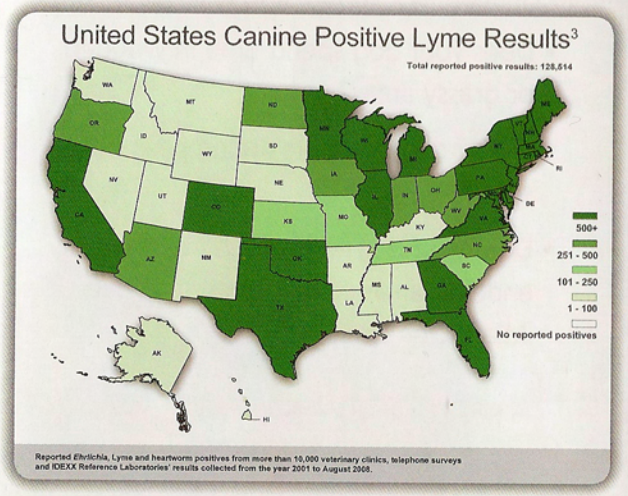
The ticks that carry Lyme disease are widespread.

Lyme disease is a multi-system disorder caused by the spirochete bacteria *Borrelia burgdorferi* and transmitted by ticks. It's the most commonly reported tick-borne disease in the U.S. human population, according to the Centers for Disease Control (CDC).[1] Lyme-positive dogs have been found in all 50 states.[2]



"Logically, the risk of infection in dogs is greater than in humans because exposure is greater."

– Richard B. Ford, DVM, MS, DACVIM, DACVPM (Hon), Department of Clinical Sciences, College of Veterinary Medicine at North Carolina State University

How to help prevent Lyme disease.

To help protect your dog:

- RECOMBITEK® Lyme vaccine works by helping to block the transmission — from tick to dog — of the spirochete that causes Lyme disease.
- Apply a topical tick control product monthly. FRONTLINE® Plus kills ticks that may transmit Lyme disease.
- Brush dogs frequently during tick season and conduct thorough tick checks.
- If you find a tick attached, remove it promptly with tweezers and without crushing the tick. Contact your veterinarian if you are concerned.

To help protect yourself:

- Be vigilant when in wooded areas during tick season.
- Wear light-colored clothing to help you see and remove ticks before they attach.
- Wear a long-sleeved shirt tucked into long pants tucked into socks.
- Conduct frequent, full-body tick checks.

For more information, talk to your veterinarian and visit www.LymePrevention.com.

RECOMBITEK® lyme
One Protein. Proven Protection.

FRONTLINE® Plus
Kills fleas and ticks fast...and lasts.

[1]Centers for Disease Control and Prevention Web site. Lyme Disease — United States, 2003-2005. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5623a1.htm. Accessed January 15, 2008.
[2]IDEXX Web site. U.S. Canine Positive Lyme Results. Available at: http://www.idexx.com/animalhealth/testkits/lymemap.htm. Accessed January 15, 2008.
[3]IDEXX Laboratories, Inc.
[4]Jacobson R, et al. The ability of fipronil to prevent transmission of *Borrelia burgdorferi*, the causative agent of Lyme disease to dogs. *Journal of Applied Research in Veterinary Medicine* 2004;2(1):39-45.

