible. Pull straight out and be careful not to squeeze the tick. Go slowly and don't twist so that the head and mouth parts won't break off and remain in the skin.

**A symptom appears?** Lyme disease typically progresses through three stages. However, some stages may overlap or be absent all together. The only certainty is to see your doctor if any of the symptoms appear, especially if you recall a tick bite or being in a tick-infested area.

### STAGE 1

Symptoms mimic the early stages of the flu with headaches, chills, nausea, fever, aching joints and fatigue. There may also be a spreading rash at the bite site and other areas. Some people never have Stage 1 symptoms, moving directly to Stage 2.

### STAGE 2

Weeks to months after being infected some people may develop heart and nervous system disorders such as: heart block, meningitis, encephalitis, facial paralysis. Painful joints, tendons or muscles also may be noted.

### STAGE 3

One month to years after the first symptoms appear, repeated attacks of arthritis may occur. Without treatment, chronic arthritis can result.



*Bull's eye rash  
at bite site*

## The Earlier, the Easier

**No excuses, see your doctor.** The earlier Lyme disease is diagnosed, the easier and more effective the treatment can be. If you wait until the disease has progressed into its later stages, the required treatment can last for months, or longer.

**Cure, from treatment.** Lyme disease can be cured using antibiotics such as doxycycline, tetracycline, penicillin, erythromycin and cephalosporins. Pills are usually taken for treatment if the disease is diagnosed in the early stages. In the late stage, intravenous antibiotic treatments may be required. Length of antibiotic treatment can range from three weeks to over a month.

## Answers to Your Questions

### When, and how, did Lyme disease begin?

The first U.S. case occurred in 1969 and the disease received its name from a 1975 outbreak in Lyme, Connecticut. In 1977 scientists isolated the tick as carrier and since then the increase in the deer population has spread the disease.

### Can I get Lyme disease from a tick crawling across my skin?

No. The tick must be embedded in your skin and feeding for many hours before it can infect you.

### Can any tick give me Lyme disease?

No. Only infected deer ticks have been shown to transmit Lyme disease to humans.

### Can I get Lyme disease more than once?

Yes. Your body does not build up a totally protective immunity.

### Can I get Lyme disease from eating wild game?

Yes. Cook meat properly. Meat should have an internal temperature of 145° F or higher.

### Can ticks cause other disease?

Yes. Anaplasmosis and babesiosis are also tick-borne diseases that are becoming more common in humans in Wisconsin. See your doctor if you have flu-like symptoms following any tick bite or possible exposure to ticks.

### Should I get treatment for all tick bites?

No. You should see your doctor only if you begin to have symptoms of Lyme disease. However, if you become pregnant, or suspect you may be, inform your doctor of any tick bite.

### Where can I go for more information?

Your local clinic, doctor, hospital, community health service and library are excellent sources of further information. For more information, visit [labs.russell.wisc.edu/wisconsin-ticks/](http://labs.russell.wisc.edu/wisconsin-ticks/) or [www.dhs.wisconsin.gov/communicable/TickBorne/index.htm](http://www.dhs.wisconsin.gov/communicable/TickBorne/index.htm)