

# ALL ABOUT LYME DISEASE



Lyme Disease is caused by a spirochete, *Borrelia burgdorferi*. It was first identified in the U.S. in a cluster of children in Lyme, Connecticut in 1977. Deer Ticks are vectors that carry this spirochete; they are able to transmit it to humans and other mammals.

Geneticists have found that the Lyme bacteria (*B. burgdorferi*) is not 'new'; it has been here for at least several thousand years and there are several genetic differences in the Northeastern and Midwestern populations. It got noticed only after deer populations rebounded in the mid-1900s. [2]

[Statistics](#) gathered for 2013 by the US Center for Disease Control (CDC) show that New Hampshire, Maine and Vermont have the highest rates of Lyme Disease in the country. [3]

[Map](#) (2013) for Lyme Disease incidence in NH

[Map](#) (2013) for Lyme Disease incidence in VT

LYME DISEASE (per 100,000)	2003	2009	2012	2013
New Hampshire	14.8	75.2	75.9	100.0
Maine	13.4	60.0	66.6	84.8
Vermont	6.9	51.9	61.7	107.6

## RISK FACTORS for contracting Lyme Disease

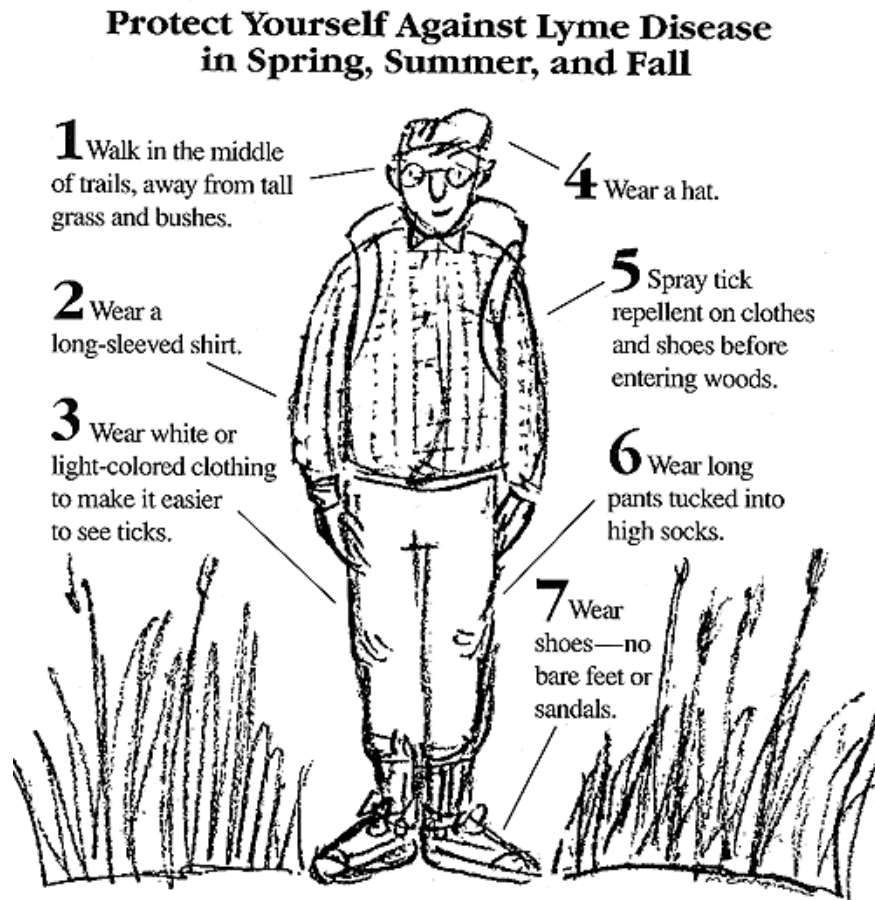
- 1) Exposure to deer tick habitat
- 2) Exposed skin
- 3) The presence of the disease nearby
- 4) The presence of high counts of deer mice
- 5) Neglecting to remove deer ticks promptly
- 6) Delay in obtaining medical care when suspicious of an unusual insect bite.



## References for Ticks and Lyme Disease:

NOTE: The links in this section should cause an separate website to popup in a new window on your computer screen. If that fails, the links are listed in the Endnotes section of this website.

- The [American Lyme Disease Foundation](#) has a wealth of material about the nature of Lyme Disease and other tick-borne infections, how to identify a tick bite and treatments for the disease.



- The Vermont Department of Health has produced a [booklet](#) titled **Be Tick Smart - Repel, Inspect, Remove**: What you should know about tick bites, how to protect your family from tick bites and Lyme Disease.

- The New Hampshire Department of Health has a concise [fact sheet](#) with links and information about Lyme Disease.

- [The Lyme Wars](#), an article appearing in the July 2013 *The New Yorker* by Michael Spector, outlines the on-going debate on how to treat Lyme Disease.

- Richard Ostfeld, a biologist with a focus on eco-systems, has written [Lyme Disease: The Ecology of a Complex System](#) (2011), with a thorough review of the history of the disease, the various angles explored by researchers of this disease, and the relation of Lyme Disease to numerous biological factors that encourage the spread of the disease.
- Physician (and mystery writer) Jonathan Edlow, explores the challenges of determining the cause of Lyme Disease in [Bull's Eye; Unraveling the Medical Mystery of Lyme Disease](#) (2013), available at the Howe Library.
- Tick information by UNH entomologist Alan Eaton:
  - I. [Video](#) of the **Ticked Off** presentation (1hour, 14 minute) filmed and posted by CATV of the Upper Valley. [4]
  - I. *Six-minute video* about protecting yourself from tick-borne diseases is available from

[UNH Tick Time webpage](#).

- II. [Publication](#) on the *Biology and Management of Deer Ticks in NH and Their Management*.
  - III. [Report on insect repellants](#), updated in 2013, is available as a UNH extension publication: Eaton reports on the most effective deer-tick repellants.
- Connecticut's comprehensive [Tick Management Handbook](#) covers the diseases caused by ticks, integrated tick management, and chemical control of ticks. [5] Kirby Stafford, author of this handbook, appears in a 14-minute [video](#) that describes deer-tick behavior and information about Lyme Disease
  - [Tale of the Tick: How Lyme Disease is Expanding Northward](#) by David Mance, in *Northern Woodlands*, March 2008, provides a detailed biology of the deer tick.
  - How does the tick do its dirty work? Check out the NY Times [video](#) (2-minute) and story of the tick's clever mechanisms for getting under your skin

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If any of these links fail, check the 'endnotes' page for more details.