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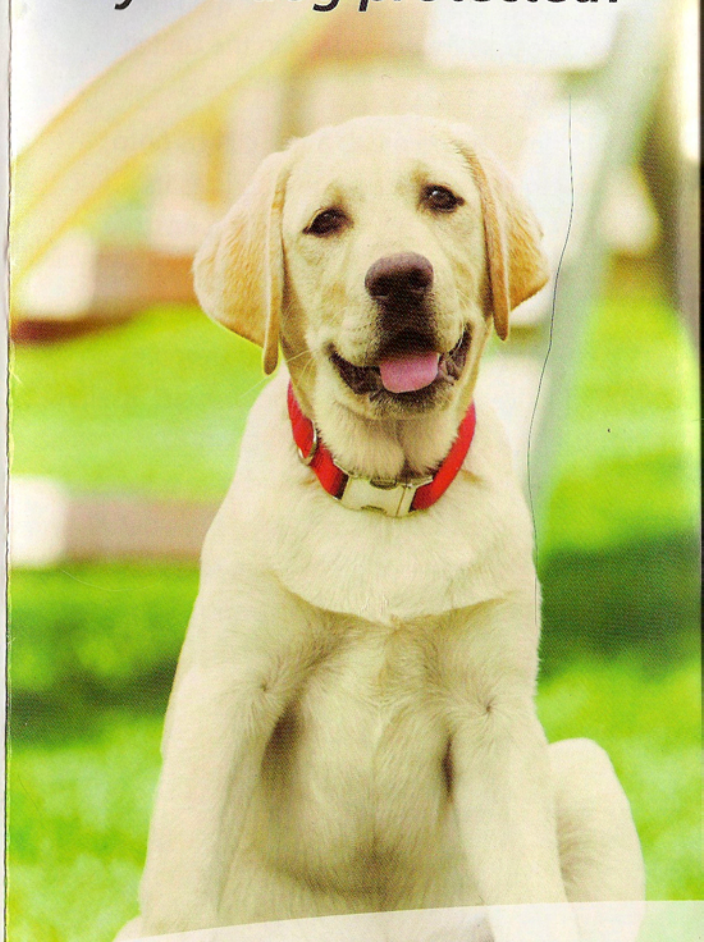
Lyme disease:

The risk is out there. Is your dog protected?

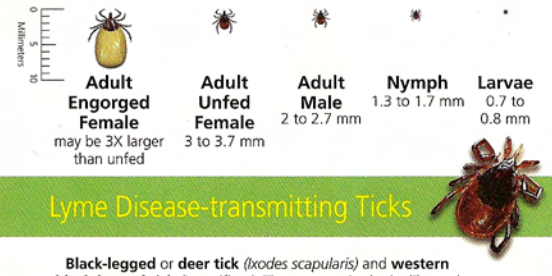


RECOMBITEK® lyme
One Protein. Proven Protection.

Where does Lyme disease come from?

Certain tick species carry and transmit the bacteria that cause Lyme disease. The culprits in North America are the black-legged or deer tick (*Ixodes scapularis*) and the western black-legged tick (*I. pacificus*). Both are smaller than the other ticks found on pets in the United States.

To get a blood meal, a tick climbs onto low-growing vegetation and uses its forelegs to grab onto a passing host animal. If it is an infected host, such as a white-footed mouse, the tick ingests the bacteria in a blood meal and becomes an infective carrier without getting sick itself. The tick can retain the infection throughout its life cycle and give it to subsequent hosts, such as you or your dog. Usually, an infective tick must be attached 48 hours before transmission occurs.[4]



Lyme Disease-transmitting Ticks

Black-legged or **deer tick** (*Ixodes scapularis*) and **western black-legged tick** (*I. pacificus*). The two species look alike and are smaller than both the American and the brown dog tick.

Clinical signs, diagnosis and treatment.

Lyme disease affects animals differently, and many display no clinical signs at all. In dogs, many cases start with limping, lymph node swelling and fever. Other signs include loss of appetite, painful joints and lethargy. Dogs don't show signs for two to five months post-infection. Antibiotics help but don't stop the disease.

The threat to humans.

According to the CDC, about 20,000 new human cases of Lyme disease are reported in the United States annually.[1] Typically, the first symptom is an expanding circular rash at the site of a tick bite 3-30 days after the bite. Patients also experience fatigue, chills, fever, headache, muscle aches, joint aches and swollen lymph nodes. Most cases of human Lyme disease can be treated with antibiotics, if started early.

There is no evidence that dogs can spread the disease directly to their owners. However, they can bring infected ticks into the home or yard.

Know your risk factors.

All dogs are at risk of contracting Lyme disease. If you answer "yes" to any of the following questions, your dog is at an increased risk. Ask your veterinarian about vaccination, tick control and testing.

- Does your dog spend time in wooded or grassy areas?
- Is your dog outdoors during peak tick season?
- Does your dog live in or visit Lyme-endemic areas of the Northeast, Mid-Atlantic or upper Midwest?